

**Bundle of documents for Oral hearings
commencing from 13 May 2025 in relation
to the Queen Elizabeth University Hospital
and the Royal Hospital for Children,
Glasgow**

**Bundle 33
NEC3 Supervisor's Reports and Project
Supervisors Interface Action Notes**

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NEW SOUTH GLASGOW HOSPITAL LABORATORIES

NEC 3 SUPERVISORS REPORT NO. 05

OCTOBER 2010

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NEW SOUTH GLASGOW HOSPITAL LABORATORIES

1.0 EXECUTIVE SUMMARY

Visits to the site during November indicate that the construction and procedures are progressing in a satisfactory manner in accordance with the Project Executive Plan.

We continue to monitor the construction drawings and specifications for compliance with the Contract Documentation in conjunction with our visual site inspections. Throughout, the standard of workmanship is to a good standard and operations carried out in an efficient manner. We also continue to be assisted by the site teams in obtaining information and have had a number of ad hoc meetings with the appropriate Brookfield, Dunne and also Pavo personnel. Information regarding drawings, quality issues and other technical matters has been supplied when requested generally via 'Aconex'.

Works on site have now progressed to the extent that by the end of the period only 4 large concrete pours remain to be carried out, all at 4th floor level, these being the two on the mortuary wing, the central section and at the south of the west wing. Formwork and reinforcement is well advanced on the latter two areas. Main pod floors are complete as well as the west wing.

Examination of quality records to date for concrete has not indicated any problems. While there are a few areas that will require appropriate attention, the works in general appear to be progressing in accordance with the Client's requirements and with due regard to Health & Safety issues. In their weekly progress report to 30th November 2010 Dunne estimate that they will now complete 6 weeks ahead of their contract programme date despite the cold weather delays being experienced at the end of the month.

Other trades have added significantly to the overall activity on site during the period. These include steelwork which is virtually completed to the roof of the west wing, external wall framing to the first and second floors of the west wing which is also nearing completion. Internal stud partition walling and has also commenced in the same areas. 1st fix modular M&E unit installation at 1st floor level is in progress and the boulevard access off Hardgate Road is completed to tarmac formation level including road surface drainage.

Supervisor's Communication General Matters / Other Instructions (ci 13.1) No 3 has been issued to Brookfield bringing to their attention dirty and rusty areas of

steel [on the roof of Zone 3](#). The Office Pod DPM which has been trimmed off flush along the edge the ground beam has also been brought to their notice. Provide the QA Inspection and Test Plan for signing off the completion of the work prior to the commencement of the structural copper cladding We have also asked them to confirm when the remedial measures will be undertaken and to notify us when the work is complete to allow us to carry out an inspection.

2.0 DESIGN COMPLIANCE CHECK

The drawing and specification information issued on Aconex indicates that the design is in accordance with the Project Executive Plan.

Drawing and Construction information continues to be provided by Brookfield.

3.0 PROCEDURES REVIEW

3.1 Performance

Throughout, the standard of workmanship is very high with good quality finish to concrete surfaces being obtained and operations carried out in an efficient manner. The works in general appear to be progressing in accordance with the Client's requirements and with due regard to Health & Safety issues. In their weekly progress report to 19th October 2010 Dunne, estimate that they will now complete 4 weeks ahead of their contract programme date.

Much information has been provided in relation to the Labs but information requested and still outstanding includes:

- Caltite waterproofing - copy of guarantees/warranty when available
- Proprietary tunnel roof waterproofing details.
- Roof steelwork details and drawings (from subcontractor Pavo)

3.2 Quality Assurance Procedures

During October, Brookfield and Dunne have continued with their QA and checking procedures. Cube results, as reported last month, continue to be generally high.

The use of the 'Caltite' waterproofing concrete is virtually completed. As previously intimated, Brookfield have been assured that a guarantee/warranty will be available on completion of the waterproofing concrete and this is still awaited.

3.3 Early Warning

Currently nothing to report.

3.4 Trust Equipment Installation, Testing and Commissioning

Currently nothing to report.

4.0 CONSTRUCTION REVIEW

4.1 Visits to the Works

Site inspections were carried out by the NEC 3 Supervisor on the 1st, 11th, 12th, 14th, 18th, 20th, 22nd, 25th, 27th and 29th October 2010.

4.2 Elements of the Works available for inspection.

- Tunnel/Underpass
- Core Shafts
- Drainage
- Roadworks (ACH works)
- Mortuary basement area
- Columns.
- Falsework and Formwork
- Flat Slab

- Precast concrete stairs
- Steelwork
- Partitions
- Metal Stud Infill's for External Insulated Render System.
- Ductwork.
- Pipework Distribution

4.3 Observations from October 2010 inspections.

During the period the 'cracks' reported in the last monthly report have been monitored by Brookfield but until the propping is removed it will not be possible to assess the full extent of any issues with regard to these.

We reported last month that there was a damaged damp proof membrane around the perimeter of the floor slab in one location at the pod area. Dunnes have issued an internal Non Conformance Report to manage the remedial measures. We shall continue to monitor this and raise it as a defect on Sypro.

4.3.1 Mortuary Basement

Mortuary floor zero and 1st floor completed, falsework substantially completed for the 2nd floor with reinforcement fixing progressing.

4.3.2 Pod Areas

Pod area' 1st and 2nd floors cast and falsework completed for the 3rd floor with reinforcement almost finished ready for concreting at the beginning of November.

4.3.3 Drainage

Drainage works externally and internally are progressing.

4.3.4 West Wing

West wing 1st and 2nd floor slabs completed, 3rd floor 2/3rd completed with falsework commenced for the remaining section. Substantial areas of falsework supports and props removed from the ground floor and 1st floor.

4.3.5 Falswork

Falsework erection started for the 3rd floor.

4.4 Defects from October 2010 inspections.

We had discussions with Brookfield to set up a procedure on how they would inform us of any defects. Brookfield confirmed that they would issue us with a list of Non Conformance Reports.

5.0 INFORMATION REQUIRED

General Matters / Other Instructions

	Shading indicates item closed, clear indicates current item
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Item No.	Description	Date Requested	Comment
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01	<p>We have requested the following information:</p> <p>Dunne PEP or equivalent. Current civil and structural drawings.</p> <p>URS specification. Pile integrity and load test results.</p> <p>Cube results to date.</p> <p>Caltite waterproofing additive details (and copy of guarantees).</p> <p>Proprietary tunnel roof waterproofing details.</p>	14.06.10	<p>Answered</p> <p>Partly answered. Received/Ongoing.</p> <p>Received. Received.</p> <p>Ongoing.</p> <p>Awaiting copy of guarantees.</p> <p>Verbal feedback received.</p>

John Redmond
Capita Symonds
Technical Advisory Services

Skypark SP1, 8 Elliot Place, Glasgow, G3 8EP

	Signed	Date
Originated by	John Redmond	12 th November 2010
Checked by	John Kilbane	12 th November 2010

APPENDIX 1 Summary of Notification of Defects

		Shading indicates item closed, clear indicates current item
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Item	Site Def. No.	First reported	Description	Response/comment/action



1. General view of the site from the south: 27th October 2010



2. Mortuary wing pour at 2nd floor: 27th October 2010



3. Formation of new access off Hardgate Road: 29th October 2010



4. Mortuary 1st floor slab pour: 14th October 2010

CAPITA SYMONDS

NEW SOUTH GLASGOW HOSPITAL LABORATORIES

NEC 3 SUPERVISORS REPORT NO. 06

NOVEMBER 2010

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APPENDIX 1	Summary of Notification of Defects
APPENDIX 2	Photographs

NEW SOUTH GLASGOW HOSPITAL LABORATORIES

1.0 EXECUTIVE SUMMARY

Visits to the site during November indicate that the construction and procedures are progressing in a satisfactory manner in accordance with the Project Executive Plan.

We continue to monitor the construction drawings and specifications for compliance with the Contract Documentation in conjunction with our visual site inspections. Throughout, the standard of workmanship is to a good standard and operations are being carried out in an acceptable manner. We also continue to be assisted by the site teams in obtaining information and have had a number of ad hoc meetings with the appropriate Brookfield, Dunne and also Pavo personnel. Information regarding drawings, quality issues and other technical matters has generally been supplied when requested via 'Aconex'.

Works on site have now progressed to the extent that by the end of the period only four large concrete pours remain to be carried out, all at 4th floor level, these being the two on the mortuary wing, the central section and at the south of the west wing. Formwork and reinforcement is well advanced on the latter two areas. Main pod floors are complete as well as the west wing.

Examination of quality records to date for concrete has not indicated any problems. While there are a few areas that will require appropriate attention, the works in general appear to be progressing in accordance with the Client's requirements and with due regard to Health & Safety issues.

Other trades have added significantly to the overall activity on site during the period. These include steelwork which is virtually completed to the roof of the west wing, external wall framing to the first and second floors of the west wing which is also nearing completion. Internal stud partition walling has also commenced in the same areas. 1st fix modular M&E unit installation at 1st floor level is in progress and the boulevard access off Hardgate Road is completed to tarmac formation level including road surface drainage.

Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 2 has been issued to Brookfield bringing to their attention dirty and rusty areas of steel on the roof of Zone 3. The Office Pod DPM which has been trimmed off flush along the edge the ground beam has also been brought to their notice.

We asked Brookfield to provide the QA Inspection and Test Plan for signing off the completion of the work prior to the commencement of the structural copper cladding.

We have also asked them to confirm when the remedial measures will be undertaken and to notify us when the work is complete to allow us to carry out an inspection.

Our Communication General Matters / Other Instructions (CI 13.1) No 1 issued in June is answered with the exception of the following: A copy of guarantees/warranty of the Caltite waterproofing and the Proprietary tunnel roof waterproofing details.

2.0 DESIGN COMPLIANCE CHECK

The drawing and specification information issued on Aconex indicates that the design is in accordance with the Project Executive Plan.

Drawing and Construction information continues to be provided by Brookfield.

3.0 PROCEDURES REVIEW

3.1 Performance

Workmanship generally again appears to be to a high standard, other than as noted in section 2 above.

Photographs included in the appendices illustrate works progress during the period.

Much information has been provided in relation to the Labs but information requested and still outstanding includes:

- Caltite waterproofing - copy of guarantees/warranty when available
- Proprietary tunnel roof waterproofing details.
- Roof steelwork details and drawings (from subcontractor Pavo)
- SFS Drawing details

3.2 Quality Assurance Procedures

During November, Brookfield and Dunne have continued with their QA and checking procedures. Cube results, as reported last month, continue to be generally high.

The use of the 'Caltite' waterproofing concrete is completed. As previously intimated, Brookfield have been assured that a guarantee/warranty will be available on completion of the waterproofing concrete and this is still awaited.

Structural steelwork method statements have been checked by Brookfield and the steelwork to the roof areas of the west wing appear to have been erected in a safe, pragmatic manner. Surface finish, however, to several areas of steelwork, particularly the crossbeam webs is unsatisfactory. This has been drawn to Brookfield attention and is on their list for remedial action.

3.3 Early Warning

Currently nothing to report.

3.4 Trust Equipment Installation, Testing and Commissioning

Currently nothing to report.

4.0 CONSTRUCTION REVIEW

4.1 Visits to the Works

Site inspections were carried out by the NEC 3 Supervisor on the 1st, 2nd, 4th 5th, 8th, 9th, 10th, 11th, 15th, 16th, 17th, 18th, 19th, 20th, 22nd, 23rd, 24th 25th, 27th 29th and 30th November 2010.

4.2 Elements of the Works available for inspection.

- Tunnel/Underpass
- Core Shafts
- Drainage
- Roadworks (ACH works)
- Mortuary basement area
- Columns.
- Falsework and Formwork
- Flat Slab
- Precast concrete stairs
- Steelwork
- Partitions
- Metal Stud Infill's for External Insulated Render System.
- Ductwork.
- Pipework Distribution

4.3 Observations from November 2010 inspections.

The visual inspections of the work packages carried out to date indicate that the works are being carried out to a satisfactory standard. Listed below are observations in relation to our visits to site in November.

4.3.1 Mortuary Basement

During the period the 'cracks' reported in the September monthly report have been monitored by Brookfield but until the propping is removed it will not be possible to assess the full extent of any issues with regard to these.

4.3.2 Floor Slabs

The west wing 1st, 2nd and 3rd floor slabs have been completed. The Mortuary wing, only level 4 slabs to be cast, propping to basement level still in place. In the Pod area' all floors cast with some propping and falsework still in place.

4.3.3 Concrete Stairs

Precast concrete stairs positioned to stairwells 1 and 2, with some steel stairway sections positioned in stairwell 1.

4.3.4 Drainage

Drainage works for the building appear to have progressed as far as possible at this stage.

4.3.5 Steelwork

The structural steelwork on the roof of Zone 3 area virtually completed, however the finish is not up to industry standards. Several areas, particularly on the beams have rust patches and many other areas require washing down to allow inspection. Brookfield is to confirm when remedial measures will be undertaken and notify us when the work is complete to allow us to carry out an inspection.

4.3.6 Falsework

Central area falsework in place for final pour, at level 4.

4.3.7 Damp Proof Membrane

We noted that the DPM which should extend beyond the edge the ground beam at the Office Pod has been trimmed off flush. Drawing AA(21)37 indicates that the DPM should continue up the outer face of the ground beam to the underside of the structural copper cladding. We

issued Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 3 to Brookfield requesting confirmation of the approved remedial action to ensure that there is a continuous DPM in accordance with an approved architects detail drawing. Brookfield is in discussions with the Architect to affect a solution.

Provide the QA Inspection and Test Plan for signing off the completion of the work prior to the commencement of the structural copper cladding.

4.3.8 Partitions

Partition construction has commenced on Levels 1 and 2 Areas 1, 2 and 3 with metal stud framework in place and plasterboard sheeting to one side.

We noted standing water on floor slabs, usually caused by difficult-to-seal box out holes from the top floor slab. Although none of the boarding to the partitions has sustained water damage there is a risk more of a risk as the erection of the partition progresses

4.3.9 Insulated Render System

The metal stud framing has commenced on both the East and West Elevation of Areas 1, 2 and 3.

4.4 Defects from November 2010 inspections.

No Conformance Reports / Defects have been reported by Brookfield.

5.0 INFORMATION REQUIRED

General Matters / Other Instructions

	Shading indicates item closed, clear indicates current item
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Item No.	Description	Date Requested	Comment
01	<p>We have requested the following information:</p> <p>Dunne PEP or equivalent. Current civil and structural drawings.</p> <p>URS specification. Pile integrity and load test results.</p> <p>Cube results to date.</p> <p>Caltite waterproofing additive details (and copy of guarantees).</p> <p>Proprietary tunnel roof waterproofing details.</p>	14.06.10	<p>Answered</p> <p>Partly answered. Received/Ongoing.</p> <p>Received. Received.</p> <p>Ongoing.</p> <p>Awaiting copy of guarantees.</p> <p>Verbal feedback received.</p>
02	<p>We have requested the following information:</p> <p>Confirm when remedial measures will be undertaken to address the poor <u>rust patches</u> in the steel and notify us when the work is complete to allow us to carry out an inspection.</p> <p>Confirm the approved remedial action to ensuring that there is a continuous DPM in accordance with the drawing.</p> <p>Provide the QA Inspection and Test Plan for signing off the completion of the work prior to the commencement of the structural copper cladding.</p>	25.11.10	<p>Brookfield confirmed remedial action to be undertaken.</p> <p>Brookfield in discussions with the Architect to effect solution.</p> <p>No Response.</p>

John Redmond
Capita Symonds
Technical Advisory Services

Skypark SP1, 8 Elliot Place, Glasgow, G3 8EP

	Signed	Date
Originated by	John Redmond	10 th December 2010
Checked by	David Ramsay	10 th December 2010

APPENDIX 1 Summary of Notification of Defects

		Shading indicates item closed, clear indicates current item
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Item	Site Def. No.	First reported	Description	Response/comment/action



1. General view of the site from the south: 15th November 2010



2 & 3. DPC Around Pod Floor Slab: 19 November 2010



4. Internal partitions and Service Installation November 2010



5. West Wing Roof Steelwork: Poor Surface Finish: 22nd November 2010



6. Pod 4TH Floor Pour Frost Protection: 25th November 2010



7. New Access Road Entrance: 25th November 2010

CAPITA SYMONDS

NEW SOUTH GLASGOW HOSPITAL LABORATORIES

NEC 3 SUPERVISORS REPORT NO. 07

DECEMBER 2010

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APPENDIX 1 Summary of Notification of Defects

APPENDIX 2 Photographs

NEW SOUTH GLASGOW HOSPITAL LABORATORIES

1.0 EXECUTIVE SUMMARY

Visits to the site during December indicate that the construction and procedures are progressing in a satisfactory manner in accordance with the Project Executive Plan.

We continue to monitor the construction drawings and specifications for compliance with the Contract Documentation in conjunction with our visual site inspections. Throughout, the standard of workmanship is to a good standard and operations are being carried out in an acceptable manner.

Site visits and visual inspections have again continued during the period together with ad hoc meetings and discussions with the site teams. Information regarding drawings, quality issues and other technical matters has been supplied when requested generally via 'Aconex'.

Brookfield have produced a tracker to monitor the progress and closing out of our General Communications which are being issued during the contract.

The final main concrete pours to the Labs project were completed during the period, all appearing to be of good quality. Appropriate precautions for very cold weather working were taken during the period. Examination of cube crushing records to date for concrete has not indicated any problems. During the period structural steelwork was erected at roof level at the south end of the west wing and this generally appears to be satisfactory. However there are a few areas, previously reported, which require attention. The works in general appear to be progressing in accordance with the Client's requirements and with due regard to Health & Safety issues.

External wall framing to the first and second floors of the west wing is nearing completion. Internal stud partition walling is also progressing in the same areas. 1st fix modular M&E unit installation is in progress and at the time of inspection pipe and duct ends are being blanked off.

Supervisor's Communication General Matters / Other Instructions (CI 13.1) Nos 3, 4 and 5 have been issued to Brookfield during December. These include requests for test results for the strength and stability and test fire results/certificates for all partitions. We have also requested Brookfield to confirm their testing programme for all partitions in accordance with HTM 08-01 Acoustics.

We asked Brookfield to provide the QA Inspection and Test Plan for signing off the completion of the work prior to the commencement of the structural copper cladding.

We have also asked them to confirm when the remedial measures will be undertaken and to notify us when the work is complete to allow us to carry out an inspection.

2.0 DESIGN COMPLIANCE CHECK

The drawing and specification information issued on Aconex indicates that the design is in accordance with the Project Executive Plan.

Drawing and Construction information continues to be provided by Brookfield.

3.0 PROCEDURES REVIEW

3.1 Performance

Workmanship generally again appears to be to a high standard.

Photographs included in the appendices illustrate works progress during the period.

We received the roof steelwork details and drawings for the roof.

Much information has been provided in relation to the Labs but information requested and still outstanding includes:

- Caltite waterproofing - copy of guarantees/warranty when available
- Proprietary tunnel roof waterproofing details.
- SFS Drawing details

3.2 Quality Assurance Procedures

During November, Brookfield and Dunne have continued with their QA and checking procedures. Cube results, as reported last month, continue to be generally high.

Brookfield and Dunne have continued with their QA and checking procedures during the period. Cube results, as reported in the last period, continue to be generally high.

The use of the 'Caltite' waterproofing concrete is completed. As previously intimated, Brookfield have been assured that a guarantee/warranty will be available on completion of the waterproofing concrete and this is still awaited.

3.3 Early Warning

Currently nothing to report.

3.4 Trust Equipment Installation, Testing and Commissioning

We have requested full test results to BS 5234 for strength and stability for all partition types including impact damage and door slam tests for all door opening situations. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 3)

We have also requested the appropriate test results/certificate required for the partition in accordance with BS 476 for all fire resistant partitions. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 3)

Please confirm your acoustic testing programme for all partitions in accordance with Section 7 of Health Technical Memorandum 08-01: Acoustics. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 4)

4.0 CONSTRUCTION REVIEW

4.1 Visits to the Works

Site inspections were carried out by the NEC 3 Supervisor on the 1st, 3rd, 7th, 8th, 9th, 10th, 11th, 14th, 15th, 16th, 17th, 18th, 19th, 20th, 21st, 22nd, 23rd, December 2010.

4.2 Elements of the Works available for inspection.

- Tunnel/Underpass
- Core Shafts
- Local Drainage
- Roadworks (ACH works)
- Mortuary basement and Tank area
- Columns.
- Falsework and Formwork
- Flat Slab
- Precast concrete stairs
- Steelwork
- Partitions
- Metal Stud Infill's for External Insulated Render System.

- Ductwork.
- Pipework Distribution
- Piling Mat (ACH – Energy Centre)
- Piling Operations (ACH – substation)

4.3 Observations from November 2010 inspections.

The visual inspections of the work packages carried out to date indicate that the works are being carried out to a satisfactory standard. Listed below are observations in relation to our visits to site in November.

4.3.1 Mortuary Basement

During the period the propping has been removed from the Mortuary and Tank areas in the basement, some cracks in these areas still being apparent and these are understood to be subject to survey. A report from the designers in respect of this issue is awaited.

4.3.2 Floor Slabs

During our inspections on site we noted the completion of the final main concrete pours to the overall concrete structure.

4.3.3 Hardgate Road

As reported in the last period on the new access road from Hardgate Road drainage is completed and the road subgrade prepared to underside of tarmac level. The works appear to have been carried out in accordance with the Client's requirements.

4.3.4 Steelwork

Proposals for remedial action to the west wing roof steelwork surface finish, as noted in the last period, are still awaited.

4.3.5 Falsework

We noted that the Falsework had been removed from the west wing and from the lower floors at the 'pod' area, and also from the basement mortuary and tank areas.

4.3.6 Damp Proof Membrane

Brookfield and the Architect have had discussions and Fosroc details have been approved by the Architect. We shall continue to monitor this work as it proceeds. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 5)

We are awaiting the QA Inspection and Test Plan for signing off the completion of the work prior to the commencement of the structural copper cladding.

4.3.7 Partitions

Partition construction has commenced on Levels 1 and 2 Areas 1, 2 and 3 with metal stud framework in place and plasterboard sheeting to one side.

Brookfield has informed us that the boarding to the partition which has been exposed to water on Level 2 at the doors leading into the Genetic Freezer Store and the Block Slide Store will be replaced. Consequently we have requested confirmation when this will be completed for inspection. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 5)

There are gaps between the boarding at a few locations on Level 1 and 2 some about 5mm wide. We are seeking confirmation from Brookfield if these gaps can be filled and that there will be no risk of cracks occurring in the future especially above door openings (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 4)

We have asked Brookfield to confirm their acoustic testing programme for all partitions in accordance with Section 7 of Health Technical Memorandum 08-01: Acoustics.

4.3.8 Insulated Render System

The metal stud framing is progressing on both the East and West Elevation of Areas 1, 2 and 3.

4.3.9 Sub-station

During the period works have commenced on the sub-station with stone piling mat placed and piling rig and equipment brought on site. Due to

weather and other adverse circumstances only one pile (of 32) has been placed and concreted during the period.

4.3.10 Energy Centre

Also during the period excavation works have been undertaken at the energy centre (north of the labs building) and the stone piling mat placed.

4.4 Defects from December 2010 inspections.

No Conformance Reports / Defects have been reported by Brookfield.

5.0 INFORMATION REQUIRED

General Matters / Other Instructions

	Shading indicates item closed, clear indicates current item
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Item No.	Description	Date Requested	Comment
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01	<p>We have requested the following information:</p> <p>Dunne PEP or equivalent. Current civil and structural drawings.</p> <p>URS specification. Pile integrity and load test results.</p> <p>Cube results to date.</p> <p>Caltite waterproofing additive details (and copy of guarantees).</p> <p>Proprietary tunnel roof waterproofing details.</p>	14.06.10	<p>Closed Out. Received/Ongoing.</p> <p>Received/Ongoing. Received/Ongoing.</p> <p>Ongoing.</p> <p>Awaiting copy of guarantees.</p> <p>Verbal feedback received.</p>
02	<p>We have requested the following information:</p> <p>Confirm when remedial measures will be undertaken to address the poor <u>rust patches</u> in the structural steel and notify us when the work is complete to allow us to carry out an inspection.</p> <p>Confirm the approved remedial action to ensuring that there is a continuous DPM in accordance with the drawing.</p> <p>Provide the QA Inspection and Test Plan for signing off the completion of the work prior to the commencement of the structural copper cladding.</p>	25.11.10	<p>Brookfield confirmed remedial action to be undertaken.</p> <p>Fosroc drawings approved by the Architect.</p> <p>Awaiting a response.</p>
03	<p>Provide full test results to BS 5234 for strength and stability for all partition types including impact damage and door slam tests for all door opening situations.</p> <p>Please provide your written method statement/QA describing the erection procedures together with details of the quality checking and recording systems being implemented to ensure correct construction of partitions and correct location of partition types.</p> <p>Confirm if timber inserts are being fitted within the horizontal section of partition forming the door opening to provide strength and robustness.</p> <p>Confirm that the 5mm gaps between the boarding at a few locations on Level 1 can be filled and that there will be no risk of cracks occurring in the future especially above door openings.</p>	03.12.10	<p>Awaiting a response.</p> <p>Awaiting a response.</p> <p>Awaiting a response.</p> <p>Awaiting a response.</p>
03	<p>There are gaps between the boarding at a few locations on Level 1 about 5mm wide. We are seeking confirmation if these gaps can be filled and that there will be no risk of cracks occurring in the future especially above door openings.</p> <p>Please confirm your acoustic testing programme for all partitions in accordance with Section 7 of Health Technical Memorandum 08-01: Acoustics.</p>		<p>Awaiting a response.</p> <p>Awaiting a response.</p>

04	<p>There are gaps between the boarding at a few locations on Level 1 about 5mm wide. We are seeking confirmation if these gaps can be filled and that there will be no risk of cracks occurring in the future especially above door openings</p> <p>Please confirm your acoustic testing programme for all partitions in accordance with Section 7 of Health Technical Memorandum 08-01: Acoustics.</p>		<p>Awaiting a response.</p> <p>Awaiting a response.</p>
05	<p>The boarding to the partition around the doors leading into the Genetic Freezer Store and the Block Slide Store on Level 2 has been exposed to water ingress. Please confirm when these are replaced to allow us to carry out an inspection.</p>		<p>Awaiting a response.</p>

John Redmond
Capita Symonds
Technical Advisory Services

Skypark SP1, 8 Elliot Place, Glasgow, G3 8EP

	Signed	Date
Originated by	John Redmond	10 th December 2010
Checked by	David Ramsay	10 th December 2010

APPENDIX 1 Summary of Notification of Defects

		Shading indicates item closed, clear indicates current item
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Item	Site Def. No.	First reported	Description	Response/comment/action



1. General view of the site from the south: 15th November 2010



2 & 3. DPC Around Pod Floor Slab: 19 November 2010



4. Internal partitions and Service Installation November 2010



5. West Wing Roof Steelwork: Poor Surface Finish: 22nd November 2010



6. Pod 4TH Floor Pour Frost Protection: 25th November 2010



7. New Access Road Entrance: 25th November 2010

CAPITA SYMONDS

NEW SOUTH GLASGOW HOSPITAL LABORATORIES

NEC 3 SUPERVISORS REPORT NO. 08

JANUARY 2011

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APPENDIX 1	Summary of Notification of Defects
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NEW SOUTH GLASGOW HOSPITAL LABORATORIES

1.0 EXECUTIVE SUMMARY

Visits to the site during January indicate that the construction and procedures are progressing in a satisfactory manner in accordance with the Project Executive Plan.

We continue to monitor the construction drawings and specifications for compliance with the Contract Documentation in conjunction with our visual site inspections. Throughout, the standard of workmanship is to a good standard and operations are being carried out in an acceptable manner.

Site visits and visual inspections have again continued during the period together with ad hoc meetings and discussions with the site teams. Information regarding drawings, quality issues and other technical matters has been supplied when requested generally via 'Aconex'.

We have received Brookfield's Supervisors Communication and Tracker Log and have commented or closed out the items within our report.

The final main concrete pours to the Labs project were completed during the period, all appearing to be of good quality. Appropriate precautions for very cold weather working were taken during the period. Examination of cube crushing records to date for concrete has not indicated any problems. During the period structural steelwork was erected at roof level at the south end of the west wing and this generally appears to be satisfactory. However there are a few areas, previously reported, which require attention. The works in general appear to be progressing in accordance with the Client's requirements and with due regard to Health & Safety issues.

External wall framing on the west wing is progressing, internal stud partition walling is also progressing in the same areas and in the Pod. 1st fix modular M&E unit installation is in progress and at the time of inspection pipe and duct ends are being blanked off. The roof above the plant area is progressing satisfactory.

Supervisor's Communication General Matters / Other Instructions (CI 13.1) No's 6 to 9 were issued to Brookfield during January. We requested Brookfield to provide clarification/information on how they are going to address the issues identified. These include water ingress affecting fermacel boards and pre-insulated pipework, open ended ducts, providing adequate access to dampers and hatches and independent supports to fire dampers. We are also seeking

confirmation on the strategy for hydraulic testing and expansion of pre-insulated pipework.

We asked Brookfield to provide the QA Inspection and Test Plan for signing off the completion of the work prior to the commencement of the structural copper cladding. We have also asked them to confirm when the remedial measures will be undertaken and to notify us when the work is complete to allow us to carry out an inspection.

2.0 DESIGN COMPLIANCE CHECK

The drawing and specification information issued on Aconex indicates that the design is in accordance with the Project Executive Plan.

Drawing and Construction information continues to be provided by Brookfield.

3.0 PROCEDURES REVIEW

3.1 Performance

Workmanship generally again appears to be to a high standard however we have highlighted areas where the standard is not up to the high standard.

Photographs included in the appendices illustrate works progress during the period and issues which we have brought to Brookfields attention.

Much information has been provided in relation to the Labs but information requested and still outstanding include:

- Caltite waterproofing - copy of guarantees/warranty when available
- Proprietary tunnel roof waterproofing details.
- SFS Drawing details

3.2 Quality Assurance Procedures

During January, Brookfield and Dunne have continued with their QA and checking procedures. Cube results continue to be generally high.

The use of the 'Caltite' waterproofing concrete is completed. As previously intimated, Brookfield have been assured that a guarantee/warranty will be available on completion of the waterproofing concrete.

3.3 Early Warning

Currently nothing to report.

3.4 Trust Equipment Installation, Testing and Commissioning

Brookfield has provided us with a summary test report to BS 5234-2:1992 for the strength and robustness test report results for strength and stability for an Xella Fermacell 1S15 stud partition. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 3).

We have received an assessment of the performance of Fermacell partition systems incorporating a deflective head detail. Consequently this section of Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 3 is closed out.

Brookfield has responded to our request for an acoustic testing programme for all partitions in accordance with Section 7 of Health Technical Memorandum 08-01: Acoustics. We await confirmation of a date from them. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 4).

4.0 CONSTRUCTION REVIEW

4.1 Visits to the Works

Site inspections were carried out by the NEC 3 Supervisor on the 6th 7th, 10th, 11th, 14th, 17th, 18th, 19th, 21st, 18th, 19th, 20th, 21st, 22nd and 23rd, December 2010.

4.2 Elements of the Works available for inspection.

- Tunnel/Underpass
- Core Shafts
- Local Drainage
- Roadworks (ACH works)
- Mortuary basement and Tank area
- Columns.
- Falsework and Formwork
- Flat Slab
- Precast concrete stairs
- Steelwork
- Partitions
- Metal Stud Infill's for External Insulated Render System.
- Ductwork.

- Pipework Distribution
- Piling Mat (ACH – Energy Centre)
- Piling Operations (ACH – substation)

4.3 Observations from November 2010 inspections.

The visual inspections of the work packages carried out to date indicate that the works are being carried out to a satisfactory standard. Listed below are observations in relation to site visits in December.

4.3.1 Mortuary Basement

During the period the propping has been removed from the Mortuary and Tank areas in the basement, some cracks in these areas still being apparent and these are understood to be subject to survey. A report from the designers in respect of this issue is awaited.

4.3.2 Floor Slabs

During our inspections on site we noted the completion of the final main concrete pours to the overall concrete structure.

4.3.3 Hardgate Road

As reported in the last period on the new access road from Hardgate Road drainage is completed and the road subgrade prepared to underside of tarmac level. The works appear to have been carried out in accordance with the Client's requirements.

4.3.4 Steelwork

Brookfield has confirmed that the paint to the steelwork will be touched up when the roof is waterproof and they have informed us that a letter is coming from the painter about the variation in appearance.

4.3.5 Falsework

We noted that the Falsework had been removed from the west wing and from the lower floors at the 'pod' area, and also from the basement mortuary and tank areas.

4.3.6 Partitions

Brookfield has informed us that the boarding to the partition which has been exposed to water on Level 2 at the doors leading into the Genetic Freezer Store and the Block Slide Store will be replaced. Brookfield confirmed that we will be advised to allow us to carry out an inspection (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 5).

We have received confirmation from Brookfield that the gaps are to be filled with Fermacell jointstik adhesive and Fermacell fine surface treatment is to be applied as specified by the Fermacell representative. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 4).

4.3.7 Insulated Render System

The metal stud framing is progressing on the West Wing.

4.3.8 Sub-station

During the period works have commenced on the sub-station with stone piling mat placed and piling rig and equipment brought on site. Due to weather and other adverse circumstances only one pile (of 32) has been placed and concreted during the period.

4.3.9 Energy Centre

Also during the period excavation works have been undertaken at the energy centre (north of the labs building) and the stone piling mat placed.

4.3.10 Mechanical Services Installation

During our visit to site we noted that some of the ducting on site had been installed with open ends for extended periods. We have informed Brookfield that this can lead to debris and other material contaminating

or restricting the operation of the systems. We have intimated that installed sections and ensure that pipe and duct ends are covered until final connections are carried out.

Ingress of water on level 2, has resulted in wetting of the pre insulated pipe and ducting. Insulation to be checked to ensure completely dry. Remove and replace if required.

Access hatches for dampers etc on ventilation systems require to be positioned to allow adequate access to the item being serviced. Check existing installed hatches and future installed locations.

Fire dampers to be supported independent of the ducting.

Confirm the strategy for hydraulic testing of the pre-insulated pipework. In the event of failure how is the actual point of failure indentified if covered by insulation.

Confirm the strategy for thermal expansion within the pipework systems.

4.4 Defects from December 2010 inspections.

No Conformance Reports / Defects have been reported by Brookfield.

5.0 INFORMATION REQUIRED

General Matters / Other Instructions

	Shading indicates item closed, clear indicates current item
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Item No.	Description	Date Requested	Comment
01	<p>We have requested the following information:</p> <p>Dunne PEP or equivalent. Current civil and structural drawings.</p> <p>URS specification. Pile integrity and load test results.</p> <p>Cube results to date.</p> <p>Caltite waterproofing additive details (and copy of guarantees).</p> <p>Proprietary tunnel roof waterproofing details.</p>	14.06.10	<p>Closed Out. Received/Ongoing.</p> <p>Received/Ongoing. Received/Ongoing.</p> <p>Ongoing.</p> <p>Awaiting copy of guarantees.</p> <p>Verbal feedback received.</p>

02	<p>We have requested the following information:</p> <p>Confirm when remedial measures will be undertaken to address the poor rust patches in the structural steel and notify us when the work is complete to allow us to carry out an inspection.</p> <p>Confirm the approved remedial action to ensuring that there is a continuous DPM in accordance with the drawing.</p> <p>Provide the QA Inspection and Test Plan for signing off the completion of the work prior to the commencement of the structural copper cladding.</p>	25.11.10	<p>Brookfield confirmed remedial action to be undertaken.</p> <p>Fosroc drawings approved by the Architect.</p> <p>Awaiting a response.</p>
03	<p>Provide full test results to BS 5234 for strength and stability for all partition types including impact damage and door slam tests for all door opening situations.</p> <p>Please provide the appropriate test results/certificates required for the partition in accordance with BS 476 for all fire resistance partitions.</p> <p>Please provide your written method statement/QA describing the erection procedures together with details of the quality checking and recording systems being implemented to ensure correct construction of partitions and correct location of partition types.</p> <p>Confirm if timber inserts are being fitted within the horizontal section of partition forming the door opening to provide strength and robustness.</p>	03.12.10	<p>Response received.</p> <p>Response received.</p> <p>Response received.</p> <p>Response received.</p>
04	<p>There are gaps between the boarding at a few locations on Level 1 about 5mm wide. We are seeking confirmation if these gaps can be filled and that there will be no risk of cracks occurring in the future especially above door openings</p> <p>Please confirm your acoustic testing programme for all partitions in accordance with Section 7 of Health Technical Memorandum 08-01: Acoustics.</p>		<p>Response received.</p> <p>Response received.</p>
05	<p>The boarding to the partition around the doors leading into the Genetic Freezer Store and the Block Slide Store on Level 2 has been exposed to water ingress. Please confirm when these are replaced to allow us to carry out an inspection.</p>		Response received.
06	<p>Check that pipe and duct ends are covered until final connections are carried out.</p> <p>Check existing access hatches and dampers to allow access to the items being served.</p> <p>Confirm the strategy for hydraulic testing of pre-insulated pipework.</p> <p>Confirm the strategy for thermal expansion within pipework systems</p>		<p>Closed out.</p> <p>Closed out.</p> <p>Response received.</p> <p>Response received.</p>

07	Timber head piece and door frame inserts have been affected by water ingress in a number of areas. Confirm if boards water affected by require to be replaced. Provide evidence that the moisture content in the timbers does not exceed the recommended moisture content		Awaiting response.
08	Confirm when the electronic roof integrity test will be carried out to the Permaquik roof.		Awaiting response.

John Redmond
Capita Symonds
Technical Advisory Services

Skypark SP1, 8 Elliot Place, Glasgow, G3 8EP

	Signed	Date
Originated by	John Redmond	6 th January 2011
Checked by	Darran Muir	6 th January 2011

APPENDIX 1 Summary of Notification of Defects

		Shading indicates item closed, clear indicates current item
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Item	Site Def. No.	First reported	Description	Response/comment/action



1. General view of the site from the south: 17th December 2010.



2. West Wing East Elevation (plus effects of cold): 17th December 2010.



3. Crack in Water Tank Area: 14th December 2010.

4. Crack in Mortuary Area: 14th December 2010.



5. Water stain to partition boarding 14th December 2010.



6. Partition and new service modules.

CAPITA SYMONDS

NEW SOUTH GLASGOW HOSPITAL LABORATORIES

NEC 3 SUPERVISORS REPORT NO. 09

FEBRUARY 2011

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NEW SOUTH GLASGOW HOSPITAL LABORATORIES

1.0 EXECUTIVE SUMMARY

Visits to the site during February indicate that the construction and procedures are progressing in a satisfactory manner in accordance with the Project Executive Plan.

We continue to monitor the construction drawings and specifications for compliance with the Contract Documentation in conjunction with our visual site inspections. Throughout, the standard of workmanship is generally good and operations are being carried out in an acceptable manner.

Site visits and visual inspections have again continued during the period together with ad hoc meetings and discussions with the site teams. Information regarding drawings, quality issues and other technical matters has been supplied when requested generally via 'Aconex'.

During the period erection of structural steelwork has continued at roof level over areas 5 and 6 of the main building. Connecting steelwork between the pod and main building has also continued. Blockwork has started on the ground floor and has progressed significantly during the period.

The external wall framing continues to progress and windows have been fitted in the west wing. Internal stud partitions continue to be erected. The flat roof above the plant room is also progressing with versa panels being fitted on the remaining roofs. The fitting of the external cladding on the south elevation has also commenced.

In general all mechanical services first fix are well progressed. The standard is of a high quality. Protection of open ends of pipes and ductwork is being provided throughout the site.

Electrical works are also well in hand, and being carried out to the same high standard as the mechanical systems. Cabling is being installed within the containment on some floors and again is being carried out to a high standard. Extensive data cabling has now been installed on cable tray. Caution needs to be maintained where the cabling leaves the cable tray that damage does not occur on the cable until final connections have been made.

Overall the installation and co-ordination of services appear to be well organised. The works in general appear to be progressing in accordance with the Client's requirements and with due regard to health and safety issues.

Supervisor's Communication General Matters / Other Instructions (CI 13.1) No's 10, 11, 12, 13, 14, 15, 16, 17 and 18 were issued to Brookfield during February. These include matters in relation to rainwater affecting Fire batts around internal pipes in the west wing, surface of the concrete floor spalling on Level 2, restricted access preventing upper sections of partition boarding being fixed at upper level, unsecured bolt, lintels not fitted and confirmation of the design and fixing details for the cladding.

Brookfield has provided us with a solution from Knauf in relation to the problem of the unfixed section of boarding in the West Wing Level 1 Areas 1 and 2. We shall inspect this area on completion of the work.

Acoustic testing programme for all partitions in accordance with Section 7 of Health Technical Memorandum 08-01 is currently under review by Brookfield.

We continue to have discussions with Brookfield and are being assisted by the site teams in resolving various construction, mechanical, electrical, and quality issues which have been raised following our visits.

2.0 DESIGN COMPLIANCE CHECK

The drawing and specification information issued on Aconex indicates that the design is in accordance with the Project Executive Plan.

Drawing and Construction information continues to be provided by Brookfield.

3.0 PROCEDURES REVIEW

3.1 Performance

Workmanship generally again appears to be to a high standard.

Photographs included in the appendices illustrate works progress during the period.

Much information has been provided in relation to the Labs but information requested and still outstanding include:

- Caltite waterproofing - copy of guarantees/warranty when available
- Proprietary tunnel roof waterproofing details.
- SFS Drawing details
- Report from Brookfield is still awaited in respect of cracks in the mortuary and water tank areas.
- Cube results from the w/c 24/01/2011 are awaited.
- Proposals for remedial work to steelwork surface finishes.
- Proposals for remedial repair to surface area of concrete on the second floor.

3.2 Quality Assurance Procedures

Brookfield and Dunne have continued with their QA and checking procedures during the period. Cube results from the w/c 24/01/2011 are awaited.

A review of Brookfield's Contract Quality Plan has been programmed for the 9th March 2011 which will include a review of their Inspection and Test Plans.

3.3 Early Warning

Currently nothing to report.

3.4 Trust Equipment Installation, Testing and Commissioning

Brookfield has provided us with the test information for Fermacell and Knauf partitions. Consequently this part of the Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 3 is closed out.

We have received Astins Test and Inspection Plan and QA check sheets and these are being reviewed. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 3).

We still await Brookfield's acoustic testing programme for all partitions in accordance with Section 7 of Health Technical Memorandum 08-01: Acoustics. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 4).

It was noted that "SHPN 20 Facilities for mortuary and post mortem room services" is listed as a guidance document but makes no reference to acoustic testing. However 5.1.2 NHS Mandatory Documents for buildings lists HTM 08-01 Acoustics as one of the mandatory documents.

4.0 CONSTRUCTION REVIEW

4.1 Visits to the Works

Site inspections were carried out by the NEC 3 Supervisor on the 1st, 2nd, 3rd, 4th, 7th, 8th, 9th, 10th, 11th, 14th, 15th, 16th, 18th, 21st, 2nd, 22nd, 24th and 28th February 2011.

4.2 Elements of the Works available for inspection.

- Steelwork erection to roof areas 5 and 6 of the main building plus connecting steelwork between 'pod' and the main building.
- Grouting up to steel column bases remains ongoing.
- Blockwork erection to the ground floor.
- Partitions
- Metal Stud Infill's for External Insulated Render System.
- Permaquik application to flat roofs
- Cladding
- Window installation
- Ductwork.
- Pipework Distribution

- Piling Mat and Operations (ACH – Energy Centre)
- Reinforcing and Concreting (ACH – substation)

4.3 Observations from February 2011 inspections.

The visual inspections of the work packages carried out to date indicate that the works are being carried out to a satisfactory standard. Listed below are observations in relation to site visits in February.

4.3.1 Floor Slabs

Although it has been confirmed verbally by Brookfield that cracks are within permitted widths, a report from Brookfield is again still awaited in respect of cracks in the mortuary and water tank areas. Propping has now been removed from all floor areas.

A surface irregularity or 'laitance bossing' on the concrete slab has been noted on the second floor just opposite the connection to the 'pod'. This has been drawn to Brookfield attention and remedial work is being proposed (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 11).

4.3.2 Steelwork

As reported last month proposals for remedial action to the west wing roof steelwork surface finish, as noted previously in November, are still awaited. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 2).

We noted that one handrail post in Area 5 was broken. Brookfield's has confirmed that this has been repaired and is ready for inspection. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 18).

Blockwork has been ongoing to areas of the ground floor during the period. Inadequate mortar infill to some areas at floor level adjacent to wind posts was noted to Brookfield and this has been addressed. There are other areas where lintels require to be built into the blockwork. Brookfield confirmed that they would determine the extent of service penetrations before placing lintels. We shall continue to monitor this work. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 15).

4.3.3 Damp Proof Membrane

We have received Brookfields Contract Quality Plan and we shall be checking it against their Inspection and Test Plan for signing off the completion of one phase of work prior to the commencement of another. We will be looking at the structural copper cladding as an example.

4.3.4 Partitions

Brookfield has provided us with Strength and robustness information for both the Fermacell and Knauf partitions. Consequently Section 3a of Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 3 is closed out.

Brookfield has provided us with a method statement in relation to erection of the partitions. Consequently Section 3b of Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 3 is closed out.

Brookfield has confirmed that timber inserts are being inserted in the partition lintels. Consequently Section 3c of Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 3 is closed out.

We have received the Fire Resistance Performance Report for the Fermacell Partitions and these are being reviewed. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 3d).

Confirmation received that 5mm gaps can be filled. Consequently Section 4a of Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 4 is closed out.

Fermacell have informed Brookfield that board affected by water at Genetic Freezer Store will dry out. Consequently this is closed out. Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 5).

Brookfield confirmed that the gaps between the boarding at some locations on Level 1 and 2 would be sealed with Fermacell jointstick adhesive and surface treatment to be applied as specified by the Fermacell representative. Brookfield now has a report in relation to infilling joints. Consequently Section 4a of Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 4 is closed out.

The moisture content of the Fermacell boarding and timber head pieces affected by water ingress is being monitored. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 7).

The internal wall lining located on Level 1, Areas 1 and 2 on the west elevation of the west wing does not have screw fixings to the boarding between the ducting and the underside of the concrete soffit (approximately 500mm). Brookfield has a report from Knauf and will undertake the work accordingly. We shall continue to monitor this work. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 12)

Fermacell confirmed that uneven joints in the boarding adjacent to door D/2/B072 on Level 2 can be sanded down. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 9) has been closed out.

This area will be inspected again. See Supervisors Tests and Inspections

4.3.5 Insulated Render System

The metal stud framing is progressing on both the East Elevation of Areas

4.3.6 Sub-station

Piling is completed and cube results and results from the pile tests (static, dynamic and integrity) are still awaited. These works appear to have been carried out in accordance with the Client's requirements.

Congested reinforcement and cutting of some bars in the foundation to allow fixing during concrete pouring was observed during the period. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 16). This was immediately drawn to Brookfield attention. A review has been carried out by Brookfield with their designers to check that what has been provided has been satisfactory from a design point of view, and this has verbally been confirmed to be the case. Brookfield is reviewing future foundation designs to ensure that no repetition of this occurs. Consequently this is closed out

4.3.7 Energy Centre

Piling has continued throughout the period with no apparent technical problems in respect of the permanent works.

4.3.8 Temporary Road/Linhouse Burn Diversion

Temporary road diversion to facilitate Linthouse Burn diversion is in progress. Construction appears to be progressing in a manner appropriate for such a temporary road.

4.3.9 Flat Roof

Brookfield has confirmed that they will give us 24 hours notice prior to the electronic roof integrity test. (See Supervisors tests and Inspections)

4.3.10 Mechanical

Pipework on all levels was progressing well and being installed in good practice and standard. Ends of pipes were being sealed for protection against dirt or dampness.

The installation of Ventilation Ductwork was progressing well and being installed to a high standard. As required ends of ducts are being sealed until final sections are fitted to maintain the cleanliness of the ductwork during construction. One location of ductwork end was not fully sealed on the ground floor area 6.

Generally pipework and Chilled Water Pipework is progressing well and is to a high standard.

Brookfield has confirmed that they will provide the manufacturers QA in relation to the hydraulic testing of the pre-insulated pipework. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 6).

Brookfield has provided thermal expansion calculations in relation to Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 6).

4.3.11 Electrical

Trunking is progressing on most levels and is sufficient to allow some cabling to be installed. The standard is good and installation of high quality.

Extensive cable tray is now installed on site to a high standard and level.

Solid conduit is being used at high level with flexible metal conduit in partition walls. Both installations are of a good standard and being well fitted.

Some circuit wiring is already being drawn into containment and down to final connection points. Work standard is good.

First fix of fire alarm wiring is well under way and being installed to a high standard.

Extensive data cabling has been installed and run on a number of levels. Care needs to be maintained to protect the cabling as it runs off, and through the cable tray supporting the cabling.

4.3.12 Caltite

Brookfield have noted that the guarantee/warranty on the 'Caltite' concrete cannot effectively be made available until the tunnel areas have been allowed to dry out and a check made if any remedial works are required.

4.3.13 Fire Batts

Fire batts around internal rainwater pipes in the west wing have been saturated with rainwater and some have now been concealed behind stud partitions on the west elevation. Brookfield has confirmed that these will be replaced with a more permanent fire collar and will advise so that a joint inspection can be carried out on completion of the work prior to reinstating partitions. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 10).

4.3.14 Cladding

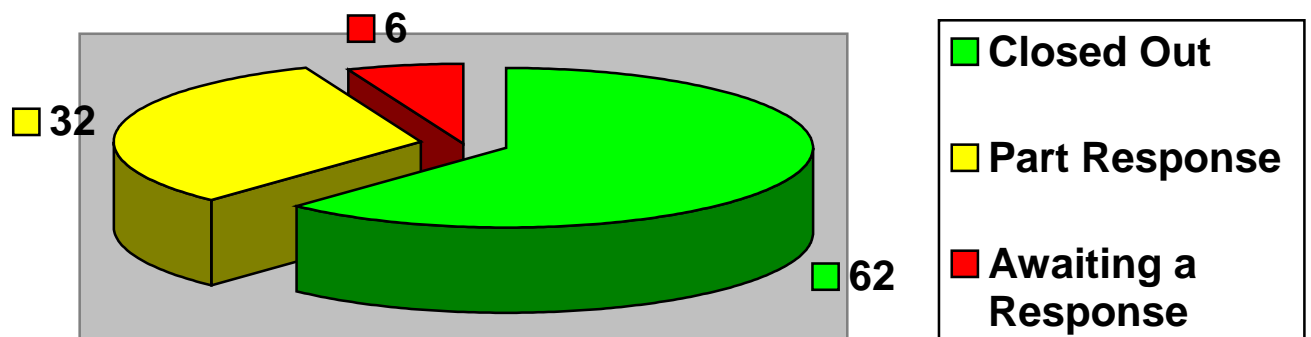
We noted that the installation of the Cladding is ongoing and that there are adjustments to be made to the position of the anchors. We have

asked Brookfield provide further information in relation to the installation and fixing of the cladding (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 17).

4.4 Non Conformance Reports

No Non Conformance Reports / Defects have been reported by Brookfield to date.

5.0 INFORMATION REQUIRED



Item No.	Description	Date Requested	Comment	
01	We have requested the following information:	14.06.10		
01a	Dunne PEP or equivalent.		Closed out.	Green
01b	Current civil and structural drawings.		Closed out.	Green
01c	URS specification. Pile integrity and load test results.		Closed Out.	Green
01d	Cube results to date.		Ongoing	Yellow
01e	Calite waterproofing additive details (and copy of guarantees).		Awaiting copy of guarantees.	Red
01f	Proprietary tunnel roof waterproofing details.		Details awaited.	Red
02	We have requested the following information:	25.11.10		
02a	Confirm when remedial measures will be undertaken to address the poor <u>rust patches</u> in the structural steel and notify us when the work is complete to allow us to carry out an inspection.		Brookfield confirmed remedial action to be undertaken. Awaiting notification that work is complete.	Yellow
02b	Confirm the approved remedial action to ensuring that there is a continuous DPM in accordance with the drawing.		Closed out	Green
02c	Provide the QA Inspection and Test Plan for signing off the completion of the work prior to the commencement of the structural copper cladding.		To be reviewed at audit.	Yellow
03a	Provide full test results to BS 5234 for strength and stability for all partition types including impact damage and door slam tests for all door opening situations.	03.12.10	Closed out	Green
03b	Please provide your written method statement/QA describing the erection procedures together with details of the quality checking and recording systems being implemented to ensure correct construction of partitions and correct location of partition types.		Information Provided. Closed out	Green
03c	Confirm if timber inserts are being fitted within the horizontal section of partition forming the door opening to provide strength and robustness.		Confirmation received from Brookfield. Closed out	Green
03d	Provide test results/certificates to BS 476 for all fire resistant partitions		Information received and being reviewed.	Yellow

04a	There are gaps between the boarding at a few locations on Level 1 about 5mm wide. We are seeking confirmation if these gaps can be filled and that there will be no risk of cracks occurring in the future especially above door openings	03.12.10	Response received. Closed out.	
04b	Please confirm your acoustic testing programme for all partitions in accordance with Section 7 of Health Technical Memorandum 08-01: Acoustics.		Brookfield has this under review. Awaiting acoustic test programme.	
05	The boarding to the partition around the doors leading into the Genetic Freezer Store and the Block Slide Store on Level 2 has been exposed to water ingress. Please confirm when these are replaced to allow us to carry out an inspection.	21.12.10	Fermacell confirmed that boards will dry out. Closed out.	
06a	Check ends of pre-installed pipes and ducts are covered to prevent contamination.	06.01.11	Closed out	
06b	Check to ensure that pre insulated pipe and ducting is affected by water ingress on level 2 is completely dry. Insulation to be removed and replace if required.		Closed out	
06c	Access hatches for dampers etc on ventilation systems require to be positioned to allow adequate access to the item being serviced. Check existing installed hatches and future installed locations.		Closed out	
06d	Fire dampers to be supported independent of the ducting		Closed out	
06e	Confirm the strategy for hydraulic testing of the pre-insulated pipework. In the event of failure how is the actual point of failure identified if covered by insulation.		Brookfield confirmed that they would provide test information.	
06f	Confirm the strategy for thermal expansion within the pipework systems.		Information received and under review.	
07	Confirm if Fermacell boarding, timber head piece and timber door frame affected by water ingress require to be replaced or provide evidence that the moisture contents in the timbers does not exceed the recommended moisture content.	07.01.11	Being monitored by Astins	
08	Please confirm when an electronic roof integrity test will be carried out to the Permaquik system prior to the application of any insulation or covering materials to the roof area.	13.01.11	Brookfield confirmed that 24hr notice would be given.	
09a	Fermacell Boarding adjacent to door D/2/B072 on Level 2 are not flush. Confirm remedial action.	14.01.11	Closed out	
09b	The Fermacell Boarding at the window opening S/2/021 City Analysis 2 on Level 2 has not been fitted properly.		Remedial work as Fermacell Report. Closed out.	
09c	Boarding not fitted properly at window opening S/2/021 City Analysis 2.		Remedial work as Fermacell Report. Closed out.	

09d	Damaged header at door opening at B/2/B086.		To be replaced at 2nd fix	
10	Fire batts around internal rainwater pipes in the west wing have been saturated with rainwater. Confirm when we can inspect the completed fire collars.	14.01.11	Detail of fire batt provided. Inspection to be carried out.	
11	The surface of the concrete floor is boss (spalling) on Level 2 Sequencing Lab L2/B/028. Investigate the extent and confirm when the appropriate remedial measures have been completed.	09.02.11	Repair to be carried out. See Inspection list	
12	The internal independent wall lining located on Level 1, Areas 1 and 2 on the west elevation of the west wing does not have screw fixings to the boarding from the underside of the ducting to the top of the partition (approximately 500mm). Confirm measures to ensure the boarding is fixed at the appropriate centers and provide notification to allow the partitions to be inspected	14.02.11	Response received. Being reviewed	
13	Unsecured bolt confirm when this has been remedied so that an inspection can be carried out.	18.02.11	Brookfield confirmed bolt secured. Confirmed by inspections.	
14	There is restricted access to the upper section of some of the partitions in a number of locations throughout the site especially in corridors. Confirm that the boarding can be fitted in these locations in accordance with Fermacell's specifications. We are aware that in some locations the partitions are to be in shatfwall.	18.02.11	Shaftwall being used. Closed out.	
15	A lintel requires to be installed in the blockwork wall on the ground floor Area 4/5. There are also other openings elsewhere on the ground floor which require lintels. Confirm when these are complete so that an inspection can be carried out.	18.02.11	Extent of services to be ascertained before placing lintels in position.	
16	Attention should be given to the detailing of the reinforcing and pre fixing system which should be to the same standard as the Laboratory	18.02.11	Adjustments made to detailing.	
17	Lower Anchors on the panels fitted do not appear to be fit into the brackets properly. Confirm if the distribution of the load from the panels are equally taken by the upper and lower brackets/anchors. Provide a specification relating to drawing SUK-LAB-XX-DT-251-GA 020 and the numbered items on the drawing.	28.02.11	Briefed by Brookfield. Drawings to be provided.	
18	Handrail post to the feature in Area 5 is broken. Confirm when this will be repaired/replaced.	28.02.11	Brookfield assessing requirements	

6.0 SUPERVISORS TESTS AND INSPECTIONS

Tests not required	N/A
Tests required but not tested	Req
Tests required which has passed tests	Pass

Tests				
Ref	Title	To be Notified by	Status	Test Date
1.	Flat Roof Integrity Test	Brookfield	Req	

Inspection not required	N/A
Inspection required	Req
Inspection complete	Pass

Inspections				
Ref	Title	To be Notified by	Status	Test Date
1.	Replace fire batts west wing	Brookfield	Req	
2.	Level 2 room L2/B/028 spalling concrete	Brookfield	Req	

John Redmond
Capita Symonds
Technical Advisory Services

Skypark SP1, 8 Elliot Place, Glasgow, G3 8EP

	Signed	Date
Originated by	John Redmond	11 March 2011
Checked by	David Ramsay	11 March 2011

APPENDIX 1 Photographs



1. General view of the site from the south: 16th February 2011.



2. Roof Steelwork Erection: 16th February 2011.

Concrete slab surface irregularity, 2nd Floor: 7th February 2011



3. Concrete slab surface irregularity, 2nd Floor: 7th February 2011.



4. Boarding on Level 1, Areas 1 and 2 on the west elevation of the west wing are not fixed between the underside of the trunking and the concrete soffit (500mm) 14th February 2011.



5. Lintel still to be fitted to service opening: 18th February 2011.



6. Damaged steel work 28th February 2011.



7. Potential Health& Safety risk at head of ladders 28th February 2011.

CAPITA SYMONDS

**NEW SOUTH GLASGOW HOSPITAL LABORATORIES
AND THE NEW ADULT AND CHILDRENS HOSPITAL
NEC 3 SUPERVISORS REPORT NO. 11
APRIL 2011**

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NEW SOUTH GLASGOW HOSPITAL LABORATORIES

1.0 EXECUTIVE SUMMARY

Visits to the site during April indicate that the construction and procedures are progressing in a satisfactory manner in accordance with the Project Executive Plan.

We continue to monitor the construction drawings and specifications for compliance with the Contract Documentation in conjunction with our visual site inspections. Throughout, the standard of workmanship is generally good and operations are being carried out in an acceptable manner.

Site visits and visual inspections have again continued during the period together with ad hoc meetings and discussions with the site teams. Information regarding drawings, quality issues and other technical matters has been supplied when requested generally via 'Aconex'.

Blockwork is still ongoing, with other structural works mainly completed other than local elements of steelwork and snagging items. External stack bond pattern of blockwork is progressing at ground floor level on the west wing with workmanship to date appearing satisfactory. Other works in progress include the Insulated Render System, Roofwork, Screeding and Cladding all of which are progressing satisfactorily.

We have received the Certificate of Waterproofing Integrity confirming that the roof in areas 1 and 2 has passed the test with only minor corrective work required to be carried out. Further tests have been carried out and we await the results.

In general all mechanical services first fix are progressing satisfactorily. The standard is of a high quality. Protection of open ends of pipes and ductwork is being provided throughout the site.

Electrical works are well in hand on all levels, and being carried out to the same high standard as the mechanical systems. Cabling is being installed within the containment throughout the floors and again is being carried out to a high standard.

Extensive data cabling has now been installed on cable tray. Caution needs to be maintained where the cabling leaves the cable tray so that damage does not occur on the cable until final connections have been made.

Overall the installation and co-ordination of services appear to be well organised.

Supervisor's Communication General Matters / Other Instructions (CI 13.1) No's 22, 23, 24, 25, 26 and 27 were issued to Brookfield during April. These include seeking clarification in relation to the acoustic properties of the division walls between toilets where no partitions have been specified. Incomplete structural work to the curved stairs in the Pod, There is also restricted access to damper, unprotected open ends to ducts, checks required to support centres to ducts and damaged cables. Commissioning sets have also not been installed as per the recommendations, together with insulation not sealed at joints and pipework with open ends.

We continue to have discussions with Brookfield and are being assisted by the site teams in resolving various construction, mechanical, electrical, and quality issues which have been raised following our visits.

2.0 DESIGN COMPLIANCE CHECK

The drawing and specification information issued on Aconex indicates that the design is in accordance with the Project Executive Plan.

Drawing and Construction information continues to be provided by Brookfield.

We have been instructed to review the Wallace Whittle and Harley Haddow, design drawings against the Employers Requirements and these have been provided by Brookfield.

3.0 PROCEDURES REVIEW

3.1 Contractor's QA Procedures

Workmanship generally again appears to be to a good standard.

Photographs included in the appendices illustrate works progress during the period and photographic evidence of queries raised.

Information required:

- Caltite waterproofing - copy of guarantees/warranty will be made available when the tunnel areas have been allowed to dry out.
- Proprietary tunnel roof waterproofing details.
- Cube results from the w/c 24/01/2011 are awaited.
- Proposals for remedial repair to surface area of concrete on the second floor.

3.2 Quality Assurance Procedures

Brookfield and subcontractors have continued with their QA and checking procedures during the period. Cube results from the w/c 24/01/2011 are awaited.

3.3 Early Warnings

Currently nothing to report.

3.4 Trust Equipment Installation, Testing and Commissioning

We still await Brookfield's acoustic testing programme for all partitions in accordance with Section 7 of Health Technical Memorandum 08-01: Acoustics. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 4). The Trust is currently considering their requirements.

4.0 CONSTRUCTION REVIEW

4.1 Visits to the Works

Site inspections were carried out by the NEC 3 Supervisor on the 4th, 5th, 6th, 8th, 9th, 11th, 12th, 13th, 14th, 15th, 18th, 20th, 21st, 27th, and 28th February 2011.

4.2 Elements of the Works available for inspection

- Partitions.
- Metal Stud Infill's for External Insulated Render System.
- Permaquik application to flat roofs.
- Cladding.
- Window installation.
- Ductwork.
- Pipework Distribution.
- Piling Mat and Operations (ACH – Energy Centre).
- Completion of roof steelwork to the main building plus connecting steelwork between 'pod' and the main building.
- Steelwork to the east staircase to the pod area.
- Concreting to the link bridge between the building wings.
- Blockwork erection on the ground floor and basement.

4.3 Observations from April 2010 Inspections

The visual inspections of the work packages carried out to date indicate that the works are being carried out to a satisfactory standard. Listed below are observations in relation to site visits in April.

4.3.1 Floor Slabs

We have received a copy of a report indicating that the cracks are within permitted widths.

We shall inspect the remedial work to the irregularity / 'laitance bossing' on the concrete slab on the second floor when it is complete.

4.3.2 Steelwork

Brookfield conformed that they will notify us when remedial action to the west wing roof steelwork is complete. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 2).

We are awaiting feedback on the potential health and safety issue at the access ladders raised in the February report. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 18).

Brookfield has commenced coating the steel plates fixed to the window openings in the stairwells in the west wing which have surface rust. Remedial work to stair landing steelwork painting has also been made good in places but as a minor point some skims of concrete are still apparent and these should be addressed. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 22).

We noted that there were a number of remedial measures still to be undertaken to the steelwork on the curved stair. These included bolts not

tightened, bolts missing and spaces between the wall and plates. Brookfield has intimated that they are aware of these incomplete items and confirmed that they would remedy these points. We shall continue to monitor the work. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 24).

The East side stairwell erection to the pod is now well advanced, with snagging of paintwork and some bolts ongoing. Steelwork connecting detail to the pod at roof level has seemingly little overlap of bolt head to slot and this is being pursued with Brookfield.

4.3.3 Blockwork

Blockwork has continued during the period at ground floor and basement level to a generally good standard of workmanship. We inspected the external stack bond blockwork and this was to a good standard of finish.

There are other areas where lintels require to be built into the blockwork. Brookfield confirmed that they would determine the extent of service penetrations before placing lintels. We shall continue to monitor this work. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 15).

4.3.4 Partitions

We noted that the K10/110 partition which has a sound insulation of Rw 52dB between rooms L2/B/095 and L2/B/096 Level 1 Area 1 has been constructed as per the drawing and divides approximately $\frac{3}{4}$ of the room. It appears that the remaining length of the divisional wall will have back to back IPS panels. We have requested details for this part of the wall construction and information showing how the wall will achieve the required sound insulation performance of 37dB in accordance with the design matrix Appendix S Acoustic Requirements. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 23).

We also noted that there is not a partition shown on the drawing separating the male and female toilets on Level 1 Area 7 (Rooms L1/A/006 and L1/A/004). We have requested details and information showing how the proposed IPS panels will achieve the required sound insulation performance of 37dB in accordance with the design matrix Appendix S Acoustic Requirements. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 23).

The moisture content of the Fermacell boarding and timber head pieces affected by water ingress is being monitored. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 7).

We inspected the Knauf angle plate detail for supporting the upper section of boarding on Level 1, Areas 1 and 2 on the west elevation of the west wing with Brookfield. We shall continue to monitor this work. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 12)

We noted that the existing detail around the corner of the window reveals and the face of the boarding have infill pieces at the window openings on level 1 west elevation of the west wing. This does not comply with BS 8000-8:1994 Code of practice for plasterboard and we have asked Brookfield to confirm their action to address this problem. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 21)

There are a few isolated locations where the joints on the Fermacell board protrude beyond the line of the boards forming the corridor walls. We have pointed this out to Brookfield and they have intimated that their sub-contractor is still to hand these over to them.

4.3.5 Insulated Render System

This is progressing throughout the building.

4.3.6 Sub-Station

Concrete works are now substantially completed with appearance to date generally satisfactory. Some concrete cube results awaited.

4.3.7 Concrete

The guarantee/warranty on the 'Caltite' concrete will be made available when the tunnel areas have been allowed to dry out and a check made if any remedial works are required. This is anticipated in the next two months.

Brookfield has confirmed that the surface irregularity or 'laitance bossing' on the concrete slab on the second floor opposite the connection to the 'pod' will be remedied. Loose surface area will be broken away and then treated with PVA and repaired with Renderok S. Brookfield confirmed they would notify us when the repair has been carried out.

Temporary road diversion to facilitate Linthouse Burn diversion is in progress. Construction appears to be progressing in a manner appropriate for such a temporary road.

4.3.8 Flat Roof

Brookfield has confirmed that they will give us 24 hours notice prior to the electronic roof integrity test. (See Supervisors tests and Inspections)

4.3.9 Pipework

Installation of hot, cold, heating, chilled water and medical gas pipework on all levels is progressing, and generally being installed to a good standard. A few open ends were still being left for extended periods. We reminded Brookfield again to seal ends against ingress of dirt. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 27).

Initial hydraulic testing is continuing on each floors distribution pipework and all witnessed tests have been satisfactory. Final testing of each system will be carried out when linked to the risers and we will be available to witness the test.

4.3.10 Ventilation

The installation of ventilation ductwork was progressing well and generally being installed to a high standard. The inconsistencies with the number and location of access doors being installed requires to be addressed and will be monitored over the coming weeks. The PVC ducting systems again have open ends. We asked Brookfield to address the support arrangements in a limited number of areas where the spacing is out with the specified requirements and where ducts are in contact with the building structure or adjacent services.

Co-ordination with the building structure and services has generally been good with a limited number of clashes requiring to be addressed. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 25).

4.3.11 Insulation

Insulation to pipework and ducting that was damaged during the construction process is being repaired with some areas still ongoing. Where Armoflex insulation has been fitted (for pipes within walls) these require to be sealed along the seam joints and taped at joints and supports.

4.3.12 Plant

One of the Chilled beams has sustained physical damage and should be replaced.

Air Handling units within plant areas require to be protected from ingress of dirt etc and physical damage.

Installation of the fan coil units are has commenced on some floors and need to be protected as above.

4.3.13 Trunking

Trunking is progressing on all levels, with some cabling being installed. The standard is good and installation is of a high quality.

4.3.14 Cable Tray

Extensive cable tray installation is now well advanced on site and is to a high standard.

4.3.15 Conduit

Solid conduit is being used at high level with flexible metal conduit in partition walls. Both installations are of a good standard and being well fitted.

4.3.16 Cabling

Some circuit wiring is being drawn into containment and down to final connection points. Work standard is good. Some cabling that has been allowed to hang over cable tray without protection and has been damaged. These require to be replaced.

4.3.17 Fire Alarms

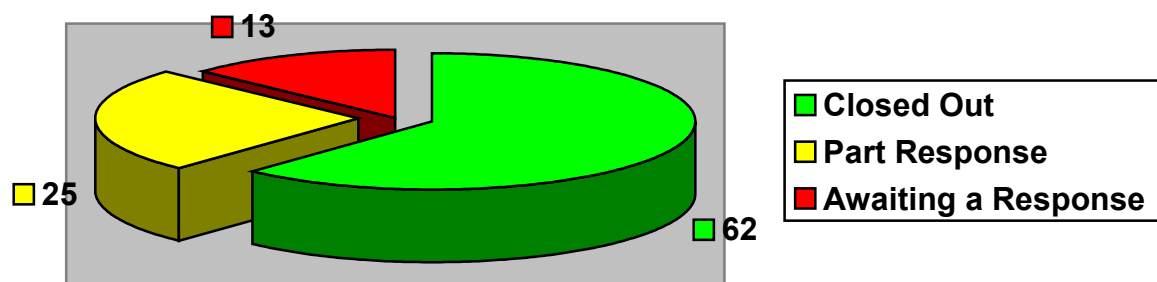
First fix of fire alarm wiring is well under way and being installed to a high standard. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 26).

4.3.18 Data Cabling

Extensive data cabling has been installed and run on all of levels. Care needs to be maintained to protect the cabling as it runs off, and through the cable tray supporting the cabling.

5.0 INFORMATION REQUIRED

The following information is requested



Item No.	Description	Date Requested	Comment	
01	We have requested the following information:	14.06.10		
01a	Dunne PEP or equivalent.		Closed out.	Green
01b	Current civil and structural drawings.		Closed out.	Green
01c	URS specification. Pile integrity and load test results.		Closed Out.	Green
01d	Cube results to date.		Ongoing	Yellow
01e	Caltite waterproofing additive details (and copy of guarantees).		Awaiting copy of guarantees.	Red
01f	Proprietary tunnel roof waterproofing details.		Details awaited.	Red
02	We have requested the following information:	25.11.10		
02a	Confirm when remedial measures will be undertaken to address the poor rust patches in the structural steel and notify us when the work is complete to allow us to carry out an inspection.		Brookfield confirmed remedial action to be undertaken. Awaiting notification that work is complete.	Yellow
02b	Confirm the approved remedial action to ensuring that there is a continuous DPM in accordance with the drawing.		Closed out	Green
02c	Provide the QA Inspection and Test Plan for signing off the completion of the work prior to the commencement of the structural copper cladding.		To be reviewed at audit.	Yellow
03a	Provide full test results to BS 5234 for strength and stability for all partition types including impact damage and door slam tests for all door opening situations.	03.12.10	Closed out	Green
03b	Please provide your written method statement/QA describing the erection procedures together with details of the quality checking and recording systems being implemented to ensure correct construction of partitions and correct location of partition types.		Information Provided. Closed out	Green
03c	Confirm if timber inserts are being fitted within the horizontal section of partition forming the door opening to provide strength and robustness.		Confirmation received from Brookfield. Closed out	Green
03d	Provide test results/certificates to BS 476 for all fire resistant partitions		Information received and being reviewed.	Green
04a	There are gaps between the boarding at a few locations on Level 1 about 5mm wide. We are seeking confirmation if these gaps can be filled and that there will be no risk of cracks occurring in the future especially above door openings	03.12.10	Response received. Closed out.	Green
04b	Please confirm your acoustic testing programme for all partitions in accordance with Section 7 of Health Technical Memorandum 08-01: Acoustics.		Brookfield has this under review. Awaiting acoustic test programme.	Yellow

05	The boarding to the partition around the doors leading into the Genetic Freezer Store and the Block Slide Store on Level 2 has been exposed to water ingress. Please confirm when these are replaced to allow us to carry out an inspection.	21.12.10	Fermacell confirmed that boards will dry out. Closed out.	
06a	Check ends of pre-installed pipes and ducts are covered to prevent contamination.	06.01.11	Closed out	
06b	Check to ensure that pre insulated pipe and ducting is affected by water ingress on level 2 is completely dry. Insulation to be removed and replace if required.		Closed out	
06c	Access hatches for dampers etc on ventilation systems require to be positioned to allow adequate access to the item being serviced. Check existing installed hatches and future installed locations.		Closed out	
06d	Fire dampers to be supported independent of the ducting		Closed out	
06e	Confirm the strategy for hydraulic testing of the pre-insulated pipework. In the event of failure how is the actual point of failure identified if covered by insulation.		Brookfield confirmed that they would provide test information.	
06f	Confirm the strategy for thermal expansion within the pipework systems.		Information received and under review.	
07	Confirm if Fermacell boarding, timber head piece and timber door frame affected by water ingress require to be replaced or provide evidence that the moisture contents in the timbers does not exceed the recommended moisture content.	07.01.11	Being monitored by Astins	
08	Please confirm when an electronic roof integrity test will be carried out to the Permaquik system prior to the application of any insulation or covering materials to the roof area.	13.01.11	Brookfield confirmed that 24hr notice would be given.	
09a	Fermacell Boarding adjacent to door D/2/B072 on Level 2 are not flush. Confirm remedial action.	14.01.11	Closed out	
09b	The Fermacell Boarding at the window opening S/2/021 City Analysis 2 on Level 2 has not been fitted properly.		Remedial work as Fermacell Report. Closed out.	
09c	Boarding not fitted properly at window opening S/2/021 City Analysis 2.		Remedial work as Fermacell Report. Closed out.	
09d	Damaged header at door opening at B/2/B086.		To be replaced at 2nd fix	
10	Fire batts around internal rainwater pipes in the west wing have been saturated with rainwater. Confirm when we can inspect the completed fire collars.	14.01.11	Detail of fire batt provided. Inspection to be carried out.	
11	The surface of the concrete floor is boss (spalling) on Level 2 Sequencing Lab L2/B/028. Investigate the extent and confirm when the appropriate remedial measures have been completed.	09.02.11	Repair to be carried out. See Inspection list	
12	The internal independent wall lining located on Level 1, Areas 1 and 2 on the west elevation of the west wing does not have screw fixings to the boarding from the underside of the ducting to the top of the partition (approximately 500mm). Confirm measures to ensure the boarding is fixed at the appropriate centres and provide notification to allow the partitions to be inspected	14.02.11	Response received. Being reviewed	
13	Unsecured bolt confirm when this has been remedied so that an inspection can be carried out.	18.02.11	Brookfield confirmed bolt secured. Confirmed by inspections.	

14	There is restricted access to the upper section of some of the partitions in a number of locations throughout the site especially in corridors. Confirm that the boarding can be fitted in these locations in accordance with Fermacell's specifications. We are aware that in some locations the partitions are to be in shaftwall.	18.02.11	Shaftwall being used. Closed out.	
15	A lintel requires to be installed in the blockwork wall on the ground floor Area 4/5. There are also other openings elsewhere on the ground floor which require lintels. Confirm when these are complete so that an inspection can be carried out.	18.02.11	Extent of services to be ascertained before placing lintels in position.	
16	Attention should be given to the detailing of the reinforcing and pre fixing system which should be to the same standard as the Laboratory	18.02.11	Adjustments made to detailing.	
17	Lower Anchors on the panels fitted do not appear to be fit into the brackets properly. Confirm if the distribution of the load from the panels are equally taken by the upper and lower brackets/anchors. Provide a specification relating to drawing SUK-LAB-XX-DT-251-GA 020 and the numbered items on the drawing.	28.02.11	Briefed by Brookfield. Drawings to be provided.	
18	Handrail post to the feature in Area 5 is broken. Confirm when this will be repaired/replaced.	28.02.11	Closed out.	
19	The joint at the corner of the partition on level 1	28.02.11	All joints to be scraped out and angle bead applied.	
20	There are damaged lintels on the partitions located at doors D0/B002, D0/B001 and D0/B33.	04.03.11	Areas to be replaced at second fix.	
21	Boarding has infill piece. This does not comply with BS 8000-8:1994 Code of practice for plasterboard and dry lining.	22.03.11	Awaiting a Response.	
21A	Please provide the window manufacturers fixing details for the windows on the east and west elevations Areas 1 and 2.	8.08.11	Part information provided.	
22	Rust affecting the steel plates in the stairwells in the west wing.	22.03.11	Painting in progress.	
23	Please provide details for the division wall between rooms L2/B/095 and L2/B/096 Level 1 Area 1 showing how the wall will achieve the required sound insulation performance of 37dB in accordance with the design matrix Appendix S Acoustic Requirements.	13.04.11	Painting in progress.	
24	Confirm when missing bolts and other incomplete work to the curved stair in the Pod have been complete.		Awaiting a Response.	
25	Ductwork is in contact with building structure and projecting into walls in some areas. Access hatches for dampers etc on ventilation systems require to be positioned to allow adequate access to the item being serviced. Check existing installed hatches and future installed locations. AHUs are open and unprotected, seal open ends to prevent ingress of dirt etc. Support centre's to be checked to ensure adequate support to ducting.	27.04.11	Awaiting a Response.	
26	Confirm when the damaged armoured cables are replaced.		Awaiting a Response.	
27	Confirm when the following has been remedied. Commissioning sets not installed as per manufactures recommendations. Insulation not sealed at joints Pipework left with open ends		Awaiting a Response.	

6.0 SUPERVISORS TESTS AND INSPECTIONS

Tests not required	N/A
Tests required but not tested	Req
Tests required which has passed tests	Pass

Tests				
Ref	Title	To be Notified by	Status	Test Date
1.	Flat Roof Integrity Test	Brookfield	Req	

Inspection not required	N/A
Inspection required	Req
Inspection complete	Pass

Inspections				
Ref	Title	To be Notified by	Status	Inspection Date
1.	Replace fire batts west wing	Brookfield	Req	
2.	Level 2 room L2/B/028 spalling concrete	Brookfield	Req	
3.	Special fixing of Knauf boarding internal wall lining located on Level 1, Areas 1 and 2	Brookfield	Req	

THE NEW ADULT AND CHILDRENS HOSPITAL

7.0 DESIGN COMPLIANCE CHECK

Currently nothing to report.

8.0 PROCEDURES REVIEW

8.1 Contractor's QA Procedures

Information required:

- Feedback on comments re Structural Design Philosophy at Appendix K stage.
- Pile test results for Energy Centre.
- Concrete cube results for the substation.
- Copy of building warrant for the main adult hospital.
- Pile concrete cube results to date.

9.0 PROCEDURES REVIEW

9.1 Performance

Currently nothing to report.

9.2 Quality Assurance Procedures

Currently nothing to report.

9.3 Early Warnings

Currently nothing to report.

9.4 Trust Equipment Installation, Testing and Commissioning

Currently nothing to report

10.0 CONSTRUCTION REVIEW

10.1 Visits to the Works

Site inspections were carried out by the Independent Tester on the 21st, 23rd, 26th and 28th November 2007.

10.2 Elements of the Works available for inspection

- Energy Centre – excavation, foundations and core walls.
- Main building – piling works and temporary piling plant set-up.

- Linthouse Burn diversion – excavation and pipework installation.

10.3 Observations from April 2011 Inspections

10.4 Temporary Road/Linthouse Burn

Works to the Linthouse Burn diversion have also progressed steadily but slowly during the period in what is a very tight site. These works appear generally to be progressing in accordance with the Client's requirements and with due regard to quality.

10.5 Foundations

Skanska/Cementation has progressed steadily during the period with no technical issues re the permanent works quality, although some refinement has been ongoing in relation to the bentonite slurry mix and methodology.

10.5 Energy Centre

Substantial progress has been made on foundation work during the period with pile caps completed and foundation slab preparation work ongoing. Gas membrane installation together with a protective layer has been a feature of these operations. The internal core walls have also progressed during the period with workmanship again appearing generally good.

10.6 Piling

Piling has progressed in area K during the period. Concrete cube results are awaited for the concrete piles poured to date. Refinement of bentonite slurry mix and methodology has been ongoing during the period, but ground conditions have been more or less as expected.

11.0 INFORMATION REQUIRED

The following information is requested



Item No.	Description	Date Requested	Comment
01			

6.0 SUPERVISORS TESTS AND INSPECTIONS

Tests not required	N/A
Tests required but not tested	Req
Tests required which has passed tests	Pass

Tests				
Ref	Title	To be Notified by	Status	Test Date

Inspection not required	N/A
Inspection required	Req
Inspection complete	Pass

Inspections				
Ref	Title	To be Notified by	Status	Inspection Date

John Redmond
Capita Symonds
Technical Advisory Services

The Beacon, 8th Floor, 176 St Vincent Street, Glasgow G2 5SG

	Signed	Date
Originated by		
Completed by		

Appendix 1
Photographs



1. Poor plasterboard detail Level 1 West Elevation.



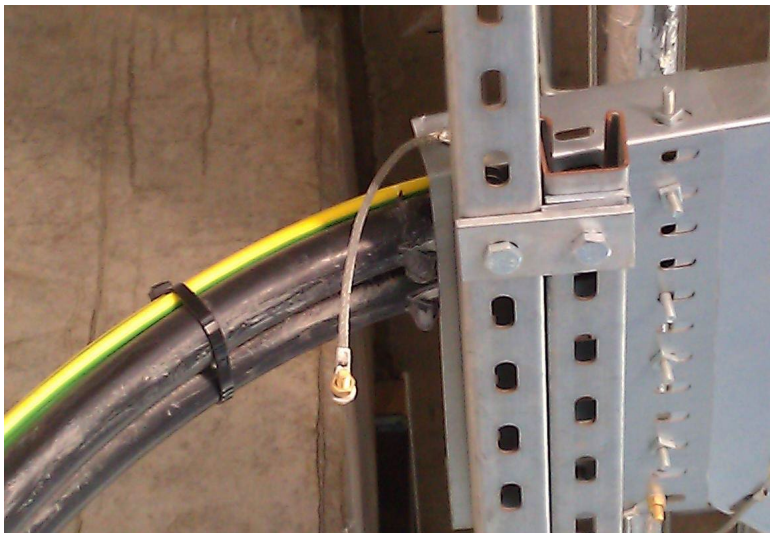
2. Rust on steel plate.



3. Missing bolt at Pod stair.



4. Gap between wall and plate at Pod Stair.



5. Damaged cabling April 2011



6 Restricted Access. April 2011



7. Fire damper in beam. April 2011



8. Commissioning Set not installed as manufactures recommendations. April 2011



9. Unprotected AHU. April 2011

CAPITA SYMONDS

**NEW SOUTH GLASGOW HOSPITAL LABORATORIES
AND THE NEW ADULT AND CHILDRENS HOSPITAL
NEC 3 SUPERVISORS REPORT NO. 12
MAY 2011**

NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND CHILDRENS HOSPITAL**SUPERVISOR'S REPORT NO. 12****MAY 2011****CONTENTS****NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND CHILDRENS HOSPITAL****NEW SOUTH GLASGOW HOSPITAL LABORATORIES**

- 1.0 EXECUTIVE SUMMARY: NEW SOUTH GLASGOW HOSPITAL LABORATORIES**
- 2.0 DESIGN COMPLIANCE CHECK**
- 3.0 PROCEDURES REVIEW**
- 4.0 CONSTRUCTION REVIEW**
- 5.0 INFORMATION REQUIRED**
- 6.0 SUPERVISOR'S TESTS AND INSPECTIONS**

THE NEW ADULT AND CHILDRENS HOSPITAL

- 7.0 EXECUTIVE SUMMARY: NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL**
- 8.0 DESIGN COMPLIANCE CHECK**
- 9.0 PROCEDURES REVIEW**
- 10.0 CONSTRUCTION REVIEW**
- 11.0 INFORMATION REQUIRED**
- 12.0 SUPERVISOR'S TESTS AND INSPECTIONS**

Appendix 1 Photographs

NEW SOUTH GLASGOW HOSPITAL LABORATORIES**1.0 EXECUTIVE SUMMARY**

Visits to the site during April indicate that the construction and procedures are progressing in a satisfactory manner in accordance with the Project Executive Plan.

We continue to monitor the construction drawings and specifications for compliance with the Contract Documentation in conjunction with our visual site inspections. Throughout, the standard of workmanship is generally good and operations are being carried out in an acceptable manner.

Site visits and visual inspections have again continued during the period together with ad hoc meetings and discussions with the site teams. Information regarding drawings, quality issues and other technical matters has been supplied when requested generally via 'Aconex'.

Blockwork is still ongoing, with other structural works mainly completed other than local elements of steelwork and snagging items. External stack bond pattern of blockwork is progressing at ground floor level on the west wing with workmanship to date appearing satisfactory. Other works in progress include the Insulated Render System, Roofwork, Screeding and Cladding all of which are progressing satisfactorily.

We have received the Certificate of Waterproofing Integrity confirming that the roof in areas 1 and 2 has passed the test with only minor corrective work required to be carried out. Further tests have been carried out and we await the results.

In general all mechanical services first fix are progressing satisfactorily. The standard is of a high quality. Protection of open ends of pipes and ductwork is being provided throughout the site.

Electrical works are well in hand on all levels, and being carried out to the same high standard as the mechanical systems. Cabling is being installed within the containment throughout the floors and again is being carried out to a high standard.

Extensive data cabling has now been installed on cable tray. Caution needs to be maintained where the cabling leaves the cable tray so that damage does not occur on the cable until final connections have been made.

Overall the installation and co-ordination of services appear to be well organised.

Supervisor's Communication General Matters / Other Instructions (CI 13.1) No's 22, 23, 24, 25, 26 and 27 were issued to Brookfield during April. These include seeking clarification in relation to the acoustic properties of the division walls between toilets where no partitions have been specified. Incomplete structural work to the curved stairs in the Pod, There is also restricted access to damper, unprotected open ends to ducts, checks required to support centres to ducts and damaged cables. Commissioning sets have also not been installed as per the recommendations, together with insulation not sealed at joints and pipework with open ends.

**NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND
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We continue to have discussions with Brookfield and are being assisted by the site teams in resolving various construction, mechanical, electrical, and quality issues which have been raised following our visits.

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2.0 DESIGN COMPLIANCE CHECK

The drawing and specification information issued on Aconex indicates that the design is in accordance with the Project Executive Plan.

Drawing and Construction information continues to be provided by Brookfield.

We have been instructed to review the Wallace Whittle and Harley Haddow, design drawings against the Employers Requirements and these have been provided by Brookfield.

3.0 PROCEDURES REVIEW

3.1 Contractor's QA Procedures

Workmanship generally again appears to be to a good standard.

Photographs included in the appendices illustrate works progress during the period and photographic evidence of queries raised.

Information required:

- Caltite waterproofing - copy of guarantees/warranty will be made available when the tunnel areas have been allowed to dry out.
- Proprietary tunnel roof waterproofing details.
- Cube results from the w/c 24/01/2011 are awaited.
- Proposals for remedial repair to surface area of concrete on the second floor.

3.2 Quality Assurance Procedures

Brookfield and subcontractors have continued with their QA and checking procedures during the period. Cube results from the w/c 24/01/2011 are awaited.

3.3 Early Warnings

Currently nothing to report.

3.4 Trust Equipment Installation, Testing and Commissioning

We still await Brookfield's acoustic testing programme for all partitions in accordance with Section 7 of Health Technical Memorandum 08-01: Acoustics. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 4). The Trust is currently considering their requirements.

4.0 CONSTRUCTION REVIEW

4.1 Visits to the Works

Site inspections were carried out by the NEC 3 Supervisor on the 4th, 5th, 6th, 8th, 9th, 11th, 12th, 13th, 14th, 15th, 18th, 20th, 21st, 27th, and 28th April 2011.

4.2 Elements of the Works available for inspection

- Partitions.
- Metal Stud Infill's for External Insulated Render System.
- Permaquik application to flat roofs.
- Cladding.
- Window installation.
- Ductwork.
- Pipework Distribution.
- Piling Mat and Operations (ACH – Energy Centre).
- Completion of roof steelwork to the main building plus connecting steelwork between 'pod' and the main building.
- Steelwork to the east staircase to the pod area.
- Concreting to the link bridge between the building wings.
- Blockwork erection on the ground floor and basement.

4.3 Observations from April 2010 Inspections

The visual inspections of the work packages carried out to date indicate that the works are being carried out to a satisfactory standard. Listed below are observations in relation to site visits in April.

4.3.1 Floor Slabs

We have received a copy of a report indicating that the cracks are within permitted widths.

We shall inspect the remedial work to the irregularity / 'laitance bossing' on the concrete slab on the second floor when it is complete.

4.3.2 Steelwork

Brookfield confirmed that they will notify us when remedial action to the west wing roof steelwork is complete. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 2).

We are awaiting feedback on the potential health and safety issue at the access ladders raised in the February report. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 18).

Brookfield has commenced coating the steel plates fixed to the window openings in the stairwells in the west wing which have surface rust. Remedial work to stair landing steelwork painting has also been made good in places but as a minor point some skims of concrete are still apparent and these should be addressed. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 22).

We noted that there were a number of remedial measures still to be undertaken to the steelwork on the curved stair. These included bolts not

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tightened, bolts missing and spaces between the wall and plates. Brookfield has intimated that they are aware of these incomplete items and confirmed that they would remedy these points. We shall continue to monitor the work. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 24).

The East side stairwell erection to the pod is now well advanced, with snagging of paintwork and some bolts ongoing. Steelwork connecting detail to the pod at roof level has seemingly little overlap of bolt head to slot and this is being pursued with Brookfield.

The bolting arrangement at roof level between the pod and main building has very tight bolt head to hole overlap and we have pointed this out to Brookfield.

4.3.3 Blockwork

Blockwork has continued during the period at ground floor and basement level to a generally good standard of workmanship. We inspected the external stack bond blockwork and this was to a good standard of finish.

There are other areas where lintels require to be built into the blockwork. Brookfield confirmed that they would determine the extent of service penetrations before placing lintels. We shall continue to monitor this work. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 15).

4.3.4 Partitions

We noted that the K10/110 partition which has a sound insulation of Rw 52dB between rooms L2/B/095 and L2/B/096 Level 1 Area 1 has been constructed as per the drawing and divides approximately $\frac{3}{4}$ of the room. It appears that the remaining length of the divisional wall will have back to back IPS panels. We have requested details for this part of the wall construction and information showing how the wall will achieve the required sound insulation performance of 37dB in accordance with the design matrix Appendix S Acoustic Requirements. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 23).

We also noted that there is not a partition shown on the drawing separating the male and female toilets on Level 1 Area 7 (Rooms L1/A/006 and L1/A/004). We have requested details and information showing how the proposed IPS panels will achieve the required sound insulation performance of 37dB in accordance with the design matrix Appendix S Acoustic Requirements. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 23).

The moisture content of the Fermacell boarding and timber head pieces affected by water ingress is being monitored. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 7).

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We inspected the Knauf angle plate detail for supporting the upper section of boarding on Level 1, Areas 1 and 2 on the west elevation of the west wing with Brookfield. We shall continue to monitor this work. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 12)

We noted that the existing detail around the corner of the window reveals and the face of the boarding have infill pieces at the window openings on level 1 west elevation of the west wing. This does not comply with BS 8000-8:1994 Code of practice for plasterboard and we have asked Brookfield to confirm their action to address this problem. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 21)

There are a few isolated locations where the joints on the Fermacell board protrude beyond the line of the boards forming the corridor walls. We have pointed this out to Brookfield and they have intimated that their sub-contractor is still to hand these over to them.

4.3.5 Insulated Render System

This is progressing throughout the building.

4.3.6 Sub-Station

Concrete works are now substantially completed with appearance to date generally satisfactory. Some concrete cube results awaited.

4.3.7 Concrete

The guarantee/warranty on the 'Caltite' concrete will be made available when the tunnel areas have been allowed to dry out and a check made if any remedial works are required. This is anticipated in the next two months.

Brookfield has confirmed that the surface irregularity or 'laitance bossing' on the concrete slab on the second floor opposite the connection to the 'pod' will be remedied. Loose surface area will be broken away and then treated with PVA and repaired with Renderok S. Brookfield confirmed they would notify us when the repair has been carried out.

Temporary road diversion to facilitate Linthouse Burn diversion is in progress. Construction appears to be progressing in a manner appropriate for such a temporary road.

4.3.8 Flat Roof

Brookfield has confirmed that they will give us 24 hours notice prior to the electronic roof integrity test. (See Supervisors tests and Inspections)

4.3.9 Pipework

Installation of hot, cold, heating, chilled water and medical gas pipework on all levels is progressing, and generally being installed to a good standard. A few open

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ends were still being left for extended periods. We reminded Brookfield again to seal ends against ingress of dirt. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 27).

Initial hydraulic testing is continuing on each floors distribution pipework and all witnessed tests have been satisfactory. Final testing of each system will be carried out when linked to the risers and we will be available to witness the test.

4.3.10 Ventilation

The installation of ventilation ductwork was progressing well and generally being installed to a high standard. The inconsistencies with the number and location of access doors being installed requires to be addressed and will be monitored over the coming weeks. The PVC ducting systems again have open ends. We asked Brookfield to address the support arrangements in a limited number of areas where the spacing is out with the specified requirements and where ducts are in contact with the building structure or adjacent services.

Co-ordination with the building structure and services has generally been good with a limited number of clashes requiring to be addressed. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 25).

4.3.11 Insulation

Insulation to pipework and ducting that was damaged during the construction process is being repaired with some areas still ongoing. Where Armoflex insulation has been fitted (for pipes within walls) these require to be sealed along the seam joints and taped at joints and supports.

4.3.12 Plant

One of the Chilled beams has sustained physical damage and should be replaced.

Air Handling units within plant areas require to be protected from ingress of dirt etc and physical damage.

Installation of the fan coil units are has commenced on some floors and need to be protected as above.

4.3.13 Trunking

Trunking is progressing on all levels, with some cabling being installed. The standard is good and installation is of a high quality.

4.3.14 Cable Tray

Extensive cable tray installation is now well advanced on site and is to a high standard.

4.3.15 Conduit

SUPERVISOR'S REPORT NO. 12**MAY 2011**

Solid conduit is being used at high level with flexible metal conduit in partition walls. Both installations are of a good standard and being well fitted.

4.3.16 Cabling

Some circuit wiring is being drawn into containment and down to final connection points. Work standard is good. Some cabling that has been allowed to hang over cable tray without protection and has been damaged. These require to be replaced.

4.3.17 Fire Alarms

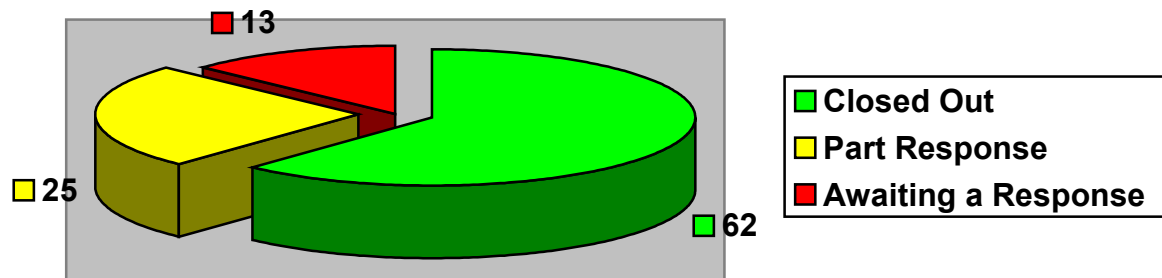
First fix of fire alarm wiring is well under way and being installed to a high standard. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 26).

4.3.18 Data Cabling

Extensive data cabling has been installed and run on all of levels. Care needs to be maintained to protect the cabling as it runs off, and through the cable tray supporting the cabling.

5.0 INFORMATION REQUIRED

The following information is requested



NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND CHILDRENS HOSPITAL

SUPERVISOR'S REPORT NO. 12

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Item No.	Description	Date Requested	Comment	
01	We have requested the following information:	14.06.10		
01a	Dunne PEP or equivalent.		Closed out.	Green
01b	Current civil and structural drawings.		Closed out.	Green
01c	URS specification. Pile integrity and load test results.		Closed Out.	Green
01d	Cube results to date.		Ongoing	Yellow
01e	Caltite waterproofing additive details (and copy of guarantees).		Awaiting copy of guarantees.	Red
01f	Proprietary tunnel roof waterproofing details.		Details awaited.	Red
02	We have requested the following information:	25.11.10		
02a	Confirm when remedial measures will be undertaken to address the poor rust patches in the structural steel and notify us when the work is complete to allow us to carry out an inspection.		Brookfield confirmed remedial action to be undertaken. Awaiting notification that work is complete.	Yellow
02b	Confirm the approved remedial action to ensuring that there is a continuous DPM in accordance with the drawing.		Closed out	Green
02c	Provide the QA Inspection and Test Plan for signing off the completion of the work prior to the commencement of the structural copper cladding.		To be reviewed at audit.	Yellow
03a	Provide full test results to BS 5234 for strength and stability for all partition types including impact damage and door slam tests for all door opening situations.	03.12.10	Closed out	Green
03b	Please provide your written method statement/QA describing the erection procedures together with details of the quality checking and recording systems being implemented to ensure correct construction of partitions and correct location of partition types.		Information Provided. Closed out	Green
03c	Confirm if timber inserts are being fitted within the horizontal section of partition forming the door opening to provide strength and robustness.		Confirmation received from Brookfield. Closed out	Green
03d	Provide test results/certificates to BS 476 for all fire resistant partitions		Information received and being reviewed.	Green
04a	There are gaps between the boarding at a few locations on Level 1 about 5mm wide. We are seeking confirmation if these gaps can be filled and that there will be no risk of cracks occurring in the future especially above door openings	03.12.10	Response received. Closed out.	Green
04b	Please confirm your acoustic testing programme for all partitions in accordance with Section 7 of Health Technical Memorandum 08-01: Acoustics.		Brookfield has this under review. Awaiting acoustic test programme.	Yellow

NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND CHILDRENS HOSPITAL

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05	The boarding to the partition around the doors leading into the Genetic Freezer Store and the Block Slide Store on Level 2 has been exposed to water ingress. Please confirm when these are replaced to allow us to carry out an inspection.	21.12.10	Fermacell confirmed that boards will dry out. Closed out.	
06a	Check ends of pre-installed pipes and ducts are covered to prevent contamination.	06.01.11	Closed out	
06b	Check to ensure that pre insulated pipe and ducting is affected by water ingress on level 2 is completely dry. Insulation to be removed and replace if required.		Closed out	
06c	Access hatches for dampers etc on ventilation systems require to be positioned to allow adequate access to the item being serviced. Check existing installed hatches and future installed locations.		Closed out	
06d	Fire dampers to be supported independent of the ducting		Closed out	
06e	Confirm the strategy for hydraulic testing of the pre-insulated pipework. In the event of failure how is the actual point of failure identified if covered by insulation.		Brookfield confirmed that they would provide test information.	
06f	Confirm the strategy for thermal expansion within the pipework systems.		Information received and under review.	
07	Confirm if Fermacell boarding, timber head piece and timber door frame affected by water ingress require to be replaced or provide evidence that the moisture contents in the timbers does not exceed the recommended moisture content.	07.01.11	Being monitored by Astins	
08	Please confirm when an electronic roof integrity test will be carried out to the Permaquik system prior to the application of any insulation or covering materials to the roof area.	13.01.11	Brookfield confirmed that 24hr notice would be given.	
09a	Fermacell Boarding adjacent to door D/2/B072 on Level 2 are not flush. Confirm remedial action.	14.01.11	Closed out	
09b	The Fermacell Boarding at the window opening S/2/021 City Analysis 2 on Level 2 has not been fitted properly.		Remedial work as Fermacell Report. Closed out.	
09c	Boarding not fitted properly at window opening S/2/021 City Analysis 2.		Remedial work as Fermacell Report. Closed out.	
09d	Damaged header at door opening at B/2/B086.		To be replaced at 2nd fix	
10	Fire batts around internal rainwater pipes in the west wing have been saturated with rainwater. Confirm when we can inspect the completed fire collars.	14.01.11	Detail of fire batt provided. Inspection to be carried out.	
11	The surface of the concrete floor is boss (spalling) on Level 2 Sequencing Lab L2/B/028. Investigate the extent and confirm when the appropriate remedial measures have been completed.	09.02.11	Repair to be carried out. See Inspection list	
12	The internal independent wall lining located on Level 1, Areas 1 and 2 on the west elevation of the west wing does not have screw fixings to the boarding from the underside of the ducting to the top of the partition (approximately 500mm). Confirm measures to ensure the boarding is fixed at the appropriate centres and provide notification to allow the partitions to be inspected	14.02.11	Response received. Being reviewed	
13	Unsecured bolt confirm when this has been remedied so that an inspection can be carried out.	18.02.11	Brookfield confirmed bolt secured. Confirmed by inspections.	

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14	There is restricted access to the upper section of some of the partitions in a number of locations throughout the site especially in corridors. Confirm that the boarding can be fitted in these locations in accordance with Fermacell's specifications. We are aware that in some locations the partitions are to be in shaftwall.	18.02.11	Shaftwall being used. Closed out.	
15	A lintel requires to be installed in the blockwork wall on the ground floor Area 4/5. There are also other openings elsewhere on the ground floor which require lintels. Confirm when these are complete so that an inspection can be carried out.	18.02.11	Extent of services to be ascertained before placing lintels in position.	
16	Attention should be given to the detailing of the reinforcing and pre fixing system which should be to the same standard as the Laboratory	18.02.11	Adjustments made to detailing.	
17	Lower Anchors on the panels fitted do not appear to be fit into the brackets properly. Confirm if the distribution of the load from the panels are equally taken by the upper and lower brackets/anchors. Provide a specification relating to drawing SUK-LAB-XX-DT-251-GA 020 and the numbered items on the drawing.	28.02.11	Briefed by Brookfield. Drawings to be provided.	
18	Handrail post to the feature in Area 5 is broken. Confirm when this will be repaired/replaced.	28.02.11	Closed out.	
19	The joint at the corner of the partition on level 1	28.02.11	All joints to be scraped out and angle bead applied.	
20	There are damaged lintels on the partitions located at doors D0/B002, D0/B001 and D0/B33.	04.03.11	Areas to be replaced at second fix.	
21	Boarding has infill piece. This does not comply with BS 8000-8:1994 Code of practice for plasterboard and dry lining.	22.03.11	Awaiting a Response.	
21A	Please provide the window manufacturers fixing details for the windows on the east and west elevations Areas 1 and 2.	8.08.11	Part information provided.	
22	Rust affecting the steel plates in the stairwells in the west wing.	22.03.11	Painting in progress.	
23	Please provide details for the division wall between rooms L2/B/095 and L2/B/096 Level 1 Area 1 showing how the wall will achieve the required sound insulation performance of 37dB in accordance with the design matrix Appendix S Acoustic Requirements.	13.04.11	Painting in progress.	
24	Confirm when missing bolts and other incomplete work to the curved stair in the Pod have been complete.		Awaiting a Response.	
25	Ductwork is in contact with building structure and projecting into walls in some areas. Access hatches for dampers etc on ventilation systems require to be positioned to allow adequate access to the item being serviced. Check existing installed hatches and future installed locations. AHUs are open and unprotected, seal open ends to prevent ingress of dirt etc. Support centre's to be checked to ensure adequate support to ducting.	27.04.11	Awaiting a Response.	
26	Confirm when the damaged armoured cables are replaced.	27.04.11	Awaiting a Response.	
27	Confirm when the following has been remedied. Commissioning sets not installed as per manufactures recommendations. Insulation not sealed at joints Pipework left with open ends	27.04.11	Awaiting a Response.	

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6.0 SUPERVISORS TESTS AND INSPECTIONS

Tests not required	N/A
Tests required but not tested	Req
Tests required which has passed tests	Pass

Tests				
Ref	Title	To be Notified by	Status	Test Date
1.	Flat Roof Integrity Test	Brookfield	Req	

Inspection not required	N/A
Inspection required	Req
Inspection complete	Pass

Inspections				
Ref	Title	To be Notified by	Status	Inspection Date
1.	Replace fire batts west wing	Brookfield	Req	
2.	Level 2 room L2/B/028 spalling concrete	Brookfield	Req	
3.	Special fixing of Knauf boarding internal wall lining located on Level 1, Areas 1 and 2	Brookfield	Req	

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THE NEW ADULT AND CHILDRENS HOSPITAL

7.0 EXECUTIVE SUMMARY

The construction work currently underway appears to be well organised and visual inspections carried out in April 2011 indicate that the Works are being carried out in a satisfactory manner generally in accordance with the Project Executive Plan.

8.0 DESIGN COMPLIANCE CHECK

Currently nothing to report.

9.0 PROCEDURES REVIEW**9.1 Contractor's QA Procedures**

Information required:

- Feedback on comments re Structural Design Philosophy at Appendix K stage.
- Pile test results for Energy Centre.
- Concrete cube results for the substation.
- Copy of building warrant for the main adult hospital.
- Pile concrete cube results to date.

9.1 Performance

Currently nothing to report.

9.2 Quality Assurance Procedures

Currently nothing to report.

9.3 Early Warnings

Currently nothing to report.

9.4 Trust Equipment Installation, Testing and Commissioning

Currently nothing to report

10.0 CONSTRUCTION REVIEW**10.1 Visits to the Works**

Site inspections were carried out by the Independent Tester on the 11th, 12th, 13th, 15th, 18th, 20th, 21st, 27th and 28th April 2011.

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10.2 Elements of the Works available for inspection

- Energy Centre – excavation, foundations and core walls.
- Main building – piling works and temporary piling plant set-up.
- Linthouse Burn diversion – excavation and pipework installation.

10.3 Observations from April 2011 Inspections**10.4 Temporary Road/Linthouse Burn**

Works to the Linthouse Burn diversion have also progressed steadily but slowly during the period in what is a very tight site. These works appear generally to be progressing in accordance with the Client's requirements and with due regard to quality.

10.5 Foundations

Skanska/Cementation has progressed steadily during the period with no technical issues re the permanent works quality, although some refinement has been ongoing in relation to the bentonite slurry mix and methodology.

10.5 Energy Centre

Substantial progress has been made on foundation work during the period with pile caps completed and foundation slab preparation work ongoing. Gas membrane installation together with a protective layer has been a feature of these operations. The internal core walls have also progressed during the period with workmanship again appearing generally good.

10.6 Piling

Piling has progressed in area K during the period. Concrete cube results are awaited for the concrete piles poured to date. Refinement of bentonite slurry mix and methodology has been ongoing during the period, but ground conditions have been more or less as expected.

11.0 INFORMATION REQUIRED

The following information is requested



■ Closed Out
■ Part Response
■ Awaiting a Response

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Item No.	Description	Date Requested	Comment
01			

12.0 SUPERVISORS TESTS AND INSPECTIONS

Tests not required	N/A
Tests required but not tested	Req
Tests required which has passed tests	Pass

Tests				
Ref	Title	To be Notified by	Status	Test Date

Inspection not required	N/A
Inspection required	Req
Inspection complete	Pass

Inspections				
Ref	Title	To be Notified by	Status	Inspection Date

**NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND
CHILDRENS HOSPITAL****SUPERVISOR'S REPORT NO. 12****MAY 2011**

John Redmond
Capita Symonds
Technical Advisory Services

The Beacon, 8th Floor, 176 St Vincent Street, Glasgow G2 5SG

	Signed	Date
Originated by	John Redmond	4th May 2011
Completed by	David Ramsay	4th May 2011

Appendix 1

Photographs



1. Poor plasterboard detail Level 1
West Elevation April 2011.



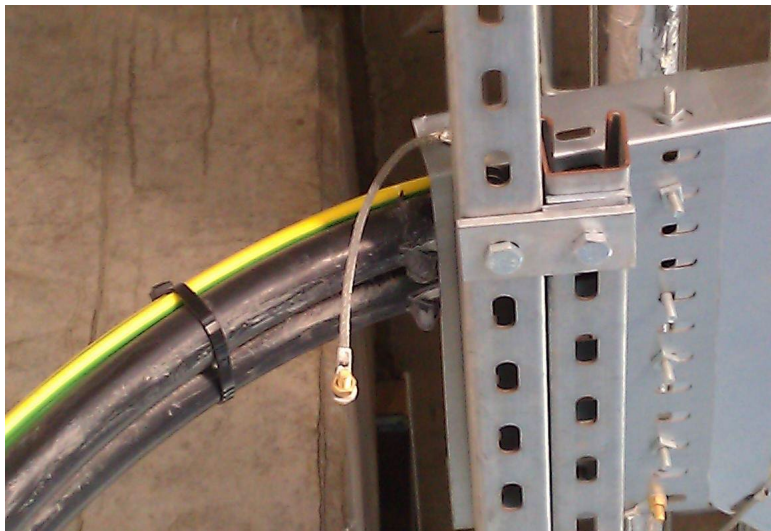
2. Rust on steel plate April 2011.



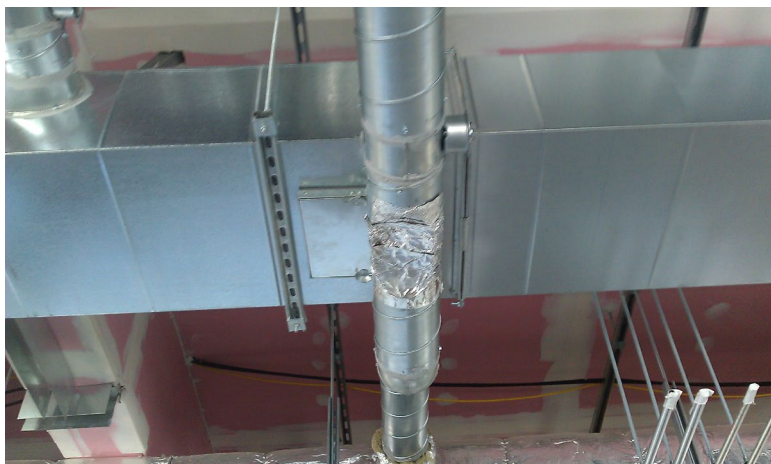
3. Missing bolt at Pod stair April 2011.



4. Gap between wall and plate at Pod Stair April 2011.



5. Damaged cabling April 2011.



6 Restricted Access. April 2011.

NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND CHILDRENS HOSPITAL

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7. Fire damper in beam. April 2011.



8. Commissioning Set not installed as manufactures recommendations. April 2011.



9. Unprotected AHU. April 2011.



10. Incomplete touch up painting to the steel plates at the stairwells April 2011.



11. Tight bolt head to hole overlap April 2011.

CAPITA SYMONDS

**NEW SOUTH GLASGOW HOSPITAL LABORATORIES
AND THE NEW ADULT AND CHILDRENS HOSPITAL
NEC 3 SUPERVISORS REPORT NO. 13
JUNE 2011**

NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND CHILDRENS HOSPITAL

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NEW SOUTH GLASGOW HOSPITAL LABORATORIES

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NEW SOUTH GLASGOW HOSPITAL LABORATORIES

1.0 EXECUTIVE SUMMARY

Visits to the site during June indicate that the construction and procedures are progressing in a satisfactory manner in accordance with the Employers Requirements.

We continue to monitor the construction drawings and specifications for compliance with the Contract Documentation in conjunction with our site inspections. Throughout, the standard of workmanship is generally good and operations are being carried out in an acceptable manner.

We have continued to have regular discussions and meetings with the site teams in connection with general site matters, our Supervisor's Communication and Defect Notifications. We are being assisted by the site teams in resolving various construction, mechanical, electrical, quality issues and information regarding drawings. Information continues to be provided via 'Aconex'.

Blockwork remains the main structural element still ongoing, with other structural elements mainly completed other than local minor elements of steelwork and snagging items. External stack bond pattern of blockwork is well advanced.

Other works in progress include the Insulated Render System, Roofwork, Screeding, Partitions, Floor Covering, Painting and Cladding all of which are progressing satisfactorily.

The roofwork in areas 4, 5, and 6 is nearing completion and we await the **Certificates of Waterproofing Integrity for these areas.** JOHN

Together with Currie and Brown we have identified on the drawings rooms which should be considered for testing. We have had preliminary discussions with Brookfield in relation to acoustic tests between rooms. A Further meeting is to be arranged with Brookfield and Currie and Brown.

Brookfield confirmed that they would invite us to inspect the benchmark rooms to comment on compliance and quality.

We noted that the joints of the Fermacell walls in some locations are pronounced especially on the white painted walls. Brookfield have been feathering/skimming the walls to ensure that they are within tolerances.

The standard and quality of mechanical and electrical services is generally high. Protection of open ends of pipes and ductwork is generally being provided throughout the site but this will require to be monitored as the installation proceeds.

Cabling is being installed within the containment throughout the floors and again is being carried out to a high standard. Extensive data cabling has now been installed on cable trays. Caution needs to be maintained where the cabling leaves the cable tray so that damage does not occur on the cable until final connections have been made.

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Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 29 to 39 were issued. These included inadequate supports to duct work, inadequate access to hatches, ducts with open ends and in contact with the structure, damaged boiler casing, expansion bellows, anchors and guides not installed properly, We also noted that there was a likelihood flanking transmission sound between rooms.

We continue to have discussions with Brookfield and are being assisted by the site teams in resolving various construction, mechanical, electrical, and quality issues which have been raised following our visits.

Supervisor's Notification of Defect (CI 42.2) No's 1 and 2 were issued. The first defect notification was in relation to isolated horizontal Fermacell joints where the boards are protruding. Although we have identified specific locations in Level 1 Areas 1 and 2 this defect exists in other areas on Level 1. Brookfield has raised an NCR in relation to this issue. The second defect raised relates to the ponding on Level 4 Area 6 where the falls are not sufficient to shed the rainwater towards the outlet.

2.0 DESIGN COMPLIANCE CHECK

The drawing and specification information issued on Aconex indicates that the design is in accordance with the Project Executive Plan.

Drawing and Construction information continues to be provided by Brookfield.

We are currently reviewing Wallace Whittle and Harley Haddow design drawings against the Employers Requirements and these have been provided by Brookfield.

3.0 PROCEDURES REVIEW

3.1 Contractor's QA Procedures

Workmanship generally again appears to be to a good standard.

Brookfield and their subcontractors have continued with their QA and checking procedures during the period.

We carried out a preliminary inspection of the Benchmark Room with Brookfield representatives to inspect the quality and record any work that is required to be carried out before completion of the rooms. The meeting was useful but the rooms were not at a stage where an inspection could be carried out. Brookfield's M & E QA check sheet above ceiling was incomplete. It was agreed that that we would return when the QA checks were completed.

Photographs included in the appendices illustrate works progress during the period and photographic evidence of queries raised.

A sample guarantee/warranty on the 'Caltite' concrete has been made available and this appears to be satisfactory. The full formal version will be available when the tunnel areas have been allowed to dry out and a check made if any remedial works are required. This is anticipated within the next two months.

Information required:

- Cube results from the w/c 24/01/2011 are awaited.
- Proposals for remedial repair to surface area of concrete on the second floor.
- Proprietary tunnel roof waterproofing details.

3.2 Quality Assurance Procedures

Brookfield and subcontractors have continued with their QA and checking procedures during the period. Cube results from the w/c 24/01/2011 are awaited.

3.3 Early Warnings

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We noted on site during our visit that the piling for the energy centre is due to commence shortly. This piling which is at one corner and will be within 950mm of the existing site HV cable. Although we believe that some discussion as to the means of protecting this cable during piling has been carried out we believe the risk is still very high of potential damage to the cable. The effect of severe damage to the cable and loss of supply to Surgical Sub Station would cause huge disruption to the buildings supplied. (A&E, Operating Theatres, Biochemistry etc).

We believe that the supply and installation of a section HV cable to divert the supply away from the risk area should be considered. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 28).

3.4 Trust Equipment Installation, Testing and Commissioning

We have had discussions with Brookfield concerning the acoustic testing programme for partitions in accordance with the Employer's Requirements and further discussions will be held with Brookfield and Currie and Brown (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 4). The Trust is currently considering their requirements.

3.5 Non Conformance Reports

Brookfield has issued a Non Conformance Report to their sub-contractor for the deviation of the wall line along AA grid line corridor.

4.0 CONSTRUCTION REVIEW**4.1 Visits to the Works**

Site inspections were carried out by the NEC 3 Supervisor on the 3rd, 4th, 5th, 6th, 9th, 10th, 11th, 12th, 13th, 15th, 19th, 20th, 24th, 25th, 26th and 27th May 2011.

4.2 Elements of the Works available for inspection

- Partitions.
- Metal Stud Infills for External Insulated Render System.
- Permaquik application to flat roofs.
- Cladding.
- Window installation.
- Ductwork.
- Pipework Distribution.
- Piling Mat and Operations (ACH – Energy Centre).
- Completion of roof steelwork to the main building plus connecting steelwork between 'pod' and the main building.
- Steelwork snagging to mainly roof areas.
- Concreting to the link bridge between the building wings, and to the links between the 'pod' and the main building.
- Blockwork erection on the ground floor and basement.
- Door Installation.
- Paintwork.

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4.3 Observations from May 2011 Inspections

The visual inspections of the work packages carried out to date indicate that the works are being carried out to a satisfactory standard. Listed below are observations in relation to site visits in May.

4.3.1 Floor Slabs

We shall inspect the remedial work to the irregularity / 'laitance bossing' on the concrete slab on the second floor when it is complete.

4.3.2 Steelwork

A joint inspection with Brookfield to confirm that remedial measures have been undertaken to address the poor rust patches in the structural steel was carried out. The work has been completed satisfactorily consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 2 is closed out.

We are still waiting feedback on the potential health and safety issue at the access ladders raised in the February report. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 18).

The painting of the steel plates at the core stairs has been completed consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No22 is closed out.

We noted that there were a number of remedial measures still to be undertaken to the steelwork on the curved stair. These included bolts not tightened, bolts missing and spaces between the wall and plates. Brookfield has intimated that they are aware of these incomplete items and confirmed that they would remedy these points. We shall continue to monitor the work. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 24).

The steelwork connecting detail to the pod at roof level with little overlap of bolt head to slot reported last month has been satisfactorily addressed during the period.

4.3.3 Blockwork

Blockwork has again continued during the period at ground floor and basement level to a generally good standard of workmanship, with particular attention being paid to the external stackbond blockwork facing. To date there are no issues with efflorescence however we continue to monitor the work.

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We have inspected the lintel positions in relation to the service penetration with Brookfield and they are positioned correctly. Consequently Supervisor's Communication General Matters / Other Instructions No 15 are closed out.

4.3.4 Partitions

We noted that the K10/110 partition which has a sound insulation of Rw 52dB between rooms L2/B/095 and L2/B/096 Level 1 Area 1 has been constructed as per the drawing and divides approximately $\frac{3}{4}$ of the room. It appears that the remaining length of the divisional wall will have back to back IPS panels. We have requested details for this part of the wall construction and information showing how the wall will achieve the required sound insulation performance of 37dB in accordance with the design matrix Appendix S Acoustic Requirements. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 23). See Photographs of the IPS panels between rooms L1/B/058 and L1/B/057.

Rodding access are preventing the access panels from closing properly in rooms L1/B/052 and L1/B052. We have raised this with Brookfield. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 37).

The internal partitions constructed around the perimeter of the west wing adjacent to the SFS system have been built to the appropriate NBS specifications which specifies no insulation between the studs. However there is a void between the inside surface of the SFS and the internal partition and we have informed Brookfield about our concerns that there could be a risk of flanking sound transmission around the partition through the void between the rooms. We have asked Brookfield to confirm if there will be any action taken to minimise any downgrading of the acoustic performance of the partitions and to ensure compliance with Appendix S. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 39).

We await details and information showing how the proposed IPS panels separating the male and female toilets on Level 1 Area 7 (Rooms L1/A/006 and L1/A/004) will achieve the required sound insulation performance of 37dB. This is in accordance with the design matrix Appendix S Acoustic Requirements. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 23).

The moisture content of the Fermacell boarding and timber head pieces affected by water ingress is being monitored. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 7).

We carried out initial inspections of the Knauf angle plate detail for supporting the upper section of boarding on Level 1, Areas 1 and 2 on the west elevation of the west wing with Brookfield. We await notification that the remaining areas are complete so that an inspection can be carried out. We shall continue to monitor this work (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 12).

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The narrow infill pieces around the window openings on west elevation of the west wing level 1 previously reported have been replaced with a wider board. Brookfield has confirmed that the boarding have been fitted in accordance with Knauf's guidelines and specifications. They have also provided us with a report from Kanuf confirming that it complies with BS 8000: Part 8: 1994 Section 3. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 21) is closed.

There are a few locations where the joints on the Fermacell joints are pronounced especially on walls which have had their first coat of paint.

4.3.5 Insulated Render System

This is progressing throughout the building.

4.3.6 Sub-Station

Concrete works are now substantially completed and are generally satisfactory.

4.3.7 Concrete

The guarantee/warranty on the 'Caltite' concrete has been provided consequently part of Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 27 has been closed out.

4.3.8 Flat Roof

All of the electronic roof integrity tests have been completed and we await the Certificate of Waterproofing Integrity. (See Supervisors tests and Inspections)

4.3.9 Pipework

Installation of hot, cold, heating, chilled water and medical gas pipework on all levels is progressing, and generally being installed to a good standard. Brookfield has made a good effort to seal pipes and duct ends. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 27).

We noted that flexible connections were distorted and have reminded Brookfield that these connections should be installed as per the manufactories recommendations. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 34).

We have informed that Brookfield that the Expansion Bellows, Anchors and Guides are not installed as per submitted drawings accompanying the expansion calculations and Wallace Whittle design. We have asked Brookfield to ensure all pipework is adequately supported and thermal expansion does not impose undue stress to the building structure and supports. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 38).

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Initial hydraulic testing is continuing on each floor. Distribution pipework and all witnessed tests have been satisfactory. Final hydraulic testing up to the terminal units and entry to the plantrooms and risers and will be witnessed on the 2nd June 2011.

4.3.10 Ventilation

The installation of ventilation ductwork was progressing well and generally being installed to a good standard. The inconsistency with the number of and location of access doors being installed still require to be addressed and are being closely monitored. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 25).

Spacing of ductwork supports require to conform to DW 144. Check and confirm all ducting is adequately supported. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 29).

Ductwork, pipework and cable trays have been supported in a limited number of areas. All services should be supported independent of surrounding services. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 30).

Ducts also noted in several places that there were ducts with open ends and in contact with the structure. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 31).

During our inspections we noted that there is a potential problem special co-ordination between the lighting fittings and ductwork and have raised this with Brookfield. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 35 and 36).

The PVC ducting systems again have open ends and appear to have co-ordination issues with surrounding services / structures. Brookfield is to address the support arrangements in a limited number of areas where the spacing is outwith the specified requirements. Some ducts are in contact with the building structure or adjacent services, this is ongoing. Co-ordination with the building structure and services has generally been good with a limited number of clashes requiring to be addressed.

4.3.11 Insulation

Insulation to pipework and ducting that was damaged during the construction process is being repaired with some areas still ongoing. Where Armoflex insulation has been fitted (for pipes within walls) these require to be sealed along the seam joints and taped at joints and supports. Access doors in ducting that have been retro fitted are fitted over the insulation and this requires to be rectified.

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Access hatches for cleaning and inspection of ducting is inconsistent and in areas inadequate. We have asked Brookfield to inspect and confirm that all systems can be adequately inspected and cleaned as per DW144 and DW177. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 31).

4.3.12 Plant

One of the Chilled beams has sustained physical damage and should be replaced.

A boiler casing has sustained physical damage and requires to be repaired/replaced. We have asked Brookfield to ensure that adequate protection is provided to all plant. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 32).

The chilled beam installation is causing concern. The method of support has resulted in units being installed in a manner that will impose stress to the ceiling grid and will require to be amended. This has been conveyed to Brookfield and we await their proposals.

Air Handling units within plant areas require to be protected from ingress of dirt etc and physical damage. Attempts have been made to protect units but this requires to be improved. Internal inspection of these units will be required before these items are operational.

Installation of the fan coil units has commenced on some floors and need to be protected as above.

There are two boiler casings with minor physical damage and will require replacement.

Brookfield has been informed on the requirement to physically protect plant during the construction phase. All damaged items will require repair or replacement before completion.

4.3.13 Trunking

Trunking is progressing on all levels, with some cabling being installed. The standard is good and installation of high quality.

4.3.14 Cable Tray

Extensive cable tray is now well advanced on site to a high standard. Some small areas of trunking for sub main cables have been bent by the weight of the cables hanging from them on Level 1 & 2 (see photo).

4.3.15 Conduit

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Solid conduit is being used at high level with flexible metal conduit in partition walls. Both installations are of a good standard and being well fitted.

Some damage to the flexible conduit was noted in three rooms on level 1, possible damage to cables. (see photo)

4.3.16 Cabling

Cabling is well advanced however care needs to be taken where containment is not finished and single core cables are hanging loose.

Modular wiring looms are now being installed and carefully tied up for protection. Some looms were lying on the floor and care should be taken for their protection and security.

4.3.17 Fire Alarms

First fix of fire alarm wiring is well under way and being installed to a high standard.

4.3.18 Data Cabling

Extensive data cabling has been installed and run on all levels. Care needs to be maintained to protect the cabling as it runs off, and through the cable tray supporting the cabling.

4.3.19 Power Bar

Power bar is now progressing and is being installed throughout the floors.

4.4 Defects from May 2011 Inspections

There are isolated horizontal Fermacell joints where the boards are protruding on Level 1 Areas 1 and 2. This is causing gaps between the grid system of the suspend ceiling and the wall and will also cause gaps between the skirting and wall and will generally be unsightly. Although we have identified specific locations this defect exists in other areas on Level 1. (See Supervisor's Notification of Defect (CI 42.2) No's 1).

Brookfield have been informed that there is surface water ponding on the roof at the north end the east block on Level 4 Area 6. The lack of falls in this part of the roof has resulted in the rainwater not being able to drain to the outlet. We have requested Brookfield to confirm their remedial measures to ensure that the roof surface will have the appropriate design fall. (See Supervisor's Notification of Defect (CI 42.2) No's 2).

Commissioning sets on pipework at headers have been installed adjacent to valve resulting in turbulent flow. Manufacture requires a minimum clearance of 5 pipe diameters upstream and 3 downstream of any restriction to achieve +/- 5% accuracy. This was previously highlighted in the first plantroom and has been repeated in the remainder. (See Supervisor's Communication

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General Matters / Other Instructions (CI 13.1) No 25). (See Supervisor's Communication Notification of Defect (CI 42.2) No 03).

We noted that the channel iron supports for the header pipework and pumps in the plant room are fixed to the floor via small mild steel plates. Brookfield has been informed that to ensure stress is not passed to pipework additional fixings at high level to should be fitted. (See Supervisor's Communication Notification of Defect (CI 42.2) No 04).

Several fire dampers are installed without independent support to structure. And we have requested confirmation when these have been remedied. (See Supervisor's Communication Notification of Defect (CI 42.2) No 05).

Some supports for the chilled beams were distorting, resulting in loading being passed to the ceiling grid. We have raised this with Brookfield highlighted that chilled and beams should be supported to ensure independence from the ceiling grid. (See Supervisor's Communication Notification of Defect (CI 42.2) No 06).

In a number of locations fire damper access was restricted for maintenance and testing in various. We have asked Brookfield to confirm that damper access are fitted to requirements. (See Supervisor's Communication Notification of Defect (CI 42.2) No 07).

We noted that fire dampers indicated as motorised have been fitted with manual fuseable links. We have asked Brookfield to confirm all dampers are installed in accordance with the specifications. (See Supervisor's Communication Notification of Defect (CI 42.2) No 08).

The light fitting and ducting are in contact within the ceiling void. Alter to ensure that the separation is as per specification and the light fitting can be removed for maintenance and replacement, without altering the ceiling grid. Ensure coordination of services avoids this in other areas. (See Supervisor's Communication Notification of Defect (CI 42.2) No 09).

Window reveals have been constructed prior to the fitting of 1 hour fire rated board to the internal face of the SFS to prevent against external spread of flames as per drawing AL(27)03. Following discussions with Brookfield they confirmed that they will be fitting the 1 hour fire. boarding. (See Supervisor's Communication Notification of Defect (CI 42.2) No 10).

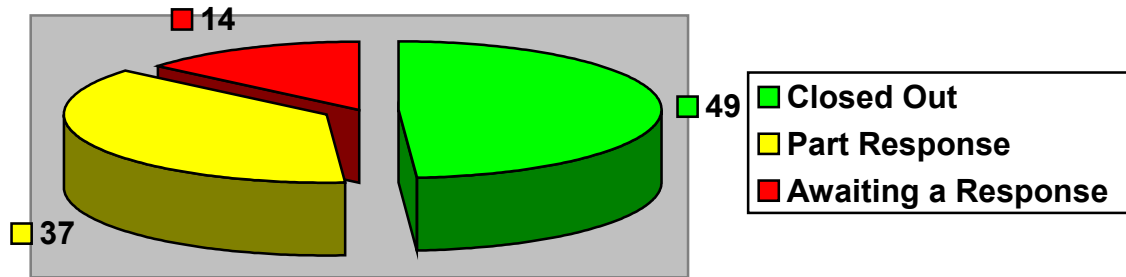
5.0 INFORMATION REQUIRED

The following information is requested

NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND CHILDRENS HOSPITAL

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Item No.	Description	Date Requested	Comment	
01	We have requested the following information:	14.06.10		
01a	Dunne PEP or equivalent.		Closed out.	
01b	Current civil and structural drawings.		Closed out.	
01c	URS specification. Pile integrity and load test results.		Closed Out.	
01d	Cube results to date.		Closed out.	
01e	Caltite waterproofing additive details (and copy of guarantees).		Awaiting copy of guarantees.	
01f	Proprietary tunnel roof waterproofing details.		Details awaited.	
02	We have requested the following information:	25.11.10		
02a	Confirm when remedial measures will be undertaken to address the poor rust patches in the structural steel and notify us when the work is complete to allow us to carry out an inspection.		Closed out.	
02b	Confirm the approved remedial action to ensuring that there is a continuous DPM in accordance with the drawing.		Closed out.	
02c	Provide the QA Inspection and Test Plan for signing off the completion of the work prior to the commencement of the structural copper cladding.		To be reviewed at audit.	
03a	Provide full test results to BS 5234 for strength and stability for all partition types including impact damage and door slam tests for all door opening situations.	03.12.10	Closed out.	
03b	Please provide your written method statement/QA describing the erection procedures together with details of the quality checking and recording systems being implemented to ensure correct construction of partitions and correct location of partition types.		Information Provided. Closed out.	
03c	Confirm if timber inserts are being fitted within the horizontal section of partition forming the door opening to provide strength and robustness.		Confirmation received from Brookfield. Closed out	
03d	Provide test results/certificates to BS 476 for all fire resistant partitions.		Information received and being reviewed.	
04a	There are gaps between the boarding at a few locations on Level 1 about 5mm wide. We are seeking confirmation if these gaps can be filled and that there will be no risk of cracks occurring in the future especially above door openings	03.12.10	Response received. Closed out.	
04b	Please confirm your acoustic testing programme for all partitions in accordance with Section 7 of Health Technical Memorandum 08-01: Acoustics.		Brookfield has this under review. Awaiting acoustic test programme.	
05	The boarding to the partition around the doors leading into the Genetic Freezer Store and the Block Slide Store on Level 2 has been exposed to water ingress. Please confirm when these are replaced to allow us to carry out an inspection.	21.12.10	Fermacell confirmed that boards will dry out. Closed out.	

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06a	Check ends of pre-installed pipes and ducts are covered to prevent contamination.	06.01.11	Closed out.	
06b	Check to ensure that pre insulated pipe and ducting is affected by water ingress on level 2 is completely dry. Insulation to be removed and replace if required.		Closed out.	
06c	Access hatches for dampers etc on ventilation systems require to be positioned to allow adequate access to the item being serviced. Check existing installed hatches and future installed locations.		Closed out.	
06d	Fire dampers to be supported independent of the ducting		Closed out.	
06e	Confirm the strategy for hydraulic testing of the pre-insulated pipework. In the event of failure how is the actual point of failure identified if covered by insulation.		Brookfield confirmed that they would provide test information.	
06f	Confirm the strategy for thermal expansion within the pipework systems.		Information received and under review.	
07	Confirm if Fermacell boarding, timber head piece and timber door frame affected by water ingress require to be replaced or provide evidence that the moisture contents in the timbers does not exceed the recommended moisture content.	07.01.11	Being monitored by Astins.	
Items 8 to 11 have been closed out				
12	The internal independent wall lining located on Level 1, Areas 1 and 2 on the west elevation of the west wing does not have screw fixings to the boarding from the underside of the ducting to the top of the partition (approximately 500mm). Confirm measures to ensure the boarding is fixed at the appropriate centres and provide notification to allow the partitions to be inspected	14.02.11	Response received. Being reviewed.	
Items 13 to 17 have been closed out				
18b	Potential health and safety issue at the access ladder.	28.02.11	Brookfield is awaiting a response from the Architect.	
Item 20 has been closed out				
21	Boarding has infill piece. This does not comply with BS 8000-8:1994 Code of practice for plasterboard and dry lining.	22.03.11	Closed out	
21A	Please provide the window manufacturers fixing details for the windows on the east and west elevations Areas 1 and 2.	08.03.11	Part information provided.	
22	Rust affecting the steel plates in the stairwells in the west wing.	22.03.11	Closed out.	
23	Please provide details for the division wall between rooms L2/B/095 and L2/B/096 Level 1 Area 1 showing how the wall will achieve the required sound insulation performance of 37dB in accordance with the design matrix Appendix S Acoustic Requirements.	13.04.11	Painting in progress.	
24	Confirm when missing bolts and other incomplete work to the curved stair in the Pod have been complete.		Awaiting a Response.	
25	Ductwork is in contact with building structure and projecting into walls in some areas. Access hatches for dampers etc on ventilation systems require to be positioned to allow adequate access to the item being serviced. Check existing installed hatches and future installed locations. AHUs are open and unprotected, seal open ends to prevent ingress of dirt etc. Support centre's to be checked to ensure adequate support to ducting.	27.04.11	Awaiting a Response.	
26	Confirm when the damaged armoured cables are replaced.	27.04.11	Awaiting a Response.	

NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND CHILDRENS HOSPITAL

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27	Confirm when the following has been remedied. Commissioning sets not installed as per manufacture's recommendations. Insulation not sealed at joints Pipework left with open ends	27.04.11	Awaiting a Response.	
28	Piling structure for the Energy Centre will be carried out within 1m of the existing cable. This is raised as an early warning	20.05.11	Awaiting a Response.	
29	Spacing of ductwork supports require to conform to DW 144. Check and confirm all ducting is adequately supported.	10.06.11	Awaiting a Response.	
30	Ductwork, pipework and cable trays have ben supported in a limited number of areas.	10.06.11	Awaiting a Response.	
31	Access hatches for cleaning and inspection of ducting is inconsistent and in areas inadequate. inspect and confirm that all systems can be adequately inspected and cleaned as per DW144 and DW177.	10.06.11	Awaiting a Response.	
32	Ducts with open ends and in contact with the structure.	10.06.11	Awaiting a Response.	
33	Repair/replace damaged boiler casing.	10.06.11	Awaiting a Response.	
34	Flexible connections distorted	10.06.11	Awaiting a Response.	
35	Coordination problems likely between lighting fittings and ductwork	10.06.11	Awaiting a Response.	
36	Coordination problems likely between lighting fittings and ductwork	10.06.11	Awaiting a Response.	
37	Rodding eye access panel do not close over.	20.06.11	Awaiting a Response.	
38	Expansion Bellows, Anchors and Guides are not installed as per submitted drawings accompanying the expansion calculations and Wallace Whittle design.	17.06.11	Awaiting a Response.	
39	We have concerns that there maybe flanking sound transmission around the partition through the void between the rooms. Confirm if there will be any action taken to minimize any downgrading of the acoustic performance of the partitions and to ensure compliance with Appendix S.	14.06.11	Awaiting a Response.	

NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND CHILDRENS HOSPITAL

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6.0 SUPERVISORS TESTS AND INSPECTIONS

Tests not required	N/A
Tests required but not tested	Req
Tests required which has passed tests	Pass

Tests				
Ref	Title	To be Notified by	Status	Test Date
1.	Flat Roof Integrity Test	Brookfield	Req	

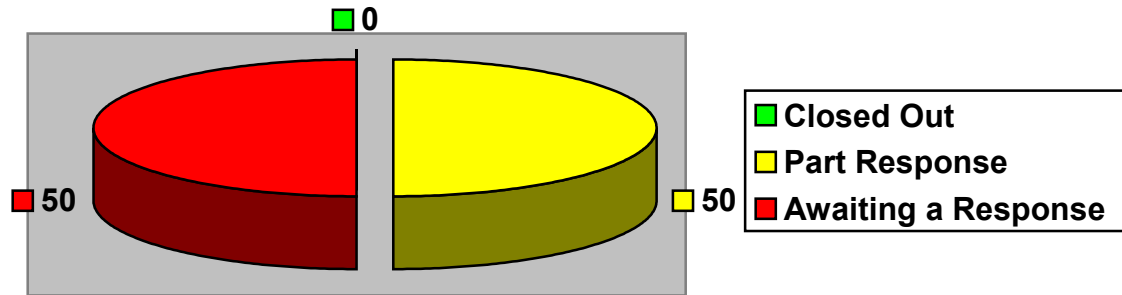
Inspection not required	N/A
Inspection required	Req
Inspection complete	Pass

Inspections				
Ref	Title	To be Notified by	Status	Inspection Date
1.	Replace fire batts west wing	Brookfield	Pass	19.04.11
2.	Level 2 room L2/B/028 spalling concrete	Brookfield	Req	
3.	Special fixing of Knauf boarding internal wall lining located on Level 1, Areas 1 and 2	Brookfield	Req	
4.	Rust patches on the structural steel	Brookfield	Pass	20.05.11
5.	All joints to be scraped out and angle bead applied.	Brookfield	Req	

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7.0 DEFECT NOTIFICATIONS ISSUED



NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND CHILDRENS HOSPITAL

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Item No.	Description	Date Requested	Comment	
01	Deviation of the wall line along corridor grid line AA:	06.05.11	Open.	Red
02	Inadequate falls on roof Level 4 Area 6.	26.05.11	Closed	Green
03	The commissioning sets require to be relocated to comply with manufacturers requirements.	07.06.11	Open.	Red
04	Channel iron supports for the header pipework and pumps in all paint rooms require additional fixings at high level to ensure stress is not passed to pipework.	07.06.11	Open.	Red
05	Several fire dampers are installed without independent support to structure. Confirm when these are remedied.	07.06.11	Open.	Red
06	Chilled beams to be supported to ensure independence from the ceiling grid.	07.06.11	Open.	Red

THE NEW ADULT AND CHILDRENS HOSPITAL**8.0 EXECUTIVE SUMMARY: ADULT & CHILDREN'S HOSPITAL**

Structural sub-station works are now completed, and to a good standard of workmanship. Energy Centre ground and foundation works have again progressed steadily throughout the period as has work on the core tower. Quality to date appears satisfactory. Skanska/Cementation has significantly increased their rate of pile installation during the period. Initial issues with the bentonite mix having been resolved. Works to the Linthouse Burn diversion have again progressed steadily but slowly during the period in what is a very tight site. These works appear generally to be progressing in accordance with the Client's requirements and with due regard to quality.

9.0 DESIGN COMPLIANCE CHECK

Currently nothing to report.

10.0 PROCEDURES REVIEW**10.1 Contractor's QA Procedures**

Information required:

- Comments have been received back re the Structural Design Philosophy at Appendix K stage, but only verbally at a meeting and it is understood that this document will be updated and recirculated.
- Further to a meeting with Brookfield and their designers, WSP, further information is awaited re vibration aspects of MRI scanners.
- Pile test results for Energy Centre.
- Copy of building warrant for the main adult hospital.
- Pile test results from the main building.

10.1 Performance

Currently nothing to report.

10.2 Quality Assurance Procedures

Brookfield and their subcontractors have continued with their QA and checking procedures during the period.

10.3 Early Warnings

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Currently nothing to report.

10.4 Trust Equipment Installation, Testing and Commissioning

Currently nothing to report.

11.0 CONSTRUCTION REVIEW**11.1 Visits to the Works**

Site inspections were carried out by the Independent Tester on the 3rd, 4th, 6th, 9th, 12th, 13th, 18th, 20th, 24th, 25th, and 27th May 2011.

11.2 Elements of the Works available for inspection

- Energy Centre – excavation, foundations and core walls.
- Main building – piling works and temporary piling plant set-up.
- Linthouse Burn diversion – excavation and pipework installation.

11.3 Observations from April 2011 Inspections

Observations from May 2011 Inspections.

11.4 Temporary Road/Linthouse Burn

The permanent works to this element of the project have again proceeded slowly but steadily during the period and appear to be progressing in accordance with the Client's requirements. Although subcontractor Leslie have been carrying out their own 'testing', formal tests over longer sections are still awaited.

11.5 Piling

Rate of piling installation has increased dramatically during the period with more rigs on site and improvements to the bentonite slurry mix. 1st pile test was performed during the period and this produced satisfactory results. Concrete results are also beginning to come through.

11.5 Energy Centre

Further progress has been made on foundation work during the period together with the internal core slipform. While the works have generally preceded in a satisfactory manner some steel reinforcing issues have arisen, albeit that they have been immediately addressed on site.

12.0 INFORMATION REQUIRED

The following information is requested



■	Closed Out
■	Part Response
■	Awaiting a Response

**NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND
CHILDRENS HOSPITAL****SUPERVISOR'S REPORT NO. 13****JUNE 2011**

Item No.	Description	Date Requested	Comment
01			

NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND CHILDRENS HOSPITAL

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13.0 SUPERVISORS TESTS AND INSPECTIONS

Tests not required	N/A
Tests required but not tested	Req
Tests required which has passed tests	Pass

Tests				
Ref	Title	To be Notified by	Status	Test Date

Inspection not required	N/A
Inspection required	Req
Inspection complete	Pass

Inspections				
Ref	Title	To be Notified by	Status	Inspection Date

**NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND
CHILDRENS HOSPITAL****SUPERVISOR'S REPORT NO. 13****JUNE 2011**

John Redmond
Capita Symonds
Technical Advisory Services

The Beacon, 8th Floor, 176 St Vincent Street, Glasgow G2 5SG

	Signed	Date
Originated by	John Redmond	31st May 2011
Completed by	Darran Muir	31st May 2011

Appendix 1

Photographs

NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND CHILDRENS HOSPITAL

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1. IPS panels between rooms L1/B/058 and L1/B/057 May 2011.



2. IPS panels between L1/B/057 and L1/B/058 May 2011.



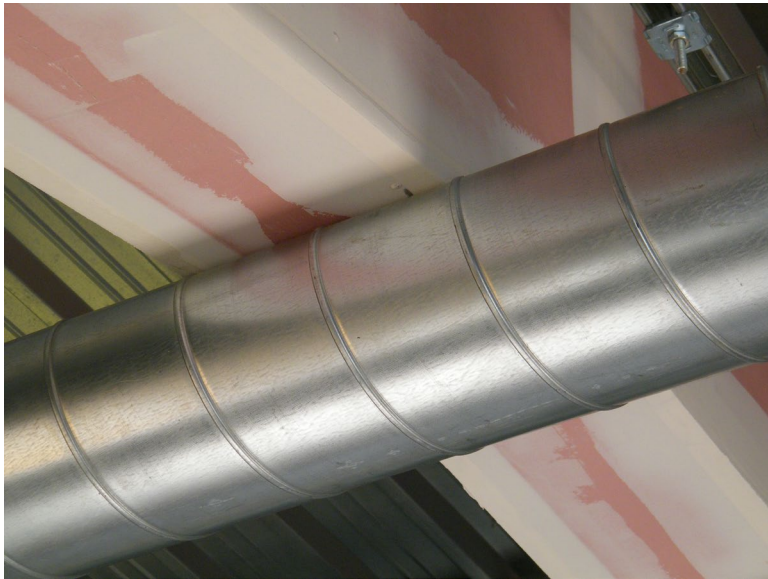
3. Ponding due to roof not laid to falls May 2011.



4. Fire Damper no fix to structure May 2011.



5. Pump / pipework support not fixed at top May 2011.



6 Ducts in contact with structure May 2011.



7. Inspection doors fitted over insulation May 2011.



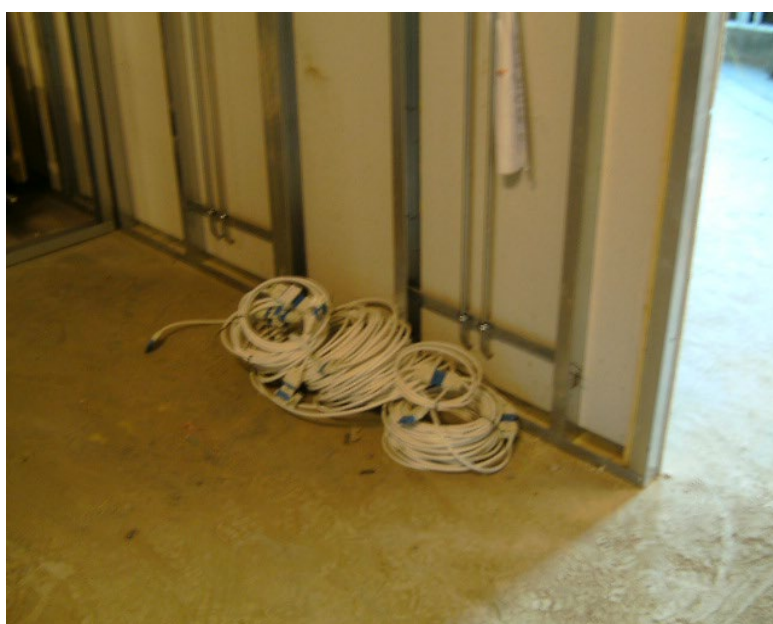
8. Chilled Beams not aligned and supports not suitable
May 2011.



9. Damaged boiler casing May 2011.



10. Damaged flexible conduit May 2011.



11. Unprotected cable looms May 2011.

NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND CHILDRENS HOSPITAL

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12. Cable protection required May 2011.



13. Adult and Children's Hospital May 2011.

**NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND
CHILDRENS HOSPITAL**

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14. Solution to overlap of bolt head May 2011.



15. Gully positions adjacent to the outside edge wall. Falls readily to be feed to these positions may 2011.

CAPITA SYMONDS

**NEW SOUTH GLASGOW HOSPITAL LABORATORIES
AND THE NEW ADULT AND CHILDRENS HOSPITAL
NEC 3 SUPERVISORS REPORT NO. 14
JULY 2011**

NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND CHILDRENS HOSPITAL

**SUPERVISOR'S REPORT NO. 14
2011**

JULY

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NEW SOUTH GLASGOW HOSPITAL LABORATORIES

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NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND CHILDRENS HOSPITAL**SUPERVISOR'S REPORT NO. 14
2011****JULY****NEW SOUTH GLASGOW HOSPITAL LABORATORIES****1.0 EXECUTIVE SUMMARY**

Visits to the site during July indicate that the construction and procedures are progressing in a satisfactory manner in accordance with the Employers Requirements with due regard to health and safety.

We continue to monitor the construction drawings and specifications for compliance with the Contract Documentation in conjunction with our site inspections. Throughout, the standard of workmanship is generally good and operations are being carried out in an acceptable manner.

Structural elements to the Laboratories and FM Hub have been substantially completed. Concreting to the ground floor slab (floor 0) under the west wing has been ongoing during the period. Placement of mesh reinforcement in some areas of this has been uncharacteristically shoddy and Brookfield has raised an NCR against their subcontractor Dunne in respect of this.

The roofwork in areas 4, 5, and 6 is nearing completion and we await the Certificates of Waterproofing Integrity for these areas.

Together with Currie and Brown we have identified rooms which we consider suitable for acoustic testing. We have received a Laboratory Building Performance Test Proposals from Brookfield which we have reviewed and further discussions will be held with Brookfield prior to presenting the information to the Board for their deliberation.

Feathering/skimming to Fermacell walls is being carried out to ensure that the partitions are within tolerances. We have concerns about the unevenness of the Fermacell walls especially at the joints in some locations.

Visits to the site during the period indicated that the M&E elements of construction inspected are progressing well on site with some areas nearing completion. The standard is of a high quality.

Initial pressure testing of pipe systems is progressing and will be presented for witness testing next month.

Protection of open ends of pipes and ductwork is being observed and provided throughout the site however some open ends are still evident and these have been highlighted to Brookfield.

Electrical works are well in hand on all levels, and being carried out to the same high standard as the mechanical systems.

Electrical Substations are nearing completion with power on scheduled over the next few weeks. This will allow power to be progressed through the lower levels from level 1 upwards.

NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND CHILDRENS HOSPITAL**SUPERVISOR'S REPORT NO. 14
2011****JULY**

Cabling is being installed within the containment throughout the floors and again is being carried out to a high standard.

Extensive data cabling has now been installed on cable trays and termination and testing is progressing.

Overall the installation and co-ordination of services appear to be well organised, although some minor clashes are being observed as the level of service installations increases. These minor clashes are being remedied on site.

Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 39 to 51 were issued. These included inadequate fixing to pipe supports, damage to and lack of protection to a Scroll Compressor Pack and inadequate fitting ductwork and hatches. There is also insulated and services fitted to columns prior to intumescent coating and fire cladding. On the sedum roof there are worn areas and isolated areas full of weeds. We have also request for dry file thickness measurements and fire resistance certificate for intumescent coating.

No Supervisor's Notification of Defects were issued during July but there are five awaiting a response and one which has been progressed from the defects issued in June. The notifications awaiting a response include channel iron supports for the header pipework. Pumps in all plant rooms require additional fixings at high level to ensure stress is not passed to pipework. Chilled beams to be supported to ensure independence from the ceiling grid. Fire damper also installed without independent supports, fire damper access insufficient and fire dampers that should be motorised have been fitted with manual fuseable links. Light fitting and ducting have been erected in contact with the ceiling.

We continue to have discussions with Brookfield and are being assisted by the site teams in resolving various construction, mechanical, electrical, and quality issues which have been raised following our visits.

SUPERVISOR'S REPORT NO. 14
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JULY

2.0 DESIGN COMPLIANCE CHECK

The drawing and specification information issued on Aconex indicates that the design is generally in accordance with the Project Executive.

Review of Wallace Whittle and Harley Haddow drawings recently provided by Brookfield for review have been completed with only minor comment.

Drawings and construction information continue to be provided by Brookfield.

3.0 PROCEDURES REVIEW**3.1 Contractor's QA Procedures**

Workmanship generally again appears to be to a good standard.

Brookfield and their subcontractors have continued with their QA and checking procedures during the period.

We await Brookfield's M & E QA check sheet for above ceiling.

Photographs included in the appendices illustrate works progress during the period and photographic evidence of queries raised.

As noted in the May Report a sample guarantee/warranty on the 'Caltite' concrete has been made available and this appears to be satisfactory. The full formal version will be available when the tunnel areas have been allowed to dry out and a check made if any remedial works are required. This is anticipated in the next two months.

Information required:

- Proprietary tunnel roof waterproofing details.
- Final Caltite Certificate
- Feedback on ground floor slab NCR.

3.2 Quality Assurance Procedures

Brookfield and subcontractors have continued with their QA and checking procedures during the period.

3.3 Early Warnings

Brookfield has confirmed that a capping piece has been placed over the HV cable at the boundary adjacent to the energy centre. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 28 is closed out.

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3.4 Trust Equipment Installation, Testing and Commissioning

Together with Currie and Brown we have reviewed Brookfields Building Performance Test Proposal and further discussion will be held with Brookfield. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 4).

3.5 Non Conformance Reports

Brookfield continues to issue non conformance reports and a full report is developed and will be available for review.

4.0 CONSTRUCTION REVIEW

4.1 Visits to the Works

Site inspections were carried out by the Independent Tester on the 4th, 5th, 6th, 7th, 8th, 9th, 11th, 12th, 13th, 14th, 15th, 18th, 19th, 20th, 21st, 25th, 26th, 27th, 28th, and 29th July 2011.

4.2 Elements of the Works available for inspection

- Partitions.
- Metal Stud Infills for external insulated render system.
- Permaquik application to flat roofs.
- Cladding.
- Window installation.
- Ductwork.
- Pipework distribution.
- Floor covering
- Suspended ceilings
- Door Installation.
- Paintwork.
- Ground floor slab concreting.
- Structural floor screed to atrium to the Pod area.
- Steelwork minor items.
- Blockwork erection on the ground floor and basement

4.3 Observations from July 2011 Inspections

The visual inspections of the work packages carried out to date indicate that the works are being carried out to a satisfactory standard. Listed below are observations in relation to site visits in July.

4.3.1 Floor Slabs

Floor concreting to the ground floor (floor 0) under the west wing has been ongoing during the period. Mesh reinforcement was observed as being potentially incorrectly positioned (too low in the slab) and this was drawn to the

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attention of Brookfield and the subcontractor Dunne on at least two separate occasions. Brookfield has reported that they have raised an NCR with Dunne in respect of this, and the issue will be pursued further.

4.3.2 Steelwork

We have still not had any feedback on the potential health and safety issue at the access ladders raised in the February report. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 18).

We have carried out an inspection of the outstanding issues in relation to the curved stair in the Pod and are satisfied that the work has been carried out to a satisfactory standard. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 24 is closed out.

4.3.3 Partitions

We inspected the 30 minute and 1 hour fire partition on Level 1 Areas 1 and 2 with Brookfield. The fire stopping was generally complete and all minor omissions were sealed at the time of the inspection. On inspection behind the electrical cover plates we found that the fire resistant putty lining was missing. This was immediately addressed by Brookfield. On a second inspection with Brookfield all of the snags recorded had been addressed.

We reported in May that the K10/110 partition which has a sound insulation of Rw 52dB between rooms L2/B/095 and L2/B/096 Level 1 Area 1 has been constructed as per the drawing and divides approximately $\frac{3}{4}$ of the room. It appears that the remaining length of the divisional wall will have back to back IPS panels. We are still awaiting details for this part of the wall construction and information showing how the wall will achieve the required sound insulation performance of 37dB in accordance with the design matrix Appendix S Acoustic Requirements. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 23).

New rodding access panels have been fitted to replace the previous ones which were not closing properly in rooms L1/B/052 and L1/B052. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 37 is closed out.

We have received a Laboratory Building Performance Test Proposals from Brookfield which we have reviewed with Currie and Brown and further discussions will be held with Brookfield prior to presenting the information to the Board for their deliberation. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 04).

Brookfield are to arrange test of a partition on level 1 areas 1 or 2 to determine if there is bridging through the void between the inside surface of the SFS and the internal partition. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 39).

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We have received a record of the moisture readings of the Fermacell boarding and the readings show that the moisture is within tolerances. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 7 is closed out.

We carried out another inspection of the Knauf angle plate detail for supporting the upper section of boarding on Level 1, Areas 1 and 2 on the west elevation. This work is now complete, consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 12 is closed out.

There are a few locations where the joints on the Fermacell joints are pronounced especially on walls which have had their first coat of paint.

4.3.4 Insulated Render System

This is nearing completion.

4.3.5 Fire Protection

Following an inspection on site and discussions we noted that the columns shown on drawing AL(28)02.C had not been fire protection with intumescent paint or fire boarding.

BMJ Architects have intimated that the extent of portal frame to receive intumescent paint is detailed on BMJ drawing AL(28)02.C. The definition of portal frame would include the columns (supporting structure to rafters) therefore the columns should also be protected. This has been clarified with the consultant fire engineer Kenny Hamill. Brookfield is currently assessing the best solution to the fire protection.

We have asked Brookfield to ensure that services that have been fitted to columns are removed prior to fire protection treatment and confirm when the works are completed so that a joint inspection can be carried out. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 48).

We have requested Brookfield to provide intumescent dry film thickness measurements in accordance with the manufacturer's specification. We have also asked if labels will be applied to the steel to providing a warning of the implications of damage to or removal of the coating and the manufacturer's recommendations for maintenance and overcoating. We have requested a copy of the Fire Resistance Certificate. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 51).

Following an inspection on site and discussions with Brookfield we noted that the columns show on drawing AL(28)02.C (Level 4) had not been fire protected with fire boarding.

Work is being planned to remove the celotex insulation around the columns identified for fire protection and the columns encased on all sides. We have asked Brookfield to confirm when the work is to be undertaken to allow an inspection to be

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carried out. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 49).

4.3.6 Flat Roof

All of the electronic roof integrity tests have been completed to the upper roofs and we await the Certificate of Waterproofing Integrity. (See Supervisors tests and Inspections)

Following an inspection of the roof we noted that there were areas of sedum which had died back and also areas where the surface is predominately full of grass and weeds.

We are seeking confirmation from Brookfield if the bare areas are to be recovered with sedum or seeded and if the grass areas are to be replaced with sedum or weeded. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 50).

4.3.7 Pipework

Installation of hot, cold, heating, chilled water and medical gas pipework on all levels is progressing, and generally being installed to a good standard. A few open ends were still being left for extended periods. Brookfield to again be reminded to seal ends against ingress of dirt.

Initial hydraulic testing is continuing on each floors distribution pipework and all witnessed tests have been satisfactory. Final testing of each system will be carried out when linked to the risers and will be made available for witnessing.

It was observed that there is very little evidence of provision for expansion on some of the LTHW pipework runs.

Installation of hot, cold, heating, chilled water and medical gas pipework on all levels is progressing, and generally being installed to a good standard. Brookfield has made a good effort to seal pipes and duct ends but await a formal response to our Communication (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 27).

We noted that flexible connections to the chilled beams were distorted and we have reminded Brookfield that these connections should be installed as per the manufacturer's recommendations. Brookfield has intimated that the chilled beams are not at their final mounting heights. On the second visit to drop the beams in to position the flexible connections should straighten and become unrestricted. We shall continue to monitor this on future visits. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 34).

We have informed Brookfield that the Expansion Bellows, Anchors and Guides are not installed as per submitted drawings accompanying the expansion calculations and Wallace Whittle design. We have asked Brookfield to ensure all pipework is adequately supported and thermal expansion does not impose undue stress to the

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building structure and supports. We have not had a response from Brookfield. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 38).

4.3.8 Ventilation

The installation of ventilation ductwork was progressing well and generally being installed to a high standard. The inconsistencies with the number of and location of access doors being installed have been addressed and we will monitor for any other occurrences. There is evidence of access doors clashing with other services which will prevent adequate operation. The PVC ducting systems again have open ends in some locations. Co-ordination with the building structure and services has generally been good with a limited number of clashes requiring to be addressed.

Spacing of ductwork supports require to conform to DW 144. Check and confirm all ducting is adequately supported. No response received from Brookfield. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 29).

Ductwork, pipework and cable trays have been supported in a limited number of areas. All services should be supported independent of surrounding services. Brookfield has confirmed that they would address these situations during the snagging process, however since raising this communication we have noted other areas where the same problem arises. We shall continue to monitor this situation. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 30).

It was also noted in several places that there were ducts with open ends and in contact with the structure. Brookfield is aware of this and is in the process of addressing this issue. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 32).

During our inspections we noted that there is a potential problem especially co-ordination between the lighting fittings and ductwork and we have raised this with Brookfield but have not received a response. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 35 and 36).

Ductwork is sagging in a number of places below the line of the suspended ceiling. Photograph No 1 shows the ducting in room L1/B/055. There is also excessively long ducting. We have asked Brookfield to confirm when remedial work has been carried out. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 43).

4.3.9 Insulation

Insulation to pipework and ducting that was damaged during the construction process is being repaired with some areas still ongoing. Where Armoflex insulation has been fitted (for pipes within walls) these require to be sealed along the seam joints and taped at joints and supports. There is evidence that this has now been carried out.

Access hatches for cleaning and inspection of ducting is inconsistent and in areas inadequate. We have asked Brookfield to inspect and confirm that all systems can

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be adequately inspected and cleaned as per DW144 and DW177. We have not received a response from Brookfield. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 31).

4.3.10 Plant

Boiler modules currently located within plant areas requires adequate protection against physical damage.

Air handling units within plant areas require to be protected from ingress of dirt etc and physical damage.

Installation of the fan coil units are has commenced on some floors and need to be protected as above.

A boiler casing has sustained physical damaged and requires being repaired/replaced. We have asked Brookfield to ensure that adequate protection is provided to all plant. No response received from Brookfield. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 33).

4.3.11 Trunking

Extensive cable tray is now well advanced on site to a high standard. Some small areas of trunking for sub main cables have been bent by the weight of the cables hanging from them on Level 1 & 2.

4.3.12 Cable Tray

Extensive cable tray is now well advanced on site to a high standard.

4.3.13 Conduit

Solid conduit is being used at high level with flexible metal conduit in partition walls. Both installations are of a good standard and being well fitted.

4.3.14 Cabling

Cabling is well advanced however care needs to be taken where containment is not finished and single core cables are hanging loose.

Brookfield have confirmed that the cable has been repaired and protected and have provided photographic evidence. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 26) is closed out.

Modular wiring looms are now being installed and carefully tied up for protection. Some looms were lying on the floor and care should be taken to their protection and security

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First fix of fire alarm wiring is well under way and being installed to a high standard.

4.3.16 Data Cabling

Extensive data cabling has been installed and run on all levels. Care needs to be maintained to protect the cabling as it runs off, and through the cable tray supporting the cabling.

4.3.17 Power Bar

Power bar busbar systems is now well progressed throughout the floors will be undergoing testing in the next month.

4.4 Defects from July 2011 Inspections

Fermacell joints where protruding on Level 1 Areas 1 and 2. Brookfield has carried out feathering to smooth out the undulations and have improved the appearance. However we are concerned that irregularities in the wall will be evident when the lighting is switched on. (See Supervisor's Notification of Defect (CI 42.2) No's 1).

We noted that the channel iron supports for the header pipework and pumps in the plant room are fixed to the floor via small mild steel plates. Brookfield has been informed that ensure stress is not passed to pipework additional fixings at high level to should be fitted. No response received from Brookfield. (See Supervisor's Communication Notification of Defect (CI 42.2) No 04).

Some supports for the chilled beams were distorting, resulting in loading being passed to the ceiling grid. We have raised this with Brookfield highlighting that chilled and beams should be supported to ensure independence from the ceiling grid. No response received from Brookfield. (See Supervisor's Communication Notification of Defect (CI 42.2) No 06).

We noted that fire damper access was insufficient for maintenance and testing in various areas and we have asked Brookfield to confirm when damper accesses are fitted to requirements. No response received from Brookfield. (See Supervisor's Communication Notification of Defect (CI 42.2) No 07).

Fire dampers indicated as motorised have been fitted with manual fuseable links. We have asked Brookfield to inspect and confirm all dampers are installed to requirements. (No response received from Brookfield. See Supervisor's Communication Notification of Defect (CI 42.2) No 08).

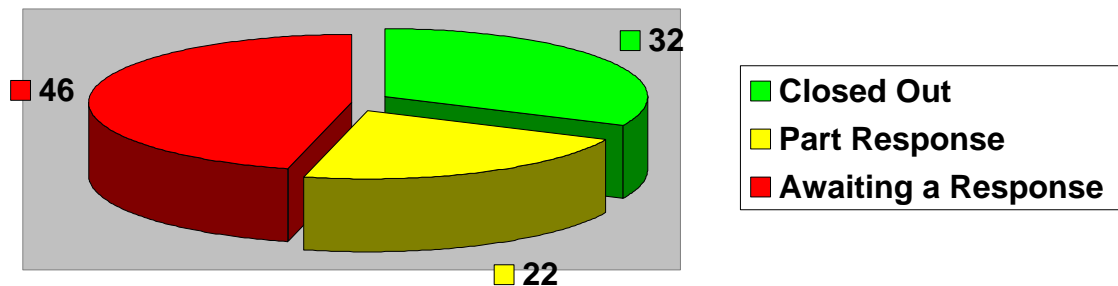
We noted that the light fitting and ducting were in contact within the ceiling void. We have pointed this out to Brookfield. Alterations should be carried out to ensure that the separation is as per specification and the light fitting can be removed for maintenance and replacement. (See Supervisor's Communication Notification of Defect No response received from Brookfield. (CI 42.2) No 09).

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Window reveals had been constructed prior to the fitting of 1 hour fire rated board to the internal face of the SFS to prevent against external spread of flames as per the drawing AL(27)03. Brookfield have now fitted the fire boarding consequently Supervisor's Communication Notification of Defect (CI 42.2) No 10) is now closed out.

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The following information is requested



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Item No.	Description	Date Requested	Comment	
Items 1 to 3 have been closed out				
04a	There are gaps between the boarding at a few locations on Level 1 about 5mm wide. We are seeking confirmation if these gaps can be filled and that there will be no risk of cracks occurring in the future especially above door openings	03.12.10	Response received. Closed out.	
04b	Please confirm your acoustic testing programme for all partitions in accordance with Section 7 of Health Technical Memorandum 08-01: Acoustics.	03.12.10	Further discussions to be arranged with Brookfield.	
Items 5 to 6 have been closed out				
07	Confirm if Fermacell boarding, timber head piece and timber door frame affected by water ingress require to be replaced or provide evidence that the moisture contents in the timbers does not exceed the recommended moisture content.	07.01.11	Closed out.	
Items 8 to 11 have been closed out				
12	The internal independent wall lining located on Level 1, Areas 1 and 2 on the west elevation of the west wing does not have screw fixings to the boarding from the underside of the ducting to the top of the partition (approximately 500mm). Confirm measures to ensure the boarding is fixed at the appropriate centres and provide notification to allow the partitions to be inspected.	14.02.11	Closed out.	
Items 13 to 17 have been closed out				
18b	Potential health and safety issue at the access ladder.	28.02.11	Brookfield is awaiting a response from the Architect.	
19	The joint at the corner of the partition on Level 1 Area x has filler which exceeds Fermacell's recommended specification for joint filler for corners which is generally is 5-7mm.	28.02.11	Remedy work in progress.	
Item 20 has been closed out				
21	Boarding has infill piece. This does not comply with BS 8000-8:1994 Code of practice for plasterboard and dry lining.	22.03.11	Closed out.	
21A	Please provide the window manufacturers fixing details for the windows on the east and west elevations Areas 1 and 2.	08.03.11	Closed out.	
22	Rust affecting the steel plates in the stairwells in the west wing.	22.03.11	Closed out.	
23	Please provide details for the division wall between rooms L2/B/095 and L2/B/096 Level 1 Area 1 showing how the wall will achieve the required sound insulation performance of 37dB in accordance with the design matrix Appendix S Acoustic Requirements.	13.04.11	Painting in progress.	
24	Confirm when missing bolts and other incomplete work to the curved stair in the Pod have been complete.		Items being addressed.	
25	Ductwork is in contact with building structure and projecting into walls in some areas. Access hatches for dampers etc on ventilation systems require to be positioned to allow adequate access to the item being serviced. Check existing installed hatches and future installed locations. AHUs are open and unprotected, seal open ends to prevent ingress of dirt etc. Support centre's to be checked to ensure adequate support to ducting.	27.04.11	Closed out.	
26	Confirm when the damaged armoured cables are replaced.	27.04.11	Closed out.	
27	Confirm when the following has been remedied. Commissioning sets not installed as per manufacture's recommendations. Insulation not sealed at joints Pipework left with open ends	27.04.11	Closed out.	

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28	Piling structure for the Energy Centre will be carried out within 1m of the existing cable. This is raised as an early warning.	20.05.11	Closed out.	
29	Spacing of ductwork supports require to conform to DW 144. Check and confirm all ducting is adequately supported.	10.06.11	Awaiting a Response.	
30	Ductwork, pipework and cable trays have been supported in a limited number of areas.	10.06.11	Brookfield addressing this.	
31	Access hatches for cleaning and inspection of ducting is inconsistent and in areas inadequate. Inspect and confirm that all systems can be adequately inspected and cleaned as per DW144 and DW177.	10.06.11	Awaiting a Response.	
32	Ducts with open ends and in contact with the structure.	10.06.11	Brookfield addressing this.	
33	Repair/replace damaged boiler casing.	10.06.11	Awaiting a Response.	
34	Flexible connections distorted.	10.06.11	Brookfield addressing this.	
35	Coordination problems likely between lighting fittings and ductwork.	10.06.11	Awaiting a Response.	
36	Coordination problems likely between lighting fittings and ductwork.	10.06.11	Awaiting a Response.	
37	Rodding eye access panel do not close over.	20.06.11	Closed out.	
38	Expansion Bellows, Anchors and Guides are not installed as per submitted drawings accompanying the expansion calculations and Wallace Whittle design.	17.06.11	Awaiting a Response.	
39	We have concerns that there maybe flanking sound transmission around the partition through the void between the rooms. Confirm if there will be any action taken to minimize any downgrading of the acoustic performance of the partitions and to ensure compliance with Appendix S.	14.06.11	Awaiting a Response.	
40	Confirm remedial measures to secure vertical pipe support.	07.07.11	Awaiting a Response.	
41	Confirm when damaged casing to Scroll Compressor Pack has been replaced & confirm that there has been no damaged to plant.	07.07.11	Awaiting a Response.	
42	Seal and protect Scroll Compressor Pack.	07.07.11	Awaiting a Response	
43	Confirm remedial work to sagging and excessively long ducting.	07.07.11	Brookfield addressing this.	
44	Access ducts is a problem in isolated areas Allow access for future cleaning and maintenance.	07.07.11	Awaiting a Response	
45	Confirm when intumescent coating will be applied to columns	11.07.11	Awaiting a Response	
46	Ensure compression couplings are tightened properly.	13.07.11	Awaiting a Response	
47	Water service pipe brackets not fitted securely.	13.07.11	Awaiting a Response	
48	Confirm when specified columns are coated on all sides with intumescent paint. Reposition services.	19.01.11	Brookfield addressing this.	
49	Confirm when the work will recommence to encase the columns on level 4.	27.07.11	Awaiting a Response	
50	Confirm if the bare areas are to be recovered with sedum or seeded and if the grass areas are to be replaced with sedum or weeded.	27.07.11	Awaiting a Response	
51	Provide dry film thickness measurements. Confirm that labels will be applied to columns warning e damage to intumescent coating. Confirm manufactures recommendations for maintenance and provide fire resistance certificate.	28.07.11	Awaiting a Response	

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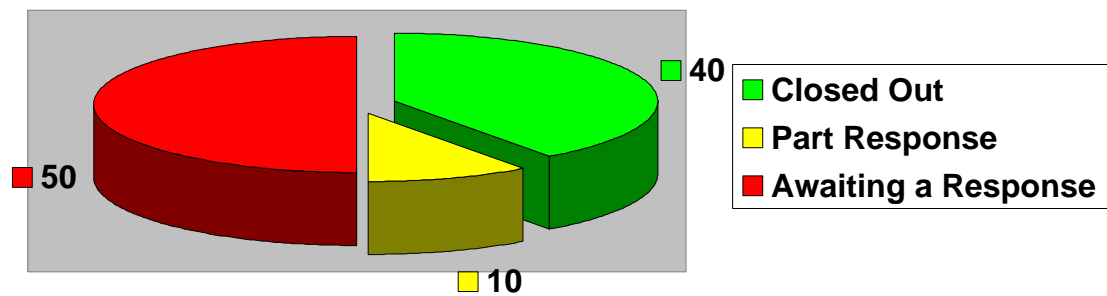
6.0 SUPERVISORS TESTS AND INSPECTIONS

Tests not required	N/A
Tests required but not tested	Req
Tests required which has passed tests	Pass

Tests				
Ref	Title	To be Notified by	Status	Test Date
1.	Flat Roof Integrity Test	Brookfield	Req	

Inspection not required	N/A
Inspection required	Req
Inspection complete	Pass

Inspections				
Ref	Title	To be Notified by	Status	Inspection Date
1.	Replace fire batts west wing	Brookfield	Pass	19.04.11
2.	Level 2 room L2/B/028 spalling concrete	Brookfield	Pass	01.06.11
3.	Special fixing of Knauf boarding internal wall lining located on Level 1, Areas 1 and 2	Brookfield	Pass	04.07.11
4.	Rust patches on the structural steel	Brookfield	Pass	20.05.11
5.	All joints to be scraped out and angle bead applied.	Brookfield	Req	

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Item No.	Description	Date Requested	Comment	
01	Deviation of the wall line along corridor grid line AA:	06.05.11	Work in progress.	Yellow
02	Inadequate falls on roof Level 4 Area 6.	26.05.11	Closed out.	Green
03	The commissioning sets require to be relocated to comply with manufacturers requirements.	07.06.11	Closed out.	Green
04	Channel iron supports for the header pipework and pumps in all plant rooms require additional fixings at high level to ensure stress is not passed to pipework.	07.06.11	Open.	Red
05	Several fire dampers are installed without independent support to structure. Confirm when these are remedied.	07.06.11	Closed out.	Green
06	Chilled beams to be supported to ensure independence from the ceiling grid.	07.06.11	Open.	Red
07	Confirm when damper accesses are fitted to requirements.	07.06.11	Open.	Red
08	Fire dampers indicated as motorised have been fitted with manual fuseable links.	07.06.11	Open.	Red
09	Light fitting and ducting were in contact within the ceiling void.	14.06.11	Open.	Red
10	reveals have been constructed prior to the fitting of 1 hour fire rated board	07.06.11	Open.	Green

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THE NEW ADULT AND CHILDRENS HOSPITAL

8.0 EXECUTIVE SUMMARY: ADULT & CHILDRENS HOSPITAL

Energy Centre works during the period has included concreting to the second floor slab and the west side third floor slab. Quality to date appears satisfactory.

Skanska/Cementation is progressing steadily on piling during the period with 7 rigs on site. They have incurred a significant number of further NCRs almost all of these relate to workmanship associated with installation of reinforcement into the fresh concrete. Brookfield is pursuing these issues with their subcontractor at present.

With excavations stabilised in Zone ZE Core G during the period the first deep foundation base has been successfully cast and preparations are underway for commencement of slipforming from this base. Excavations have also been ongoing at Core F during the period with particular attention being given to slope stability due to depth of hole, ground conditions and water ingress.

Works to the Linthouse Burn diversion have been substantially completed during the period with new road reinstatement also completed and reopened to through hospital traffic. Drainage works and road formation preparation has also been ongoing for the dual carriageway section of road to the north of the site connecting to Govan Road. Drainage elements on the north side of the ACH have also been ongoing, together with base and wall section of the ACH/Labs interconnecting tunnel. All these works appear generally to be progressing in accordance with the Client's requirements and with due regard to quality.

9.0 DESIGN COMPLIANCE CHECK

Currently nothing to report.

10.0 PROCEDURES REVIEW

10.1 Contractor's QA Procedures

Concrete cube results to date appear satisfactory as do pile test initial results.

Information required:

- A revised Structural Design Philosophy at Appendix K stage has been received, and comments have been returned on this. Response to these is awaited.
- Feedback on the Skanska/Cementation NCRs re reinforcement installation.
- Building Warrant for the substructure works.

10.2 Performance

Currently nothing to report.

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10.3 Quality Assurance Procedures

Brookfield and their subcontractors have continued with their QA and checking procedures during the period.

10.4 Early Warnings

Currently nothing to report.

10.5 Trust Equipment Installation, Testing and Commissioning

Currently nothing to report.

11.0 CONSTRUCTION REVIEW

11.1 Visits to the Works

Site inspections were carried out by the Independent Tester on the 4th, 5th, 7th, 8th, 11th, 12th, 13th, 14th, 15th, 21st, 25th, 26th, and 28th July 2011.

11.2 Elements of the Works available for inspection

- Energy Centre – second floor slab, third floor slab west.
- Main building – piling works, area ZE Core G foundation base and slipform preparation, Core F area excavation works.
- Linthouse Burn diversion – pipework, and road reinstatement.
- Jenny's Burn diversion – specific sections of excavation and pipework installation
- External Drainage – specific sections of excavation and pipework installation at the northern edge.
- Tunnel Labs/ACH – base and wall sections.
- Dual carriageway to Govan Road – drainage, preparation for utilities and road formation.

11.3 Observations from July 2011 Inspections

Observations from July 2011 Inspections.

11.4 Adult Hospital

In respect of piling a total of 24 NCRs have now been raised by Skanska/Cementation the recurring theme being issues associated with reinforcement installation. Problems in this respect have seemingly increased significantly during the period and the issue is being addressed by the subcontractor and Brookfield. Otherwise concrete cube results to date appear satisfactory. Groundworks by subcontractor Dunne have continued in Zone ZE at Core G with the base foundation now cast and preparations well under way for slipforming to commence at the end of July. Caltite concrete is being utilised in appropriate pour section in relation to waterproofing. Excavations have progressed

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significantly at Core F during the period, with work progressing cautiously due to the depth of working, steep side slopes and water ingress. Imported stone is assisting with slope stability and the excavation as a whole is being kept under review by subcontractor Dunne. It is anticipated that work to the concrete base foundations in this area will commence at the end of July / beginning of August.

11.5 Energy Centre

During the period the second floor has been cast as well as the west half of the third floor, with all works appearing in compliance with requirements. Concrete results to date appear satisfactory.

11.6 Jenny's Burn Diversion and External Drainage Works

These works have continued where access permits during the period with works appearing satisfactory from a quality perspective.

11.7 Linthouse Burn Diversion and Road Reinstatement

Diversion works have been substantially completed during the period, as well as the road reinstatement above. All these works appear to be in compliance with Client Requirements.

11.8 Interconnecting Tunnel Labs/ACH.

Works have commenced during the period over about a 50m length of this tunnel with floor slab and walls progressing steadily. Particular attention has been paid to the floor finish which to date appears to be very good.

11.9 Dual Carriageway to Govan Road.

Drainage work and road formation works have started during the period. Quality to date is satisfactory.

NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND CHILDRENS HOSPITAL

**SUPERVISOR'S REPORT NO. 14
2011**

JULY

12.0 INFORMATION REQUIRED

The following information is requested



**NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND
CHILDRENS HOSPITAL****SUPERVISOR'S REPORT NO. 14
2011****JULY**

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01			

NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND CHILDRENS HOSPITAL

**SUPERVISOR'S REPORT NO. 14
2011**

JULY

13.0 SUPERVISORS TESTS AND INSPECTIONS

Tests not required	N/A
Tests required but not tested	Req
Tests required which has passed tests	Pass

Tests				
Ref	Title	To be Notified by	Status	Test Date

Inspection not required	N/A
Inspection required	Req
Inspection complete	Pass

Inspections				
Ref	Title	To be Notified by	Status	Inspection Date

**NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND
CHILDRENS HOSPITAL****SUPERVISOR'S REPORT NO. 14
2011****JULY****John Redmond
Capita Symonds
Technical Advisory Services**

The Beacon, 8th Floor, 176 St Vincent Street, Glasgow G2 5SG

	Signed	Date
Originated by	John Redmond	1st August 2011
Completed by	David Ramsay	1st August 2011

**NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND
CHILDRENS HOSPITAL**

**SUPERVISOR'S REPORT NO. 14
2011**

JULY

Appendix 1

Photographs

NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND
CHILDRENS HOSPITAL

SUPERVISOR'S REPORT NO. 14
2011

JULY



1. Damaged casing to the Scroll Compressor Pack



2. Ducting too long.

NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND
CHILDRENS HOSPITAL

SUPERVISOR'S REPORT NO. 14
2011

JULY



3. Restricted access.

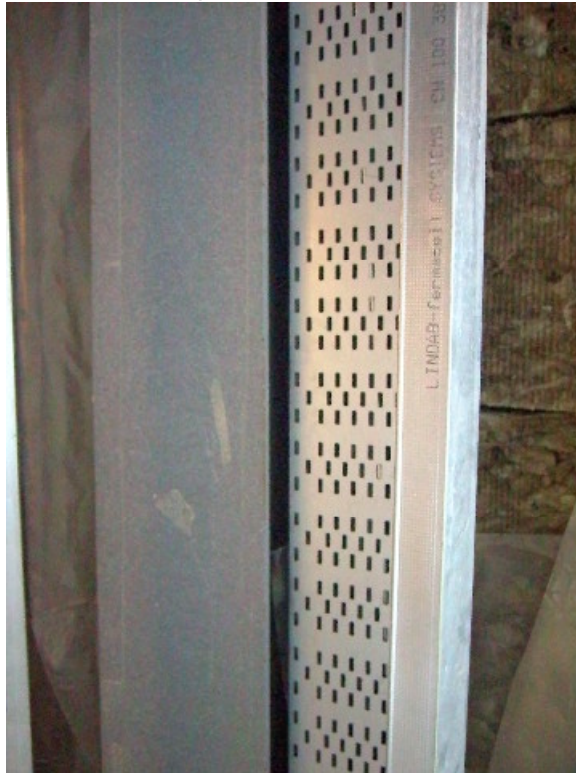


NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND CHILDRENS HOSPITAL

**SUPERVISOR'S REPORT NO. 14
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3. Services require to be removed to allow intumescent coating.



4. Service tray requires to be removed to allow intumescent coating.

5. Fire board on three sides. Celotex to be removed and fourth side boarded.

**NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND
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**SUPERVISOR'S REPORT NO. 14
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6. Bare areas on sedum room



7. Areas of roof predominately covered in grass and weeds.

**NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND
CHILDRENS HOSPITAL**

**SUPERVISOR'S REPORT NO. 14
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8. Acute and Children's Hospital excavations.

NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND
CHILDRENS HOSPITAL

SUPERVISOR'S REPORT NO. 14
2011

JULY



9. Acute and Children's Hospital excavation at Core F.

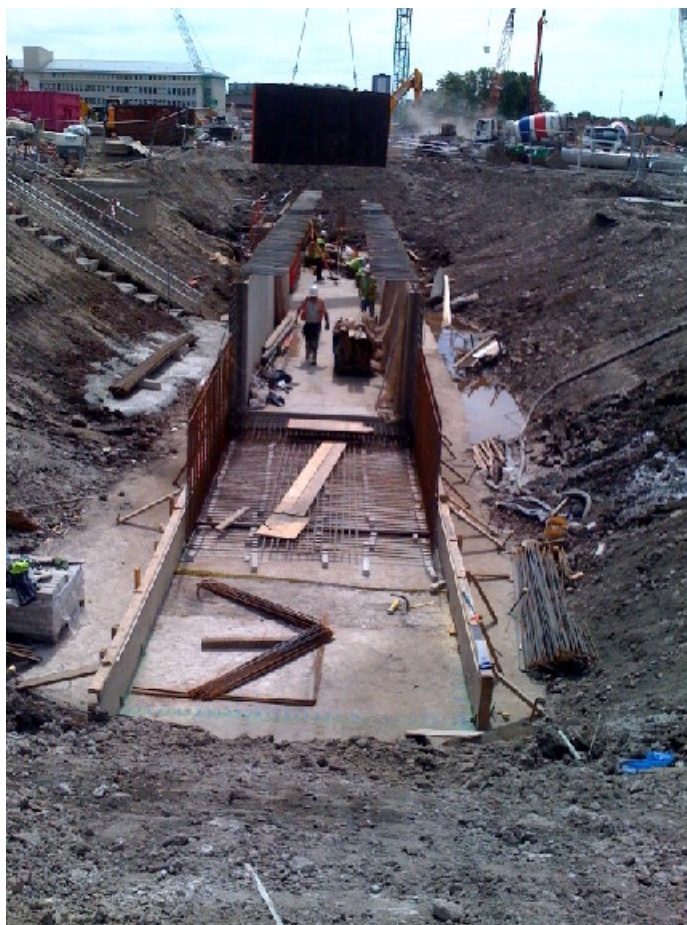


10. 3rd Floor Reinforcement at the Energy Centre.

**NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND
CHILDRENS HOSPITAL**

**SUPERVISOR'S REPORT NO. 14
2011**

JULY



11. Tunnel base slag and wall construction.

CAPITA SYMONDS

**NEW SOUTH GLASGOW HOSPITAL
ADULT AND CHILDRENS HOSPITAL AND THE ENERGY CENTRE
NEC 3 SUPERVISORS REPORT NO. 5
AUGUST 2011**

NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND CHILDRENS HOSPITAL

**SUPERVISOR'S REPORT NO. 15
2011**

AUGUST

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NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND CHILDRENS HOSPITAL**SUPERVISOR'S REPORT NO. 15
2011****AUGUST****THE NEW ADULT AND CHILDRENS HOSPITAL****1.0 EXECUTIVE SUMMARY: ADULT & CHILDREN'S HOSPITAL**

Visits to the site during August indicate that the construction and procedures are progressing in a satisfactory manner in accordance with the Employers Requirements with due regard to health and safety.

We continue to monitor the construction drawings and specifications for compliance with the Contract Documentation in conjunction with our site inspections. Throughout, the standard and quality of the workmanship is generally good and operations are being carried out in an acceptable manner.

We continue to have ad hoc meetings and discussions with the appropriate Brookfield and subcontractor personnel. Information regarding drawings, quality issues and other technical matters has been supplied when requested generally via 'Aconex'.

Energy Centre works during the period has included concreting to the ground floor plinths. Other concreting works are substantially completed.

Skanska/Cementation have again progressed steadily on piling during the period with 7 rigs on site, but most of the NCR's which had been raised in July remain outstanding, with responses awaited from the subcontractor.

Concrete cube results to date appear satisfactory as do pile test initial results.

Slipforming to Core G in Zone E commenced during the period and has progressed significantly, reaching level 12 by the end of the month. Quality of the concrete appears satisfactory. Foundation works at Core F started during the period and again quality appears to be satisfactory. Excavations have also been ongoing at Core C with particular attention being given to slope stability due to depth of the hole, ground conditions and water ingress. Significant progress has been made on the various pile caps in the south east corner of the site and are all to a satisfactory quality standard.

Drainage works to Jenny's Burn experienced some quality issues with regard to pipework. The offending sections have been replaced and these works substantially completed together with car park reinstatement.

The western half of the dual carriageway road access to Renfrew Road has been completed to the underside of wearing course level. Formation and drainage elements of the eastern section have commenced. All these works appear generally to be progressing in accordance with the Client's requirements and with due regard to quality.

SUPERVISOR'S REPORT NO. 15
2011

AUGUST

2.0 DESIGN COMPLIANCE CHECK

Currently nothing to report.

3.0 PROCEDURES REVIEW**3.1 Contractor's QA Procedures**

Brookfield and their subcontractors have continued with their QA and checking procedures during the period.

Information required:

- A revised Structural Design Philosophy at Appendix K stage has been received, and comments have been returned on this. Response is awaited.
- Feedback on the Skanska/Cementation NCRs re reinforcement installation.
- Building Warrant for the substructure works.
- Road Construction Consent for relevant sections of new road.

3.2 Performance

Currently nothing to report.

3.3 Quality Assurance Procedures

Brookfield and their subcontractors have continued with their QA and checking procedures during the period.

3.4 Early Warnings

Currently nothing to report.

3.5 Trust Equipment Installation, Testing and Commissioning

Currently nothing to report.

4.0 CONSTRUCTION REVIEW**4.1 Visits to the Works**

Site inspections were carried out by the Independent Tester on the 1st, 3rd, 5th, 8th, 10th, 12th, 15th, 18th, 22nd, 24th, 26th, 29th, and 31st August 2011.

SUPERVISOR'S REPORT NO. 15
2011

AUGUST

4.2 Elements of the Works available for inspection

- Energy Centre – concrete plinths to ground floor.
- Main building – piling works, area ZE slipform works to level 12, Core F foundation base and start of core walls, Core C area excavation works.
- Linthouse Burn diversion – pipework, and road reinstatement.
- Jenny's Burn diversion – specific sections of excavation and pipework installation
- External Drainage – specific sections of excavation and pipework installation at the northern edge.
- Tunnel Labs/ACH – concrete roof over 50m length, plus partial backfilling.
- Dual carriageway to Renfrew Road – tarmac works to underside of wearing course level on western half, drainage and formation works on the western half.

4.3 Observations from August 2011 Inspections

Observations from August 2011 Inspections.

4.3.1 Adult Hospital

Response to the NCR's raised in July in relation to piling issues is still awaited. Meanwhile piling has continued during the period with no further NCR's raised and with test outcomes satisfactory.

Slipforming at Core G Zone E has reached level 12 from a standing start during the period, with concrete quality appearing satisfactory throughout. Concrete to foundations at Core F and to pile caps in the south east corner of the site have started during the period, all appearing to be of an acceptable quality.

Excavations have progressed significantly at Core C with work progressing cautiously due to the depth of working, steep side slopes and water ingress. Imported stone is assisting with slope stability and the excavation as a whole is being kept under review by subcontractor Dunne and their geotechnical consultant.

Below slab drainage works are due to start in the next period in the south east corner of the site and Brookfield have been undertaking a review of the design to try to rationalise the foul pipe arrangements

4.3.2 Energy Centre

During the period plinths to the ground floor have been cast, with all works appearing in compliance with requirements. Concrete results to date appear satisfactory.

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4.3.3 Jenny's Burn Diversion and External Drainage Works

Due to quality problems with some sections of pipe specific lengths have had to be replaced, but notwithstanding this section of work was substantially completed during the period.

4.3.4 Linthouse Burn Diversion and Road Reinstatement

Diversion works have been substantially completed during the period, as well as the road reinstatement above. All these works appear to be in compliance with Client Requirements.

4.3.5 Interconnecting Tunnel Labs/ACH.

Approximately 50m of structural works has been completed with backfilling ongoing. The work appears to be to an acceptable standard.

4.3.6 Dual Carriageway to Renfrew Road.

The road make up to the underside of the wearing course has been completed over a significant section of the western half of the route. Formation works and associated drainage elements are ongoing on the eastern section. Quality to date is satisfactory.

SUPERVISOR'S REPORT NO. 15
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AUGUST

5.0 INFORMATION REQUIRED

The following information is requested



■	Closed Out
■	Part Response
■	Awaiting a Response

**NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND
CHILDRENS HOSPITAL****SUPERVISOR'S REPORT NO. 15
2011****AUGUST**

Item No.	Description	Date Requested	Comment
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NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND CHILDRENS HOSPITAL

**SUPERVISOR'S REPORT NO. 15
2011**

AUGUST

6.0 SUPERVISORS TESTS AND INSPECTIONS

Tests not required	N/A
Tests required but not tested	Req
Tests required which has passed tests	Pass

Tests				
Ref	Title	To be Notified by	Status	Test Date

Inspection not required	N/A
Inspection required	Req
Inspection complete	Pass

Inspections				
Ref	Title	To be Notified by	Status	Inspection Date

NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND CHILDRENS HOSPITAL

SUPERVISOR'S REPORT NO. 15
2011

AUGUST

7.0 DEFECTS NOTIFICATIONS ISSUED



**NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND
CHILDRENS HOSPITAL****SUPERVISOR'S REPORT NO. 15
2011****AUGUST**

Item No.	Description	Date Requested	Comment
01			

**NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND
CHILDRENS HOSPITAL****SUPERVISOR'S REPORT NO. 15
2011****AUGUST****John Redmond
Capita Symonds
Technical Advisory Services**

The Beacon, 8th Floor, 176 St Vincent Street, Glasgow G2 5SG

	Signed	Date
Originated by	John Redmond	31st August 2011
Completed by	David Ramsay	31st August 2011

SUPERVISOR'S REPORT NO. 15
2011

AUGUST

Appendix 1

Photographs

**NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND
CHILDRENS HOSPITAL**

**SUPERVISOR'S REPORT NO. 15
2011**

AUGUST



1. Core G Zone E

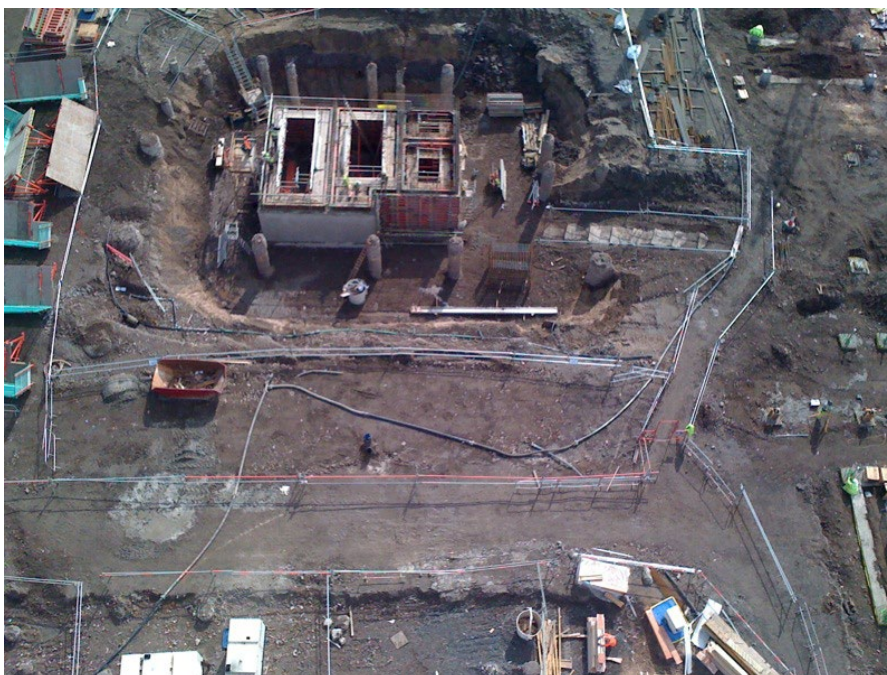
**NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND
CHILDRENS HOSPITAL**

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2011**

AUGUST



2. Core F foundation..



3. Core F foundation.

**NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND
CHILDRENS HOSPITAL**

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2011**

AUGUST



4. Core F foundation.

CAPITA SYMONDS

**NEW SOUTH GLASGOW HOSPITAL
ADULT AND CHILDRENS HOSPITAL AND THE ENERGY CENTRE
NEC 3 SUPERVISORS REPORT NO. 6
SEPTEMBER 2011**

NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND CHILDRENS HOSPITAL

SUPERVISOR'S REPORT NO. 6

SEPTEMBER 2011

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THE NEW ADULT AND CHILDRENS HOSPITAL**1.0 EXECUTIVE SUMMARY: ADULT & CHILDREN'S HOSPITAL**

Visits to the site during September 2011 indicate that the construction and procedures are progressing in a satisfactory manner in accordance with the Employers Requirements with due regard to health and safety.

We continue to monitor the construction drawings and specifications for compliance with the Contract Documentation in conjunction with our site inspections. Throughout, the standard and quality of the workmanship is generally good and operations are being carried out in an acceptable manner.

We continue to have ad hoc meetings and discussions with the appropriate Brookfield and subcontractor personnel. Information regarding drawings, quality issues and other technical matters has been supplied when requested generally via 'Aconex'.

Steelwork erection to the west stairwell and at roof level has been ongoing satisfactorily during the period.

Skanska/Cementation have again progressed steadily on piling during the period, still with 7 rigs on site.

Most of the NCR's which had been raised in July 2011 remain outstanding, with responses awaited from the subcontractor.

Concrete cube results to date appear satisfactory as do pile test initial results. Slipforming to Core G in Zone E was completed during the period with quality of concrete appearing satisfactory. Foundation works at Core F were completed during the period. The core itself has progressed to the second floor and the quality appears to be satisfactory. The large, heavily reinforced Core C foundation works have been cast during the period with no quality issues encountered. More pile caps have been cast at the south side of the site again to a satisfactory standard.

External drainage runs have started on the south and to a lesser extent on the west side of the works, progress being made where access is possible. On the eastern half of the dual carriageway road access to Renfrew Road, formation and drainage elements have continued as well as kerb laying. All these works appear generally to be progressing in accordance with the Client's requirements and with due regard to quality.

SUPERVISOR'S REPORT NO. 6

SEPTEMBER 2011

2.0 DESIGN COMPLIANCE CHECK

Currently nothing to report.

3.0 PROCEDURES REVIEW**3.1 Contractor's QA Procedures**

Brookfield and their subcontractors have continued with their QA and checking procedures during the period.

Information required:

- A revised Structural Design Philosophy at Appendix K stage has been received, and comments have been returned on this. Response is awaited.
- Feedback on the Skanska/Cementation NCRs re reinforcement installation.
- Building Warrant for the substructure works.
- Road Construction Consent for relevant sections of new road.
- Building Warrant for the below slab drainage.

3.2 Quality Assurance Procedures

Brookfield and their subcontractors have continued with their QA and checking procedures during the period.

3.3 Early Warnings

Currently nothing to report.

3.4 Trust Equipment Installation, Testing and Commissioning

Currently nothing to report.

3.5 Non Conformance Reports

We are aware of a number of NCR's raised but we have had no response to date that these are being closed out.

4.0 CONSTRUCTION REVIEW**4.1 Visits to the Works**

Site inspections were carried out by the Independent Tester on the 1st, 5th, 8th, 9th, 12th, 14th and 15th September 2011.

SUPERVISOR'S REPORT NO. 6

SEPTEMBER 2011

4.2 Elements of the Works available for inspection

- Energy Centre – steelwork erection at the west stairwell and at roof level.
- Main building – piling works, area ZE slipform works completed, Core F core walls cast to 2nd floor level, Core C main deep foundation cast.
- Jenny's Burn diversion – substantially completed.
- External Drainage – specific sections of excavation and pipework installation at the northern, southern and western edges.
- Tunnel Labs/ACH – ongoing backfilling over the 50m completed length.
- Dual carriageway to Renfrew Road – drainage and formation works on the eastern half continuing plus kerb installation over the length of this section.

4.3 Observations from September 2011 Inspections

The visual inspections of the work carried out to date indicate that the works are generally being carried out to a satisfactory standard. Listed below are observations in relation to site our visits in September.

4.3.1 Adult Hospital

Response to the NCR's raised in July 2011 in relation to piling issues is still awaited. Meanwhile piling has continued during the period with no further NCR's raised and with test outcomes satisfactory.

Slipforming at Core G Zone E has been completed with concrete quality appearing satisfactory throughout. Concrete to foundations at Core F have been completed and concreting to this core has now reached the second floor based on a 'jump shutter' construction method.

Pile cap casting has progressed significantly on the south side of the site, all appearing to be of an acceptable quality threshold. At Core C the main deep heavily reinforced foundation elements have been cast. This exercise has not been rushed to ensure appropriate quality and safety in the deep excavation in which the foundation is located.

Below slab drainage works are now due to start in the next period in the south east corner of the site. Brookfield has again been undertaking a review of the design to try to rationalise the foul pipe arrangements.

4.3.2 Energy Centre

During the period steelwork has been erected to the west stairwell and at roof level with no issues arising.

4.3.3 Jenny's Burn Diversion and External Drainage Works

Jenny's Burn diversion works are now substantially completed, and works to limited sections on the south and west sides of the overall site have commenced satisfactorily. Limited work on sections at the north edge has also continued.

4.3.4 Interconnecting Tunnel Labs/ACH.

Backfilling over the completed length of tunnel has continued with specified compaction ongoing.

4.3.5 Dual Carriageway to Renfrew Road.

Formation works and associated drainage elements are ongoing on the eastern section, together with kerb laying. Quality to date is satisfactory.

SUPERVISOR'S REPORT NO. 6

SEPTEMBER 2011

5.0 INFORMATION REQUIRED

The following information is requested

<input type="checkbox"/>	Closed Out
<input type="checkbox"/>	Part Response
<input type="checkbox"/>	Awaiting a Response

**NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND
CHILDRENS HOSPITAL****SUPERVISOR'S REPORT NO. 6****SEPTEMBER 2011**

Item No.	Description	Date Requested	Comment
01			

NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND CHILDRENS HOSPITAL

SUPERVISOR'S REPORT NO. 6

SEPTEMBER 2011

6.0 SUPERVISORS TESTS AND INSPECTIONS

Tests not required	N/A
Tests required but not tested	Req
Tests required which has passed tests	Pass

Tests				
Ref	Title	To be Notified by	Status	Test Date

Inspection not required	N/A
Inspection required	Req
Inspection complete	Pass

Inspections				
Ref	Title	To be Notified by	Status	Inspection Date

NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND CHILDRENS HOSPITAL

SUPERVISOR'S REPORT NO. 6

SEPTEMBER 2011

7.0 DEFECTS NOTIFICATIONS ISSUED



**NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND
CHILDRENS HOSPITAL****SUPERVISOR'S REPORT NO. 6****SEPTEMBER 2011**

Item No.	Description	Date Requested	Comment
01			

**NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND
CHILDRENS HOSPITAL****SUPERVISOR'S REPORT NO. 6****SEPTEMBER 2011**

John Redmond
Capita Symonds
Technical Advisory Services

The Beacon, 8th Floor, 176 St Vincent Street, Glasgow G2 5SG

	Signed	Date
Originated by	John Redmond	4th October 2011
Completed by	Jamie Main	4th October 2011

Appendix 1

Photographs

**NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND
CHILDRENS HOSPITAL**

SUPERVISOR'S REPORT NO. 6

SEPTEMBER 2011



Reinforcing Core C



Core C

**NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND
CHILDRENS HOSPITAL**

SUPERVISOR'S REPORT NO. 6

SEPTEMBER 2011



Core F



Core C - Core F Tunnel

CAPITA SYMONDS

**NEW SOUTH GLASGOW HOSPITAL
ADULT AND CHILDRENS HOSPITAL AND THE ENERGY CENTRE
NEC 3 SUPERVISORS REPORT NO. 7
OCTOBER 2011**

NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND CHILDRENS HOSPITAL

SUPERVISOR'S REPORT NO. 7

OCTOBER 2011

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NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND ENERGY CENTRE

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THE NEW ADULT AND CHILDRENS HOSPITAL**1.0 EXECUTIVE SUMMARY: ADULT & CHILDREN'S HOSPITAL**

Visits to the site during October 2011 indicate that the construction and procedures are progressing in a satisfactory manner in accordance with the Employers Requirements with due regard to health and safety.

We continue to monitor the construction drawings and specifications for compliance with the Contract Documentation in conjunction with our site inspections. Throughout, the standard and quality of the workmanship is generally good and operations are being carried out in an acceptable manner.

We continue to have ad hoc meetings and discussions with the appropriate Brookfield and subcontractor personnel. Information regarding drawings, quality issues and other technical matters has been supplied when requested generally via 'Aconex'.

The Energy Centre steelwork erection to the east and west stairwells and at roof level has been ongoing satisfactorily during the period, as has blockwork at ground, 1st and 2nd floor levels. Skanska/Cementation have progressed steadily on piling during the period with 7 rigs on site. The overall piling completion anticipated during the next period.

To date 38 NCR's have been raised in respect of the piling, 10 of which remain outstanding, but with resolution imminent.

Testing to date appears to have been satisfactory. Core F has progressed to its full height during the period - quality appears to be satisfactory. At Core C a significant part of the month has been spent preparing for the slipforming exercise and this started w/c 24th October with no apparent quality issues. Heavily reinforced foundation works at Core H were completed satisfactorily during the period again with no apparent quality issues. In Zone G (south east corner) the first area of 1st floor slab was satisfactorily poured during the period. External drainage runs have continued where access is possible. On the western half of the dual carriageway road access to Renfrew Road, tarmac works to underside of wearing course have been satisfactorily completed. All these works generally appear to be progressing in accordance with the Client's requirements and with due regard to quality.

SUPERVISOR'S REPORT NO. 7

OCTOBER 2011

2.0 DESIGN COMPLIANCE CHECK

Currently nothing to report.

3.0 PROCEDURES REVIEW**3.1 Contractor's QA Procedures**

Brookfield and their subcontractors have continued with their QA and checking procedures during the period.

Information required:

- A revised Structural Design Philosophy at Appendix K stage has been received, and comments have been returned on this. Response is awaited.
- Feedback on the Skanska/Cementation NCRs re reinforcement installation.
- Building Warrant for the substructure works.
- Road Construction Consent for relevant sections of new road.
- Building Warrant for the below slab drainage.
- Energy centre design proposals in relation to the section of the 1st floor slab fire resistance integrity .

Workmanship overall generally appears to be to a good standard.

It has become apparent during the period that in a few areas some drawings are being formally issued for construction where works have already been completed eg concrete has already been cast in walls or slabs. Brookfield have advised that discussions have been ongoing with designers and subcontractors in respect of any changes. These have generally been advised to the relevant subcontractors in advance. There is a risk that quality could be compromised as a result of design changes to construction elements.

Photographs included in the appendices illustrate works progress and quality during the period.

3.2 Quality Assurance Procedures

Brookfield and their subcontractors have continued with their QA and checking procedures during the period.

3.3 Early Warnings

Currently nothing to report.

3.4 Trust Equipment Installation, Testing and Commissioning

Currently nothing to report.

SUPERVISOR'S REPORT NO. 7

OCTOBER 2011

3.5 Non Conformance Reports

We are aware of a number of NCR's raised and are being kept up to date as to their status.

4.0 CONSTRUCTION REVIEW**4.1 Visits to the Works**

Site inspections were carried out by the Independent Tester on the 5th, 7th, 10th, 12th, 13th, 17th, 18th and 20th October 2011.

4.2 Elements of the Works available for inspection

- Energy Centre – steelwork erection at the west stairwell and at roof level. Blockwork at ground, 1st and 2nd floor levels.
- Main building – piling works, area ZE slipform works completed, Core F core walls cast to 2nd floor level, Core C main deep foundation cast.
- Jenny's Burn diversion – substantially completed.
- External Drainage – specific sections of excavation and pipework installation at the northern, southern and western edges.
- Tunnel Labs/ACH – ongoing backfilling over the 50m completed length.
- Dual carriageway to Renfrew Road – drainage and formation works on the eastern half continuing plus kerb installation over the length of this section.

4.3 Observations from September 2011 Inspections

The visual inspections of the work carried out to date indicate that the works are generally being carried out to a satisfactory standard. Listed below are observations in relation to site visits in October.

4.3.1 Adult Hospital

We previously requested details of the proposed 'shrinkage reducing admixture', its use in previous projects and its compatibility with other admixtures eg superplasticisers. We have received the information consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 1 is closed out.

Of the 38 piling NCR's raised, 10 have now been signed off and response to the others is awaited. Core F has now reached its full height, and the heavily reinforced foundations to Core H have also been completed, all with no apparent quality issues. Core C slipforming preparation work has been completed and the slipforming commenced w/c 24th October, all satisfactorily. Pile cap foundations and shear walls in Zone G have been completed and the 1st floor slab partly cast over this area, with a power float finish successfully deployed. Pile cap foundations and

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shear wall construction has progressed in areas north and west of Zone G to a satisfactory standard.

Some relatively minor issues re reinforcement have been raised with Brookfield personnel during the period. These included reinforcement touching formwork sides due to damaged/twisted plastic spacer blocks at top of form and link not fixed properly at top of wall pour resulting in link twisted out of position. These will be addressed prior to casting. There was also wall starter bars to 1st floor slab omitted locally to allow power floating but these will be post resin fixed.

4.3.2 Energy Centre

During October steelwork erection to the west and east stairwells and at roof level has been ongoing with no issues arising. Blockwork has started and is ongoing at ground, 1st and 2nd floor levels again with no apparent issues. Brookfield have previously raised a NCR against a design detail at a section of floor slab at 1st floor level where a lower layer of mesh for fire-resisting purposes was cast with too much cover. Dunne had carried out the works in accordance with the drawings and a design solution from others is awaited by Brookfield. This issue apparently only applies over one section of the 1st floor slab.

4.3.3 Drainage

External drainage has continued around the building perimeter where access allows. Some below slab drainage drawings have been updated to include a modest amount of foul drain rationalisation.

4.3.4 Interconnecting Tunnel.

Quality of work to both the interlinking tunnel Core C to Core F, and the connecting tunnel to the Labs building appears to be satisfactory.

4.3.5 Dual Carriageway to Renfrew Road.

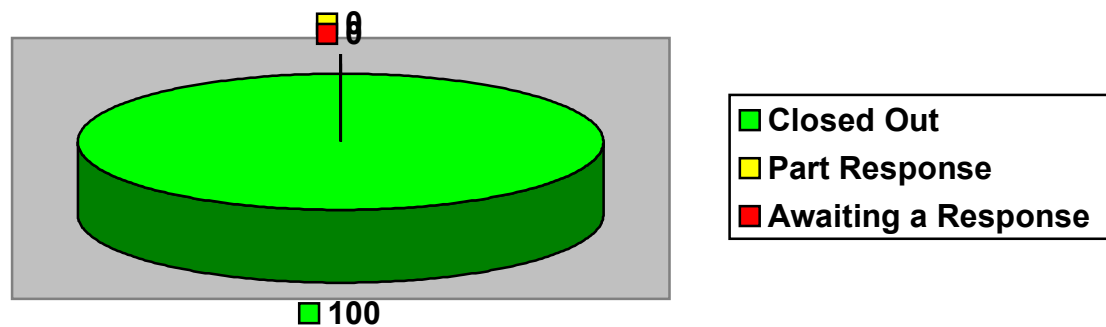
Tarmac has been placed to underside of wearing course to the south end of the west carriageway during the period. Quality to date is satisfactory.

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5.0 INFORMATION REQUIRED

The following information is requested



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CHILDRENS HOSPITAL****SUPERVISOR'S REPORT NO. 7****OCTOBER 2011**

Item No.	Description	Date Requested	Comment
01	Request for details of the shrinkage reduction admixture.	10/10/11	Closed out.

NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND CHILDRENS HOSPITAL

SUPERVISOR'S REPORT NO. 7

OCTOBER 2011

6.0 SUPERVISORS TESTS AND INSPECTIONS

Tests not required	N/A
Tests required but not tested	Req
Tests required which has passed tests	Pass

Tests				
Ref	Title	To be Notified by	Status	Test Date

Inspection not required	N/A
Inspection required	Req
Inspection complete	Pass

Inspections				
Ref	Title	To be Notified by	Status	Inspection Date

NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND CHILDRENS HOSPITAL

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OCTOBER 2011

7.0 DEFECTS NOTIFICATIONS ISSUED



**NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND
CHILDRENS HOSPITAL****SUPERVISOR'S REPORT NO. 7****OCTOBER 2011**

Item No.	Description	Date Requested	Comment
01			

**NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND
CHILDRENS HOSPITAL****SUPERVISOR'S REPORT NO. 7****OCTOBER 2011**

John Redmond
Capita Symonds
Technical Advisory Services

The Beacon, 8th Floor, 176 St Vincent Street, Glasgow G2 5SG

	Signed	Date
Originated by	John Redmond	1st November 2011
Completed by	John Haggarty	1st November 2011

Appendix 1

Photographs

CAPITA SYMONDS

**NEW SOUTH GLASGOW HOSPITAL
ADULT AND CHILDRENS HOSPITAL AND THE ENERGY CENTRE
NEC 3 SUPERVISORS REPORT NO. 8
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NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND CHILDRENS HOSPITAL**SUPERVISOR'S REPORT NO. 8****NOVEMBER 2011****CONTENTS****NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND ENERGY CENTRE**

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THE NEW ADULT AND CHILDRENS HOSPITAL**1.0 EXECUTIVE SUMMARY: ADULT & CHILDREN'S HOSPITAL**

Visits to the site during November 2011 indicate that the construction and procedures are progressing in a satisfactory manner in accordance with the Employers Requirements with due regard to health and safety.

We continue to monitor the construction drawings and specifications for compliance with the Contract Documentation in conjunction with our site inspections. Throughout, the standard and quality of the workmanship is generally good and operations are being carried out in an acceptable manner.

We continue to have ad hoc meetings and discussions with the appropriate Brookfield and subcontractor personnel. Information regarding drawings, quality issues and other technical matters has been supplied when requested generally via 'Aconex'.

Energy Centre steelwork at roof level and stairwells has continued during the period with some snagging works outstanding, eg bolts missing. Blockwork at ground, 1st and 2nd floor levels has continued with good quality workmanship finish.

Skanska/Cementation now have only two rigs left on site, with piling completion imminent. Only 2 NCRs remain outstanding. Test results to date appear satisfactory, although some 7 day concrete results did seem low and the corresponding 28 day results are awaited.

On the main ACH building concreting has been ongoing to 1st and 2nd floor slabs in Zone G, slipforming to core C, foundations at cores B and D, and to pile caps in the south western corner, all with no apparent quality issues.

Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 2 was issued request the method statement for Slab Concreting Operations.

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NOVEMBER 2011

2.0 DESIGN COMPLIANCE CHECK

Currently nothing to report.

3.0 PROCEDURES REVIEW**3.1 Performance**

Workmanship overall generally appears to be to a good standard.

3.2 Quality Assurance Procedures

Brookfield and their subcontractors have continued with their QA and checking procedures during the period.

In last months report we noted that amended construction drawing were issued after works were completed on site. Further discussion with Brookfield has indicated that most of these issues were admin related.

Photographs included in the appendices illustrate works progress and quality during the period.

The following information is requested

- A revised Structural Design Philosophy at Appendix K stage has been received, and comments have been returned on this. Response is awaited as noted in the last report.
- Feedback on the final Skanska/Cementation NCRs.
- Building Warrant for the substructure works.
- Road Construction Consent for relevant sections of new road.
- Building Warrant for the below slab drainage.
- Energy centre design proposals in relation to the section of the 1st floor slab fire resistance integrity
- Method statement for the suspended slab concreting operations.

3.3 Early Warnings

Currently nothing to report.

3.4 Trust Equipment Installation, Testing and Commissioning

Currently nothing to report.

3.5 Non Conformance Reports

We are aware of a number of NCR's raised and are being kept up to date as to their status.

4.0 CONSTRUCTION REVIEW

SUPERVISOR'S REPORT NO. 8

NOVEMBER 2011

4.1 Visits to the Works

Site inspections were carried out by the Independent Tester on the 2nd, 4th, 7th, 9th, 10th, 14th, 15th, 17th, 22nd, 24th, 25th, 28th and 30th November 2011.

4.2 Elements of the Works available for inspection

- Energy Centre – steelwork erection at the west stairwell and at roof level.
- Blockwork at ground, 1st and 2nd floor levels.
- Main building – piling works, Core C slipform, Cores F and E internally, Cores B & D foundations, pile caps to the south west area, Zone G 1st and 2nd floor slab areas.
- External Drainage – specific sections of installation where access is possible
- Tunnels Labs/ACH, and between cores F and C – concreting and backfilling.
- Dual carriageway to Renfrew Road – drainage and footpath works ongoing.

4.3 Observations from November 2011 Inspections

The visual inspections of the work carried out to date indicate that the works are generally being carried out to a satisfactory standard. Listed below are observations in relation to site visits in November.

4.3.1 Adult Hospital

Skanska/Cementation now have only two rigs left on site, with piling completion imminent. Only 2 NCRs remain outstanding. Test results to date appear satisfactory, although some 7 day concrete results did seem low and the corresponding 28 day results are awaited.

Significant floor slab concreting has been carried out during the period with the 1st floor level at Zone G almost completed, and concreting to the 2nd floor commenced in this zone. Brookfield subcontractor Dunne has continued their good quality work. The Core C slipforming exercise has proceeded successfully during November with generally good quality throughout. Heavily reinforced foundation works at Cores B and D have been cast with no apparent quality issues. Slipforming preparation for Cores H and B appears to be progressing satisfactorily. Concrete to pile caps in the south western quarter of the site have progressed during the period, again with no apparent quality issues. External drainage runs have again continued where access is possible. Backfilling to tunnel areas and around core F has started with due attention to backfill material and compaction equipment and quality to date appears satisfactory. All these works generally appear to be progressing in accordance with the Client's requirements and with due regard to quality.

SUPERVISOR'S REPORT NO. 8**NOVEMBER 2011**

Some relatively minor issues re reinforcement have been raised with Brookfield personnel during the period. This included reinforcement wall starter bars from slab pours.

We have asked Brookfield to provide us with the method statement for the "Slab Concreting Operations". (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 4).

4.3.2 Energy Centre

Energy Centre steelwork at roof level and stairwells has continued where possible during the period with some snagging works outstanding, eg bolts missing. Blockwork at ground, 1st and 2nd floor levels has continued with good quality workmanship finish.

The NCTR re 1st floor fire capacity remains outstanding from the previous report.

4.3.3 Drainage

External drainage has continued around the building perimeter where access allows. Some below slab drainage drawings have been updated to include a modest amount of foul drain rationalisation.

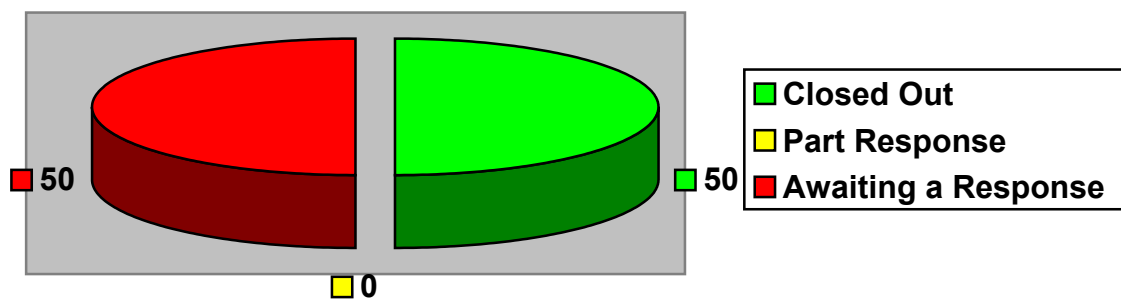
4.3.4 Interconnecting Tunnels.

Quality of work to both the interlinking tunnel Core C to Core F, and the connecting tunnel to the Labs building appears to be satisfactory.

4.3.5 Dual Carriageway to Renfrew Road.

Work to footpath and drainage has continued during the period, with no apparent quality issues, although one cracked section of kerb base will require remedial attention.

5.0 INFORMATION REQUIRED



**NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND
CHILDRENS HOSPITAL****SUPERVISOR'S REPORT NO. 8****NOVEMBER 2011**

Item No.	Description	Date Requested	Comment	
01	Request for details of the shrinkage reduction admixture.	10/10/11	Closed out.	
02	Request for the method statement for Slab Concreting Operations.	08/11/11	Awaiting a Response.	

NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND CHILDRENS HOSPITAL

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NOVEMBER 2011

6.0 SUPERVISORS TESTS AND INSPECTIONS

Tests not required	N/A
Tests required but not tested	Req
Tests required which has passed tests	Pass

Tests				
Ref	Title	To be Notified by	Status	Test Date

Inspection not required	N/A
Inspection required	Req
Inspection complete	Pass

Inspections				
Ref	Title	To be Notified by	Status	Inspection Date

NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND CHILDRENS HOSPITAL

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NOVEMBER 2011

7.0 DEFECTS NOTIFICATIONS ISSUED



**NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND
CHILDRENS HOSPITAL****SUPERVISOR'S REPORT NO. 8****NOVEMBER 2011**

Item No.	Description	Date Requested	Comment
01			

**NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND
CHILDRENS HOSPITAL****SUPERVISOR'S REPORT NO. 8****NOVEMBER 2011**

John Redmond
Capita Symonds
Technical Advisory Services

The Beacon, 8th Floor, 176 St Vincent Street, Glasgow G2 5SG

	Signed	Date
Originated by	John Redmond	1st November 2011
Completed by	John Haggarty	1st November 2011

Appendix 1
Photographs

**NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND
CHILDRENS HOSPITAL**

SUPERVISOR'S REPORT NO. 8

NOVEMBER 2011



1. Zone G 1st floor slab, and Tunnel Core F to Core C

CAPITA SYMONDS

NEW SOUTH GLASGOW HOSPITAL

ADULT AND CHILDRENS HOSPITAL AND THE ENERGY CENTRE

NEC 3 SUPERVISORS REPORT NO. 9

DECEMBER 2011

NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND CHILDRENS HOSPITAL

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NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND ENERGY CENTRE

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NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND CHILDRENS HOSPITAL**SUPERVISOR'S REPORT NO. 9****DECEMBER 2011****THE NEW ADULT AND CHILDRENS HOSPITAL****1.0 EXECUTIVE SUMMARY: ADULT & CHILDRENS HOSPITAL**

Visits to the site during December 2011 indicate that the construction and procedures are progressing in a satisfactory manner in accordance with the Employers Requirements with due regard to health and safety.

We continue to monitor the construction drawings and specifications for compliance with the Contract Documentation in conjunction with our site inspections. Throughout, the standard and quality of the workmanship is generally good and operations are being carried out in an acceptable manner.

We continue to have ad hoc meetings and discussions with the appropriate Brookfield and subcontractor personnel. Information regarding drawings, quality issues and other technical matters has been supplied when requested generally via 'Aconex'.

Energy Centre steelwork at roof level and stairwells has continued where possible during the period, with some cladding work carried out but with some snagging works still outstanding, e.g. bolts missing. Blockwork at ground, 1st and 2nd floor levels has again continued with good quality workmanship finish.

Skanska/Cementation have removed all their plant from site. One major NCR remains outstanding, where a three pile group has been positioned too far out of tolerance. A minipiling rig will be utilised in January 2012 to place a new pile group. Only one other NCR remains to be closed out. Test results to date appear satisfactory, although some 7 day concrete results did seem low. The corresponding 28 day results are awaited, expected after the holiday period is over.

On the main ACH building concreting has been ongoing to 1st and 2nd floor slabs in Zones D, G, and H, slipforming to Cores B and H (completed at Core C) and to pile caps in Zones A, B, E and H, all with no apparent quality issues.

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DECEMBER 2011

2.0 DESIGN COMPLIANCE CHECK

Currently nothing to report.

3.0 PROCEDURES REVIEW**3.1 Contractor's QA Procedures**

Brookfield and their subcontractors have continued with their QA and checking procedures during the period.

Workmanship overall generally appears to be to a good standard.

Photographs included in the appendices illustrate works progress and quality during the period.

The following information is requested:

- Structural Design Philosophy at Appendix K stage. A written response to the queries posed has been received. It is understood that a revised document will be issued in due course.
- Skanska/Cementation proposals/drawing for piles out of position.
- Building Warrant for the substructure works.
- Building warrant for the superstructure works.
- Road Construction Consent for relevant sections of new road.
- Building Warrant for the below slab drainage.
- Energy centre design proposals in relation to the section of the 1st floor slab fire resistance integrity.
- Method statement for the suspended slab concreting operations has been received, but will need to be updated in due course for areas requiring the anti-shrinkage additive.

3.2 Early Warnings

The outstanding piling NCR issue is being addressed with a minipiling solution to replace the existing pile group being proposed.

3.3 Trust Equipment Installation, Testing and Commissioning

Currently nothing to report.

3.4 Non Conformance Reports

We are aware of a number of NCR's raised and are being kept up to date as to their status.

NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND CHILDRENS HOSPITAL

SUPERVISOR'S REPORT NO. 9

DECEMBER 2011

4.0 CONSTRUCTION REVIEW

4.1 Visits to the Works

Site inspections were carried out by the Independent Tester on the 2nd, 5th, 8th, 12th, 14th, 16th, and 21st December 2011.

4.2 Elements of the Works available for inspection

- Energy Centre – steelwork erection at the west stairwell and at roof level, where cladding has also been ongoing. Blockwork at ground, 1st and 2nd floor levels.
- Main building – piling works, Core C slipform (completed), Cores B and H, Cores F and E internally, Core A foundation, pile caps in Zones A, B, E, and H, Zones D, G and H 1st and 2nd floor slab areas.
- External Drainage – specific sections of installation where access is possible
- Tunnel between cores F and C – concreting and backfilling.
- Dual carriageway to Renfrew Road – drainage and footpath works ongoing.

4.3 Observations from December 2011 Inspections

The visual inspections of the work carried out to date indicate that the works are generally being carried out to a satisfactory standard. Listed below are observations in relation to site visits in December.

4.3.1 Adult Hospital

Skanska/Cementation have completed the piling but will return in the middle of January to carry out a minipiling exercise to replace 3 piles which are out of tolerance. One other NCR remains outstanding. Test results to date appear satisfactory, although some 7 day concrete results did seem low and the corresponding 28 day results are awaited, expected after the holiday break.

Significant floor slab concreting has again been carried out during the period with the 1st floor level at Zone G completed, 2nd floor well advanced in this zone, and significant sections of 1st floor slab cast in Zones D and H. Brookfield subcontractor Dunne has continued their good quality work from the Labs building. Core slipforming at Cores B and H has commenced and proceeded successfully during December with generally good quality throughout. Concrete to pile caps in Zones A, B, E and H has progressed during the period, again with no apparent quality issues. External drainage runs have again continued where access is possible. Backfilling to tunnel areas and in parts of Zone E has been carried out with due attention to backfill material and compaction equipment - quality to date appears satisfactory. All these works generally appear to be progressing in accordance with the Client's requirements and with due regard to quality.

SUPERVISOR'S REPORT NO. 9**DECEMBER 2011**

Some relatively minor issues re reinforcement have been raised with Brookfield personnel during the period, and these have been addressed expeditiously.

We have asked Brookfield to provide us with the method statement for the "Slab Concreting Operations". (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 2).

We have asked Brookfield to confirm that there is Building Warrant Approval for the substructure, superstructure and below slab drainage. We have also asked for copies of the relevant communications. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 3).

4.3.2 Energy Centre

Energy Centre steelwork, with some cladding work at roof level, and stairwells has continued where possible during the period with some snagging works outstanding, eg bolts missing. Blockwork at ground, 1st and 2nd floor levels has continued with good quality workmanship finish.

The NCR re 1st floor fire capacity remains outstanding from the previous report.

We have asked Brookfield to provide details to show that the installation of the ground floor slab rainwater pop-ups is being provided entirely in compliance with the proprietary manufacturer's specification and to the Architect's and Engineer's requirements. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 05).

4.3.3 Drainage

External drainage has continued around the building perimeter where access allows. Some below slab drainage drawings have been updated to include a modest amount of foul drain rationalisation.

4.3.4 Interconnecting Tunnels.

Quality of work to the interlinking tunnel Core C to Core F, and the connecting tunnel to the Labs building appears to be satisfactory. These tunnels are now completed in terms of concreting works. Backfilling to the Labs tunnel is completed and the area is being trafficked. Backfilling has been ongoing to the C/F tunnel with no apparent quality issues.

4.3.5 Dual Carriageway to Renfrew Road.

Work to footpath, main carriageway locally in relation to the buried MTHW pipes and drainage has continued during the period, with no apparent quality issues.

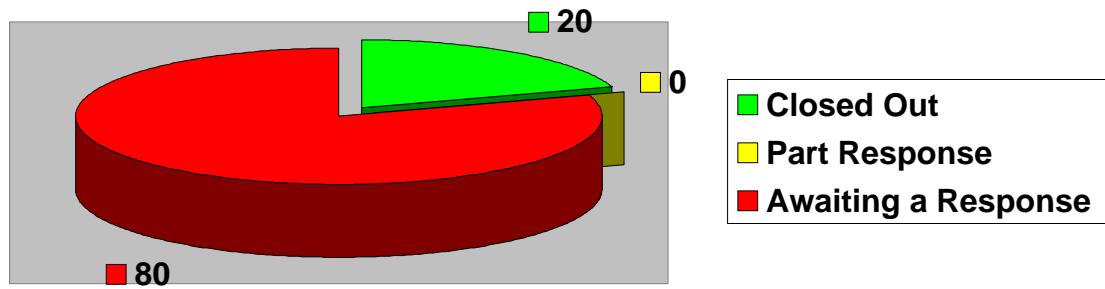
We have asked Brookfield to provide copies of the relevant road construction consents. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 04).

NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND CHILDRENS HOSPITAL

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5.0 INFORMATION REQUIRED



NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND CHILDRENS HOSPITAL

SUPERVISOR'S REPORT NO. 9

DECEMBER 2011

Item No.	Description	Date Requested	Comment	
01	Request for details of the shrinkage reduction admixture.	10/10/11	Closed out.	
02	Request for the method statement for Slab Concreting Operations.	08/11/11	Awaiting a Response.	
03	Confirm there is building warrant for the substructure, superstructure and below ground slab drainage and provide copies.	10/01/12	Awaiting a Response.	
04	Provide relevant road construction consents.	10/01/12	Awaiting a Response.	
05	Provide details to show installation of pop ups are compliant with manufacturers spec and Architect and Engineer's requirements.	10/01/12	Awaiting a Response.	

NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND CHILDRENS HOSPITAL

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DECEMBER 2011

6.0 SUPERVISORS TESTS AND INSPECTIONS

Tests not required	N/A
Tests required but not tested	Req
Tests required which has passed tests	Pass

Tests				
Ref	Title	To be Notified by	Status	Test Date

Inspection not required	N/A
Inspection required	Req
Inspection complete	Pass

Inspections				
Ref	Title	To be Notified by	Status	Inspection Date

NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND CHILDRENS HOSPITAL

SUPERVISOR'S REPORT NO. 9

DECEMBER 2011

7.0 DEFECTS NOTIFICATIONS ISSUED



**NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND
CHILDRENS HOSPITAL****SUPERVISOR'S REPORT NO. 9****DECEMBER 2011**

Item No.	Description	Date Requested	Comment
01			

**NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND
CHILDRENS HOSPITAL****SUPERVISOR'S REPORT NO. 9****DECEMBER 2011**

John Redmond
Capita Symonds
Technical Advisory Services

The Beacon, 8th Floor, 176 St Vincent Street, Glasgow G2 5SG

	Signed	Date
Originated by	John Redmond	10th November 2011
Completed by	John Haggarty	10th November 2011

Appendix 1

Photographs

**NEW SOUTH GLASGOW HOSPITAL LABORATORIES AND THE NEW ADULT AND
CHILDRENS HOSPITAL**

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Zone G Slab Reinforcing



Base Foundation Core E

CAPITA SYMONDS

**NEW SOUTH GLASGOW HOSPITAL
ADULT AND CHILDREN'S HOSPITAL AND THE ENERGY CENTRE
NEC 3 SUPERVISORS REPORT NO. 10
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**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND
ENERGY CENTRE**

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JANUARY 2012

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ADULT AND CHILDRENS HOSPITAL AND ENERGY CENTRE**1.0 EXECUTIVE SUMMARY: ADULT & CHILDRENS HOSPITAL**

Visits to the site during January 2012 indicate that the construction and procedures are progressing in a satisfactory manner in accordance with the Employer's Requirements with due regard to health and safety.

We continue to monitor the construction drawings and specifications for compliance with the Contract Documentation in conjunction with our site inspections. Throughout, the standard and quality of the workmanship is generally good and operations are being carried out in an acceptable manner.

We continue to have ad hoc meetings and discussions with the appropriate Brookfield and subcontractor personnel. Information regarding drawings, quality issues and other technical matters has been supplied when requested generally via 'Aconex'.

Energy Centre steelwork at roof level and stairwells has barely progressed during the period and accordingly snagging is still outstanding, e.g. bolts missing. Limited blockwork at ground, 1st and 2nd floor levels has continued in limited fashion with good quality workmanship finish.

A major NCR has arisen in respect of tops of piles in several locations being found to be well outwith tolerance. Some of this was known at the end of December 2011 when a minipiling solution was planned for 2 No 3 pile cap foundations just north of Core G. Since then several other pile heads have been found, by independent survey, to be outwith tolerance. These are all in areas where the Contractor's methodology has resulted in piles protruding through the slopes of excavations for deep foundations. Full results of the survey are awaited, together with the Contractor's remedial proposals.

On the main Acute and Children's Hospital concreting has been ongoing to 1st, 2nd and 3rd floor slabs in Zones D, G, and H, slipforming to Cores B and H (both completed during the period) and to pile caps in Zones A, B, E and H, all with no apparent quality issues. Progress in Zone E has also included basement retaining walls.

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JANUARY 2012

2.0 DESIGN COMPLIANCE CHECK

Currently nothing to report.

3.0 PROCEDURES REVIEW

3.1 Contractor's QA Procedures

Brookfield and their subcontractors have continued with their QA and checking procedures during the period.

Workmanship overall generally appears to be to a good standard.

Photographs included in the appendices illustrate works progress and quality during the period.

The following information is requested:

- Structural Design Philosophy at Appendix K stage. A written response to the queries posed has been received. It is understood that a revised document will be issued in due course.
- Skanska/Cementation proposals/drawing for piles out of position.
- Building Warrant for the substructure works.
- Building Warrant for the superstructure works.
- Road Construction Consent for relevant sections of new road.
- Building Warrant for the below slab drainage.
- Energy Centre design proposals in relation to the section of the 1st floor slab fire resistance integrity.
- Method statement for the suspended slab concreting operations has been received, but will need to be updated in due course for areas requiring the anti-shrinkage additive.

3.2 Early Warnings

The outstanding piling NCR issue is being addressed with a minipiling solution to replace the existing pile group being proposed.

3.3 Trust Equipment Installation, Testing and Commissioning

Currently nothing to report.

3.4 Non Conformance Reports

We are aware of a number of NCR's raised and are being kept up to date as to their status.

SUPERVISOR 'S REPORT NO. 10

JANUARY 2012

4.0 CONSTRUCTION REVIEW**4.1 Visits to the Works**

Site inspections were carried out by the NEC3 Supervisor on the 6th, 10th, 12th, 13th, 16th, 17th, 19th, 24th, 26th, 27th, and 31st January 2012.

4.2 Elements of the Works available for inspection

- Energy Centre – steelwork completion hiatus at the west stairwell and at roof level. Blockwork at ground, 1st and 2nd floor levels.
- Main building – minipiling works, Cores B and H slipforming (completed), Cores G, F and E internally, Core A foundation, pile caps in Zones A, B, E, and H, Zones D, G and H 1st, 2nd and 3rd floor slab areas.
- External Drainage – specific sections of installation where access is possible.
- Tunnel between cores F and C – backfilling.
- Dual carriageway to Renfrew Road – drainage and footpath works ongoing.

4.3 Observations from January 2012 Inspections

The visual inspections of the work carried out to date indicate that the works are generally being carried out to a satisfactory standard. Listed below are observations in relation to site visits in January 2012.

4.3.1 Adult and Children's Hospital

Skanska/Cementation have returned to site and have started minipiling to install replacement piles for a pile grouping just north of Core G. Survey results are awaited for other pile group areas reported as being also out of position.

Significant floor slab concreting has again been carried out during the period with the 2nd floor level at Zone G completed, 3rd floor well advanced in this zone, and significant sections of 1st and 2nd floor slab cast in Zones D and H. Brookfield subcontractor Dunne has again continued their good quality work from the Labs building. The only drawback has been with regard to noise issues. This has resulted on occasion in the float finish not being possible. Core slipforming at Cores B and H has proceeded successfully during January with generally good quality throughout, and these cores are now completed. Concrete to pile caps in Zones A, B, E and H has progressed during the period, again with no apparent quality issues. External drainage runs have again continued where access is possible. Backfilling to tunnel areas and in parts of Zone E has been carried out with due attention to backfill material and compaction equipment - quality to date appears satisfactory. All these works generally appear to be progressing in accordance with the Employer's Requirements and with due regard to quality.

SUPERVISOR 'S REPORT NO. 10**JANUARY 2012**

Some relatively minor issues re backfilling and mini-piling have been raised with Brookfield personnel during the period and these have been addressed expeditiously.

We asked Brookfield to provide us with the method statement for the "Slab Concreting Operations". This was reviewed by Capita together with Brookfields Operations Manager. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 2 is closed out.

Brookfield has provided us with a Building Warrant Application Schedule showing the dates when Building Control approval was granted. Brookfield intimated that due to an administration error at Glasgow City Council the warrants have been returned for re-processing. We have asked Brookfield to provide copies of the approvals. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 3).

4.3.2 Energy Centre

Energy Centre activities are stalled at present.

The NCR re 1st floor fire capacity remains outstanding from a previous report.

We have asked Brookfield to provide details to show that the installation of the ground floor slab rainwater pop-ups is being provided entirely in compliance with the proprietary manufacturer's specification and to the Architect's and Engineer's requirements. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 05).

4.3.3 Drainage

External drainage has continued around the building perimeter where access allows. Some below slab drainage drawings have been updated to include a modest amount of foul drain rationalisation.

4.3.4 Interconnecting Tunnels.

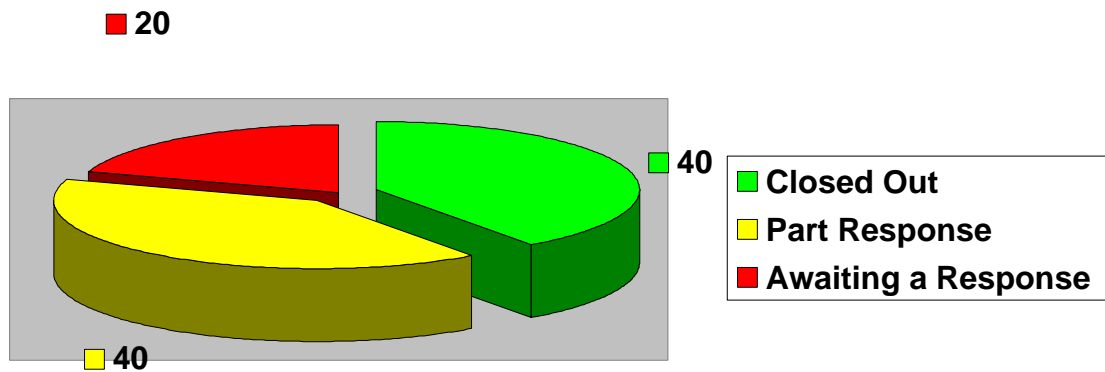
Backfilling has been ongoing to the tunnel between core C and F with no apparent quality issues.

4.3.5 Dual Carriageway to Renfrew Road.

Work to footpath, main carriageway locally in relation to the buried MTHW pipes and drainage has continued during the period, with no apparent quality issues.

Brookfield has confirmed that the relevant road construction consent applications are with Glasgow City Council. There has been ongoing dialogue with Glasgow City Council and anticipate feedback during week commencing 6th February 2012. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 04).

5.0 INFORMATION REQUIRED



**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND
ENERGY CENTRE**

SUPERVISOR 'S REPORT NO. 10

JANUARY 2012

Item No.	Description	Date Requested	Comment	
01	Request for details of the shrinkage reduction admixture.	10/10/11	Closed out.	
02	Request for the method statement for Slab Concreting Operations.	08/11/11	Closed out.	
03	Confirm there is building warrant for the substructure, superstructure and below ground slab drainage and provide copies.	10/01/12	Response received.	
04	Provide relevant road construction consents.	10/01/12	Response received.	
05	Provide details to show installation of pop ups are compliant with manufacturers spec and Architect and Engineer's requirements.	10/01/12	Awaiting a Response.	

NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND ENERGY CENTRE

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JANUARY 2012

6.0 SUPERVISORS TESTS AND INSPECTIONS

Tests not required	N/A
Tests required but not tested	Req
Tests required which has passed tests	Pass

Tests				
Ref	Title	To be Notified by	Status	Test Date

Inspection not required	N/A
Inspection required	Req
Inspection complete	Pass

Inspections				
Ref	Title	To be Notified by	Status	Inspection Date

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7.0 DEFECTS NOTIFICATIONS ISSUED



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ENERGY CENTRE****SUPERVISOR 'S REPORT NO. 10****JANUARY 2012**

Item No.	Description	Date Requested	Comment
01			

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND
ENERGY CENTRE****SUPERVISOR 'S REPORT NO. 10****JANUARY 2012**

John Redmond
Capita Symonds
Technical Advisory Services

The Beacon, 8th Floor, 176 St Vincent Street, Glasgow G2 5SG

	Signed	Date
Originated by	John Redmond	2nd February 2012
Completed by	Darran Muir	2nd February 2012

Appendix 1

Photographs

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Concrete slab.



Piles out of alignment

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CAPITA SYMONDS

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ADULT AND CHILDREN'S HOSPITAL AND ENERGY CENTRE**1.0 EXECUTIVE SUMMARY: ADULT & CHILDREN'S HOSPITAL**

Visits to the site during February 2012 indicated that the construction and procedures are progressing in a satisfactory manner in accordance with the Employer's Requirements.

We continue to monitor the construction drawings and specifications for compliance with the Contract Documentation in conjunction with our site inspections. Throughout, the standard and quality of the workmanship is generally good and operations are being carried out in an acceptable manner.

During February we undertook site inspections of both the Acute and Children's Hospital and the Energy Centre and continued our meetings and dialogue with Brookfield in connection with our site issues. Information regarding drawings, quality issues and other technical matters has been supplied when requested generally via 'Aconex'.

Internal stud partition walling is also progressing on Level 1 Area ZG and protection is being provided against water damage. We will continue to monitor this phase of the work.

M&E unit installation is in progress and duct ends are being blanked off.

Cladding has commenced to the Energy Centre and we shall continue to monitor this phase of the work.

Energy Centre steelwork at roof level and stairwells has only progressed slightly during the period and accordingly snagging is still outstanding, e.g. bolts missing. Elements of cladding rails and cladding panels have been installed and structural quality to date appears satisfactory.

As reported in the last report a major NCR has arisen in respect of tops of piles in several locations being found to be well outwith tolerance. Some of this was known at the end of December 2011 when a minipiling solution was planned for 2 No 3 pile cap foundations just north of Core G. Since then several other pile heads have been found, by independent survey, to be outwith tolerance. These are all in areas where the Contractor's methodology has resulted in piles protruding through the slopes of excavations for deep foundations. Minipiling has commenced in the area north of Core G. Full results of the survey are still awaited, together with the Contractor's detailed remedial proposals and report on the whole issue.

On the main Hospital concreting has been ongoing to 3^d floor slabs in Zones D and G, slipforming to Cores D and J, and to several basement elements in Zone E. Basement roof slab at Zone E adjacent to Core F has also been cast as well as base and wall sections of the labs tunnel, all with no apparent quality issues.

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2.0 DESIGN COMPLIANCE CHECK

Currently nothing to report.

3.0 PROCEDURES REVIEW**3.1 Contractor's QA Procedures**

Brookfield and their subcontractors have continued with their QA and checking procedures during the period.

Workmanship overall generally appears to be to a good standard.

Photographs included in the appendices illustrate works progress and quality during the period.

The following information is requested:

- Structural Design Philosophy at Appendix K stage. A written response to the queries posed has been received. It is understood that a revised document will be issued in due course.
- Survey results for piles out of position.
- Skanska/Cementation full proposals/drawing for piles out of position.
- Brookfield report on the overall out of position piles.
- Building Warrant for the substructure works.
- Building warrant for the superstructure works.
- Building Warrant for the below slab drainage.
- Energy Centre design proposals in relation to the section of the 1st floor slab fire resistance integrity.
- Floor finish survey and test results, top floor Zone G.

3.2 Early Warnings

The out of tolerance pile positions issue remains to be resolved.

3.3 Trust Equipment Installation, Testing and Commissioning

Currently nothing to report.

3.4 Non Conformance Reports

We are aware of a number of NCR's raised and are being kept up to date as to their status.

4.0 CONSTRUCTION REVIEW**4.1 Visits to the Works**

Site inspections were carried out by the NEC 3 Supervisor's on the 2nd, 3rd, 6th, 10th, 13th, 17th, 19th, 20th, 22nd, 24th and 27th February 2012.

NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND ENERGY CENTRE

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4.2 Elements of the Works available for inspection

- Energy Centre – steelwork completion hiatus at the west stairwell and at roof level. Blockwork at ground, 1st and 2nd floor levels.
- Main building – minipiling works, Cores D and J slipforming, Cores G, F and E internally, Zones D and G 1st, 2nd and 3rd floor slab areas, Zone E basement area.
- External Drainage – specific sections of installation where access is possible.
- Tunnel between ACH and Labs.
- Dual carriageway to Renfrew Road – drainage and footpath works ongoing.
- Internal partitions.
- M&E modular units.

4.3 Observations from February 2012 Inspections

The visual inspections of the work carried out to date indicate that the works are generally being carried out to a satisfactory standard. Listed below are observations in relation to site visits in February 2012.

4.3.1 Adult and Children's Hospital

Skanska/Cementation have returned to site and have started minipiling to install replacement piles for a pile grouping just north of Core G. Survey results are awaited for other pile group areas reported as being also out of position as well as other information noted in 3.1 above.

Significant concreting has again been carried out during the period at the top floors in Zones D and G. Brookfield subcontractor Dunne has again continued their good quality work from the Labs building. The only drawback has again been with regard to noise issues which have resulted on occasion in the float finish not being possible. Core slipforming at Cores D and J has proceeded successfully during February with generally good quality throughout. Concrete to pile caps in Zones A, B, E and H has again progressed during the period, again with no apparent quality issues. External drainage runs have continued where access is possible. Basement and wall sections to the Labs tunnel have also advanced - quality to date appears satisfactory. All these works generally appear to be progressing in accordance with the Employer's Requirements and with due regard to quality.

Some relatively minor issues re reinforcement congestion and cleanliness have been raised with Brookfield personnel, and these have been addressed expeditiously. Top floor finish survey and roof finish test results remain outstanding

Further to Brookfield's earlier response in relation to the Building Warrants, discussions took place between Brookfield and Capita. Brookfield confirmed that they were assisting Building Control to process the application and have been asked by Building Control to provide consecutive numbering of the applications.

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(See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 3).

4.3.2 Energy Centre

Energy Centre main structural activities are stalled at present.

The NCR re 1st floor fire capacity remains outstanding from a previous report.

We asked Brookfield to provide details to show that the installation of the ground floor slab rainwater pop-ups is being provided entirely in compliance with the proprietary manufacturer's specification and to the Architect's and Engineer's requirements. They have received an internal response from their sub-contractor Mercury, however were not satisfied and have asked Mercury to review this and give further response. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 05).

We have asked Brookfield to provide design proposals in relation to the section of the 1st floor slab fire resistance integrity. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 06).

4.3.3 Drainage

External drainage has continued around the building perimeter where access allows. Some below slab drainage drawings have been updated to include a modest amount of foul drain rationalisation.

4.3.4 Interconnecting Tunnels.

Labs tunnel concreting has progressed with no apparent quality issues.

4.3.5 Dual Carriageway to Renfrew Road.

Work to footpath, main carriageway locally in relation to the buried MTHW pipes and drainage has continued during the period, with no apparent quality issues.

Brookfield has provided us with Road Construction Consents dated 13 February 2012:

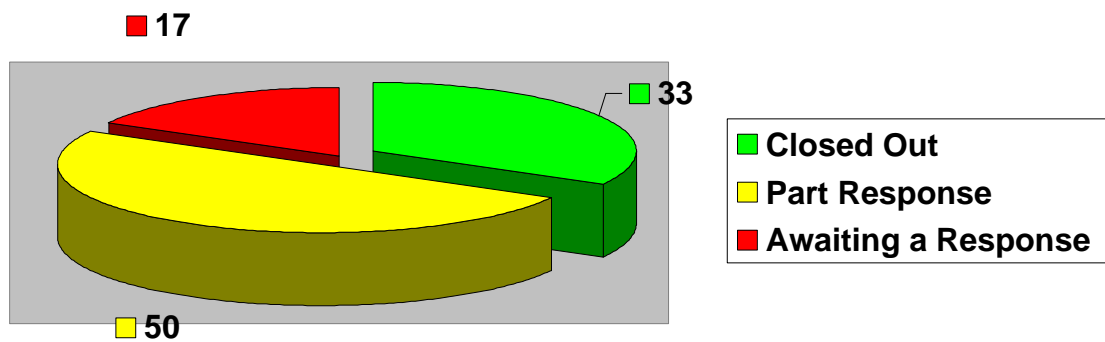
- NSGH RCC 1,Glasgow-OT/DEV/CC/1694
- NSGH RCC 2,Glasgow-OT/DEV/CC/1695
- NSGH RCC 3,Glasgow-OT/DEV/CC/1696

These also list the relevant drawings pertaining to the individual consent. The Consents are in principle and will be granted in full when the conditions are met. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 04).

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5.0 INFORMATION REQUIRED



NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND ENERGY CENTRE

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Item No.	Description	Date Requested	Comment	
01	Request for details of the shrinkage reduction admixture.	10/10/11	Closed out.	
02	Request for the method statement for Slab Concreting Operations.	08/11/11	Closed out.	
03	Confirm there is building warrant for the substructure, superstructure and below ground slab drainage and provide copies.	10/01/12	Response received.	
04	Provide relevant road construction consents.	10/01/12	Response received.	
05	Provide details to show installation of pop ups are compliant with manufacturers spec and Architect and Engineer's requirements.	10/01/12	Awaiting a Response.	
06	We have requested design proposals in relation to the section of the 1st floor slab fire resistance integrity.	27/02/12	Awaiting a Response.	

NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND ENERGY CENTRE

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6.0 SUPERVISORS TESTS AND INSPECTIONS

Tests not required	N/A
Tests required but not tested	Req
Tests required which has passed tests	Pass

Tests				
Ref	Title	To be Notified by	Status	Test Date

Inspection not required	N/A
Inspection required	Req
Inspection complete	Pass

Inspections				
Ref	Title	To be Notified by	Status	Inspection Date

7.0 DEFECTS NOTIFICATIONS ISSUED

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND
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ENERGY CENTRE****SUPERVISOR 'S REPORT NO. 11****FEBRUARY 2012**

Item No.	Description	Date Requested	Comment
01			

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND
ENERGY CENTRE****SUPERVISOR 'S REPORT NO. 11****FEBRUARY 2012**

John Redmond
Capita Symonds
Technical Advisory Services

The Beacon, 8th Floor, 176 St Vincent Street, Glasgow G2 5SG

	Signed	Date
Originated by	John Redmond	28th February 2012
Completed by	Darran Muir	29th February 2012

Appendix 1

Photographs

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND
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Zone E Floor 0 Suspended Slab



Zone E Floor 0 Suspended Slab

CAPITA SYMONDS

NEW SOUTH GLASGOW HOSPITAL

ADULT AND CHILDREN'S HOSPITAL AND THE ENERGY CENTRE

NEC 3 SUPERVISORS REPORT NO. 12

MARCH 2012

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND
ENERGY CENTRE**

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MARCH 2012

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ADULT AND CHILDRENS HOSPITAL AND ENERGY CENTRE

1.0 EXECUTIVE SUMMARY: ADULT & CHILDRENS HOSPITAL

Visits to the site during March 2012 indicated that the construction and procedures are progressing in a satisfactory manner in accordance with the Employer's Requirements.

We continue to monitor the construction drawings and specifications for compliance with the Contract Documentation in conjunction with our site inspections. Throughout, the standard and quality of the workmanship is generally good and operations are being carried out in an acceptable manner.

During March we undertook site inspections of both the Acute and Children's Hospital and the Energy Centre. We continued our meetings and dialogue with Brookfield in connection with our site issues. Information regarding drawings, quality issues and other technical matters has been supplied when requested generally via 'Aconex'.

Internal stud partition walling is progressing on Level 1 Area ZG, DZ, and internal sheets and window protections have been carried out to protect the inside of the building. We will continue to monitor this phase of the work.

M&E visits to the site during this period were mainly to inspect the Energy Centre and the A&C Hospital.

The M&E installation is now progressing at pace, with pre-fabricated sections being installed in the A&C areas, and large plant items being installed in the Energy Centre.

In general terms we are satisfied that the installations are being installed to the correct standard, and are of a good quality. However we are concerned that there are a number of open ends being left on the main pipework installations. There is also some damage to the ductwork sections as they arrive on site.

Energy Centre steelwork at roof level and stairwells has progressed during the period and installation of cladding rails and panels on the west, south and east elevations is largely completed. Various items of plant are still being installed via the north elevation. Structural quality to date appears satisfactory, although some minor snagging is still outstanding. Proprietary waterproofing is being installed on the roof slab and quality to date appears satisfactory.

Minipiling has continued during the period to the now significant number of original piles out of tolerance. Some survey results and reports have been made available by Brookfield as well as locally re-engineered foundation pile caps. Full results of the survey and further reporting are still awaited.

On the main A&C building concreting has been ongoing to top floor slabs in Zones D and G, slipforming to Cores A and J and to several basement elements in Zone

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND
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E. Ground floor slab at Zone E, pile cap foundations to Zones F & J, as well as 1st floor slab at Zone are all generally to a good standard of workmanship. The main area of concern has been in Zone E basement where reinforcement is very congested in several areas and base preparation for reinforcement has not been ideal. Brookfield is aware of these issues and has been trying to address these. Final finish to some of the roof level slabs in Zones G and D is below standard and Brookfield subcontractors have remedial proposals in place for this.

SUPERVISOR 'S REPORT NO. 12**MARCH 2012****2.0 DESIGN COMPLIANCE CHECK**

The drawing review is ongoing. We are currently reviewing Zone B and Zone E services drawings.

Previous reviews have been conducted, with comments marked on drawings and returned to Brookfield.

3.0 PROCEDURES REVIEW**3.1 Contractor's QA Procedures**

Brookfield and their subcontractors have continued with their QA and checking procedures during the period.

We attended the factory testing of 5 of the standby generators at FG Wilson in Belfast which proved successful. Generator installation on site is due to commence 3rd April 2012.

Workmanship overall generally appears to be to a good standard.

Photographs included in the appendices illustrate works progress and quality during the period.

The following information is requested:

- Structural Design Philosophy at Appendix K stage. A written response to the queries posed has been received. It is understood that a revised document will be issued in due course. We await the final version to be uploaded by WSP.
- Skanska/Cementation full proposals/drawing for piles out of position, and complete survey when available.
- Brookfield final report on the overall out of position piles.
- Building Warrant for the substructure works.
- Building warrant for the superstructure works.
- Building Warrant for the below slab drainage.
- Energy Centre design proposals in relation to the section of the 1st floor slab fire resistance integrity.
- Floor finish survey and test results, top floor Zone G
- Any drainage test results from Zone G.

3.2 Early Warnings

The out of tolerance pile positions currently remain to be completed.

3.3 Trust Equipment Installation, Testing and Commissioning

Currently nothing to report.

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MARCH 2012

3.4 Non Conformance Reports

We are aware of a number of NCR's raised and are being kept up to date as to their status.

4.0 CONSTRUCTION REVIEW**4.1 Visits to the Works**

Site inspections were carried out by the NEC3 Supervisors on the 1st, 2nd, 5th, 8th, 9th, 12th, 14th, 15th, 16th, 19th, 21st, 22nd, 27th, 28th, and 29th March 2012.

4.2 Elements of the Works available for inspection

- Energy Centre – steelwork and cladding. Blockwork at ground, 1st and 2nd floor levels.
- Main building – minipiling works, Cores A and J slipforming, Cores G, F and E internally, Zones D and G roof level slabs, Zone E basement area, and ground floor slab, Zone H 1st floor slab. Zones F & J pile cap foundations. Zone G below slab drainage.
- External Drainage – specific sections of installation where access is possible.
- Tunnel between ACH and Labs.
- Dual carriageway to Renfrew Road, and carriageway from Hardgate Road.
- SFS
- Internal Partitions
- M&E modular units

4.3 Observations from March 2012 Inspections

The visual inspections of the work carried out to date indicate that the works are generally being carried out to a satisfactory standard. Listed below are observations in relation to site visits in March 2012.

4.3.1 Structural

Skanska/Cementation is continuing with the minipiling exercise which appears to be progressing satisfactorily. Testing proposals for these piles are requested.

Significant concreting has again been carried out during the period throughout the ACH. Slabs cast to the roof areas in Zones D and G have areas where the finish is unacceptable due to rain splatter and also where power float finish has not been possible due to noise limitations. Brookfield has indicated that their subcontractor has remedial proposals for these areas.

Slipforming at Cores A and J have proceeded successfully during March with generally good quality throughout. Concrete to pile caps in Zones H, F and J has again progressed during the period, again with no apparent quality issues, as is the

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case with Zone E basement roof slab. Concrete slabs to Zone H at 1st floor level have commenced during the period, as has below slab drainage in Zone G. All these works generally appear to be progressing in accordance with the Client's requirements and with due regard to quality.

Quality issues in Zone E basement have however been of some concern during the period. Severe areas of reinforcement congestion have made pouring concrete difficult even with the introduction of 10mm aggregate. Brookfield has however had the designers WSP on site prior to and during pouring to ensure that the reinforcement is compatible with their design intent. In some of these basement areas lower layers of reinforcement resting on rubble rather than blinding or a flat surface has in places been an issue, and Brookfield are looking at this.

Further to Brookfield's earlier response in relation to the Building Warrants, discussions took place between Brookfield and Capita. Brookfield confirmed that they were assisting Building Control to process the application and have been asked by Building Control to provide consecutive numbering of the applications. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 3).

4.3.2 Floors

We asked Brookfield for a copy of the floor finish survey and test results for top floor Zone D. Brookfield has confirmed that this area of slab (approx 750m²) to Zone D level 3 pour 1 had a Big Blue/Easy float finish only.

This was poured the day after there had been two complaints about noise and we decided to look at different concrete slab finish options. It was agreed with Dunnes that we would look at a big blue finish to this pour and a tight pan finish to the adjacent pour. The tight pan finish was acceptable for SR3 finish. The big blue finish and the subsequent rain that night has left a slab finish which is pitted as well as having ridges. The ridges will be ground off but the surface will need a thin screed/grout over the top to bring back to a smooth finish as 1.5mm resin is to be applied to this surface. All other internal slab finishes are acceptable for follow on floor finishes and were power floated. Brookfield has also provided as built level survey drawings.

(See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 8).

4.3.3 Energy Centre

We asked Brookfield to provide details to show that the installation of the ground floor slab rainwater pop-ups is being provided entirely in compliance with the proprietary manufacturer's specification and to the Architect's and Engineer's requirements. They have received an internal response from their sub-contractor Mercury, however were not satisfied and have asked Mercury to review this and give further response. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 05).

We have asked Brookfield to provide design proposals in relation to the section of the 1st floor slab fire resistance integrity. They have had a response from WSP. The report states that both the fire strategy report and the Nightingales Fire

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MARCH 2012

Strategy plans noted floors as achieving the four hour separation to meet the requirements of BS 5410. The entire floor across each level was taken to be constructed in the same build up therefore the section drawings show the same fire protection across entire floor.

The fire rating is applicable to sides A & B however the central section does not require the same level of fire performance. The stair and landings require to be non-combustible. The area behind this is the open flue stack / link bridge / corridor room etc. where the fire rating (when taken in isolation) only requires to be one hour rated (BS 5410 fire protection levels not relevant to the floors at this part of the building).

Therefore WSP propose that a reduction of fire performance should be okay (noting an amendment to Building Warrant may be applicable).

Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 06 is closed out.

4.3.4 Drainage

External drainage has continued around the building perimeter where access allows. Below slab drainage has commenced in Zone G and to date quality appears to be satisfactory.

4.3.5 Interconnecting Tunnels.

Labs tunnel backfilling has progressed during the period with no apparent quality issues.

4.3.6 Dual Carriageway to Renfrew Road.

Modest work to footpath, main carriageway locally in relation to the buried MTHW pipes and drainage has continued during the period, with no apparent quality issues.

These also list the relevant drawings pertaining to the individual consent. The Consents are in principle and will be granted in full when the conditions are met. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 04 is closed out.

4.3.7 Dual Carriageway to Renfrew Road.

The road carriageway around the Labs was completed during the period. While there are some peripheral snagging items around the building (covered separately in the Labs report) the carriageway works themselves appear of good quality.

We noted that pipework has been left with open ends. This can lead to debris and other material contaminating or restricting the operation of the systems. Brookfield provided a short term fix – all open ends sealed on site as of 30/03/12. The pipe in original photograph has final connection in place.

Brookfield confirmed that in the long term Mercury supplier/sub-contractor are to ensure all pipe ends blanked are off prior to site delivery until final connection takes

SUPERVISOR 'S REPORT NO. 12**MARCH 2012**

place. In this instance Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 09 is now closed out.

4.3.8 Pipework.

Installation of hot, cold, heating, & chilled water pipework in the A&C hospital is now progressing and in general is being installed to a good standard. It was noted however that there are open ends being left on the pipework, and the contractor should be reminded that these need to be sealed, to prevent the ingress of moisture and subsequent corrosion that may develop.

4.3.9 Ventilation

The installation of ventilation ductwork in the A&C hospital is progressing, and has been installed to a good standard. It appears that any open ends are being sealed. However there are some sections of ductwork which have been damaged during the delivery process, and the contractor should be reminded that care should be taken to avoid such damage occurring.

4.3.10 Insulation

The thermal insulation installation to the pre-fabricated sections of pipework is being completed off site, before delivery. It should be confirmed with Brookfield that these pre-insulated sections of pipework have been pressure tested, prior to the insulation being fitted.

4.3.11 Energy Centre

Main silencers have now been installed for 5No of the generator installation.

4.3.12 Trunking

Cable trunking is being installed as part of the offsite fabricated sections that are being installed in the A&C hospital and in general the installation is of a good standard.

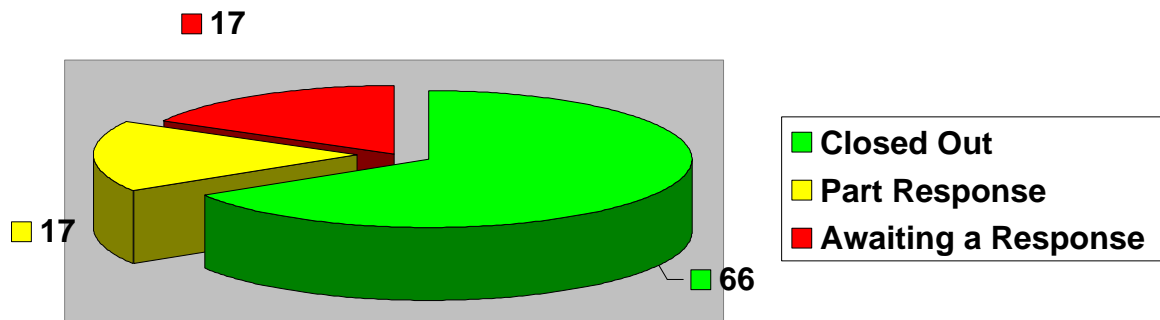
4.3.12 Cabling

Modular wiring looms are now being installed as part of the offsite fabricated assemblies and carefully tied up for protection.

4.4 Defects from March 2011 Inspections.

We noted that trunking is sustaining damage at the point of delivery. We are concerned about the level of damage to the ductwork and the subsequent amount of time re-working it on site to effect repairs. Brookfield has been requested to confirm action to prevent further damage and provide evidence that the existing damage has been repaired. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 01).

5.0 INFORMATION REQUIRED



NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND ENERGY CENTRE

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MARCH 2012

Item No.	Description	Date Requested	Comment	
01	Request for details of the shrinkage reduction admixture.	10/10/11	Closed out.	
02	Request for the method statement for Slab Concreting Operations.	08/11/11	Closed out.	
03	Confirm there is building warrant for the substructure, superstructure and below ground slab drainage and provide copies.	10/01/12	Response received.	
04	Provide relevant road construction consents.	10/01/12	Closed out.	
05	Provide details to show installation of pop ups are compliant with manufacturers spec and Architect and Engineer's requirements.	10/01/12	Awaiting a Response.	
06	We have requested design proposals in relation to the section of the 1st floor slab fire resistance integrity.	27/02/12	Closed out.	
07	We have requested floor finish survey and test results for the top floor Zone G.	16/03/12	Closed out.	
08	We have requested floor finish survey and test results for the top floor Zone D.	16/03/12	Awaiting a Response.	
09	Open ends in pipework require to be sealed.	23/03/12	Closed out.	

NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND ENERGY CENTRE

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MARCH 2012

6.0 SUPERVISORS TESTS AND INSPECTIONS

Tests not required	N/A
Tests required but not tested	Req
Tests required which has passed tests	Pass

Tests				
Ref	Title	To be Notified by	Status	Test Date

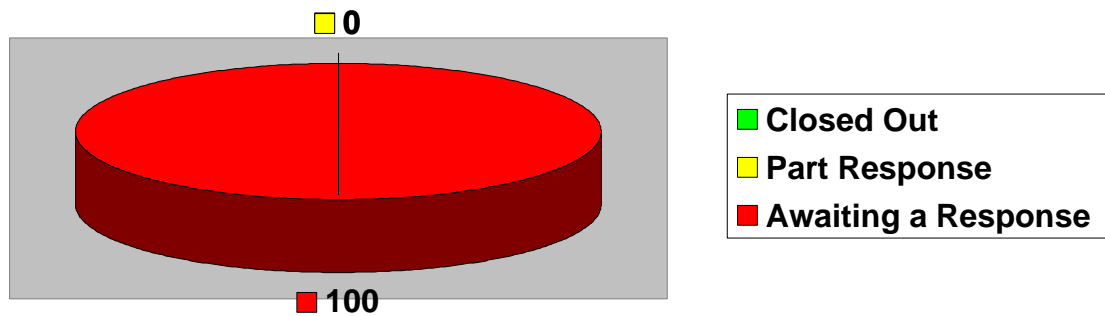
Inspection not required	N/A
Inspection required	Req
Inspection complete	Pass

Inspections				
Ref	Title	To be Notified by	Status	Inspection Date

SUPERVISOR 'S REPORT NO. 12

MARCH 2012

7.0 DEFECTS NOTIFICATIONS ISSUED



**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND
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Item No.	Description	Date Requested	Comment
01	We are concern about the level of damage to the ductwork and the subsequent amount of time re-working it on site to effect repairs. Confirm action to prevent further damage and provide evidence that the existing damage has been repaired.	22.03.12	Open

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND
ENERGY CENTRE****SUPERVISOR 'S REPORT NO. 12****MARCH 2012**

John Redmond
Capita Symonds
Technical Advisory Services

The Beacon, 8th Floor, 176 St Vincent Street, Glasgow G2 5SG

	Signed	Date
Originated by	John Redmond	11th April 2012
Completed by	Darran Muir	11th April 2012

Appendix 1

Photographs

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND
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Photo No 1. Damaged trunking on Level 1.



Photo No 2. Open ends of pipework

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Photo No 3. Open ends of pipework sealed.



Photo No 4. Lightly damaged ductwork



Photo No 5. Ductwork Delivery Method



Photo 6. Open Ended Pipework.



Photo No 7. Congested reinforcing.



Photo No 8. Core A Slip.

CAPITA SYMONDS

**NEW SOUTH GLASGOW HOSPITAL
ADULT AND CHILDREN'S HOSPITAL AND THE ENERGY CENTRE
NEC 3 SUPERVISORS REPORT NO. 13
APRIL 2012**

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND
ENERGY CENTRE**

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ADULT AND CHILDRENS HOSPITAL AND ENERGY CENTRE**1.0 EXECUTIVE SUMMARY: ADULT & CHILDRENS HOSPITAL**

Visits to the site during April 2012 indicated that the construction and procedures are progressing in a satisfactory manner in accordance with the Employer's Requirements.

We continue to monitor the construction drawings and specifications for compliance with the Contract Documentation in conjunction with our site inspections. Throughout, the standard and quality of the workmanship is generally good and operations are being carried out in an acceptable manner.

During April we undertook site inspections of both the Acute and Children's Hospital and the Energy Centre. We continued our meetings and dialogue with Brookfield in connection with our site issues. Information regarding drawings, quality issues and other technical matters has been supplied when requested generally via 'Aconex'.

We inspected the internal stud partition on Level 1 Area ZG, DZ and on Level 2 Zones G and D and we noted the partitions in the corridors had been constructed with the service penetrations formed.

Energy Centre steelwork is largely completed. Various items of plant are still being installed via the north elevation. Structural quality to date appears satisfactory, although some minor snagging is still outstanding. Proprietary waterproofing has been installed on the roof slab and quality to date appears satisfactory.

Minipiling has continued during the period to the now significant number of original piles out of tolerance. Some survey results and reports have been made available by Brookfield as well as locally re-engineered foundation pile caps. The latest survey report received on 27th April indicates some 79 original piles out of tolerance, resolution of which is provision of approximately 197 mini-piles.

On the main A&C building concreting has been ongoing in several areas. The top floor slabs in Zones D and G are now complete. Slipforming to Cores A and J now complete and started on Core K. This is also continued at several basement elements, ground floor suspended slab in Zone E, floor slabs at 1st and 2nd floor in Zone H, and to pile caps in Zone J. Workmanship throughout is generally good. The main area of concern has again been in Zone E basement where reinforcement is very congested in several areas and base preparation for reinforcement has not been ideal. Brookfield is aware of these issues and has been trying to address these. Final finish to some of the roof level slabs in Zones G and D is below standard and Brookfield subcontractors have remedial proposals in place for this.

The M&E installation is now progressing at pace, with pre-fabricated sections being installed in the A&C areas, and large plant items being installed in the energy centre.

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND
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In general terms we are satisfied that the installations are being installed to the correct standard, and are of a good quality. Previous concerns regarding open ends being left on the main pipework installations remains, but we note a general improvement in this area. There also appears to be less damage to the ductwork sections as they arrive on site.

Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 10 was issued.

- Requesting protocols for the pipework installation, and particularly the sprinkler pipework, once it has been pressure tested and drained down (risk of rust forming).

Supervisor's Notification of Defects No 2 was issued.

- Piles outwith tolerance.

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2.0 DESIGN COMPLIANCE CHECK

The drawing and specification review is ongoing. We are currently reviewing zone D, B, and Energy centre services drawings and specifications for the electrical systems.

Previous reviews have been conducted, with comments marked on drawings and returned to Brookfield.

We note that Brookfield have responded to our question regarding the use of manual fire dampers, as opposed to motorised fire and smoke dampers;

Brookfield has confirmed that the ventilation fire strategy including the provision of smoke and fire dampers is designed in accordance with the WSP fire strategy report. We will however be issuing a Supervisor's Communication General Matters / Other Instructions to Brookfield seeking confirmation that they will be complying with the relevant SHTM's and in particular SHTM 81 Firecode.

Which states;

"6.8 Ductwork passing through a compartment or sub-compartment boundary must be provided with remotely resettable fire and smoke dampers operated by smoke detection.

6.10 Ductwork passing through cavity barriers must be provided with remotely resettable fire and smoke dampers operated by smoke detection unless the design and construction of the ductwork in the adjacent spaces on each side of the cavity barrier provides the same minimum level of fire safety performance as the cavity barrier."

3.0 PROCEDURES REVIEW**3.1 Contractor's QA Procedures**

Brookfield and their subcontractors have continued with their QA and checking procedures during the period.

Brookfield is currently preparing a QA presentation for the client to take place on Wednesday 30th May 2012.

We continue to monitor and review Brookfield's QA procedures and their current work packages on an ongoing basis. Below is an example of a Checksheet for Level 1 Zone G.

NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND ENERGY CENTRE

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C224 - NSGH - GLASGOW

PARTITIONING SIGN-OFF CHECKSHEET

Brookfield MULTIPLEX **BM**

astins

Drawing No: NA 26 01 PL 252 527 Supervisor Responsible: _____
 Department No: 527 Level: 1 Zone: G

1 Area Handled to Astins to commence setting out head track & advanced walls, 1st fix

Item	Programmed Handover Date	Actual Handover Date	Comments	BM Signature	Astins Acceptance & Comments
Proceeding works completed and early wall drawing previously received.	<u>9/2/12</u>	<u>6/2/12</u>	<u>PROG IN PLACE OF HEAD TRACK BLOCKS WITH POORING.</u>		

2 Head track & advanced walls 1st fix completed ready for module installation.

Item	Programmed Handover Date	Actual Handover Date	Comments	Astins Signature (work completed)	BM Acceptance & Comments
Setting out	<u>23/2/12</u>	<u>22/2/12</u>			
Head track and early wall	<u>23/2/12</u>	<u>22/2/12</u>			

3 Module installation completed ready for Astins to form marked openings in early walls and form cross corridor walls.

Item	Programmed Handover Date	Actual Handover Date	Comments	Mercury Signature (work completed)	BM Acceptance & Comments
Module installation.	<u>7/3/12</u>	<u>28/2/12</u>			
Hole location drawing issued	<u>7/3/12</u>	<u>29/2/12</u>	<u>COMP 1/8/12.</u>		

4 Openings within the early walls and the construction of the cross corridor walls formed

Item	Programmed Handover Date	Actual Handover Date	Comments	Astins Signature (work completed)	BM Acceptance & Comments
Holes formed	<u>13/3/12</u>	<u>29/2/12</u>			
Cross walls constructed	<u>13/3/12</u>	<u>6/3/12</u>			

5 High level service installation works completed ready to commence balance of 1st fix walls

Item	Programmed Handover Date	Actual Handover Date	Comments	Mercury Signature (work completed)	BM Acceptance & Comments (sign & date)
Service installation complete					
Fire / smoke dampers installed					
Pipe work sleeved / lagged at walls					
Lid installed to bashed / tray at walls					
Stank completed ready to be boxed in					

Partition Sign-Off Checksheet

astins

ASTINS LTD

Contract No: _____

Date: 2/3/12

QUALITY INSPECTION REPORT - 1st FIX

1. Tick each box if works satisfactory
 2. Sign & date room by room
 3. If item is unsatisfactory, mark with X
 4. Upon returning to office fill in ONE NUMBER non conformance sheet (ITP/AST/QA/13) for each item
 5. Highlight Drawings

LEVEL 1 ZONE G.
 EARLY WALLS FOR SERVICES.

No	Rm no	SETOUT	FIRST FIX	Defl. Head	Junct. Details	Cupboard openings	Door Openings	Sliding Door	Services framed	Wall plumb/true	Comment	Astins Signed & Date	MC Signed & Date
1		CEILING	WALL										
2		CEILING	WALL										
3		CEILING	WALL										
4		CEILING	WALL										
5		CEILING	WALL										
6		CEILING	WALL										
7		CEILING	WALL										
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25		CEILING	WALL										
26		CEILING	WALL										
27		CEILING	WALL										

The Quality Inspection Report for Partitions 1st fix.

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Workmanship overall generally appears to be to a good standard.

Photographs included in the appendices illustrate works progress and quality during the period.

The following information is requested:

- Structural Design Philosophy at Appendix K stage. Updated version has now been received.
- Skanska/Cementation full proposals/drawing for piles out of position, and complete survey when available.
- Brookfield final report on the overall out of position piles.
- Building Warrant for the substructure works.
- Building warrant for the superstructure works.
- Building Warrant for the below slab drainage.
- Any drainage test results from Zone G.

3.2 Early Warnings

The out of tolerance pile positions currently remain to be completed.

3.3 Trust Equipment Installation, Testing and Commissioning

Currently nothing to report.

3.4 Non Conformance Reports

We are aware of a number of NCR's raised and are being kept up to date as to their status.

4.0 CONSTRUCTION REVIEW

4.1 Visits to the Works

Site inspections were carried out by the NEC3 Supervisors on the 2nd, 3rd, 4th, 5th, 6th, 9th, 10th, 11th, 12th, 13th, 16th, 17th, 18th, 19th, 20th, 23rd, 24th, 25th, 26th, 27th, and 30th March 2012.

4.2 Elements of the Works available for inspection

- Energy Centre – steelwork and cladding. Blockwork at ground, 1st and 2nd floor levels.
- Main building – minipiling works, Cores A, J and K slipforming, Cores G, F and E internally, Zones D and G roof level slabs, Zone E basement area, and ground floor slab, Zone H 1st and 2nd floor slab. Zones F & J pile cap foundations.
- Zones D and G below slab drainage.
- External Drainage – specific sections of installation where access is possible.

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- Tunnel between ACH and Labs.
- Dual carriageway to Renfrew Road, and carriageway from Hardgate Road.
- SFS.
- Internal Partitions.
- M&E modular units.

4.3 Observations from April 2012 Inspections

The visual inspections of the work carried out to date indicate that the works are generally being carried out to a satisfactory standard. Listed below are observations in relation to site visits in April 2012.

4.3.1 Structural

We note that further to the Construction Progress Report week ending 08 January 2012 some piles were reported as outwith positional tolerance. Brookfield has also reported this in subsequent monthly Progress Reports. We now have a piling survey register issued to us on 27th April 2012 which lists piles outwith tolerance. We have raised a Supervisor's Notification of Defect in relation to this issue.

Skanska/Cementation is continuing with the minipiling exercise which appears to be progressing satisfactorily. A meeting has been held with Brookfield to discuss quality aspects of the piling and certain drillers records have been requested in relation to grout quantities. Brookfield have discussed with SK designers and their own designers the need for any separate mini-pile tests and a copy of correspondence indicating that this is not required has been provided.

Significant concreting has again been carried out during the period throughout the ACH. Slabs cast to the roof areas in Zones D and G have areas where the finish is unacceptable due to rain splatter and also where power float finish has not been possible due to noise limitations. Brookfield has indicated that their subcontractor has remedial proposals for these areas.

Slipforming at Cores A and J have proceeded successfully during April and these cores have been completed with generally good quality throughout. Concrete to pile caps in Zones F and J has again progressed during the period, again with no apparent quality issues, as is the case with Zone E basement roof slab. Concrete slabs to Zone H at 1st floor level have continued during the period, as has below slab drainage in Zone G, and now Zone D. All these works generally appear to be progressing in accordance with the Client's requirements and with due regard to quality.

Quality issues in Zone E basement have however again been of some concern during the period. Severe areas of reinforcement congestion have made pouring concrete difficult even with the introduction of 10mm aggregate. Brookfield has however had the designers WSP on site prior to and during pouring to ensure that the reinforcement is compatible with their design intent. In some of these basement areas lower layers of reinforcement resting on rubble rather than blinding or a flat surface has in places been an issue, and Brookfield are looking at this.

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Brookfield's have confirmed that Building WEarrants have been granted by Building Control has granted for the superstructure, substructure and below ground slab drainage. However due to the changes in the GCC numbering Brookfird await the formal documentation. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 3).

4.3.2 Energy Centre

We asked Brookfield to provide details to show that the installation of the ground floor slab rainwater pop-ups is being provided entirely in compliance with the proprietary manufacturer's specification and to the Architect's and Engineer's requirements. They have received an internal response from their sub-contractor Mercury, however were not satisfied and have asked Mercury to review this and give further response. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 05). This issue remains ongoing.

4.3.3 Drainage

External drainage has continued around the building perimeter where access allows. Below slab drainage has continued in Zone G and started in Zone D - to date quality appears to be satisfactory. Pressure tests are planned for early May.

4.3.4 Interconnecting Tunnels.

Labs tunnel backfilling has been substantially completed with no apparent quality issues.

4.3.5 Dual Carriageway to Renfrew Road. (A&C)

Modest work to footpath, main carriageway locally in relation to the buried MTHW pipes and drainage has continued during the period, with no apparent quality issues.

4.3.6 Dual Carriageway to Renfrew Road. (Lab)

The road carriageway around the Labs was completed during the period. While there is some peripheral snagging items around the building (covered separately in the Labs report) the carriageway works themselves appear of good quality.

4.3.7 Pipework.

We asked Brookfield to confirm their protocols in relation to the pipework installation, and particularly the sprinkler pipework, once it has been pressure tested. We have asked them to confirm if they are going to fill the pipes with water for the pressure tests, and then drain it. If this is going to be the procedure it would mean that the system will sit empty for a considerable amount of time. We have concerns that this will allow a film of rust to form on the inside surface of the pipe, before it is filled again at the end of the project. . (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 10).

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Installation of hot, cold, heating, & chilled water pipework in the A&C hospital is progressing at pace and in general is being installed to a good standard. It was noted however that there are still some open ends being left on the pipework, although to a lesser degree than previously reported. The contractor should be reminded that these need to be sealed, to prevent the ingress of moisture and subsequent corrosion that may develop.

4.3.8 Ventilation

The installation of ventilation ductwork in the A&C hospital is progressing well, and has been installed to a good standard. It appears that any open ends are being sealed. The level of damage occurring during the delivery process is much reduced from that previously reported, however the contractor should be reminded that care should be taken to avoid such damage occurring.

Brookfield has confirmed that the ventilation fire strategy including the provision of smoke and fire dampers is designed in accordance with the WSP fire strategy report” We will however be issuing a Supervisor’s Communication seeking confirmation from Brookfield should be reminded that they must also ensure compliance with the relevant SHTM’s and in particular SHTM 81 Firecode.

Which states;

“6.8 Ductwork passing through a compartment or sub-compartment boundary must be provided with remotely resettable fire and smoke dampers operated by smoke detection.

6.10 Ductwork passing through cavity barriers must be provided with remotely resettable fire and smoke dampers operated by smoke detection unless the design and construction of the ductwork in the adjacent spaces on each side of the cavity barrier provides the same minimum level of fire safety performance as the cavity barrier.”

4.3.9 Insulation

The thermal insulation installation to the pre-fabricated sections of pipework is being completed off site, before delivery. It should be confirmed with Brookfield that these pre-insulated sections of pipework have been pressure tested, prior to the insulation being fitted.

4.3.10 Energy Centre

Main silencers have now been installed for 5 No of the generator installation.

4.3.11 Trunking

Cable trunking is being installed as part of the offsite fabricated sections that are being installed in the A&C hospital and in general the installation is of a good standard.

SUPERVISOR 'S REPORT NO. 13**APRIL 2012****4.3.12 Cable Trays**

Cable tray is being installed as part of the offsite fabricated sections that are being installed in the A&C hospital and in general the installation is of a good standard.

4.3.13 Cabling

Cabling installations have not commenced.

Modular wiring looms are now being installed as part of the offsite fabricated assemblies and carefully tied up for protection.

4.3.14 Conduit

Solid conduit installations have not commenced.

4.3.15 Partitions

We inspected the internal stud partition on Level 1 Area ZG, DZ and on Level 2 Area ZG, DZ. We noted on Level 1 the partitions in the corridors above doors had been constructed with the service penetrations formed. There were no quality issues.

4.4 Defects from April 2011 Inspections.

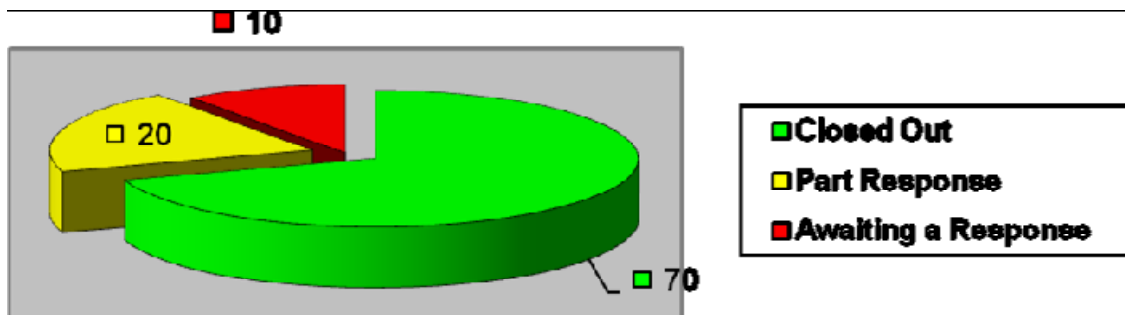
Brookfield has confirmed that Ventrac replaced ductwork and inwards goods are now stored in dedicated cages, separated with wooden batons to reduce likelihood of damage. See attached photograph of new ductwork Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 01 is closed out.

We note that further to Brookfield's Construction Progress Report week ending 08 January 2012 some piles were reported as outwith positional tolerance. Brookfield reported also this in subsequent monthly Progress Reports. We now have their piling survey register issued to us on 27th April 2012 which lists several piles outwith tolerance. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 01

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5.0 INFORMATION REQUIRED



NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND ENERGY CENTRE

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APRIL 2012

Item No.	Description	Date Requested	Comment	
01	Request for details of the shrinkage reduction admixture.	10/10/11	Closed out.	
02	Request for the method statement for Slab Concreting Operations.	08/11/11	Closed out.	
03	Confirm there is building warrant for the substructure, superstructure and below ground slab drainage and provide copies.	10/01/12	Response received.	
04	Provide relevant road construction consents.	10/01/12	Closed out.	
05	Provide details to show installation of pop ups are compliant with manufacturers spec and Architect and Engineer's requirements.	10/01/12	Awaiting a Response.	
06	We have requested design proposals in relation to the section of the 1st floor slab fire resistance integrity.	27/02/12	Closed out.	
07	We have requested floor finish survey and test results for the top floor Zone G.	16/03/12	Closed out.	
08	We have requested floor finish survey and test results for the top floor Zone D.	16/03/12	Closed out.	
09	Open ends in pipework require to be sealed.	23/03/12	Closed out.	
10	Please confirm your protocols in relation to the pipework installation, and particularly the sprinkler pipework, once it has been pressure tested.	26/04/2012	Open	

NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND ENERGY CENTRE

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6.0 SUPERVISORS TESTS AND INSPECTIONS

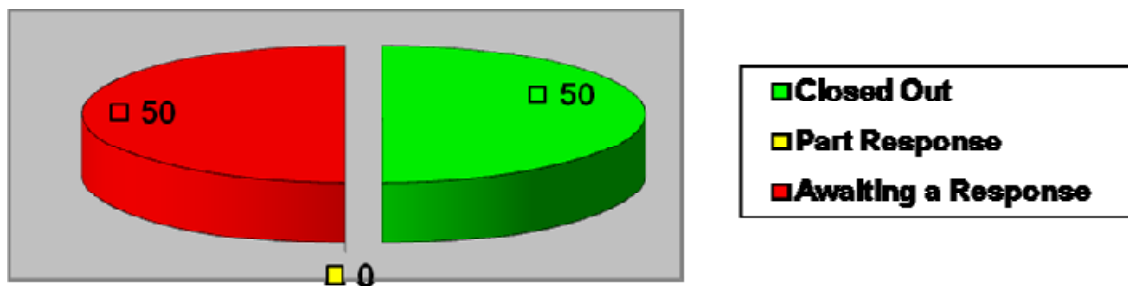
Tests not required	N/A
Tests required but not tested	Req
Tests required which has passed tests	Pass

Tests				
Ref	Title	To be Notified by	Status	Test Date

Inspection not required	N/A
Inspection required	Req
Inspection complete	Pass

Inspections				
Ref	Title	To be Notified by	Status	Inspection Date



7.0 DEFECTS NOTIFICATIONS ISSUED



**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND
ENERGY CENTRE**

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APRIL 2012

Item No.	Description	Date Requested	Comment	
01	We are concerned about the level of damage to the ductwork and the subsequent amount of time re-working it on site to effect repairs. Confirm action to prevent further damage and provide evidence that the existing damage has been repaired.	22.03.12	Closed	
02	Some piles were reported as outwith positional tolerance.	02.05.12	Open	

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND
ENERGY CENTRE****SUPERVISOR 'S REPORT NO. 13****APRIL 2012**

John Redmond
Capita Symonds
Technical Advisory Services

The Beacon, 8th Floor, 176 St Vincent Street, Glasgow G2 5SG

	Signed	Date
Originated by	John Redmond	9th May 2012
Completed by	David Ramsay	9th May 2012

Appendix 1

Photographs



Photo No 1. Damaged trunking on Level 1.



Photo No 2. Section of damaged trunking show above replaced.



Photo No 3. Open ends of pipework sealed.



Photo No 4. Drainage installation.

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND
ENERGY CENTRE**

SUPERVISOR 'S REPORT NO. 13

APRIL 2012



Photo 5. Partition Formed around Services.

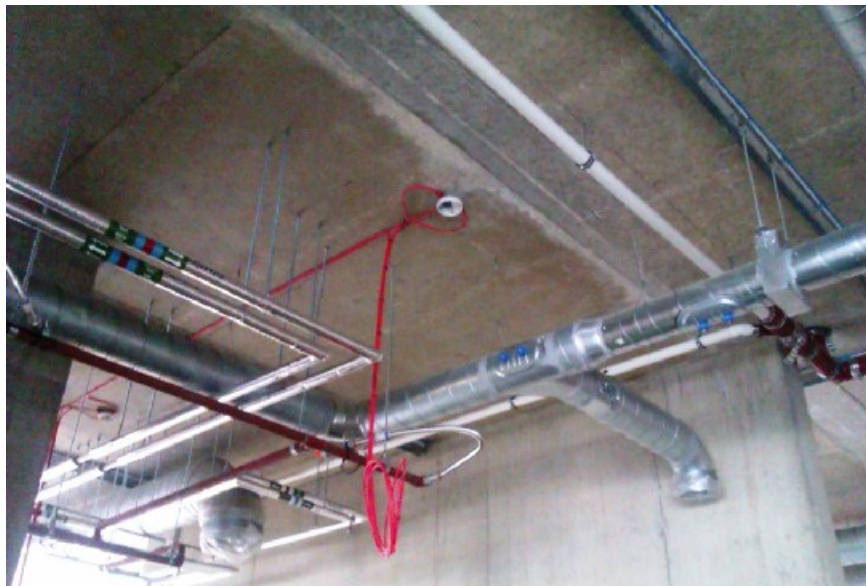


Photo No 6. Location of smoke detectors.

CAPITA SYMONDS

**NEW SOUTH GLASGOW HOSPITAL
ADULT AND CHILDREN'S HOSPITAL AND THE ENERGY CENTRE
NEC 3 SUPERVISORS REPORT NO. 14
MAY 2012**

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND
ENERGY CENTRE**

SUPERVISOR 'S REPORT NO. 14

MAY 2012

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ADULT AND CHILDRENS HOSPITAL AND ENERGY CENTRE**1.0 EXECUTIVE SUMMARY: ADULT & CHILDRENS HOSPITAL**

Visits to the site during May 2012 indicated that the construction and procedures are progressing in a satisfactory manner in accordance with the Employer's Requirements.

We continue to monitor the construction drawings and specifications for compliance with the Contract Documentation in conjunction with our site inspections. However it became apparent from discussions with Package Managers that we were not receiving construction approved drawings. Consequently we raised Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 12.

Throughout, the standard and quality of the workmanship is generally good and operations are being carried out in an acceptable manner.

We inspected the work to the internal stud partition on Level 1 and Level 2 and we noted the partitions in the corridors were progressing. We noted that one partition was having the second side fixed without insulation and another at high level had no insulation. Brookfield is currently monitoring these and is aware of these quality issues.

Minipiling has again continued during the period to the now significant number of original piles out of tolerance. Survey results and reports have been made available by Brookfield as well as details of locally re-engineered foundation pile caps. The latest survey report received on 27th April indicates some 79 original piles out of tolerance, resolution of which is provision of approximately 197 mini-piles.

On the main A&C building concreting has been ongoing in several areas. Floor slabs in Zone G have commenced with local sub-slab drainage all installed and tested. Slipforming to Core K is now complete and has commenced on Core L. Basement slab concreting is still progressing but the heavily congested areas are largely completed, and floor slabs have continued at ground and 1st floor in Zone E, and 1st and 2nd floors in Zone H, all to apparent good quality. The finish to some of the roof level slabs in Zones G and D which were below standard has been improved by buffing down, and asphalt works have progressed now in some of these areas.

The M&E installation is now progressing at pace, with pre-fabricated sections being installed in the A&C areas on levels 1 and 2, and large plant items being installed in the energy centre.

In general terms we are satisfied that the installations are being installed to the correct standard, and are of a good quality.

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND
ENERGY CENTRE****SUPERVISOR 'S REPORT NO. 14****MAY 2012**

Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 10
11, 12 and 13 were issued.

- Requesting protocols for the pipework installation, and particularly the sprinkler pipework, once it has been pressure tested and drained down (risk of rust forming).
- Requesting confirmation that smoke and fire dampers are designed and installed in accordance with the relevant SHTMs and in particular SHTM 81 Firecode.
- Please provide results of the electronic roof integrity test carried to Roof No 7 Level 2.
- Requesting construction approved drawings to be issued

SUPERVISOR 'S REPORT NO. 14**MAY 2012****2.0 DESIGN COMPLIANCE CHECK**

The drawing and specification review is ongoing.

Previous reviews have been conducted, with comments marked on drawings and returned to Brookfield.

We have not received confirmation that this requirement is being met under the current design proposals but we have seen on site that motorised dampers are being installed.

3.0 PROCEDURES REVIEW**3.1 Contractor's QA Procedures**

Brookfield and their subcontractors have continued with their QA and checking procedures during the period.

Workmanship overall is of a good standard throughout, with an improvement in the level of pre-installation damage to ductwork sections.

We have witnessed that Brookfield Multiplex are carrying out an installation check on site and have processes in place to carry out random checks on signed off work. They are also implementing the IDMS process in Level 1 as works are progressing to a sign off stage.

Brookfield delivered a QA presentation for the client on Wednesday 30th May 2012.

We continue to monitor and review Brookfield's QA procedures and their current work packages on an ongoing basis. We have not receiving construction approved drawings. Consequently we raised Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 12.

On the next page are Checksheets for Level 1 Zone G for April and May.

NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND ENERGY CENTRE

SUPERVISOR'S REPORT NO. 14

MAY 2012

C224 - NSGH - GLASGOW

PARTITIONING SIGN-OFF CHECKSHEET

Brookfield MULTIPLEX BM

astins

Drawing No: NA 24 01 PL 252 527 Supervisor Responsible: Level: 1 Zone: G

Department No: 527

1 Area Handed to Astins to commence setting out head track & advanced walls, 1st fix

Item	Programmed Handover Date	Actual Handover Date	Comments	BM Signature	Astins Acceptance & Comments
Proceeding works completed and early wall drawing previously received.	9/2/12	6/2/12	Picks in back of head track floor. Saw water pooling.		

2 Head track & advanced walls 1st fix completed ready for module installation.

Item	Programmed Handover Date	Actual Handover Date	Comments	Astins Signature	BM Acceptance & Comments
Setting out	23/2/12	22/2/12			
Head track and early wall	23/2/12	22/2/12			

3 Module installation completed ready for Astins to form marked openings in early walls and form cross corridor walls.

Item	Programmed Handover Date	Actual Handover Date	Comments	Mercury Signature	BM Acceptance & Comments
Module installation.	7/3/12	23/2/12			
Hole location drawing issued	7/3/12	29/2/12	comp 1/3/12		

4 Openings within the early walls and the construction of the cross corridor walls formed

Item	Programmed Handover Date	Actual Handover Date	Comments	Astins Signature	BM Acceptance & Comments
Holes formed	13/3/12	24/2/12			
Cross walls constructed	13/3/12	6/3/12			

5 High level service installation works completed ready to commence balance of 1st fix walls

Item	Programmed Handover Date	Actual Handover Date	Comments	Mercury Signature	BM Acceptance & Comments
Service installation complete					
Fire / smoke dampers installed					
Pipe work sleeved / lagged at walls					
Lid installed to basket / tray at walls					
Stack completed ready to be boxed in					

Partition Sign-Off Checksheet April.

C221 - NSGH - GLASGOW

PARTITIONING SIGN-OFF CHECKSHEET

Brookfield MULTIPLEX BM

astins

Drawing No: NA 24 01 PL 252 527 Supervisor Responsible: Level: 1 Zone: G

Department No: 527

1 Area Handed to Astins to commence setting out head track & advanced walls, 1st fix

Item	Programmed Handover Date	Actual Handover Date	Comments	BM Signature	Astins Acceptance & Comments
Proceeding works completed and early wall drawing previously received.	9/2/12	6/2/12	Picks in back of head track floor. Saw water pooling.		

2 Head track & advanced walls 1st fix completed ready for module installation.

Item	Programmed Handover Date	Actual Handover Date	Comments	Astins Signature	BM Acceptance & Comments
Setting out	23/2/12	22/2/12			
Head track and early wall	23/2/12	22/2/12			

3 Module installation completed ready for Astins to form marked openings in early walls and form cross corridor walls.

Item	Programmed Handover Date	Actual Handover Date	Comments	Mercury Signature	BM Acceptance & Comments
Module installation.	7/3/12	23/2/12			
Hole location drawing issued	7/3/12	29/2/12	comp 1/3/12		

4 Openings within the early walls and the construction of the cross corridor walls formed

Item	Programmed Handover Date	Actual Handover Date	Comments	Astins Signature	BM Acceptance & Comments
Holes formed	13/3/12	24/2/12			
Cross walls constructed	13/3/12	6/3/12			

5 High level service installation works completed ready to commence balance of 1st fix walls

Item	Programmed Handover Date	Actual Handover Date	Comments	Mercury Signature	BM Acceptance & Comments
Service installation complete	28/5	20/5			
Fire / smoke dampers installed	28/5				
Pipe work sleeved / lagged at walls	28/5				
Lid installed to basket / tray at walls	28/5				
Stack completed ready to be boxed in	28/5	1/12			

Partition Sign-Off Checksheet May.

SUPERVISOR 'S REPORT NO. 14**MAY 2012**

Workmanship overall generally appears to be to a good standard.

Photographs included in the appendices illustrate works progress and quality during the period.

The following information is requested:

- Brookfield final report on the overall out of position piles– final Bird Report received.

3.2 Early Warnings

The out of tolerance pile positions currently remain to be completed.

3.3 Trust Equipment Installation, Testing and Commissioning

Currently nothing to report.

3.4 Non Conformance Reports

We are aware of a number of NCR's raised and are being kept up to date as to their status.

4.0 CONSTRUCTION REVIEW**4.1 Visits to the Works**

Site inspections were carried out by the NEC3 Supervisors on the 1st, 2nd, 3rd, 4th, 7th, 8th, 9th, 10th, 11th, 14th, 15th, 16th, 17th, 18th, 21st, 22nd, 23rd, 24th, 25th, 28th, 29th, 30th, and 31st May 2012.

4.2 Elements of the Works available for inspection

- Energy Centre – steelwork and cladding. Local blockwork at ground, 1st and 2nd floor levels.
- Main building – minipiling works, Cores K and L slipforming, Cores A,B,C,D,G, F and E internally, Zones D and G roof level slabs, Zone E basement area, and ground floor slab, Zone H 1st and 2nd floor slab. Zones F & J pile cap foundations and ground floor columns.
- Zones D and G below slab drainage.
- External Drainage – specific sections of installation where access is possible.
- Tunnel between ACH and Labs.
- Dual carriageway to Renfrew Road, and carriageway from Hardgate Road.
- SFS.
- Internal Partitions.
- M&E modular units.

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4.3 Observations from April 2012 Inspections

The visual inspections of the work carried out to date indicate that the works are generally being carried out to a satisfactory standard. Listed below are observations in relation to site visits in May 2012.

4.3.1 Structural

Albeit that the minipiling exercise appears to be progressing satisfactorily there has been no formal response to the Supervisor's Notification of Defect raised in relation to some initial piles being installed out of positional tolerance..

Brookfield has now provided details and information related to the minipiling to indicate that they and their designers are satisfied in relation to both the pile design and pile installation.

Buffing to some of the top floor slabs in Zones G and D has been carried out and asphalt layers applied locally. This appears to be progressing satisfactorily with regard to quality.

No quality issues have particularly arisen in relation to the various concrete pours carried out during the period – these have included completion of slipforming at Core K, commencement of slipforming at Core L, basement, ground and 1st floor slabs at Zone E, and 1st and 2nd floor slabs at Zone H. Some large areas are involved in most of these pours and occasionally the subcontractor's steel fixing and carpenter trades are 'just-in-time' in relation to concrete pouring. Brookfield is aware of this and is carrying out rigorous quality checks. Concrete cube strengths continue to be satisfactory.

In relation to shrinkage issues on floor slabs, particularly around the central core area (Cores A,B,C and D) anti-shrinkage additive is being added to the concrete mix and in addition very specific pour sequences are being followed, specific drawings for which have been provided by Brookfield designers.

Brookfield have now provided a letter from GCC indicating that appropriate Building Warrants are in place, although copies of the actual warrants are still awaited.

Brookfield's have provided copies of Amendments to Building Warrant granted by Building Control for Stages 5, 9,10,11,12 and 21. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 3).

4.3.2 Energy Centre

We asked Brookfield to provide details to show that the installation of the ground floor slab rainwater pop-ups is being provided entirely in compliance with the proprietary manufacturer's specification and to the Architect's and Engineer's requirements. They have received an internal response from their sub-contractor Mercury, however were not satisfied and have asked Mercury to review this and give further response. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 05). This issue remains ongoing.

SUPERVISOR 'S REPORT NO. 14**MAY 2012****4.3.3 Drainage**

Brookfield and their subcontractors have been carrying out appropriate drainage tests on pipelines below the ground floor slabs in Zone G. Some of these initially revealed a couple of problem areas and these have been repaired and successful retesting carried out. Some below specification pipe sections have been delivered to site, but these have been identified and replaced as required and relevant discussions held with the suppliers.

4.3.4 Interconnecting Tunnels.

Labs tunnel backfilling has been substantially completed with no apparent quality issues.

4.3.5 Dual Carriageway to Renfrew Road. (A&C)

Modest work to footpath, main carriageway locally in relation to the buried MTHW pipes and drainage has continued during the period, with no apparent quality issues.

4.3.6 Pipework.

Brookfield have confirmed that there will be no water in the sprinkler system at this stage the pressure test is pneumatic test and not hydraulic. Prior to commissioning a hydraulic test will be carried out prior to flushing and chemical clean and closed with inhibitor to stop rust. Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 10 is closed out.

Installation of hot, cold, heating and chilled water and medical gas pipework in the A&C hospital is progressing at pace and in general is being installed to a good standard. The number of open ends seen has reduced to minimal levels. The contractor should be reminded that these need to be sealed, to prevent the ingress of moisture and subsequent corrosion that may develop.

4.3.7 Ventilation

The installation of ventilation ductwork in the A&C hospital is progressing well, and has been installed to a good standard. It appears that any open ends are being sealed. The level of damage occurring during the delivery process is much reduced from that previously reported, however the contractor should be reminded that care should be taken to avoid such damage occurring.

Brookfield has confirmed that the ventilation fire strategy including the provision of smoke and fire dampers is designed in accordance with the WSP fire strategy report. However we have issued a Supervisor's Communication seeking confirmation from Brookfield should be reminded that they must also ensure compliance with the relevant SHTM's and in particular SHTM 81 Firecode. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 11).

SUPERVISOR 'S REPORT NO. 14**MAY 2012****4.3.8 Insulation**

The thermal insulation installation to the pre-fabricated sections of pipework is being completed off site, before delivery. Brookfield has confirmed that these pre-insulated sections of pipework have been pressure tested, prior to the insulation being fitted.

4.3.9 Pressure testing

We have issued correspondence asking Brookfield to clarify their planned procedure for pressure testing the modular pipework sections on a zone by zone basis. Clarification has been received that these will be air tests and this will remove concern about long term corrosion. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 10).

4.3.10 Energy Centre

The first batch of 5 generators has been installed and the electrical installations associated with these are progressing well. The main flue stack is now installed.

4.3.11 Trunking

Cable trunking is being installed as part of the offsite fabricated sections that are being installed in the A&C hospital and in general the installation is of a good standard. Earth bonds are being installed in all sections as installation progresses.

4.3.12 Cable Trays

Cable tray is being installed as part of the offsite fabricated sections that are being fitted in the A&C hospital and in general the installation is of a good standard.

4.3.13 Cabling

Sub-main cable installations have commenced with cables run into distribution board locations.

Modular wiring looms are now being installed as part of the offsite fabricated assemblies and carefully tied up for protection.

4.3.14 Conduit

Conduit installations have commenced ahead of second side partition sheeting. The standard of installation would appear to be good.

4.3.15 Partitions

We inspected the internal stud partition on Level 1 Area ZG, DZ and on Level 2 Area ZG, DZ. We noted on Level 1 the partitions in the corridors above doors had been constructed with the service penetrations formed. There were no quality issues.

SUPERVISOR 'S REPORT NO. 14**MAY 2012**

We noted that one partition was having the second side fixed without insulation and another at high level had no insulation. Brookfield is currently monitoring these and is aware of these quality issues.

We have also received Knauf test reports for the partitions covering fire, acoustic and impact tests. This is currently being reviewed.

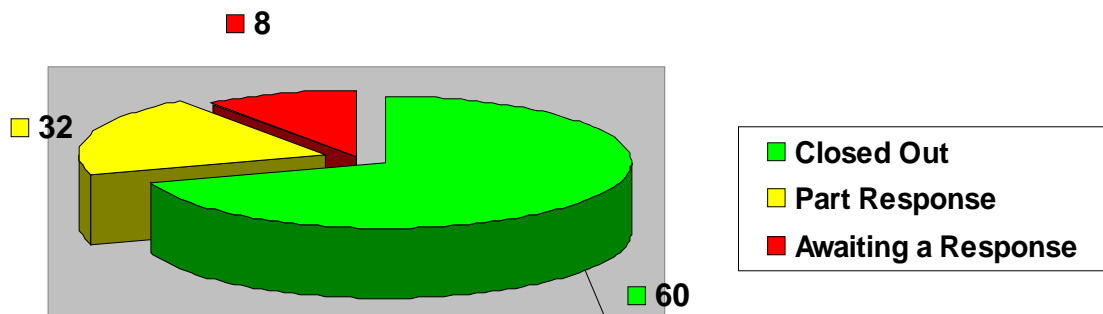
4.3.16 Roofs

We have requested results of the electronic tests recently carried out on site. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 13).

4.4 Defects from April 2011 Inspections.

No Defects raised.

5.0 INFORMATION REQUIRED



NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND ENERGY CENTRE

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Item No.	Description	Date Requested	Comment	
01	Request for details of the shrinkage reduction admixture.	10/10/11	Closed out.	
02	Request for the method statement for Slab Concreting Operations.	08/11/11	Closed out.	
03	Confirm there is building warrant for the substructure, superstructure and below ground slab drainage and provide copies.	10/01/12	Response received.	
04	Provide relevant road construction consents.	10/01/12	Closed out.	
05	Provide details to show installation of pop ups are compliant with manufacturers spec and Architect and Engineer's requirements.	10/01/12	Awaiting a Response.	
06	We have requested design proposals in relation to the section of the 1st floor slab fire resistance integrity.	27/02/12	Closed out.	
07	We have requested floor finish survey and test results for the top floor Zone G.	16/03/12	Closed out.	
08	We have requested floor finish survey and test results for the top floor Zone D.	16/03/12	Closed out.	
09	Open ends in pipework require to be sealed.	23/03/12	Closed out.	
10	Please confirm your protocols in relation to the pipework installation, and particularly the sprinkler pipework, once it has been pressure tested.	26/04/12	Closed out.	
11	Please confirm that smoke and fire dampers will comply with the relevant SHTM's and in particular SHTM 81 Firecode.	21/05/12	Open	
12	Request for all approved construction approved drawings to be issued through Aconex.	30/05/12	Response received.	
13	Request for Roof Integrity test results	30/05/12	Response received.	

NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND ENERGY CENTRE

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6.0 SUPERVISORS TESTS AND INSPECTIONS

Tests not required	N/A
Tests required but not tested	Req
Tests required which has passed tests	Pass

Tests				
Ref	Title	To be Notified by	Status	Test Date

Inspection not required	N/A
Inspection required	Req
Inspection complete	Pass

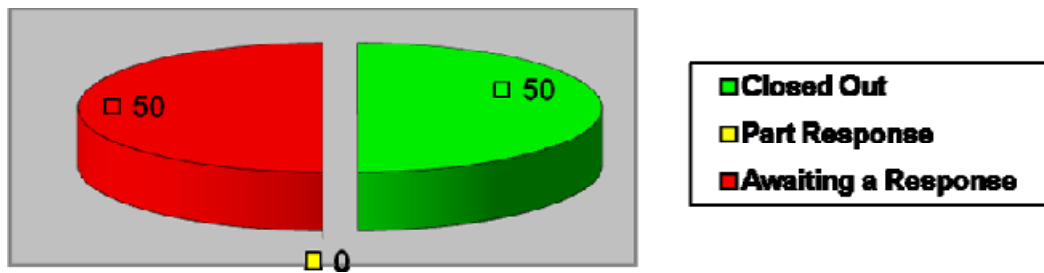
Inspections				
Ref	Title	To be Notified by	Status	Inspection Date

NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND
ENERGY CENTRE

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7.0 DEFECTS NOTIFICATIONS ISSUED



**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND
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Item No.	Description	Date Requested	Comment	
01	We are concerned about the level of damage to the ductwork and the subsequent amount of time re-working it on site to effect repairs. Confirm action to prevent further damage and provide evidence that the existing damage has been repaired.	22.03.12	Closed	
02	Some piles were reported as out with positional tolerance.	02.05.12	Response received	

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND
ENERGY CENTRE****SUPERVISOR 'S REPORT NO. 14****MAY 2012**

John Redmond
Capita Symonds
Technical Advisory Services

The Beacon, 8th Floor, 176 St Vincent Street, Glasgow G2 5SG

	Signed	Date
Originated by	John Redmond	6th June 2012
Completed by	John Cartwright	6th June 2012

Appendix 1

Photographs

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND
ENERGY CENTRE**

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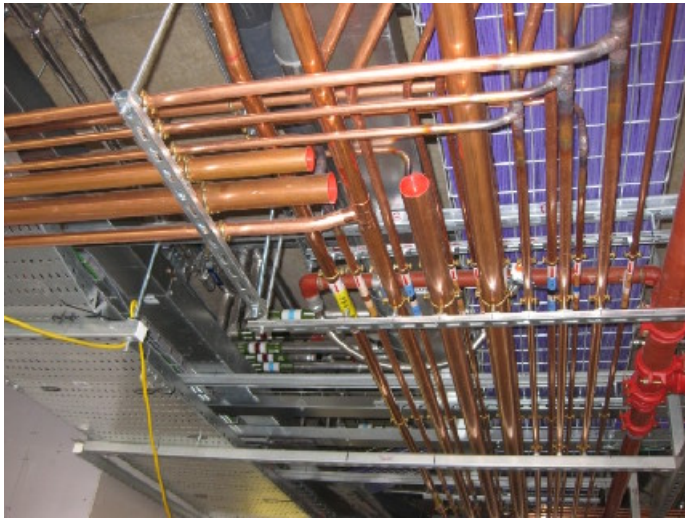


Photo 1 – Medical Gas Pipework and Data Cabling



Photo 2 – Distribution Boards installed, Cables Terminated



Photo 3 – Ductwork with Motorised Damper Installed



Photo 4 – M&E Installation Rig with Pipework Ends.



Photo 5 – Insulation not fitted to shaftwall.

CAPITA SYMONDS

**NEW SOUTH GLASGOW HOSPITAL
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**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND
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JUNE 2012

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ADULT AND CHILDRENS HOSPITAL AND ENERGY CENTRE**1.0 EXECUTIVE SUMMARY: ADULT & CHILDRENS HOSPITAL**

Visits to the site during June 2012 indicated that the construction and procedures are progressing in a satisfactory manner in accordance with the Employer's Requirements.

Throughout, the standard and quality of the workmanship is generally good and operations are being carried out in an acceptable manner.

The issue of construction approved drawings has improved and we have received a number of communications including Praters drawings, Miller Roofing Drawings and 332 series 1:50 drawings.

We witnessed with Brookfield the opening up of 2nd side boarding of partitions at high level on Level 2. This was to determine if insulation has been fitted in accordance with the specification. Of the four areas opened up all but one did not have insulation and this partition was stripped back.

The roof work is progressing on Level 1 Courtyard 3, 4, and Level 2 Courtyard 2-3 in accordance with the drawings and specification.

Energy Centre structural work is largely completed. Various items of plant are still being installed via the north elevation. Structural quality to date appears satisfactory, although some minor snagging still remains outstanding.

Minipiling is almost completed with pile installation ongoing at the western side of Zone B.

On the main A&C building concreting has again progressed in several areas. This has included 1st and 2nd floors in Zones E and H suspended ground floors in Zone F, 1st floor at Zone J, ground floor slab at east side of Zone D and foundations in Zone C.

Column installation has also progressed in Zones A and J as well as sub-floor drainage installation in Zone D. Quality throughout has generally been good, although attention will be needed to some slab finishes at ground floor in Zone F and 1st floor Zone J.

Visits to the site during this period were to inspect progress on the Energy Centre and the A&C Hospital.

The M&E installation is now progressing at pace, with pre-fabricated sections being installed in the A&C areas, and large plant items being installed in the energy centre.

SUPERVISOR 'S REPORT NO. 15**JUNE 2012**

In general terms we are satisfied that the installations continue being installed to the correct standard, and are of a good quality. Previous concerns regarding open ends being left on the main pipework installations are now being addressed on site.

Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 14 15, 16, 17, 18, 19, 20 and 21 were issued.

- Requesting Test Commissioning Programme for areas to be completed in the coming months and Programme at final completion.
- Confirmation how insulation will be fitted between boards at high level.
- Confirm if impact boarding is to be fitted to partitions forming IPS and Electrical Cupboard on Level 1.
- Water damaged boards.
- Requesting copies of Building Control Amendments to Building.
- Local drain in Zone D Slab drainage does not appear to be installed as detailed on the construction drawings.
- Insulation not fitted at upper level of partition.
- Gaps and open louvres between acoustic intake valves.

SUPERVISOR 'S REPORT NO. 15**JUNE 2012****2.0 DESIGN COMPLIANCE CHECK**

The drawing and specification review is ongoing.

Previous reviews have been conducted, with comments marked on drawings and returned to Brookfield.

3.0 PROCEDURES REVIEW**3.1 Contractor's QA Procedures**

Brookfield and their subcontractors have continued with their QA and checking procedures during the period.

Workmanship overall is of a good standard throughout, with an improvement in the level of pre-installation damage to ductwork sections.

We have witnessed that Brookfield Multiplex are carrying out an installation check on site and have processes in place to carry out random checks on signed off work.

We asked Brookfield to provide us with their programme for Tests and Commissioning of the areas which will be completed in the coming months and also their final Tests and Commissioning programme prior to handover. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 14).

The issue of construction approved drawings has improved and we have received Praters drawings, Miller Roofing Drawings and 332 series 1:50 drawings. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 12 is closed out. However we will continue to monitor the issuing of drawings.

NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND ENERGY CENTRE

SUPERVISOR'S REPORT NO. 15

JUNE 2012

C224 - NSGH - GLASGOW

PARTITIONING SIGN-OFF CHECKSHEET

Brookfield
MULTIPLEX

BM



astins

Drawing No: NA 26 01 PL 252 527 Supervisor Responsible: _____
 Department No: 527 Level: 1 Zone: G

1 Area Handed to Astins to commence setting out head track & advanced walls, 1st fix

Item	Programmed Handover Date	Actual Handover Date	Comments	BM Signature	Astins Acceptance & Comments
Proceeding works completed and early wall drawing previously received.	9/2/12	6/2/12	Procs in place of head track & early wall drawing previously received.		

2 Head track & advanced walls 1st fix completed ready for module installation.

Item	Programmed Handover Date	Actual Handover Date	Comments	Astins Signature	BM Acceptance & Comments
Setting out	23/2/12	22/2/12			
Head track and early wall	23/2/12	22/2/12			

3 Module installation completed ready for Astins to form marked openings in early walls and form cross corridor walls.

Item	Programmed Handover Date	Actual Handover Date	Comments	Mercury Signature	BM Acceptance & Comments
Module installation.	7/3/12	23/2/12			
Hole location drawing issued	7/3/12	29/3/12	comp 1/3/12		

4 Openings within the early walls and the construction of the cross corridor walls formed

Item	Programmed Handover Date	Actual Handover Date	Comments	Astins Signature	BM Acceptance & Comments
Holes formed	13/3/12	29/3/12			
Cross walls constructed	13/3/12	6/3/12			

5 High level service installation works completed ready to commence balance of 1st fix walls

Item	Programmed Handover Date	Actual Handover Date	Comments	Mercury Signature	BM Acceptance & Comments
Service installation complete	23/3	20/5			
Fire / smoke dampers installed	23/3	20/5			
Pipe work sleeved / lagged at walls	23/3	20/5			
Lid installed to bashed / tray at walls	23/3	20/5			
Stack completed ready to be boxed in	23/3	20/5			

Partition Sign-Off Checksheet for May

The next page shows the Partition Sign-Off Checksheet for June.

NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND ENERGY CENTRE

SUPERVISOR'S REPORT NO. 15

JUNE 2012

C224 - NSGH - GLASGOW

PARTITIONING SIGN-OFF CHECKSHEET





 Drawing No: NA 26 01 PL 252 527
 Department No: S27

 Supervisor Responsible:
 Level: 1

Zone: C

Item	Programmed Handover Date	Actual Handover Date	Comments	Astins Signature (mark)	BM Acceptance & Comments (page 2 of 4)
1 Area Handed to Astins to commence setting out head track & advanced walls, 1st fix					
Proceeding works completed and early wall drawing previously received.	9/2/12	6/2/12	PECS on Panels OF HEAD TRACK LODE SCAS WHOLE ROOMS.	[Signature]	[Signature]
2 Head track & advanced walls 1st fix completed ready for module installation.					
Setting out	23/2/12	22/2/12		[Signature]	[Signature]
Head track and early wall	23/2/12	22/2/12		[Signature]	[Signature]
3 Module installation completed ready for Astins to form marked openings in early walls and form cross corridor walls.					
Module installation.	7/3/12	23/2/12		[Signature]	[Signature]
Hole location drawing issued	7/3/12	24/2/12	Comp 1/3/12.	[Signature]	[Signature]
4 Openings within the early walls and the construction of the cross corridor walls formed					
Holes formed	13/3/12	24/2/12		[Signature]	[Signature]
Cross walls constructed	13/3/12	6/3/12		[Signature]	[Signature]
5 High level service installation works completed ready to commence balance of 1st fix walls					
Service installation complete	28/5	28/5		[Signature]	[Signature]
Fire / smoke dampers installed	28/5	28/5		[Signature]	[Signature]
Fire work covered / lagged at walls	28/5	28/5		[Signature]	[Signature]
Lit installed to bask / tray at walls	28/5	28/5		[Signature]	[Signature]
Stack completed ready to be boxed in	28/5	28/5		[Signature]	[Signature]
6 1st fix wall construction complete ready for mercury to mark noggin locations.					
1st fix wall completed	2-3-2012	15-06-2012	Revisions to half height and bayonet.	[Signature]	[Signature]
Tie in to external facade complete	2-7-2012	17-06-2012		[Signature]	[Signature]
7 In wall noggin locations / penetrations marked ready for noggin installation					
Noggins installed inc. lead / putty pads				[Signature]	[Signature]
Holes formed				[Signature]	[Signature]
8 Noggin installation complete ready for in wall service installation					
Mechanical / plumbing				[Signature]	[Signature]
Electrical / BMS / Nurse call / Alarms				[Signature]	[Signature]
Door access				[Signature]	[Signature]
Fire alarm				[Signature]	[Signature]
Miscellaneous				[Signature]	[Signature]
9 In wall service installation completed					
Mechanical / plumbing				[Signature]	[Signature]
Electrical / BMS / Nurse call / Alarms				[Signature]	[Signature]
Door access				[Signature]	[Signature]
Fire alarm				[Signature]	[Signature]
Miscellaneous				[Signature]	[Signature]
10 In wall service and noggin installation inspected and signed off - HOLD POINT					
Inspection				[Signature]	[Signature]
11 FFE noggin installation and wall closure					
FFE Noggins				[Signature]	[Signature]
12 Tape and jointing works complete					
Tape and jointing				[Signature]	[Signature]
13 Area handed over for mist coating works to commence.					
Astins / painter already completed pre paint inspection during tape and jointing				[Signature]	[Signature]

NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND ENERGY CENTRE

SUPERVISOR 'S REPORT NO. 15

JUNE 2012

3.2 Early Warnings

The out of tolerance pile positions currently remain to be completed.

3.3 Trust Equipment Installation, Testing and Commissioning

Currently nothing to report.

3.4 Non Conformance Reports

We are aware of a number of NCR's raised and are being kept up to date as to their status.

4.0 CONSTRUCTION REVIEW

4.1 Visits to the Works

Site inspections were carried out by the NEC3 Supervisors on the 1st, 4th, 5th, 6th, 7th, 8th, 11th, 12th, 13th, 14th, 15th, 18th, 19th, 20th, 21st, 22nd, 25th, 26th, 27th, 28th and 29th June 2012.

4.2 Elements of the Works available for inspection

- Energy Centre – steelwork and cladding. Local blockwork at ground, 1st and 2nd floor levels.
- Main building – minipiling works, Cores A, B, C, D, E, F, G, K and L internally, Zones D and G roof level slabs, Zones E and F basement area, and ground floor suspended slabs. Zone H 1st and 2nd floor slab. Zone J 1st floor slab. Zones A and J pile cap foundations and ground floor columns.
- Zones D and G below slab drainage.
- External Drainage – specific sections of installation where access is possible.
- Tunnel between ACH and Labs.
- Dual carriageway to Renfrew Road, and carriageway from Hardgate Road.
- SFS.
- Internal Partitions.
- M&E modular units.

4.3 Observations from June 2012 Inspections

The visual inspections of the work carried out to date indicate that the works are generally being carried out to a satisfactory standard. Listed below are observations in relation to site visits in June 2012.

SUPERVISOR 'S REPORT NO. 15**JUNE 2012****4.3.1 Structural**

The minipiling exercise appears to be progressing satisfactorily, and is likely to be completed in July 2012.

Quality on all concrete works has generally appeared good with the exception of some floor finishes particularly at the north end of Zone F ground floor suspended slab, and southern end of Zone J 1st floor slab. Appropriate attention will be required in these areas in due course.

Backfilling to external basement walls has been ongoing during the period, with refilling carried out if required e.g. near Core J.

Some specific Building Warrants for substructure, superstructure and below slab drainage are still outstanding.

Brookfield's have provided a copy of the Building Control Amendments to Building Warrant for Stages 13 D Superstructure Concrete Zone E.

We requested copies of Building Control Amendments to Building Warrant for Stages 1, 2, 3, 4, 6 and 7. Brookfield has confirmed that Building Control has the originals and that they are awaiting updates. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 18).

4.3.2 Energy Centre

We asked Brookfield to provide details to show that the installation of the ground floor slab rainwater pop-ups is being provided entirely in compliance with the proprietary manufacturer's specification and to the Architect's and Engineer's requirements. Brookfield has confirmed that one slab is still to be completed. On completion the pop ops will be installed as per WSP drawings. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 05). This issue remains ongoing.

4.3.3 Drainage

Below slab drainage installation has continued during the period in Zones G and D. Sections in Zone D related to the drainage for the oil-interceptor were incorrectly laid and had to be dug out again and re-laid. Drainage pressure testing has also been ongoing throughout the period, with modifications and retesting carried out as required.

During our visit to site we noted that Zone D below ground drainage did not appear installed as per construction drawings. Consequently we have raised Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 19). Brookfield has responded confirming that they have requested the relevant information from Dunne following a walk round on 21st June 2012.

4.3.4 Dual Carriageway to Renfrew Road. (A&C)

Sections of the existing tarmac surfacing on the western carriageway just north of the Energy Centre are showing local signs of breaking up with some rutting apparent. This is unexpected for the length of time the tarmac has been down and the amount of traffic usage, albeit this has been fairly heavy at times. Brookfield is aware of this and are monitoring with their subcontractor. Remedial work will be carried out at the appropriate time before the wearing course is applied.

Kerb log and initial tarmac laying has been carried out during the period to the 'Hardgate Road bound' carriageway at the north end of the site. Quality wise works appear to have progressed satisfactorily.

4.3.5 Pipework.

Installation of hot, cold, heating, & chilled water pipework in the A&C hospital is progressing at pace and in general is being installed to a good standard. It was noted however that there are still some open ends being left on the pipework, although to a lesser degree than previously reported. The contractor should be reminded that these need to be sealed, to prevent the ingress of moisture and subsequent corrosion that may develop.

4.3.6 Ventilation

The installation of ventilation ductwork in the A&C hospital is progressing well, and has been installed to a good standard. It appears that any open ends are being sealed. The level of damage occurring during the delivery process is much reduced from that previously reported, however the contractor should be reminded that care should be taken to avoid such damage occurring.

Brookfield has confirmed that the ventilation fire strategy including the provision of smoke and fire dampers is designed in accordance with the WSP "fire strategy report" They have also confirmed that the ventilation design is compliant with clauses 6.8 and 6.10 of SHTM 81 Firecode. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 11) is closed out

4.3.7 Insulation

The thermal insulation installation to the pre-fabricated sections of pipework is being completed off site, before delivery. It should be confirmed with Brookfield that these pre-insulated sections of pipework have been pressure tested, prior to the insulation being fitted

4.3.8 Pressure testing

We noted that pneumatic testing was in progress.

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4.3.9 Medical Gases

We note that a significant amount of medical gas pipework has now been installed. This includes pipework for some services which are no longer required on the contract. If this is confirmed by the client, then we would share their opinion that this should be removed, to avoid confusion at a later stage in the life of the building.

4.3.10 Energy Centre

The installation for the standby generators is progressing to completion, and the installation is of good standard. We note however that there are gaps and open louvres between and above the acoustic intake louvres, and are concerned that this will present a path for noise breakout from the plantroom. With the proximity of the main lab building to these louvres it is important that noise breakout is minimised. We have raised Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 21

4.3.11 Trunking

Cable trunking is being installed as part of the offsite fabricated sections that are being installed in the A&C hospital and in general the installation is of a good standard.

4.3.12 Cable Trays

Cable tray is being installed as part of the offsite fabricated sections that are being installed in the A&C hospital and in general the installation is of a good standard.

4.3.13 Cabling

Modular wiring looms are now being installed as part of the offsite fabricated assemblies and carefully tied up for protection.

4.3.14 Conduit

Solid conduit installations have now commenced in certain areas and are of a good standard.

4.3.15 Partitions

We noted that some of the partitions have been boarded out both sides above ceiling level without insulation in position. We have asked Brookfield to confirm how the insulation will be fitted when there are screws projecting past the flat plate and the studs. The screw will prevent the insulation from being slipped up the inside of the partition. If the insulation is not fitted properly the sound insulation of the partition will be affected. Brookfield has raised an NCR and boards are to be removed and insulation installed, random ITP's to be undertaken throughout level 2.

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Where walls at high level are boarded both sides with a single skin, insulation is not required, double skin requires appropriate insulation per specification.

(See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 15).

We noted that the boards within to the Dirty Utility walls facing the Exit Bay on Level 2 had impact panel boards. We have asked Brookfield to confirm if the board to the Electrical Cupboard and the IPS will also have impact panel boards fitted. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 16).

We noted that there were water damaged boards at Core E Stair Lobby. And we have asked Brookfield to confirm when these boards are replaced full height. There were also boards which have been fitted resting on the concrete floor which have become saturated due to water ingress. This was apparent at Plant Room 21 Level 2. Brookfield confirmed that where boards are held off 10mm FSSL BMCE will instruct Astins to replace the boards once the area affected has been sufficiently weather proofed. Areas affected where the boards are resting on the structural slab within Plantroom 21 will be replaced upon completion of the cladding works which are currently ongoing.

Brookfield confirmed that they would notify Capita Symonds when boards have been replaced. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 17).

We witnessed with Brookfield the opening up of 2nd side boarding of partitions at high level on Level 2 to determine if insulation has been fitted in accordance with the partition specification. Of the four areas opened up all but one did not have insulation visible. Brookfield stripped the wall and we later witnessed the insulation refitted. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 20 is closed out).

4.3.16 Roofs

We requested results of the electronic tests recently carried out on site and Brookfield has provided these for Zone G – Levels 1, 2 & 3. All of the roofs passed the tests. We shall continue to monitor future results. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 13).

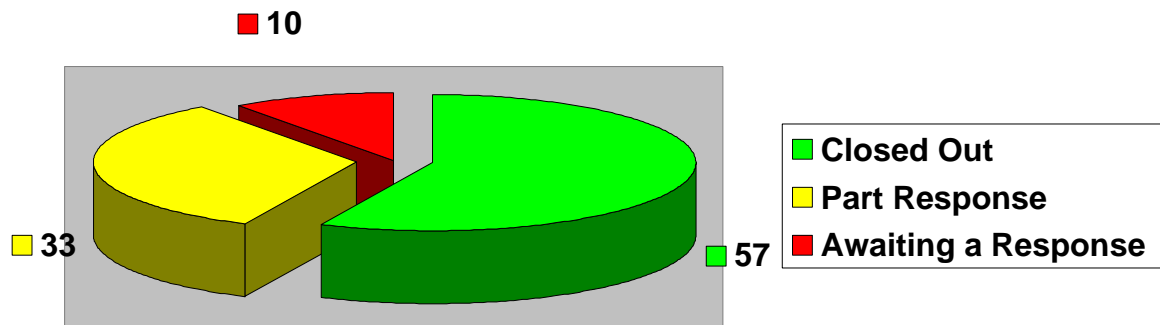
SUPERVISOR 'S REPORT NO. 15

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4.4 Defects from April 2011 Inspections.

No Defects raised.

5.0 INFORMATION REQUIRED



NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND ENERGY CENTRE

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Item No.	Description	Date Requested	Comment	
01	Request for details of the shrinkage reduction admixture.	10/10/11	Closed out.	
02	Request for the method statement for Slab Concreting Operations.	08/11/11	Closed out.	
03	Confirm there is building warrant for the substructure, superstructure and below ground slab drainage and provide copies.	10/01/12	Closed out.	
04	Provide relevant road construction consents.	10/01/12	Closed out.	
05	Provide details to show installation of pop ups are compliant with manufacturers spec and Architect and Engineer's requirements.	10/01/12	Response received.	
06	We have requested design proposals in relation to the section of the 1st floor slab fire resistance integrity.	27/02/12	Closed out.	
07	We have requested floor finish survey and test results for the top floor Zone G.	16/03/12	Closed out.	
08	We have requested floor finish survey and test results for the top floor Zone D.	16/03/12	Closed out.	
09	Open ends in pipework require to be sealed.	23/03/12	Closed out.	
10	Please confirm your protocols in relation to the pipework installation, and particularly the sprinkler pipework, once it has been pressure tested.	26/04/12	Closed out.	
11	Please confirm that smoke and fire dampers will comply with the relevant SHTM's and in particular SHTM 81 Firecode.	21/05/12	Closed out.	
12	Request for all approved construction approved drawings to be issued through Aconex.	30/05/12	Closed out.	
13	Request for Roof Integrity test results	30/05/12	Response received.	
14	Tests and Commissioning programme of the areas which will be completed in the coming months and also your final Tests and Commissioning programme prior to handover requested.	15/06/12	Open	
15	Confirm how the insulation will be fitted to partitions at high level when there are screws projecting past the flat plate and the studs.	15/06/12	Response received.	
16	Confirm if impact boards are to be fitted to the wall forming the electrical cupboard and IPS.	15/06/12	Response received.	
17	Confirm when water damaged boards will be replaced.	15/06/12	Response received.	
18	Provide copies OF Building Control Amendments to Build Warrant Stages 1, 2, 3, 4, 5, 6 and 7.	20/06/12	Response received.	
19	Zone D below ground drainage does not appear installed as per construction drawings.	26/06/12	Response received.	
20	No insulation fitted at high level. Confirm when this area is opened up for inspection.	26/06/12	Closed out.	
21	Concerns of gaps and open louvres between and above the acoustic intake louvres, and are concerned that this will present a path for noise breakout from the plant.	02/07/12	Open	

NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND ENERGY CENTRE

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6.0 SUPERVISORS TESTS AND INSPECTIONS

Tests not required	N/A
Tests required but not tested	Req
Tests required which has passed tests	Pass

Tests				
Ref	Title	To be Notified by	Status	Test Date

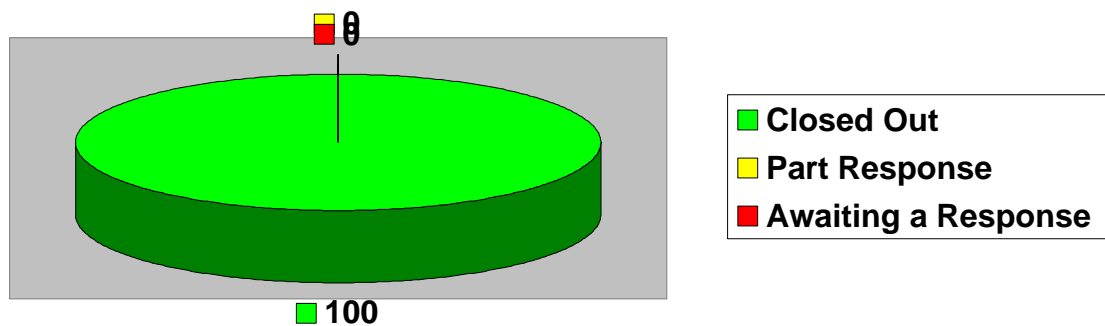
Inspection not required	N/A
Inspection required	Req
Inspection complete	Pass

Inspections				
Ref	Title	To be Notified by	Status	Inspection Date

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7.0 DEFECTS NOTIFICATIONS ISSUED



**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND
ENERGY CENTRE****SUPERVISOR 'S REPORT NO. 15****JUNE 2012**

Item No.	Description	Date Requested	Comment	
01	We are concerned about the level of damage to the ductwork and the subsequent amount of time re-working it on site to effect repairs. Confirm action to prevent further damage and provide evidence that the existing damage has been repaired.	22.03.12	Closed	
02	Some piles were reported as out with positional tolerance.	02.05.12	Closed	

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND
ENERGY CENTRE****SUPERVISOR 'S REPORT NO. 15****JUNE 2012**

John Redmond
Capita Symonds
Technical Advisory Services

The Beacon, 8th Floor, 176 St Vincent Street, Glasgow G2 5SG

	Signed	Date
Originated by	John Redmond	3rd July 2012
Completed by	David Ramsay	3rd July 2012

Appendix 1

Photographs

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND
ENERGY CENTRE**

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Photo 1 – Upper section of partition without insulation

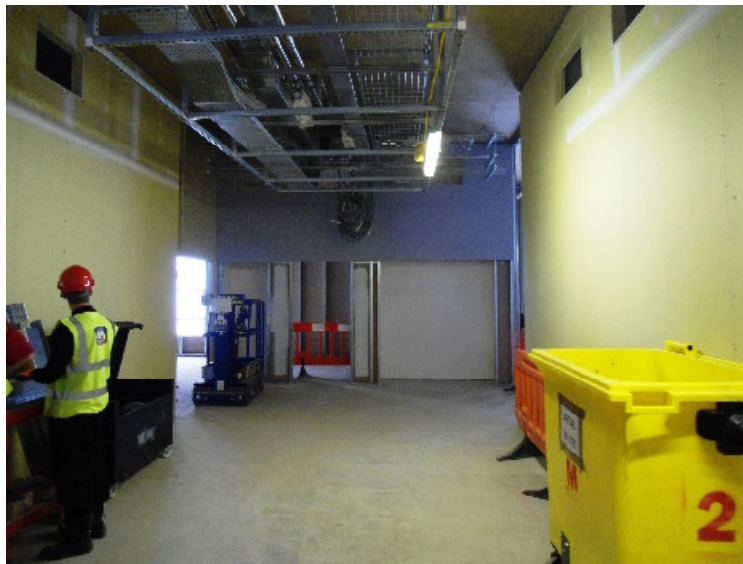


Photo 2 – Impact board fitted to Dirty Utility partitions
but not IPS and Electrical Cupboard.

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND
ENERGY CENTRE**

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Photo 3 – Water stained boards Core E Stair Lobby Level 2

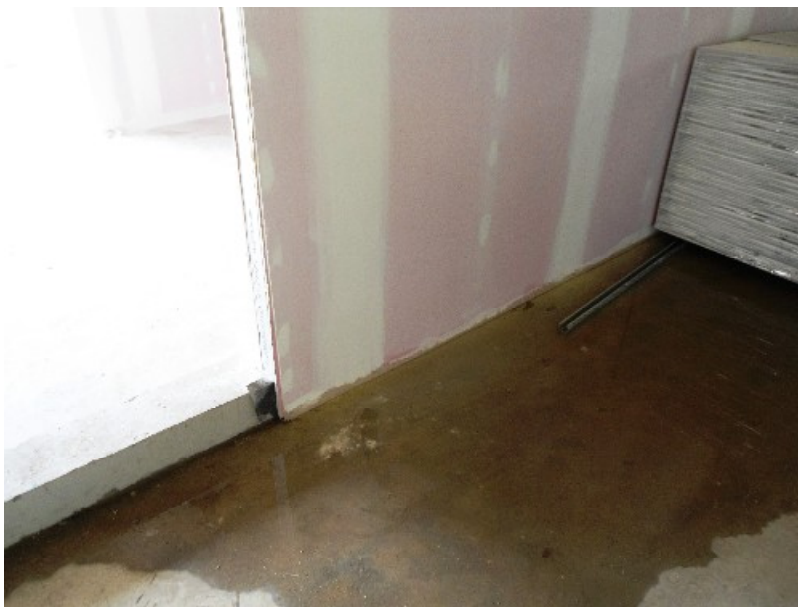


Photo 4 – Water Stained boards Plantroom 21 Level 2

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ENERGY CENTRE**

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Photo 5 – Insulation not fitted to shaftwall.



Photo 6 – Room THE-171 no insulation.

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ENERGY CENTRE**

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Photo 7 – Room THE-171 no insulation.



Photo 8 – Gap between acoustic intake louvers.

CAPITA SYMONDS

**NEW SOUTH GLASGOW HOSPITAL
ADULT AND CHILDREN'S HOSPITAL AND THE ENERGY CENTRE
NEC 3 SUPERVISORS REPORT NO. 16
JULY 2012**

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND
ENERGY CENTRE**

SUPERVISOR 'S REPORT NO. 16

JULY 2012

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**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND
ENERGY CENTRE**

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NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND ENERGY CENTRE**SUPERVISOR 'S REPORT NO. 16****JULY 2012****ADULT AND CHILDRENS HOSPITAL AND ENERGY CENTRE****1.0 EXECUTIVE SUMMARY: ADULT & CHILDRENS HOSPITAL**

Visits to the site during July 2012 indicated that the construction and procedures are progressing in a satisfactory manner in accordance with the Employer's Requirements.

Throughout, the standard and quality of the workmanship is generally good and operations are being carried out in an acceptable manner.

We witnessed with Brookfield 85 point check of partitions level 0. This was to determine if the partition was constructed in accordance with the specification. The QA check was successful.

The roof work is continuing on Level 1 and 2 in accordance with the drawings and specification.

Energy Centre structural work is largely completed. Various items of plant are still being installed via the north elevation. Structural quality to date appears satisfactory, although some minor snagging still remains outstanding.

Minipiling has now been completed. Full as built details and all piling records, for both original and mini-piling to be provided by Brookfield on Zutec.

Concreting to the main A&C building has again progressed in several areas. This has included 1st and 2nd floors in Zones E and H, suspended ground floors and 1st floor in Zone F, 1st floor at Zones A and J, and further ground floor slab sections in Zone D. Quality throughout has generally been good, although attention is still needed to some slab finishes at ground floor in Zone F and 1st floor Zone J. Some cracks have been observed to the soffit of Zone E ground floor suspended slab between Cores A,B,C & D – while not deemed to be structurally significant Brookfield are monitoring these. Workmanship to the small 20mm step in 1st floor slabs in Zones J and E has been poor and will need remedial action.

Structural steelwork erection to the atrium walkway has commenced – quality wise the main concern is the damage to the fire protection coating (shop applied) on some sections. Brookfield is aware of this and is seeking a practical solution.

Sub-slab drainage in Zone D has been problematic in places with difficulty in achieving straight line sections between all pop-up positions and appropriate manholes. Brookfield is looking at solutions to resolve this problem.

Visits to the site during this period were to inspect progress on the Energy Centre and the A&C Hospital.

The M&E installation is now progressing at pace, with pre-fabricated sections being installed in the A&C areas, and large plant items being installed in the energy centre.

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND
ENERGY CENTRE****SUPERVISOR 'S REPORT NO. 16****JULY 2012**

In general terms we are satisfied that the installations continue to be installed to the correct standard, and are of a good quality. However we have noted certain items this month that have raised concern in particular the length of dead legs on water services pipework.

Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 22, 23, 24, 25, 26, 27 and 28 were issued.

- To provide Air Test Procedures and Programme.
- To confirm if there is an adequate vehicular turning circle at the north east corner of the Energy Centre. Access and egress required for an oil tanker, refrigerated articulated vehicle and a Liebherr LTM 1250-61 mobile crane.
- Confirm how and when the defects to the fire protected steelwork will be addressed.
- To provide details of proposed measures to ensure underground drainage compliances with drawings and specifications.
- Provide details of proposed remedial action to ensure that the 1st floor slab at Zone E complies with the construction drawings and specifications.
- Some screw fixings not in accordance with NBS specification eg. 300mm centres, reduced to 200mm at external angles. Confirm that plates are in place between sheets where double sheeted and will be located in all horizontal joints where single sheeted.
- Drainage connections not sealed.

Supervisor's Notification of Defects (CI 42.2) No 03, 04, 05 and 06 were issued.

- Access difficulties to ductwork.
- Void detection located in close proximity and between ventilation ducts.
- Void detection not fitted between smoke /fire barriers.
- DHW dead-legs appear to be excessive.

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JULY 2012

2.0 DESIGN COMPLIANCE CHECK

The drawing and specification review is ongoing.

Previous reviews have been conducted, with comments marked on drawings and returned to Brookfield.

3.0 PROCEDURES REVIEW**3.1 Contractor's QA Procedures**

Brookfield and their subcontractors have continued with their QA and checking procedures during the period.

Workmanship overall is of a good standard throughout, with an improvement in the level of pre-installation damage to ductwork sections.

We have witnessed that Brookfield Multiplex are carrying out an installation check on site and have processes in place to carry out random checks on signed off work. See QA checks carried out under the appropriate sections.

We requested a programme for Tests and Commissioning of the areas which will be completed in the coming months and also their final Tests and Commissioning programme prior to handover. Brookfield has confirmed that discussions are ongoing between BMCE & Mercury with regards programming of these operations. Once this is completed BMCE will issue to Capita Symonds and client for review. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 14).

We requested Brookfield to provide us with their Air Test Procedures and Programme. They have confirmed that there is no programme in place yet. However Building Sciences a UKAS accredited testing laboratory for testing in accordance with CIBSE TM23 and BS EN 13829 2001 are already on board and have been carrying out interim site inspections to check workmanship etc.

As this is a complex project, whole building testing will be impractical, therefore design verification and sample testing (along with the site inspections) will be carried out to achieve compliance.

Brookfield has issued drawings to Building Sciences to mark up zonal areas / sample areas for testing. When this exercise is complete, these will be sent to the Board for approval / agreement.

A programme to carry out this air tightness testing will then be developed. These will normally be arranged to be carried out in areas that are as complete as possible. The testing will also be arranged in conjunction with Mercury.

Once the marked up drawings are received back, Brookfield will be able to develop a preliminary programme which we will be issue to Capita Symonds. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 22).

NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND ENERGY CENTRE

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JULY 2012

D224 - NSGH - GLASGOW

PARTITIONING SIGN-OFF CHECKSHEET

Brookfield
MULTIPLEX

BM

astins

Drawing No: NA 26.01 PL 252 527
Department No: 527Supervisor Responsible:
Level: 1

Zone: C

Item	Programmed Handover Date	Actual Handover Date	Comments	BM Signature	Astins Acceptance & Comments
1 Area Handed to Astins to commence setting out head track & advanced walls, 1st fix					
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Setting out	23/2/12	22/2/12			
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1st fix walls completed	2-2-2012	15-06-2012	Reverts to half the height with Reversion.		
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Fire alarm					
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Inspection					
11 FFE noggin installation and wall closure					
FFE Noggins					
12 Tape and jointing works complete					
Tape and jointing					
13 Area handed over for mist coating works to commence					
Astins / painter already completed pre paint inspection during tape and jointing					

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND
ENERGY CENTRE**

SUPERVISOR 'S REPORT NO. 16

JULY 2012

Previous page shows the Partition Sign-Off Checksheet for June

The next page shows the Sign-Off sheet Checksheet for July.

NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND ENERGY CENTRE

SUPERVISOR'S REPORT NO. 16

JULY 2012

C224 - NSGH - GLASGOW

PARTITIONING SIGN-OFF CHECKSHEET





Drawing No: NA 24 01 PL 252 527

Supervisor Responsible:

Department No: 527

Level: 1.

Zone: G.

1 Area Handed to Astins to commence setting out head track & advanced walls, 1st fix

Item	Programmed Handover Date	Actual Handover Date	Comments	BM Signature	Astins Acceptance & Comments
Proceeding works completed and early wall drawing previously received.	9/2/12	6/2/12	Picks in back of head track floor. SENSITIVE WORKING.		

2 Head track & advanced walls 1st fix completed ready for module installation.

Item	Programmed Handover Date	Actual Handover Date	Comments	Astins	BM Acceptance & Comments
Setting out	23/2/12	22/2/12			
Head track and early wall	23/2/12	22/2/12			

3 Module installation completed ready for Astins to form marked openings in early walls and form cross corridor walls.

Item	Programmed Handover Date	Actual Handover Date	Comments	Mercury	BM Acceptance & Comments
Module installation.	7/3/12	23/2/12			
Have location marking issued	7/3/12	29/3/12	COMP - 1/3/12		

4 Openings within the early walls and the construction of the cross corridor walls formed

Item	Programmed Handover Date	Actual Handover Date	Comments	Astins	BM Acceptance & Comments
Holes formed	13/3/12	29/2/12			
Cross walls constructed	13/3/12	6/3/12			

5 High level service installation works completed ready to commence balance of 1st fix walls

Item	Programmed Handover Date	Actual Handover Date	Comments	Mercury	BM Acceptance & Comments
Service installation complete	22/3	20/5			
Fire / smoke dampers installed	22/3	20/5			
Pipe work sleeved / lagged at walls	22/3	20/5			
Lid installed to basket / tray at walls	22/3	20/5			
Stack completed ready to be boxed in	22/3	20/5			

6 1st fix wall construction complete ready for Mercury to mark noggin locations.

Item	Programmed Handover Date	Actual Handover Date	Comments	Astina/M&E	BM Acceptance & Comments
1st fix walls completed	2-7-2012	15-06-2012	Residuals to half the height with support.		
Tie in to external facade complete	2-7-2012	15-06-2012			

7 In wall noggin locations / penetrations marked ready for noggin installation

Item	Programmed Handover Date	Actual Handover Date	Comments	Mercury	BM Acceptance & Comments
Noggins installed inc. lead / putty pads		23/6/12			
Holes formed		23/6/12			

8 Noggin installation complete ready for in wall service installation

Item	Programmed Handover Date	Actual Handover Date	Comments	Astins/M&E	BM Acceptance & Comments
Mechanical / plumbing	2/7	29/6/12			
Electrical / BMS / Nurse call / Alarms	2/7	29/6/12			
Door access	2/7	29/6/12			
Fire alarm	2/7	29/6/12			
Miscellaneous	2/7	29/6/12			

9 In wall service installation completed

Item	Programmed Handover Date	Actual Handover Date	Comments	Mercury Signature (with)	BM Acceptance & Comments (sign & date)
Mechanical / plumbing	25/7	06/7/12			
Electrical / BMS / Nurse call / Alarms	25/7	06/7/12			
Door access	25/7	06/7/12			
Fire alarm	25/7	06/7/12			
Miscellaneous	25/7	06/7/12			

10 In wall service and noggin installation inspected and signed off - HOLD POINT

Item	Programmed Handover Date	Actual Handover Date	Comments	Mercury Signature (with)	BM Acceptance & Comments (sign & date)
Inspection	1/8	06/7/12			

11 FFE noggin installation and wall closure

Item	Programmed Handover Date	Actual Handover Date	Comments	Astins	BM Acceptance & Comments
FFE Noggins	1-8-12	20-07-12			

12 Tape and jointing works complete

Item	Programmed Handover Date	Actual Handover Date	Comments	Astins Signature (work completed)	BM Acceptance & Comments (sign & date)
Tape and jointing	3-9-12				

13 Area handed over for mist coating works to commence.

Item	Programmed Handover Date	Actual Handover Date	Comments	Astins Signature (work completed)	BM Acceptance & Comments (sign & date)
Astina / painter already completed pre paint inspection during tape and jointing					

A51769432

NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND ENERGY CENTRE

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Quality Inspection Check List			Site: N	Location: 529 Clinical Unit
Checklist	Checked by	Comments	Checked by	Comments
Item	Pass	Fail	Checked by	Comments
1. Partition set out correct dimension from grid line.	✓			Checked by: [redacted] Comments: [redacted]
2. Partition parallel to gridline and straight.	✓			Measure @ 2m 2 points (Deviation max 15mm +/- or 5mm)
3. Risers set out square.	✓			Use 3.4 rule square (1 or 3mm over/length of partition)
4. Correct width floor track used.	✓			Check against detail (no deviation)
5. Floor track set out to correct junction detail.	✓			Check against detail (no deviation)
6. Two bands of mastic used to underpin floor track.	✓			U/L section of track if not visible
7. Correct fixings used in floor track.	✓			Check against detail (no deviation)
8. Correct fixing centres used in floor track.	✓			Measure @ 1m 16 fixings (no deviation)
9. Correct number of fixings to each side of door openings.	✓			Check against detail (no deviation)
10. Head track set out square.	✓			Use laser level measure (1mm measured from top to bottom)
11. Head track set out to correct junction detail.	✓			Check against detail (no deviation)
12. Correct width of head track.	✓			Check against detail (no deviation)
13. Correct depth of head track.	✓			Check against detail (no deviation)
14. Correct thickness of headboard.	✓			U/L section of track if not visible (no deviation)
15. Two bands of mastic between head track and fireboard.	✓			Check against detail (no deviation)
16. Connect fixings used to fix fireboard.	✓			Check against detail (no deviation)
17. Connect centres used to fix fireboard.	✓			Check against detail (no deviation)
18. Mastic to joints in fireboard.	✓			Check both sides of head & joints (no deviation)
19. Two bands of mastic between fireboard and soffit.	✓			U/L section if not visible (no deviation)
20. Connect fixings used for head track.	✓			Check against detail (no deviation)
21. Connect fixing centres used.	✓			Measure @ 1m 16 fixings (no deviation from detail)
22. Fixing frame head of mastic at junction of fireboard with both sides.	✓			Check both sides (no deviation)
23. Correct board used for infills in double.	✓			Check against detail (no deviation)
24. Correct number of boards used for infills.	✓			Check against detail (no deviation)
25. Correct insulation used in infills.	✓			Check against detail (no deviation)
26. Small holes in fireboard filled with rockwool.	✓			Visual check use torch (no deviation)
27. Bead of mastic around infill to fireboard.	✓			Visual check use torch (no deviation)
28. Infill boards overlap fireboard by 7mm.	✓			Measure @ 1m 3 fixings (no deviation)
29. Correct type of stud used, 50mm stud, 1 stud.	✓			Check against detail (no deviation)
30. Correct spacing of stud.	✓			Check against detail (no deviation)
31. Studs set to correct height for ventilation.	✓			Stud height = 10 and 5mm
32. Studs at correct centres (300-400-400mm)	✓			Measure top middle bottom (no deviation)
33. Downward built to correct specification for weight of door.	✓			Check against detail width - 0.15mm height - 0.15mm
34. Leg of door level 250mm minimum.	✓			Measure both legs (no deviation)
35. Door head raised.	✓			Visual check (no deviation)
36. Floor track returns up stud 300mm.	✓			Measure both legs (no deviation)
37. Correct number of screws in door head.	✓			Check against detail (no deviation)
Action			How to check	Comments
38. Timber insured in floor short to correct	✓		Visual check (no deviation)	
39. Timber in head of double door.	✓		Visual check (no deviation)	
40. Door stud checked in head track.	✓		Visual check (no deviation)	
41. Screws at correct centres in door stud.	✓		Measure both legs (no deviation)	
42. Downscreen formed in right location.	✓		Check against drawing (no deviation)	
43. Downscreen formed to correct size.	✓		Check against drawing (width - 0.15mm height - 0.15mm)	
44. Downscreen formed to correct height.	✓		Check against drawing (100 + 10 mm)	
45. Screen off at right height.	✓		Check against drawing (no deviation)	

85 Point Check for partitions

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Sl. No.	Check Item	Remarks	Pass/Fail	Inspector's Signature	Date
45	Waste applied to abutment studs.	✓			
46	Connect fittings to abutment studs.	✓			
47	Measure all fixings to abutment (no deviation)	✓			
48	Fixings at correct centres to abutment studs.	✓			
49	Flat plate fixed at deflection head.	✓			
50	Flat plate at correct distance from head track.	✓			
51	Flat plate screwed to all studs.	✓			
52	Dead of mastic at junction of head track.	✓			
53	Correct type of board.	✓			
54	Correct thickness of board.	✓			
55	Correct number of layers.	✓			
56	Screws fixed at Max num 300mm centres.	✓			
57	Screws around clear openings maximum 200mm centres.	✓			
58	Remove & void all glazed screens maximum 200mm centres.	✓			
59	Remove in external corners at 200mm centres.	✓			
60	Screws not breaking paper.	✓			
61	Screws not breaking paper.	✓			
62	Screws not breaking paper.	✓			
63	Flat plate at cross joint of outer layer of board.	✓			
64	Board not too short at deflection head.	✓			
65	Boards not too long at deflection head.	✓			
66	Boards screwed to flat plate at deflection head.	✓			
67	Screws to flat plates at correct centres.	✓			
68	Boards to abutments cut the right length.	✓			
69	Joints to double layer staggered vertically.	✓			
70	Joints to double layer staggered horizontally.	✓			
71	Abutment details built correctly.	✓			
72	All required studs for 2nd fix head in place.	✓			
SECOND FIX ITEMS					
73	2nd fix board joints staggered by 600 mm from 1st fix abut.	✓			
74	Board cut maximum 40mm larger than service penetrations	✓			
75	Sockets cut to correct size.	✓			
76	Transoms fixed in head to match on penumbrance over 100mm.	✓			
77	Transoms lined with plasterboard on fire rated partitions.	✓			
78	Rockwool slab installed around penetrations over 100mm.	✓			
79	Insulation fills the void between studs from top to bottom.	✓			
80	Correct spacing of attic pins to support insulation	✓			
81	Rockwool slab installed around electrical sockets.	✓			
82	Correct rodding fitted.	✓			
83	Weggin wired flush to studs.	✓			
84	Correct number of fixings in masonry	✓			
85	Headings set out in correct position	✓			
86	Equipment required to carry out inspection	✓			
87	2 Spigots (for deflection full size)	✓			
88	2 Spigots (for deflection full size)	✓			
89	2 Spigots (for deflection full size)	✓			
90	2 Spigots (for deflection full size)	✓			
91	2 Spigots (for deflection full size)	✓			
92	2 Spigots (for deflection full size)	✓			
93	2 Spigots (for deflection full size)	✓			
94	2 Spigots (for deflection full size)	✓			
95	2 Spigots (for deflection full size)	✓			
96	2 Spigots (for deflection full size)	✓			
97	2 Spigots (for deflection full size)	✓			
98	2 Spigots (for deflection full size)	✓			
99	2 Spigots (for deflection full size)	✓			
100	2 Spigots (for deflection full size)	✓			

85 Point Check for partitions

We witnessed Astins ITP 85 point check of a partition on the ground floor area 529. These checks will be carried out every two to three weeks

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3.2 Early Warnings

We noted during the period that the application of Sonaspray had been applied within the Energy Centre and we expressed our concerns in relation to the amount of residual spray materials and dust on the resurface of the generators. We were specifically concerned of dust in the filters. Brookfield have reassured us that the areas concerned will be cleaned and that there would be not dust in the filters

3.3 Trust Equipment Installation, Testing and Commissioning

Currently nothing to report.

3.4 Non Conformance Reports

We are aware of a number of NCR's raised and are being kept up to date as to their status.

4.0 CONSTRUCTION REVIEW**4.1 Visits to the Works**

Site inspections were carried out by the NEC3 Supervisors on the 2nd, 3rd, 4th, 5th, 6th, 9th, 10th, 11th, 12th, 13th, 16th, 17th, 18th, 19th, 20th, 23rd, 24th, 25th, 26th, 30th and 31st July 2012.

4.2 Elements of the Works available for inspection

- Energy Centre – steelwork and cladding. Local blockwork at ground, 1st and 2nd floor levels.
- Main building – minipiling works, Cores A, B, C, D, E, F, G, K and L internally, Zones D and G ground floor slabs, Zones E and F basement area, ground floor suspended slabs, and 1st floor slabs. Zone H 1st and 2nd floor slab. Zones A and J 1st floor slab.
- Zones D and G below slab drainage.
- External Drainage – specific sections of installation where access is possible.
- Tunnels between ACH and Labs, and Cores C to F
- Structural steelwork to Atrium (prior to erection).
- Dual carriageway to Renfrew Road, and carriageway from Hardgate Road.
- SFS.
- Internal Partitions.
- M&E modular units.
- Roofing
- Cladding

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4.3 Observations from July 2012 Inspections

The visual inspections of the work carried out to date indicate that the works are generally being carried out to a satisfactory standard. Listed below are observations in relation to site visits in July 2012.

4.3.1 Structural

The minipiling exercise has now been completed – full details and piling records awaited for inclusion In Zutec.

Quality on all concrete works has generally appeared good but the following points are noted:-

- Finish to ground floor in Zone F and 1st floor in Zone J (as last report)
- 20mm level change detail in 1st floor slabs at Zones E and J has been poorly formed and remedial action is required.
- Cracks to the soffit of the suspended ground floor slab in Zone E (between Cores A, B, C and D) being kept under review.
- Spalling to a couple of parapet walls at the top of Core G

Several brown spots were noted on the surface of an ongoing 1st floor pour at Zone F – further investigation by Brookfield revealed that these were due to the presence of lignite in the concrete aggregates, testing of which has indicated is within acceptable limits

Some specific Building Warrants for substructure, superstructure and below slab drainage are still outstanding.

Brookfield's have provided a copy of the Building Control Amendments to Building Warrant for Stages 13 D Superstructure Concrete Zone E.

We requested copies of Building Control Amendments to Building Warrant for Stages 1, 2, 3, 4, 6 and 7. Brookfield has provided us with copies of Building Warrants for Stages 2, 3, 4, 5, 6, 7, 22 and 23. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 18 is closed out.

We noted that there are damaged areas of fire protection paint to the Atrium Steelwork which has been delivered to site. We asked Brookfield to confirm how and when the defects to the fire protected steelwork will be addressed. Brookfield confirmed that the damage to the intumescent paint is due to the thickness required for the sections of steel. They have confirmed that Pierce are aware of the issue and are taking steps to remedy this without delaying erection. The steel has not been offered for inspection by Pierce. Brookfield has intimated that the steel was not mishandled on site and that the damage has occurred in the painting process. A painter is on site full time, carrying out repairs when weather allows. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 24).

We have requested Brookfield to provide details of proposed remedial action to ensure that the 1st floor slab at Zone E complies with the construction drawings and specifications. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 26).

4.3.2 Energy Centre

We asked Brookfield to provide details to show that the installation of the ground floor slab rainwater pop-ups is being provided entirely in compliance with the proprietary manufacturer's specification and to the Architect's and Engineer's requirements. Brookfield has confirmed that one slab is still to be completed. On completion the pop ups will be installed as per WSP drawings. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 05). This issue remains ongoing.

4.3.3 Drainage

Below slab drainage installation has continued during the period in Zone D. Drain pressure tests have been carried out on all newly laid sections in this area, as well as pressure tests on Zone G sections post concrete slab completion. Test records are kept by Brookfield as part of their QA procedures and many independently witnessed by the Supervisor team.

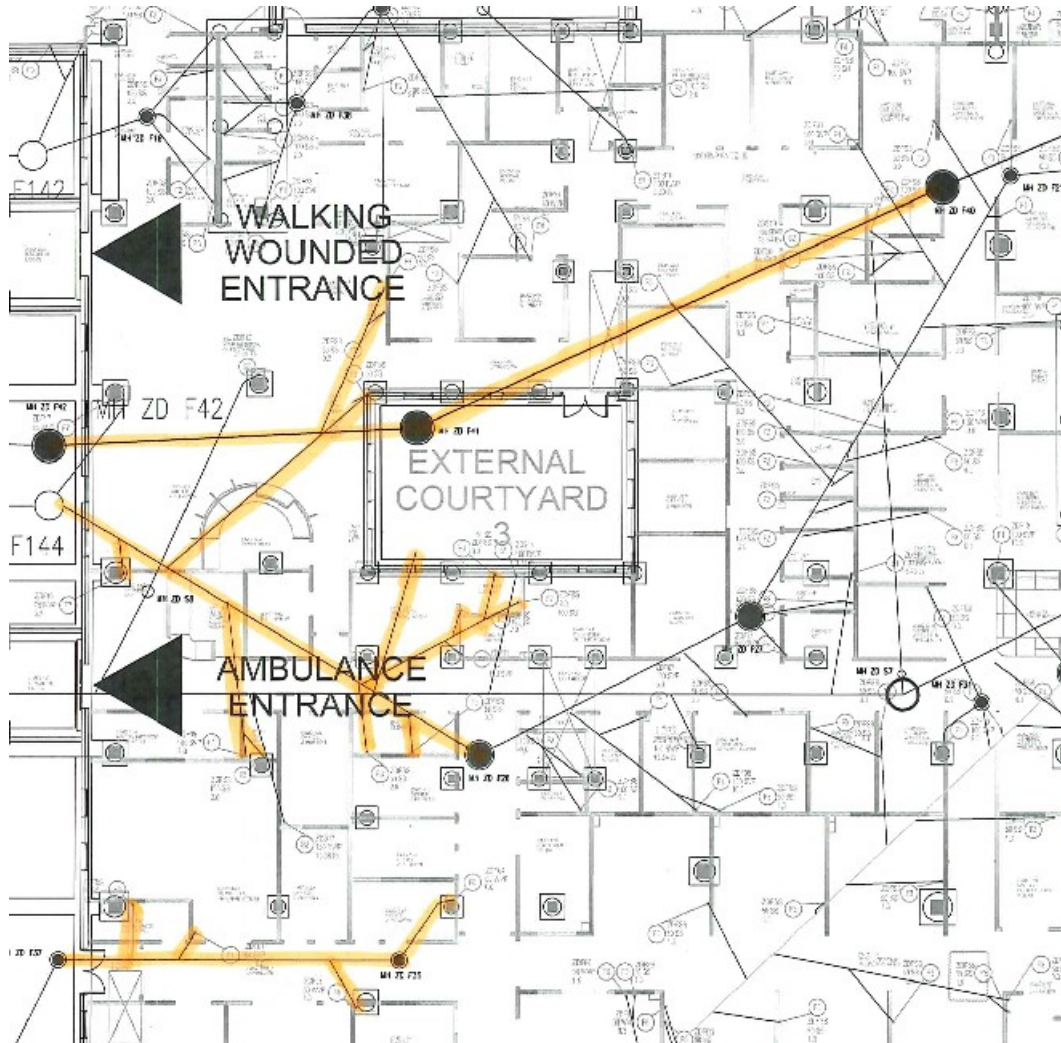
During our visit to site we noted that Zone D below ground drainage did not appear installed as per construction drawings. Consequently we have raised Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 19. Brookfield has responded confirming that they have requested the relevant information from Dunne following a walk round on 21st June 2012.

Problems have arisen in a few areas however, mainly due to the significant numbers of pop-ups need to avoid foundation bases etc. We asked Brookfield to provide details of proposed measures to ensure compliance with drawings and specifications of certain sections of under slab drainage in Zone D.

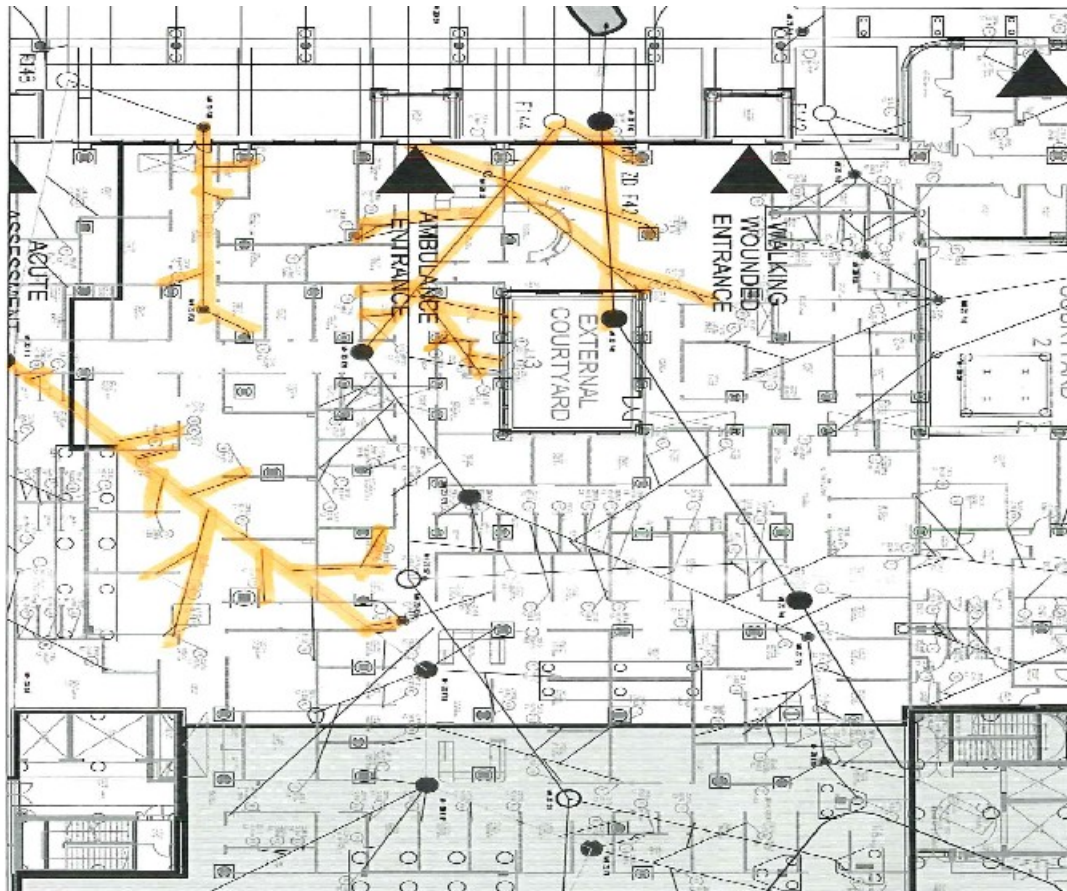
Brookfield responded and we have asked them to re-examine the issue to demonstrate that the as installed condition complies with the drawings and specification. We asked Brookfield to demonstrate that:

- The installed arrangement can be rodded by normal every day rodding equipment.
- Or redesign the drainage arrangement locally to ensure compliance with specification.
- Or redesign the drainage arrangement locally to ensure compliance with specification.

John Redmond and Willie Roxburgh witnessed Brookfields demonstration of rodding the drain using normal every day, rodding equipment on the installed drain line. This was carried out satisfactorily consequently Brookfield will pour the slab over this area on Monday 06.08.12. The test only applied to the drain in question and care should be taken to avoid drains being incorrectly fitted. Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 25 is closed out

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND
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Ground Floor Zone D Drainage Tested



Ground Floor Zone D Drainage Tested

We witnessed drainage tests on the Ground Floor Zone D and all of the tests were successful.

There are a number of locations on Level 1 where futures above floor drainage connections are not sealed. This could lead to items and debris being dislodged in the systems. We have requested Brookfield to confirm when these are sealed. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 28).

4.3.4 Dual Carriageway to Renfrew Road. (A&C)

Sections of the existing tarmac surfacing on the western carriageway just north of the Energy Centre are showing local signs of breaking up with some rutting apparent. This is unexpected for the length of time the tarmac has been down and the amount of traffic usage, albeit this has been fairly heavy at times. Brookfield is aware of this and are monitoring with their subcontractor. Remedial work will be carried out at the appropriate time before the wearing course is applied. No change from last period.

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4.3.5 Pipework.

Installation of hot, cold, heating, & chilled water pipework in the A&C hospital is progressing at pace and in general is being installed to a good standard. It was noted however that there are still some open ends being left on the pipework, although to a lesser degree than previously reported. The contractor should be reminded that these need to be sealed, to prevent the ingress of moisture and subsequent corrosion that may develop.

We have identified locations where the dead legs on hot water pipe runs are excessive and greater than the recommended levels. We await a response from the Contractor.

4.3.6 Ventilation

The installation of ventilation ductwork in the A&C hospital is progressing well, and has been installed to a good standard. It appears that any open ends are being sealed but we have noted some exceptions and these have been highlighted to the contractor. The level of damage occurring during the delivery process is much reduced from that previously reported, however the contractor should be reminded that care should be taken to avoid such damage occurring.

4.3.7 Insulation

The thermal insulation installation to the pre-fabricated sections of pipework is being completed off site, before delivery. It should be confirmed with Brookfield that these pre-insulated sections of pipework have been pressure tested, prior to the insulation being fitted. We have noted that generally there is no insulation on Extract ductwork throughout the installation. This may reduce heat recovery capability.

4.3.8 Pressure testing

Nothing to report.

4.3.9 Medical Gases

We note that a significant amount of medical gas pipework has now been installed. This includes pipework for some services which are no longer required on the contract. If this is confirmed by the client, then we would share their opinion that this should be removed, to avoid confusion at a later stage in the life of the building.

4.3.10 Energy Centre

The installation for the standby generators is progressing to completion, and the installation is of good standard. We raised our concerns with Brookfield about the gaps and open louvres between the acoustic intake louvers. Brookfield has confirmed that two tracks have been fitted to the top and bottom of the apertures boarded and filled with insulation. SonaSpray has also to be applied in the Generator Halls. Brookfield has confirmed that sound tests will be carried on

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completion of the installation. Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 21) is closed out.

During a visit to the Energy Centre we noted that the shortest distance from the edge of the concrete ground slab nearest the existing boundary and the corner of the fire escape stair is approximately 6700mm. We asked Brookfield to confirm if this is an adequate vehicular turning circle for an oil tanker, refrigerated articulated vehicle and a Liebherr LTM 1250-61 mobile crane to gain access and egress around the building. Brookfield has confirmed that based on the WSP drawing (WSP-EW-XX-SK-700-028) indicating the Swept Path Analysis, vehicles will be able to manoeuvre around the building. However the Temporary Sub-station currently located in the corner of the adjacent ground will remain until completion of the project. This will necessitate an Interim solution to allow access for fuel delivery whereby vehicles will drive in and reverse out on the north east elevation or vice versa with a banksman in attendance to guide the vehicles. The access roadway will be concreted during the course of the works and areas not completed will be laid with type 1 material. Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 23 is closed out.

We await a date for site testing

4.3.11 Trunking

Cable trunking is being installed as part of the offsite fabricated sections that are being installed in the A&C hospital and in general the installation is of a good standard.

4.3.12 Cable Trays

Cable tray is being installed as part of the offsite fabricated sections that are being installed in the A&C hospital and in general the installation is of a good standard.

4.3.13 Cabling

Modular wiring looms are now being installed as part of the offsite fabricated assemblies and carefully tied up for protection.

4.3.14 Conduit

Solid conduit installations have now commenced in certain areas and are of a good standard.

4.3.15 Void Detection

We noted in two locations on Level 1 that void detection was not provided the appropriate cover. See Section 4.4

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Previously we noted that some of the partitions have been boarded out both sides above ceiling level without insulation in position. Brookfield raised an NCR and boards were removed and insulation installed, random ITPs to be undertaken throughout level 2. Brookfield has confirmed that walls at high level have been checked and where boarded both sides with a single skin, insulation is not required, double skin requires appropriate insulation per specification. Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 15 is closed out.

We noted that the boards within to the Dirty Utility walls facing the Exit Bay on Level 2 had impact panel boards. Brookfield has confirmed that all partitions will be installed as the approved drawings. No impact panels to be fitted either side of the Electrical Cupboard and the IPS consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 16 is closed out.

We noted that there were water damaged boards at Core E Stair Lobby and we have asked Brookfield to confirm when these boards are replaced full height. There were also boards which have been fitted resting on the concrete floor which have become saturated due to water ingress. This was apparent at Plant Room 21 Level 2. Brookfield confirmed that where boards are held off 10mm FSSL BMCE will instruct Astins to replace the boards once the area affected has been sufficiently weather proofed. Areas affected where the boards are resting on the structural slab within Plantroom 21 will be replaced upon completion of the cladding works which are currently ongoing.

Brookfield confirmed that they would notify Capita Symonds when boards have been replaced. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 17).

Inspections were carried out on Levels 1 and 2 and we noted on that the high level horizontal joints of the plasterboards were not in accordance with BS and NBS K10. In some areas screws were not fixed at 300mm centres, and on some external angles fixings were not reduced to 200mm centres. These issues were brought to the attention of the Package Managers and are being addressed. We asked Brookfield to confirm that plates are in place between sheets where double sheeted and will be located in all horizontal joints where single sheeted. Brookfield confirmed knauf flat plate is installed on all horizontal joints per Knauf specification. They also confirmed they have provided fixings at 300mm centres, reduced to 200mm at external angles following our communication. They have also stated that this should be caught during Astins internal ITP checks prior to offering to hand areas to Brookfield. Astins also state that the issue has been highlighted to their internal QA department in London and an impromptu visit and full 85 point ITP check undertaken on Wednesday 1st August to a closed partition within department 1-525. Brookfield or Capita Symonds to choose the partition and any lessons to be learnt will then be rolled out into tool box talks. We shall continue to monitor construction. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 27).

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On Level 2 intumescent seal had been omitted from behind a stud. This was highlighted to the Package Manager and addressed.

4.3.17 Roofs

Roofwork is continuing in Zone G and D and is being carried out in accordance with the drawings and specifications

4.3.18 Cladding

Cladding is underway on the south elevation of Zones G & D and internal courtyards in accordance with the drawings and specifications.

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4.4 Defects from July 2011 Inspections.

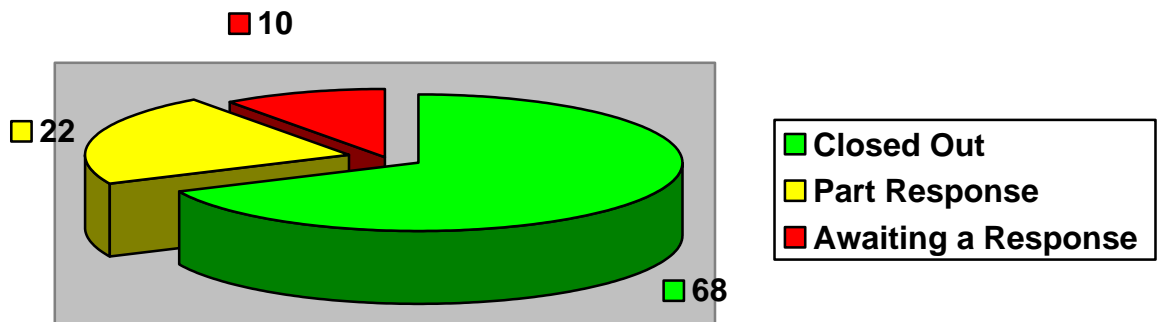
We note that access to ductwork was insufficient for maintenance purposes in a number of locations on the second floor. We have requested that Brookfield inspect and confirm remedial measures to address this issue (See Supervisor's Notification of Defect (CI 42.2) No 03).

During an inspection on site we noted on the first floor but more specifically within zone ZG corridor CCW115 void detection has been located in close proximity and between ventilation ducts. We believe that this does not comply with the requirements of BS5839. (See Supervisor's Notification of Defect (CI 42.2) No 04).

We noted that the void divided by the smoke/fire barriers on Level 1 between AN and AM1 (corridor opposite the Dirty Utility CCW-126) does not have void detection. Brookfield has confirmed that void detection will be fitted. (See Supervisor's Notification of Defect (CI 42.2) No 05).

We noted that DHW dead-legs appear to be excessive in areas and not in compliance with minimum distances as specified in SHTM.2027-Part 2. Hot and cold water supply storage and mains services. The design of the distribution system should be such as to minimise the length of any dead-leg. In particular, a hot water service return connection should be taken as close as is practicable to any draw-off. Spurs from circulation systems serving one or more outlets should not exceed 5 m. This length is measured from the centre of the circulation pipework to the point of discharge, along the centre line of the pipe (See Supervisor's Notification of Defect (CI 42.2) No 06).

5.0 INFORMATION REQUIRED



NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND ENERGY CENTRE

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Item No.	Description	Date Requested	Comment	
01	Request for details of the shrinkage reduction admixture.	10/10/11	Closed out.	
02	Request for the method statement for Slab Concreting Operations.	08/11/11	Closed out.	
03	Confirm there is building warrant for the substructure, superstructure and below ground slab drainage and provide copies.	10/01/12	Closed out.	
04	Provide relevant road construction consents.	10/01/12	Closed out.	
05	Provide details to show installation of pop ups are compliant with manufacturers spec and Architect and Engineer's requirements.	10/01/12	Response received.	
06	We have requested design proposals in relation to the section of the 1st floor slab fire resistance integrity.	27/02/12	Closed out.	
07	We have requested floor finish survey and test results for the top floor Zone G.	16/03/12	Closed out.	
08	We have requested floor finish survey and test results for the top floor Zone D.	16/03/12	Closed out.	
09	Open ends in pipework require to be sealed.	23/03/12	Closed out.	
10	Please confirm your protocols in relation to the pipework installation, and particularly the sprinkler pipework, once it has been pressure tested.	26/04/12	Closed out.	
11	Please confirm that smoke and fire dampers will comply with the relevant SHTM's and in particular SHTM 81 Firecode.	21/05/12	Closed out.	
12	Request for all approved construction approved drawings to be issued through Aconex.	30/05/12	Closed out.	
13	Request for Roof Integrity test results	30/05/12	Closed out.	
14	Tests and Commissioning programme of the areas which will be completed in the coming months and also your final Tests and Commissioning programme prior to handover requested.	15/06/12	Response received.	
15	Confirm how the insulation will be fitted to partitions at high level when there are screws projecting past the flat plate and the studs.	15/06/12	Closed out.	
16	Confirm if impact boards are to be fitted to the wall forming the electrical cupboard and IPS.	15/06/12	Closed out.	
17	Confirm when water damaged boards will be replaced.	15/06/12	Response received.	
18	Provide copies OF Building Control Amendments to Build Warrant Stages 1, 2, 3, 4, 5, 6 and 7.	20/06/12	Closed out.	
19	Zone D below ground drainage does not appear installed as per construction drawings.	26/06/12	Response received.	
20	No insulation fitted at high level. Confirm when this area is opened up for inspection.	26/06/12	Closed out.	
21	Concerns of gaps and open louvres between and above the acoustic intake louvres, and are concerned that this will present a path for noise breakout from the plant.	02/07/12	Closed out.	
22	Brookfield to provide us with their Air Test Procedures and Programme	03/07/12	Response received.	
23	Confirm if this is an adequate vehicular turning circle for an oil tanker, refrigerated articulated vehicle and a Liebherr LTM 1250-61 mobile crane to gain access and egress around the building	19/07/12	Closed out.	
24	Confirm how and when the defects to the fire protected steelwork will be addressed	23/07/12	Response received.	
25	Please provide details of proposed measures to ensure compliance with drawings and specifications.	23/07/12	Closed out.	
26	Provide details of proposed remedial action to ensure that the 1st floor slab at Zone E complies with the construction drawings and specifications.	26/07/12	Open	

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27	Ensure screw fixings are 300mm centres, reduced to 200mm at external angles in accordance with BS and NBS K10. Confirm that plates are in place between sheets where double sheeted and will be located in all horizontal joints.	26/07/12	Open	
28	Confirm open drainage on Levels 1 & 2 is sealed.	01/07/12	Open	

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6.0 SUPERVISORS TESTS AND INSPECTIONS

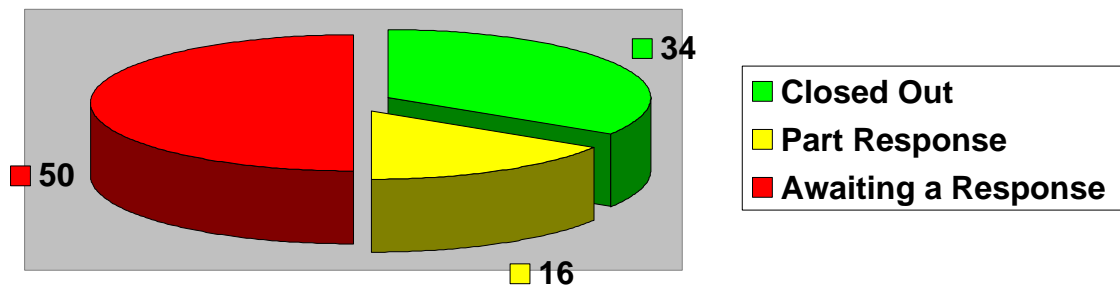
Tests not required	N/A
Tests required but not tested	Req
Tests required which has passed tests	Pass

Tests				
Ref	Title	To be Notified by	Status	Test Date
01	Drainage Air Test	Brookfield	Pass	SEE SCOTT
02	Drain pressure test – sub –slab drainage Zone G, post slab completion.	Brookfield	Pass	9/07/2012
03	Drain pressure test – sub-slab drainage Zone D, prior to concreting	Brookfield	Pass	19/07/2012
04	Drain pressure test – sub-slab drainage Zone D, Prior to concreting	Brookfield	Pass	24/07/2012
05	Drain CCTV/rodding check – sub-slab drainage Zone D, prior to concreting	Brookfield	Pass	30/07/2012
06	85 point quality check to partition on Level 0	Brookfield	Pass	12/07.12

Inspection not required	N/A
Inspection required	Req
Inspection complete	Pass

Inspections				
Ref	Title	To be Notified by	Status	Inspection Date

7.0 DEFECTS NOTIFICATIONS ISSUED



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Item No.	Description	Date Requested	Comment	
01	We are concerned about the level of damage to the ductwork and the subsequent amount of time re-working it on site to effect repairs. Confirm action to prevent further damage and provide evidence that the existing damage has been repaired.	22.03.12	Closed	Green
02	Some piles were reported as out with positional tolerance.	02.05.12	Closed	Green
03	Access to ductwork insufficient. Confirm remedial measures.	30.07.12	Open	Red
04	Void detection located in close proximity and between ventilation ducts.	31.07.12	Open	Red
05	Void detection not fitted between smoke /fire barriers.	31.07.12	Open	Yellow
06	DHW dead-legs appear to be excessive.	31.07.12	Open	Red

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John Redmond
Capita Symonds
Technical Advisory Services

The Beacon, 8th Floor, 176 St Vincent Street, Glasgow G2 5SG

	Signed	Date
Originated by	John Redmond	6th August 2012
Completed by	David Ramsay	6th August 2012

Appendix 1

Photographs

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND
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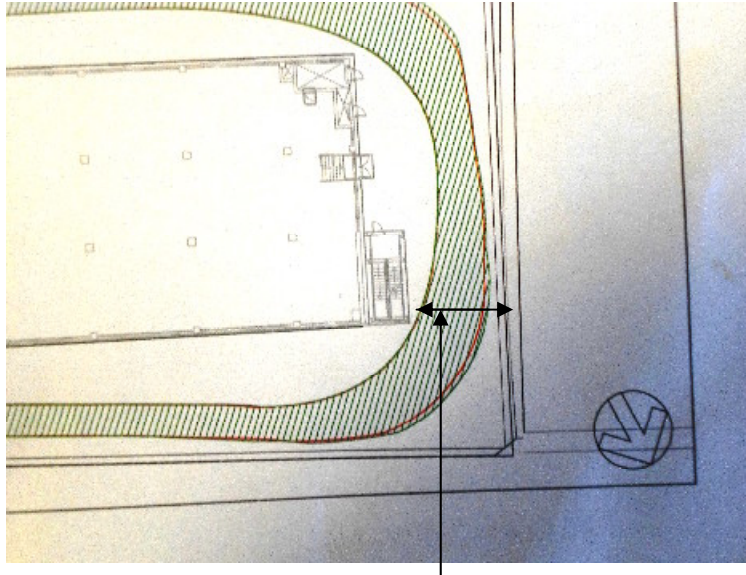


Photo 1 – Distance from corner of stair to edge of concrete approx 6700mm.



Photo 2 – Damaged intumescent cover.

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Photo 3 – Damaged intumescent cover.



Photo 4 – Storm water drainage run in Zone D

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Photo 5 – change of level detail in 1st floor slab at Zone E



Photo 6 – horizontal joints not in accordance with NBS specification

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Photo 7 – ZG corridor CCW115 void detection has been located in close proximity and between ventilation ductwork.

CAPITA SYMONDS

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ADULT AND CHILDRENS HOSPITAL AND ENERGY CENTRE**1.0 EXECUTIVE SUMMARY: ADULT & CHILDRENS HOSPITAL**

Visits to the site during August 2012 indicated that the construction and procedures are progressing in a satisfactory manner in accordance with the Employer's Requirements.

Throughout, the standard and quality of the workmanship is generally good and operations are being carried out in an acceptable manner.

Brookfield continues to undertake their Quality Assurance systems on site with inspection and checklist documentation available for the ongoing construction activities. Over the period, we have closely liaised with Brookfield and witnessed both drainage tests and 85 point check to partitions on Level 1. Our witnessing resulted in successful tests.

Work is progressing in the exemplar rooms with floors screeding in progress during this period. The purpose of the exemplar rooms is to set a standard of finish using the contracted work package sub-contractors. The internal finishes workmanship standards are used as a benchmark for all room completions.

The roof work is continuing on Level 1 and 2 in accordance with the drawings and specification.

Cladding is progressing on the south elevation and courtyards 3, 4 & 5.

Energy Centre structural work is largely completed. Various items of plant are still being installed via the north elevation. Structural quality to date appears satisfactory, although some minor snagging still remains outstanding as reported during the last period.

Minipiling has now been completed. Full as built details and all piling records, for both original and mini-piling remain to be provided by Brookfield on Zutec.

Concreting to the main A&C building has again progressed in several areas. This has included 1st and 2nd floors in Zones A, E, J and H, 1st floor in Zone F and ground floor slab sections in Zone D. Quality throughout has generally been good, although the base of some insitu columns in Zone J and some foundation base links in Zone D have not been to the normal high standard. Workmanship to the small 20mm step in 1st floor slabs in Zones J and E continues to be poor and has not been satisfactorily addressed.

Structural steelwork erection to the atrium walkway has continued during the period. As noted in the last report quality wise, the main concern is the damage to the fire protection coating (shop applied) on some sections. Brookfield is aware of this and the damaged areas are receiving intumescent coating.

Sub-slab drainage in Zone D is almost now complete and the problematic sections have been addressed in a practical manner. In the few instances where all straight

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alignment has not been possible rodding tests with normal rodding equipment has proved satisfactory. Similar retrospective tests in specific sections in Zone G have also proved satisfactory. Witnessing of pressure tests has continued in the period.

Visits to the site during this period were to inspect progress on the Energy Centre and the A&C Hospital.

The M&E installation is now progressing at pace, with pre-fabricated sections and second fix being installed in the A&C areas, and large plant items being installed in the energy centre.

In general terms we are satisfied that the installations continue being installed to the correct standard, and are of a good quality however we have noted certain item this month that have raised concern. These have been raised with the Contractor.

Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 29, 30 31 and 32 were issued.

- Seeking confirmation if there are any design plans to introduce additional stiffening to 1500mm high partitions in area 1-527?
- Seeking confirmation when cabling is complete, water pumped out and batteries removed from the Sub Station.
- No timber in some partition lintels
- Advise proposed remedial action link reinforcement from pile caps Zone D

Supervisor's Notification of Defects (CI 42.2) No 07 was issued.

- Misaligned bolts

We continue to be assisted by the site teams and the NHS Project Team in resolving various construction, mechanical, electrical, and quality issues. We continue to close out our Supervisor's Notification and Defects when we have received satisfactory responses.

2.0 DESIGN COMPLIANCE CHECK

The drawing and specification review is ongoing. Previous reviews have been conducted, with comments marked on drawings and returned to Brookfield.

3.0 PROCEDURES REVIEW**3.1 Contractor's QA Procedures**

Brookfield and their subcontractors have continued with their QA and checking and inspection procedures during the period. We are in discussion and liaison with Brookfield's Quality Manager on QA matters and regular review their QA documentation.

Work is progressing in the exemplar rooms with floors screeding in progress. The purpose of the exemplar rooms is to set a standard of finish using the contracted work package sub-contractors. The internal finishes workmanship standards are used as a benchmark for all room completions

We have received Mercury's Revised Benchmark 1st fix checklists for Level 1, 525 & 527.



Brookfield's Package Manager highlighted the bad practice of stacking roof slabs and issued instructions to prevent this happening again. They have also an updated procedure for the storage and safe handling of paving slabs.

We have also commented to Brookfield about isolated areas on site which were untidy which could impact on the finished quality of the work. There is also water damaged plasterboard.

Workmanship overall is of a good standard throughout.

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We have witnessed that Brookfield Multiplex are carrying out an installation check on site and have processes in place to carry out random checks on signed off work. See QA checks carried out under the appropriate sections.

We requested a programme for Tests and Commissioning of the areas which will be completed in the coming months and also their final Tests and Commissioning programme prior to handover. Brookfield has confirmed that discussions are ongoing between BMCE & Mercury with regards to programming of these operations. Once this is completed BMCE will issue to Capita Symonds and client for review. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 14).

We requested Brookfield to provide us with their Air Test Procedures and Programme. They have confirmed that there is no programme in place yet. However Building Sciences a UKAS accredited testing laboratory for testing in accordance with CIBSE TM23 and BS EN 13829 2001 are already on board and have been carrying out interim site inspections to check workmanship etc.

Brookfield has issued drawings to Building Sciences to mark up zonal areas / sample areas for testing. When this exercise is complete, these will be sent to the Board for approval / agreement.

A programme to carry out air tightness testing will then be developed. These will normally be arranged to be carried out in areas that are as complete as possible. The testing will also be arranged in conjunction with Mercury.

Once the marked up drawings are received back, Brookfield will be able to develop a preliminary programme which we will be issue to Capita Symonds. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 22).

The next two pages show the Sign-Off sheet Checksheets for July and August.

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C224 - NSGH - GLASGOW

PARTITIONING SIGN-OFF CHECKSHEET

Brookfield
MULTIPLEX

BM



astins

Drawing No: NA 24 01 PL 252 527

Supervisor Responsible:

Department No: 527

Level: 1.

Zone: G.

1 Area Handed to Astins to commence setting out head track & advanced walls, 1st fix

Item	Programmed Handover Date	Actual Handover Date	Comments	Astins Signature	BIM Acceptance & Comments
Proceeding works completed and early wall drawing previously received.	9/2/12	6/2/12	Peels in place of head track floor. SENSITIVE WORKING.		

2 Head track & advanced walls 1st fix completed ready for module installation.

Item	Programmed Handover Date	Actual Handover Date	Comments	Astins Signature	BIM Acceptance & Comments
Setting out	23/2/12	22/2/12			
Head track and early wall	23/2/12	22/2/12			

3 Module installation completed ready for Astins to form marked openings in early walls and form cross corridor walls.

Item	Programmed Handover Date	Actual Handover Date	Comments	Mercury Signature	BIM Acceptance & Comments
Module installation.	7/3/12	23/2/12			
Have location marking issued	7/3/12	29/3/12	COMP - 1/3/12		

4 Openings within the early walls and the construction of the cross corridor walls formed

Item	Programmed Handover Date	Actual Handover Date	Comments	Astins Signature	BIM Acceptance & Comments
Holes formed	13/3/12	29/2/12			
Cross walls constructed	13/3/12	6/3/12			

5 High level service installation works completed ready to commence balance of 1st fix walls

Item	Programmed Handover Date	Actual Handover Date	Comments	Mercury Signature	BIM Acceptance & Comments
Service installation complete	22/3	20/5			
Fire / smoke dampers installed	22/3	20/5			
Pipe work sleeved / lagged at walls	22/3	20/5			
Lid installed to basket / tray at walls	22/3	20/5			
Stack completed ready to be boxed in	22/3	20/5			

6 1st fix wall construction complete ready for Mercury to mark noggin locations.

Item	Programmed Handover Date	Actual Handover Date	Comments	Astins/M&E Signature	BIM Acceptance & Comments
1st fix walls completed	2-7-2012	15-06-2012	Reverts to half the height with support.		
Tie in to external facade complete	2-7-2012	15-06-2012			

7 In wall noggin locations / penetrations marked ready for noggin installation

Item	Programmed Handover Date	Actual Handover Date	Comments	Mercury Signature	BIM Acceptance & Comments
Noggins installed inc. lead / putty pads		23/6/12			
Holes formed		23/6/12			

8 Noggin installation complete ready for in wall service installation

Item	Programmed Handover Date	Actual Handover Date	Comments	Astins/M&E Signature	BIM Acceptance & Comments
Mechanical / plumbing	2/7	29/6/12			
Electrical / BMS / Nurse call / Alarms	2/7	29/6/12			
Door access	2/7	29/6/12			
Fire alarm	2/7	29/6/12			
Miscellaneous	2/7	29/6/12			

9 In wall service installation completed

Item	Programmed Handover Date	Actual Handover Date	Comments	Mercury Signature (work completed)	BIM Acceptance & Comments (sign & date)
Mechanical / plumbing	25/7	06/7/12			
Electrical / BMS / Nurse call / Alarms	25/7	06/7/12			
Door access	25/7	06/7/12			
Fire alarm	25/7	06/7/12			
Miscellaneous	25/7	06/7/12			

10 In wall service and noggin installation inspected and signed off - HOLD POINT

Item	Programmed Handover Date	Actual Handover Date	Comments	Mercury Signature (work completed)	BIM Acceptance & Comments (sign & date)
Inspection	1/8	06/7/12			

11 FFE noggin installation and wall closure

Item	Programmed Handover Date	Actual Handover Date	Comments	Astins Signature	BIM Acceptance & Comments
FFE Noggins	1-8-12	20-07-12			

12 Tape and jointing works complete

Item	Programmed Handover Date	Actual Handover Date	Comments	Astins Signature (work completed)	BIM Acceptance & Comments (sign & date)
Tape and jointing	3-9-12				

13 Area handed over for mist coating works to commence.

Item	Programmed Handover Date	Actual Handover Date	Comments	Astins Signature (work completed)	BIM Acceptance & Comments (sign & date)
Astins / painter already completed pre paint inspection during tape and jointing					

C:\Joh

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NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND ENERGY CENTRE

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G224 - NSGH - GLASGOW

PARTITIONING SIGN-OFF CHECKSHEET





Drawing No: NA 26 01 PL 232 327 Supervisor Responsible: [Redacted]
 Department No: 527 Level: 1 Zone: G

1 Area handed to Astins to commence setting out head track & advanced walls, 1st fix

Item	Programmed Handover Date	Actual Handover Date	Comments	BM Signature	Astins Acceptance & Comments
Proceeding works completed and early wall drawing previously received.	9/2/12	6/2/12	Peels in back of head track heads. Send water proofing.	[Redacted]	[Redacted]

2 Head track & advanced walls 1st fix completed ready for module installation.

Item	Programmed Handover Date	Actual Handover Date	Comments	Astins	BM Acceptance & Comments
Setting out	23/2/12	23/2/12		[Redacted]	[Redacted]
Head track and early wall	23/2/12	22/2/12		[Redacted]	[Redacted]

3 Module installation completed ready for Astins to form marked openings in early walls and form cross corridor walls.

Item	Programmed Handover Date	Actual Handover Date	Comments	Mercury	BM Acceptance & Comments
Module installation.	7/3/12	25/2/12		[Redacted]	[Redacted]
Module location drawing issued	7/3/12	29/3/12	Comp. 11/3/12.	[Redacted]	[Redacted]

4 Openings within the early walls and the construction of the cross corridor walls formed

Item	Programmed Handover Date	Actual Handover Date	Comments	Astins	BM Acceptance & Comments
Holes formed	13/3/12	29/2/12		[Redacted]	[Redacted]
Cross walls constructed	13/3/12	6/3/12		[Redacted]	[Redacted]

5 High level service installation works completed ready to commence balance of 1st fix walls

Item	Programmed Handover Date	Actual Handover Date	Comments	Mercury	BM Acceptance & Comments
Service installation complete	25/3	20/3		[Redacted]	[Redacted]
Fire / smoke dampers installed	25/3	20/3		[Redacted]	[Redacted]
Pipe work sleeved / lagged at walls	25/3	20/3		[Redacted]	[Redacted]
Lid installed to baskets / tray at walls	25/3	20/3		[Redacted]	[Redacted]
Stack complete ready to be boxed in	25/3	20/3		[Redacted]	[Redacted]

6 1st fix wall construction complete ready for Mercury to mark noggin locations.

Item	Programmed Handover Date	Actual Handover Date	Comments	Astins/M&E	BM Acceptance & Comments
1st fix walls completed	2-7-2012	15-06-2012	Revisions to wall height and required.	[Redacted]	[Redacted]
in in external facades complete	2-7-2012	15-06-2012		[Redacted]	[Redacted]

7 In wall noggin locations / penetrations marked ready for noggin installation

Item	Programmed Handover Date	Actual Handover Date	Comments	Mercury	BM Acceptance & Comments
Noggins installed inc. lead / putty pads		23/6/12		[Redacted]	[Redacted]
Holes formed		23/6/12		[Redacted]	[Redacted]

8 Noggin installation complete ready for in wall service installation

Item	Programmed Handover Date	Actual Handover Date	Comments	Astins/M&E	BM Acceptance & Comments
Mechanical / plumbing	2/7	29/6/12		[Redacted]	[Redacted]
Electrical / BMS / Nurse call / Alarms	2/7	29/6/12		[Redacted]	[Redacted]
Door access	2/7	29/6/12		[Redacted]	[Redacted]
Fire alarm	2/7	29/6/12		[Redacted]	[Redacted]
Miscellaneous	2/7	29/6/12		[Redacted]	[Redacted]

9 In wall service installation completed

Item	Programmed Handover Date	Actual Handover Date	Comments	Mercury Signatures	BM Acceptance & Comments
Mechanical / plumbing	25/7	26/7/12		[Redacted]	[Redacted]
Electrical / BMS / Nurse call / Alarms	25/7	26/7/12		[Redacted]	[Redacted]
Door access	25/7	26/7/12		[Redacted]	[Redacted]
Fire alarm	25/7	26/7/12		[Redacted]	[Redacted]
Miscellaneous	25/7	26/7/12		[Redacted]	[Redacted]

10 In wall service and noggin installation inspected and signed off - HOLD POINT

Item	Programmed Handover Date	Actual Handover Date	Comments	Mercury	BM Acceptance & Comments
Inspection	1/8	26/7/12		[Redacted]	[Redacted]

11 FFE noggin installation and wall closure

Item	Programmed Handover Date	Actual Handover Date	Comments	Astins	BM Acceptance & Comments
FFE Noggins		20-07-12		[Redacted]	[Redacted]

12 Tape and jointing works complete

Item	Programmed Handover Date	Actual Handover Date	Comments	Astins	BM Acceptance & Comments
Tape and jointing		03-8-12		[Redacted]	[Redacted]

13 Area handed over for mist coating works to commence.

Item	Programmed Handover Date	Actual Handover Date	Comments	Astins	BM Acceptance & Comments
Astins / painter already completed pre paint inspection during tape and jointing		06-8-12		[Redacted]	[Redacted]

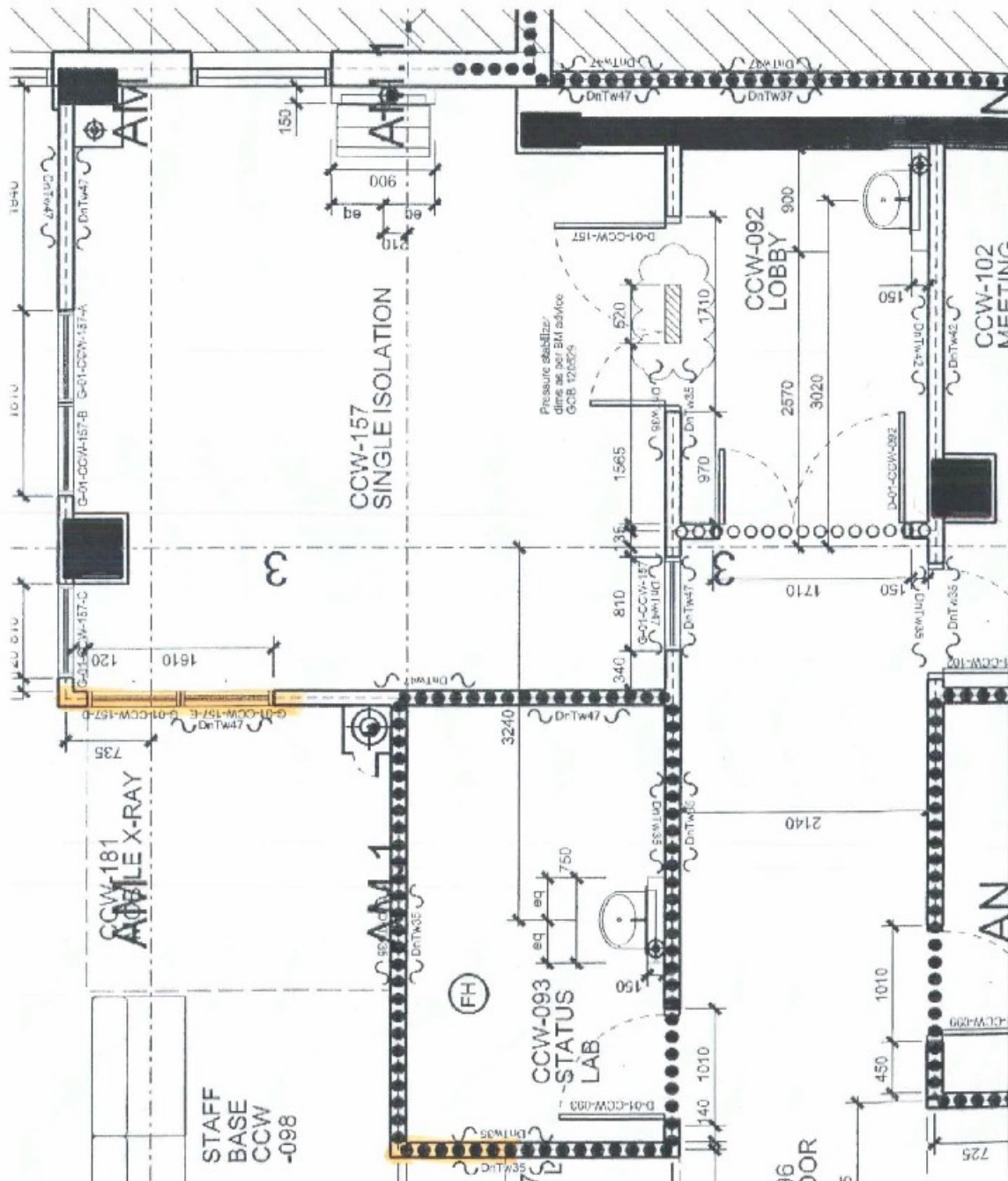
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Quality Inspection Report – Ceiling Void

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We witnessed an 85 point check to partitions on Level 1 area 527 and the partitions were constructed in accordance with the drawings and specification.

3.2 Early Warnings

Currently nothing to report.

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3.3 Trust Equipment Installation, Testing and Commissioning

Currently nothing to report.

3.4 Non Conformance Reports

We are aware of a number of NCR's raised and are being kept up to date as to their status.

4.0 CONSTRUCTION REVIEW**4.1 Visits to the Works**

Site inspections were carried out by the NEC3 Supervisors on the 1st, 2nd, 3rd, 6th, 7th, 8th, 9th, 10th, 13th, 14th, 15th, 16th, 17th, 20th, 21st, 22nd, 23rd, 24th, 27th, 28th, 29th, 30th, and 31st August 2012.

4.2 Elements of the Works available for inspection

- Energy Centre – steelwork and cladding. Local blockwork at ground, 1st and 2nd floor levels.
- Main building – Cores A, B, C, D, E, F, G, K and L internally, Zones D and G ground floor slabs, Zones E and F basement area, ground floor suspended slabs, 1st and 2nd floor slabs. Zone H 1st and 2nd floor slab. Zones A and J 1st and 2nd floor slabs.
- Zones D and G below slab drainage.
- External Drainage – specific sections of installation where access is possible.
- Tunnels between ACH and Labs, and Cores C to F.
- Structural steelwork to Atrium (prior to erection).
- Dual carriageway to Renfrew Road, and carriageway from Hardgate Road.
- SFS.
- Internal Partitions.
- M&E modular units.
- Roofing.
- Cladding.
- Windows.

4.3 Observations from August 2012 Inspections

The visual inspections of the work carried out to date indicate that the works are generally being carried out to a satisfactory standard. We continue to be assisted by the site teams and the NHS Project Team in resolving various construction, mechanical, electrical, and quality issues. We continue to close out our Supervisor's Notification and Defects when we have received satisfactory responses. Listed below are observations in relation to site visits in August 2012.

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4.3.1 Structural

The minipiling exercise has now been completed – full details and piling records awaited for inclusion In Zutec.

Quality on all concrete works has generally appeared good but the following points are noted:-

- Finish to ground floor in Zone F and 1st floor in Zone J (as last report)
- 20mm level change detail in 1st floor slabs at Zones E and J has been poorly formed and remedial action is required. This situation has persisted with no solution forthcoming.
- Cracks to the soffit of the suspended ground floor slab between Cores A, B, C and D being kept under review.
- Spalling to a couple of parapet walls at the top of Core G.
- Apparent on some pours towards the end of the period that significant elements of steelfixing and joiner work are still ongoing when concreting to a slab pour commences.

Some specific Building Warrants for substructure, superstructure and below slab drainage are still outstanding.

Brookfield confirmed that the damage to the intumescent paint is due to the thickness required for the sections of steel. They have confirmed that Pierce are aware of this issue and are taking steps to remedy it without delaying erection. The steel has not been offered for inspection by Pierce. Brookfield has intimated that the steel was not mishandled on site and that the damage has occurred in the painting process. A painter is on site full time, carrying out repairs when weather allows. (Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 24 is closed out.

We have requested Brookfield to provide details of proposed remedial action to ensure that the 1st floor slab at Zone E complies with the construction drawings and specifications. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 26).

We inspected the link reinforcement for pile caps Zone D and have asked Brookfield to advise us of the proposed remedial action or advise that the detail as constructed complies with the intended design and specification. Brookfield has confirmed that new U bars drilled in 200 deep with resin anchor fixing. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 32 is closed out.

4.3.2 Energy Centre

We asked Brookfield to provide details to show that the installation of the ground floor slab rainwater pop-ups is being provided entirely in compliance with the proprietary manufacturer's specification and to the Architect's and Engineer's requirements. Brookfield has confirmed that one slab is still to be completed. On completion the pop ups will be installed as per WSP drawings. (See Supervisor's

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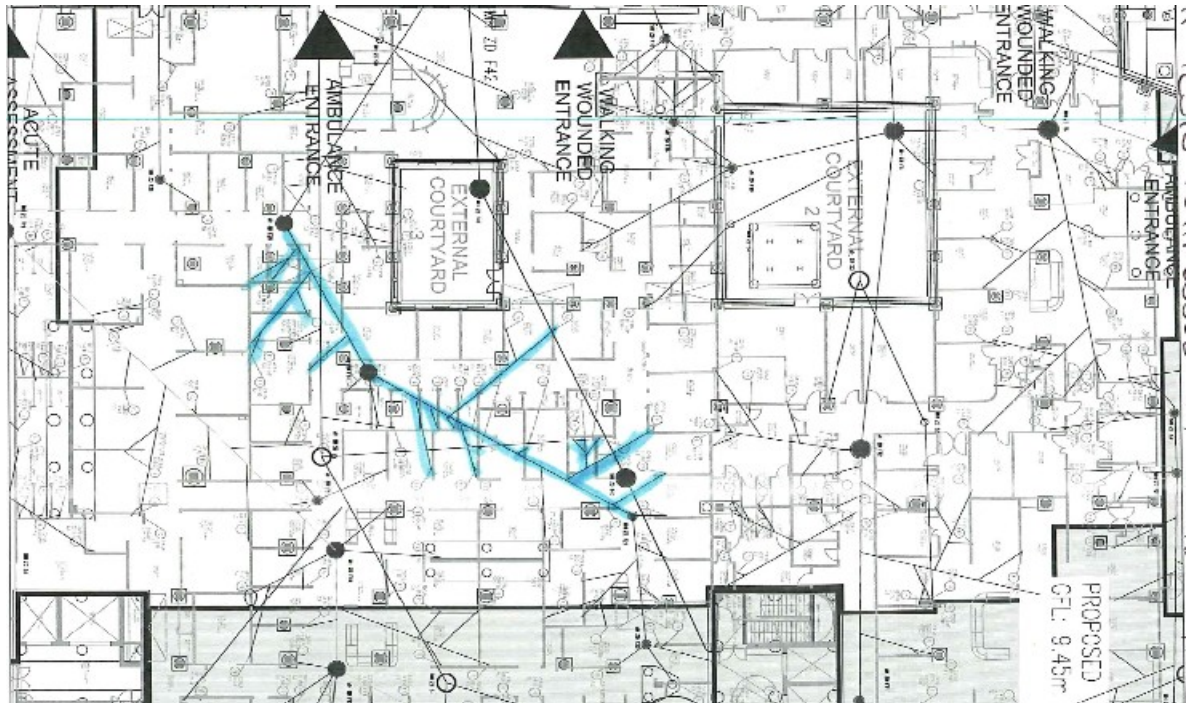
AUGUST 2012

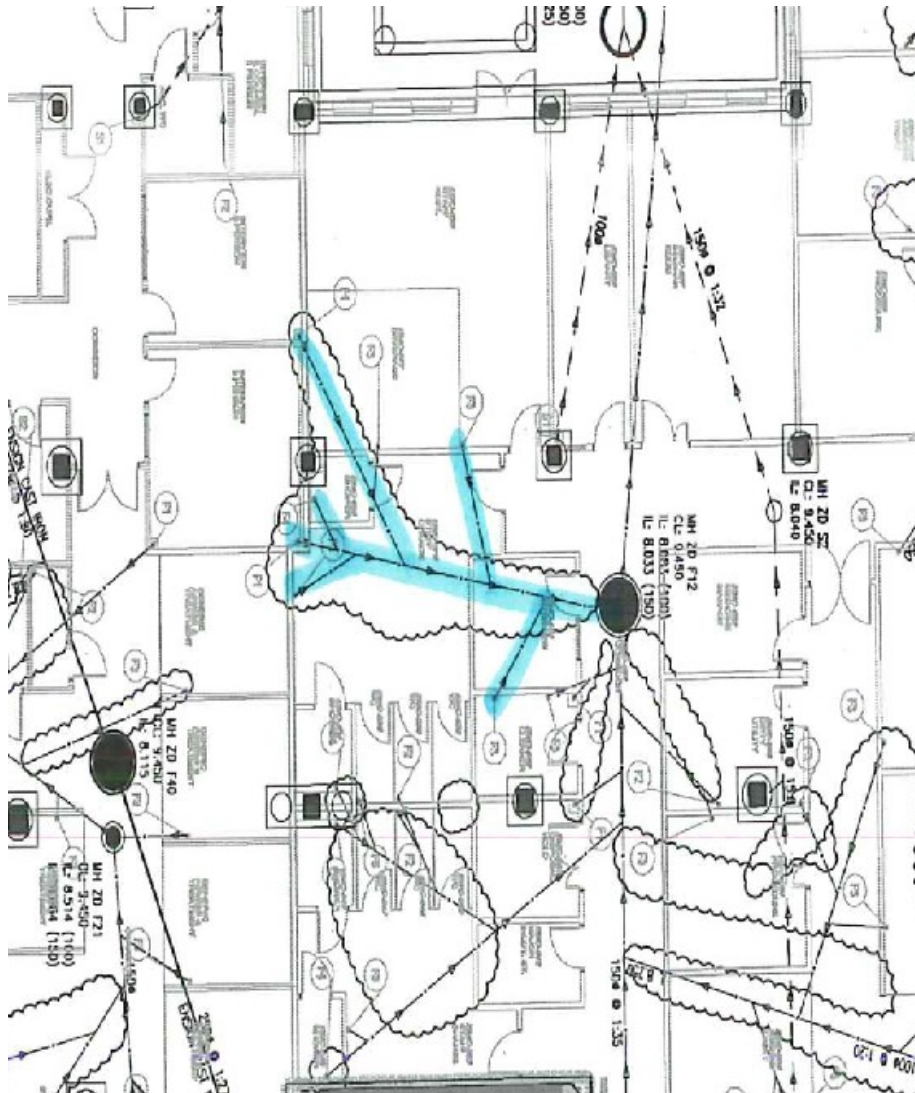
Communication General Matters / Other Instructions (CI 13.1) No 05). This issue remains ongoing.

4.3.3 Drainage

Below slab drainage installation has continued during the period in Zone D. Drain pressure tests have been carried out on all newly laid sections in this area. Test records are kept by Brookfield as part of their QA procedures and many independently witnessed by the Supervisor team.

Brookfield undertook below ground drainage rodding to prove that a future blockage could be cleared. These were successful and witnessed by the Supervisor team. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 19 is closed out.



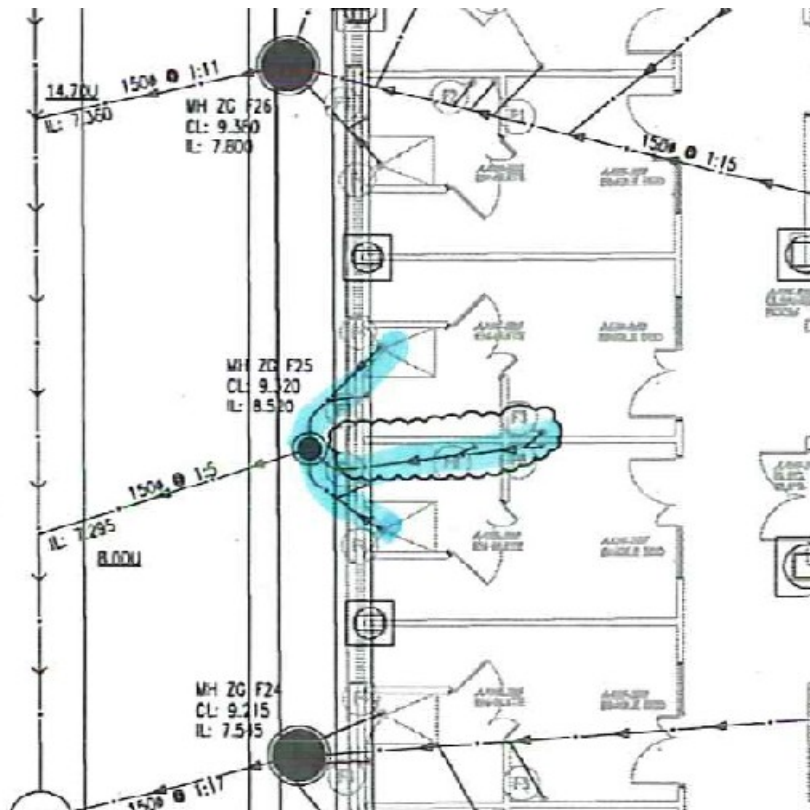
**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND
ENERGY CENTRE****SUPERVISOR'S REPORT NO. 17****AUGUST 2012**

Ground Floor Zone D Drainage Tests

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Ground Floor Rodding Test

There were a number of locations on Level 1 where above floor drainage connections were not sealed. Brookfield confirmed that the "open end" were due to testing of the soil and waste pipes in Design Zone ZG through levels 00, 01 and 02. The plugs having been removed prior to tape being applied to seal the open end following the tests. Mercury QA checked all of the areas/rooms on each floor that contains drains and all were sealed on 02/08/12 between 11:00 and 12:30. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 28 is closed out.



We shall be raising Supervisor's Communication with Brookfield concerning locations where drainage pipework and ductwork is uncapped.

4.3.4 Dual Carriageway to Renfrew Road. (A&C)

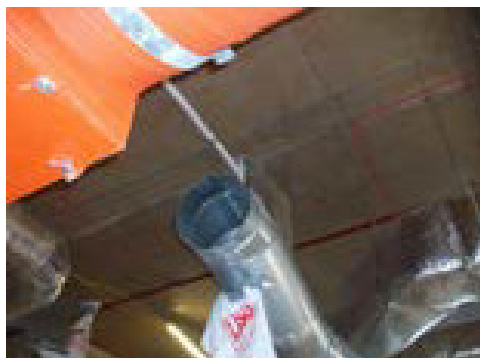
Sections of the existing tarmac surfacing on the western carriageway just north of the Energy Centre are showing local signs of breaking up with some rutting apparent. This is unexpected for the length of time that the tarmac has been down and the amount of traffic usage, albeit this has been fairly heavy at times. Brookfield is aware of this and are monitoring with their subcontractor. Remedial work will be carried out at the appropriate time before the wearing course is applied. No change from last period.

4.3.5 Pipework.

Installation of hot, cold, heating, & chilled water pipework in the A&C hospital is progressing at pace and in general is being installed to a good standard. It was noted however that there are still some open ends being left on the pipework, although to a lesser degree than previously reported. The contractor should be reminded that these need to be sealed, to prevent the ingress of moisture and subsequent corrosion that may develop.

4.3.6 Ventilation

The installation of ventilation ductwork in the A&C hospital is progressing well, and has been installed to a good standard. It appears that any open ends are being sealed but we have noted some exceptions and these have been highlighted to the contractor. The level of damage occurring during the delivery process is much reduced from that previously reported, however the contractor should be reminded that care should be taken to avoid such damage occurring.



Ductwork not fully capped in Level 1 Vent Plant Room

4.3.7 Insulation

The thermal insulation installation to the pre-fabricated sections of pipework is being completed off site, before delivery. It should be confirmed with Brookfield that these pre-insulated sections of pipework have been pressure tested, prior to the insulation being fitted.

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Insulation exposed to the elements

4.3.8 Pressure testing

We have issued correspondence asking Brookfield to clarify their planned procedure for pressure testing the modular pipework sections on a zone by zone basis.

Brookfield has advised that pipework systems will be left filled after testing. We would be concerned about the effects of corrosion on pipework, gaskets and seals where the water is not circulated over a long period of time.

We await a date for a workshop to review the procedure proposed by BM and to obtain their re-assurance should be provided by Brookfield that their proposed fill procedure will not lead to detrimental effects on the pipework systems.

4.3.9 Medical Gases

We note that a significant amount of medical gas pipework has now been installed. This includes pipework for some services which are no longer required on the contract. If this is confirmed by the client, then we would share their opinion that this should be removed, to avoid confusion at a later stage in the life of the building.



We noted that medical gas pipework are only supported on every section of unistrut on small bore pipework. Support intermittent on large bore pipework. We shall raise this with Brookfield.

4.3.10 Energy Centre

The installation for the standby generators is progressing to completion, and the installation is of good standard.

The HV switchgear has undergone site pressure testing and awaits connection.

The second batch of generators will be tested in the factory later in September prior to delivery to site.

We await a date for site generator testing.

4.3.11 Trunking

Cable trunking is being installed as part of the offsite fabricated sections that are being installed in the A&C hospital and in general the installation is of a good standard.

4.3.12 Cable Trays

Cable tray is being installed as part of the offsite fabricated sections that are being installed in the A&C hospital and in general the installation is of a good standard.

4.3.13 Cabling

Modular wiring looms are now being installed as part of the offsite fabricated assemblies and carefully tied up for protection.

4.3.14 Conduit

Solid conduit installations have now commenced in certain areas and are of a good standard.

SUPERVISOR 'S REPORT NO. 17**AUGUST 2012****4.3.15 Void Detection**

We noted that across the first floor but more specifically noted within zone ZG corridor CCW115 void detection has been located in close proximity and in between ventilation ducts. There is also no void detection noted within CCU-009. We shall be issuing a Supervisor's Communication with Brookfield.

4.3.16 Intake Sub Station

We noted that the current level of water in the trenches is higher than previously, and does not seem to be draining away or drying out since the rain storm on Monday 06/08/12. We asked Brookfield to confirm if all the cables are now installed. They have confirmed as soon as the cables are pulled, terminated and tested the ducts will be sealed.

The main front door to the sub station is jamming in the frame and is exceedingly difficult to open without excess force on the door handle. Brookfield to confirm when this issue has been addressed.

There are also damaged batteries from the switchgear which are still lying in the corridor and require to be correctly disposed off. Brookfield confirmed they would contact SPEN to find out when they are to be removed (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 30).

4.3.17 Partitions

We carried out a 1st pass inspection and witnessing with Brookfield of the fire stopping and acoustic sealing of partitions on Level 1 area 527 and found the installation to be in accordance with specifications.

There were a number of impact damaged partitions on Levels 1 and 2 and we shall continue to monitor these prior to and during final side sheeting.

There are concerns that the exposed ends of the 1500mm half height partitions on Level 1 in the Bed Bays may be susceptible to impact damage at the end of the partition which may affect its stability. We asked Brookfield to confirm if there are any design plans to introduce additional stiffening to these partitions. Brookfield has confirmed that the low height partitions have been installed as per the Approved layout drawing and detail drawing AST-XX-XX-DT-252-078 RevA. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 29).

Some of the partition lintels on level 1 & 2 which have been boarded on both sides do not have infill timber pieces and one has only been partially infilled. Confirm when these issues have been addressed so that a joint inspection can be carried out. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 31).

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Brookfield confirmed that they would notify Capita Symonds when water damaged boards have been replaced. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 17).

A full 85 point ITP check was undertaken to fully closed partitions within department 1-525 and this inspection confirmed that the partitions had been constructed in accordance with the specifications. The issue of some screws which were not fixed at the appropriate centres has been resolved. Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 27 is closed out.

4.3.18 Roofs

Roofwork is continuing in Zone G and D on all levels and is being carried out in accordance with the drawings and specifications. A roof integrity test has been carried out to a substantial area of the roof on Level 4 and we await the test results.

4.3.19 Cladding

Cladding is underway on the south elevation of Zones G & D and internal courtyards in accordance with the drawings and specifications.

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4.4 Defects from July 2011 Inspections.

We are still awaiting a response concerning the lack of access to ductwork which is insufficient for maintenance purposes in a number of locations on the second floor. We have requested that Brookfield inspect and confirm remedial measures to address this issue. (See Supervisor's Notification of Defect (CI 42.2) No 03).

During an inspection on site we noted on the first floor but more specifically within zone ZG corridor CCW115 void detection has been located in close proximity and between ventilation ducts. We believe that this does not comply with the requirements of BS5839. (See Supervisor's Notification of Defect (CI 42.2) No 04).

Brookfield confirmed that at the time of installation of void detection on Level 1 was installed to the current drawings at that time. However they recognise that it became a defect to the contract with the introduction of smoke/fire barriers. This has now been addressed by fixing of void detection between the smoke/fire barriers. Consequently Supervisor's Notification of Defect (CI 42.2) No 05 is closed out.

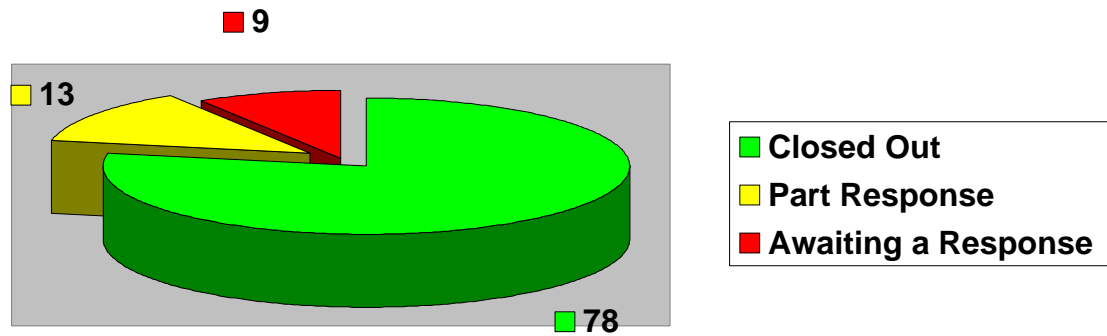
We raised with Brookfield that DHW dead-legs appear to be excessive in areas and not in compliance with minimum distances as specified in SHTM.2027-Part 2. Hot and cold water supply storage and mains services. Brookfield has confirmed that ZBP have designed the system in compliance with the SHTM; Mercury has installed to the design drawings and therefore the length of the dead leg would be maintained to less than 5m as designed. Brookfield has also intimated that if Mercury were to take the return leg down within the wall, there would be additional joints and resistance. This would also have a potential impact on the energy model overall given the number of WHB's / Sinks etc and the extent of the distribution of pipework involved. Consequently Supervisor's Notification of Defect (CI 42.2) No 06 is closed out. We will continue to monitor this during future visits

We have closed out Supervisor's Notification of Defect (CI 42.2) No 06. However to verify that the installation is to within the 5m as the SHTM, a joint inspection with Capita and Brookfield will be carried out to measure some sample areas on Level 1.

We have asked Brookfield to confirm proposals to correct the misaligned bolts at the half landing in Core G between Level 3 and Level 4. (See Supervisor's Notification of Defect (CI 42.2) No 07).

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5.0 INFORMATION REQUIRED

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Item No.	Description	Date Requested	Comment	
01	Request for details of the shrinkage reduction admixture.	10/10/11	Closed out.	
02	Request for the method statement for Slab Concreting Operations.	08/11/11	Closed out.	
03	Confirm there is building warrant for the substructure, superstructure and below ground slab drainage and provide copies.	10/01/12	Closed out.	
04	Provide relevant road construction consents.	10/01/12	Closed out.	
05	Provide details to show installation of pop ups are compliant with manufacturers spec and Architect and Engineer's requirements.	10/01/12	Closed out.	
06	We have requested design proposals in relation to the section of the 1st floor slab fire resistance integrity.	27/02/12	Closed out.	
07	We have requested floor finish survey and test results for the top floor Zone G.	16/03/12	Closed out.	
08	We have requested floor finish survey and test results for the top floor Zone D.	16/03/12	Closed out.	
09	Open ends in pipework require to be sealed.	23/03/12	Closed out.	
10	Please confirm your protocols in relation to the pipework installation, and particularly the sprinkler pipework, once it has been pressure tested.	26/04/12	Closed out.	
11	Please confirm that smoke and fire dampers will comply with the relevant SHTM's and in particular SHTM 81 Firecode.	21/05/12	Closed out.	
12	Request for all approved construction approved drawings to be issued through Aconex.	30/05/12	Closed out.	
13	Request for Roof Integrity test results.	30/05/12	Closed out.	
14	Tests and Commissioning programme of the areas which will be completed in the coming months and also your final Tests and Commissioning programme prior to handover requested.	15/06/12	Response received.	
15	Confirm how the insulation will be fitted to partitions at high level when there are screws projecting past the flat plate and the studs.	15/06/12	Closed out.	
16	Confirm if impact boards are to be fitted to the wall forming the electrical cupboard and IPS.	15/06/12	Closed out.	
17	Confirm when water damaged boards will be replaced.	15/06/12	Response received.	
18	Provide copies OF Building Control Amendments to Build Warrant Stages 1, 2, 3, 4, 5, 6 and 7.	20/06/12	Closed out.	
19	Zone D below ground drainage does not appear installed as per construction drawings.	26/06/12	Closed out.	
20	No insulation fitted at high level. Confirm when this area is opened up for inspection.	26/06/12	Closed out.	
21	Concerns of gaps and open louvres between and above the acoustic intake louvres, and are concerned that this will present a path for noise breakout from the plant.	02/07/12	Closed out.	
22	Brookfield to provide us with their Air Test Procedures and Programme.	03/07/12	Response received.	
23	Confirm if this is an adequate vehicular turning circle for an oil tanker, refrigerated articulated vehicle and a Liebherr LTM 1250-61 mobile crane to gain access and egress around the building.	19/07/12	Closed out.	
24	Confirm how and when the defects to the fire protected steelwork will be addressed	23/07/12	Closed out.	
25	Please provide details of proposed measures to ensure compliance with drawings and specifications.	23/07/12	Closed out.	
26	Provide details of proposed remedial action to ensure that the 1st floor slab at Zone E complies with the construction drawings and specifications.	26/07/12	Open	

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27	Ensure screw fixings are 300mm centres, reduced to 200mm at external angles in accordance with BS and NBS K10. Confirm that plates are in place between sheets where double sheeted and will be located in all horizontal joints.	26/07/12	Closed out.	
28	Confirm open drainage on Levels 1 & 2 is sealed.	01/07/12	Closed out.	
29	Confirm if there are any design plans to introduce additional stiffening to 1500mm high partitions.	29/08/12	Open	
30	Confirm when cabling is complete, water pumped out and batteries removed.	10/08/12	Response received.	
31	No timber in partition lintels.	29/08/12	Open	
32	Advise proposed remedial action link reinforcement from pile caps Zone D.	29/08/12	Closed out.	

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6.0 SUPERVISORS TESTS AND INSPECTIONS

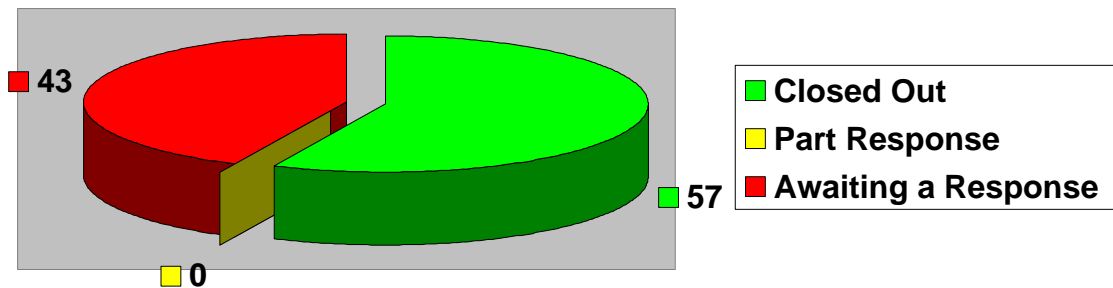
Tests not required	N/A
Tests required but not tested	Req
Tests required which has passed tests	Pass

Tests				
Ref	Title	To be Notified by	Status	Test Date
01	Drainage Air Test.	Brookfield	Pass	
02	Drain pressure test – sub –slab drainage Zone G, post slab completion.	Brookfield	Pass	9/07/2012
03	Drain pressure test – sub-slab drainage Zone D, prior to concreting.	Brookfield	Pass	19/07/2012
04	Drain pressure test – sub-slab drainage Zone D, Prior to concreting	Brookfield	Pass	24/07/2012
05	Drain CCTV/rodding check – sub-slab drainage Zone D, prior to concreting.	Brookfield	Pass	30/07/2012
06	85 point quality check to partition on Level 0	Brookfield	Pass	12/07/2012
07	Drain pressure test – sub-slab drainage Zone D, prior to concreting.	Brookfield	Pass	10/07/2012
08	Drain pressure test, and rodding test - sub-slab drainage Zone D, post slab construction.	Brookfield	Pass	03/08/2012
09	Drain pressure test – sub-slab drainage Zone D Prior to concreting.	Brookfield	Pass	10/08.2012
10	Drain pressure test – sub-slab drainage Zone D Post slab construction.	Brookfield	Pass	23/08/2012
11	Drain rodding test – sub-slab drainage Zone D.	Brookfield	Pass	29/08/2012

Inspection not required	N/A
Inspection required	Req
Inspection complete	Pass

Inspections				
Ref	Title	To be Notified by	Status	Inspection Date








7.0 DEFECTS NOTIFICATIONS ISSUED



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Item No.	Description	Date Requested	Comment	
01	We are concerned about the level of damage to the ductwork and the subsequent amount of time re-working it on site to effect repairs. Confirm action to prevent further damage and provide evidence that the existing damage has been repaired.	22.03.12	Closed	
02	Some piles were reported as out with positional tolerance.	02.05.12	Closed	
03	Access to ductwork insufficient. Confirm remedial measures.	30.07.12	Open	
04	Void detection located in close proximity and between ventilation ducts.	31.07.12	Open	
05	Void detection not fitted between smoke /fire barriers.	31.07.12	Closed	
06	DHW dead-legs appear to be excessive.	31.07.12	Open	
07	Misaligned bolts.	23.08.12	Open	

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND
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John Redmond
Capita Symonds
Technical Advisory Services

The Beacon, 8th Floor, 176 St Vincent Street, Glasgow G2 5SG

	Signed	Date
Originated by	John Redmond	5th September 2012
Completed by	John Kilbane	5th September 2012

Appendix 1

Photographs

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND
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Photo 1 – Partitions being erected on Level 1 area 529
Zone H.

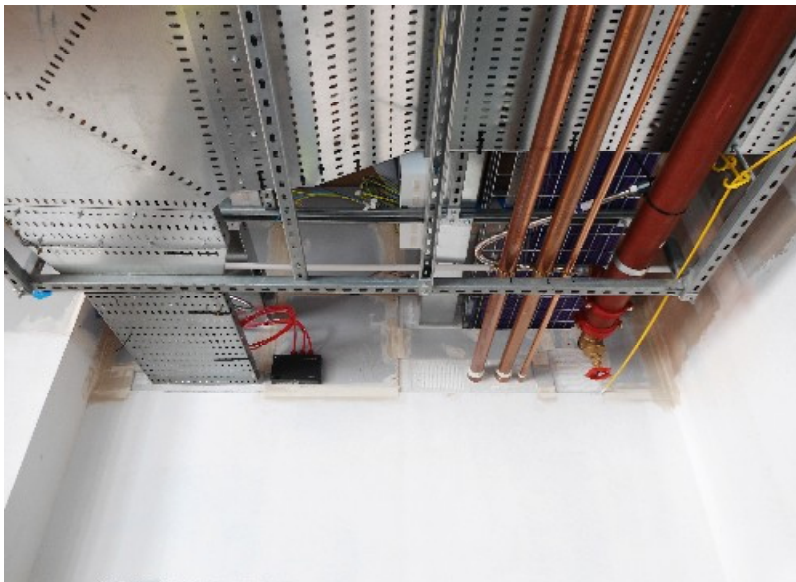


Photo 2 – Acoustic/fire stopping around penetrations
through partition.



Photo 3 – Misaligned bolts.



Photo 4 – Link reinforcement from pile caps Zone D.



Photo 4 – New U bars drilled in 200 deep with resin anchor fixing.

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Photo 5 – Steel fixing to slab being cast.



Photo 6 – Timber infill missing from lintel.

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Photo 7 – ZG corridor CCW115 void detection has been located in close proximity and between ventilation ductwork.

CAPITA SYMONDS

**NEW SOUTH GLASGOW HOSPITAL
ADULT AND CHILDREN'S HOSPITAL AND THE ENERGY CENTRE
NEC 3 SUPERVISORS REPORT NO. 18
SEPTEMBER 2012**

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND
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SEPTEMBER 2012

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**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND
ENERGY CENTRE****SUPERVISOR 'S REPORT NO. 18****SEPTEMBER 2012****ADULT AND CHILDRENS HOSPITAL AND ENERGY CENTRE****1.0 EXECUTIVE SUMMARY: ADULT & CHILDRENS HOSPITAL**

Visits to the site during September 2012 indicated that the construction and procedures are progressing in a satisfactory manner in accordance with the Employer's Requirements.

Throughout, the standard and quality of the workmanship is generally good and operations are being carried out in an acceptable manner.

Brookfield continues to undertake their Quality Assurance systems on site with inspection and checklist documentation available for the ongoing construction activities. Over the period, we have closely liaised with Brookfield and witnessed both drainage tests and 85 point check to partitions on Level 2. Our witnessing resulted in successful tests.

The standard of the work in the exemplar rooms in progress during this period is good. We shall continue to monitor the work planned for the coming month including door frames ceiling trims and radiant panels. The internal finishes workmanship standards are used as a benchmark for all room completions.

The roof work is continuing on Level 1, 2 and 3 Zones G and D in accordance with the drawings. However the red line specification has not been loaded on to Aconex.

Cladding is progressing on the south elevation and courtyards 3, 4 & 5.

Energy Centre structural work is largely completed. Various items of plant are still being installed via the north elevation. Structural quality to date appears satisfactory, although some minor snagging still remains outstanding as reported during the last period.

In the last period Brookfield believed that no further remedial action to the original piles was required. However it has transpired that a further 3 original piles have been found to be outwith positional tolerance, requiring a min-piling solution comprising 3 number per original pile. This work has commenced and will be completed by 5th October. Meetings have been held with Brookfield to confirm certain issues associated with this. Full as built details and all piling records, for both original and mini-piling remain to be provided by Brookfield on Zutec. Checks will be made to ensure that comprehensive as built records are provided.

Concreting to the main A&C building has again progressed in several areas. This has included 2nd and 3rd floors Zones D, E, and H, 2nd floor in Zones F and G, and ground floor slab sections in Zone D. Quality throughout has generally been good. Workmanship to the small 20mm step in floor slabs in Zones J and E continues to be poor and has not been satisfactorily addressed.

Structural steelwork erection to the atrium walkway has continued during the period. As noted in the last report quality wise, the main concern is the damage to the fire protection coating (shop applied) on some sections. Brookfield is aware of

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this and the damaged areas are receiving intumescent coating. Elsewhere ancillary steelwork around cores and at stairwells has progressed, and in occasional places some minor remedial attention to bolts and cleats is required.

Sub-slab drainage in Zones E and H has progressed during the period with pressure tests proving satisfactory.

Regarding external storm water drainage, during the period the Children's area water retention installation has been satisfactorily completed.

The M&E installation is now progressing at pace, with pre-fabricated sections and second and final fix being installed in the A&C areas. Large plant items continue to be installed in the energy centre and areas are now being commissioned looking towards partial completion in the next month.

In general terms we are satisfied that the installations continue being installed to the correct standard, and are of a good quality however we have noted again that certain items this month that have raised concern. These have been raised with the Contractor.

Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47 and 48 were issued.

- Ductwork not capped.
- Above ground drainage pipework uncapped.
- Incorrect fixings to cladding.
- Insulation missing from upper section of partition
- Vertical trunking riser not covered.
- Sections of ductwork uncapped or not covered properly.
- Part of partition stud cut out in contravention with Knauf specification.
- Dust cap to smoke detector head removed.
- Access hatch blocked by chilled water pipework.
- Vent control unprotected.
- Cables hanging unsupported.
- Requested confirmation when redundant medical gases are to be removed.
- Advise on proposals to prevent rain water penetration into work areas.
- Seeking confirmation that missing insulation will be replaced and highlighted holes cored to an unacceptable standard. Also highlighted numerous damaged partitions.
- Seeking clarification on the current roof specification, Radmat Building Products Ltd materials are being used, that a Radmat representative has been on site. Requested electronic roof integrity tests for remainder of Zone D Level 3.
- Poor stacking of boards causing boards to be deformed and damaged.

Supervisor's Notification of Defects (CI 42.2) No 08 and 09 were issued.

- Steel angle too short.

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND
ENERGY CENTRE****SUPERVISOR 'S REPORT NO. 18****SEPTEMBER 2012**

- Bolt missing from angle plate.
-

We continue to be assisted by the site teams and the NHS Project Team in resolving various construction, mechanical, electrical, and quality issues. We continue to close out our Supervisor's Notifications and Defects when we have received satisfactory responses.

SUPERVISOR 'S REPORT NO. 18**SEPTEMBER 2012****2.0 DESIGN COMPLIANCE CHECK**

The drawing and specification review is complete. Previous reviews have been conducted, with comments marked on drawings and returned to Brookfield.

3.0 PROCEDURES REVIEW**3.1 Contractor's QA Procedures**

Brookfield and their subcontractors have continued with their QA and checking and inspection procedures during the period. We are in discussion and liaison with Brookfield's Quality Manager on QA matters and regular reviews their QA documentation.

An off site factory visit was carried out on 19th and 20th September attend factory acceptance tests for the remaining 5 Generators.

Work is progressing in the exemplar rooms with dado trunking and ceiling trim being carried out. We will continue to monitor the work which is to be the benchmark for the project

Workmanship overall is of a good standard throughout.

We have witnessed Brookfield Multiplex carrying out an installation check on site and have processes in place to carry out random checks on signed off work. We have witnessed both air tests to underground drainage and the 85 point check to partitions.

Below is a plan showing the partition opened up for inspection on Level 2 and a non- conformance check list. We witnessed an 85 point check to partitions and the partitions' were generally constructed in accordance with the drawings and specification.

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ASTINS LTD
11 Magellan Terrace
Gutwick Road
Crawley
BN11 9PJ

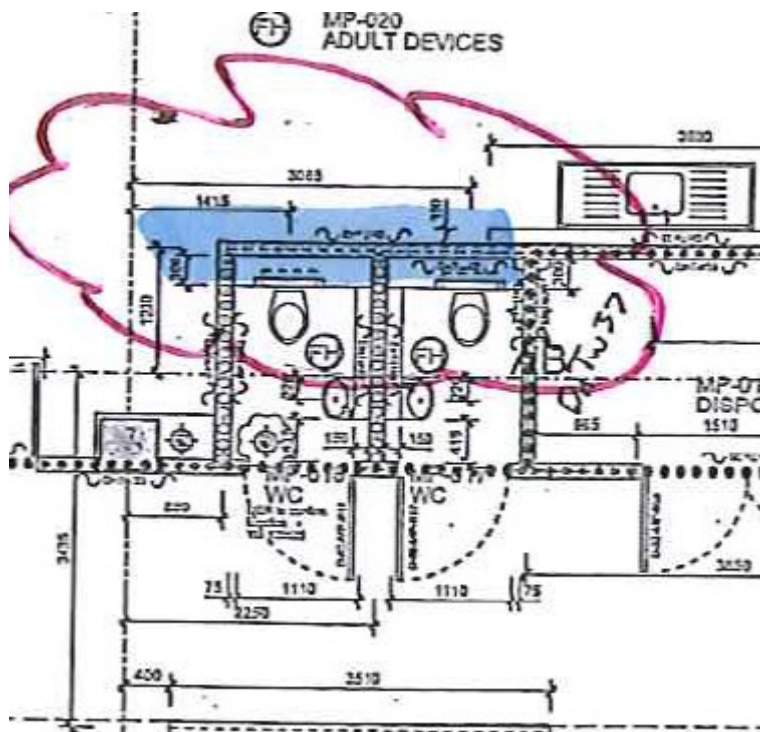
Tel: 0145 280 0401
Fax: 0845 200 9154
E-mail: info@astins.com

Non Conformance Report

ISSUED TO: SHARON SHANKSDATE: 28/9/12LEVEL NO: 2LOCATION: S17 Room 020

SNAG ITEM	ROOM NO.	REMEDIAL REQUIRED	RE-INSPECT ASTINS LTD	RE-INSPECT MAIN CONTRACTOR
51	020	FLAT PLATE SCREW		
56	11	SCREWS FIXED NO MORE THAN 50MM		
58	11	SCREWS AROUND DOOR 100 MORE THAN 200MM GCS		
60	11	SCREWS TO EXTERNAL CORNERS AT 200MM GCS		
17	020	CORRECT FTG USED TO FIX FIREBOARD	<u>28/10/12</u>	
41	020	SCREWS GFR IN DOOR STUD		
	02	ECO STUD DOOR BRACKETS		

Non Conformance Report



Partition opened up on Level 2.

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Brookfield confirmed that their final tests and commissioning programme is being developed. It was also confirmed that there will be a separate commissioning meeting with a high level overview presented at the monthly meetings. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 14 is closed out.

We requested Brookfield to provide us with their Air Test Procedures and Programme. They have confirmed that there is no programme in place yet. However Building Sciences a UKAS accredited testing laboratory for testing in accordance with CIBSE TM23 and BS EN 13829 2001 are already on board and have been carrying out interim site inspections to check workmanship etc.

Brookfield has issued drawings to Building Sciences to mark up zonal areas / sample areas for testing. When this exercise is complete, these will be sent to the Board for approval / agreement.

A programme to carry out air tightness testing will then be developed. These will normally be arranged to be carried out in areas that are as complete as possible. The testing will also be arranged in conjunction with Mercury.

Once the marked up drawings are received back, Brookfield will be able to develop a preliminary programme which we will be issue to Capita Symonds. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 22).

The next two pages show the Sign-Off Checksheets for August and September.

We witnessed an 85 point check to partitions on Level 2 and the partitions were constructed in accordance with the drawings and specification.

3.2 Early Warnings

Currently nothing to report.

3.3 Board Equipment Installation, Testing and Commissioning

Currently nothing to report.

3.4 Non Conformance Reports

We are aware of a number of NCR's raised and are being kept up to date as to their status.

4.0 CONSTRUCTION REVIEW**4.1 Visits to the Works**

Site inspections were carried out by the NEC3 Supervisors on the 3rd, 4th, 5th, 6th, 7th, 10th, 11th, 12th, 13th, 14th, 17th, 18th, 19th, 20th, 21st, 24th, 25th, 26th, 27th, and 28th September 2012.

4.2 Elements of the Works available for inspection

- Energy Centre – steelwork and cladding. Local blockwork at ground, 1st and 2nd floor levels.
- Main building – Cores A, B, C, D, E, F, G, K and L internally, Zones D, E, G and H ground floor slabs, Zones E and F basement area, ground floor suspended slabs, 1st and 2nd floor slabs. Zone H 1st and 2nd floor slab. Zones A and J 1st and 2nd floor slabs, 3rd floor Zones D, E and H.
- Zones D, E, G and H below slab drainage.
- External Drainage – specific sections of installation where access is possible.
- Tunnels between ACH and Labs, and Cores C to F.
- Structural steelwork to Atrium (prior to erection).
- Dual carriageway to Renfrew Road, and carriageway from Hardgate Road.
- SFS.
- Internal Partitions.
- M&E modular units.
- Roofing.
- Cladding.
- Windows.

4.3 Observations from September 2012 Inspections

The visual inspections of the work carried out to date indicate that the works are generally being carried out to a satisfactory standard. We continue to be assisted by the site teams and the NHS Project Team in resolving various construction, mechanical, electrical, and quality issues. We continue to close out our Supervisor's Notification and Defects when we have received satisfactory responses. Listed below are observations still to be closed and those raised following site visits in September 2012.

4.3.1 Structural

The minipiling exercise has restarted to replace 3 No original piles subsequently found to be out of tolerance – full details and piling records will be included in Zutec on completion and after receipt of all tests and associated details.

Quality on all concrete works has generally appeared good but the following points are noted:-

- Finish to ground floor in Zone F and 1st floor in Zone J (as last report)
- 20mm level change detail in 1st and 2nd floor slabs at Zones E and J has been poorly formed and remedial action is required. This situation has persisted with no solution forthcoming.
- Cracks to the soffit of the suspended ground floor slab between Cores A, B, C and D being kept under review.
- Spalling to a couple of parapet walls at the top of Core G.

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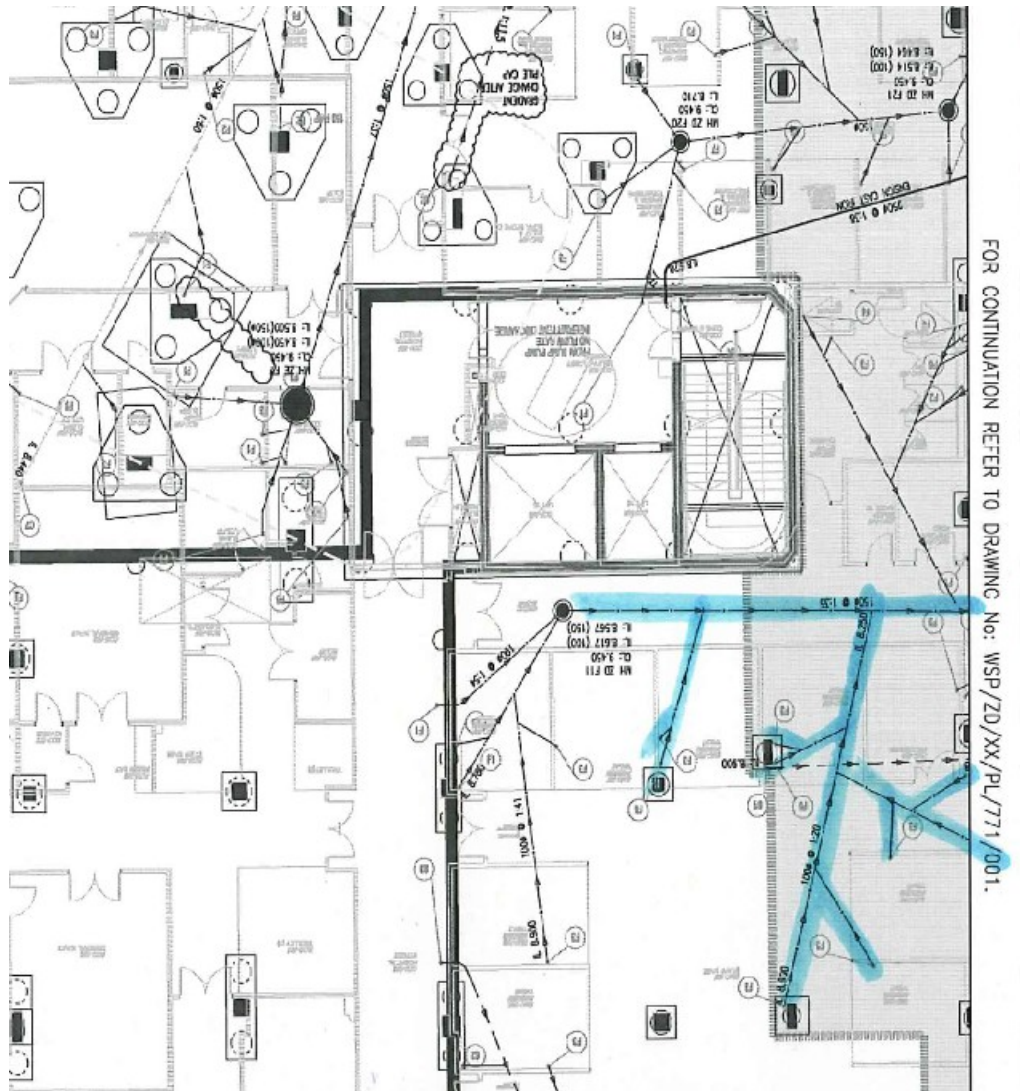
We have requested Brookfield to provide details of proposed remedial action to ensure that the 1st floor slab at Zone E complies with the construction drawings and specifications. Brookfield has confirmed that they are in dialogue with Dunnes to address this issue. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 26).

4.3.2 Energy Centre

Brookfield has provided details to show that the installation of the ground floor slab rainwater pop-ups is being provided entirely in compliance with the proprietary manufacturer's specification and to the Architect's and Engineer's requirements. Pop ups are installed as per WSP drawings and Brookfield has provided information on the Wade removable bolt trap and var- level grating. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 05 is closed out.

4.3.3 Drainage

Below slab drainage installation has continued during the period. Drain pressure tests have been carried out on all newly laid sections in ZD and ZE. Test records are kept by Brookfield as part of their QA procedures and were independently witnessed by the Supervisor team.

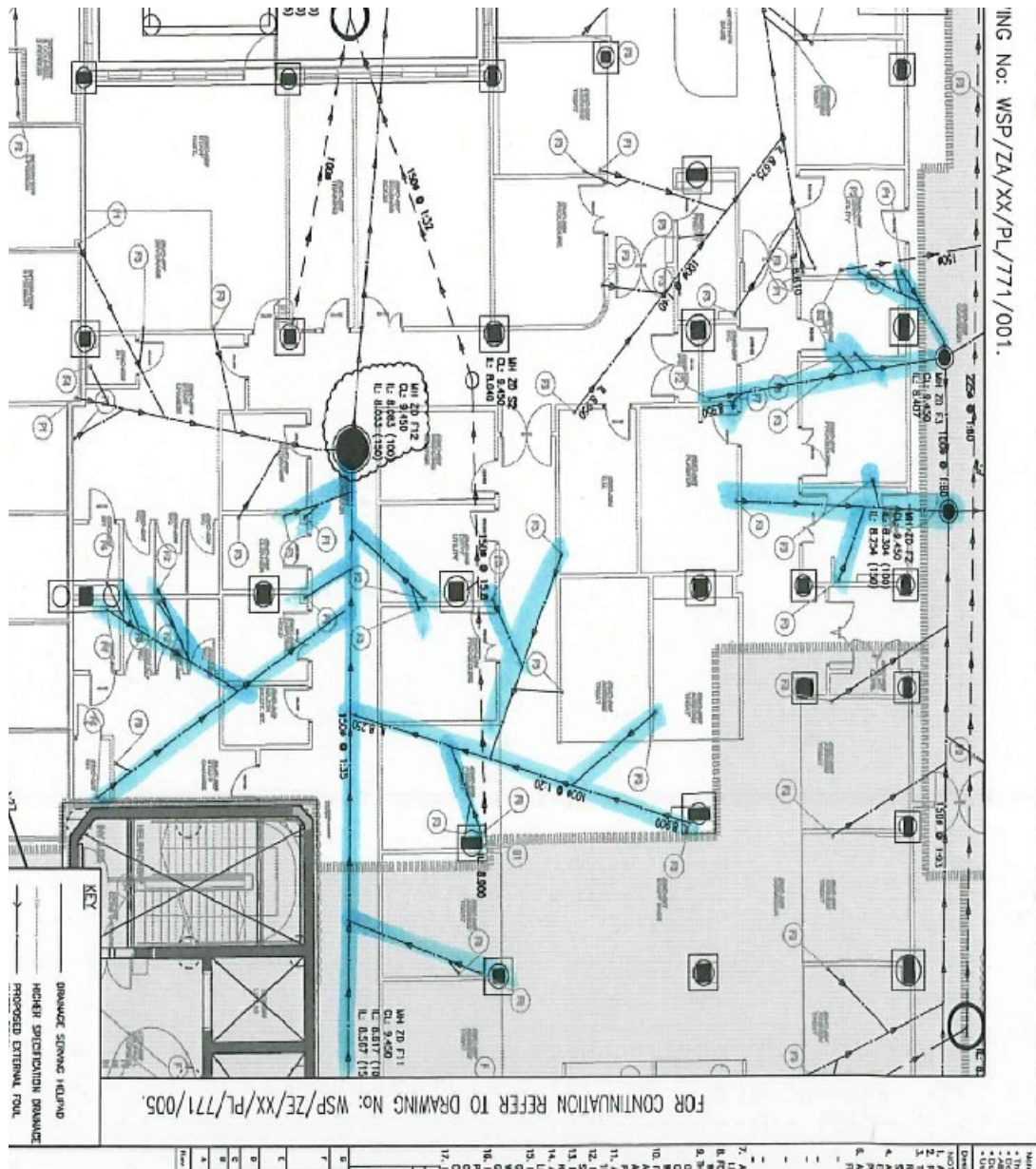


Ground Floor Area ZD

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Ground Floor Area ZE

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We noted that locations throughout have drainage pipework which is uncapped. Brookfield has confirmed that Mercury will blank off all open ends. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 34 is closed out. However we will continue to monitor this issue.

4.3.4 Dual Carriageway to Renfrew Road. (A&C)

Sections of the existing tarmac surfacing on the western carriageway just north of the Energy Centre are showing local signs of breaking up with some rutting apparent. This is unexpected for the length of time that the tarmac has been down and the amount of traffic usage, albeit this has been fairly heavy at times. Brookfield is aware of this and are monitoring with their subcontractor. Remedial work will be carried out at the appropriate time before the wearing course is applied. No change from last period.

4.3.5 Pipework.

Installation of hot, cold, heating, & chilled water pipework in the A&C hospital is progressing at pace and in general is being installed to a good standard. It was noted however that there are still some open ends being left on the pipework, although to a lesser degree than previously reported. The contractor should be reminded that these need to be sealed, to prevent the ingress of moisture and subsequent corrosion that may develop.

We have identified locations where the dead legs on hot water pipe runs are excessive and greater than the specified distance of 3m. We are working with the Contractor to review and identify all areas and to ensure this is not repeated in the future installations.

We have asked Brookfield to confirm when the redundant medical gases on Level 1 will be removed. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 44).

4.3.6 Ventilation

The installation of ventilation ductwork in the A&C hospital is progressing well, and has been installed to a good standard. It appears that any open ends are being sealed but we have noted some exceptions and these have been highlighted to the

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contractor during our weekly site inspections. The level of damage occurring during the delivery process is much reduced from that previously reported, however the contractor should be reminded that care should be taken to avoid such damage occurring.

Ductwork was sealed in the Level 1 vent plant room. Brookfield confirmed that the duct is now sealed and has provided us with photographic evidence. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 33 I closed out.

There are some are some open ends which are not being sealed and consequently we have raised Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 44).

During an inspection on site we noted that there are sections of ductwork uncapped or not covered properly. We asked Brookfield to confirm when these have been capped/covered. Brookfield has confirmed that the ductwork in Plantroom 31 Level 3 is now capped off properly. They have also informed us that the pipe running through the fire stopping is a cable way and not a duct and therefore this is why is it not capped off.

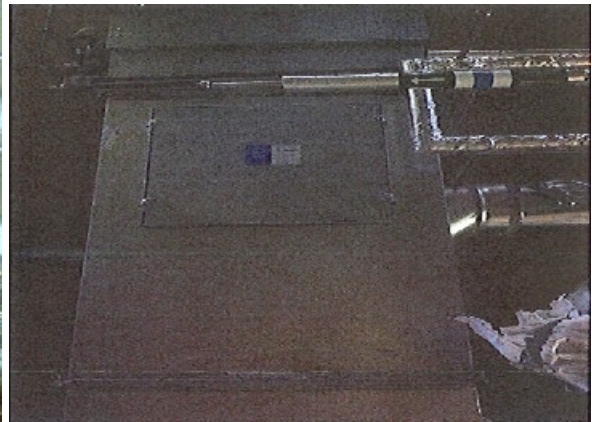


We are awaiting confirmation from Brookfield concerning the opening above.

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See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 38).

The duct access hatch is blocked by a chilled water pipework at ground floor area around DB cupboard AAW190. Brookfield has confirmed that the pipework has been rerouted. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 41 is close out. See photos below



Ventilation controls on Level 3 Zone D were unprotected. We have asked Brookfield has addressed this covering the controls. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 42 is closed out.



4.3.7 Insulation

The thermal insulation installation to the pre-fabricated sections of pipework is being completed off site, before delivery. It should be confirmed with Brookfield that these pre-insulated sections of pipework have been pressure tested, prior to the insulation being fitted.

4.3.8 Pressure testing

Pressure testing of the modular pipework sections on a zone by zone or area by area basis is to be programmed through the commissioning meetings.

We await further information from Brookfield on their programme and methodology.

4.3.9 Medical Gases

We note that a significant amount of medical gas pipework has now been installed. This includes pipework for some services which are no longer required on the contract. If this is confirmed by the client, then we would share their opinion that this should be removed, to avoid confusion at a later stage in the life of the building. Consequently we have asked Brookfield to confirm when the redundant medical gases on Level 1 will be removed. They have responded intimating that an agreement between the NHS and HPI was that the medical gases were to remain in situ and marked as redundant. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 44).

4.3.10 Energy Centre

The installation for the standby generators is progressing to completion, and the installation is of good standard. Generator on site testing is due to commence with load banks to be installed outside the Energy Centre.

We have witnessed various tests on the HV switchgear and this is now connected and awaiting to be energised.

The second batch of generators was tested in the factory in the past month and is being delivered and installed on site this week.

We have raised a concern with the Contractor regarding the control of the first phase of the generator installation and await their response.

4.3.11 Trunking

Cable trunking is being installed as part of the offsite fabricated sections that are being installed in the A&C hospital and in general the installation is of a good standard.

We noted that Vertical trunking riser on Level 3 Plantroom is not covered providing passage to the floor below. Brookfield confirmed that the opening was previously boarded over but was removed for the formation of the upstand. This is being reviewed and will be permanently filled in. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 37).

4.3.12 Cable Trays

Cable tray is being installed as part of the offsite fabricated sections that are being installed in the A&C hospital and in general the installation is of a good standard.

4.3.13 Cabling

Modular wiring looms are now being installed as part of the offsite fabricated assemblies and carefully tied up for protection.

We noted in a couple of locations that cables were hanging unsupported.

Level 2 (Adjacent to plant room entrance at zone) - Fire alarm cabling was inadequately supported. The weight of the cable coil appeared to have caused the cable fixings to dislodge. Brookfield has confirmed that cables hanging unsupported in UCV Theatre 5 Dirty Utility have now been taken up and are located on top of the wago trunking until termination. They also provide photographs as verification

Level 2 Ultra Clean 5 - Cabling was hanging unsupported. Brookfield reported that the cable had been pulled by a party unknown and become detached from the soffit fixing. Mercury was aware of this. However, the cable has now been placed on top of the duct out of the way until fixings rectified.

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Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 43 is closed out

4.3.14 Conduit

Solid conduit installations are well progressed in the areas being fitted out and are of a good standard.

4.3.15 Void Detection

Confirm when removal dust caps from smoke detector heads have been replaced. Removal of caps at this stage of the contract may lead to the contamination of the detector heads. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 40). See photo below.

**4.3.16 Intake Sub Station**

We noted that the current level of water in the trenches is higher than previously, and does not seem to be draining away or drying out since the rain storm on Monday 06/08/12. Brookfield has confirmed that they are still pulling cables into the Intake Substation for the Energy Centre and Adults & Children's.

The main front door to the sub-station is jamming in the frame and is exceedingly difficult to open without excess force on the door handle. Brookfield to confirm when this issue has been addressed.

There are also damaged batteries from the switchgear which are still lying in the corridor and require to be correctly disposed off. Brookfield confirmed they would contact SPEN to find out when they are to be removed (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 30 & 45).

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4.3.17 Partitions

There were a number of impact damaged partitions on Levels 1 and 2 and we shall continue to monitor these prior to and during final side sheeting.

There are concerns that the exposed ends of the 1500mm half height partitions on Level 1 in the Bed Bays may be susceptible to impact damage at the end of the partition which may affect its stability. We asked Brookfield to confirm if there are any design plans to introduce additional stiffening to these partitions. Brookfield has confirmed that the low height partitions have been installed as per the Approved layout drawing and detail drawing AST-XX-XX-DT-252-078 RevA. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 29 is closed out.

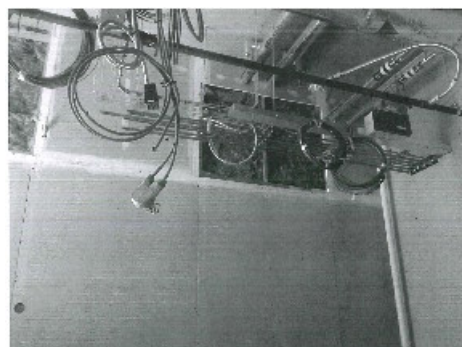
Some of the partition lintels on level 1 & 2 which have been boarded on both sides do not have infill timber pieces and one has only been partially infilled. Brookfield has confirmed that this is not specified in the NBS K10 specification for partitions. However they have confirmed that Astins is contracted by Brookfield to install timber into the door heads of double leaf doors only. Brookfield intimated that any missed timber lintel inserts will be picked up at QITP stage and remedial action taken. We shall continue to monitor this during our site visits. Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 31 is closed out

A joint inspection of the replacement boards previously affected by water is to be carried out. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 17).

We noted that there was insulation missing from the upper section of the boarded partition. Brookfield has confirmed that the installation is compliant. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 36 is closed out. (See photos below)



**Room CCU-068. Partition with
insulation missing at high level**



**Room CCU-068. Partition with
insulation fitted at high level**

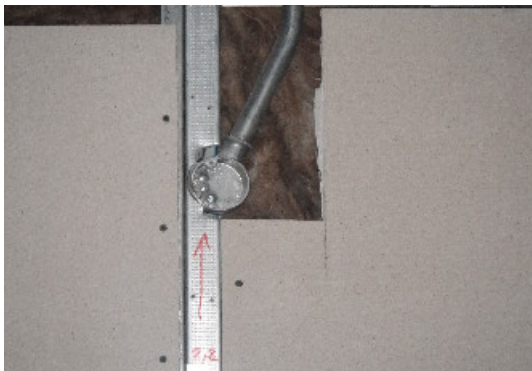
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Room CCU-068. Insulation missing at high level

Part of the stud to the 60min partition in room CCU-012 has been cut out. This is not in compliance with Knaufs specification and would affect the performance of the 60 min fire rated partition. Brookfield confirmed that services have been relocated and the stud repaired with Knauf flat plate. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 39 is closed out. (See photos below)



Stud cut and services fixed to stud.



Services moved and stud strengthened.

We noted that Pipe (MPGS) penetrations through plasterboard have not cored to an acceptable industry standard. Insulation was not in place within 600mm bay where coiled cable drops installed. We asked Brookfield to confirm insulation will be installed and advise QA procedure for ensuring compliant installation installed before second side boarding.

Brookfield has confirmed the following:

- Damage to all partitions and plasterboard repaired/replaced at 2nd fix stage, BMCE inspect all walls prior to, and after 2nd side boarding.
- ITP's are undertaken at each stage of partition construction and offered to BMCE for inspection to ensure compliance.

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- Operatives would ensure insulation is installed prior to wall closure where removed by other trades. Remedial action would be to open wall from stud to stud and reinstate sticky pins and insulation.
- Astins undertake random 85 point checks (QITP check) on closed partitions, this entails reopening off the partition to ensure conformance to specification.

Brookfield has also sent a copy of the Supervisor's Communication to Mercury in relation to the pipe penetrations.

(See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 47).

We noted that plasterboard has become deformed due to poor stacking and the edges/corners are damaged. We have asked Brookfield to ensure boards are stacked properly to prevent boards being discarded. Boards in this condition would not meet the equality requirements. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 49).

4.3.18 Roofs

Roofwork is continuing in Zone G and D on all levels and is being carried out in accordance with the drawings and specifications. A roof integrity test has been carried out to a substantial area of the roof on Level 4 and we await the test results.

We made a number of observations during a site inspection and these were as follows:

- Current specification we have retrieved from Aconex for Liquid Applied Waterproof Roof Coatings is NA-SP-J31 Rev0 date of issue 21/06/2010. We asked for confirmation of the current specification.
- We have asked Brookfield to confirm that the type of waterproof coating that has been applied is the "Permaquik 6100 Monolithic Membrane Roofing System" by Radmat Building Products Ltd as BBA Certificate No 97/3336. Confirm that the waterproof coating has been applied in accordance with manufacturer's recommended installation instructions and comply with the specification.
- We asked if any representatives from Radmat been on site to assess the installation process - to determine that the substrate is acceptable and thereafter to ensure that the application of PermaQuik 6100 has been carried out correctly and in compliance with Radmat's recommendations
- We asked Brookfield to confirm that a 35 year Radmat Gold Warrant will be provided as Specification NA-SP-J31.
- Confirm insulation board and filter layer comply with Specification NA-SP-J31.
- Provide roof integrity test results for Zone D Level 3.

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Cladding is underway on the south elevation of Zones G & D and internal courtyards in accordance with the drawings and specifications.

We noted that there was an incorrect fixing to the cladding in Courtyard 4. We have asked Brookfield to confirm when this has been addressed. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 35).

**4.3.20 Windows**

Windows are progressing on the external elevations and courtyards in accordance with the specifications.



External fixing to windows



Internal fixing to windows

4.3.21 Basement Walls Core C

We inspected the Concrete finish to the Basement Walls Core C with Brookfield and Currie and Brown and found the painted concrete acceptable. We did highlight to Brookfield that the interface of the wall/ceiling to cover up visible gaps.

4.3.21 Water Prevention into Building

Water ingress as a result of rain penetration through walls and soffits were evident. We have asked Brookfield to advise on proposals for preventing rain penetration and QA procedure for remedials to water damaged finished/stored work elements. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 46).

4.3.22 Above Ground Drainage

We have raised a communication that there are a number of cases where future drainage connections are not sealed. This could lead to items and debris being dislodged in the systems.

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Water ingress as a result of rain penetration through wall.



Water ingress as a result of rain penetration through soffit.

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4.4 Defects from September 2011 Inspections.

We are still awaiting a response concerning the lack of access to ductwork which is insufficient for maintenance purposes in a number of locations on the second floor. We have requested that Brookfield inspect and confirm remedial measures to address this issue. (See Supervisor's Notification of Defect (CI 42.2) No 03).

During an inspection on site we noted on the first floor but more specifically within zone ZG corridor CCW115 void detection has been located in close proximity and between ventilation ducts. We believe that this does not comply with the requirements of BS5839. Brookfield has confirmed that void detection will be fitted (See Supervisor's Notification of Defect (CI 42.2) No 04).

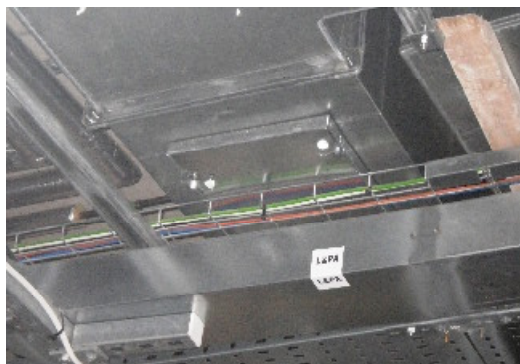
We have closed out Supervisor's Notification of Defect (CI 42.2) No 06. However to verify that the installation is to within the 5m as the SHTM, we will liaise with Brookfield and have a look at sample areas on Level 1.

We have asked Brookfield to confirm proposals to correct the misaligned bolts at the half landing in Core G between Level 3 and Level 4. (See Supervisor's Notification of Defect (CI 42.2) No 07).

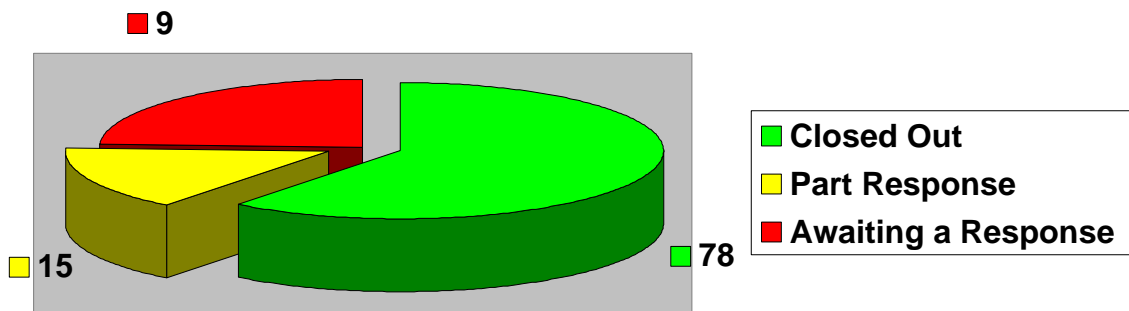
Duct access is blocked Level 2 Zone D corridor adjacent Zone E. We have asked Brookfield to confirm their solution to allow full access to the duct. (Supervisor's Notification of Defect (CI 42.2) No 08).

We have raised a Defect Notification for a Steel angle plate which is too short on Level 3 Zone G (See Supervisor's Notification of Defect (CI 42.2) No 09).

Duct access hatch blocked by chilled water pipework at ground floor area around DB cupboard AAW190. Confirm when this has been addressed.



5.0 INFORMATION REQUIRED



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Item No.	Description	Date Requested	Comment	
Items 1 to 16 have been closed out				
17	Confirm when water damaged boards will be replaced.	15/06/12	Response received.	
18	Provide copies OF Building Control Amendments to Build Warrant Stages 1, 2, 3, 4, 5, 6 and 7.	20/06/12	Closed out.	
19	Zone D below ground drainage does not appear installed as per construction drawings.	26/06/12	Closed out.	
20	No insulation fitted at high level. Confirm when this area is opened up for inspection.	26/06/12	Closed out.	
21	Concerns of gaps and open louvres between and above the acoustic intake louvres, and are concerned that this will present a path for noise breakout from the plant.	02/07/12	Closed out.	
22	Brookfield to provide us with their Air Test Procedures and Programme.	03/07/12	Response received.	
23	Confirm if this is an adequate vehicular turning circle for an oil tanker, refrigerated articulated vehicle and a Liebherr LTM 1250-61 mobile crane to gain access and egress around the building.	19/07/12	Closed out.	
24	Confirm how and when the defects to the fire protected steelwork will be addressed	23/07/12	Closed out.	
25	Please provide details of proposed measures to ensure compliance with drawings and specifications.	23/07/12	Closed out.	
26	Provide details of proposed remedial action to ensure that the 1st floor slab at Zone E complies with the construction drawings and specifications.	26/07/12	Open	
27	Ensure screw fixings are 300mm centres, reduced to 200mm at external angles in accordance with BS and NBS K10. Confirm that plates are in place between sheets where double sheeted and will be located in all horizontal joints.	26/07/12	Closed out.	
28	Confirm open drainage on Levels 1 & 2 is sealed.	01/07/12	Closed out.	
29	Confirm if there are any design plans to introduce additional stiffening to 1500mm high partitions.	29/08/12	Closed out.	
30	Confirm when cabling is complete, water pumped out and batteries removed.	10/08/12	Response received.	
31	No timber in partition lintels.	29/08/12	Closed out.	
32	Advise proposed remedial action link reinforcement from pile caps Zone D.	29/08/12	Closed out.	
33	Ductwork was not capped on Level 1 Vent Plant Room. Confirm when this is done	07/09/12	Closed out.	
34	Locations throughout have drainage pipework which is uncapped Confirm when this has been addressed.	07/09/12	Closed	
35	Confirm when incorrect fixing has been rectified to Courtyard 4 cladding.	07/09/12	Open	
36	Insulation missing from the upper section of the boarded partition. Confirm when insulation has been fitted prior to boarding the lower section.	07/09/12	Closed out.	
37	Vertical trunking riser Level 3, Plantroom is not covered providing passage to the floor below. Confirm when this has been addressed.	11/09/12	Response received.	
38	There are sections of ductwork uncapped or not covered properly in the locations listed above. Confirm when these have been capped/covered.	11/09/12	Response received.	
39	Part of the stud to the 60min partition in room CCU-012 has been cut out. This is not in compliance with Knaufs specification	12/09/12	Closed out.	
40	Confirm when removal dust caps from smoke detector heads have been replaced	12/09/12	Open	
41	Duct access hatch blocked by chilled water pipework at ground floor area around DB cupboard AAW190. Confirm when this has been addressed.	12/09/12	Closed out.	
42	Confirm when vent control is protected on Level 3 Zone D.	13/09/12	Closed out.	

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43	Cables were hanging unsupported. Confirm when addressed	13/09/12	Closed out.	
44	Confirm when the redundant medical gases on Level 1 will be removed.	13/09/12	Open	
45	See Supervisor's Communication No 30.	18/09/12	Open	
46	Advise on proposals for preventing rain penetration	20/09/12	Open	
47	Confirm remedial action to partitions Level 2 Theatres.	20/09/12	Closed out.	
48	Confirm remedial to various roofing observations.	20/09/12	Open	
49	Damaged and deformed boards caused by poor stacking	27/09/12	Open	

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6.0 SUPERVISORS TESTS AND INSPECTIONS

Tests not required	N/A
Tests required but not tested	Req
Tests required which has passed tests	Pass

Tests				
Ref	Title	To be Notified by	Status	Test Date
01-07	Various tests undertaken from the 9/07/2012 to the 10/07/2012			
08	Drain pressure test, and rodding test - sub-slab drainage Zone D, post slab construction.	Brookfield	Pass	03/08/2012
09	Drain pressure test – sub-slab drainage Zone D Prior to concreting.	Brookfield	Pass	10/08.2012
10	Drain pressure test – sub-slab drainage Zone D Post slab construction.	Brookfield	Pass	23/08/2012
11	Drain rodding test – sub-slab drainage Zone D.	Brookfield	Pass	29/08/2012
12	Drain rodding test – sub-slab drainage Zone D.	Brookfield	Pass	18/09/2012

Inspection not required	N/A
Inspection required	Req
Inspection complete	Pass

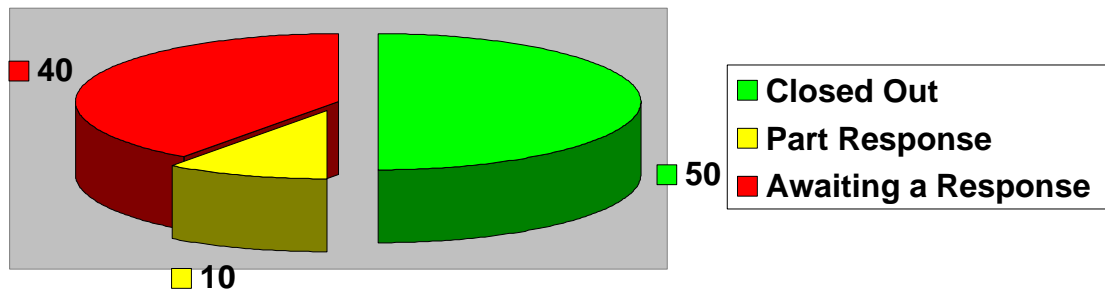
Inspections				
Ref	Title	To be Notified by	Status	Inspection Date
1				

7.0 DEFECTS NOTIFICATIONS ISSUED

NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND
ENERGY CENTRE

SUPERVISOR 'S REPORT NO. 18











SEPTEMBER 2012



**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND
ENERGY CENTRE**

SUPERVISOR 'S REPORT NO. 18

SEPTEMBER 2012

Item No.	Description	Date Requested	Comment	
01	We are concerned about the level of damage to the ductwork and the subsequent amount of time re-working it on site to effect repairs. Confirm action to prevent further damage and provide evidence that the existing damage has been repaired.	22.03.12	Closed	
02	Some piles were reported as out with positional tolerance.	02.05.12	Closed	
03	Access to ductwork insufficient. Confirm remedial measures.	30.07.12	Open	
04	Void detection located in close proximity and between ventilation ducts.	31.07.12	Response received	
05	Void detection not fitted between smoke /fire barriers.	31.07.12	Closed	
06	DHW dead-legs appear to be excessive.	31.07.12	Closed	
07	Misaligned bolts.	23.08.12	Open	
08	Confirm action to allow full access to duct. Level 2 Zone D corridor adjacent Zone E.	13.09.12	Closed	
09	Steel angle too short	27.09.12	Open	
10	Bolt missing from angle plate..	27.09.12	Open	

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDRENS HOSPITAL AND
ENERGY CENTRE****SUPERVISOR 'S REPORT NO. 18****SEPTEMBER 2012**

John Redmond
Capita Symonds
Technical Advisory Services

The Beacon, 8th Floor, 176 St Vincent Street, Glasgow G2 5SG

	Signed	Date
Originated by	John Redmond	4th October 2012
Completed by	Dave Ramsay	4th October 2012

CAPITA SYMONDS

NEW SOUTH GLASGOW HOSPITAL

ADULT AND CHILDREN'S HOSPITAL AND THE ENERGY CENTRE

NEC 3 SUPERVISORS REPORT NO. 20

NOVEMBER 2012

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL
AND ENERGY CENTRE**

SUPERVISOR'S REPORT NO. 20

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**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND
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ADULT AND CHILDRENS HOSPITAL AND ENERGY CENTRE

1.0 EXECUTIVE SUMMARY: ADULT & CHILDREN'S HOSPITAL

Visits to the site during November 2012 indicated that the construction and procedures are progressing in a satisfactory manner in accordance with the Employer's Requirements.

Throughout, the standard and quality of the workmanship is generally good and operations are being carried out in an acceptable manner.

Brookfield continues to undertake their Quality Assurance systems on site with inspection and checklist documentation available for the ongoing construction activities. Over the period, we have closely liaised with Brookfield and witnessed both drainage tests and 85 point check to partitions on Level 1. Our witnessing resulted in successful tests.

Roof Integrity Tests have successfully been carried out to roof on Zones D & G Levels 3 & 4. We also witnessed successful pull off tests to the roof on Level 3.

The standard of the work in the exemplar rooms in progress during this period is to a good industry standard. We shall continue to monitor the work planned for the coming month. The internal finishes workmanship standards are used as a benchmark for all room completions.

Cladding is progressing on the south and east elevations and courtyards 3, 4 & 5 and the "STO" system is also progressing in these areas. The standard and quality of the work is to a good industry standard.

Energy Centre structural work snagging now appears to be completed. Final tidying up is still to be undertaken.

Further to specific meetings, Brookfield has now uploaded numerous piling records and details onto the ZUTEC system. This covers all the permanently installed piles, both rotary and mini-piling. At present the drawings installed are the latest construction drawings, but these will be replaced by drawings noted 'as built' when these are available.

Concreting to the main A&C building has again progressed in several areas. This has included; Ground floor slabs in zones A, D, E & H, 1st floor slabs in zones B & C (1st floor now completed throughout), 2nd floor in zone B, 3rd floor in zones F & J, 4th floor in zones A (roof) and E, 5th floor in zone E, and 6th floor in zones G & H. Quality throughout continues to be generally very good. Workmanship to the small awkward 20mm step in floor slabs at all levels in Zones J and E has been discussed in detail with Brookfield who are well aware of the issue – they are addressing this with their subcontractor, and selected areas have now been subject to remedial action, mainly in the form of grinding down high spots.

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Snagging to the structural steelwork to the atrium walkway has been ongoing during the period. This has included replacement of bolts to the connecting plates to the supporting cores. Further to surveys of the positioning of the steel structure, designers WSP have been carrying out check calculations and final deck drawings are expected in the next period. Repairs to damage to the fire protection coating (shop applied) on some sections remains outstanding and will be addressed when access is easier. Elsewhere ancillary steelwork around cores and at stairwells has progressed, and in occasional places some minor remedial attention to bolts and cleats is required.

Sub-slab drainage in Zones A, D, E and H has again progressed during the period with pressure tests proving satisfactory. Some rodding demonstration remains to be carried out when position of scaffolding permits.

A few quality issues remain to be addressed from previous reports but these are not considered programme critical at this stage.

The M&E installation is now well advanced, with pre-fabricated sections and second and final fix being installed in the A&C areas. Large plant items continue to be installed in the Energy Centre and areas are now being commissioned looking towards partial completion in the coming months. Testing is now commencing in the Energy Centre.

In general terms we are satisfied that the installations continue to be installed to a compliant standard, and are of a good quality however we have noted that certain items this month that have raised concern. These have been raised with the Contractor as follows:-

Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 64, 65, 66, 67, 68, 69, 70, 72, 73, 74, 75, 76, 77, 78 and 79 were issued.

- Seeking confirmation that the back to back boxes are suitable for fire and acoustic purposes.
- Confirm void detection is adequate on Level 1 gridline I-H & 1.1-2.1.
- Seeking confirmation of remedial action to address back to back boxes which are not in accordance with Appendix S and HTM 08-01.
- Seeking confirmation of the action to address the lack of insulation in room EMC-133.
- Seeking clarification on a number of points contained within the Sample Testing Methodology issued by RSK for Brookfield.
- 2No back boxes repositioned side by side in room AAW-297 but not in accordance with other rooms where there is a 50mm gap.
- Seeking clarification on the sprinkler work which appears to be restricting the removal of the hone run box cover in room THE-154.
- Seeking clarification that there can be access to the hatch when the ceiling is complete in room THE-158.
- Seeking clarification that there can be access to the hatch when the ceiling is complete in room THE-237.

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- Seeking clarification that there can be access to the hatch when the ceiling is complete in room THE-212.
- Seeking clarification that the sprinkler head at gridline H/2.1 is not restricted by the adjacent section of unistut.
- Confirm that there is sufficient maintenance access to high level sprinklers in the second floor plant room.
- Confirm when pipe dead legs in CCW-031 are altered to comply with construction approved drawings.
- Confirm that void detection in room CCW-051 can be adequately accessed when the ceiling is complete.
- Junction box adjacent to CCW-061 appears to be inaccessible due to ceiling installation.

Supervisor's Notification of Defects (CI 42.2) No 27, 28, 29, 30 and 31 were issued as follows:-

- Access hatch restricted Level 2 THE-198 General Theatre 9.
- Inadequate void detection Level 0 gridline L-M to 5.1-6.2.
- Inadequate void detection Level 0 gridline L-M to 3.1-5.2.
- No void detection in Distribution Cupboard Level 0 gridline M-M1 to 6.1-7.
- Partition not constructed in accordance with the approved construction drawing.

We continue to be assisted by the site teams and the NHS Project Team who produce an internal weekly report which assists us in resolving various construction, mechanical, electrical, and quality issues. We continue to close out our Supervisor's Notifications and Defects when we have received satisfactory responses.

2.0 DESIGN COMPLIANCE CHECK

The drawing and specification review is complete. Previous reviews have been conducted, with comments marked on drawings and returned to Brookfield.

3.0 PROCEDURES REVIEW

3.1 Contractor's QA Procedures

Brookfield and their subcontractors have continued with their QA and checking and inspection procedures during the period. We are in discussion and liaison with Brookfield's Quality Manager on QA matters and we undertake regular reviews of their QA documentation.

The standard of the work in the exemplar rooms in progress during this period is to good industry standard. We shall continue to monitor the work planned for the coming month including door frames, screens, sanitary ware, ceiling trims, radiant panels bulkhead for lighting, wall protection and medical hoist. The internal finishes workmanship standards are used as a benchmark for all room completions.

Workmanship overall is of a good industry standard throughout.

The next page shows an extract from the 85 point check list for 1-STW-042 Regen Kitchen within the stroke ward (1-529).on Level 1. The columns on the right hand side of the Action column are P constructed in accordance with the specification and N identifies non conformance issues.

NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND ENERGY CENTRE

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	Action	Date: 27/11/12			How to check and to what standard
		P	N	N/A	
1	Partition set out correct dimension form grid line.	✓			Check dimension against drawing (+ or - 3mm over length of part)
2	Partition parallel to gridline and straight.	✓			Measure @ min 2 points (Deviation band 10mm = + or - 5mm)
3	Rooms set out square.	✓			Use 3, 4, 5 not a square (+ or - 3mm over length of partition)
4	Correct width floor track used.	✓			Check against detail (no deviation)
5	Floor track set out to correct junction detail.	✓			Check against detail (no deviation)
6	Two beads of mastic used to underside of floor track	✓			Lift section of track if not visible
7	Correct fixings used in floor track.	✓			Check against detail (no deviation)
8	Correct fixing centres used in floor track.	✓			Measure @ least 10 fixings (no deviation)
9	Correct number of fixings to each side of door openings.	✓			Check against detail (no deviation)
10	Head track set out plumb.	✓			Use laser level measure (5mm measured from top to bottom)
11	Head track set out to correct junction detail.	✓			Check against detail (no deviation)
12	Correct width of head track.	✓			Check against detail (no deviation)
13	Correct depth of head track.	✓			Check against detail (no deviation)
14	Correct thickness of fireboard.	✓			Check against detail (no deviation)
15	Two beads of mastic between head track and fireboard.	✓			Lift section of track if not visible (no deviation)
16	Correct fixings used to fix fireboard.	✓			Check against detail (no deviation)
17	Correct centres used to fix fireboard.	✓			Check against detail (no deviation)
18	Mastic to joints in fireboard.	✓			Check both sides @ least 6 joints (no deviation)
19	Two beads of mastic between fireboard and soffit.	✓			Lift section if not visible (no deviation)
20	Correct fixings use for head track.	✓			Check against detail (no deviation)
21	Correct fixing centres used.	✓			Measure @ least 10 fixings (no deviation from detail)
22	Picture frame bead of mastic at junction of fireboard/soffit both sides	✓			Check both sides (no deviation)
23	Correct board used for infills in ribdeck.	✓		✓	Check against detail (no deviation)
24	Correct number of boards used for infills.	✓		✓	Check against detail (no deviation)
25	Correct insulation use in infills.	✓		✓	Check against detail (no deviation)
26	Small holes in ribdeck filled with Rockwool.	✓		✓	Visual check use torch (no deviation)
27	Bead of mastic around infill to ribdeck.	✓		✓	Visual check use torch (no deviation)
28	Infill boards overlap fireboard by 7mm.	✓		✓	Measure @ least 3 rib deck (no deviation)
29	Correct type of stud used, eg: C stud, I stud.	✓			Check against detail (no deviation)
30	Correct gauge of stud.	✓			Check against detail (no deviation)
31	Studs cut to correct length for deflection.	✓			Stud length = + 0 and - 5mm
32	Studs at correct centres (300-400-600mm)	✓			Measure top middle bottom (no deviation)
33	Doorway built to correct specification for weight of door.	✓			Check against detail (width -0 +5mm height -0 +10mm)
34	Leg of door head 250mm minimum.	✓			Measure both legs (no deviation)
35	Door head mitred.	✓		✓	Visual check (no deviation)
36	Floor track returns up stud 300mm.	✓		✓	Measure both legs (no deviation)
37	Correct number of screw in door head.	✓			Check against detail (no deviation)
38	Timber inserted in door stud to correct	✓		✓	Visual check (no deviation)
39	Timber in head of double door.	✓		✓	Visual check (no deviation)
40	Door stud cloaked in head track.	✓			Visual check (no deviation)
41	Screws at correct centres in door stud.	✓		✓	Measure both legs (no deviation) <i>not 200 centres</i>
42	Door/screen formed in right location.	✓		✓	Check against drawing (no deviation)
43	Door/screen formed to correct size.	✓		✓	Check against drawing (width -0 +5mm height -0 +10mm)
44	Door/screen formed to correct height.	✓		✓	Check against drawing (-0 +10 mm)
45	Screen cill at right height.	✓		✓	Check against drawing (no deviation)
46	Mastic applied to abutment studs.	✓			Lift section if not visible (no deviation)
47	Correct fixings to abutment studs.	✓			Visual check (no deviation)
48	Fixings at correct centres to abutment studs.	✓			Measure all fixings to abutment (no deviation)
49	Flat plate fitted at deflection head.	✓			Check full length visual (no deviation)
50	Flat plate at correct distance from headtrack.	✓			Check against detail (if 15mm deflection then top of flat plate 15mm)
51	Flat plate screwed to all studs.	✓			Visual check (no deviation)
52	Bead of mastic at junction of floor/track.	✓			Visual check (no deviation)
53	Correct type of board.	✓			Check against detail & back of board (can only be replaced with r
54	Correct thickness of board.	✓			Visual against detail (no deviation)
55	Correct number of layers.	✓			Visual against detail (no deviation)
56	Screws fixed no more than 50mm from corners of boards.	✓			Measure top to bottom (no deviation)
57	Screws fixed at Maximum 300mm centres.	✓			Visual plus measure on any that look over (no deviation)
58	Screws around door openings maximum 200mm centres.	✓		✓	Measure complete door/opening (no deviation) <i>not at</i>
59	Screws around glazed screens maximum 200mm centres.	✓		✓	Measure complete door/opening (no deviation)
60	Screws to external corners at 200mm centres.	✓			Measure top to bottom (no deviation)
61	Screws not breaking paper.	✓		✓	Visual check maximum deviation 10% of screws breaking paper (
62	Screws not proud of board.	✓			Visual check (no deviation)
63	Flat plate at cross joint of outer layer of board.	✓			Lift section if not visible (no deviation)
64	Boards not too short at deflection head.	✓			Use pre cut gauge or tape - 5mm
65	Boards not too long at deflection head.	✓			Use pre cut gauge or tape + 0mm
66	Boards screwed to flat plate at deflection head.	✓			Visual check (no deviation)
67	Screws to flat plates at correct centres.	✓			
68	Boards to abutments cut the right length.	✓			Use pre cut gauge check both sides
69	Joints to double layer staggered vertically.	✓			Lift section if not visible
70	Joints to double layer staggered horizontally.	✓			Lift section if not visible
71	Abutment details built correctly.	✓			Check against detail
72	All required studs for 2nd fix fixed in place.	✓			Visual check of pick up studs

Brookfield has provided us with Sample Testing Methodology for the positive pressure test to be carried out in selected areas. A programme will follow after [Brookfield and the client's representatives agree the areas to be tested](#). (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 22).

Brookfield has provided us with Sample Testing Methodology for the positive pressure test to be carried out in selected areas. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 55 is closed out.

We have received the 'Sample Testing Methodology' report prepared by RSK Environment Ltd dated 23rd November 2012, and noted the following:

"Section 1.3 of the report states that it will not be possible to undertake a final whole building pressurisation test on the completed building to prove compliance with the air permeability specification. Therefore compliance is being achieved via the alternative 'large and complex' building route which requires certification by an independent specialist air leakage consultant".

We are seeking confirmation that the independent specialist will be RSK Environment Ltd and have asked for an example of the certification.

We have also asked if the certification will satisfy the requirements of Glasgow City Council Building Control and if Building Control will be witnessing the tests.

With reference to section 2.6 of the same RSK report, we have asked for confirmation that the smoke tests will not have negative impacts upon equipment, including optical sensors.

Brookfield to confirm that the Board will be given 7 days notice of tests in order to agree locations and attendance. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 68).

3.2 Early Warnings

Currently nothing to report.

3.3 Board Equipment Installation, Testing and Commissioning

Currently nothing to report.

3.4 Non Conformance Reports

We are aware of a number of NCR's raised and are being kept up to date as to their status.

4.0 CONSTRUCTION REVIEW**4.1 Visits to the Works**

Site inspections were carried out by the NEC3 Supervisors on the 1st, 2nd, 5th, 5th, 8th, 9th, 12th, 13th, 14th, 15th, 16th, 19th, 20th, 21st, 22nd, 23rd, 24th, 26th, 27th, 28th, 29th and 30th November 2012.

4.2 Elements of the Works available for inspection

- Energy Centre – steelwork and cladding. Local blockwork at ground, 1st and 2nd floor levels.
- Main building – Cores A, B, C, D, E, F, G, K and L internally, Zones A, B, D, E, G and H ground floor slabs, Zones E and F basement area, ground floor suspended slabs, 1st and 2nd floor slabs. Zones G and H 4th to 6th floor slabs. Zones F and J 2nd and 3rd floor slabs, 3rd, 4th and 5th floor Zone E and Zones A and D roof area.
- Zones A, B, D, E, G and H below slab drainage.
- External Drainage – specific sections of installation where access is possible.
- Tunnels between ACH and Labs, and Cores C to F.
- Structural steelwork to Atrium (limited due to access).
- Structural steelwork to roof at Zones D and G.
- Dual carriageway to Renfrew Road, and carriageway from Hardgate Road.
- SFS.
- Internal Partitions.
- M&E modular units.
- Roofing.
- Cladding.
- Windows.
- Sto system.

4.3 Observations from November 2012 Inspections

The visual inspections of the work carried out to date indicate that the works are generally being carried out to a satisfactory standard. We continue to be assisted by the site teams and the NHS Project Team in resolving various construction, mechanical, electrical, and quality issues. We continue to close out our Supervisor's Notification and Defects when we have received satisfactory responses. Listed below are observations still to be closed and those raised following site visits in November 2012.

4.3.1 Structural

Brookfield has now uploaded numerous piling records and details onto the ZUTEC system. This covers all the permanently installed piles, both rotary and mini-piling. At present the drawings installed are the latest construction

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drawings, but these will be replaced by drawings noted 'as built' when these are available.

Quality on all concrete works has generally appeared good but the following points remain outstanding from previous reports:-

Finish to ground floor in Zone F and 1st floor in Zone J (as last report)
20mm level change detail in ground, 1st, 2nd and 3rd floor slabs at Zones E and J has been poorly formed and remedial action is required – some remedial work has been carried out and in these areas there is a noticeable improvement. Further to a joint inspection of various areas, Brookfield is well aware of the issues here and is addressing with their sub-contractor.
Cracks to the soffit of the suspended ground floor slab between Cores A, B, C and D being kept under review.
Spalling to a couple of parapet walls at the top of Core G.

Workmanship to the small awkward 20mm step in floor slabs at all levels in Zones J and E has been discussed in detail with Brookfield who is well aware of the issue – they are addressing this with their subcontractor, and selected areas have now been subject to remedial action, mainly in the form of grinding down high spots. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 26).

We have asked Brookfield to confirm if the attached hole without bolts to the steelwork bridge connections reflects the design intent and a response to this is still awaited. Associated with this we are aware that, as part of local snagging, bolts at some of these connection locations at the cores have been replaced. It may be that this will answer the query, but feedback is awaited. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 57)



Further to surveys of the positioning of the steel structure, designers WSP have been carrying out check calculations and final deck drawings are expected in the next period. Survey details have also been requested.

4.3.2 Energy Centre

Steelwork snagging appears to have been addressed.

4.3.3 Drainage

Below slab drainage installation has continued during the period. Drain pressure tests have been carried out on all newly laid sections in ZA and ZH. Test records are kept by Brookfield as part of their QA procedures and some tests were independently witnessed by the NEC3 Supervisor team.

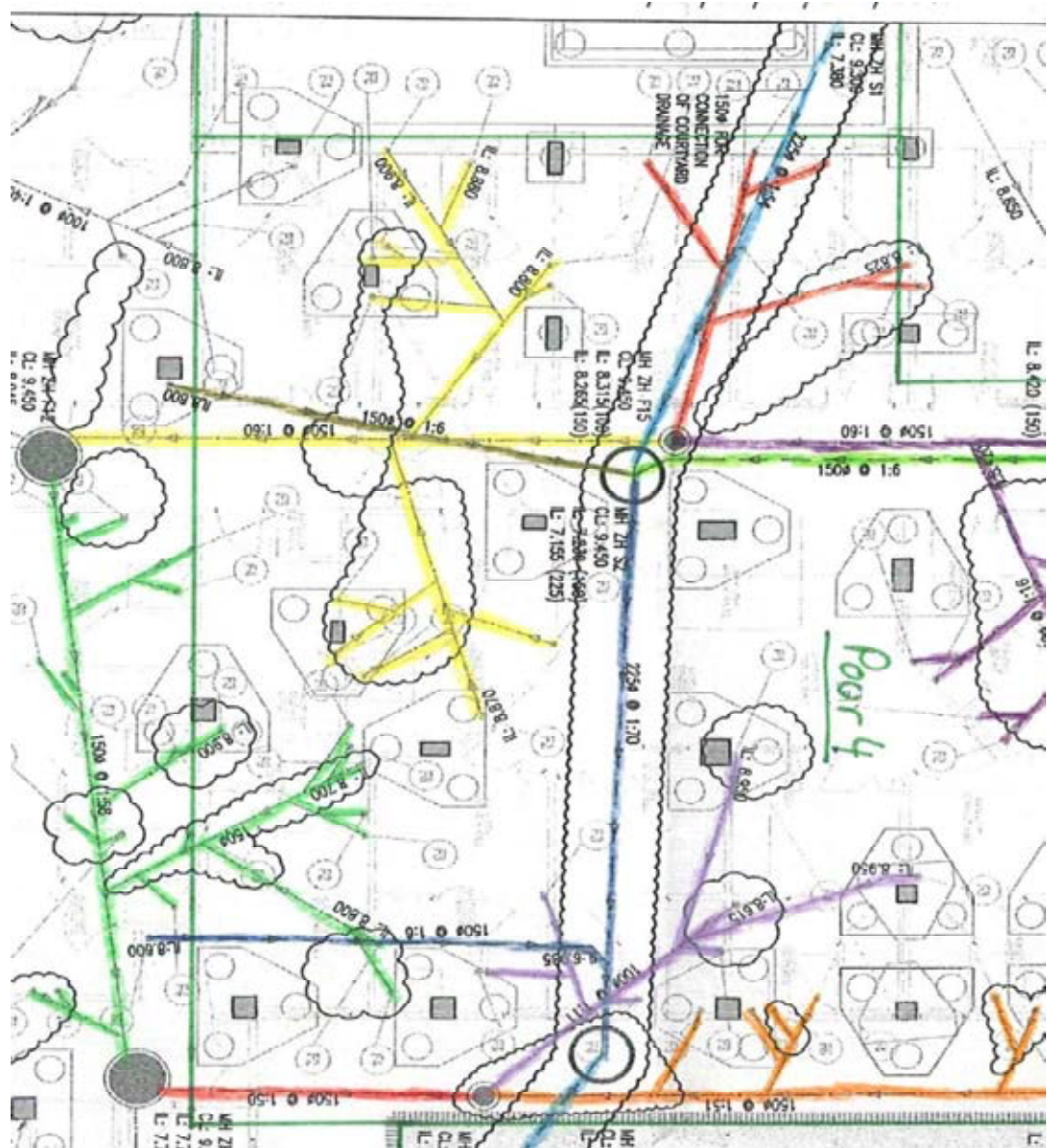
The drainage lines we witnessed were as follows:

Yellow line shown on drawing below between MH F15 and MH F12 including all pop-ups of the line.

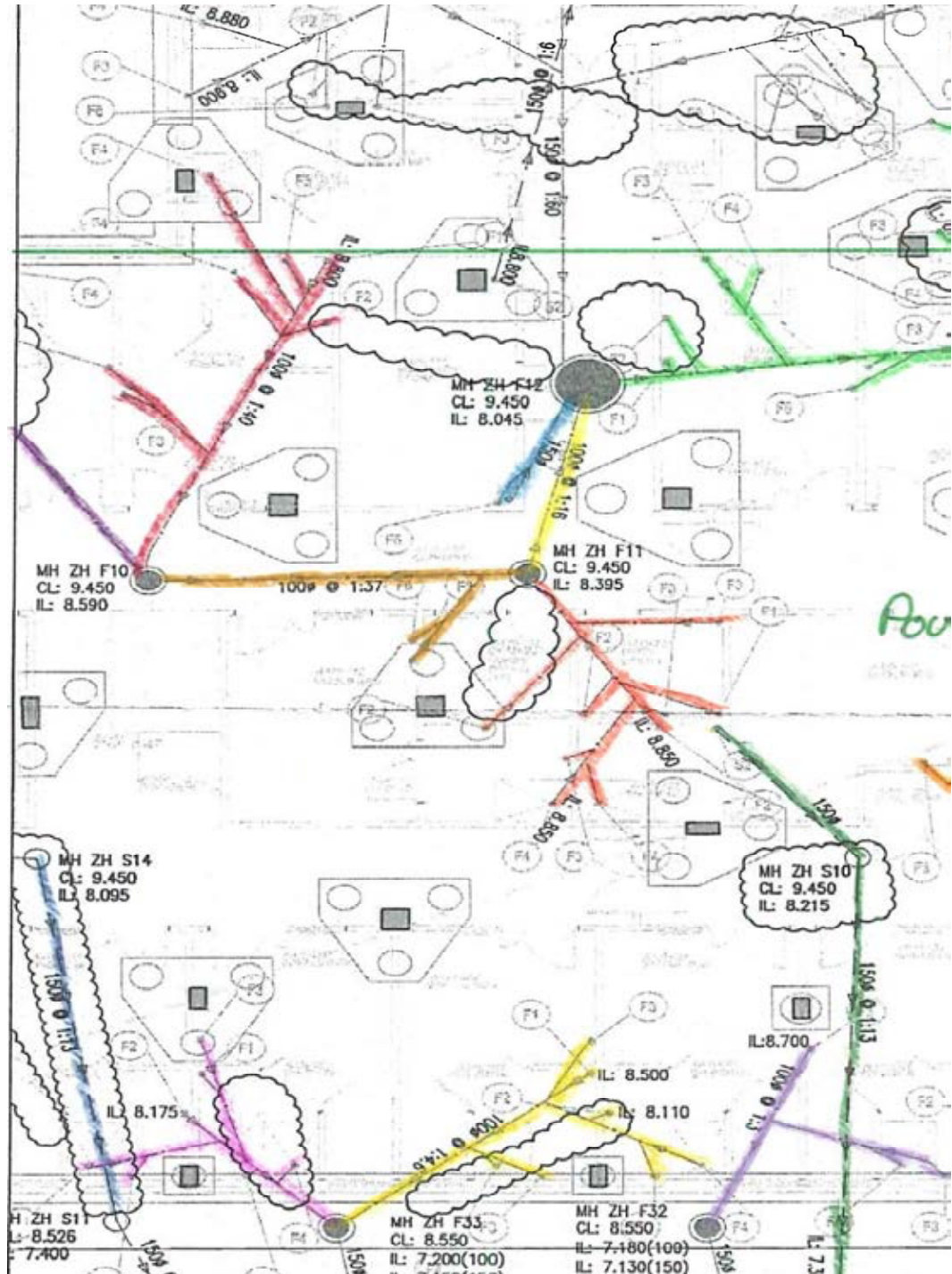
Red line shown on drawing below of pop-ups feeding MH F15

The next page shows the drainage on the Ground Floor Zone H Pour 4

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Below ground drainage on the Ground Floor Zone H Pour 4



Below ground drainage on the Ground Floor Zone H Pour 5

4.3.4 Dual Carriageway to Renfrew Road. (A&C)

The defects previously identified will be reviewed nearer to completion when they will be effectively rectified.

4.3.5 Pipework.

Installation of hot, cold, heating, & chilled water pipework in the A&C hospital is progressing at pace and in general is being installed to a good standard. It was noted however that there are still some open ends being left on the pipework, although to a lesser degree than previously reported. The contractor should be reminded that these need to be sealed, to prevent the ingress of moisture and subsequent corrosion that may develop.

We have identified locations where the dead legs on hot water pipe runs are excessive and greater than the specified distance of 3m. We are working with the Contractor to review and identify all areas and to ensure this is not repeated in the future installations.

There are SVP's uncapped on Level 1, Zone H STW-039 Single Bed, STW-094 Male Staff Change and STW-043 Corridor. Brookfield has intimated it is not common practice to seal SVP / RWP coming through the soffit. They will be capped off if going down through the slab to prevent blockages but not from the soffit upwards as there cannot be ingress from this direction. They acknowledge that these were capped off when this item was initially raised but as noted above, this is not common practice. Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 61 is closed out.

Sprinkler pipe work appears to be restricting the removal of the home run box cover. We have asked Brookfield to confirm if the cover can be removed without issue when finished ceiling is in place. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 70.

We have asked Brookfield to confirm that there are sufficient supports to the medical gases pipelines and that they are at the appropriate spacing for their diameter. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 80.



We have asked Brookfield to confirm the flow of water from the sprinkler head highlighted is not restricted by the adjacent section of unistrut. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 74.





High level sprinkler heads appear inaccessible in a number of areas. We have asked Brookfield to confirm the access regime for sprinkler head maintenance / replacement. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 75.

4.3.6 Ventilation

The installation of ventilation ductwork in the A&C hospital is progressing well, and has been installed to a good standard. It appears that any open ends are being sealed but we have noted some exceptions and these have been highlighted to the contractor during our weekly site inspections. The level of damage occurring during the delivery process is much reduced from that previously reported, however the contractor should be reminded that care should be taken to avoid such damage occurring.

During our visit to site we noted the following items which required to be temporarily sealed/covered. Consequently we raised Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 51 with Brookfield. (See photos below) Brookfield has addressed the issues raised and provided photographic evidence. Capita are assisting Brookfield to identify one other location. Consequently this is closed out.

Conduit run appears to be restricting access to duct access hatch. We have asked Brookfield to confirm that duct hatch can be fully access without issue when finished ceiling is in place. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 71.

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The electrical containment appears to be restricting access to duct access hatch Adjacent to riser THE-237. We have asked Brookfield to confirm duct hatch can be fully accessed without issue when finished ceiling is in place. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 72.



The electrical containment appears to be restricting access to duct access hatch Adjacent to riser THE-2127. We have asked Brookfield to confirm duct hatch can be fully access without issue when finished ceiling is in place. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 73.

**4.3.7 Insulation**

The thermal insulation installation to the pre-fabricated sections of pipework is being completed off site, before delivery.

4.3.8 Pressure testing

Pressure testing of the modular pipework sections on a zone by zone or area by area basis is to be programmed through the commissioning meetings.

We await further information from Brookfield on their programme and methodology.

4.3.9 Medical Gases

We asked Brookfield to confirm that there are sufficient supports to the medical gases and that they are at the appropriate spacing.

4.3.10 Energy Centre

The installation for the standby generators is progressing to completion, and the installation is to a good industry standard. Generator on site testing is due to commence with load banks to be installed outside the Energy Centre.

We have witnessed various tests on the HV switchgear and this is now connected and energised.

The second batch of generators has been delivered and positioned on site.

We have raised a concern with the Contractor regarding the control of the first phase of the generator installation and await their response.

4.3.11 Trunking

Cable trunking is being installed as part of the offsite fabricated sections that are being installed in the A&C hospital and in general the installation is to a good industry standard.

We noted that Vertical trunking riser on Level 3 Plantroom is not covered providing passage to the floor below. Brookfield confirmed that the opening was previously boarded over but was removed for the formation of the upstand. This is not required and is permanently filled in. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 37 is closed out.

4.3.12 Cable Trays

Cable trays are being installed as part of the offsite fabricated sections that are being installed in the A&C hospital and in general the installation is to a good industry standard.

4.3.13 Cabling

Modular wiring looms are now being installed as part of the offsite fabricated assemblies and carefully tied up for protection and installation is of a good standard.

The 2no back boxes which have been repositioned in room AAW – 297 Single Bedroom does not allow for a spacing of 50mm which has been used as a standard in all other rooms. This requires to be addressed. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 69).

We have notified Brookfield that the hoist cabling is inadequately supported and they have raised this with Mercury. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 77).



The junction box appears to be inaccessible due to the ceiling installation. We have asked Brookfield to confirm if this is the case. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 79).



4.3.14 Conduit

Solid conduit installations are well progressed in the areas being fitted out and are to a good industry standard.

4.3.15 Void Detection

There appears to be no void coverage as required within the NHS Firecode. We have asked Brookfield to confirm the void protection philosophy On Level 2, Gridlines I-H & 1.1-2.1. They have confirmed that the detection in the zone area noted above hasn't commenced yet.

Mercury is awaiting details from Scotshield which will form part of Brookfield's future response (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 65).

Void detection appears inadequate and inaccessible due to plasterboard ceiling. Please confirm void detection is adequate and can be accessed when ceiling installation is complete. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 77 & 78).



4.3.16 Intake Sub Station

Brookfield has confirmed that there are still a number of cables to be pulled through to the Substation. These will not be installed in place until 1st Quarter of 2013, at which point all other works will be attended too.

There are also damaged batteries from the switchgear which are still lying in the corridor and require to be correctly disposed. Brookfield confirmed they would contact SPEN to find out when they are to be removed (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 30 & 45).

4.3.17 Partitions

We noted that there are back to back boxes between the bedrooms. We have asked Brookfield to confirm their proposals to prevent sound transference from one room to another and confirm that the partitions will provide 47Rw.

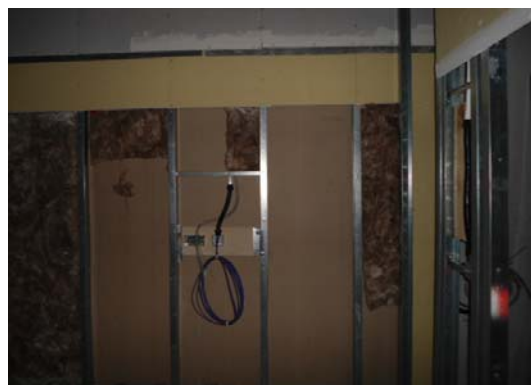
We also had concern in relation with the 60 minute fire rated partitions which have back to back back boxes and have asked Brookfield to confirm the partition has been tested and provide the appropriate test certificates.

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Brookfield has provided us with an Astins detail drawing which provides for the use of putty pads. The drawing has been reviewed by Acoustic Logic and WSP with no comments raised. (Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 64).

Further to the issue of Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 64 we have noted that in both Appendix S and HTM 08-01 refers to back to back sockets. Both state that sockets, switches, medical gas outlets, integrated plumbing should not be back to back in partitions intended to provide sound insulation. We have asked Brookfield to confirm their action to address this issue. (Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 66).

We noted that there was insulation missing from the upper sections of the boarded partitions in THE-202 General Theatre, THE-200 PREP and THE-206 ANAEST. There was insulation also missing approx 2m in length of the boarded out partition in the corridor PL2-203. We have asked Brookfield to confirm when the boards have been removed and the insulation has been fitted prior to boarding out the lower section to allow us to re-inspect the partition. See photos below.



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4.3.18 Roofs

We have received the Certificate of Integrity following the electronic integrity testing carried out on Zones D & G Levels 3 & 4. The results confirm that the test was successful.

We witnessed successful pull off tests on Level 3 Area 4. Below are photographs of the test showing examples of areas where the tests took place.



During a site visit we noted that there were High level SVP's not sealed in Level 3, Plant room. There was also rain water pipework uncapped on Level 1, Zone G. We have asked Brookfield to confirm when these will be sealed. Brookfield has intimated that if sealing is being queried regarding the sealing of SVP's or RWP's i.e. between pipe and slab. This is work in progress – sequential works ongoing to ensure building is watertight / fire stopped. However, if by sealing, it is meant 'capping' off of pipework – then it is not common practice to seal SVP / RWP coming through the soffit. They will be capped off if going down through the slab to prevent blockages but not from the soffit upwards as there cannot be ingress from this direction. We acknowledge that these were capped off when this item was initially raised but as noted above, this is not common practice. Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 58 is closed out.

4.3.19 Cladding

Cladding is underway on the south elevation of Zones G & D and internal courtyards in accordance with the drawings and specifications.

4.3.20 Windows

Windows are progressing on the external elevations and courtyards in accordance with the specifications.

4.3.21 Basement Walls Core C

We inspected the Concrete finish to the Basement Walls Core C with Brookfield and Currie and Brown and found that the painted concrete was acceptable. We

did highlight to Brookfield that the interface of the wall/ceiling to cover up visible gaps.

4.3.22 Water Prevention into Building

Water ingress as a result of rain penetration through walls and soffits were evident. We have asked Brookfield to advise on proposals for preventing rain penetration and QA procedure for remedials to water damaged finished/stored work elements. Brookfield confirmed that all the areas identified in our communication have been resolved and remedial action taken with the installation of SFS, EPDM's fitted and Windows installed. We are however awaiting for their QA information. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 46).

4.3.23 Fire protection

We asked Brookfield to provide dry film thickness results for the atrium steel in support of the fire proof certification. These must be for both the factory applied intumescent coating and the coating being applied on site. Brookfield has confirmed that they have been in communication with JD Pierce their sub contractor on the Steelwork and have received the following information;-

Intumescent paint logs for various components.
Steel Certs
Welding certs

Brookfield confirmed that they will review these and will follow up with a further response. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 54).

4.3.24 Structural Frame System

We noted that insulation has not been fitted inside the vertical SFS members at the right hand side of the right hand window in Room EMC-133 Seminar and Training Centre. There is also insulation poorly fitted with gaps. We have asked Brookfield to confirm remedial action to address this. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 67).



No insulation in sfs.



Gaps between insulation.

4.3.25 Doors

We carried out inspections of the gaps between the door frame and insider surface of the structural opening to ensure that the gaps did not exceeded the minimum requirement. This was carried out to access doors to rooms CCW-246 and CCW-144 on the Level 1.

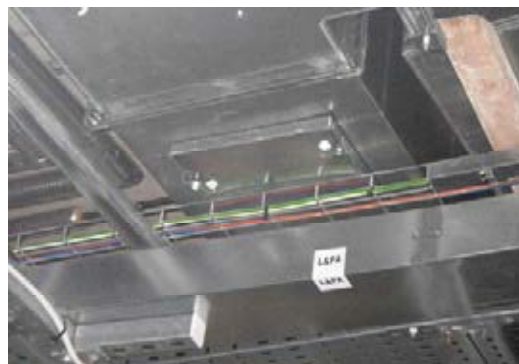
4.4 Defects from October 2012 Inspections.

Duct access is blocked Level 2 Zone D corridor adjacent Zone E. Brookfield has confirmed that they had identified this previously and an additional access hatch was cut into the ductwork on the other side of the wall. Consequently Supervisor's Notification of Defect (CI 42.2) No 08 is closed out.

We have raised a Defect Notification for a Steel angle plate which is too short on Level 3 Zone G. We await a response from Brookfield. (See Supervisor's Notification of Defect (CI 42.2) No 09).

Bolts missing from angle plates in the Energy Centre. (See Supervisor's Notification of Defect (CI 42.2) No 10).

Duct access hatch blocked by chilled water pipework at ground floor area around DB cupboard AAW190. See photograph below. Contractor to confirm when this will be rectified.



Motorised damper inaccessible due to adjacent duct in Plant Room. Brookfield is investigating this and will report. (See Supervisor's Notification of Defect (CI 42.2) No 12).

Restricted access to ductwork access hatch in corridor adjacent to Zone H near Stair Core F. Brookfield has intimated that the hatch is not restricted and access can readily be gained. We shall revisit this and report back with our findings. (See Supervisor's Notification of Defect (CI 42.2) No 13).

Ductwork obstructed by modular frame Zone H. Brookfield is investigating this and will report (See Supervisor's Notification of Defect (CI 42.2) No 14).

One of the fixings to the cladding is visible beneath the capping pieces and the cladding is indented. We have asked Brookfield to confirm when this defect has been addressed. See Supervisor's Notification of Defect (CI 42.2) No 16).

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Damper in the duct on Level 3, Plant room is not sealed correctly. We have asked Brookfield to confirm when this has been addressed. Brookfield has investigated and the damper in duct is suitably covered and the fire seal is complete and intact. Consequently Supervisor's Notification of Defect (CI 42.2) No 18 is closed out.



We noted a dead leg which exceeded 3m on Level 2, THE-126 Dirty UT and Level 1, Zone D CCW-201 Staff Lounge. Consequently we have raised Supervisor's Notification of Defect (CI 42.2) No 20 and have asked Brookfield to confirm when this is addressed.



Pipe work dead leg great than 3 meters. We have asked Brookfield to confirm when pipe work has been altered to comply with signed off design drawings. See Supervisor's Notification of Defect (CI 42.2) No 76

There was restricted access to a duct hatch due to an SVP vent Level 1, Zone E Corridor space adjacent to RCF-xxx IT HUB. Brookfield has confirmed that the vent pipe has been re-routed. See photo below. Supervisor's Notification of Defect (CI 42.2) No 24) is closed out.



Before



After

Pipework brackets were inadequately fixed on Level 1, Zone D CCW-201 Staff Lounge. Brookfield has addressed this consequently Supervisor's Notification of Defect (CI 42.2) No 25 is closed out.



We noted that the partition wall partly covers a rodding eye on Level 0 Room EMC-124 Office (4P). Brookfield has confirmed that the drainage connection beneath the floor is a pop-up that catches services from level 1. The pop-up falls

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within room EMC-130 and will be enclosed with a pipe chase when the services are installed. Consequently Supervisor's Notification of Defect (CI 42.2) No 26 is closed out.

The access to duct hatch is restricted at room THE-198 General Theatre 9 on Level 2. We asked Brookfield to review this and to confirm if any reconfiguration is required. Brookfield confirmed that there is 80% or more access with 300mm between sprinkler and inspection hatch. The ductwork specialist also confirmed that there is good access to the inspection hatch. Supervisor's Notification of Defect (CI 42.2) No 27 is closed out.

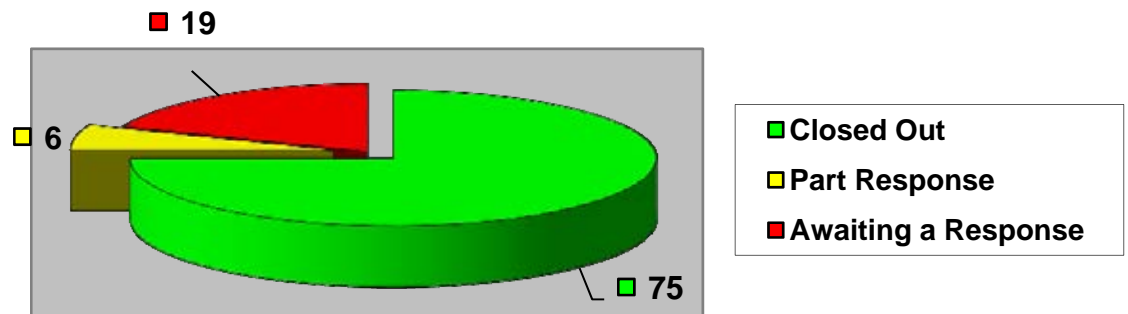
Due to compartmentalisation of the void area by the introduction of deep ductwork/partitions there is inadequate void protection. We have asked Brookfield to review this and confirm when additional void detection is installed. (See Supervisor's Notification of Defect (CI 42.2) No 28 & 29).

During a recent visit to site we noted that there was not void detection fitted in the Distribution Cupboard on Level 1 gridline M1-N to 7.1-8. Consequently we have raised Supervisor's Notification of Defect (CI 42.2) No 30

The area of plasterboard above and to the left of the double door in the 120min fire wall at grid ref AL.1 and AK does not have insulation above and mutual with the column. Confirm when this has been addressed. (See Supervisor's Notification of Defect (CI 42.2) No 31



5.0 INFORMATION REQUIRED



NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND ENERGY CENTRE

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Item No.	Description	Date Requested	Comment	
Items 1 to 21 have been closed out				
22	Brookfield to provide us with their Air Test Procedures and Programme.	03/07/12	Response received.	
Items 23 to 29 have been closed out				
30	Confirm when cabling is complete, water pumped out and batteries removed.	10/08/12	Response received.	
Items 31 to 44 have been closed out				
45	See Supervisor's Communication No 30.	18/09/12	Response received.	
46	Advise on proposals for preventing rain penetration	0/09/12	Response received.	
Items 48 to 53 have been closed out				
54	Provide dry film thickness results for factory applied intumescent and remedial repairs on site.	12/10/12	Response received.	
55	Provide air method statement for air leakage tests.	12/10/12	Closed out.	
56	Confirm remedial action to damaged steel framework.	15/10/12	Closed out.	
57	Please confirm if the attached holes without bolts to the steelwork bridge connections reflects the design intent.	16/10/12	Open	
Items 58 to 64 have been closed out				
65	Confirm philosophy for void detection on Level 1 Gridline I-H & 1.1-2.1.	12/11/12	Open	
66	Back to back sockets do not comply with HTM 08-1 & Appendix S	22/11/12	Open	
67	Vertical SFS members at the right hand side of the right hand window in Room EMC-133 do not have insulation.	26/11/12	Open	
68	Various issues re the Air Pressure test for the envelope.	26/11/12	Open	
69	Back to back sockets in room AAW-297 require to be repositioned.	30/11/12	Open	
70	Sprinkler pipe work appears to be restricting the removal of the home run box cover	30/11/12	Open	
71	Conduit run appears to be restricting access to duct access hatch in room THE-158, Theatre 3 Anaesthetic Room	0/11/12	Open	
72	Electrical containment appears to be restricting access to duct access hatch Adjacent to riser THE-237.	30/11/12	Open	
73	Electrical containment appears to be restricting access to duct access hatch Adjacent to riser THE-212.	30/11/12	Open	
74	Confirm flow of water from the sprinkler head is not restricted.	30/11/12	Open	
75	Confirm the access regime for sprinkler head maintenance / replacement.	30/11/12	Open	
76	Confirm when 3m dead legs have been altered in CCW-031	30/11/12	Open	
77&78	Void detection appears inadequate and inaccessible due to plasterboard ceiling in CCW-051	30/11/12	Open	
79	Hoist cabling is inadequately supported.	30/11/12	Open	

6.0 SUPERVISORS TESTS AND INSPECTIONS

Tests not required	N/A
Tests required but not tested	Req
Tests required which has passed tests	Pass

Tests				
Ref	Title	To be Notified by	Status	Test Date
01-13	Various tests undertaken from the 9/07/2012 to the 09/10/2012			
14	Energy Centre A side Electrical Test	Brookfield	Pass	0/10/2012
15	Drain air test – sub-slab drainage Zone D	Brookfield	Pass	09/11/2012
16	Drain air test – sub-slab drainage Zone D	Brookfield	Pass	13/11/2012
17	85 Point Check to Partitions Level 1	Brookfield	Pass	13/11/2012
18	Drain air test – sub-slab drainage	Brookfield	Pass	21/11/2012
19	Pull off test to roof Level 3	Brookfield	Pass	23/11/2012

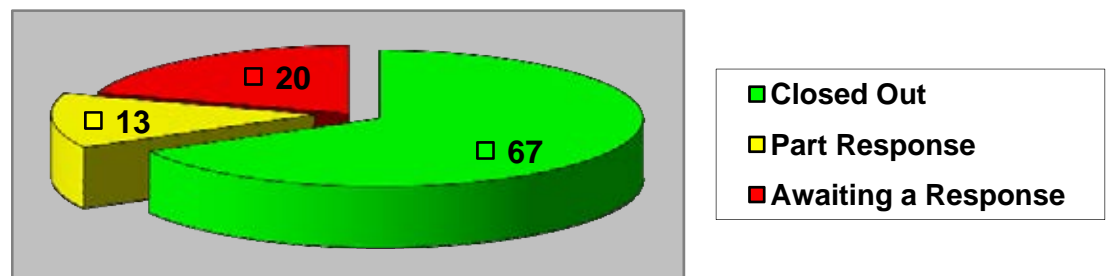
Inspection not required	N/A
Inspection required	Req
Inspection complete	Pass

Inspections				
Ref	Title	To be Notified by	Status	Inspection Date
1	85 Point check to partitions room AAW-338	Brookfield	Pass	24/10/2012

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7.0 DEFECTS NOTIFICATIONS ISSUED



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Item No.	Description	Date Requested	Comment	
Items 1 to 8 have been closed out				
09	Steel angle too short	27.09.12	Open	Red
10	Bolt missing from angle plate.	27.09.12	Open	Red
11	Sprinkler head at H.L. in plant room obstructed by fire rated ductwork in plant room.	02.10.12	Closed	Green
12	Motorised damper inaccessible due to adjacent duct in Plant Room.	02.10.12	Response received.	Yellow
13	Restricted access to ductwork access hatch in corridor adjacent to Zone H near Stair Core F	02.10.12	Response received.	Yellow
14	Ductwork obstructed by modular frame Zone H.	02.10.12	Response received.	Yellow
15	Part of stud, Level 2 Zone D cut away.	10.10.12	Closed	Green
16	Fixing to cladding visible. Confirm when this will be addressed	18.10.12	Open	Red
17	Confirm when cabling in various locations on level 2 are supported properly.	23.10.12	Closed	Green
18	Confirm when damper in duct is sealed properly in Level 3 Pant Room.	23.10.12	Closed	Green
19	Ductwork uncapped or falling off. Confirm when addressed. Various locations Level 2.	23.10.12	Closed	Green
20	Dead legs exceed 3m in various locations on Level 1 and 2. Confirm when this will be addressed	23.10.12	Response received.	Yellow
Items 21 to 27 have been closed out				
28	Compartmentalisation has restricted void detection coverage.	15.11.12	Open	Red
29	Compartmentalisation has restricted void detection coverage.	16.11.12	Open	Red
30	Confirm when void detection is fitted to the distribution cupboard on Level 1 gridline M-M1 to 6.1-7.	16.11.12	Open	Red

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL
AND ENERGY CENTRE****SUPERVISOR'S REPORT NO. 20****NOVEMBER 2012**

**John Redmond
Capita Symonds
Technical Advisory Services**

The Beacon, 8th Floor, 176 St Vincent Street, Glasgow G2 5SG

	Signed	Date
Originated by	John Redmond	6th December 2012
Completed by	Dave Ramsay	6th December 2012

CAPITA SYMONDS

**NEW SOUTH GLASGOW HOSPITAL
ADULT AND CHILDREN'S HOSPITAL AND THE ENERGY CENTRE
NEC 3 SUPERVISORS REPORT NO. 21
DECEMBER 2012**

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL
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ADULT AND CHILDRENS HOSPITAL AND ENERGY CENTRE**1.0 EXECUTIVE SUMMARY: ADULT & CHILDREN'S HOSPITAL**

Visits to the site during December 2012 indicated that the construction and procedures are progressing in a satisfactory manner in accordance with the Employer's Requirements.

Throughout, the standard and quality of the workmanship is generally good and operations are being carried out in an acceptable manner.

Brookfield continues to undertake their Quality Assurance systems on site with inspection and checklist documentation available for the ongoing construction activities. Over the period, we have closely liaised with Brookfield and witnessed both drainage tests and 85 point check to partitions on Level 2. Our witnessing resulted in successful tests.

The standard of the work in the exemplar rooms in progress during this period is to a good industry standard. We shall continue to monitor the work planned for the coming month. The internal finishes workmanship standards are used as a benchmark for all room completions.

Cladding is progressing on the south and east elevations and courtyards 2, 3, 4 & 5 and south elevation plant room 21 & 31. We inspected the cladding in Courtyard 5 prior to the scaffold being removed from the upper areas and commented on snagging issues. Brookfield has raised an NCR in relation to these issues. The "STO" system is complete in courtyard 5 advanced in courtyard 4 and ongoing in courtyards 2 and 3 and the south and east elevation. The standard and quality of the work is generally to a good industry standard.

Energy Centre structural work snagging now appears to be completed. Final tidying up is still to be undertaken as reported in the past period.

In respect of the piling records on ZUTEC, replacement of the current construction drawings by 'as built' drawings is still awaited.

Issues surrounding the atrium steelwork detailing remain ongoing and details of the positional survey together with design check philosophy and methodology for the concrete floor casting have been requested. A meeting to discuss this issue further has been arranged for early in the next period. Repairs to damage to the fire protection coating (shop applied) on some sections remains outstanding and will be addressed when access is easier. Elsewhere ancillary steelwork around cores and at stairwells has progressed, and in occasional places some minor remedial attention to bolts and cleats is required.

Sub-slab drainage in Zones A, D, E and H has again progressed during the period with pressure tests proving satisfactory. Some rodding demonstration remains to be carried out when position of scaffolding permits.

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A few quality issues remain to be addressed from previous reports but these are not considered programme critical at this stage.

The M&E installation is now well advanced, with pre-fabricated sections and second and final fix being installed in the A&C areas. Large plant items continue to be installed in the Energy Centre and areas are now being commissioned looking towards partial completion in the coming months. Testing is now being carried out in the Energy Centre.

In general terms we are satisfied that the installations continue to be installed to a compliant standard, and are of a good quality however we have noted that certain items this month that have raised concern. These have been raised with the Contractor as follows:-

Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 80, 81, 82, 83, 84, 85, 86 and 87 were issued.

- Seeking confirmation that the supports to the medical gas pipes are sufficient.
- Seeking confirmation when insulation will be fitted at the junction of partition and window frame.
- Seeking confirmation of remedial measures to ensure that there is an intumescent seal between the partition stud and concrete column.
- Seeking confirmation when insulation will be fitted at the junction of the inner face of the external wall and the end of the partition between rooms AAW-258 & AAW-257.
- Seeking confirmation when the insulation will be fitted to the 60 minute fire resistant partition adjacent to the column in room THE-108 and at high level.
- Seeking confirmation when gaps between fire boards at high level at END-036 and door leading into corridor XCA2-059 have been addressed.
- Request for structural survey, up to date drawings, steelwork strengthening and concrete deck detailing, structural design philosophy and method statement.
- Provide a marked up drawing/s showing location of back to back boxes and confirmation from Acoustic Logic that there will be no adverse affect on the acoustic performance of the partitions. Provide test certification that the back to back boxes with putty pads will provide the requisite fire resistance.

No Supervisor's Notification of Defects issued during December.

We continue to be assisted by the site teams and the NHS Project Team who produce an internal weekly report which assists us in resolving various construction, mechanical, electrical, and quality issues. We continue to close out our Supervisor's Notifications and Defects when we have received satisfactory responses.

2.0 DESIGN COMPLIANCE CHECK

Currently nothing to report.

3.0 PROCEDURES REVIEW

3.1 Contractor's QA Procedures

Brookfield and their subcontractors have continued with their QA and checking and inspection procedures during the period. We are in discussion and liaison with Brookfield's Quality Manager on QA matters and we undertake regular reviews of their QA documentation.

The standard of the work in the exemplar rooms in progress during this period is to good industry standard. We shall continue to monitor the work planned for the coming month. The internal finishes workmanship standards are used as a benchmark for all room completions.

Workmanship overall is of a good industry standard throughout.

The next page shows an extract from the 85 point check list for a partition formed in the Children's section of the hospital on Level 2.

NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND ENERGY CENTRE

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Quality Inspection Check List			Site: NSGH	
Partitions			Operative: STEPHEN GUNN	
Action			Checked by: S.GLASS & C.WATSON	
			Date: 18/12/12	
	P	N	N/A	How to check and to what standard
1 Partition set out correct dimensions from grid line	I			Check dimension against drawing (+ or - 3mm over length of partition)
2 Partition parallel to gridlines and straight	I			Measure @ min 2 points (Deviation band 10mm = + or - 5mm)
3 Rooms set out square	I			Use 3, 4, 5 not a square (+ or - 3mm over length of partition)
4 Correct width floor track used	I			Check against detail (no deviation)
5 Floor track set out to correct junction detail	I			Check against detail (no deviation)
6 Two beads of mastic used to underside of floor track	I			Lift section of track if not visible
7 Correct fixings used in floor track	I			Check against detail (no deviation)
8 Correct fixing centres used in floor track	I			Measure @ least 10 fixings (no deviation)
9 Correct number of fixings to each side of door openings	I		I	Check against detail (no deviation)
10 Head track set out square	I			Use laser level measure (5mm measured from top to bottom)
11 Head track set out to correct junction detail	I			Check against detail (no deviation)
12 Correct width of head track	I			Check against detail (no deviation)
13 Correct depth of head track	I			Check against detail (no deviation)
14 Correct thickness of fireboard	I			Check against detail (no deviation)
15 Two beads of mastic between head track and fireboard	I			Lift section of track if not visible (no deviation)
16 Correct fixings used to fix fireboard	I			Check against detail (no deviation)
17 Correct centres used to fix fireboard	I			Check against detail (no deviation)
18 Mastic to joints in fireboard	I			Check both sides @ least 5 joints (no deviation)
19 Two beads of mastic between fireboard and soffit	I			Lift section if not visible (no deviation)
20 Correct fixings use for head track	I			Check against detail (no deviation)
21 Correct fixing centres used	I			Measure @ least 10 fixings (no deviation from detail)
22 Picture frame bead of mastic at junction of fireboard/soffit both sides	I		I	Check both sides (no deviation)
23 Correct board used for infills in ribdeck			I	Check against detail (no deviation)
24 Correct number of boards used for infills			I	Check against detail (no deviation)
25 Correct insulation use in infills			I	Check against detail (no deviation)
26 Small holes in ribdeck filled with Rockwool			I	Visual check use torch (no deviation)
27 Bead of mastic around infill to ribdeck			I	Visual check use torch (no deviation)
28 Infill boards overlap fireboard by 7mm			I	Measure @ least 3 rib deck (no deviation)
29 Correct type of stud used, eg C stud, I stud	I			Check against detail (no deviation)
30 Correct gauge of stud	I			Check against detail (no deviation)
31 Studs cut to correct length for deflection	I			Stud length = +0 and -5mm
32 Studs at correct centres (300-400-600mm)	I			Measure top middle bottom (no deviation)
33 Doorway built to correct specification for weight of door			I	Check against detail (width -0 +5mm height -0 +10mm)
34 Leg of door head 260mm minimum			I	Measure both legs (no deviation)
35 Door head mitred			I	Visual check (no deviation)
36 Floor track returns up stud 300mm			I	Measure both legs (no deviation)
37 Correct number of screw in door head			I	Check against detail (no deviation)
38 Timber inserted in door stud to correct			I	Visual check (no deviation)
39 Timber in head of double door			I	Visual check (no deviation)
40 Door stud cloaked in head track			I	Visual check (no deviation)
41 Screws at correct centres in door stud			I	Measure both legs (no deviation)
42 Door/screen formed in right location			I	Check against drawing (no deviation)
43 Door/screen formed to correct size			I	Check against drawing (width -0 +5mm height -0 +10mm)
44 Door/screen formed to correct height			I	Check against drawing (-0 +10 mm)
45 Screen cill at right height			I	Check against drawing (no deviation)
46 Mastic applied to abutment studs			I	Lift section if not visible (no deviation)
47 Correct fixings to abutment studs			I	Visual check (no deviation)
48 Fixings at correct centres to abutment studs			I	Measure all fixings to abutment (no deviation)
49 Flat plate fitted at deflection head	I			Check full length visual (no deviation)
50 Flat plate at correct distance from headtrack	I			Check against detail (if 15mm deflection then top of flat plate 15mm from bottom of headtrack no deviation)
51 Flat plate screwed to all studs	I			Visual check (no deviation)
52 Bead of mastic at junction of floortrack	I			Visual check (no deviation)
53 Correct type of board	I			Check against detail & back of board (can only be replaced with minimum performance equal or better)
54 Correct thickness of board	I			Visual against detail (no deviation)
55 Correct number of layers	I			Visual against detail (no deviation)
56 Screws fixed no more than 50mm from corners of boards	I			Measure top to bottom (no deviation)
57 Screws fixed at Maximum 300mm centres	I			Visual plus measure on any that look over (no deviation)
58 Screws around door openings maximum 200mm centres	I			Measure complete door/opening (no deviation)
59 Screws around glazed screens maximum 200mm centres	I			Measure complete door/opening (no deviation)
60 Screws to external corners at 200mm centres	I			Measure top to bottom (no deviation)
61 Screws not breaking paper	I			Visual check maximum deviation 10% of screws breaking paper (1.2 x 2.7 board = 39 screws 10% = 4 screws)
62 Screws not proud of board	I			Visual check (no deviation)
63 Flat plate at cross joint of outer layer of board	I		I	Lift section if not visible (no deviation)
64 Boards not too short at deflection head	I			Use pre cut gauge or tape -5mm
65 Boards not too long at deflection head	I			Use pre cut gauge or tape +0mm
66 Boards screwed to flat plate at deflection head	I			Visual check (no deviation)
67 Screws to flat plates at correct centres	I			
68 Boards to abutments cut the right length			I	Use pre cut gauge check both sides
69 Joints to double layer staggered vertically			I	Lift section if not visible
70 Joints to double layer staggered horizontally			I	Lift section if not visible
71 Abutment details built correctly			I	Check against detail
72 All required studs for 2nd fix fixed in place	I			Visual check of pick up studs
SECOND FIX (TEAM)				
73 2nd Fix board joints staggered by 600mm from 1st fix side	I			HIGH LEVEL ONE SIDE ONLY
74 Board cut maximum 10mm larger than service penetrations			I	
75 Sockets cut to correct size			I	
76 Transoms fitted metal to metal on penetrations over 160mm			I	
77 Transoms lined with plasterboard on fire rated partitions			I	
78 Rockwool slab installed around penetrations over 160mm			I	
79 Insulation fills the void between studs from top to bottom	I			HIGH LEVEL ONE SIDE ONLY
80 Correct spacing of stick pins to support insulation	I			2 at top equally spaced, then 1 in centre @ 1.2m maximum - HIGH LEVEL ONE SIDE ONLY
81 Rockwool slab installed around electrical sockets			I	300mm around socket to maintain acoustic and fire rating
82 Correct noggin fitted			I	Will it support the weight of item to be suspended
83 Noggin fitted flush to studs			I	If C studs has the noggin been cut with groove to fit stud
84 Correct number of fixings in noggins			I	Enough to support the services fixed prior to boarding
85 Noggins set out in correct position			I	Set out either off drawing or position marked on partition

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Brookfield has provided us with Sample Testing Methodology for the positive pressure test to be carried out in selected areas. A programme will follow after [Brookfield and the client's representatives agree the areas to be tested](#). (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 22).

We have received the 'Sample Testing Methodology' report prepared by RSK Environment Ltd dated 23rd November 2012, and noted the following:

"Section 1.3 of the report states that it will not be possible to undertake a final whole building pressurisation test on the completed building to prove compliance with the air permeability specification. Therefore compliance is being achieved via the alternative 'large and complex' building route which requires certification by an independent specialist air leakage consultant".

We asked Brookfield for confirmation that the independent specialist will be RSK Environment Ltd and have asked for an example of the certification. Brookfield has confirmed that Stuart Borland of RSK Environment Ltd will be the independent specialist employed to undertake all such tests. Sample test certification to follow under separate cover.

We have also asked if the certification will satisfy the requirements of Glasgow City Council Building Control. They have confirmed that RSK having undertaken testing and provided similar certification on the most notable Grade A Office completed within Glasgow in the last few years. Brookfield intimated that Building Control don't want to witness and will accept the final certification from Building sciences.

We asked for confirmation that the smoke tests will not have negative impacts upon equipment, including optical sensors. Brookfield has confirmed that the smoke is vegetable based oil used in small quantities and will have no negative impact on equipment. It is the same as used in theatres and clean rooms, however smoke detectors will need to be switched off.

Brookfield confirmed that the Board will be given 7 days notice of tests in order for the board to agree location and attendance. Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 68 is closed out.

3.2 Early Warnings

Currently nothing to report.

3.3 Board Equipment Installation, Testing and Commissioning

Currently nothing to report.

3.4 Non Conformance Reports

We are aware of a number of NCR's raised and are being kept up to date as to their status.

4.0 CONSTRUCTION REVIEW

4.1 Visits to the Works

Site inspections were carried out by the NEC3 Supervisors on the 2nd, 3rd, 4th, 5th, 6th, 9th, 10th, 11th, 12th, 13th, 16th, 17th, 18th, 19th, 19th, 20th, and 21st, December 2012.

4.2 Elements of the Works available for inspection

- Energy Centre – steelwork and cladding. Local blockwork at ground, 1st and 2nd floor levels.
- Main building – Cores A, B, C, D, E, F, G, K and L internally, Zones A, B, D, E, G and H ground floor slabs, Zones E and F basement area, ground floor suspended slabs, 1st and 2nd floor slabs. Zones G and H 4th to 8th floor slabs. Zones E, F and J 3rd floor slabs, 4th floor slab zones E and J and 5th floor Zone plus Zones A, B and D roof area.
- Zones A, B, D, E, G and H below slab drainage.
- External Drainage – specific sections of installation where access is possible.
- Tunnels between ACH and Labs, and Cores C to F.
- Structural steelwork to Atrium (limited due to access).
- Structural steelwork to roof at Zones D and G.
- Dual carriageway to Renfrew Road, and carriageway from Hardgate Road.
- Internal Partitions.
- M&E modular units.
- Roofing.
- Cladding.
- Windows.
- Sto system.

4.3 Observations from December 2012 Inspections

The visual inspections of the work carried out to date indicate that the works are generally being carried out to a satisfactory standard. We continue to be assisted by the site teams and the NHS Project Team in resolving various construction, mechanical, electrical, and quality issues. We continue to close out our Supervisor's Notification and Defects when we have received satisfactory responses. Listed below are observations still to be closed and those raised following site visits in December 2012.

4.3.1 Structural

In respect of the piling records on ZUTEC the current construction drawings are still to be replaced by 'as built' drawings.

Quality on all concrete works has generally appeared good but the following points remain outstanding from previous reports:-

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- Finish to ground floor in Zone F and 1st floor in Zone J.
- 20mm level change detail in ground, 1st, 2nd and 3rd floor slabs at Zones E and J has been poorly formed and remedial action is required.
- Cracks to the soffit of the suspended ground floor slab between Cores A, B, C and D being kept under review.
- Spalling to a couple of parapet walls at the top of Core G.

Workmanship to the small awkward 20mm step in floor slabs at all levels in Zones J and E has been discussed in detail with Brookfield who are well aware of the issue – they are addressing this with their subcontractor, and selected areas have now been subject to remedial action, mainly in the form of grinding down high spots. Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 26 is closed out.

We have asked Brookfield to confirm if the attached hole without bolts to the steelwork bridge connections reflects the design intent and a response to this is still awaited. Brookfield is aware that, as part of local snagging, bolts at some of these connection locations at the cores have been replaced. It may be that this will answer the query, but feedback is awaited. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 57).



Further to surveys of the positioning of the steel structure, designers WSP have been carrying out check calculations and final deck drawings are expected in the next period. Survey details have also been requested.

We requested Brookfield to provide details of any structural survey that has been carried out on the installed bridge steelwork. We have also asked for up to

date construction drawings, including details of any steelwork strengthening and concrete deck detailing, together with a brief structural design philosophy for these proposals. A detailed method statement for the remaining works on the bridge has also been requested.

Brookfield reported that discussions to date have been centered around erection tolerances on the bridge steelwork encountered during removal of temporary propping. WSP have been kept involved in discussions and surveys during this period. Brookfield has invited us to discussions on Tuesday 8th January to assure us on the actions taken to date. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 86).

4.3.2 Energy Centre

Steelwork snagging appears to have been addressed, but much tidying up remains outstanding.

4.3.3 Drainage

Below slab drainage installation has continued during the period. Drain pressure tests have been carried out on all newly laid sections in ZA. Test records are kept by Brookfield as part of their QA procedures and some tests were independently witnessed by the NEC3 Supervisor team.

The drainage lines we witnessed were as follows:

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they will review this when complete. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 70.

Pipework dead leg greater than 3 metres. We have asked Brookfield to confirm when pipe work has been altered to comply with signed off design drawings. See Supervisor's Notification of Defect (CI 42.2) No 76.

We have asked Brookfield to confirm that there are sufficient supports to the medical gases pipelines and that they are at the appropriate spacing for their diameter. Brookfield and Capita reviewed this on site and found that the medical gas installation has sufficient supports at the appropriate spacing. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 80 is closed out.



We have asked Brookfield to confirm the flow of water from the sprinkler head highlighted is not restricted by the adjacent section of unistrut. Brookfield has confirmed that the sprinkler head deflector appears to be under the unistrut and that the Sprinkler contractor will check this when they are installing the under services protection. If the head is shielded by the unistrut, they will turn the head pendant. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 74.



High level sprinkler heads appear inaccessible in a number of areas. We have asked Brookfield to confirm the access regime for sprinkler head maintenance / replacement. Brookfield intimated that this is not unusual in a plant room which is congested. However maintenance is obviously required. Note that replacement of heads should only be required after activation due to fire or damage. Air tests have been carried out on the installation so far. Atmosphere in the plant room is dry / no corrosion likely so heads should last 20 years without issue based on previous installations. They shall be re-tested at 10 year intervals. Notwithstanding any of this, where there are potential access issues, every effort will be made to reach the heads when required – if plant has to be removed to do so, then it will be removed. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 75.

4.3.6 Ventilation

The installation of ventilation ductwork in the A&C hospital is progressing well, and has been installed to a good standard. It appears that any open ends are being sealed but we have noted some exceptions and these have been highlighted to the contractor during our weekly site inspections. The level of damage occurring during the delivery process is much reduced from that previously reported, however the contractor should be reminded that care should be taken to avoid such damage occurring.

Conduit run appears to be restricting access to the duct access hatch. We have asked Brookfield to confirm that the duct hatch can be fully accessed without issue when finished ceiling is in place. Brookfield has confirmed that snagging is due to commence 10/12/12 and they will review this when complete. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 71.

The electrical containment appears to be restricting access to duct access hatch Adjacent to riser THE-237. We have asked Brookfield to confirm duct hatch can be fully accessed without issue when finished ceiling is in place. Brookfield has confirmed that snagging is due to commence 10/12/12 and they will review this when complete. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 72.



The electrical containment appears to be restricting access to duct access hatch Adjacent to riser THE-2127. We have asked Brookfield to confirm duct hatch can be fully accessed without issue when finished ceiling is in place. Brookfield has confirmed that snagging is due to commence 10/12/12 and they will review this when complete. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 73.



4.3.7 Insulation

The thermal insulation installation to the pre-fabricated sections of pipework is being completed off site, before delivery.

4.3.8 Pressure testing

Pressure testing of the modular pipework sections on a zone by zone or area by area basis is to be programmed through the commissioning meetings.

We await further information from Brookfield on their programme and methodology.

4.3.9 Medical Gases

We asked Brookfield to confirm that there are sufficient supports to the medical gases and that they are at the appropriate spacing.

4.3.10 Energy Centre

The installation for the standby generators is progressing to completion, and the installation is to a good industry standard. Generator on site testing has been successfully completed for the A-side generators.

We have witnessed various tests on the HV switchgear and this is now connected and energised.

The second batch of generators has been delivered and positioned on site. Test dates for these are awaited.

4.3.11 Trunking

Cable trunking is being installed as part of the offsite fabricated sections that are being installed in the A&C hospital and in general the installation is to a good industry standard.

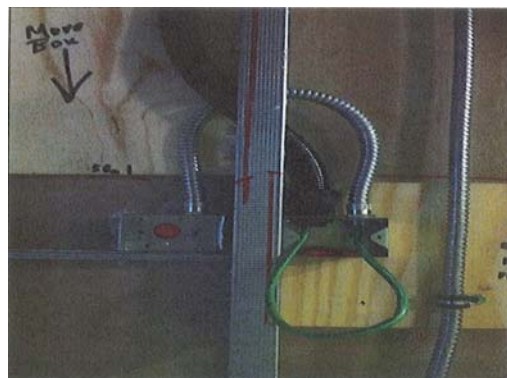
4.3.12 Cable Trays

Cable trays are being installed as part of the offsite fabricated sections that are being installed in the A&C hospital and in general the installation is to a good industry standard.

4.3.13 Cabling

Modular wiring looms are now being installed as part of the offsite fabricated assemblies and carefully tied up for protection and installation is of a good standard.

The 2no back boxes in room AAW – 297 Single Bedroom which had not been positioned properly have now been fitted at the required spacing. (See photo below. Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 69 is closed out).



Void detection appears inadequate and inaccessible due to plasterboard ceiling. Brookfield has advised us Scotshield have carried out and continue to carry out site surveys regarding detection coverage. Currently they have identified additional heads to be installed – Mercury is awaiting formal report. They understand that Scotshield continue to review installation on all floors to ensure sufficient coverage but this is WIP. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 77).



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The junction box appears to be inaccessible due to the ceiling installation. We have asked Brookfield to confirm if this is the case. Brookfield has confirmed that the grille shown adjacent to CCW 061 is in fact not connected to the ductwork system and is just a transfer grille (CVG). It can therefore be used as an access hatch to get to the junction box. However the rest of the corridor will be reviewed to check that there is sufficient access. This area has been off limits due to flooring works. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 79).



We have been informed that there are a few rooms which have boxes back to back and that these cannot be altered.

We have asked Brookfield to identify these on a marked up drawing/s and provide confirmation from Acoustic Logic that they are satisfied there will be no adverse affect on the acoustic performance of the partitions.

We have also asked Brookfield to provide test certification that the back to back boxes with putty pads will provide the requisite fire resistance. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 87).

4.3.14 Conduit

Solid conduit installations are well progressed in the areas being fitted out and are to a good industry standard.

4.3.15 Void Detection

There appears to be no void coverage as required within the NHS Firecode. We have asked Brookfield to confirm the void protection philosophy On Level 2, Gridlines I-H & 1.1-2.1. They have confirmed that the detection in the zone area noted above has not commenced yet.

Mercury is awaiting details from Scotshield which will form part of Brookfield's future response (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 65).

Hoist cabling in CCW 051 is inadequately supported. Brookfield confirmed this has been clipped and a photograph will follow as soon as they get access back into the area. The detail shown will be that for the rest of the hoist cabling. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 79).

Junction box appeared to be inaccessible due to ceiling installation. Brookfield confirmed that the grille shown adjacent to CCW 061 is in fact not connected to the ductwork system and is just a transfer grille (CVG). It can therefore be used as an access hatch to get to the junction box. However the rest of the corridor will be reviewed to check that there is sufficient access. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 79).

4.3.16 Intake Sub Station

Brookfield has confirmed that there are still a number of cables to be pulled through to the Substation. These will not be installed in place until 1st Quarter of 2013, at which point all other works will be resolved.

There are also damaged batteries from the switchgear which are still lying in the corridor and require to be correctly disposed. Brookfield confirmed they would contact SPEN to find out when they are to be removed (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 30 & 45).

4.3.17 Partitions

Brookfield have resolved the issue of back to back boxes by separating the boxes as outlined in Mercury Engineering NSGH A&C Benchmark document dated 23/11/12. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 66 is closed out.

We noted that there was insulation missing from the upper sections of the boarded partitions in THE-202 General Theatre, THE-200 PREP and THE-206 ANAEST. There was insulation also missing approx 2m in length of the boarded out partition in the corridor PL2-203. Brookfield has confirmed that the boards have been removed and the insulation has been fitted. See photos below.

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There is no insulation at the junction of the window frame and the end of the partition in room AAW-304 Level 1. We have asked Brookfield to confirm when this has been addressed. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 81).

Intumescent bead on end of stud did not seal between stud of the 60min partition and the concrete column between rooms AAW-335 and AAW-194. Brookfield has carried out remedial works and a new bead of intumescent mastic has been applied. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 82 has been closed out.

During an inspection we noted that there was no insulation at the junction of the inner face of the external wall and the end of the partition between rooms AAW-258 & AAW-257. We have asked Brookfield to confirm when this will be addressed as this requires to be addressed to prevent flanking transmission of sound between rooms. Brookfield confirmed that there are several instances of this detail in this area and they will all get completed at the 2nd side boarding stage. The windows were not installed at the 1st fix stage of partition installation hence they were not taken through at the time. We will continue to monitor this as work progresses. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 83).

There was no insulation in the 60 minute fire resistant partition adjacent to the column in room THE-108 on Level 2. There was also no insulation at high level where the conduit passes inside the partition. Brookfield has confirmed that the insulation at high level has been replaced and has provided photographic evidence. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 84).



No insulation at end of partition



No insulation at high level.

4.3.18 Roofs

No roof work has been carried out during this period.

4.3.19 Cladding

Inspection of the cladding in Court Yard 5 was carried out with Brookfield to check the quality of the finish prior to the removal of part of the scaffold. There were a few isolated scratches and dirty marks on the upper levels which were resolved. Brookfield has raised an NCR in relation to these issues.

Cladding is progressing on the south and east elevations and courtyards 2, 3, 4 & 5 and south elevation plant room 21 & 31. The "STO" system is complete in courtyard 5, advanced in courtyard 4 and ongoing in courtyards 2 and 3 and the south and east elevation. The standard and quality of the work is generally to a good industry standard.

4.3.20 Windows

Windows are progressing on the external elevations and courtyards in accordance with the specifications.

4.3.21 Water Prevention into Building

Water ingress as a result of rain penetration through walls and soffits were evident. We have asked Brookfield to advise on proposals for preventing rain penetration and QA procedure for remedial to water damaged finished/stored work elements. Brookfield confirmed that all the areas identified in our

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communication have been resolved and remedial action taken with the installation of SFS, EPDM's fitted and Windows installed. We are however awaiting for their QA information. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 46).

4.3.22 Fire protection

We asked Brookfield to provide dry film thickness results for the atrium steel in support of the fire proof certification. These must be for both the factory applied intumescent coating and the coating being applied on site. Brookfield has confirmed that they have been in communication with JD Pierce their sub contractor on the Steelwork and have received the following information;-

Intumescent paint logs for various components.

Steel Certs

Welding certs

Brookfield confirmed that they will review these and will follow up with a further response. However following Brookfield's response to Supervisor's Communication No 86, they have intimated that there are further remedial works which will alter the records previously obtained. Once these are re-issued Brookfield will review prior to forward to us. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 54).

4.3.23 Structural Frame System

We noted that insulation has not been fitted inside the vertical SFS members at the right hand side of the right hand window in Room EMC-133 Seminar and Training Centre. There is also insulation poorly fitted with gaps. We have asked Brookfield to confirm remedial action to address this. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 67).



No insulation in sfs.



Gaps between insulation.

4.3.24 Doors

We carried out inspections of the gaps between the door frame and inside surface of the structural opening to ensure that the gaps did not exceed the minimum requirement. This was carried out to access doors to rooms CCW-246 and CCW-144 on the Level 1.

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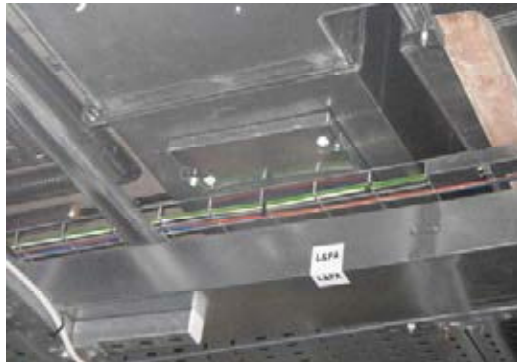
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4.4 Defects from October 2012 Inspections.

We have raised a Defect Notification for a Steel angle plate which is too short on Level 3 Zone G. Brookfield has confirmed that remedial work is planned week commencing 07/01/13. (See Supervisor's Notification of Defect (CI 42.2) No 09).

Bolts missing from angle plates in the Energy Centre. We are currently reviewing information provided by Brookfield (See Supervisor's Notification of Defect (CI 42.2) No 10).

Duct access hatch blocked by chilled water pipework at ground floor area around DB cupboard AAW190. See photograph below. Contractor to confirm when this will be rectified.



Motorised damper inaccessible due to adjacent duct in Plant Room. Brookfield is investigating this and will report. (See Supervisor's Notification of Defect (CI 42.2) No 12).

Restricted access to ductwork access hatch in corridor adjacent to Zone H near Stair Core F. Brookfield has intimated that the hatch is not restricted and access can readily be gained. We shall revisit this and report back with our findings. (See Supervisor's Notification of Defect (CI 42.2) No 13).

Ductwork obstructed by modular frame Zone H. Brookfield is investigating this and will report (See Supervisor's Notification of Defect (CI 42.2) No 14).

One of the fixings to the cladding is visible beneath the capping pieces and the cladding is indented. Brookfield has confirmed that the vertical 'top hat' flashing is still to be installed and this will cover the fixing and the indent. A joint inspection will be arranged between ourselves and Brookfield to inspect the 'top hat'. (See Supervisor's Notification of Defect (CI 42.2) No 16).

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We noted a dead leg which exceeded 3m on Level 2, THE-126 Dirty UT and Level 1, Zone D CCW-201 Staff Lounge. Consequently we have raised Supervisor's Notification of Defect (CI 42.2) No 20 and have asked Brookfield to confirm when this is addressed.



Due to compartmentalisation of the void area by the introduction of deep ductwork/partitions there is inadequate void protection. Brookfield has confirmed that no compartmentation or walls erected at the time of installation. Scotshield are recalculating the works and this will be addressed. (See Supervisor's Notification of Defect (CI 42.2) No 28 & 29).

During a recent visit to site we noted that there was not void detection fitted in the Distribution Cupboard on Level 1 gridline M1-N to 7.1-8. This is not a defect at this stage and will be addressed when programmed for works to commence in this area. Consequently Supervisor's Notification of Defect (CI 42.2) No 30 is closed out.

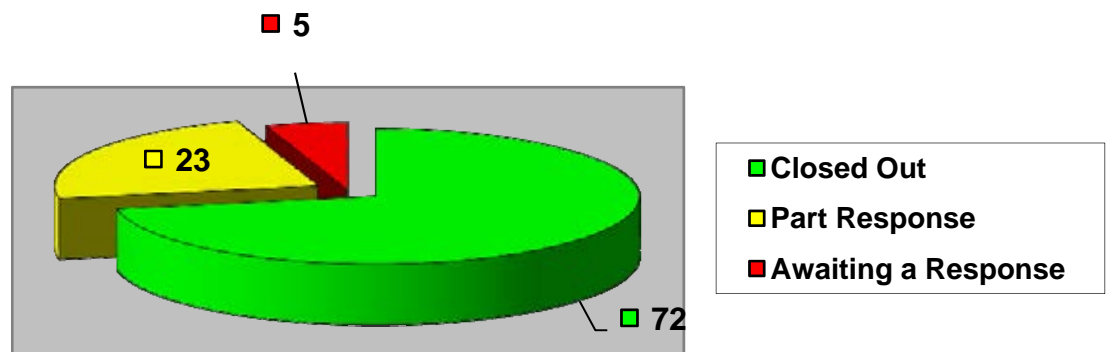
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The area of plasterboard above and to the left of the double door in the 120min fire wall at grid ref AL.1 and AK does not have insulation above and mutual with the column. Brookfield has confirmed that this is Work in Progress and the top hat has not been installed to the South Elevation.

This will be addressed in January 2013, when CS will be invited to the joint inspection noted above. (See Supervisor's Notification of Defect (CI 42.2) No 31.



5.0 INFORMATION REQUIRED



**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL
AND ENERGY CENTRE**

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<i>Item No.</i>	<i>Description</i>	<i>Date Requ ested</i>	<i>Comment</i>	
Items 1 to 21 have been closed out				
22	Brookfield to provide us with their Air Test Procedures and Programme.	03/07/12	Response received.	
Items 23 to 29 have been closed out				
30	Confirm when cabling is complete, water pumped out and batteries removed.	10/08/12	Response received.	
Items 31 to 44 have been closed out				
45	See Supervisor's Communication No 30.	18/09/12	Response received.	
46	Advise on proposals for preventing rain penetration	0/09/12	Response received.	
Items 48 to 53 have been closed out				
54	Provide dry film thickness results for factory applied intumescent and remedial repairs on site.	12/10/12	Response received.	
55	Provide air method statement for air leakage tests.	12/10/12	Closed out.	
56	Confirm remedial action to damaged steel framework.	15/10/12	Closed out.	
57	Please confirm if the attached holes without bolts to the steelwork bridge connections reflects the design intent.	16/10/12	Response received.	
Items 58 to 64 have been closed out				
65	Confirm philosophy for void detection on Level 1 Gridline I-H & 1.1-2.1.	12/11/12	Response received.	
66	Back to back sockets do not comply with HTM 08-1 & Appendix S	22/11/12	Closed out.	
67	Vertical SFS members at the right hand side of the right hand window in Room EMC-133 do not have insulation.	26/11/12	Open	
68	Various issues re the Air Pressure test for the envelope.	26/11/12	Closed out.	
69	Back to back sockets in room AAW-297 require to be repositioned.	30/11/12	Closed out.	
70	Sprinkler pipe work appears to be restricting the removal of the home run box cover	30/11/12	Response received.	
71	Conduit run appears to be restricting access to duct access hatch in room THE-158, Theatre 3 Anaesthetic Room	0/11/12	Response received.	
72	Electrical containment appears to be restricting access to duct access hatch Adjacent to riser THE-237.	30/11/12	Response received.	
73	Electrical containment appears to be restricting access to duct access hatch Adjacent to riser THE-212.	30/11/12	Response received.	
74	Confirm flow of water from the sprinkler head is t restricted.	30/11/12	Response received.	
75	Confirm the access regime for sprinkler head maintenance / replacement.	30/11/12	Response received.	
76	Confirm when 3m dead legs have been altered in CCW-031	30/11/12	Response received.	
77	Void detection appears inadequate and inaccessible due to plasterboard ceiling in CCW-051	30/11/12	Response received.	
78	Hoist cabling is inadequately supported.	30/11/12	Response received.	
79	Junction box appears to be inaccessible due to ceiling installation	30/11/12	Response received.	
80	Confirm that the supports to the medical gas pipes are sufficient.	05/12/12	Closed out.	
81	Confirm when insulation is fitted at junction of partition and window frame.	11/12/12	Open	

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL
AND ENERGY CENTRE**

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82	Confirm remedial measures to ensure there is an intumescent seal between the partition stud and concrete column.	11/12/12	Closed out.	
83	Confirm when insulation will be fitted at the junction of the inner face of the external wall and the end of the partition between rooms AAW-258 & AAW-257	12/12/12	Response received.	
84	Confirm when the insulation will be fitted to the 60 minute fire resistant partition adjacent to the column in room THE-108 and at high level.	14/12/12	Response received.	
85	Confirm when gaps between fire boards at high level at END-036 and door leading into corridor XCA2-059 have been addressed.	19/12/12	Open	
86	Provide structural survey, up to date drawings, steelwork strengthening and concrete deck detailing, structural design philosophy and method statement.	20/12/12	Response received.	
87	Provide a marked up drawing/s showing location of back to back boxes. Provide confirmation from Acoustic Logic that there will be no adverse affect on the acoustic performance of the partitions. Provide test certification that the back to back boxes with putty pads will provide the requisite fire resistance.	21/12/12	Open	

6.0 SUPERVISORS TESTS AND INSPECTIONS

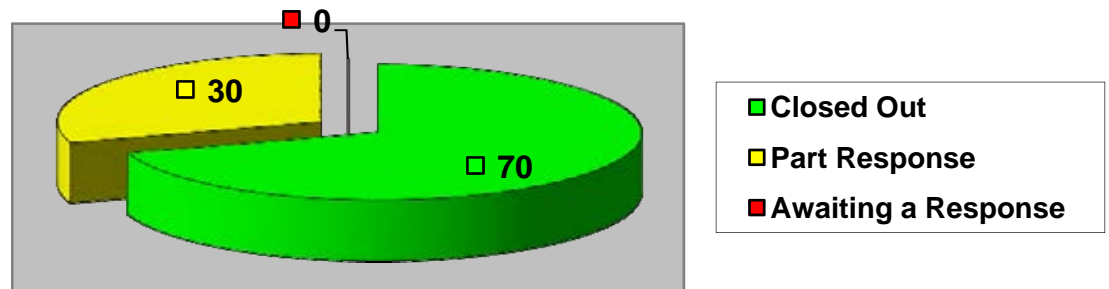
Tests not required	N/A
Tests required but not tested	Req
Tests required which has passed tests	Pass

Tests				
Ref	Title	To be Notified by	Status	Test Date
01-19	Various tests undertaken from the 9/07/2012 to the 23/11/2012			
16	Drain air test – sub-slab drainage Zone D	Brookfield	Pass	13/11/2012
17	85 Point Check to Partitions Level 1	Brookfield	Pass	12/12/2012
18	85 Point Check to Partitions Level 2	Brookfield	Pass	18/12/2012

Inspection not required	N/A
Inspection required	Req
Inspection complete	Pass

Inspections				
Ref	Title	To be Notified by	Status	Inspection Date
1	85 Point check to partitions room AAW-338	Brookfield	Pass	24/10/2012

7.0 DEFECTS NOTIFICATIONS ISSUED



**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL
AND ENERGY CENTRE**

SUPERVISOR'S REPORT NO. 21

DECEMBER 2012

Item No.	Description	Date Requested	Comment	
Items 1 to 8 have been closed out				
09	Steel angle too short	27.09.12	Response received.	
10	Bolt missing from angle plate.	27.09.12	Response received.	
11	Sprinkler head at H.L. in plant room obstructed by fire rated ductwork in plant room.	02.10.12	Closed	
12	Motorised damper inaccessible due to adjacent duct in Plant Room.	02.10.12	Response received.	
13	Restricted access to ductwork access hatch in corridor adjacent to Zone H near Stair Core F	02.10.12	Response received.	
14	Ductwork obstructed by modular frame Zone H.	02.10.12	Response received.	
15	Part of stud, Level 2 Zone D cut away.	10.10.12	Closed	
16	Fixing to cladding visible. Confirm when this will be addressed	18.10.12	Response received.	
17	Confirm when cabling in various locations on level 2 are supported properly.	23.10.12	Closed	
18	Confirm when damper in duct is sealed properly in Level 3 Pant Room.	23.10.12	Closed	
19	Ductwork uncapped or falling off. Confirm when addressed. Various locations Level 2.	23.10.12	Closed	
20	Dead legs exceed 3m in various locations on Level 1 and 2. Confirm when this will be addressed	23.10.12	Response received.	
Items 21 to 27 have been closed out				
28	Compartmentalisation has restricted void detection coverage.	15.11.12	Response received.	
29	Compartmentalisation has restricted void detection coverage.	16.11.12	Response received.	
30	Confirm when void detection is fitted to the distribution cupboard on Level 1 gridline M-M1 to 6.1-7.	16.11.12	Closed	

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL
AND ENERGY CENTRE****SUPERVISOR'S REPORT NO. 21****DECEMBER 2012**

**John Redmond
Capita Symonds
Technical Advisory Services**

The Beacon, 8th Floor, 176 St Vincent Street, Glasgow G2 5SG

	Signed	Date
Originated by	John Redmond	7th January 2013
Completed by	Dave Ramsay	7th January 2013

CAPITA SYMONDS

**NEW SOUTH GLASGOW HOSPITAL
ADULT AND CHILDREN'S HOSPITAL AND THE ENERGY CENTRE
NEC 3 SUPERVISORS REPORT NO. 22
JANUARY 2013**

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL
AND ENERGY CENTRE**

SUPERVISOR'S REPORT NO. 22

JANUARY 2013

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**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND
ENERGY CENTRE**

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ADULT AND CHILDRENS HOSPITAL AND ENERGY CENTRE**1.0 EXECUTIVE SUMMARY: ADULT & CHILDREN'S HOSPITAL**

Visits to the site during January 2013 indicated that the construction and procedures are progressing in a satisfactory manner in accordance with the Employer's Requirements.

Throughout, the standard and quality of the workmanship is generally good and operations are being carried out in an acceptable manner.

Brookfield continues to undertake their Quality Assurance systems on site with inspection and checklist documentation available for the ongoing construction activities. Over the period, we have closely liaised with Brookfield and witnessed drainage tests on the ground floor. Only one test to the underground drainage requires to be retested. We have also witnessed 85 point checks to partitions and these were carried out on Levels 2, Level 0 and Level 1. The partition test highlighted a few failures which were rectified.

The standard of the work in the exemplar rooms in progress during this period is to a good industry standard. We shall continue to monitor the work planned for the coming month. The internal finishes workmanship standards are used as a benchmark for all room completions.

Cladding is progressing on the south and east elevations and is substantially complete courtyards 2, 3, & 4 and south elevation plant room 21 & 31. The "STO" system is complete in courtyard 5, advanced in courtyard 3 and 4 and ongoing in courtyard 2 and the south and east elevation. The standard and quality of the work is generally to a good industry standard.

Energy Centre final tidying up is still to be undertaken as reported in the last period. In respect of the piling records on ZUTEC, replacement of the current construction drawings by 'as built' drawings is still awaited.

The Atrium Bridge issues have been largely resolved with the roof section cast at the end of the period. The designers remain ongoing with deflection checks as floors are cast.

Concrete slab work to the ACH has continued apace during the period, now at the 9th floor on the SE arm (Zone G), 7th floor on the SW arm (Zone D), and 5th floor on the NE and NW arms (Zones J and F respectively). On the Children's Hospital section the 2nd floor slab is completed, with ongoing progress at floors 3 and 4 in Zones B and C. All of this work generally appears to be of good quality throughout. Sub-slab drainage in Zones B, E, H and J has progressed during the period with pressure tests proving generally satisfactory. One broken pipe section requires repair.

Blockwork has commenced in the basement areas and workmanship appears of good quality to date. A few quality issues remain to be addressed from previous reports but these are not considered programme critical at this stage.

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The M&E installation quality is remaining at a good standard and we are satisfied that these are being installed to a compliant standard.

The M&E installation is now well advanced, with pre-fabricated sections and second and final fix being installed throughout the A&C areas. Large plant items continue to be installed in the Energy Centre and areas are now being commissioned looking towards partial completion in the coming months. Testing is now being carried out in the Energy Centre.

During our inspections with Brookfield we are highlighting any items that have raised concern including highlighting inadequate access to all plant above the ceiling, given access via light fittings below. There were open ends in Level 2 ventilation plantroom to the main heating and chilled water pipework. Generally these are being addressed by the site team in advance of any defect notice being raised.

Any defects have been raised with the Contractor as follows:-

In general terms we are satisfied that the installations continue to be installed to a compliant standard, and are of a good quality however we have noted that certain items this month that have raised concern. These have been raised with the Contractor as follows:-

Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99 and 100 were issued.

- Brookfield to review all installed and proposed HV equipment and report back if any equipment falls under the NEDeRS notices.
- Seeking confirmation if the water tank can be adequately maintained and drained in proposed position.
- Seeking confirmation that void detector above ductwork provides adequate protection.
- Confirms access hatch shall be accessible.
- Seeking confirmation that fire damper actuators highlights can be accessed on completion of the cold water and ceiling installation.
- Seeking confirmation that void detector above ductwork provides adequate protection.
- Seeking confirmation that access hatch shall be accessible after conduit and ceiling installation is complete.
- Seeking confirmation if any proposed HV equipment and report falls under the NEDeRS notice.
- Confirm measures to address flaking paint in basement.
- Back to back sockets in room AAW-297 require to be repositioned.
- Lightning protection tape not fixed properly.
- Confirm that the external WILO pumps are suitable for an outdoor exposed location.
- Confirm the condition of the roof after the loaded skip has been removed.

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Supervisor's Notification of Defects (42.2) No 32, 33, 34, 35, 36, 37, 38 and 39 issued during January.

- Seeking confirmation when intumescent putty pads are going to be fitted to circular back box.
- Seeking confirmation when missing insulation at high level has been replaced in room AAW-333.
- Seeking confirmation missing insulation at high level has been replaced in Room EMC-099.
- Confirm when missing insulation at high level has been replaced in Room EMC-100.
- Seeking confirmation when disturbed insulation has been addressed.
- Confirm that the smoke detector has been fitted in accordance with BS5389 in room AAW-384. E.g. not be mounted within 500mm of any walls or partitions.
- Fire rated ductwork did not penetrate into the neighbouring space greater than 150mm as detailed on the approved design drawings in level 2 theatres.
- Seeking confirmation when insulation dislodged at high level due to electrical work has been remedied.

We continue to be assisted by the site teams and the NHS Project Team who produce an internal weekly report which assists us in resolving various construction, mechanical, electrical and quality issues. We continue to close out our Supervisor's Notifications and Defects when we have received satisfactory responses.

2.0 DESIGN COMPLIANCE CHECK

Currently nothing to report.

3.0 PROCEDURES REVIEW

3.1 Contractor's QA Procedures

Brookfield and their subcontractors have continued with their QA and checking and inspection procedures during this period. We are in discussion and liaison with Brookfield's Quality Manager on QA matters and we undertake regular reviews of their QA documentation.

The standard of the work in the exemplar rooms in progress during this period is to good industry standard. We shall continue to monitor the work planned for the coming month. The internal finishes workmanship standards are used as a benchmark for all room completions.

We carried out an above ceiling inspection of the exemplar theatres and in other areas on Level 2 with Brookfield and with the exception to a cable which was still to be installed all of the penetrations were sealed.

Workmanship overall is of a good industry standard throughout.

We noted poorly sealed junctions between columns and vertical studs consequently an 85 point check was carried out to a partition formed on Level 2 and this is shown on the next page. Following the QA check a Tool Box Talk was carried out and this is shown on the following page. There were other QA inspections to partitions on Level 0 and Level.

NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND ENERGY CENTRE

SUPERVISOR'S REPORT NO. 22


JANUARY 2013

Quality Inspection Check List				Site: NSGH
Partitions				Operative: STEPHEN GUNN
Action				Checked by: S.GLASS & C.WATSON
				Date: 18/12/12
P	N	N/A	How to check and to what standard	
1			Partitions set out correct dimensions from grid lines	
2			Partitions parallel to gridlines and straight	
3			Rooms set out square	
4			Correct width floor track used	
5			Floor track set out to correct junction detail	
6			Two beads of mastic used to underside of floor track	
7			Correct fixings used in floor track	
8			Correct fixing centres used in floor track	
9			Correct number of fixings to each side of door openings	
10			Head track set and plumb	
11			Head track set out to correct junction detail	
12			Correct width of head track	
13			Correct depth of head track	
14			Correct thickness of fireboard	
15			Two beads of mastic between head track and fireboard	
16			Correct fixings used to fix fireboard	
17			Correct centres used to fix fireboard	
18			Mastic to joints in fireboard	
19			Two beads of mastic between fireboard and soffit	
20			Correct fixings use for head track	
21			Correct fixing centres used	
22			Picture frame bead of mastic at junction of fireboard/soffit both sides	
23			Correct board used for infills in ribdeck	
24			Correct number of boards used for infills	
25			Correct insulation use in infills	
26			Small holes in ribdeck filled with Rockwool	
27			Bead of mastic around infill to ribdeck	
28			Infill boards overlap fireboard by 7mm	
29			Correct type of studs used eg C studs + studs	
30			Correct gauge of stud	
31			Studs cut to correct length for deflection	
32			Studs at correct centres (300-400-600mm)	
33			Doorway built to correct specification for weight of door	
34			Leg of door head 250mm minimum	
35			Door head mitred	
36			Floor track returns up stud 300mm	
37			Correct number of screw in door head	
38			Timber inserted in door stud to correct	
39			Timber in head of double door	
40			Door stud cloaked in head track	
41			Screws at correct centres in door stud	
42			Door screen formed in right location	
43			Door screen formed to correct size	
44			Door screen formed to correct height	
45			Screen cill at right height	
46			Mastic applied to abutment studs	
47			Correct fixings to abutment studs	
48			Fixings at correct centres to abutment studs	
49			Flat plate fitted at deflection head	
50			Flat plate at correct distance from headtrack	
51			Flat plate screwed to all studs	
52			Bead of mastic at junction of floor track	
53			Correct type of board	
54			Correct thickness of board	
55			Correct number of layers	
56			Screws fixed no more than 50mm from corners of boards	
57			Screws fixed at Maximum 300mm centres	
58			Screws around door openings maximum 200mm centres	
59			Screws around glazed screens maximum 200mm centres	
60			Screws to external corners at 200mm centres	
61			Screws not breaking paper	
62			Screws not proud of board	
63			Flat plate at cross joint of outer layer of board	
64			Boards not too short at deflection head	
65			Boards not too long at deflection head	
66			Boards screwed to flat plate at deflection head	
67			Screws to flat plates at correct centres	
68			Boards to abutments cut the right length	
69			Joints to double layer staggered vertically	
70			Joints to double layer staggered horizontally	
71			Abutment details built correctly	
72			All required studs for 2nd fix fixed in place	
SECOND FIX ITEMS				
73			2nd Fix board joints staggered by 600mm from 1st fix side	
74			Board cut maximum 10mm larger than service penetrations	
75			Sockets cut to correct size	
76			Transoms fitted metal to metal on penetrations over 160mm	
77			Transoms lined with plasterboard on fire rated partitions	
78			Rockwool slab installed around penetrations over 160mm	
79			Insulation fills the void between studs floor top to bottom	
80			Correct spacing of studs and to support insulation	
81			Rockwool slab installed around electrical sockets	
82			Correct noggin fitted	
83			Noggin fitted flush to studs	
84			Correct number of fixings in noggins	
85			Noggins set out in correct position	

NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL
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	Project No:	Project Name:	Document No:	Document Name:	QMS
	C 224	NSGH Project	2.5	Training Register	

TRAINING REGISTER			
TRAINER:	S.Smart, D.Barnes		LOCATION: Site Induction Room
Start : 13:00pm	Finish:	Duration:	
TRAINING OBJECTIVES: Astins Information			
1 Back to work Toolbox talk			
2 December Round Up			
3 HANDS WIFE USAGE			
4 DOOR OPENING SIZE INCREASED & LOWEN ADJUSTMENTS (MASTIC)			

DATE	NAME (PRINT)	SIGNATURE
January 10 th 2013		
	M. GILCHRIST	
	K. HOUGHMAN	
	Daniel Naird	
	ROBERT BOUSKILL	
	A. NICHOLSON	
	D. N'CALL	
	M. YOUNG	
	S. PALMER	
	K. MACLENNAN	
	J. MCCOY	
	Wendy N. Galey	
	D. Guthrie	
	G. WALLIS	
	SMITH	
	E. LEE	
	J. PABLO	
	J. Minns	
	D. CONNOR	
	L. HAMMOND	
	J. Keenan	

Brookfield has provided us with Sample Testing Methodology for the positive pressure test to be carried out in selected areas. A programme will follow after Brookfield and the client's representatives agree the areas to be tested. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 22).

3.2 Early Warnings

Currently nothing to report.

3.3 Board Equipment Installation, Testing and Commissioning

Currently nothing to report.

3.4 Non Conformance Reports

We are aware of a number of NCR's raised and are being kept up to date as to their status.

4.0 CONSTRUCTION REVIEW

4.1 Visits to the Works

Site inspections were carried out by the NEC3 Supervisors on the 3rd, 4th, 7th, 8th, 9th, 10th, 11th, 14th, 15th, 16th, 17th, 18th, 21st, 22nd, 23rd, 24th, 25th, 28th, 29th, 30th, and 31st January 2013.

4.2 Elements of the Works available for inspection

- Energy Centre – structurally complete.
- Main building – Cores A, B, C, D, E, F, G, K and L internally, Zones A, B, D, E, G and H ground floor slabs, Zones E and F basement area, ground floor suspended slabs, 1st and 2nd floor slabs. Zones G and H 4th to 9th floor slabs. Zones E, F and J to 5th floor slabs, and to the 7th floor in Zone D. Zones A, B, D and G roof area.
- Zones B, E, H and J below slab drainage.
- External Drainage – specific sections of installation where access is possible.
- Tunnels between ACH and Labs, and Cores C to F.
- Structural steelwork to Atrium (limited due to access).
- Structural steelwork to roof at Zones A, D and G.
- Dual carriageway to Renfrew Road, and carriageway from Hardgate Road.
- Internal Partitions.
- M&E modular units.
- Roofing.
- Cladding.
- Windows.
- Sto system.
- Brickwork Courtyard 5 and south east elevation.

4.3 Observations from January 2013 Inspections

The visual inspections of the work carried out to date indicate that the works are generally being carried out to a satisfactory standard. We continue to be assisted by the site teams and the NHS Project Team in resolving various construction, mechanical, electrical, and quality issues. We continue to close out our Supervisor's Notification and Defects when we have received satisfactory responses. Listed below are observations closed out, still to be closed and those raised following site visits in January 2013.

4.3.1 Structural

In respect of the piling records on ZUTEC the current construction drawings are still to be replaced by 'as built' drawings.

Quality on all concrete works has generally appeared good but the following points remain outstanding from previous reports:-

- Finish to ground floor in Zone F and 1st floor in Zone J.
- 20mm level change detail in ground, 1st, 2nd and 3rd floor slabs at Zones E and J – remedial work on these areas has been progressing over the last period.
- Cracks to the soffit of the suspended ground floor slab between Cores A, B, C and D being kept under review.
- Spalling to a couple of parapet walls at the top of Core G.

The roof deck of the Atrium Bridge has now been cast, lightweight concrete being used. Prior to this, some steel members had been stiffened very locally by the addition of small steel sections and fuller details of the philosophy behind the designer deliberations was provided together with an updated sequence for casting of the concrete floors. Further to final checks Brookfield obtained notification from designers WSP that they were satisfied casting of the top deck could commence. They have requested details of deflection after this 1st pour prior to work on other floors proceeding, and at time of writing this was awaited. Repairs to damage to the fire protection coating (shop applied) on some sections remains outstanding and will be addressed when access is easier. Elsewhere ancillary steelwork around cores and at stairwells has progressed, and in occasional places some minor remedial attention to bolts and cleats is required. Steelwork to the roof of the Children's Hospital section (Zone A) appears to be progressing satisfactorily from a quality perspective.

Concrete slab work to the ACH has continued apace during the period, now at the 9th floor on the SE arm (Zone G), 7th floor on the SW arm (Zone D), and 5th floor on the NE and NW arms (Zones J and F respectively). On the Children's Hospital section the 2nd floor slab is completed, with ongoing progress at floors 3 and 4 in Zones B and C. All of this work generally appears to be of good quality throughout.

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Sub-slab drainage in Zones B, E, H and J has progressed during the period with pressure tests proving generally satisfactory. One failure occurred in Zone B and with a CCTV check indicating a broken pipe the concrete slab will need to be broken up to allow an effective repair to be carried out. Some rodding demonstration remains to be carried out when position of scaffolding permits. A suitable testing solution is required for below ground drainage where it runs through the basement walls and connects to plumbing pipes without access panels.

Blockwork has commenced in the basement areas and workmanship appears of good quality to date.

A few quality issues remain to be addressed from previous reports but these are not considered programme critical at this stage.

We have asked Brookfield to confirm if the attached hole without bolts to the steelwork bridge connections reflects the design intent and a response to this is still awaited. Brookfield is aware that, as part of local snagging, bolts at some of these connection locations at the cores have been replaced. It may be that this will answer the query, but feedback is awaited. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 57



Further to surveys of the positioning of the steel structure, designers WSP have been carrying out check calculations and final deck drawings are expected in the next period. Survey details have also been requested.

We requested Brookfield to provide details of any structural survey that has been carried out on the installed bridge steelwork. We have also asked for up to date construction drawings, including details of any steelwork strengthening and concrete deck detailing, together with a brief structural design philosophy for these proposals. A detailed method statement for the remaining works on the bridge has also been requested.

Brookfield reported that discussions to date have been centered around erection tolerances on the bridge steelwork encountered during removal of temporary propping. WSP have been kept involved in discussions and surveys during this period. Brookfield has invited us to discussions on Tuesday 8th January to assure us on the actions taken to date. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 86).

4.3.2 Energy Centre

Steelwork snagging appears to have been addressed, but much tidying up remains outstanding.

4.3.3 Drainage

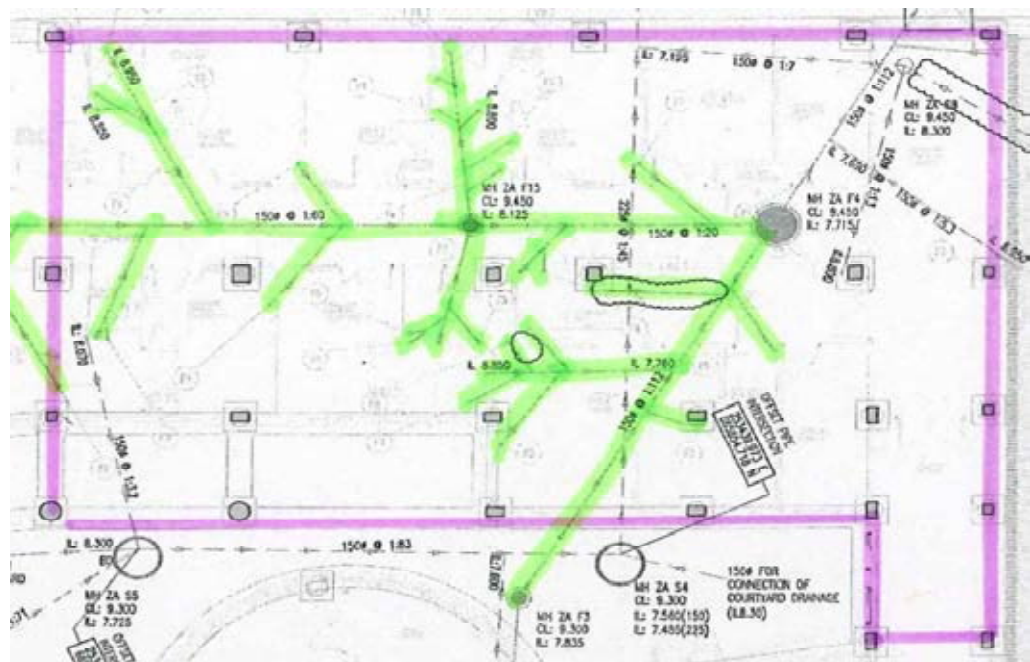
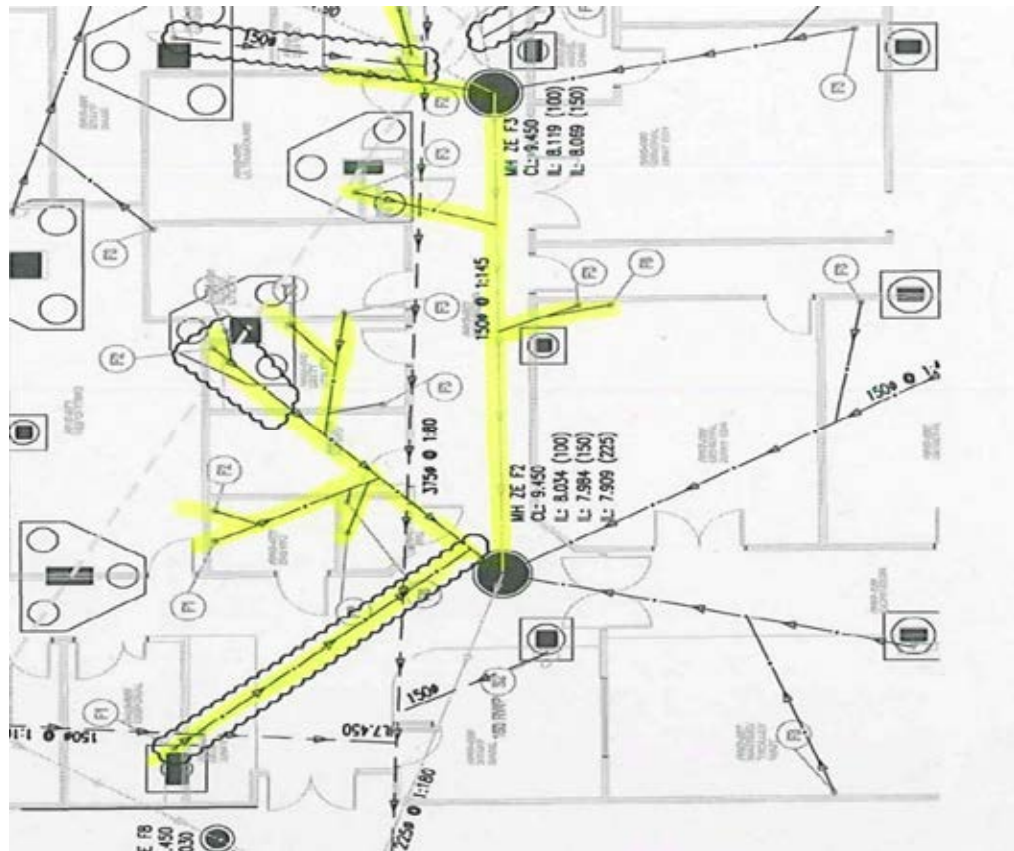
Below slab drainage test records continue to be kept by Brookfield as part of their QA procedures and some tests were independently witnessed by the NEC3 Supervisor team. This has included sections in Zones B, E and J during the period. One pipe section in Zone B failed the pressure test during the period due to a broken pipe. The concrete slab local to this will need to be taken up to allow an effective repair. An effective test will need to be devised for sections of pipework connecting through the basement walls to plumbing sections which do not have access panels.

The drainage lines tested were as follows:

- Zone B Pour 1 - Remedial actions were required for one section of drainage which will be tested week ending Friday 8th February 2013.
- Zone J Pour 3
- Zone E Pour 7



Below ground drainage on the Ground Floor Zone J Pour 1.



Below ground drainage on the Ground Floor Zone A Pour 4.

4.3.4 Dual Carriageway to Renfrew Road. (A&C)

The defects previously identified will be reviewed nearer to completion when they will be effectively rectified.

4.3.5 Pipework.

Installation of hot, cold, heating, & chilled water pipework in the A&C hospital is progressing at pace and in general is being installed to a good standard. The contractor should be reminded to maintain the good standards set in 2012 and that open ends on pipework should be sealed, to prevent the ingress of moisture and subsequent corrosion that may develop.

We have identified locations where the dead legs on hot water pipe runs are excessive and greater than the specified distance of 3m. We are working with the Contractor to review and identify all areas and to ensure this is not repeated in the future installations.

The majority of piping systems are being capped off to isolate systems from exposure to the elements and any foreign material. However there are numerous locations in Level 2 ventilation plantroom where open ends have been left on the main heating and chilled water pipework. This issue has been discussed with Brookfield on 01/02/2013 and will be further raised formally.

Sprinkler pipe work appears to be restricting the removal of the home run box cover. Brookfield has confirmed that snagging is due to commence 10/12/12 and they will review this when complete. Home run box has been moved to opposing side of trunking, meaning access is now acceptable. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 70 is closed out.

We have asked Brookfield to confirm when pipework dead leg which is greater than 3 metres has been altered. This is to comply with signed off design drawings. See Supervisor's Notification of Defect (CI 42.2) No 76

We have asked Brookfield to confirm the flow of water from the sprinkler head highlighted is not restricted by the adjacent section of unistrut. Brookfield has confirmed that the sprinkler head deflector appears to be under the unistrut and that the Sprinkler contractor will check this when they are installing the under services protection. If the head is shielded by the unistrut, they will turn the head pendant. Awaiting photograph showing completed work. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 74.



High level sprinkler heads appear inaccessible in a number of areas. We have asked Brookfield to confirm the access regime for sprinkler head maintenance / replacement. Brookfield intimated that this is not unusual in a plant room which is congested. However maintenance is obviously required. Note that replacement of heads should only be required after activation due to fire or damage. Air tests have been carried out on the installation so far. Atmosphere in the plant room is dry / no corrosion likely so heads should last 20 years without issue based on previous installations. They shall be re-tested at 10 year intervals. Notwithstanding any of this, where there are potential access issues, every effort will be made to reach the heads when required – if plant has to be removed to do so, then it will be removed. The removal of plant to get access for servicing or maintenance would be unacceptable. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 75.

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A Water tank appears to be built directly onto the floor slab. We asked Brookfield to confirm if the water tank can be adequately maintain and drained in this position.

Brookfield has informed us that the Balmoral water tank for the Sprinkler System is designed to sit directly on the floor slabs. The relevant standard that these tanks are designed to is BS EN 13280 (2001)

Mercury confirms that the tank can be adequately maintained and drained in this position. The 50mm high drain off is to a sump in the pump room and any residual water in the base sections would be wet vacuumed. There are no fittings or connections on the underside of the tank.

In response to Brookfield's comments we believe that to fully drain the tank there is a requirement to enter a confined space. Also, due to the construction of the tank there would be a need to wet vac each 1m x 1m pod to fully drain the tank as the flanges are internal. We would seek confirmation that these requirements has gone through a risk assessment and has been signed off by the CDM Assessor. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 89.

We inspected the stainless steel primary distribution pipework in the basement and the pipework was found to be in compliance with Technical Submittal Form. We continue to check areas or sections of pipework and If there are any that are non compliant or not as per the 'Schedule of Proposed Materials for Pipework Systems' a Communication or Defects will be raised.



4.3.6 Ventilation

The installation of ventilation ductwork in the A&C hospital is progressing well, and has been installed to a good standard. It appears that any open ends are being sealed but we have noted some exceptions and these have been highlighted to the contractor during our weekly site inspections. The level of damage occurring during the delivery process is much reduced from that previously reported, however the contractor should be reminded that care should be taken to avoid such damage occurring.

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However there have been instances of ductwork and other ventilation kit being directly stored on the concrete slab and exposed to the elements in some areas, which is unacceptable.

Edge protection has not been installed on Level 3, plant area, where ductwork penetrates from below and is capped through an upstand. This issue has been discussed with Brookfield on 01/02/2013 and will be further raised formally.

Conduit run appears to be restricting access to the duct access hatch. We have asked Brookfield to confirm that the duct hatch can be fully accessed without issue when finished ceiling is in place. Brookfield has confirmed that snagging is due to commence in December and they will review this when complete. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 71.

The electrical containment appears to be restricting access to duct access hatch Adjacent to riser THE-237. We have asked Brookfield to confirm duct hatch can be fully accessed without issue when finished ceiling is in place. Brookfield has confirmed that snagging is due to commence in December and they will review this when complete. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 72.



The electrical containment appears to be restricting access to duct access hatch Adjacent to riser THE-2127. We have asked Brookfield to confirm duct hatch can be fully accessed without issue when finished ceiling is in place. Brookfield has confirmed that snagging is due to commence in December and they will review this when complete. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 73.

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Following an inspection on site we have asked Brookfield to confirm that the access hatch within ductwork in room EMC-062 shall still be accessible after the medical gases and ceiling installation is complete. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 91.

We have concerns that access may be restricted to the hatch within room AAW-349. Consequently we asked Brookfield to confirm that the access to the hatch within the ductwork shall still be accessible after the medical gases and ceiling installation are complete. Brookfield has responded confirming that the 2 white run at a parallel height and is below the ductwork, therefore, will not interfere with the hatch. They cannot identify any potential access problems when the ceiling is fitted. We shall continue to monitor this when the ceiling is fitted. Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 94 is closed out.



We observed that ductwork penetrating the walls of the Dirty Utility Rooms in the Theatre Suites were not dampened (fire dampers). Consequently we have raised Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 97 asking for clarification. This was observed in many Dirty Utility Rooms. We noted that ductwork was insulated.

Brookfield confirmed that the insulated ductwork is Supply ductwork which is fire rated underneath the insulation.

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Fire dampers are installed in the slab above (in the Plant room) to all the ductwork drops into the Dirty Utilities and above. The ductwork is Fire Rated within the Dirty Utility and just beyond the perimeter of the room.

Dampers are fitted where any ductwork passes back through the DU wall from supply or extract legs.

Mercury and BM have reviewed on site to ensure installation is correct in line with strategy.

Communication General Matters / Other Instructions (CI 13.1) No 97 is closed out.

**4.3.7 Insulation**

The thermal insulation installation to the pre-fabricated sections of pipework is being completed off site, before delivery.

4.3.8 Pressure testing

Pressure testing of the modular pipework sections on a zone by zone or area by area basis is to be programmed through the commissioning meetings.

We await further information from Brookfield on their programme and methodology.

4.3.9 Medical Gases

We asked Brookfield to confirm that there are sufficient supports to the medical gases and that they are at the appropriate spacing.

4.3.10 Energy Centre

The installation for the standby generators is progressing to completion, and the installation is to a good industry standard. Generator on site testing has been successfully completed for the A-side generators.

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We have witnessed various tests on the HV switchgear and this is now connected and energised.

The second batch of generators has been delivered and positioned on site. Test dates for these are awaited.

Testing was carried out on the Busbar network linking switchboards 7A to 8A and 7B to 8B. The tests carried out were continuity of bars with the field end of the bars being shorted and insulation resistance. All results in isolation were within acceptable ranges. However, the variation between results across each bar is greater than expected. Retesting was carried out on the insulation resistance between L2-E, L3-E and L2-L3 of busbar 7B to 8B and between L2-L3 of busbar 7A to 8A. Similar results were achieved in each instance to that of the original test. Mark Larden of Schneider Switchgear Service shall refer to results to Schneider electric for further comment.

4.3.11 Trunking

Cable trunking is being installed as part of the offsite fabricated sections that are being installed in the A&C hospital and in general the installation is to a good industry standard.

4.3.12 Cable Trays

Cable trays are being installed as part of the offsite fabricated sections that are being installed in the A&C hospital and in general the installation is to a good industry standard.

4.3.13 Cabling

Modular wiring looms are now being installed as part of the offsite fabricated assemblies and carefully tied up for protection and installation is of a good standard.

Void detection appears inadequate and inaccessible due to plasterboard ceiling. Brookfield has advised us Scotshield have carried out and continue to carry out site surveys regarding detection coverage. Currently they have identified additional heads to be installed – Mercury is awaiting formal report. They understand that Scotshield continue to review installation on all floors to ensure sufficient coverage but this is work in progress. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 77



The junction box appears to be inaccessible due to the ceiling installation. We have asked Brookfield to confirm if this is the case. Brookfield has confirmed that the grille shown adjacent to CCW 061 is in fact not connected to the ductwork system and is just a transfer grille (CVG). It can therefore be used as an access hatch to get to the junction box. However the rest of the corridor will be reviewed to check that there is sufficient access. This area has been off limits due to flooring works. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 79).



We have been informed that there are a few rooms which have boxes back to back and that these cannot be altered.

We have asked Brookfield to identify these on a marked up drawing/s and provide confirmation from Acoustic Logic that they are satisfied there will be no adverse affect on the acoustic performance of the partitions.

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We have also asked Brookfield to provide test certification that the back to back boxes with putty pads will provide the requisite fire resistance.

Brookfield's fit out team are of the opinion that all back to back boxes have been omitted following the recent surveys on site. To confirm this, they intend to carry out a further survey of GF areas. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 87).

4.3.14 Conduit

Solid conduit installations are well progressed in the areas being fitted out and are to a good industry standard.

4.3.15 Void Detection

There appears to be no void coverage as required within the NHS Firecode. We have asked Brookfield to confirm the void protection philosophy On Level 2, Gridlines I-H & 1.1-2.1. They have confirmed that the detection in the zone area noted above has not commenced yet. The lack of void detection now extends between gridline I & E. Currently air handling units and associated ductwork are installed, with ductwork at high level blanketing almost the entire underside of the ceiling slab.

Mercury is awaiting details from Scotshield which will form part of Brookfield's future response (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 65).

Hoist cabling in CCW 051 is inadequately supported. Brookfield confirmed this has been clipped and a photograph will follow as soon as they get access back into the area. The detail shown will be that for the rest of the hoist cabling. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 78).

There appears to be restrictive space for the void detection. We have asked Brookfield to confirm if void detector above the ductwork is providing adequate protection. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 90).



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We have asked Brookfield to confirm that the void detector above the ductwork in room AAW-381 is providing adequate protection. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 93).

4.3.16 Intake Sub Station

Brookfield has confirmed that there are still a number of cables to be pulled through to the Substation. These will not be installed in place until 1st Quarter of 2013, at which point all other works will be resolved.

The damaged batteries from the switchgear have now been removed. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 30 & 45).

4.3.17 Partitions

An inspection was carried out with Brookfield on Level 0 and we noted that insulation was missing at high level and had also been disturbed as a result of electrical work in room AAW-255 EN-SUITE. Brookfield instructed Astins to correct these issues. We will continue to monitor these during future visits.



No insulation



Insulation disturbed

We noted in several locations that the intumescent sealant between some studs and columns were insufficient and the studs were not fixed securely. Brookfield instructed Astins to rectify this problem. A tool box talk has been carried out. We shall continue to monitor this.



Insufficient seal between column and stud

We noted that there was insulation missing from the upper sections of the boarded partitions in THE-202 General Theatre, THE-200 PREP and THE-206 ANAEST. There was insulation also missing approx 2m in length of the boarded out partition in the corridor PL2-203. Brookfield has confirmed that the boards have been removed and the insulation has been fitted. See photo below.



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There is no insulation at the junction of the window frame and the end of the partition in room AAW-304 Level 0. We have asked Brookfield to confirm when this has been addressed. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 81).

During an inspection we noted that there was no insulation at the junction of the inner face of the external wall and the end of the partition between rooms AAW-258 & AAW-257. We asked Brookfield to confirm when this will be addressed as this is required to prevent flanking transmission of sound between rooms. Brookfield confirmed that there are several instances of this detail in this area and they will all get completed at the 2nd side boarding stage. The windows were not installed at the 1st fix stage of partition installation hence they were not taken through at the time. We subsequently inspected the partition to witness the completed work. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 83 is closed out.

There was no insulation in the 60 minute fire resistant partition adjacent to the column in room THE-108 on Level 2. There was also no insulation at high level where the conduit passes inside the partition. Brookfield has confirmed that the insulation at high level has been replaced and has provided photographic evidence. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 84 is closed out.



No insulation at end of partition



No insulation at high level.

We requested confirmation of the detail to the joints between the lead lined Kanuf boards and the non lead lined board showing the taping and jointing between boards. This was provided.

4.3.18 Roofs

No roof work has been carried out during this period.

4.3.19 Cladding

Cladding is progressing on the south and east elevations and is substantially complete courtyards 2, 3, & 4 and south elevation plant room 21 & 31. The "STO" system is complete in courtyard 5, advanced in courtyard 3 and 4 and ongoing in courtyard 2 and the south and east elevation. The standard and quality of the work is generally to a good industry standard.

A loaded skip was placed on the unprotected roof on level 3 resulting in potential damage to the roof. Brookfield confirmed that the skip has been removed and an inspection of the roof is to be carried out. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 100).

**4.3.20 Windows**

Windows are progressing on the external elevations and courtyards in accordance with the specifications.

4.3.21 Water Prevention into Building

Water ingress as a result of rain penetration through walls and soffits were evident. We have asked Brookfield to advise on proposals for preventing rain penetration and QA procedure for remedial to water damaged finished/stored work elements. Brookfield confirmed that all the areas identified in our communication have been resolved and remedial action taken with the installation of SFS, EPDM's fitted and Windows installed. We are however awaiting for their QA information. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 46).

4.3.22 Fire protection

We asked Brookfield to provide dry film thickness results for the atrium steel in support of the fire proof certification. These must be for both the factory applied intumescent coating and the coating being applied on site. Brookfield has confirmed that they have been in communication with JD Pierce their sub contractor on the Steelwork and have received the following information;-

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Intumescent paint logs for various components.

Steel Certs

Welding certs

Brookfield confirmed that they will review these and will follow up with a further response. However following Brookfield's response to Supervisor's Communication No 86, they have intimated that there are further remedial works which will alter the records previously obtained. Once these are re-issued Brookfield will carry out a review prior to issuing them to us. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 54).

4.3.23 Structural Frame System

We noted that insulation has not been fitted inside the vertical SFS members at the right hand side of the right hand window in Room EMC-133 Seminar and Training Centre. There is also insulation poorly fitted with gaps. We have asked Brookfield to confirm remedial action to address this. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 67).



No insulation in sfs.



Gaps between insulation.

We noted during an inspection that there were a couple of locations where there was no insulation between the SFS members immediately behind the end of the partitions adjacent to the external elevation in room AAW-258. Brookfield made this aware to the operatives and this will be addressed. We will continue to monitor this in future visits.



No insulation behind partition.

4.3.24 Doors

We carried out inspections of the gaps between the door frame and inside surface of the structural opening to ensure that the gaps did not exceed the minimum requirement. This was carried out to access doors to rooms CCW-246 and CCW-144 on the Level 1.

4.3.25 Equipment

The Energy Networks Association has issued a notice under the National Equipment Defect Reporting Scheme (NEDeRS). The relevant notice is NEDER 2013/0717/00 (NEW) relating to Schneider Electrical RE2c/MU2 RMU HV equipment.

We have asked Brookfield to review all installed and proposed HV equipment and report back if any equipment falls under the NEDeRS notices. The supporting documents were also forwarded Brookfield. (

Brookfield has been informed by Mercury that Schnider have confirmed these NEDER Notifications refer to equipment that failed in 2003. They have verbally confirmed that there is no equipment or part of the install designated to this project which falls into this category. Brookfield await a formal response from Schindler to this effect. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 88).

The Energy Networks Association has issued notices under the National Equipment Defect Reporting Scheme (NEDeRS). The relevant notices fall under NEDER 2012/0039 relating to Schneider Electrical RMU - RE2c HV equipment. We have asked Brookfield to review all installed and proposed HV equipment and report back if any equipment falls under the NEDeRS notice.

Brookfield has been informed by Mercury that Schnider have confirmed these NEDER Notifications refer to equipment that failed in 2003. They have verbally confirmed that there is no equipment or part of the install designated to this project which falls into this category. Brookfield await a formal response from Schindler to this effect. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 95).

4.3.26 Equipment

We have asked Brookfield to confirm that the fire damper actuator highlights in room EMC-011 can be accessed on completion of the cold water and ceiling installation. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 92).

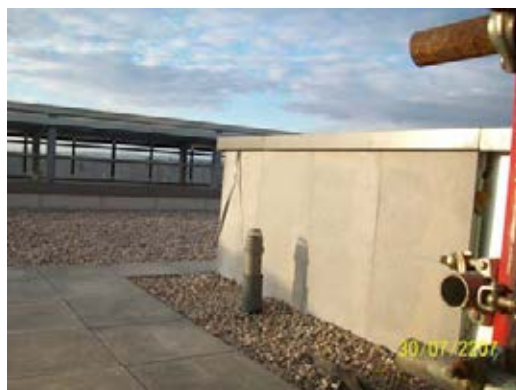
4.3.27 Ceilings

We noted that there is flaking paintwork on the soffit of the ground floor slab in the basement area between Cores A, B, C , D. We have asked Brookfield to confirm remedial measures to address this and when it will be carried out. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 96).



4.3.28 Lightning Protection

We noted that roof was generally complete, however we observed that lightning protection tape was not secured to the building in a number of locations and have raised this with Brookfield. Brookfield has confirmed that this is work in progress and is aware that a number of lightning tapes are not secured. A review was carried out to determine remedial works and this will be rectified. We shall continue to monitor this. (Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 98 is closed out.



4.3.29 Pumps

We asked Brookfield to confirm that the external WILO pumps are suitable for an outdoor and exposed location. They have confirmed that the pumps are suitable. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 99 is closed out.



4.3.30 Above Ceiling Access

Ceilings are being installed on Level 1, Theatres. This is highlighting inadequate access to all plant above the ceiling, given access via light fittings below. This issue has been discussed with Brookfield on 01/02/2013 and will be further raised formally.

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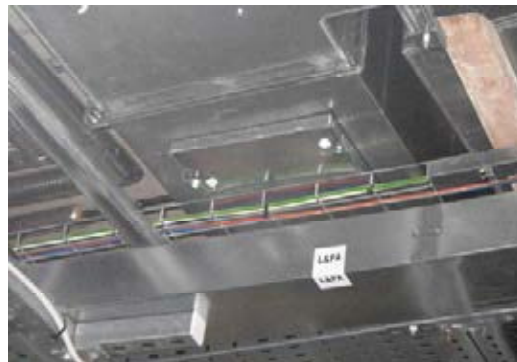
4.4 Defects from October 2012 Inspections.

We raised a Defect Notification for a Steel angle plate which is too short on Level 3 Zone G. Brookfield has completed the remedial work. Consequently Supervisor's Notification of Defect (CI 42.2) No 09 is closed out.



Bolts missing from angle plates in the Energy Centre. We have reviewed information provided by Brookfield and these were satisfactory. Consequently Supervisor's Notification of Defect (CI 42.2) No 10 is closed out.

Duct access hatch blocked by chilled water pipework at ground floor area around DB cupboard AAW190. See photograph below. Contractor to confirm when this will be rectified.



Motorised damper inaccessible due to adjacent duct in Plant Room. Brookfield is investigating this and will report. (See Supervisor's Notification of Defect (CI 42.2) No 12).

Restricted access to ductwork access hatch in corridor adjacent to Zone H near Stair Core F. Brookfield has intimated that the hatch is not restricted and access can readily be gained. We shall revisit this and report back with our findings. (See Supervisor's Notification of Defect (CI 42.2) No 13).

Ductwork obstructed by modular frame Zone H. Brookfield is investigating this and will report (See Supervisor's Notification of Defect (CI 42.2) No 14

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One of the fixings to the cladding is visible beneath the capping pieces and the cladding is indented. Brookfield has confirmed that the vertical 'top hat' flashing is still to be installed and this will cover the fixing and the indent. A joint inspection will be arranged between ourselves and Brookfield to inspect the 'top hat'. (See Supervisor's Notification of Defect (CI 42.2) No 16).



We noted a dead leg which exceeded 3m on Level 2, THE-126 Dirty UT and Level 1, Zone D CCW-201 Staff Lounge. Consequently we have raised Supervisor's Notification of Defect (CI 42.2) No 20 and have asked Brookfield to confirm when this is addressed.



Due to compartmentalisation of the void area by the introduction of deep ductwork/partitions there is inadequate void protection. Brookfield has confirmed that no compartmentation or walls erected at the time of installation. Scotshield are recalculating the works and this will be addressed. (See Supervisor's Notification of Defect (CI 42.2) No 28 & 29).

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During a recent visit to site we noted that there was no void detection fitted in the Distribution Cupboard on Level 1 gridline M1-N to 7.1-8. This is not a defect at this stage and will be addressed when programmed for works to commence in this area. Consequently Supervisor's Notification of Defect (CI 42.2) No 30 is closed out.

The area of plasterboard above and to the left of the double door in the 120min fire wall at grid ref AL.1 and AK does not have insulation above and mutual with the column. Brookfield has confirmed that this is Work in Progress and the top hat has not been installed to the South Elevation. This will be addressed in January 2013, when CS will be invited to the joint inspection noted above. (See Supervisor's Notification of Defect (CI 42.2) No 31.



During an inspection with Brookfield we noted that the 60minute fire resistant wall did not have an intumescent fire putty pad fitted to a circular back box. A defect was raised but this was remedied and joint inspection was carried out at a later date. Consequently Supervisor's Notification of Defect (CI 42.2) No 32 is closed out).

Following a joint inspection in Level 0 with Brookfield it was noted that insulation was missing at high level in room AAW-333. Brookfield has confirmed that the insulation has been fitted and has provided photographic evidence. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 33).

We noted that there was insulation missing from the upper sections of the boarded partitions in room EMC-099 Med Gas Store. Brookfield has confirmed that the insulation has been fitted. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 34 is closed out.

We noted that there was insulation missing from the upper sections of the boarded partitions in room EMC-100 Equipment Service Room. Brookfield has confirmed that the insulation has been fitted. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 35 is closed out.

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We noted during a joint inspection with Brookfield that insulation had been disturbed during the installation of the electrical work. It also had not been fitted behind vertical conduit. These if not remedied would lead to a failure of the acoustic performance of the partition. We raised this with Brookfield and they have since confirmed that this has been remedied and photographic evidence has been provided. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 36.



BS5389 recommends that smoke detectors should not be mounted within 500mm of any walls or partitions. This does not appear to have been achieved in room AAW-384. We asked Brookfield to confirm when this has been remedied.

Brookfield has responded stating that BS5839 does recommend smoke detectors to be more than 500mm away from any obstruction, however, in some instances where the room overall size is less than 1100mm from wall to wall it is not possible to achieve this. The fire risk assessment will require that these rooms are to be protected such as electrical riser cupboards as shown in the photograph with the detector being centralized in the room. These rooms are protected but noted as a variation to BS5839 in the Fire Alarm Certificate.

We have reviewed BS5839 and it states that where 500mm clearance cannot be achieved, then the smoke detector should be located to as close to the centre of the room as possible, see extract from BS583 below.

g) Heat and smoke detectors should not be mounted within 500 mm of any walls, partitions or obstructions to flow of smoke and hot gases, such as structural beams and duct work, where the obstructions are greater than 250 mm in depth. (This recommendation does not apply to detectors within

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rooms opening into escape routes in a Category L3 system). NOTE 6 If an enclosed area has no horizontal dimension greater than one metre, it is impossible to comply with this recommendation; this should not be regarded as a variation, but the detector should be sited as close as possible to the centre of the space/ 500mm away from the wall.

At this time the smoke detector isn't in the centre of the room. Consequently this issue still requires to be resolved. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 37.



A review was carried out on the fire rated ductwork crossing the dirty utilities on each of the level 2 theatre suites we noted that in a number of occasions the fire rated ductwork did not penetrate into the neighbouring space greater than 150mm as detailed on the approved design drawings. We asked Brookfield to ensure that fire rated ductwork complies with this requirement and review all other penetrations providing notification of any that do not comply and evidence that they have been corrected in compliance with design drawings. We have provided Brookfield with locations following our site inspection.

Brookfield has confirmed that the relevant guidance has been reviewed to determine mandatory requirement for the extension of 150mm beyond the walls of a fire hazard room; namely BS 476 Part 24; BS5588 Part 9; Building Regs Part B, Blue Book and HTM's. They have not found any written requirement that specifies this.

They have also received a view from Kenny Hamill at WSP who developed the Fire Safety Design Strategy and he is unaware of this requirement.

ZBP have also commented to Brookfield that the note on their drawings which states that fire rated ductwork should extend a minimum of 150mm beyond the walls of the protected room is based on practical experience. This is to give a degree of flexibility if the ductwork is installed first.

They commented further stating that the fire rated ductwork manufacturer's installation instructions should be followed in the first instance. As long as the integrity of the fire barrier is maintained then they have no technical objection to reducing the length by which the fire rated duct work extends through each compartment wall.

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Brookfield has confirmed that the installation on site on Level 2 is carried out by Galloways. They use Fenland Fire Contracts who after installation to the correct FFC specification, come and inspect the system prior to the issue of a certificate of conformity. If the installation is unsatisfactory, then a certificate will not be issued.

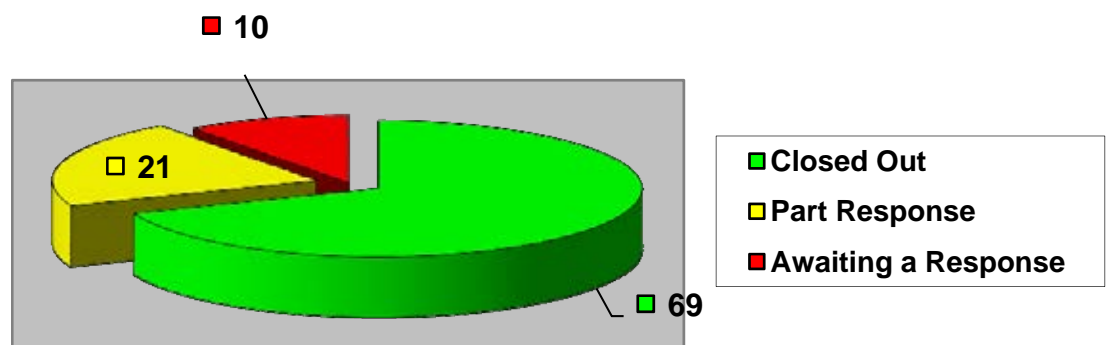
Brookfield has confirmed that the installation has been reviewed on site the majority of cases extend beyond 100mm with perhaps 4 at a minimum. It appears that the 150mm extension was missed during the installation of Zones D & G but then picked up and going forward this has been accommodated.

(See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 38).



We noted during a joint inspection with Brookfield that insulation has been disturbed behind the boards at high level as a result of electrical installation work. If this is not corrected the acoustic quality of the partition adversely affected. We have asked Brookfield to confirm when this has been remedied. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 39).



5.0 INFORMATION REQUIRED

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL
AND ENERGY CENTRE**

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<i>Item No.</i>	<i>Description</i>	<i>Date Requ ested</i>	<i>Comment</i>	
Items 1 to 21 have been closed out				
22	Brookfield to provide us with their Air Test Procedures and Programme.	03/07/12	Response received.	
Items 23 to 29 have been closed out				
30	Confirm when cabling is complete, water pumped out and batteries removed.	10/08/12	Response received.	
Items 31 to 44 have been closed out				
45	See Supervisor's Communication No 30.	18/09/12	Response received.	
46	Advise on proposals for preventing rain penetration	0/09/12	Response received.	
Items 48 to 53 have been closed out				
54	Provide dry film thickness results for factory applied intumescent and remedial repairs on site.	12/10/12	Response received.	
55	Provide air method statement for air leakage tests.	12/10/12	Closed out.	
56	Confirm remedial action to damaged steel framework.	15/10/12	Closed out.	
57	Please confirm if the attached holes without bolts to the steelwork bridge connections reflects the design intent.	16/10/12	Response received.	
Items 58 to 64 have been closed out				
65	Confirm philosophy for void detection on Level 1 Gridline I-H & 1.1-2.1.	12/11/12	Response received.	
66	Back to back sockets do not comply with HTM 08-1 & Appendix S	22/11/12	Closed out.	
67	Vertical SFS members at the right hand side of the right hand window in Room EMC-133 do not have insulation.	26/11/12	Open..	
68	Various issues re the Air Pressure test for the envelope.	26/11/12	Closed out.	
69	Back to back sockets in room AAW-297 require to be repositioned.	30/11/12	Closed out.	
70	Sprinkler pipe work appears to be restricting the removal of the home run box cover	30/11/12	Closed out.	
71	Conduit run appears to be restricting access to duct access hatch in room THE-158, Theatre 3 Anaesthetic Room	0/11/12	Response received.	
72	Electrical containment appears to be restricting access to duct access hatch Adjacent to riser THE-237.	30/11/12	Response received.	
73	Electrical containment appears to be restricting access to duct access hatch Adjacent to riser THE-212.	30/11/12	Response received.	
74	Confirm flow of water from the sprinkler head is t restricted.	30/11/12	Response received.	
75	Confirm the access regime for sprinkler head maintenance / replacement.	30/11/12	Response received.	
76	Confirm when 3m dead legs have been altered in CCW-031	30/11/12	Response received.	
77	Void detection appears inadequate and inaccessible due to plasterboard ceiling in CCW-051	30/11/12	Response received.	
78	Hoist cabling is inadequately supported.	30/11/12	Response received.	
79	Junction box appears to be inaccessible due to ceiling installation	30/11/12	Response received.	
80	Confirm that the supports to the medical gas pipes are sufficient.	05/12/12	Closed out.	
81	Confirm when insulation is fitted at junction of partition and window frame.	11/12/12	Open.	

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL
AND ENERGY CENTRE**

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82	Confirm remedial measures to ensure there is an intumescent seal between the partition stud and concrete column.	11/12/12	Closed out.	
83	Confirm when insulation will be fitted at the junction of the inner face of the external wall and the end of the partition between rooms AAW-258 & AAW-257	12/12/12	Closed out.	
84	Confirm when the insulation will be fitted to the 60 minute fire resistant partition adjacent to the column in room THE-108 and at high level.	14/12/12	Closed out.	
85	Confirm when gaps between fire boards at high level at END-036 and door leading into corridor XCA2-059 have been addressed.	19/12/12	Open.	
86	Provide structural survey, up to date drawings, steelwork strengthening and concrete deck detailing, structural design philosophy and method statement.	20/12/12	Response received.	
87	Provide a marked up drawing/s showing location of back to back boxes. Provide confirmation from Acoustic Logic that there will be no adverse affect on the acoustic performance of the partitions. Provide test certification that the back to back boxes with putty pads will provide the requisite fire resistance.	21/12/12	Response received.	
88	Brookfield to review all installed and proposed HV equipment and report back if any equipment falls under the NEDeRS notices.	09/01/13	Response received.	
89	Confirm if the water tank can be adequately maintain and drained in this position.	14/01/13	Open.	
90	Confirm void detector above ductwork provides adequate protection.	14/01/13	Open.	
91	Confirms access hatch shall be accessible.	14/01/13	Open.	
92	Confirm that fire damper actuators highlights can be accessed on completion of the cold water and ceiling installation.	14/01/13	Open.	
93	Confirm void detector above ductwork provides adequate protection.	14/01/13	Open.	
94	Confirms access hatch shall be accessible after conduit and ceiling installation is complete.	15/01/13	Closed out.	
95	Confirm if any proposed HV equipment and report falls under the NEDeRS notice.	18/01/13	Response received.	
96	Confirm measures to address flaking paint in basement	18/01/13	Open.	
97	Dirty Utility Rooms in the Theatre Suites were not dampened (fire dampers).	22/01/13	Closed out.	
98	Lightning protection tape not fixed properly.	22/01/13	Closed out.	
99	Confirm that the external WIL0 pumps are suitable for an outdoor exposed location.	22/01/13	Closed out.	
100	Confirm the condition of the roof after the loaded skip has been removed.	29/01/13	Response received.	

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6.0 SUPERVISORS TESTS AND INSPECTIONS

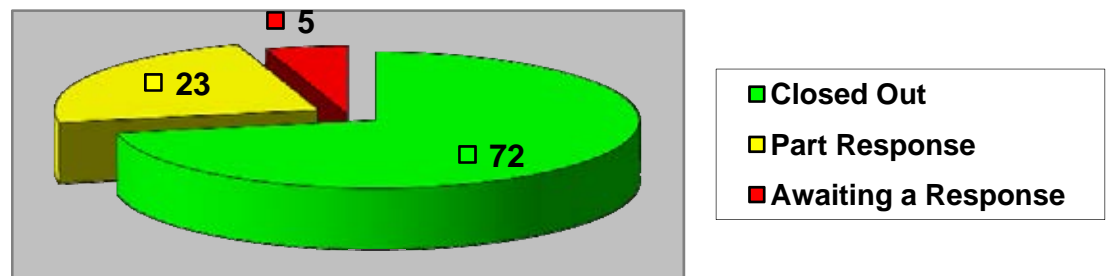
Tests not required	N/A
Tests required but not tested	Req
Tests required which has passed tests	Pass

Tests				
Ref	Title	To be Notified by	Status	Test Date
01-19	Various tests undertaken from the 9/07/2012 to the 23/11/2012.			
20	Drain air test – sub-slab drainage Zone D.	Brookfield	Pass	13/11/2012
21	85 Point Check to Partitions Level 1.	Brookfield	Pass	12/12/2012
22	85 Point Check to Partitions Level 2.	Brookfield	Pass	18/12/2012
23	Drain air test – sub-slab drainage Zones A & J.	Brookfield	Pass	08/01/2013
24	LV Busbars between the LV Switchboards in the Energy Centre			
25	85 Point Check to Partitions Level 0.	Brookfield	Pass	10/01/2013
26	Drain air test Zone J Pour 1	Brookfield	Pass	15/01/2013
27	Drain air test Zone J Pour 2	Brookfield	Pass	22/01/2013
28	Drain air test Zone B Pour 1.	Brookfield	Pass	30/01/2013
29	Drain air test Zone J Pour 3.	Brookfield	Further Test Required.	31/01/2013

Inspection not required	N/A
Inspection required	Req
Inspection complete	Pass

Inspections				
Ref	Title	To be Notified by	Status	Inspection Date
1	85 Point check to partitions Level 0, 1 and 2	Brookfield	Pass	10/01/2013 17/01/2013 23/01/2013 30/01/2013

7.0 DEFECTS NOTIFICATIONS ISSUED



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Item No.	Description	Date Requested	Comment	
Items 1 to 8 have been closed out				
09	Steel angle too short	27.09.12	Closed out.	
10	Bolt missing from angle plate.	27.09.12	Closed out.	
11	Sprinkler head at H.L. in plant room obstructed by fire rated ductwork in plant room.	02.10.12	Closed out.	
12	Motorised damper inaccessible due to adjacent duct in Plant Room.	02.10.12	Response received.	
13	Restricted access to ductwork access hatch in corridor adjacent to Zone H near Stair Core F	02.10.12	Response received.	
14	Ductwork obstructed by modular frame Zone H.	02.10.12	Response received.	
15	Part of stud, Level 2 Zone D cut away.	10.10.12	Closed out.	
16	Fixing to cladding visible. Confirm when this will be addressed	18.10.12	Response received.	
17	Confirm when cabling in various locations on level 2 are supported properly.	23.10.12	Closed out.	
18	Confirm when damper in duct is sealed properly in Level 3 Pant Room.	23.10.12	Closed out.	
19	Ductwork uncapped or falling off. Confirm when addressed. Various locations Level 2.	23.10.12	Closed out.	
20	Dead legs exceed 3m in various locations on Level 1 and 2. Confirm when this will be addressed	23.10.12	Response received.	
Items 21 to 27 have been closed out				
28	Compartmentalisation has restricted void detection coverage.	15.11.12	Response received.	
29	Compartmentalisation has restricted void detection coverage.	16.11.12	Response received.	
30	Confirm when void detection is fitted to the distribution cupboard on Level 1 gridline M-M1 to 6.1-7.	16.11.12	Closed out.	
31	Confirm when insulation is fitted to the double door in the 120min fire wall at grid ref A21 and AK.	19.11.12	Open	
32	Confirm when intumescent putty pads are fitted to circular back box.	10.01.13	Closed out.	
33	Confirm when missing insulation at high level has been replaced in room AAW-333.	14.01.13	Closed out.	
34	Confirm when missing insulation at high level has been replaced in Room EMC-099.	14.01.13	Closed out.	
35	Confirm when missing insulation at high level has been replaced in Room EMC-100.	14.01.13	Closed out.	
36	Insulation disturbed and not fitted properly. Confirm when these will be addressed.	14.01.13	Closed out.	
37	Confirm that the smoke detect has been fitted in accordance with BS5389 in room AAW-384. Eg, not be mounted within 500mm of any walls or partitions.	14.01.13	Response received.	
38	Fire rated ductwork did not penetrate into the neighbouring space greater than 150mm as detailed on the approved design drawings in level 2 theatres.	14.01.13	Open	
39	Insulation dislodged at high level due to electrical work. Confirm when remedied	16.01.13	Open	

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL
AND ENERGY CENTRE****SUPERVISOR'S REPORT NO. 22****JANUARY 2013**

**John Redmond
Capita Symonds
Technical Advisory Services**

The Beacon, 8th Floor, 176 St Vincent Street, Glasgow G2 5SG

	Signed	Date
Originated by	John Redmond	6th February 2013
Completed by	John Haggarty	6th February 2013

CAPITA SYMONDS

**NEW SOUTH GLASGOW HOSPITAL
ADULT AND CHILDREN'S HOSPITAL AND THE ENERGY CENTRE
NEC 3 SUPERVISORS REPORT NO. 23
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**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND
ENERGY CENTRE**

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ADULT AND CHILDRENS HOSPITAL AND ENERGY CENTRE**1.0 EXECUTIVE SUMMARY: ADULT & CHILDREN'S HOSPITAL**

Visits to the site during February 2013 indicated that the construction and procedures are progressing in a satisfactory manner in accordance with the Employer's Requirements.

Throughout, the standard and quality of the workmanship is generally good and operations are being carried out in an acceptable manner.

Brookfield continues to undertake their Quality Assurance systems on site with inspection and checklist documentation available for the ongoing construction activities. Over the period, we have closely liaised with Brookfield and witnessed drainage tests on the ground floor. We have also witnessed 85 point checks to partitions and these were carried out on Levels Level 0 and Level 1. The partition test highlighted a few failures which were rectified.

The standard of the work in the exemplar rooms in progress during this period is to a good industry standard. We shall continue to monitor the work planned for the coming month. The internal finishes workmanship standards are used as a benchmark for all room completions.

The quality of the external cladding, blockwork, brickwork and "STO" system is generally good. However we are aware that Brookfield has raised an NCR in relation to the poor standard of repairs to the cladding. We have also issued a Supervisor's Communication in relation to this issue.

Energy Centre final tidying up is still to be undertaken as reported in the last period. In respect of the piling records on ZUTEC, replacement of the current construction drawings by 'as built' drawings is still awaited.

On the Atrium Bridge all floors have now been cast. Deflection checks to date by the designers have proved satisfactory.

Concrete slab work to the ACH has continued apace during this period. Work is progressing on the 10th floor on the SE arm (Zone G), 9th floor on the SW arm (Zone D), and 7th floor on the NE and NW arms (Zones J and F respectively). On the Children's Hospital section progress at floors 3 and 4 in Zones B and C has continued during this period. All of the work generally appears to be of good quality throughout. Sub-slab drainage in Zones B, F, H and J has progressed during this period with pressure tests proving generally satisfactory.

Steelwork erection has commenced to the roof of the Children's Hospital in Zone A and workmanship appears of good quality to date. A few quality issues remain to be addressed from previous reports but these are not considered programme critical at this stage.

The M&E installation quality continues to be of a good standard and we are satisfied that these are being installed to a compliant standard.

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The M&E installation is now well advanced, with pre-fabricated sections and second and final fix being installed throughout the A&C areas. Large plant items continue to be installed in the Energy Centre and areas are now being commissioned looking towards partial completion in the coming months. Testing and witnessing of plant commissioning is now being carried out in the Energy Centre.

During our inspections with Brookfield we are highlighting any items that have raised concern and generally these are being addressed by the site team in advance of any defect notice being raised.

We raised Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 75 which highlighted potential access issues to high level sprinkler heads. Brookfield intimated that where there are potential access issues, every effort will be made to reach the heads when required. However they have stated that plant may have to be removed to gain access. The removal of plant to get access for servicing or maintenance after completion would be unacceptable.

In general terms we are satisfied that the installations continue to be installed to a compliant standard, and are of a good quality however we have noted that certain items this month that have raised concern. These have been raised with the Contractor as follows:-

Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 100, 101, 102, 103 and 104 were issued during February.

- Loaded skip placed on unprotected roof. Seeking confirmation that there is no damage.
- Seeking clarification how the underground pipes that are connected through the basement wall are pressure tested.
- Highlighted open ends in pipework.
- Seeking confirmation that the proposed onsite repairs/painting of damaged panels will have the same life expectancy of the factory produced painted finish.
- Seeking confirmation that access via the light fittings to the above ceiling void will not compromise the finished ceiling installation.

Supervisor's Notification of Defects (42.2) No 40, 41 and 42 were issued during February.

- Seeking confirmation that the AVSU recessed into the hazard room partition can achieve 30 minutes on the corridor side of the partition.
- Seeking confirmation when the insulation removed and displaced from a fire wall on Level 1 has been replaced.
- Seeking confirmation when restricted access to duct has been addressed.

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We continue to be assisted by the site teams and the NHS Project Team who produce an internal weekly report which assists us in resolving various construction, mechanical, electrical and quality issues. We continue to close out our Supervisor's Notifications and Defects when we have received satisfactory responses.

2.0 DESIGN COMPLIANCE CHECK

Currently nothing to report.

3.0 PROCEDURES REVIEW

3.1 Contractor's QA Procedures

Brookfield and their subcontractors have continued with their QA and checking and inspection procedures during this period. We are in discussion and liaison with Brookfield's Quality Manager on QA matters and we undertake regular reviews of their QA documentation.

We had concerns that the insulation removed and disturbed at high level was not being managed through the QA system. Following discussions with Brookfield they have confirmed that they will review the sign off check sheets to ensure that insulation is included in the hold point of the high level installation.

The standard of the work in the exemplar rooms in progress during this period is to good industry standard. We shall continue to monitor the work planned for the coming month. The internal finishes workmanship standards are used as a benchmark for all room completions.

We have brought to Brookfield's attention a few locations where there are damaged components (See photographs below). They have uploaded these onto their IDMS system to be resolved as part of their snagging rectification process.

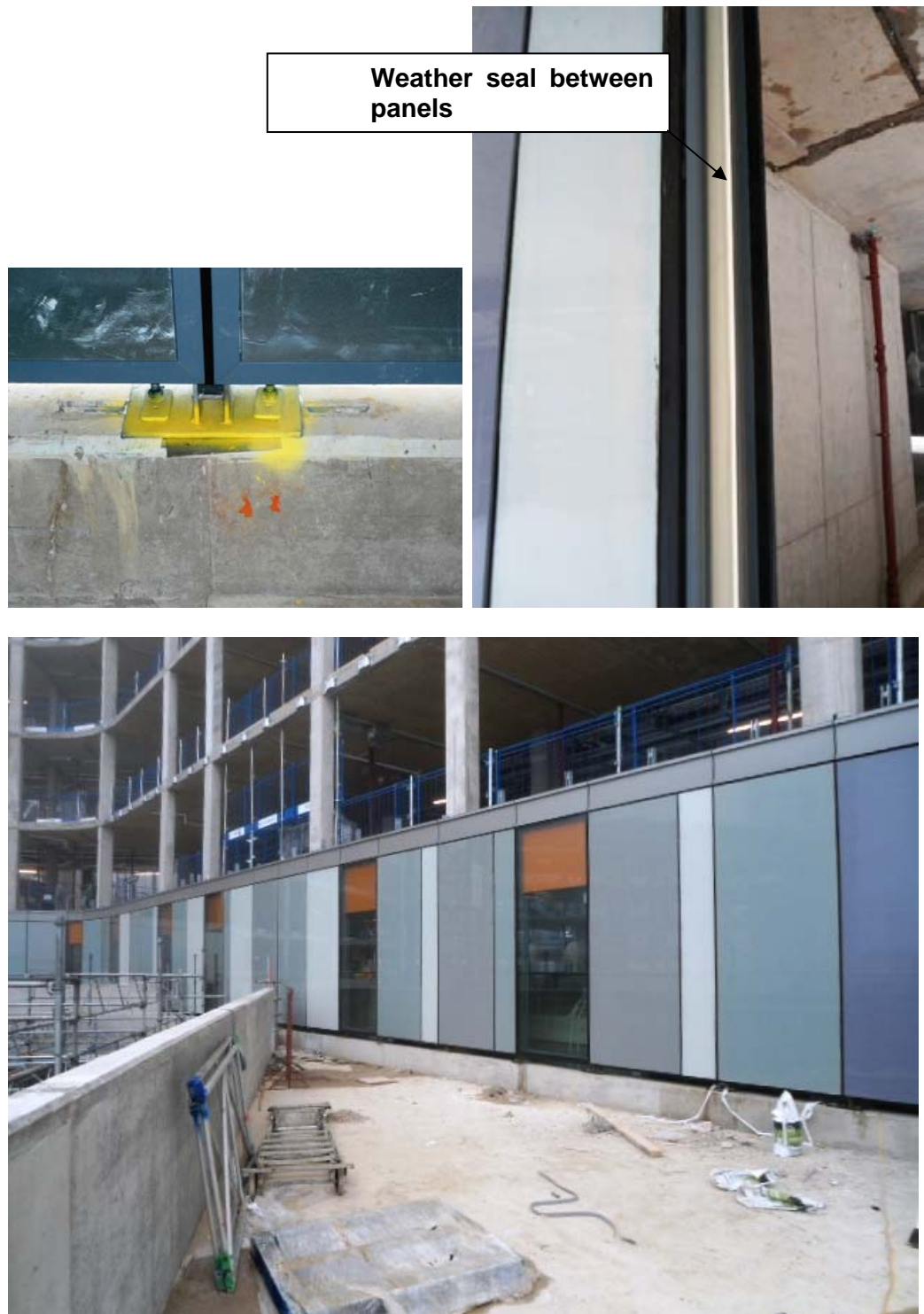


Level 2 Zone D plant area



Level 2 Zone G plant area

We carried out an inspection of the cladding and witnessed tightening of the bolts to the support brackets to the required torque of 60KN. The bolts are sprayed on completion as a QA check. Workmanship overall is of a good industry standard throughout.



An 85 point checks were carried out to a partitions formed on Level 0 Area 524 Level 1 Area 510 and a few failures were identified and rectified.

Level 1 Area 510 is shown on the following page.

NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL
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Quality Inspection Check List Partitions			Site: NSGH
Operative: MARTIN GILBERT			
Checked by: REDA			
Date: 20/2/13			
Action	P	N/A	How to check and to what standard
1 Partition set out correct dimension from grid line.	✓		Check dimension against drawing (+ or - 3mm over length of partition)
2 Partition parallel to gridline and straight.	✓		Measure @ min 2 points (Deviation band 15mm + or - 6mm)
3 Rooms set out square.	✓		Use 3, 4, 5 not a square (+ or - 3mm over length of partition)
4 Correct width floor track used.	✓		Check against detail (no deviation)
5 Floor track set out to correct junction detail.	✓		Check against detail (no deviation)
6 Two beads of mastic used to underside of floor track	✓		Lift section of track if not visible
7 Correct fixings used in floor track.	✓		Check against detail (no deviation)
8 Correct fixing centres used in floor track.	✓		Measure @ least 10 fixings (no deviation)
9 Correct number of fixings to each side of door openings.	✓		Check against detail (no deviation)
10 Head track set out plumb.	✓		Use laser level measure (5mm measured from top to bottom)
11 Head track set out to correct junction detail.	✓		Check against detail (no deviation)
12 Correct width of head track.	✓		Check against detail (no deviation)
13 Correct depth of head track.	✓		Check against detail (no deviation)
14 Correct thickness of fireboard.	✓		Check against detail (no deviation)
15 Two beads of mastic between head track and fireboard.	✓		Lift section of track if not visible (no deviation)
16 Correct fixings used to fix fireboard.	✓		Check against detail (no deviation)
17 Correct centres used to fix fireboard.	✓		Check against detail (no deviation)
18 Mastic to joints in fireboard.	✓		Check both sides @ least 6 joints (no deviation)
19 Two beads of mastic between fireboard and soffit.	✓		Lift section if not visible (no deviation)
20 Correct fixings use for head track.	✓		Check against detail (no deviation)
21 Correct fixing centres used.	✓		Measure @ least 10 fixings (no deviation from detail)
22 Picture frame bead of mastic at junction of fireboard/soffit both side	✓		Check both sides (no deviation)
23 Correct board used for infills in ribdeck.	✓		Check against detail (no deviation)
24 Correct number of boards used for infills.	✓		Check against detail (no deviation)
25 Correct insulation use in infills.	✓		Check against detail (no deviation)
26 Small holes in ribdeck filled with Rockwool.	✓		Visual check use torch (no deviation)
27 Bead of mastic around infill to ribdeck.	✓		Visual check use torch (no deviation)
28 Infill boards overlap fireboard by 7mm.	✓		Measure @ least 3 rib deck (no deviation)
29 Correct type of stud used, eg C stud, I stud.	✓		Check against detail (no deviation)
30 Correct gauge of stud.	✓		Check against detail (no deviation)
31 Studs cut to correct length for deflection.	✓		Stud length = a + 0 and - 5mm
32 Studs at correct centres (300-400-600mm)	✓		Measure top middle bottom (no deviation)
33 Doorway built to correct specification for weight of door.	✓		Check against detail (width -0 +5mm height -0 +10mm)
34 Lag of door head 250mm minimum.	✓		Measure both legs (no deviation)
35 Door head mitred.	✓		Visual check (no deviation)
36 Floor track returns up stud 300mm.	✓		Measure both legs (no deviation)
37 Correct number of screw in door stud.	✓		Check against detail (no deviation)
38 Timber inserted in door stud to correct	✓		Visual check (no deviation)
39 Timber in head of double door.	✓		Visual check (no deviation)
40 Door stud cleaned in head track.	✓		Visual check (no deviation)
41 Screws at correct centres in door stud.	✓		Measure both legs (no deviation)
42 Door/screen formed in right location.	✓		Check against drawing (no deviation)
43 Door/screen formed to correct size.	✓		Check against drawing (width -0 +5mm height -0 +10mm)
44 Door/screen formed to correct height.	✓		Check against drawing (-0 +10 mm)
45 Screen cill at right height.	✓		Check against drawing (no deviation)
46 Mastic applied to abutment studs.	✓		Lift section if not visible (no deviation)
47 Correct fixings to abutment studs.	✓		Visual check (no deviation)
48 Fixings at correct centres to abutment studs.	✓		Measure all fixings to abutment (no deviation)
49 Flat plate fitted at deflection head.	✓		Check flat length visual (no deviation)
50 Flat plate at correct distance from headtrack.	✓		Check against detail (if 15mm deflection then top of flat plate 15mm from bottom of headtrack no deviation)
51 Flat plate screwed to all studs.	✓		Visual check (no deviation)
52 Bead of mastic at junction of floortrack.	✓		Visual check (no deviation)
53 Correct type of board.	✓		Check against detail & back of board (can only be replaced with minimum performance equal or better)
54 Correct thickness of board.	✓		Visual against detail (no deviation)
55 Correct number of layers.	✓		Visual against detail (no deviation)
56 Screws fixed no more than 50mm from corners of boards.	✓		Measure top to bottom (no deviation)
57 Screws fixed at Maximum 300mm centres.	✓		Visual plus measure on any that look over (no deviation)
58 Screws around door openings maximum 200mm centres.	✓		all not at 300 centres
59 Screws around glazed screens maximum 200mm centres.	✓		Measure complete door/opening (no deviation)
60 Screws to external corners at 200mm centres.	✓		Measure complete door/opening (no deviation)
61 Screws not breaking paper.	✓		Measure top to bottom (no deviation)
62 Screws not proud of board.	✓		Visual check maximum deviation 10% of screws breaking paper (1.3 x 2.7 board = 39 screws 10% = 4 screws)
63 Flat plate at cross joint of outer layer of board.	✓		Visual check (no deviation)
64 Boards not too short at deflection head.	✓		Lift section if not visible (no deviation)
65 Boards not too long at deflection head.	✓		10 NO OVER 1mm 15mm 5
66 Boards screwed to flat plate at deflection head.	✓		extra joints not flat plate 3mm
67 Screws to flat plates at correct centres.	✓		Use pre cut gauge or tape + 5mm
68 Boards to abutments cut the right length.	✓		Use pre cut gauge or tape + 6mm
69 Joints to double layer staggered vertically.	✓		Visual check (no deviation)
70 Joints to double layer staggered horizontally.	✓		Use pre cut gauge check both sides
71 Abutment details built correctly.	✓		Lift section if not visible
72 All required studs for 2nd fix fixed in place.	✓		Lift section if not visible
73 2nd fix board joints staggered by 400mm from 1st fix side.	✓		Check against detail
74 Board cut maximum 10mm larger than service penetrations	✓		Visual check of pick up studs
75 Sockets cut to correct size.	✓		
76 Transoms fitted metal to metal on penetrations over 160mm.	✓		
77 Transoms lined with plasterboard on fire rated partitions.	✓		
78 Rockwool slab installed around penetrations over 160mm.	✓		
79 Insulation fills the void between studs from top to bottom.	✓		
80 Correct spacing of stick pins to support insulation	✓		2 at top equally spaced, then 1 in centre @ 1.2m maximum
81 Rockwool slab installed around electrical sockets.	✓		200mm around socket to maintain acoustic and fire rating
82 Correct noggin fitted.	✓		Will it support the weight of item to be suspended.
83 Noggins fitted flush to studs.	✓		If C studs has the noggin been cut with groove to fit stud.
84 Correct number of fixings in noggins	✓		Enough to support the services fixed prior to boarding.
85 Noggins set out in correct position.	✓		Set out either off drawing or position marked on partition.
Equipment required to carry out inspection			
1. Drawings (construction full size)	Checks		
2. Specification	Defects		
3. Details (Relevant to inspection)	Correct		
4. Tape measure (laser measure)	Total		
5. Laser level or standard level			
6. Access equipment (podium)			
7. Torch			
8. Pre cut gauge (deflection head)			
9. Screw gun (battery)			

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Brookfield has provided us with Sample Testing Methodology for the positive pressure test to be carried out in selected areas. Drawings have also been issued indicating areas to be tested. The client is to confirm that they are in agreement with the areas to be tested. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 22).

3.2 Early Warnings

Currently nothing to report.

3.3 Board Equipment Installation, Testing and Commissioning

Currently nothing to report.

3.4 Non Conformance Reports

We are aware of a number and types of NCR's raised and are being kept up to date as to their status.

4.0 CONSTRUCTION REVIEW

4.1 Visits to the Works

Site inspections were carried out by the NEC3 Supervisors on the 4rd, 5th, 6th, 7th, 8th, 11th, 12th, 13th, 14th, 15th, 18th, 19th, 20th, 21st, 22nd, 25th, 26^h, 27th and 28th February 2013.

4.2 Elements of the Works available for inspection

- Energy Centre – structurally complete.
- Main building – Cores A, B, C, D, E, F, G, K and L internally, Zones A, B, D, E, G and H ground floor slabs, Zones E and F basement area, ground floor suspended slabs, 1st and 2nd floor slabs. Zones G and H 4th to 9th floor slabs. Zones E, F and J to 5th floor slabs, and to the 7th floor in Zone D. Zones A, B, D and G roof area.
- Zones B, E, H and J below slab drainage.
- External Drainage – specific sections of installation where access is possible.
- Tunnels between ACH and Labs, and Cores C to F.
- Structural steelwork to Atrium (limited due to access).
- Structural steelwork to roof at Zones A, D and G.
- Dual carriageway to Renfrew Road, and carriageway from Hardgate Road.
- Internal Partitions.
- M&E modular units.
- Roofing.
- Cladding.
- Windows.
- Sto system.

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- Brickwork Courtyard 5 and south east elevation.
- Brickwork/blockwork south east elevations.

4.3 Observations from February 2013 Inspections

The visual inspections of the work carried out to date indicate that the works are generally being carried out to a satisfactory standard. We continue to be assisted by the site teams and the NHS Project Team in resolving various construction, mechanical, electrical, and quality issues. We continue to close out our Supervisor's Notification and Defects when we have received satisfactory responses. Listed below are observations closed out, still to be closed and those raised following site visits in February y 2013.

4.3.1 Structural

In respect of the piling records on ZUTEC the current construction drawings are still be replaced by 'as built' drawings.

Quality on all concrete works has generally appeared good but the following points remain outstanding from previous reports and we continue to monitor these:-

- Finish to ground floor in Zone F and 1st floor in Zone J.
- 20mm level change detail in ground, 1st, 2nd and 3rd floor slabs at Zones E and J – remedial work on these areas has been progressing over the last period.
- Cracks to the soffit of the suspended ground floor slab between Cores A, B, C and D being kept under review.
- Spalling to a couple of parapet walls at the top of Core G.

The roof deck of the Atrium Bridge has now been cast with lightweight concrete being used. Prior to this, some steel members had been stiffened very locally by the addition of small steel sections and fuller details of the philosophy behind the designer deliberations was provided together with an updated sequence for casting of the concrete floors. Further to final checks Brookfield obtained notification from designers WSP that they were satisfied that casting of the top deck could commence. They have requested details of deflection after the 1st pour prior to work on other floors. And at time of writing this was still awaited. Repairs to damage to the fire protection coating (shop applied) on some sections remains outstanding and will be addressed when access is easier. Elsewhere ancillary steelwork around cores and at stairwells has progressed, and in occasional places some minor remedial attention to bolts and cleats is required. Steelwork to the roof of the Children's Hospital section (Zone A) appears to be progressing satisfactorily from a quality perspective.

Concrete slab work to the ACH has continued apace during the period. Work is progressing on the 10th floor on the SE arm (Zone G), 9th floor on the SW arm (Zone D), and 7th floor on the NE and NW arms (Zones J and F respectively). On the Children's Hospital section progress at floors 3 and 4 in Zones B and C

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has continued during the period. All of the work generally appears to be of good quality throughout.

Sub-slab drainage in Zones B, E, H and J has progressed during the period with pressure tests proving generally satisfactory. One failure occurred in Zone B and with a CCTV check indicating a broken pipe the concrete slab will need to be broken up to allow an effective repair to be carried out. Some rodding demonstration remains to be carried out when position of scaffolding permits. A suitable testing solution is required for below ground drainage where it runs through the basement walls and connects to plumbing pipes without access panels.

Blockwork has commenced in the basement areas and workmanship appears of good quality to date.

A few quality issues remain to be addressed from previous reports but these are not considered programme critical at this stage.

We have asked Brookfield to confirm if the attached hole without bolts to the steelwork bridge connections reflects the design intent and a response to this is still awaited (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 57.

We have reviewed structural information from received from Brookfield. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 86 is closed out.

4.3.2 Energy Centre

Steelwork snagging appears to have been addressed, but much tidying up remains outstanding.

4.3.3 Drainage

Below slab drainage test records continue to be kept by Brookfield as part of their QA procedures and some tests were independently witnessed by the NEC3 Supervisor team. This has included sections in Zones H and J during the period. The failed pipe section in Zone B noted in the last period has been repaired. We raised a question of testing sections of pipework connecting through the basement walls which do not have access panels. This has been addressed.

The drainage lines tested were as follows:

- Zone B Pour 2
- Zone E Pour 9

We asked Brookfield to indicate how they intend to carry out pressure tests on the sections of underground pipe that connect through/into the basement wall. Brookfield confirmed that pressure testing will be undertaken using the same

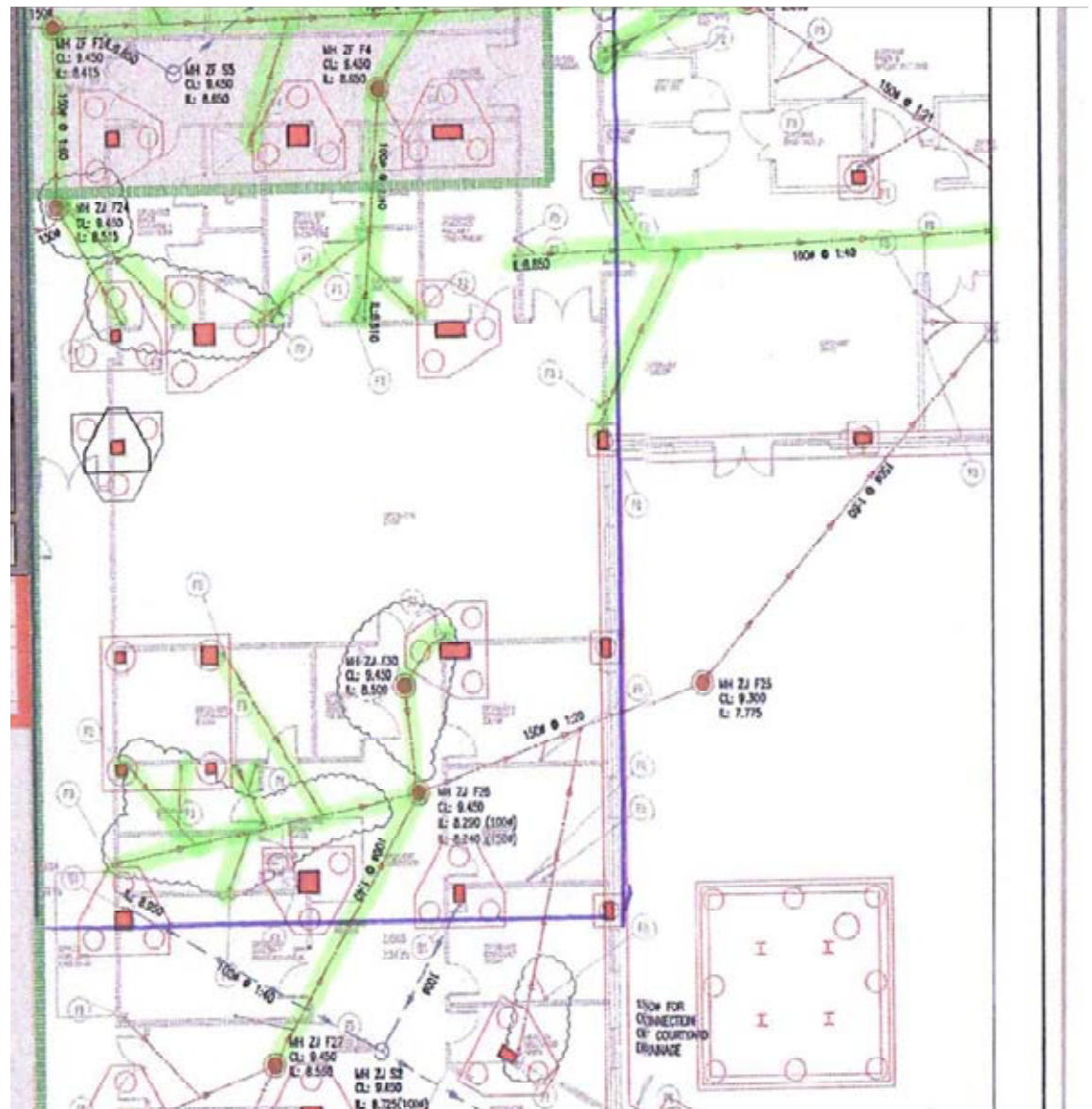
NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND ENERGY CENTRE

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procedure carried out as with all other underground drainage tests with open end in basement capped and manhole capped and tested. Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 101 is closed out.

Below is an example showing the marked up drawing for Zone J Pour 3.



4.3.4 Dual Carriageway to Renfrew Road. (A&C)

The defects previously identified will be reviewed nearer to completion when they will be rectified.

4.3.5 Pipework.

Installation of hot, cold, heating, & chilled water pipework in the A&C hospital is progressing at pace and in general is being installed to a good standard. The contractor should be reminded to maintain the good standards set in 2012 and that open ends on pipework should be sealed, to prevent the ingress of moisture and subsequent corrosion that may develop.

We have previously identified locations where the dead legs on hot water pipe runs are excessive and greater than the specified distance of 3m. We will continue to monitor this issue with the Contractor to review and identify all areas and to ensure this is not repeated in the future installations.

The majority of piping systems are being capped off to isolate systems from exposure to the elements and any foreign material. However there are numerous locations in Level 2 ventilation plantroom where open ends have been left on the main heating and chilled water pipework. We will continue to monitor this in the coming month.

We have asked Brookfield to confirm when pipework dead leg which is greater than 3 metres has been altered. This is to comply with signed off design drawings. See Supervisor's Notification of Defect (CI 42.2) No 76

We have asked Brookfield to confirm the flow of water from the sprinkler head highlighted is not restricted by the adjacent section of unistrut. Brookfield has confirmed that the sprinkler head deflector appears to be under the unistrut and that the Sprinkler contractor will check this when they are installing the under services protection. If the head is shielded by the unistrut, they will turn the head pendant. Awaiting photograph showing completed work. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 74.





High level sprinkler heads appear inaccessible in a number of areas. We have asked Brookfield to confirm the access regime for sprinkler head maintenance / replacement. Brookfield intimated that this is not unusual in a plant room which is congested. However maintenance is obviously required. Note that replacement of heads should only be required after activation due to fire or damage. Air tests have been carried out on the installation so far. Atmosphere in the plant room is dry / no corrosion likely so heads should last 20 years without issue based on previous installations. They shall be re-tested at 10 year intervals. Notwithstanding any of this, where there are potential access issues, every effort will be made to reach the heads when required – if plant has to be removed to do so, then it will be removed. The removal of plant to get access for servicing or maintenance would be unacceptable. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 75.

A Water tank appears to be built directly onto the floor slab. We asked Brookfield to confirm if the water tank can be adequately maintained and drained in this position.

Brookfield has informed us that the Balmoral water tank for the Sprinkler System is designed to sit directly on the floor slabs. The relevant standard that these tanks are designed to is BS EN 13280 (2001)

Mercury confirms that the tank can be adequately maintained and drained in this position. The 50mm high drain off is to a sump in the pump room and any residual water in the base sections would be wet vacuumed. There are no fittings or connections on the underside of the tank.

In response to Brookfield's comments we believe that to fully drain the tank there is a requirement to enter a confined space. Also, due to the construction of the

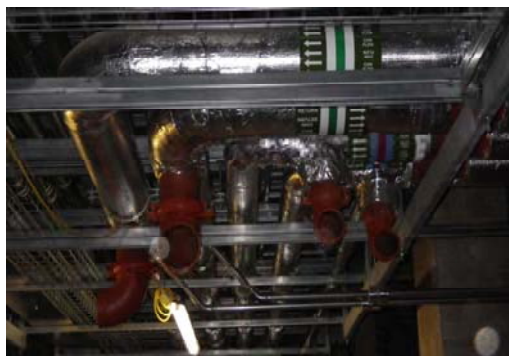
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tank there would be a need to wet vac each 1m x 1m pod to fully drain the tank as the flanges are internal. We would seek confirmation that these requirements has gone through a risk assessment and has been signed off by the CDM Assessor. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 89.



There are open ended pipework in the plant room on Level 3 Zone D. Consequently we have raised Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 102 Brookfield has covered the open ended pipes and provided photographic evidence. This Communication is now closed out.



Pipes uncovered.



Pipes covered

4.3.6 Ventilation

The installation of ventilation ductwork in the A&C hospital is progressing well, and has been installed to a good standard. It appears that any open ends are being sealed but we have noted some exceptions and these have been highlighted to the contractor during our weekly site inspections. The level of damage occurring during the delivery process is much reduced from that previously reported, however the contractor should be reminded that care should be taken to avoid such damage occurring.

However there have been instances of ductwork and other ventilation kit being directly stored on the concrete slab and exposed to the elements in some areas, which is unacceptable.

Edge protection has not been installed on Level 3, plant area, where ductwork penetrates from below and is capped through an upstand. This issue has been discussed with Brookfield on 01/02/2013 and we will continue to monitor this.

Conduit which is restricting accesses to the duct access hatch in THE-158, Theatre 3 Anaesthetic Room has been 'kinked' to avoid the hatch. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 71 is closed out.

The electrical containment restricting access to duct access hatch adjacent to riser THE-237. This has been re-positioned to allow better access. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 72 is closed out.

The electrical containment appears to be restricting access to duct access hatch Adjacent to riser THE-2127. We have asked Brookfield to confirm that the duct hatch can be fully accessed without issue when the finished ceiling is in place. Brookfield has confirmed that snagging is due to commence in December and they will review this when complete. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 73



Following an inspection on site we have asked Brookfield to confirm that the access hatch within ductwork in room EMC-062 shall still be accessible after the

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medical gases and ceiling installation is complete. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 91.

We observed that ductwork penetrating the walls of the Dirty Utility Rooms in the Theatre Suites were not dampened (fire dampers). Consequently we have raised Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 97 asking for clarification. This was observed in many Dirty Utility Rooms. We noted that ductwork was insulated. Following discussions with Brookfield confirmation has been received that the insulated ductwork is supply ductwork which is fire rated underneath the insulation. Fire dampers are installed in the slab above (in the Plant room) to all the ductwork dropping into the Dirty Utilities. The ductwork from then on is Fire Rated within the Dirty Utility and just beyond the room boundary. Dampers are fitted where any ductwork passes back through the Dirty Utility wall from supply or extract legs. Mercury and BM have reviewed on site to ensure installation is correct in line with strategy. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 97 is closed out.

4.3.7 Insulation

The thermal insulation installation to the pre-fabricated sections of pipework is being completed off site, before delivery.

4.3.8 Pressure testing

Pressure testing of the modular pipework sections on a zone by zone or area by area basis is to be programmed through the commissioning meetings.

We await further information from Brookfield on their programme and methodology.

4.3.9 Medical Gases

Medical Gas testing has started on site and we will monitor and witness as required. We have asked Brookfield to confirm that there are sufficient supports to the medical gases and that they are at the appropriate spacing.

4.3.10 Energy Centre

The installation for the standby generators is progressing to completion, and the installation is to a good industry standard. Generator on site testing has been successfully completed for the A-side generators.

We have witnessed various tests on the HV switchgear and this is now connected and energised.

The second batch of generators has been delivered and positioned on site. Test dates for these are awaited.

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We still await feedback on the Busbar testing that was carried out on the Busbar network linking switchboards 7A to 8A and 7B to 8B. Mark Larden of Schneider Switchgear Service was to refer the test results to Schneider electric for further comment.

4.3.11 Trunking

Cable trunking is being installed as part of the offsite fabricated sections that are being installed in the A&C hospital and in general the installation is to a good industry standard.

4.3.12 Cable Trays

Cable trays are being installed as part of the offsite fabricated sections that are being installed in the A&C hospital and in general the installation is to a good industry standard.

4.3.13 Cabling

Modular wiring looms are now being installed as part of the offsite fabricated assemblies and carefully tied up for protection and installation is of a good standard.

Void detection appears inadequate and inaccessible due to plasterboard ceiling. Brookfield has advised us Scotshield have carried out and continue to carry out site surveys regarding detection coverage. Currently they have identified additional heads to be installed – Mercury is awaiting formal report. They understand that Scotshield continue to review installation on all floors to ensure sufficient coverage but this is work in progress. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 77



The junction box appears to be inaccessible due to the ceiling installation. We have asked Brookfield to confirm if this is the case. Brookfield has confirmed that the grille shown adjacent to CCW 061 is in fact not connected to the ductwork system and is just a transfer grille (CVG). It can therefore be used as an access hatch to get to the junction box. However the rest of the corridor will be reviewed to check that there is sufficient access. This area has been off limits

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due to flooring works. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 79).



We have been informed that there are a few rooms which have boxes back to back and that these cannot be altered.

We have asked Brookfield to identify these on a marked up drawing/s and provide confirmation from Acoustic Logic that they are satisfied there will be no adverse affect on the acoustic performance of the partitions.

We have also asked Brookfield to provide test certification that the back to back boxes with putty pads will provide the requisite fire resistance.

Brookfield's fit out team are of the opinion that all back to back boxes have been omitted following the recent surveys on site. To confirm this, they intend to carry out a further survey of GF areas. Still awaiting this information. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 87).

4.3.14 Conduit

Solid conduit installations are well progressed in the areas being fitted out and are to a good industry standard.

4.3.15 Void Detection

Mercury is awaiting details from Scotshield which will form part of Brookfield's future response (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 65).

Hoist cabling in CCW 051 is inadequately supported. Brookfield confirmed this has been clipped and a photograph will follow as soon as they get access back into the area. The detail shown will be that for the rest of the hoist cabling. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 78).

There appears to be restrictive space for the void detection. We have asked Brookfield to confirm if void detector above the ductwork is providing adequate protection. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 90).



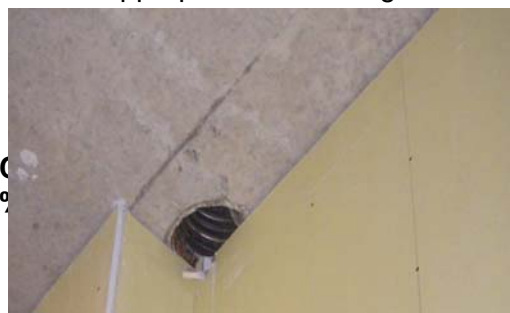
We have asked Brookfield to confirm that the void detector above the ductwork in room AAW-381 is providing adequate protection. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 93).

4.3.16 Intake Sub Station

Brookfield has confirmed that there are still a number of cables to be pulled through to the Substation. These will not be installed in place until 1st Quarter of 2013, at which point all other works will be resolved. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 30 & 45).

4.3.17 Partitions

We noted on Level 2 that the drainage outlet in the ceiling was restricted and brought this to Brookfield's attention. They have confirmed that the Partition will need to be cut out & boxed around the aperture once pipework is installed to ensure appropriate fire rating is achieved. We shall continue to monitor this during future visit to the site.



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During a visit to site we noted that a vertical stud in the corner of room STW-082 had not been fitted properly. Brookfield took the appropriate action and refitted the stud and adjusted the patrisis and first fix electrical work.



We also noted that the vertical stud in room STW-015 had not been fitted and sealed against the concrete column adequately. Brookfield addressed this by cladding the column and provided photographic evidence.



Vertical stud not tight to the column.



Solution column encased.

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A joint inspections was carried out with Brookfield on Level 2 and we noted that insulation had fallen out of the partition at high level in Zone E. Brookfield recorded this and confirmed that this would be addressed.



During a joint inspection with Brookfield we noted that the Rain Water Outlet in Corridor 2-529 (zone J) clashed with module services. Brookfield confirmed that the module services would be altered to enable the connection.



We noted that there was insulation missing from the upper sections of partitions in riser opposite Core B drawing area 528 and area 527. Brookfield is aware of these and will ensure that these are addressed prior to second boarding. See photos below.



There is no insulation at the junction of the window frame and the end of the partition in room AAW-304 Level 0. We have asked Brookfield to confirm when this has been addressed. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 81).

During a joint inspection with Brookfield they made us aware that partitions affected by mildew are being stripped as the building is made watertight.



Boards affected by mildew

4.3.18 Roofs

No roof work has been carried out during this period.

4.3.19 Cladding/Courtyards

Finished Courtyard 3

Cladding is progressing on the south and east elevations and is substantially complete courtyards 2, 3, & 4 and south elevation plant room 21 & 31. The "STO" system is complete in courtyard 5, advanced in courtyard 3 and 4 and ongoing in courtyard 2 and the south and east elevation. The standard and quality of the work is generally to a good industry standard.

A loaded skip was placed on the unprotected roof on level 3 resulting in potential damage to the roof. Brookfield confirmed that the skip has been removed and an inspection of the roof is to be carried out. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 100).

Attempts to carry out repairs to damaged sections of panel cladding in Courtyards 4 & 5 have proved unsuccessful. This has been recorded by Brookfield and we are aware that there are plans to paint the entire surfaces of the damaged panels. Consequently we seek confirmation from the manufacturer that the onsite repair/painting of the panels will have the same life expectancy as the factory produced painted finish. We have also asked Brookfield to provide details of the methodology to carry out on site painting. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 103).



Unsuccessful repairs to cladding in Courtyard 5.



Unsuccessful repairs to cladding in Courtyard 4.



Unsuccessful repairs to cladding in Courtyard 3.

There are also unsuccessful repairs to cladding above Courtyard 3. See photograph below.



4.3.20 Windows

Windows are progressing on the external elevations and courtyards in accordance with the specifications.

4.3.21 Water Prevention into Building

Water ingress as a result of rain penetration through walls and soffits were evident. We have asked Brookfield to advise on proposals for preventing rain penetration and QA procedure for remedial to water damaged finished/stored work elements. Brookfield confirmed that all the areas identified in our communication have been resolved and remedial action taken with the installation of SFS, EPDM's fitted and Windows installed. We are however awaiting for their QA information. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 46

4.3.22 Fire protection

We asked Brookfield to provide dry film thickness results for the atrium steel in support of the fire proof certification. These must be for both the factory applied intumescent coating and the coating being applied on site. Brookfield has confirmed that they have been in communication with JD Pierce their sub contractor on the Steelwork and have received the following information;-

Intumescent paint logs for various components.
Steel Certs
Welding certs

Brookfield confirmed that they will review these and will follow up with a further response. However following Brookfield's response to Supervisor's Communication No 86, they have intimated that there are further remedial works which will alter the records previously obtained. Once these are re-issued Brookfield will review prior to forward to us. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 54).

4.3.23 Structural Frame System

We noted that insulation has not been fitted inside the vertical SFS members at the right hand side of the right hand window in Room EMC-133 Seminar and Training Centre. There was also insulation poorly fitted with gaps. This was inspected and is now closed out. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 67).



No insulation in sfs.



Gaps between insulation.

4.3.24 Doors

No door frames offered up for inspection this period.

4.3.25 Equipment

The Energy Networks Association has issued a notice under the National Equipment Defect Reporting Scheme (NEDeRS). The relevant notice is NEDeRS 2013/0717/00 (NEW) relating to Schneider Electrical RE2c/MU2 RMU HV equipment.

We asked Brookfield to review all installed and proposed HV equipment and report back if any equipment falls under the NEDeRS notices.

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Brookfield has been informed by Mercury that Schnider have confirmed these NEDER Notifications refer to equipment that failed in 2003. Mercury has had further discussions with Schnieder and has confirmed that the units that have been supplied to Southern General are not affected by these. The Units that are on site have been manufactured since 2010 onwards. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 88 and 95 is closed out.

4.3.26 Ducting

We have asked Brookfield to confirm that the fire damper actuator highlights in room EMC-011 can be accessed on completion of the cold water and ceiling installation. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 92).

**4.3.27 Ceilings**

We noted that there is flaking paintwork on the soffit of the ground floor slab in the basement area between Cores A, B, C , D. We have asked Brookfield to confirm remedial measures to address this and when it will be carried out. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 96).



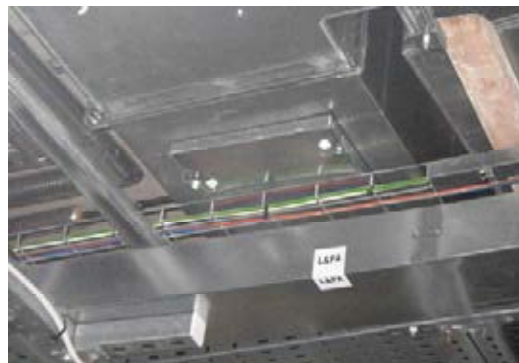
Generally access to the above ceiling services is now restricted due to the plasterboard ceiling installation. It is understood that access to any above ceiling services shall be accessed via the lighting installation. We have asked for confirmation this maintenance regimen provides safe access to all above ceiling services without compromising the finished ceiling installation. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 104).

4.4 Defects from October 2012 Inspections.

We raised a Defect Notification for a Steel angle plate which is too short on Level 3 Zone G. Brookfield has provided a photograph of the completed work. Consequently Supervisor's Notification of Defect (CI 42.2) No 09 is closed out.



Duct access hatch blocked by chilled water pipework at ground floor area around DB cupboard AAW190. See photograph below. Contractor to confirm when this will be rectified.



Motorised damper inaccessible due to adjacent duct in Plant Room. Brookfield is investigating this and will report. (See Supervisor's Notification of Defect (CI 42.2) No 12).

Restricted access to ductwork access hatch in corridor adjacent to Zone H near Stair Core F. Brookfield has intimated that the hatch is not restricted and access can readily be gained. We revisited the hatch and are still of the opinion that access to the hatch is not feasible as can be seen in Mercury's photograph which shows an attempt to access the hatch without the ceilings. (See Supervisor's Notification of Defect (CI 42.2) No 13).



Ductwork obstructed by modular frame Zone H. Brookfield is investigating this and will report (See Supervisor's Notification of Defect (CI 42.2) No 14

One of the fixings to the cladding is visible beneath the capping pieces and the cladding is indented. Brookfield has confirmed that the vertical 'top hat' flashing is still to be installed and this will cover the fixing and the indent. A joint inspection will be arranged between ourselves and Brookfield to inspect the 'top hat'. (See Supervisor's Notification of Defect (CI 42.2) No 16).



We noted a dead leg which exceeded 3m on Level 2, THE-126 Dirty UT and Level 1, Zone D CCW-201 Staff Lounge. Consequently we raised Supervisor's Notification of Defect (CI 42.2) No 20. We revisited the room and noted that adjustments have been made, consequently this is now closed out.

Due to compartmentalisation of the void area by the introduction of deep ductwork/partitions there is inadequate void protection. Scotshield has surveyed

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the area and void detection has been installed to provide the required coverage due to deep ductwork. Consequently Supervisor's Notification of Defect (CI 42.2) No 28 & 29 are closed out.

The area of plasterboard above and to the left hand side of the double door in at grid ref AL.1 and AK which did not have insulation has now been addressed. Consequently Supervisor's Notification of Defect (CI 42.2) No 31 is closed out.



Before



After

BS5389 recommends that smoke detectors should not be mounted within 500mm of any walls or partitions. This does not appear to have been achieved in room AAW-384. We asked Brookfield to confirm when this has been remedied.

Brookfield has responded stating that BS5839 does recommend smoke detectors to be more than 500mm away from any obstruction, however, in some instances where the room overall size is less than 1100mm from wall to wall it is not possible to achieve this. The fire risk assessment will require that these rooms are to be protected such as electrical riser cupboards as shown in the photograph with the detector being centralized in the room. These rooms are protected but noted as a variation to BS5839 in the Fire Alarm Certificate.

We have reviewed BS5839 and it states that where 500mm clearance cannot be achieved, then the smoke detector should be located to as close to the centre of the room as possible, see extract from BS583 below.

g) Heat and smoke detectors should not be mounted within 500 mm of any walls, partitions or obstructions to flow of smoke and hot gases, such as structural beams and duct work, where the obstructions are greater than 250 mm in depth. (This recommendation does not apply to detectors within rooms opening into escape routes in a Category L3 system). NOTE 6 If an

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enclosed area has no horizontal dimension greater than one metre, it is impossible to comply with this recommendation; this should not be regarded as a variation, but the detector should be sited as close as possible to the centre of the space/ 500mm away from the wall.

At this time the smoke detector isn't in the centre of the room. Consequently this issue still requires to be resolved. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 37.



We noted during a joint inspection with Brookfield that insulation has been disturbed behind the boards at high level as a result of electrical installation work. If this is not corrected the acoustic quality of the partition adversely affected. We have asked Brookfield to confirm when this has been remedied. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 39).



An AVSU penetration has been incorporated into a hazard room partition on the corridor side of room CCW-019 Disposal Hold in accordance with drawing AST-XX-XX-DT-252-088. This does not show Kanuf board behind the AVSU. HTM 05-02 Table A1 states that the wall should have the integrity of 30 minutes and the method of exposure is to be each side separately. We asked Brookfield to confirm that the section of partition housing the AVSU can achieve 30 minute.

We were shown a location elsewhere on level 1 which was constructed with a back board providing fire protection on the corridor side. However there was an

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AVSU on level 2 which did not have a back board. This was brought to Brookfield's attention and corrected. (See Supervisor's Notification of Defect (CI 42.2) No 40).



AVSU corridor side of room CCW-019

Insulation has been removed or displaced at high level where conduits are fitted within the partition. If not addressed this would reduce the acoustic performance of the partition and allow the transfer of heat across the cavity. We have asked Brookfield to confirm when this has been addressed so that it can be inspected before second boarding is complete. (See Supervisor's Notification of Defect (CI 42.2) No 41).



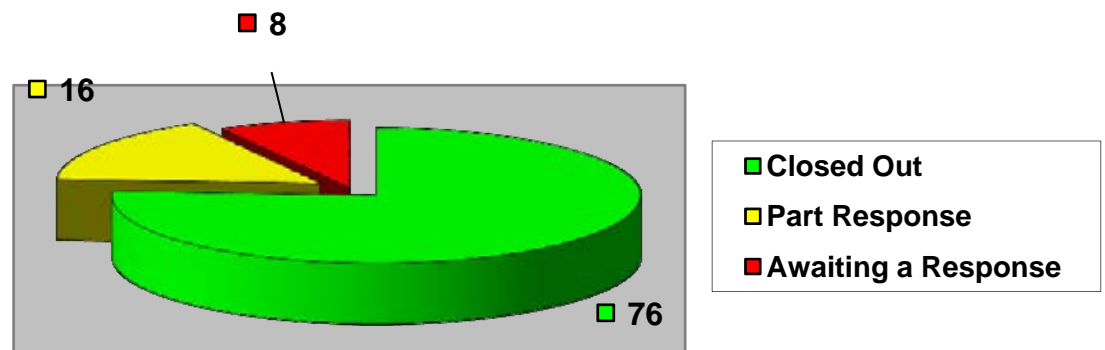
We noted that there was restrictive access to the ducting on Level 2 Zone D Corridor THE-328. We have asked Brookfield to confirm when this has been

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addressed. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 42).



5.0 INFORMATION REQUIRED



NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND ENERGY CENTRE

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Item No.	Description	Date Requested	Comment	
Items 1 to 21 have been closed out				
22	Brookfield to provide us with their Air Test Procedures and Programme.	03/07/12	Response received.	
Items 23 to 29 have been closed out				
30	Confirm when cabling is complete, water pumped out and batteries removed.	10/08/12	Response received.	
Items 31 to 44 have been closed out				
45	See Supervisor's Communication No 30.	18/09/12	Response received.	
46	Advise on proposals for preventing rain penetration	0/09/12	Response received.	
Items 48 to 53 have been closed out				
54	Provide dry film thickness results for factory applied intumescent and remedial repairs on site.	12/10/12	Response received.	
55	Provide air method statement for air leakage tests.	12/10/12	Closed out.	
56	Confirm remedial action to damaged steel framework.	15/10/12	Closed out.	
57	Please confirm if the attached holes without bolts to the steelwork bridge connections reflects the design intent.	16/10/12	Response received.	
Items 58 to 64 have been closed out				
65	Confirm philosophy for void detection on Level 1 Gridline I-H & 1.1-2.1.	12/11/12	Response received.	
66	Back to back sockets do not comply with HTM 08-1 & Appendix S	22/11/12	Closed out.	
67	Vertical SFS members at the right hand side of the right hand window in Room EMC-133 do not have insulation.	26/11/12	Closed out.	
68	Various issues re the Air Pressure test for the envelope.	26/11/12	Closed out.	
69	Back to back sockets in room AAW-297 require to be repositioned.	30/11/12	Closed out.	
70	Sprinkler pipe work appears to be restricting the removal of the home run box cover	30/11/12	Closed out.	
71	Conduit run appears to be restricting access to duct access hatch in room THE-158, Theatre 3 Anaesthetic Room	0/11/12	Closed out.	
72	Electrical containment appears to be restricting access to duct access hatch Adjacent to riser THE-237.	30/11/12	Closed out.	
73	Electrical containment appears to be restricting access to duct access hatch Adjacent to riser THE-212.	30/11/12	Response received.	
74	Confirm flow of water from the sprinkler head is not restricted.	30/11/12	Response received.	
75	Confirm the access regime for sprinkler head maintenance / replacement.	30/11/12	Response received.	
76	Confirm when 3m dead legs have been altered in CCW-031	30/11/12	Response received.	
77	Void detection appears inadequate and inaccessible due to plasterboard ceiling in CCW-051	30/11/12	Response received.	
78	Hoist cabling is inadequately supported.	30/11/12	Response received.	
79	Junction box appears to be inaccessible due to ceiling installation	30/11/12	Response received.	
80	Confirm that the supports to the medical gas pipes are sufficient.	05/12/12	Closed out.	
81	Confirm when insulation is fitted at junction of partition and window frame.	11/12/12	Open	

NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND ENERGY CENTRE

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82	Confirm remedial measures to ensure there is an intumescent seal between the partition stud and concrete column.	11/12/12	Closed out.	
83	Confirm when insulation will be fitted at the junction of the inner face of the external wall and the end of the partition between rooms AAW-258 & AAW-257	12/12/12	Closed out.	
84	Confirm when the insulation will be fitted to the 60 minute fire resistant partition adjacent to the column in room THE-108 and at high level.	14/12/12	Closed out.	
85	Confirm when gaps between fire boards at high level at END-036 and door leading into corridor XCA2-059 have been addressed.	19/12/12	Open	
86	Provide structural survey, up to date drawings, steelwork strengthening and concrete deck detailing, structural design philosophy and method statement.	20/12/12	Closed out.	
87	Provide a marked up drawing/s showing location of back to back boxes. Provide confirmation from Acoustic Logic that there will be no adverse affect on the acoustic performance of the partitions. Provide test certification that the back to back boxes with putty pads will provide the requisite fire resistance.	21/12/12	Response received.	
88	Brookfield to review all installed and proposed HV equipment and report back if any equipment falls under the NEDeRS notices.	09/01/13	Closed out.	
89	Confirm if the water tank can be adequately maintain and drained in this position.	14/01/13	Open	
90	Confirm void detector above ductwork provides adequate protection.	14/01/13	Open	
91	Confirms access hatch shall be accessible.	14/01/13	Open	
92	Confirm that fire damper actuators highlights can be accessed on completion of the cold water and ceiling installation.	14/01/13	Open	
93	Confirm void detector above ductwork provides adequate protection.	14/01/13	Open	
94	Confirms access hatch shall be accessible after conduit and ceiling installation is complete.	15/01/13	Closed out.	
95	Confirm if any proposed HV equipment and report falls under the NEDeRS notice.	18/01/13	Closed out.	
96	Confirm measures to address flaking paint in basement	18/01/13	Open	
97	Dirty Utility Rooms in the Theatre Suites were not dampened (fire dampers).	22/01/13	Closed out.	
98	Lightning protection tape not fixed properly.	22/01/13	Closed out.	
99	Confirm that the external WILo pumps are suitable for an outdoor exposed location.	22/01/13	Closed out.	
100	Confirm the condition of the roof after the loaded skip has been removed.	29/01/13	Response received.	
101	Confirm how pressure tests are to be carried out to underground pipe in the basement & when.	06/01/13	Closed out.	
102	Open ended pipework requires to be covered	12/02/13	Closed out.	

6.0 SUPERVISORS TESTS AND INSPECTIONS

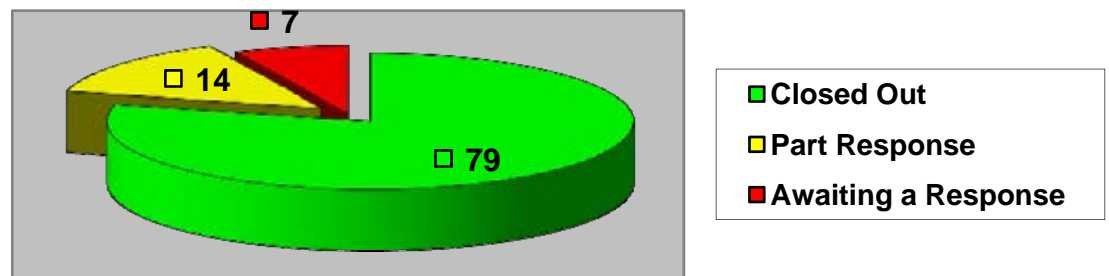
Tests not required	N/A
Tests required but not tested	Req
Tests required which has passed tests	Pass

Tests				
Ref	Title	To be Notified by	Status	Test Date
01-28	Various tests undertaken from the 9/07/2012 to the 23/11/2012.			
29	Drain air test Zone J Pour 3.	Brookfield	Pass	31/01/2013
30	Drain air test Zone J Pour 3.	Brookfield	Pass	08/02/2013
31	Drain air test Zone J Pour 3.	Brookfield	Pass	13/02/2013

Inspection not required	N/A
Inspection required	Req
Inspection complete	Pass

Inspections				
Ref	Title	To be Notified by	Status	Inspection Date
1	85 Point check to partitions room AAW-338	Brookfield	Pass	24/10/2012

7.0 DEFECTS NOTIFICATIONS ISSUED



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Item No.	Description	Date Requested	Comment	
Items 1 to 11 have been closed out				
12	Motorised damper inaccessible due to adjacent duct in Plant Room.	02.10.12	Response received.	Yellow
13	Restricted access to ductwork access hatch in corridor adjacent to Zone H near Stair Core F	02.10.12	Response received.	Yellow
14	Ductwork obstructed by modular frame Zone H.	02.10.12	Response received.	Yellow
15	Part of stud, Level 2 Zone D cut away.	10.10.12	Closed	Green
16	Fixing to cladding visible. Confirm when this will be addressed	18.10.12	Response received.	Yellow
Items 17 to 36 have been closed out				
37	Confirm that the smoke detect has been fitted in accordance with BS5389 in room AAW-384. E.g., not be mounted within 500mm of any walls or partitions.	14.01.13	Response received.	Yellow
38	Fire rated ductwork did not penetrate into the neighbouring space greater than 150mm as detailed on the approved design drawings in level 2 theatres.	14.01.13	Closed	Green
39	Insulation dislodged at high level due to electrical work. Confirm when remedied.	16.01.13	Open	Red
40	AVSU incorporated into hazard room partition. Confirm that the partition housing the AVSU can achieve 30 minutes on the corridor side of the partition.	20.02.13	Response received.	Yellow
41	Insulation removed and displaced from the partition at high level. Confirm when this has been addressed.	21.02.13	Open	Red
42	Restrictive access to duct. Confirm when addressed.	26.02.13	Open	Red

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL
AND ENERGY CENTRE****SUPERVISOR'S REPORT NO. 23****FEBRUARY 2013**

**John Redmond
Capita Symonds
Technical Advisory Services**

The Beacon, 8th Floor, 176 St Vincent Street, Glasgow G2 5SG

	Signed	Date
Originated by	John Redmond	7th March 2013
Completed by	David Ramsay	7th March 2013

CAPITA SYMONDS

**NEW SOUTH GLASGOW HOSPITAL
ADULT AND CHILDREN'S HOSPITAL AND THE ENERGY CENTRE
NEC 3 SUPERVISORS REPORT NO. 24
MARCH 2013**

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL
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ADULT AND CHILDRENS HOSPITAL AND ENERGY CENTRE**1.0 EXECUTIVE SUMMARY: ADULT & CHILDREN'S HOSPITAL**

Visits to the site during March 2013 indicated that the construction and procedures are progressing in a satisfactory manner in accordance with the Employer's Requirements.

Throughout, the standard and quality of the workmanship is generally good and operations are being carried out in an acceptable manner.

Brookfield continues to undertake their Quality Assurance systems on site with inspection and checklist documentation available for the ongoing construction activities. Over the period, we have closely liaised with Brookfield and witnessed drainage tests on the ground floor. We have also witnessed 85 point checks to partitions and these were carried out on Levels Level 0, 1, 2 and 3. The partition test highlighted a few failures which were rectified. Tests to Electrical and Medical Gas installations were also witnessed.

The exemplar rooms are nearing completion and are to a good industry standard. We shall continue to monitor the remaining work planned for the coming month. The internal finishes workmanship standards are used as a benchmark for all room completions.

The quality of the external cladding, blockwork, brickwork and "STO" system is generally good. However we are aware that Brookfield has raised an NCR in relation to the poor standard of repairs to the cladding. We have also issued a Supervisor's Communication in relation to this issue. At last month's New Hospitals Construction Progress Meeting Brookfield intimated that they would arrange for a sample area of a damaged panel to be painted.

Civil and structural works continue to be to a generally high quality standard.

Energy Centre final tidying up is still to be undertaken as reported in the last period.

In respect of the piling records on ZUTEC, replacement of the current construction drawings by 'as built' drawings is still awaited.

On the Atrium Bridge all floors have now been cast. Deflection checks to date are being further examined in respect of datum issues and Brookfield hope to be able to provide a final report in the next period.

Concrete slab work to the ACH has again continued apace during the period. Work is progressing on the 11th floor on the SE arm (Zone G), 10th floor on the SW arm (Zone D), and 8th floor on the NE and NW arms (Zones J and F respectively), resulting in the 8th floor now being completed. On the Children's Hospital section further progress at floors 3 and 4 in Zones B and C has continued during the period. All of the work generally appears to be of good

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quality throughout. Sub-slab drainage in Zones B, C, F, H and J has progressed during the period with pressure tests proving generally satisfactory.

Some cracks have been observed in Zone G ground floor slab and while most of these are likely to relate to shrinkage. One crack is wider than might be expected from this effect and Brookfield has initiated an investigation into the cause of the crack. We are currently reviewing their findings.

Steelwork erection has continued to the roof of the Children's Hospital in Zone A and workmanship appears of good quality to date. Attention to some steel angle fixings to the 1st floor atrium in Zone A of the Children's hospital has been noted to Brookfield.

The M&E installation quality is remaining at a good standard and we are satisfied that these are being installed to a compliant standard.

The M&E installations are progressing on all levels up to Level 8 and range from first fix module installation to almost completed areas. The installations in the Energy Centre are well advanced with parts of the A-side almost ready for handover.

We are continuing to work with Brookfield during our inspections highlighting any items that have raised concern. Items identified in this manner are generally being addressed by the site team in advance of any defect notice being raised.

With respect to the potential access issues to high level sprinkler heads raised in Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 75. Brookfield is reviewing potential access issues, in an effort to find a solution.

In general terms we are satisfied that the installations continue to be installed to a compliant standard, and are of a good quality. However we have noted that certain items this month that have raised concern. These have been raised with the Contractor as follows:-

Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 105, 106, 107, 109 & 110 were issued during March.

- Seeking Electronic Roof Integrity Tests for roofs on Level 3 & 4. Incomplete area under the boiler will be completed in accordance with the manufacturers' requirements and damaged caused by storing items on the protective membrane rectified.
- Seeking confirmation that debris and materials liable to cause damage to the roofs Level 2 Zone F are removed.
- Requesting a report on likely causes of the crack in Zone G ground floor slab, pour No7, including proposed remedial action and timing.
- The lead lined detail to the partitions on Level 1 Zone E does not comply with the current approved details. We are seeking confirmation that the proposal has been approved and reviewed by the NHS.

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- Seeking confirmation when the back to back boxes have been repositioned.
- Seeking confirmation of remedial measures to address the restricted access to a hatch near Atrium Void Core C.

Supervisor's Notification of Defects (42.2) No 43, 44 and 45 were issued during February.

- Seeking confirmation of the remedial measures to prevent damage to cables from screws inside back boxes.
- Seeking a programme for the replacement of damaged panels within courtyards.
- The fitting of the lead lined noggins at joints are not in accordance with the drawing detail. Consequently seeking confirmation and that the alternative detail has been approved by Kanuf and the NHS.

We continue to be assisted by the site teams and the NHS Project Team who produce an internal weekly report which assists us in resolving various construction, mechanical, electrical and quality issues. We continue to close out our Supervisor's Notifications and Defects when we have received satisfactory responses.

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2.0 DESIGN COMPLIANCE CHECK

Currently nothing to report.

3.0 PROCEDURES REVIEW**3.1 Contractor's QA Procedures**

Brookfield and their subcontractors have continued with their QA and checking and inspection procedures during this period. We are in discussion and liaison with Brookfield's Quality Manager on QA matters and we undertake regular reviews of their QA documentation.

We had concerns that the insulation removed and disturbed at high level was not being managed through the QA system. Following discussions with Brookfield they have confirmed that they will review the sign off check sheets to ensure that insulation is included in the hold point of the high level installation.

The exemplar rooms are nearing completion and are to a good industry standard. We shall continue to monitor the remaining work planned for the coming month. The internal finishes workmanship standards are used as a benchmark for all room completions.

We have brought to Brookfield's attention a few locations where there are damaged components/snags (See photographs below). They have uploaded these onto their IDMS system to be resolved as part of their snagging rectification process.



Crack in board.



Damaged Board.



Damage to tape.



Excessive joint in boards.



Open ends.



Board cut out.



Water damaged boards.



Damaged module.

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Damaged duct Level 3 Plant Zone D

85 point checks were carried out to partitions formed on Level 0 Area 524 Level 1 Area 510 and a few failures were identified and rectified.

During the check on Level 0 it was noted that insulation had been missing behind large areas of pattresses. This was fixed immediately but we expressed our concerns that if unchecked in other locations would result in the partition not providing the required acoustic specification. Brookfield has confirmed that a toolbox talk has been carried out to avoid this reoccurring.



Insulation missing behind pattresses.

Level 0 Area 510 is shown on the following page.

NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND ENERGY CENTRE

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Quality Inspection Check List		Partitions		Site: NSGH	Operative: <i>WICKY PATTERSON</i>	Checked by: <i>C. J. CHURCH</i>	Date: <i>14/3/13</i>
Action	P	N	N/A	How to check and to what standard			
1 Partition set out correct dimension form grid line.				Check dimension against drawing (+ or - 3mm over length of partition)			
2 Partition parallel to gridline and straight.				Measure @ min 2 points (Deviation band 10mm = + or - 5mm)			
3 Rooms set out square.				Use 3, 4, 5 not a square (+ or - 3mm over length of partition)			
4 Correct width floor track used.				Check against detail (no deviation)			
5 Floor track set out to correct junction detail.				Check against detail (no deviation)			
6 Two beads of mastic used to underside of floor track				Lift section of track if not visible			
7 Correct fixings used in floor track.				Check against detail (no deviation)			
8 Correct fixing centres used in floor track.				Measure @ least 10 fixings (no deviation)			
9 Correct number of fixings to each side of door openings.				Check against detail (no deviation)			
10 Head track set out plus				Use laser level measure (5mm measured from top to bottom)			
11 Head track set out to correct junction detail.				Check against detail (no deviation)			
12 Correct width of head track.				Check against detail (no deviation)			
13 Correct depth of head track.				Check against detail (no deviation)			
14 Correct thickness of fireboard.				Check against detail (no deviation)			
15 Two beads of mastic between head track and fireboard.				Lift section of track if not visible (no deviation)			
16 Correct fixings used to fix fireboard.				Check against detail (no deviation)			
17 Correct centres used to fix fireboard.				Check against detail (no deviation)			
18 Mastic to joints in fireboard.				Check both sides @ least 6 joints (no deviation)			
19 Two beads of mastic between fireboard and soffit.				Lift section if not visible (no deviation)			
20 Correct fixings used for head track.				Check against detail (no deviation)			
21 Correct fixing centres used.				Measure @ least 10 fixings (no deviation from detail)			
22 Picture frame bead of mastic at junction of fireboard/soffit both sides				Check both sides (no deviation)			
23 Correct board used for infills in ribdeck.				Check against detail (no deviation)			
24 Correct number of boards used for infills.				Check against detail (no deviation)			
25 Correct insulation use in infills.				Check against detail (no deviation)			
26 Small holes in ribdeck filled with Rockwool.				Visual check use torch (no deviation)			
27 Bead of mastic around infill to ribdeck.				Visual check use torch (no deviation)			
28 Infill boards overlap fireboard by 7mm.				Measure @ least 3 rib deck (no deviation)			
29 Correct type of stud used, eg: C stud, I stud.				Check against detail (no deviation)			
30 Correct gauge of stud.				Check against detail (no deviation)			
31 Studs cut to correct length for deflection.				Stud length = + 0 and - 5mm			
32 Studs at correct centres (300-400-600mm)				Measure top middle bottom (no deviation)			
33 Doorway built to correct specification for weight of door.				Check against detail (width -0 +5mm height -0 +10mm)			
34 Leg of door head 250mm minimum.				Measure both legs (no deviation)			
35 Door head mitred.				Visual check (no deviation)			
36 Floor track returns up stud 300mm.				Measure both legs (no deviation)			
37 Correct number of screw in door head.				Check against detail (no deviation)			
38 Timber inserted in door stud to correct				Visual check (no deviation)			
39 Timber in head of double door.				Visual check (no deviation)			
40 Door stud cased in head track.				Visual check (no deviation)			
41 Screws at correct centres in door stud.				Measure both legs (no deviation)			
42 Door/screen formed in right location.				Check against drawing (no deviation)			
43 Door/screen formed to correct size.				Check against drawing (width -0 +5mm height -0 +10mm)			
44 Door/screen formed to correct height.				Check against drawing (-0 + 10 mm)			
45 Screen cill at right height.				Check against drawing (no deviation)			
46 Mastic applied to abutment studs.				Lift section if not visible (no deviation)			
47 Correct fixings to abutment studs.				Visual check (no deviation)			
48 Fixings at correct centres to abutment studs.				Measure all fixings to abutment (no deviation)			
49 Flat plate fitted at deflection head.				Check full length visual (no deviation)			
50 Flat plate at correct distance from headtrack.				Check against detail (if 15mm deflection then top of flat plate 15mm from bottom of headtrack no deviation)			
51 Flat plate screwed to all studs.				Visual check (no deviation)			
52 Bead of mastic at junction of floor/track.				Visual check (no deviation)			
53 Correct type of board.				Check against detail & back of board (can only be replaced with minimum performance equal or better)			
54 Correct thickness of board.				Visual against detail (no deviation)			
55 Correct number of layers.				Visual against detail (no deviation)			
56 Screws fixed no more than 50mm from corners of boards.				Measure top to bottom (no deviation)			
57 Screws fixed at Maximum 300mm centres.				Visual plus measure on any that look over (no deviation)			
58 Screws around door openings maximum 200mm centres.				Measure complete door/opening (no deviation)			
59 Screws around glazed screens maximum 200mm centres.				Measure complete door/opening (no deviation)			
60 Screws to external corners at 200mm centres.				Measure top to bottom (no deviation)			
61 Screws not breaking paper.				Visual check maximum deviation 10% of screws breaking paper (1.2 x 2.7 board = 39 screws 10% = 4 screws)			
62 Screws not proud of board.				Visual check (no deviation)			
63 Flat plate at cross joint of outer layer of board.				Lift section if not visible (no deviation)			
64 Boards not too short at deflection head.				Use pre cut gauge or tape - 5mm			
65 Boards not too long at deflection head.				Use pre cut gauge or tape + 6mm			
66 Boards screwed to flat plate at deflection head.				Visual check (no deviation)			
67 Screws to flat plates at correct centres.				Visual check (no deviation)			
68 Boards to abutments cut the right length.				Use pre cut gauge check both sides			
69 Joints to double layer staggered vertically.				Lift section if not visible			
70 Joints to double layer staggered horizontally.				Lift section if not visible			
71 Abutment details built correctly.				Check against detail			
72 All required studs for 2nd fix fixed in place.				Visual check of pick up studs			
SECOND FIX ITEMS							
73 2nd Fix board joints staggered by 600mm from 1st fix side.							
74 Board cut maximum 10mm larger than service penetrations.							
75 Sockets cut to correct size.							
76 Transoms fitted metal to metal on penetrations over 160mm.							
77 Transoms lined with plasterboard on fire rated partitions.							
78 Rockwool slab installed around penetrations over 160mm.							
79 Insulation fills the void between studs from top to bottom.							
80 Correct spacing of stick pins to support insulation							
81 Rockwool slab installed around electrical sockets.							
82 Correct noggin fitted.							
83 Noggins fitted flush to studs.							
84 Correct number of fixings in noggins							
85 Noggins set out in correct position.							
Equipment required to carry out inspection							
Drawings (construction full size)							
Specification							
Details (Relevant to inspection)							
Tape measure (laser measure)							
Laser level or standard level							
Access equipment (podium)							
Torch							
Pre cut gauge (deflection head)							
Screw gun (battery)							

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Below are extracts from Prater's QA/roofing inspection carried out on Level 2 Zone H.



HOT MELT BITUMEN MEMBRANE INSPECTION CHECKLIST

CONTRACT: NSGH A&C

PACKAGE NO: 002

Building/ Roof Area Inspected: Zone H, Level 02 R2-010

Inspection By

Contract no: 1204

Activity to inspect (Refer to Inspection and Test Plan for details of hold points and joint inspections)	Conform Y/N	Date of Inspection	Comment
<u>MATERIALS</u>			
1. AS ORDERED	YES	11/2/13	
2. CONDITION OF MATERIALS OK	YES	11/2/13	
3. STORAGE ON GROUND & ROOF OK	YES	11/2/13	3. Materials stored on roof
<u>PRIOR TO START</u>			
1. HANDOVER NOTE RECEIVED	YES	22/2/13	
2. ACCESS	YES	22/2/13	
3. ROOF AREA READY TO START	YES	22/2/13	
4. SUITABILITY OF CONCRETE SLAB SUBSTRATE	YES	22/2/13	
5. FALLS, SKIRTING HEIGHTS	YES	22/2/13	
6. HOISTING/ CRANEAGE	YES	22/2/13	
7. SAFETY ARRANGEMENTS IN PLACE	YES	22/2/13	7. Exclusion Zone Around Boiler. Fire Control measures in place
<u>WORKMANSHIP</u>			
1. CONCRETE PRIMED	YES	14/3/13	
2. HOT MELT COMPLETE	YES	09/03/13	
3. HOT MELT PEEL TESTS(show position and results)	YES	12/3/13	
4. HOT MELT THICKNESS TESTS(show a. position and results)	YES	13/3/13	
5. PERIMETER DETAIL OK	N/A		
6. PITCH POCKETS OK			
7. ELECTRONIC TESTING OK			
8. INSULATION OK			
9. FILTER LAYER OK			
10. DRAINAGE MAT OK			
11. RETENTION ANGLE OK			
12. SUBSTRATE OK			
13. SEDUM / PLUG PLANT OK			
14. COBBLES/ PAVINGS			
15. FINISHED WORK INSPECTED			
<u>PRIOR TO HANDOVER</u>			
1. FINISHED WORK PROTECTED			
2. DAMAGE RECORDED			
3. WASTE & SURPLUS MATERIALS REMOVED			
4. ROOF CLEANED DOWN			
5. HANDOVER TO CLIENT WITH HANDOVER FORM – (date and number)			

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AREA, ROOF 4	LEVEL	REF NUMBER	DATE	PICTURE REF	PASS/FAIL	CHECKED BY	RECHECK	CHECKED BY
ZONE J	2	001	12/3/13	R2-010 ZJ	PASS	Franky Martin		
ZONE J	2	002	12/3/13	R2-010 ZJ	PASS	Franky Martin		
ZONE J	2	003	12/3/13	R2-010 ZJ	PASS	Franky Martin		
ZONE J	2	004	12/3/13	R2-010 ZJ	PASS	Franky Martin		
ZONE J	2	005	13/3/13	R2-010 ZJ	PASS	Franky Martin		
ZONE J	2	006	13/3/13	R2-010 ZJ	PASS	Franky Martin		
ZONE J	2	007	13/3/13	R2-010 ZJ	PASS	Franky Martin		



Photographs above show the Pull of Tests and the Depth Test.

Brookfield has informed us that drawings have been issued to the client indicating areas to be tested for the Air Leakage Tests and a programme is awaited. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 22).

3.2 Early Warnings

Currently nothing to report.

3.3 Board Equipment Installation, Testing and Commissioning

Currently nothing to report.

3.4 Non Conformance Reports

We are aware of a number and types of NCR's raised and are being kept up to date as to their status.

4.0 CONSTRUCTION REVIEW

4.1 Visits to the Works

Site inspections were carried out by the NEC3 Supervisors on the 4th, 5th, 6th, 7th, 8th, 11th, 12th, 13th, 14th, 15th, 18th, 19th, 20th, 21st, 22nd, 25th, 26^h, 27th and 28th March 2013.

4.2 Elements of the Works available for inspection

- Energy Centre – structurally complete.
- Main building – Cores A, B, C, D, E, F, G, K and L internally, Zones A, B, D, E, F, G and H ground floor slabs, Zones E and F basement area, ground floor suspended slabs, 1st to 8th floor slabs throughout the main hospital, to floor 11 Zone G, and to floor 10 Zone D. Zones A, B, D and G roof area.
- Zones B, C, E, F, H and J below slab drainage.
- External Drainage – specific sections of installation where access is possible.
- Tunnels between ACH and Labs, and Cores C to F.
- Structural steelwork to Atrium (limited due to access).
- Structural steelwork to roof at Zones A, D and G.
- Dual carriageway to Renfrew Road, turning area in front of the main entrance, and carriageway from Hardgate Road.
- Internal Partitions.
- M&E modular units.
- Roofing.
- Cladding.
- Windows.
- Sto system.
- Brickwork Courtyard 5 and south east elevation.
- Brickwork/blockwork south east elevations.
- Basement blockwork.

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4.3 Observations from March 2013 Inspections

The visual inspections of the work carried out to date indicate that the works are generally being carried out to a satisfactory standard. We continue to be assisted by the site teams and the NHS Project Team in resolving various construction, mechanical, electrical, and quality issues. We continue to close out our Supervisor's Notification and Defects when we have received satisfactory responses. Listed below are observations closed out, still to be closed and those raised following site visits in March 2013.

4.3.1 Structural

In respect of the piling records on ZUTEC the current construction drawings are still to be replaced by 'as built' drawings.

Quality on all concrete works has generally appeared good but the following points remain outstanding from previous reports and we continue to monitor these:-

- Finish to ground floor in Zone F and 1st floor in Zone J.
- 20mm level change detail in all floor slabs at Zones E and J – remedial work on these areas has been progressing over the last period.
- Cracks to the soffit of the suspended ground floor slab between Cores A, B, C and D being kept under review.
- Spalling to a couple of parapet walls at the top of Core G.

All deck slabs to the Atrium bridge have now been cast. Deflection checks are being further examined in respect of some datum issues, and Brookfield hope to issue a final report in the next period. Repairs to damage to the fire protection coating (shop applied) on some sections remains outstanding and will be addressed when access is easier.

Steelwork to the roof of the Children's Hospital section (Zone A) appears to be progressing satisfactorily from a quality perspective. In the Children's Zone A atrium however, at 1st floor level, steel angle fixings to the concrete core wall are in need of some remedial attention.

We believe that Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 57 has been physically addressed on site but an appropriate formal response from Brookfield in this respect is still awaited to enable us to close out this item. (See photograph on following page).



A significant crack has been observed in Zone G ground floor slab, pour No7. It extends from a corner of a MH cover a distance of approximately 5m into Zone D pour 2. We have asked Brookfield to investigate this, review with their designers and provide a brief summary report on the likely cause. Brookfield has informed us that cores have been taken and has provided us with photographic evidence. The crack is less than 1mm and is acceptable to WSP.

Brookfield has informed us that the shot blasting process formed a V groove at the top of the crack in the surface of the finished slab which showed an exaggerated crack of up to 5mm.

We shall review the information provided prior to closing out Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 107.



Cracks in Level 0 floor

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Concrete slab work to the ACH has continued apace during the period. Work is progressing on the 11th floor on the SE arm (Zone G), 10th floor on the SW arm (Zone D), and on the 8th floor on the NE and NW arms (Zones J and F respectively). On the Children's Hospital section progress at floors 3 and 4 in Zones B and C has continued during the period. All of the work generally appears to be of good quality throughout. Sub-slab drainage in Zones B, C, F, H and J has progressed during the period with pressure tests proving generally satisfactory.

Blockwork has continued in the basement areas and workmanship appears of good quality to date.

We have brought to Brookfield attention the fixings of the steel angle to the wall at the 1st floor suspended composite deck in the atrium area of Zone A of the Children's hospital. We have asked them to confirm they are in accordance with the Specification and relevant current codes of practice and standards. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 111.

4.3.2 Energy Centre

Steelwork snagging appears to have been addressed, but much tidying up remains outstanding.

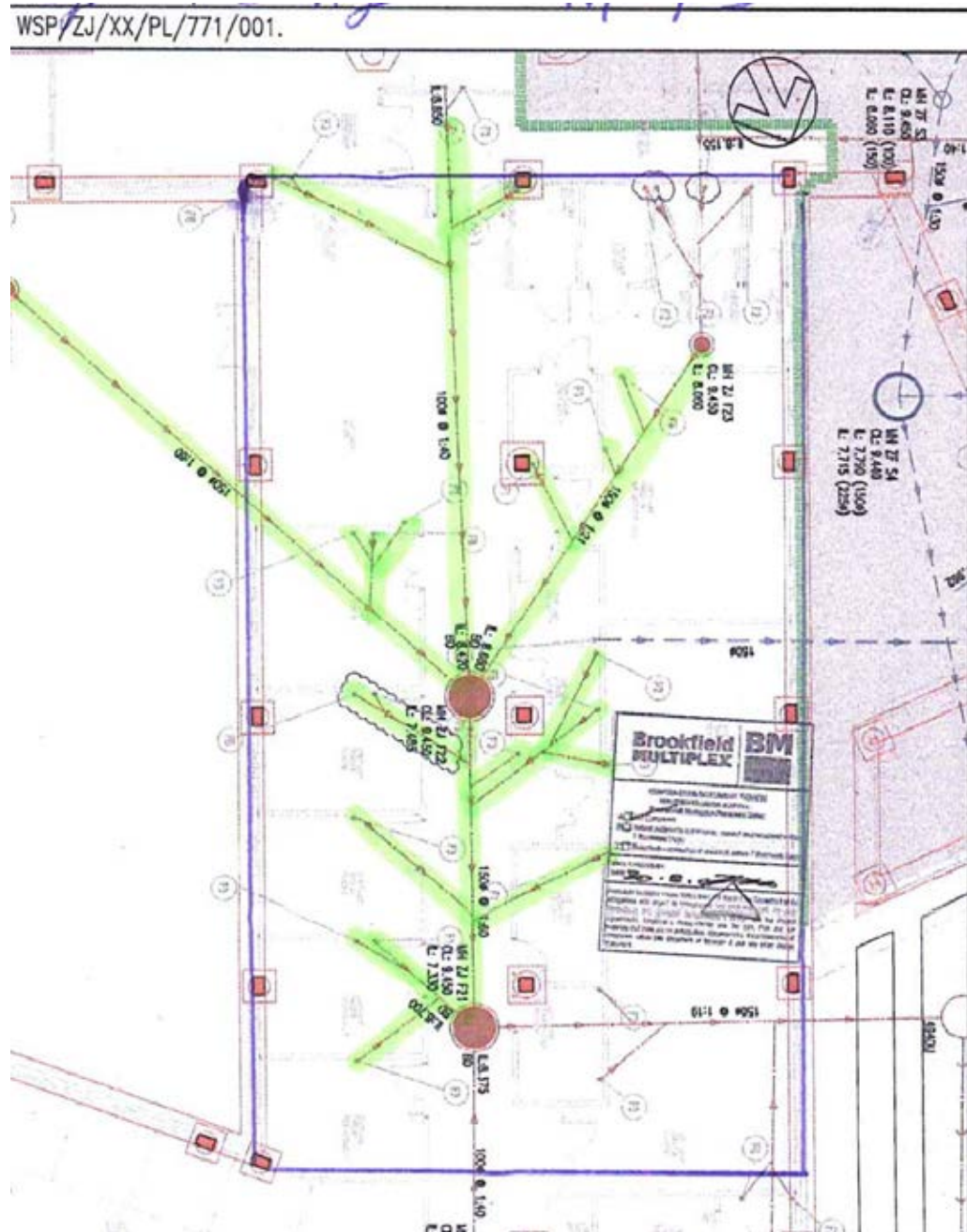
4.3.3 Drainage

Below slab drainage test records continue to be kept by Brookfield as part of their QA procedures and some tests were independently witnessed by the NEC3 Supervisor team.

The drainage lines tested were as follows:

- Drain air test Zone J Pour 5/6.
- Drain air test Zone A Sanctuary Slab
- Drain air test Zone B Pour 3.
- Drain air test Zone J Pour 8.
- Drain air test Zone E
- Drain air test Zone J Pour 7
- Drain air test Zone J
- Drain air test Zone F Pour 2
- Drain air test Zone B

The following page shows the drains tested in Zone J Pour 8



4.3.4 Dual Carriageway to Renfrew Road. (A&C)

The defects previously identified will be reviewed nearer to completion when they will be effectively rectified. Some road formation and tarmac work up to

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underside of wearing course has been carried out in the period to the area in front of the main hospital entrance, all to an apparent good quality.

4.3.5 Pipework.

Installation of hot, cold, heating, & chilled water pipework in the A&C hospital is progressing at pace and in general is being installed to a good standard. The contractor should be reminded that open ends on pipework should be sealed, to prevent the ingress of moisture and subsequent corrosion that may develop. More emphasis should be placed on this as work progresses at higher levels on site.

We are continuing to monitor all pipework installations to identify possible dead legs. The quality checking by Brookfield would appear to be identifying these before our inspections.

Brookfield has confirmed that the maximum length prior to trimming back these pipes is cumulatively 2,890mm as shown in the photographs below. Consequently pipework dead leg is no greater than 3 metres and Supervisor's Notification of Defect (CI 42.2) No 76 is closed out.

We have asked Brookfield to confirm the flow of water from the sprinkler head highlighted is not restricted by the adjacent section of unistrut. Brookfield has confirmed that the sprinkler head deflector appears to be under the unistrut and that the Sprinkler contractor will check this when they are installing the under services protection. If the head is shielded by the unistrut, they will turn the head pendant. Awaiting photograph showing completed work. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 74.



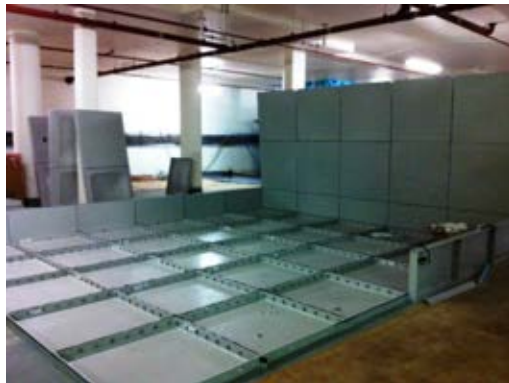


High level sprinkler heads appear inaccessible in a number of areas. Brookfield is reviewing potential access issues in an effort to find a solution. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 75.

A Water tank appears to be built directly onto the floor slab. We asked Brookfield to confirm if the water tank can be adequately maintained and drained in this position.

Brookfield has informed us that the Balmoral water tank for the Sprinkler System is designed to sit directly on the floor slabs. The relevant standard that these tanks are designed to is BS EN 13280 (2001).

In response to Brookfield's comments we believe that to fully drain the tank there is a requirement to enter a confined space. Also, due to the construction of the tank there would be a need to wet vac each 1m x 1m pod to fully drain the tank as the flanges are internal. Brookfield is seeking confirmation from the CDM Coordinator in relation to risk assessments. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 89.



4.3.6 Ventilation

The installation of ventilation ductwork in the A&C hospital is progressing well, and has been installed to a good standard. It appears that any open ends are being sealed but we have noted some exceptions and these have been highlighted to the contractor during our weekly site inspections.

The electrical containment appears to be restricting access to duct access hatch Adjacent to riser THE-2127. We have asked Brookfield to confirm duct hatch can be fully accessed without issue when finished ceiling is in place. Brookfield has commenced the snagging and the new hatch is still to be formed. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 73.



Brookfield has confirmed that there appears to be no evidence of this medical gas pipework installation left across the base of ductwork access hatch. The photograph is of work in progress and the gas pipework would have been cut back when connections made. Pipework has been connected and therefore does not now obstruct the access to the hatch. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 91 is closed out.

We observed that ductwork penetrating the walls of the Dirty Utility Rooms in the Theatre Suites were not dampened (fire dampers). Brookfield confirmed that the insulated ductwork is supply ductwork which is fire rated underneath the

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insulation. Fire dampers are installed in the slab above (in the Plant room) to all the ductwork dropping into the Dirty Utilities. The ductwork is Fire Rated within the Dirty Utility and just beyond the room boundary. Dampers are fitted where any ductwork passes back through the walls of the Dirty Utilities from supply or extract legs. Mercury and Brookfield have reviewed on site to ensure installation is correct in line with strategy. Queries raised in Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 97 have been clarified, consequently is closed out.

We noted that there was restricted access to ductwork in the corridor near Atrium Void Core C. Brookfield are reviewing this issue and will report back with their remedial measures to allow easier access. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 110.

**4.3.7 Insulation**

The thermal insulation installation to the pre-fabricated sections of pipework is being completed off site, before delivery.

4.3.8 Pressure testing

Pressure testing of the modular pipework sections on a zone by zone or area by area basis is to be programmed through the commissioning meetings.

We await further information from Brookfield on their programme and methodology.

4.3.9 Medical Gases

Medical Gas pipework in being installed in all areas. Testing has successfully been carried out on some sections of the main distribution systems. We have witnessed these tests with the Authorising Engineer.

4.3.10 Energy Centre

The installation for the standby generators is progressing to completion, and the installation is to a good industry standard. Generator on site testing has been successfully completed for the A-side generators.

We have witnessed various tests on the HV switchgear and this is now connected and energised.

The second batch of generators has been delivered and positioned on site. Test dates for these are awaited.

Testing was carried out on the Busbar network linking switchboards 7A to 8A and 7B to 8B. We await feedback from Schneider Switchgear Service regarding the last tests on the continuity of busbars.

4.3.11 Trunking

Cable trunking is being installed as part of the offsite fabricated sections that are being installed in the A&C hospital and in general the installation is to a good industry standard.

4.3.12 Cable Trays

Cable trays are being installed as part of the offsite fabricated sections that are being installed in the A&C hospital and in general the installation is to a good industry standard.

4.3.13 Cabling

Modular wiring looms are now being installed as part of the offsite fabricated assemblies and carefully tied up for protection and installation is of a good standard.

Void detection appears inadequate and inaccessible due to plasterboard ceiling. Brookfield has advised us Scotshield have carried out and continue to carry out site surveys regarding detection coverage. Currently they have identified additional heads to be installed – Mercury is awaiting formal report. They understand that Scotshield continue to review installation on all floors to ensure sufficient coverage but this is work in progress. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 77.



The junction box appears to be inaccessible due to the ceiling installation. We have asked Brookfield to confirm if this is the case. Brookfield has confirmed that the grille shown adjacent to CCW 061 is in fact not connected to the ductwork system and is just a transfer grille (CVG). It can therefore be used as an access hatch to get to the junction box. However the rest of the corridor will be reviewed to check that there is sufficient access. This area has been off limits due to flooring works. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 79).



Brookfield's fit out team are of the opinion that all back to back boxes have been omitted following the recent surveys on site. Following a subsequent site walk with Brookfield the back to back sockets identified had been resolved. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 87) is closed out.

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We noted that electrical boxes have been fitted back to back on Level 0 Zone G corridor AAW-355. We have asked Brookfield to confirm when the back boxes will be repositioned to avoid this practice. We have also asked Brookfield to confirm that no screws are fitted from outside to inside of back boxes. Brookfield is reviewing this and will report back. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 109).

**4.3.14 Conduit**

Solid conduit installations are well progressed in the areas being fitted out and are to a good industry standard.

4.3.15 Void Detection

There appears to be no void coverage as required within the NHS Firecode. We have asked Brookfield to confirm the void protection philosophy. On Level 2, Gridlines I-H & 1.1-2.1. They have confirmed that the detection in the zone area noted above has not commenced yet. The lack of void detection now extends between gridline I & E. Currently air handling units and associated ductwork are installed, with ductwork at high level blanketing almost the entire underside of the ceiling slab.

Mercury is awaiting details from Scotshield which will form part of Brookfield's future response. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 65).

Hoist cabling in CCW 051 is inadequately supported. Brookfield confirmed this has been clipped and a photograph will follow as soon as they get access back into the area. The detail shown will be that for the rest of the hoist cabling. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 78).

There appears to be restrictive space for the void detection. We have asked Brookfield to confirm if void detector above the ductwork is providing adequate protection. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 90).



We have asked Brookfield to confirm that the void detector above the ductwork in room AAW-381 is providing adequate protection. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 93).

4.3.16 Intake Sub Station

Brookfield has confirmed that there are still a number of cables to be pulled through to the Substation. These will not be installed in place until 1st Quarter of 2013, at which point all other works will be resolved. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 30 & 45).

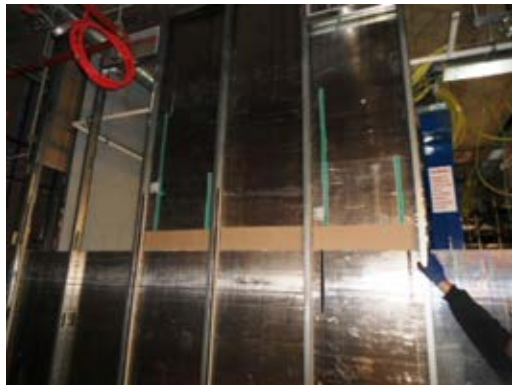
4.3.17 Partitions

Joint inspections were carried out with Brookfield on Level 0, 1 and 2 and the quality of the work was generally to a good industrial standard. Although we have issued Communications/Defects in relation to specific issues.

We noted that screws had penetrated the lead lined partitions. Brookfield confirmed that these would be covered in lead to ensure the continuity of the lead cover.

There was no insulation at the junction of the window frame and the end of the partition in room AAW-304 Level 0. Following a site walk with Brookfield we can confirm that insulation has been fitted. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 81 is closed out.

We noted that the gap between the lead lined sheets fixed from the soffit and the sheet fitted from the floor had been filled with a board which was not lead lined. This detail does not comply with the current approved details. We have asked Brookfield to confirm that the proposal has been approved by Knauf and reviewed by the NHS. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 108).



4.3.18 Roofs

We have asked Brookfield to provide the Electronic Roof Integrity Test for the roofs on level 3 & 4 together with the peel off test results.

We have also asked them to confirm that the small incomplete areas where the boiler is located on level 3 will be completed in accordance with the manufacturer's requirements. This includes carrying out any remedial work to damaged membrane as a result of storing items on the roof.

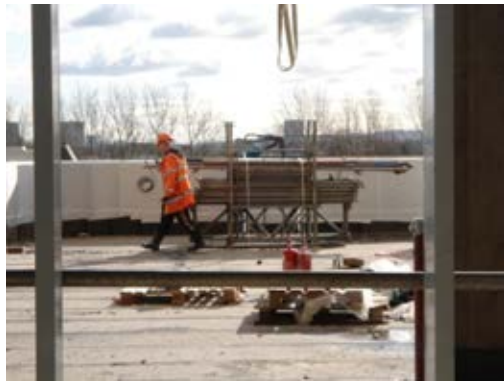


An inspection of the Permaquick Roofs was carried out on Level 2 Zone J with Brookfield and representatives from the NHS Project Team. We asked Brookfield to carry out thickness tests to a few isolated areas. Brookfield together with representatives from Radmat Prater and the NHS Project Team revisited the roof and also the roof on level 3 Zone 3. Several thickness tests were carried out and recorded and with the exception of one were over the accepted thickness of 8mm.

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We are concerned that the materials and debris on roofs Level 2 Zone H and Level 4 Core F will damage the protective membrane. We have asked Brookfield to ensure that all risks of damage are removed from all roofs.



Materials being stored directly on the protective membrane



Damaged insulation



Debris and materials on the roof which could damage the protective membrane.



Indent in protective membrane.

4.3.19 Cladding/Courtyards

Cladding is progressing on the south and east elevations and is substantially complete courtyards 2, 3, & 4 and south elevation plant room 21 & 31. The "STO" system is complete in courtyard 5, advanced in courtyard 3 and 4 and

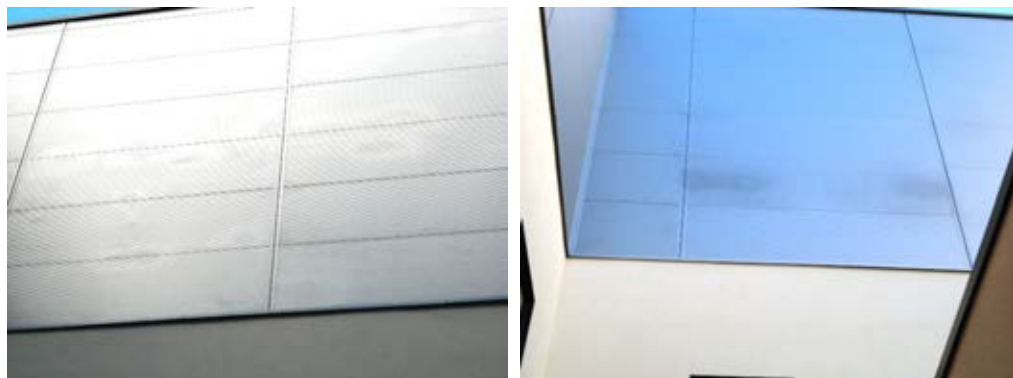
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ongoing in courtyard 2 and the south and east elevation. The standard and quality of the work is generally to a good industry standard.

A loaded skip was placed on the unprotected roof on level 3 resulting in potential damage to the roof. Brookfield confirmed that the skip has been removed and an inspection of the roof is to be carried out. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 100).

Attempts to carry out repairs to damaged sections of panel cladding in Courtyards 4 & 5 have proved unsuccessful. This has been recorded by Brookfield and we are aware that there are plans to paint the entire surfaces of the damaged panels. Consequently we seek confirmation from the manufacturer that the onsite repair/painting of the panels will have the same life expectancy as the factory produced painted finish. We have also asked Brookfield to provide details of the methodology to carry out on site painting. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 103).



Examples of unsuccessful repairs to cladding in

4.3.20 Windows

Windows are progressing on the external elevations and courtyards in accordance with the specifications.

4.3.21 Water Prevention into Building

Water ingress as a result of rain penetration through walls and soffits were evident. We asked Brookfield to advise on proposals for preventing rain penetration and QA procedure for remedial to water damaged finished/stored work elements. Brookfield confirmed that they are aware that previously partitions were erected in advance of areas being fully watertight and have been water damaged. Where this has occurred their Floor Managers have and will identify these areas and instructions issued to sub contractors to replace the water damaged areas. We reviewed a sample of their instructions and are satisfied that with their QA procedures. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 46 is closed out.

4.3.22 Fire protection

We asked Brookfield to provide dry film thickness results for the atrium steel in support of the fire proof certification. These must be for both the factory applied intumescent coating and the coating being applied on site. Brookfield has confirmed that they have been in communication with JD Pierce their sub contractor on the Steelwork and have received the following information;-

Intumescent paint logs for various components.
Steel Certs
Welding certs

Brookfield confirmed that they will review these and will follow up with a further response. Brookfield has informed us that further works are being implemented on the above steelwork. This will require subsequent further information to be issued by JD Pierce, to supplement the information previously provided. Consequently Brookfield has confirmed that once they have this information they will be able to complete the overall response to this item. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 54

4.3.23 Structural Frame System

The insulation missing from the inside of the vertical SFS members in Room EMC-133 Seminar and Training Centre has been fitted. A joint inspection was carried out by Capita and Brookfield, consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 67 is closed out.

4.3.24 Doors

We carried out inspections of the gaps between the door frame and inside surface of the structural opening to ensure that the gaps did not exceed the minimum requirement. This was carried out to a sample of access doors on Level 0 Areas 525 and 526.

4.3.25 Equipment

Nothing to report.

4.3.26 Ducting

We have asked Brookfield to confirm that the fire damper actuator highlights in room EMC-011 can be accessed on completion of the cold water and ceiling installation. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 92).



4.3.27 Ceilings

We noted that there is flaking paintwork on the soffit of the ground floor slab in the basement area between Cores A, B, C and D. Brookfield has confirmed that remedial measures will be taken to address this. They confirmed that remedial work will not be carried out until the Atrium is watertight. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 96).



Generally access to the above ceiling services is now restricted due to the plasterboard ceiling installation. It is understood that access to any above ceiling services shall be accesses via the lighting installation. Brookfield has explained that access to services where required in Operating Theatre Suites will be provided via the specifically designed ceiling mounted "through access" luminaires. In all other areas with plastered ceilings access hatches will be provided to give access to the ceiling void smoke detectors for maintenance and testing. They have confirmed that this maintenance strategy provides safe access to above ceilings without compromising the ceiling installation.

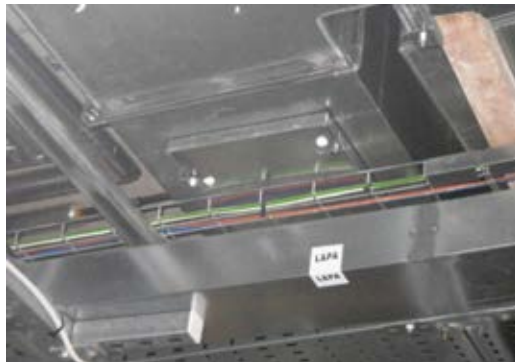
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Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 104 is closed out.

4.4 Defects from October 2012 Inspections.

Duct access hatch blocked by chilled water pipework at ground floor area around DB cupboard AAW190. See photograph below. Contractor to confirm when this will be rectified.



Motorised damper inaccessible due to adjacent duct in Plant Room. Brookfield is investigating this and will report. (See Supervisor's Notification of Defect (CI 42.2) No 12).

Restricted access to ductwork access hatch in corridor adjacent to Zone H near Stair Core F. Brookfield has intimated that the hatch is not restricted and access can readily be gained. We revisited the hatch and are still of the opinion that access to the hatch is not feasible as can be seen in Mercury's photograph which shows an attempt to access the hatch without the ceilings. (See Supervisor's Notification of Defect (CI 42.2) No 13).

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Ductwork obstructed by modular frame Zone H. Brookfield is investigating this and will report (See Supervisor's Notification of Defect (CI 42.2) No 14

One of the fixings to the cladding is visible beneath the capping pieces and the cladding is indented. Brookfield has confirmed that the vertical 'top hat' flashing is still to be installed and this will cover the fixing and the indent. A joint inspection will be arranged between ourselves and Brookfield to inspect the 'top hat'. (See Supervisor's Notification of Defect (CI 42.2) No 16).



BS5389 recommends that smoke detectors should not be mounted within 500mm of any walls or partitions. This does not appear to have been achieved in room AAW-384. We asked Brookfield to confirm when this has been remedied.

Brookfield has responded stating that BS5839 does recommend smoke detectors to be more than 500mm away from any obstruction, however, in some

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instances where the room overall size is less than 1100mm from wall to wall it is not possible to achieve this. The fire risk assessment will require that these rooms are to be protected such as electrical riser cupboards as shown in the photograph with the detector being centralized in the room. These rooms are protected but noted as a variation to BS5839 in the Fire Alarm Certificate.

We have reviewed BS5839 and it states that where 500mm clearance cannot be achieved, then the smoke detector should be located to as close to the centre of the room as possible, see extract from BS5839 below.

g) Heat and smoke detectors should not be mounted within 500 mm of any walls, partitions or obstructions to flow of smoke and hot gases, such as structural beams and duct work, where the obstructions are greater than 250 mm in depth. (This recommendation does not apply to detectors within rooms opening into escape routes in a Category L3 system). NOTE 6 If an enclosed area has no horizontal dimension greater than one metre, it is impossible to comply with this recommendation; this should not be regarded as a variation, but the detector should be sited as close as possible to the centre of the space/ 500mm away from the wall.

At this time the smoke detector isn't in the centre of the room. Consequently this issue still requires to be resolved. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 37.



We noted during a joint inspection with Brookfield that insulation has been disturbed behind the boards at high level as a result of electrical installation work. If this is not corrected the acoustic quality of the partition adversely affected. We have asked Brookfield to confirm when this has been remedied. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 39).

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An AVSU penetration has been incorporated into a hazard room partition, on the corridor side of room CCW-019 Disposal Hold in accordance with drawing AST-XX-XX-DT-252-088 which does not show Kanuf board behind the AVSU. HTM 05-02 Table A1 states that the wall should have the integrity of 30 minutes and the method of exposure is to be each side separately.

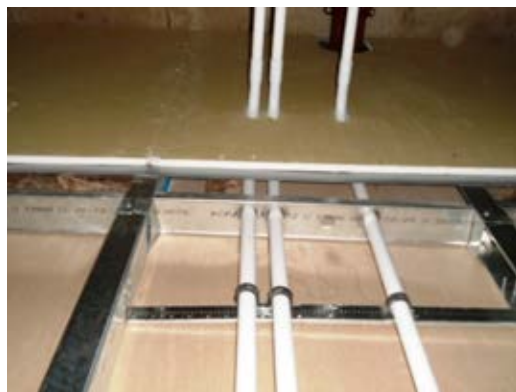
We asked Brookfield to confirm that the section of partition housing the AVSU can achieve 30 minutes. We were shown a location elsewhere on level 1 which had been constructed in such a manner that there was a back board providing fire protection on the corridor side. However there was an AVSU on level 2 which did not have a back board. This was brought to Brookfield's attention and corrected. We have since asked Brookfield if they intend to carry out an 85 point inspection to this partition on the room side of the AVSU to confirm that the detail has been built correctly. (See Supervisor's Notification of Defect (CI 42.2) No 40).



AVSU corridor side of room CCW-019

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Insulation has been removed or displaced at high level where conduits are fitted within the partition. If not addressed this would reduce the acoustic performance of the partition and allow the transfer of heat across the cavity. We have asked Brookfield to confirm when this has been addressed so that it can be inspected before second boarding is complete. (See Supervisor's Notification of Defect (CI 42.2) No 41).



We noted that there was restrictive access to the ducting on Level 2 Zone D Corridor THE-328. We have asked Brookfield to confirm when this has been addressed. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 42).



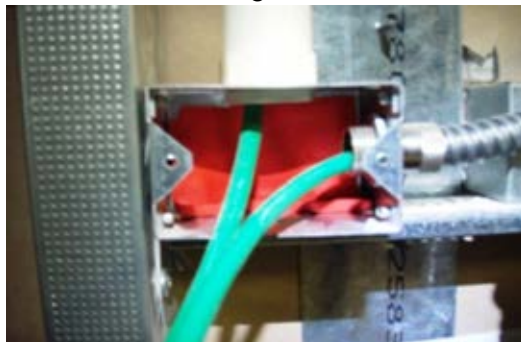
A few metal boxes have been fixed by driving screws from outside to inside leaving the sharp edge of the screws within the box. This could result in cable damage. Brookfield has advised us that in some instances, Mercury have been able to remove the screws on the inside and fix the back boxes through the rear of the box. Rubber sleeves have been fitted over screw and then covered with putty pads, consequently there are no screws in contact with cables. In this instance we accept the remedial work of the boxes identified. However if any other locations are identified with screw heads protruding into electrical accessories these will require to be removed and refixed from the correct side. Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 43 is closed out.



Screws fixed through back boxes.



Rubber sleeves over screws.



Putty pads lining over sleeves

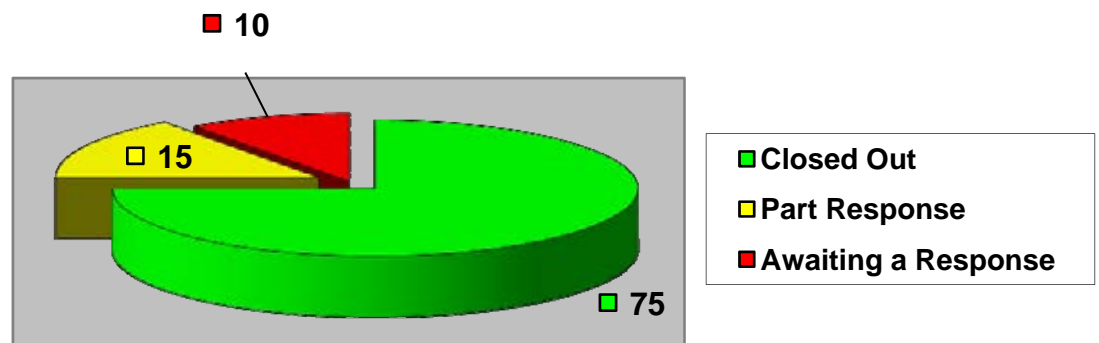
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Following discussions with the client in relation to Brookfield's proposal for painting full cladding panels within courtyards 3 & 4 which had been previously unsuccessful repaired. We have asked Brookfield to provide us with a programme for replacing all the damaged panels within the Courtyards. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 44).

We noted that there were gaps between lead lined noggins and vertical studs on Level 2. We are aware that there is a proposal to cover the noggins with lead and we asked Brookfield to confirm that the proposal has been approved by Knauf and reviewed by the NHS. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 45).



5.0 INFORMATION REQUIRED



NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND ENERGY CENTRE

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Item No.	Description	Date Requested	Comment	
Items 1 to 21 have been closed out				
22	Brookfield to provide us with their Air Test Procedures and Programme.	03/07/12	Response received.	
Items 23 to 29 have been closed out				
30	Confirm when cabling is complete, water pumped out and batteries removed.	10/08/12	Response received.	
Items 31 to 44 have been closed out				
45	See Supervisor's Communication No 30.	18/09/12	Response received.	
46	Advise on proposals for preventing rain penetration	10/09/12	Closed out.	
Items 48 to 53 have been closed out				
54	Provide dry film thickness results for factory applied intumescent and remedial repairs on site.	12/10/12	Response received.	
55	Provide air method statement for air leakage tests.	12/10/12	Closed out.	
56	Confirm remedial action to damaged steel framework.	15/10/12	Closed out.	
57	Please confirm if the attached holes without bolts to the steelwork bridge connections reflects the design intent.	16/10/12	Response received.	
Items 58 to 64 have been closed out				
65	Confirm philosophy for void detection on Level 1 Gridline I-H & 1.1-2.1.	12/11/12	Response received.	
66	Back to back sockets do not comply with HTM 08-1 & Appendix S	22/11/12	Closed out.	
67	Vertical SFS members at the right hand side of the right hand window in Room EMC-133 do not have insulation.	26/11/12	Closed out.	
68	Various issues re the Air Pressure test for the envelope.	26/11/12	Closed out.	
69	Back to back sockets in room AAW-297 require to be repositioned.	30/11/12	Closed out.	
70	Sprinkler pipe work appears to be restricting the removal of the home run box cover	30/11/12	Closed out.	
71	Conduit run appears to be restricting access to duct access hatch in room THE-158, Theatre 3 Anaesthetic Room	0/11/12	Closed out.	
72	Electrical containment appears to be restricting access to duct access hatch Adjacent to riser THE-237.	30/11/12	Closed out.	
73	Electrical containment appears to be restricting access to duct access hatch Adjacent to riser THE-212.	30/11/12	Response received.	
74	Confirm flow of water from the sprinkler head is not restricted.	30/11/12	Response received.	
75	Confirm the access regime for sprinkler head maintenance / replacement.	30/11/12	Response received.	
76	Confirm when 3m dead legs have been altered in CCW-031	30/11/12	Closed out.	
77	Void detection appears inadequate and inaccessible due to plasterboard ceiling in CCW-051	30/11/12	Response received.	
78	Hoist cabling is inadequately supported.	30/11/12	Response received.	
79	Junction box appears to be inaccessible due to ceiling installation	30/11/12	Response received.	
80	Confirm that the supports to the medical gas pipes are sufficient.	05/12/12	Closed out.	
81	Confirm when insulation is fitted at junction of partition and window frame.	11/12/12	Closed out.	

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82	Confirm remedial measures to ensure there is an intumescent seal between the partition stud and concrete column.	11/12/12	Closed out.	
83	Confirm when insulation will be fitted at the junction of the inner face of the external wall and the end of the partition between rooms AAW-258 & AAW-257	12/12/12	Closed out.	
84	Confirm when the insulation will be fitted to the 60 minute fire resistant partition adjacent to the column in room THE-108 and at high level.	14/12/12	Closed out.	
85	Confirm when gaps between fire boards at high level at END-036 and door leading into corridor XCA2-059 have been addressed.	19/12/12	Open	
86	Provide structural survey, up to date drawings, steelwork strengthening and concrete deck detailing, structural design philosophy and method statement.	20/12/12	Closed out.	
87	Provide a marked up drawing/s showing location of back to back boxes. Provide confirmation from Acoustic Logic that there will be no adverse affect on the acoustic performance of the partitions. Provide test certification that the back to back boxes with putty pads will provide the requisite fire resistance.	21/12/12	Closed out.	
88	Brookfield to review all installed and proposed HV equipment and report back if any equipment falls under the NEDeRS notices.	09/01/13	Closed out.	
89	Confirm if the water tank can be adequately maintain and drained in this position.	14/01/13	Open	
90	Confirm void detector above ductwork provides adequate protection.	14/01/13	Open	
91	Confirms access hatch shall be accessible.	14/01/13	Closed out.	
92	Confirm that fire damper actuators highlights can be accessed on completion of the cold water and ceiling installation.	14/01/13	Open	
93	Confirm void detector above ductwork provides adequate protection.	14/01/13	Open	
94	Confirms access hatch shall be accessible after conduit and ceiling installation is complete.	15/01/13	Closed out.	
95	Confirm if any proposed HV equipment and report falls under the NEDeRS notice.	18/01/13	Closed out.	
96	Confirm measures to address flaking paint in basement	18/01/13	Response received.	
97	Dirty Utility Rooms in the Theatre Suites were not dampened (fire dampers).	22/01/13	Closed out.	
98	Lightning protection tape not fixed properly.	22/01/13	Closed out.	
99	Confirm that the external WIL0 pumps are suitable for an outdoor exposed location.	22/01/13	Closed out.	
100	Confirm the condition of the roof after the loaded skip has been removed.	29/01/13	Response received.	
101	Confirm how pressure tests are to be carried out to underground pipe in the basement & when.	06/01/13	Closed out.	
102	Open ended pipework requires to be covered	12/02/13	Closed out.	
103	Confirm on site painting of panels has the same life expectancy as the factory applied finish.	15/02/13	Open	
104	Confirm safe access through the light fittings will not compromise the finished ceiling installation.	28/02/13	Closed out.	
105	Provide Electronic Roof Integrity Tests for roofs on Levels 3&4. Confirm isolated area under the boiler will be finished in accordance with the manufacturers requirements and any damaged areas due to storing of materials are rectified.	11/03/13	Open	

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106	We have concerns materials and debris on roofs Level 2 Zone H and Level 4 Zone F will damage the membrane. Confirm all risks of damage are removed from the roof	11/03/13	Open	
107	Please investigate the crack in the ground floor, review with your designers and provide a brief summary report on likely causes, including proposed remedial action and timing.	22/03/13	Response received.	
108	A detail in the construction of the lead lined partition on Level 1 is being used which has not been approved. Ensure that the detail has been approved.	22/03/13	Open	
109	Confirm when back to back electrical boxes have been repositioned.	27/03/13	Response received.	
110	We noted that there was restricted access to ductwork. Please confirm remedial measures to address this issue in the corridor near Atrium Void Core C.	27/03/13	Response received.	
111	Please check and confirm that the fixings to the steel angles to the wall at the 1 st floor suspended composite deck are in accordance with the specifications/codes of practice.	28.03.13	Open	

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL
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6.0 SUPERVISORS TESTS AND INSPECTIONS

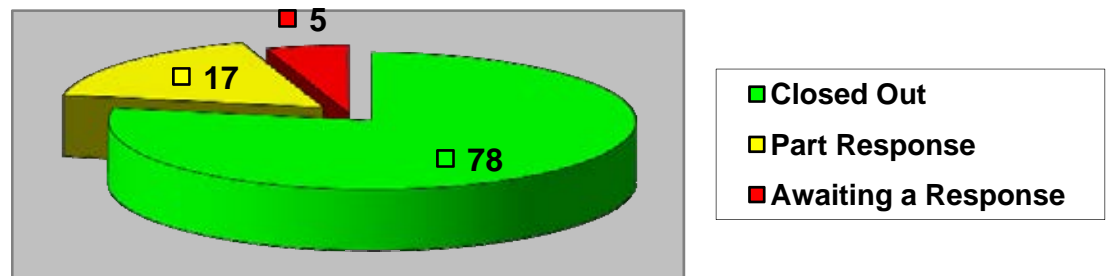
Tests not required	N/A
Tests required but not tested	Req
Tests required which has passed tests	Pass

Tests				
Ref	Title	To be Notified by	Status	Test Date
01-31	Various tests undertaken from the 9/07/2012 to the 23/11/2012.			
32	Drain air test Zone J Pour 5/6.	Brookfield	Pass	01/03/2013
33	Drain air test Zone B	Brookfield	Pass	22/03/2013
34	Bus Bar Electrical Testing P21	Brookfield	Pass	15/03/2013
35	Section Board Testing SB6 AB G2	Brookfield	Pass	18/03/2013
36	Med Gas Carcass Tests L2 ZG	Brookfield	Pass	18/03/2013

Inspection not required	N/A
Inspection required	Req
Inspection complete	Pass

Inspections				
Ref	Title	To be Notified by	Status	Inspection Date
1	85 Point level 3	Brookfield	Pass	09/03/2013
2	85 Point level 3	Brookfield	Pass	13/03/2013
3	85 Point level 3	Brookfield	Pass	20/03/2013

7.0 DEFECTS NOTIFICATIONS ISSUED



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Item No.	Description	Date Requested	Comment	
Items 1 to 11 have been closed out				
12	Motorised damper inaccessible due to adjacent duct in Plant Room.	02.10.12	Response received.	Yellow
13	Restricted access to ductwork access hatch in corridor adjacent to Zone H near Stair Core F	02.10.12	Response received.	Yellow
14	Ductwork obstructed by modular frame Zone H.	02.10.12	Response received.	Yellow
15	Part of stud, Level 2 Zone D cut away.	10.10.12	Closed	Green
16	Fixing to cladding visible. Confirm when this will be addressed	18.10.12	Response received.	Yellow
Items 17 to 36 have been closed out				
37	Confirm that the smoke detect has been fitted in accordance with BS5389 in room AAW-384. E.g., not be mounted within 500mm of any walls or partitions.	14.01.13	Response received.	Yellow
38	Fire rated ductwork did not penetrate into the neighbouring space greater than 150mm as detailed on the approved design drawings in level 2 theatres.	14.01.13	Closed	Green
39	Insulation dislodged at high level due to electrical work. Confirm when remedied.	16.01.13	Open	Red
40	AVSU incorporated into hazard room partition. Confirm that the partition housing the AVSU can achieve 30 minutes on the corridor side of the partition.	20.02.13	Response received.	Yellow
41	Insulation removed and displaced from the partition at high level. Conform when this has been addressed.	21.02.13	Open	Red
42	Restrictive access to duct. Confirm when addressed.	26.02.13	Open	Red
43	Screws within the back boxes. Advise when this has been rectified.	05.03.13	Open	Red
44	Provide programme for replacing damaged cladding.	11.03.13	Open	Red

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL
AND ENERGY CENTRE****SUPERVISOR'S REPORT NO. 24****MARCH 2013**

**John Redmond
Capita Symonds
Technical Advisory Services**

The Beacon, 8th Floor, 176 St Vincent Street, Glasgow G2 5SG

	Signed	Date
Originated by	John Redmond	4th April 2013
Completed by	David Ramsay	4th April 2013

CAPITA SYMONDS

**NEW SOUTH GLASGOW HOSPITAL
ADULT AND CHILDREN'S HOSPITAL AND THE ENERGY CENTRE
NEC 3 SUPERVISORS REPORT NO. 25
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SUPERVISOR'S REPORT NO. 25**APRIL 2013****1.0 EXECUTIVE SUMMARY: ADULT & CHILDREN'S HOSPITAL**

Visits to the site during April 2013 indicated that the construction and procedures are progressing in a satisfactory manner in accordance with the Employer's Requirements.

Throughout, the standard and quality of the workmanship is generally good and operations are being carried out in an acceptable manner.

Brookfield continues to undertake their Quality Assurance systems on site with inspection and checklist documentation available for the ongoing construction activities. Over the period, we have closely liaised with Brookfield and witnessed the final air test on the ground floor Zone C pour 1. We have also witnessed 85 point check to the partition on Levels 0. The partition test highlighted a few failures which were rectified. Testing of HV Electrical systems and Standby Generators were also witnessed including Black Start tests to prove the standby power systems.

The exemplar rooms were offered for inspection in accordance with the Employers Requirements 6.6.5. Brookfield provided a QA file covering all of their sub-contractors QA sign off sheets and their snagging list. We carried out a Quality inspection with Brookfield and identified additional snags. The workmanship standards of the internal finishes were to a good industrial standard. However we issued a Supervisors Notification of Defect because the noggins behind the suspended ceiling tile through which the curtain hangers are fitted were not securely fitted as per the manufacturers recommendations. There was also no additional ceiling supports wire ties fitted at the side of the noggin in accordance with SHTM 66.

We have carried out inspections of the Energy Centre A Side with Brookfield and identified a number of defects/snags that require to be added to Brookfield's IDMS list prior to the handover of the ASide.

The quality of the external cladding, blockwork, brickwork and "STO" system is generally good. However we are aware that Brookfield has raised an NCR in relation to the poor standard of blockwork on the east elevation. We are still awaiting information in relation to the painting of a sample panel.

Civil and structural works continue to be to a generally high quality standard.

In respect of the piling records on ZUTEC, replacement of the current construction drawings by 'as built' drawings is still awaited.

As reported in the last period at the Atrium Bridge all floors have now been cast and deflection checks to date have been further examined in respect of datum issues. A final report is still awaited from Brookfield in respect of this. Meanwhile the steelwork subcontractor has been carrying out remedial work to the intumescent paintwork and side cladding installation has commenced. An independent testing organisation is carrying out checks on this paintwork and there report/certificate is awaited.

Concrete slab work to the ACH has again continued apace during the period. Floor slabs are essentially completed on the 12th floor on the SE arm (Zone G). Work is now at the 12th floor on the SW arm (Zone D) and 10th floor on the NE and NW arms

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(Zones J and F respectively). On the Children's Hospital section the final floor slabs are being completed at level 4 in Zone C. All of the work generally appears to be of good quality throughout. Sub-slab drainage in Zones C and F has progressed during the period with pressure tests proving generally satisfactory.

In respect of the cracks observed in Zone G ground floor slab and reported in the last period Brookfield have followed up on this in some detail and their designers have confirmed that there is not a structural issue.

Steelwork erection has continued to the roof of the Children's Hospital in Zones A and B and workmanship appears of good quality to date. Attention to some steel angle fixings to the 1st floor atrium in Zone A of the Children's hospital previously noted to Brookfield remains to be addressed.

External blockwork has commenced in Zone G on the south and east faces, and from a structural perspective generally appears to be satisfactory.

The M&E installation quality is remaining at a good standard and we are satisfied that these are being installed to a compliant standard.

The M&E installations are progressing on all levels up to Level 8 and range from first fix module installation to almost completed areas. The installations in the Energy Centre are well advanced with the advanced A-side systems commissioned and handed over.

We are continuing to work with Brookfield during our inspections highlighting any items that have raised concern. Items identified in this manner are generally being addressed by the site team in advance of any defect notice being raised.

With respect to the potential access issues to high level sprinkler heads raised in Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 75. Brookfield is reviewing potential access issues, in an effort to find a solution but this has not been presented for review.

In general terms we are satisfied that the installations continue to be installed to a compliant standard, and are of a good quality. However we have noted that certain items this month that have raised concern. These have been raised with the Contractor as follows:-

Supervisor's Communication General Matters / Other Instructions No 112 and 113 were issued in April.

- Seeking confirmation that the fixings to the steel angles to the wall at the first floor suspended composite deck is in accordance with specifications/codes of practice.
- Seeking confirmation that void detection covers have been fitted in rooms CCW-053 and CCW-066 and that other detectors have been fitted.
- Seeking confirmation from Brookfield on how they will manage the reoccurrence of insulation being disturbed or removed as a result of service installations.

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Supervisor's Notification of Defects (42.2) No 47, 48 and 49 were issued during April.

- Ducting inadequately supported.
- Seeking confirmation of remedial measures to address restricted access to the duct hatch.
- Seeking confirmation that all curtain rails will be fitted in accordance with manufacturers recommendations.

We continue to be assisted by the site teams and the NHS Project Team who produce an internal weekly report which assists us in resolving various construction, mechanical, electrical and quality issues. We continue to close out our Supervisor's Notifications and Defects when we have received satisfactory responses.

SUPERVISOR'S REPORT NO. 25**APRIL 2013****2.0 DESIGN COMPLIANCE CHECK**

Currently nothing to report.

3.0 PROCEDURES REVIEW**3.1 Contractor's QA Procedures**

Brookfield and their subcontractors have continued with their QA and checking and inspection procedures during this period. We are in discussion and liaison with Brookfield's Quality Manager on QA matters and we undertake regular reviews of their QA documentation.

We had concerns that the insulation removed and disturbed at high level was not being managed through the QA system. Following discussions with Brookfield they have confirmed that they will review the sign off check sheets to ensure that insulation is included as a hold point of the high level installation.

The exemplar rooms were offered for inspection in accordance with the Employers Requirements 6.6.5. Brookfield provided a QA file covering all of their sub-contractors QA sign off sheets and their snagging list. We carried out a Quality inspection with Brookfield and identified additional snags. The workmanship standards of the internal finishes were to a good industrial standard. However we issued a Supervisors Notification of Defect because the noggins behind the suspended ceiling tile through which the curtain hangers are fitted were not securely fitted as per the manufactures recommendations. There was also no additional ceiling supports wire ties fitted at the side of the noggin in accordance with SHTM 66.

As a result of inspections on site we have brought to Brookfield's attention a few locations where there are damaged components/snags. They have uploaded these onto their IDMS system to be resolved as part of their snagging rectification process.

85 point checks were carried out to partitions formed on Level 0 Area 519 Level 1 Area 510 and a few failures were identified and rectified.

During the check on Level 0 Area 519 it was noted that insulation had been disturbed and a void left as a result of the service installation. The insulation was fixed immediately. This is another incident where insulation has been disturbed and in some previous instances removed during the installation of services. We recorded our concerns in last month's report that if unchecked in other locations would result in the partition not providing the required acoustic specification. We asked Brookfield to confirm how they will manage to prevent this problem reoccurring. Brookfield confirmed that Mercury have raised the situation with their Managers and Supervisors and held a tool box talk on the 22nd April and Mercury is committed to it. Brookfield has intimated that Satins are ultimately responsible for Astins partitions and should inform Mercury prior to closing up the partitions. Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 113 is closed out but we will continue to monitor the ongoing work.

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Insulation disturbed behind the boarding.

Below is an extract from Brookfield's NCR Tracker and we bring to your attention their NCR raised in relation to the unacceptable standard and quality of workmanship of the blockwork on the East Elevation. We will continue to monitor this on site to ensure this is resolve satisfactorily.

NCR Tracker/ Register 19/04/2013 10:41							Brookfield MULTIPLEX		BM					
Mail No	Subject	Date Raised	From	From Organization	To	Response	BMCE	Dunne	Pratt	Arlin	Other	Closed	Open	In Progress
BMCE-NONC-000158	Adult atrium steelwork walkway - overspray from Stopfire (JDP S/C) intumescent paint onto adjacent Clad UK finished panels. This need to be removed by Clad UK and costs will be from JDP.	18/04/2013	John Curry	BMCE	Andy Halliday, Chris Martin & George McLatchie		1						1	
BMCE-NONC-000157	Water ponding in utilised units	18/04/2013	Sheila Browne	BMCE	Stuart Andrews, Alasdair Fernie, Stuart Jackson & Alan Keeley		1						1	
BMCE-NONC-000156	Zone G East Elevation - blockwork quality and finish is not to the required standard. Levels and joint thickness vary and mortar colour is inconsistent.	16/04/2013	Steven McLachlan	BMCE	Stuart Andrews & George Miller		1						1	
BMCE-NONC-000155	Hole Cast in core lift lobby between G/L 8 and 9/CD/CE is smaller than 250mm specied on WSP drawing ref :WSP-ZA-XA-PL-Z20-301.	09/04/2013	Samson Kolawole	BMCE	Gillon Armstrong, John Beryl & George McLatchie	Drawing specifies 255mm and Dunne will core to this dimension. See DBCE-GC-007513	1						1	

BMCE-NONC-000156	Zone G East Elevation - blockwork quality and finish is not to the required standard. Levels and joint thickness vary and mortar colour is inconsistent.
------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------

The following page shows the results of the pull off tests for the roof on Level 4 Zone E with sample photographs.

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AREA, ROOF 4	LEVEL	REF NUMBER	DATE	PICTURE REF	PASS/FAIL	CHECKED BY
ZONE E	4	001	15/4/13	R4-009 ZE 001	PASS	Franky Martin
ZONE E	4	002	15/4/13	R4-009 ZE 002	PASS	Franky Martin
ZONE E	4	003	15/4/13	R4-009 ZE 003	PASS	Franky Martin
ZONE E	4	004	15/4/13	R4-009 ZE 004	PASS	Franky Martin
ZONE E	4	005	15/4/13	R4-009 ZE 005	PASS	Franky Martin
ZONE E	4	006	15/4/13	R4-009 ZE 006	PASS	Franky Martin
ZONE E	4	007	15/4/13	R4-009 ZE 007	PASS	Franky Martin
ZONE E	4	008	15/4/13	R4-009 ZE 008	PASS	Franky Martin



The following page shows the hot melt check list of the work in progress on Level 4 Zone E.

Depth tests were also taken on the roof and were all recorded within tolerances.

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Below shows Brookfield's Early Warning Notice in relation to water ponding in the double glazing unit.

EARLY WARNING NOTICE

The following matters could:

- Increase the total of the prices
- Delay Completion
- Delay meeting a Key Date
- Impair performance of the works in use

***DETAILS OF EARLY WARNING NOTIFICATION (Please attach relevant documents)**

The following works may be affected:

WATER IS PONDING IN ALL DOUBLE GLAZED UNITS. CONDENSATION IS ALSO PRESENT. THESE WILL REQUIRE TO BE DE-GLAZED AND CLEANED OUT PRIOR TO HANDOVER. THIS WILL HAVE AN IMPACT ON THE INTERNAL TRADES WHICH ARE PROGRESSING IN TANDEM WITH THE UNITISED INSTALL.

***PROPOSALS REQUIRED (Assumptions to be noted if any)**

SUK TO INVESTIGATE AND ADVISE ASAP ON THIS. THE PROGRAMMING OF DE-GLAZING AND CLEANING MUST BE CONSIDERED TAKING COGNISANCE OF THE FOLLOW ON TRADES PROGRESSION AND THE TEMPERATURE REQUIRED TO AVOID THE RISK OF CONDENSATION RE-OCCURING I.E WHEN THE HEATING IS ON?

You are instructed to attend a risk reduction meeting on **24/04/13** to discuss the above.

Brookfield has informed us that drawings have been issued to the client indicating areas to
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be tested for the Air Leakage Tests and a programme is awaited. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 22).

3.2 Early Warnings

We noted that water had gained entry behind the glazing of the double glazed units to the Structural panels. Consequently we raised this with Brookfield. They have raised an Early Warning in relation to this problem.

3.3 Board Equipment Installation, Testing and Commissioning

Currently nothing to report.

3.4 Non Conformance Reports

We are aware of a number and types of NCR's raised and are being kept up to date as to their status.

4.0 CONSTRUCTION REVIEW**4.1 Visits to the Works**

Site inspections were carried out by the NEC3 Supervisors on the 1st, 2nd, 3rd, 4th, 5th, 8th, 9th, 10th, 11th, 12th, 15th, 16th, 17th, 18th, 19th, 22nd, 23rd, 24th, 25th, 26th, 29th and 30th April 2013.

4.2 Elements of the Works available for inspection

- Energy Centre – structurally complete. Civil works around.
- Main building – Cores A, B, C, D, E, F, G, K and L internally, Zones A, B, C, D, E, F, G and H ground floor slabs, Zones E and F basement area, ground floor suspended slabs, 1st to 9th floor slabs throughout the main hospital, to floor 12 Zones D and G, and to floor 10 Zones F and J. Zones A, B, D and G roof area.
- Zones C and F below slab drainage.
- External Drainage – specific sections of installation where access is possible.
- Tunnels between ACH and Labs, and Cores C to F.
- Structural steelwork to Atrium (limited due to access).
- Structural steelwork to roof at Zones A, B, D and G.
- Dual carriageway to Renfrew Road, turning area in front of the main entrance, and carriageway from Hardgate Road.
- Internal Partitions.
- M&E modular units.
- Roofing.
- Cladding.
- Windows.
- Sto system.
- Brickwork Courtyard 5 and south east elevation.
- Brickwork/blockwork south east elevations.
- Basement blockwork.

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4.3 Observations from April 2013 Inspections

The visual inspections of the work carried out to date indicate that the works are generally being carried out to a satisfactory standard. We continue to be assisted by the site teams and the NHS Project Team in resolving various construction, mechanical, electrical, and quality issues. We continue to close out our Supervisor's Notification and Defects when we have received satisfactory responses. Listed below are observations closed out, still to be closed and those raised following site visits in April 2013.

4.3.1 Structural

In respect of the piling records on ZUTEC the current construction drawings are still to be replaced by 'as built' drawings.

Quality on all concrete works has generally appeared good but the following points remain outstanding from previous reports and we continue to monitor these:-

- Finish to ground floor in Zone F and 1st floor in Zone J.
- 20mm level change detail in all floor slabs at Zones E and J – remedial work on these areas has been progressing.
- Cracks to the soffit of the suspended ground floor slab between Cores A, B, C and D being kept under review.
- Spalling to a couple of parapet walls at the top of Core G.

All deck slabs to the Atrium Bridge have now been cast. Deflection checks have been further examined in respect of some datum issues, and a Brookfield report is awaited.

Remedial work to the intumescent paintwork has progressed and a report/certificate is awaited from an independent tester. External cladding erection has commenced.

Steelwork to the roof of the Children's Hospital section (Zones A and B) appears to be progressing satisfactorily from a quality perspective. In the Children's Zone A atrium however, at 1st floor level, steel angle fixings to the concrete core wall remain in need of some remedial attention. See note below.

We believe that Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 57 has been physically addressed on site but an appropriate formal response from Brookfield in this respect is still awaited to enable us to close out this item. (See photograph on following page).

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Brookfield has provided us with a copy of WSP's e-mail confirming that the crack is less than 1mm and is acceptable to WSP. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 107 is closed out.

Concrete slab work to the ACH has continued apace during the period. Slab work is essentially completed to level 12 on the SE arm (Zone G) and is progressing on the 12th floor on the SW arm (Zone D), and on the 10th floor on the NE and NW arms (Zones J and F respectively). On the Children's Hospital section progress at floor 4 in Zone C has continued during the period. All of the work generally appears to be of good quality throughout. Sub-slab drainage in Zones C and F has progressed during the period with pressure tests proving satisfactory.

Blockwork has continued in the basement areas and workmanship appears of good quality to date. External blockwork has commenced in Zone G on the south and east faces with structural quality appearing satisfactory.

We have brought to Brookfield attention the fixings of the steel angle to the wall at the 1st floor suspended composite deck in the atrium area of Zone A of the Children's hospital. We have asked them to confirm they are in accordance with the Specification and relevant current codes of practice and standards. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 111.

4.3.2 Energy Centre

Steelwork snagging appears to have been addressed, but much tidying up remains outstanding in the eastern half of the building.

4.3.3 Drainage

Below slab drainage test records continue to be kept by Brookfield as part of their QA procedures and we witnessed the below ground drainage test in Zone C Pour.

The following page shows the drains tested in Zone C Pour 1



The defects previously identified will be reviewed nearer to completion when they will be effectively rectified.

Installation of hot, cold, heating, & chilled water pipework in the A&C hospital is progressing at pace and in general is being installed to a good standard.

We have asked Brookfield to confirm the flow of water from the sprinkler head highlighted is not restricted by the adjacent section of unistrut. Brookfield has confirmed that the sprinkler head deflector appears to be under the unistrut and that the Sprinkler contractor will check this when they are installing the under services protection. If the head is shielded by the unistrut, they will turn the head pendant. Awaiting photograph showing completed work. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 74.

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High level sprinkler heads appear inaccessible in a number of areas. Brookfield is reviewing potential access issues in an effort to find a solution. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 75.

Following our request to Brookfield to confirm if the water tank can be adequately maintained and drained in this position they have responded as follows.

Following discussions between CDM Co-ordinator (Jeff Murdoch) and Mercury (D Dickie) it has been confirmed that the previous statement regarding the residual water in the base sections would remain irrespective of the height of the ground due to the formation of the panel system. Any water lying in the tank would be removed by vacuum.

Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 89 is closed out.

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4.3.6 Ventilation

The installation of ventilation ductwork in the A&C hospital is progressing well, and has been installed to a good standard. It appears that any open ends are being sealed but we have noted some exceptions and these have been highlighted to the contractor during our weekly site inspections.

The electrical containment appears to be restricting access to duct access hatch Adjacent to riser THE-2127. We have asked Brookfield to confirm duct hatch can be fully accessed without issue when finished ceiling is in place. Brookfield has commenced the snagging and the new hatch is still to be formed. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 73.



We noted that there was restricted access to ductwork in the corridor near Atrium Void Core C. Brookfield confirmed that the tray to be re-routed or access hatch re-positioned. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 110.

**4.3.7 Insulation**

The thermal insulation installation to the pre-fabricated sections of pipework is being completed off site, before delivery.

4.3.8 Pressure testing

Pressure testing of the modular pipework sections on a zone by zone or area by area basis is to be programmed through the commissioning meetings.

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We await further information from Brookfield on their programme and methodology.

4.3.9 Medical Gases

Medical Gas pipework is being installed in all areas. Testing has successfully been carried out on some sections of the main distribution systems. We have witnessed these tests with the Authorising Engineer. Additional testing is programmed to take place in May.

4.3.10 Energy Centre

The installation for the standby generators is progressing to completion, and the installation is to a good industry standard. Generator on-site testing has been successfully completed for the A-side generators.

We have witnessed various tests on the HV switchgear and this is now connected and energised.

We have witnessed a series of tests to prove the switching of the HV systems and have witnessed the generator Black Start tests to prove startup and load transfer under loss of mains.

The second batch of generators has been delivered and positioned on site. Test dates for these are awaited.

Testing was carried out on the Busbar network linking switchboards 7A to 8A and 7B to 8B. We await feedback from Schneider Switchgear Service regarding the last tests on the continuity of busbars.

4.3.11 Trunking

Cable trunking is being installed as part of the offsite fabricated sections that are being installed in the A&C hospital and in general the installation is to a good industry standard.

4.3.12 Cable Trays

Cable trays are being installed as part of the offsite fabricated sections that are being installed in the A&C hospital and in general the installation is to a good industry standard.

4.3.13 Cabling

Modular wiring looms are now being installed as part of the offsite fabricated assemblies and carefully tied up for protection and installation is of a good standard.

Void detection appears inadequate and inaccessible due to plasterboard ceiling. The Scotshield updated drawings following the changes by Building Control to the Fire Strategy are awaited. Once these are received by Mercury these will be issued to

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confirm adequate protection. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 77.

The junction box appears to be inaccessible due to the ceiling installation. We have asked Brookfield to confirm if this is the case. Brookfield has confirmed that the grille shown adjacent to CCW 061 is in fact not connected to the ductwork system and is just a transfer grille (CVG). It can therefore be used as an access hatch to get to the junction box. However the rest of the corridor will be reviewed to check that there is sufficient access. This area has been off limits due to flooring works. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 79).



We noted that electrical boxes have been fitted back to back on Level 0 Zone G corridor AAW 162 IT hub room. Brookfield confirmed that back to back boxes have been moved. Screws that have been fitted from outside the boxes to inside will be removed or covered with caps. Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 109 is closed.



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4.3.14 Conduit

Solid conduit installations are well progressed in the areas being fitted out and are to a good industry standard.

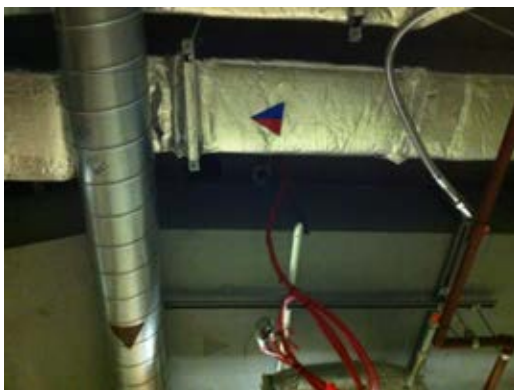
4.3.15 Void Detection

There appears to be no void coverage as required within the NHS Firecode. We have asked Brookfield to confirm the void protection philosophy On Level 2, Gridlines I-H & 1.1-2.1. They have confirmed that the detection in the zone area noted above has not commenced yet. The lack of void detection now extends between gridline I & E. Currently air handling units and associated ductwork are installed, with ductwork at high level blanketing almost the entire underside of the ceiling slab.

Brookfield has confirmed that the void detection has been installed in the correct location. The Scotshield updated drawings following the changes by Building Control to the Fire Strategy are awaited. Once these are received by Mercury these will be issued to confirm adequate protection. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 65).

Hoist cabling in CCW 051 is inadequately supported. Brookfield confirmed this has been clipped and a photograph will follow as soon as they get access back into the area. The detail shown will be that for the rest of the hoist cabling. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 78).

There appears to be restrictive space for the void detection. The Scotshield updated drawings following the changes by Building Control to the Fire Strategy are awaited. Once these are received by Mercury these will be issued to confirm adequate protection. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 90).



We have asked Brookfield to confirm that the void detector above the ductwork in room AAW-381 is providing adequate protection. The Scotshield updated drawings following the changes by Building Control to the Fire Strategy are awaited. Once these are received by Mercury these will be issued to confirm adequate protection. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 93).

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We noted that there were no protective covers on the void detectors in rooms CCW-053 EQ BAY L and CCW 066 STATUS LAB on Level 1. We have asked Brookfield to confirm when the covers will be fitted to prevent dust infiltration. We have also asked them to confirm if there are any other void detectors that need to be covered that are not visible and to confirm to us when these been covered. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 112).

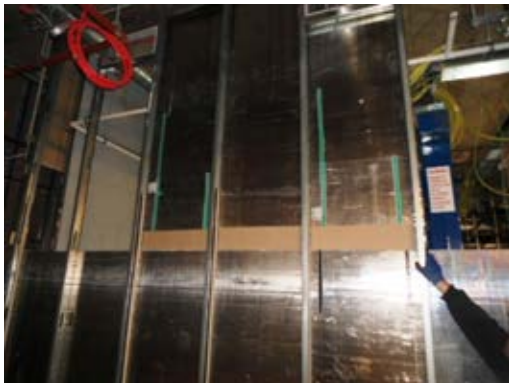
4.3.16 Intake Sub Station

Brookfield has confirmed that the final cables will be pulled through over the next few weeks. Once all cables are in the Substation, the pits will be cleared and apertures sealed. All works should be completed by the end May 2013.
(See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 30 & 45).

4.3.17 Partitions

During an inspection on site we noted that screws had not been fitted at 200mm centre to the end of all the Assess/Treat bays in Area 522. Brookfield confirmed that this would be addressed.

We noted that the gap between the lead lined sheets fixed from the soffit and the sheet fitted from the floor had been in filled with a board which was not lead lined. Brookfield has confirmed that Knauf has approved a new detail drawing and has been given a 'B' Status by the NHS. We await a further response from Astins as to how the detail addresses the junctions at the studs and dwangs. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 108).

**4.3.18 Roofs**

We continue to inspect the roof work and review the QA checks.

4.3.19 Cladding/Courtyards

Cladding is progressing on the south and east elevations and is substantially complete courtyards 2, 3, & 4 and south elevation plant room 21 & 31. The "STO" system is complete in courtyard 5, advanced in courtyard 3 and 4 and ongoing in courtyard 2 and the south and east elevation. The standard and quality of the work is generally to a good industry standard.

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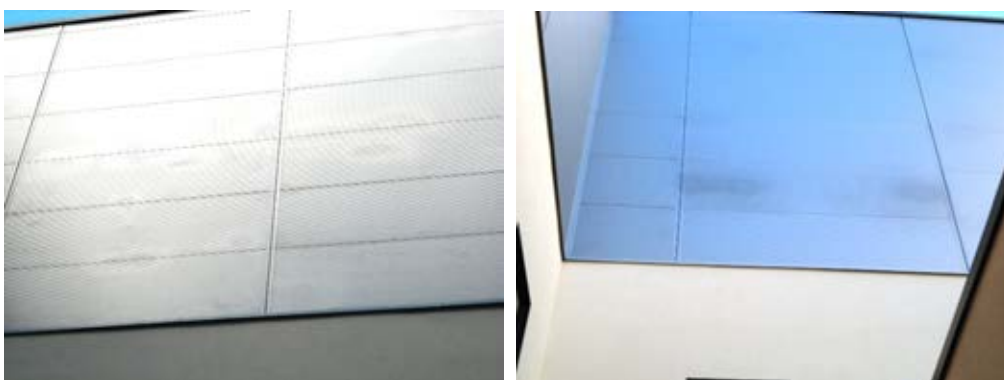
A loaded skip was placed on the unprotected roof on level 3 resulting in potential damage to the roof. The skip was removed and inspected by Brookfield and their sub contractor Prater and reported that there was no evidence of any potential damage. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 100 is closed out.

Attempts to carry out repairs to damaged sections of panel cladding in Courtyards 4 & 5 have proved unsuccessful. This has been recorded by Brookfield and we are aware that there are plans to paint the entire surfaces of the damaged panels. Brookfield has asked Praters that they together with Capita Symonds want to view the 'sample area' in its current situation and during operations to confirm methodology is being carried out as agreed and thereafter when the painting works are complete.

They have asked Praters to issue us with a drawing indicating the 'sample' area. With a combination of the various damages seen previously on the upper panels. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 103).

Brookfield have also asked for the following to be confirmed;-

- Specification of the material being applied including relevant product data sheets.
- Confirmation of Guarantee/ Warranty for the re-spray.
- Confirmation that the re-spray will provide the same life expectancy as the factory produced painted finish from the panel supplier.
- Confirmation from Rukki that their Warranty is not compromised.
- Company profile/CV from KRJ Painting Services, including Projects where they have previously repaired panels, including if possible testimonials from previous clients.
- Preparation of the areas previously repaired, prior to this operation.



Examples of unsuccessful repairs to cladding in

4.3.20 Windows

Windows are progressing on the external elevations and courtyards in accordance with the specifications.

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4.3.21 Fire protection

We asked Brookfield to provide dry film thickness results for the atrium steel in support of the fire proof certification. These must be for both the factory applied intumescent coating and the coating being applied on site. Brookfield has confirmed that they have been in communication with JD Pierce their sub contractor on the Steelwork and have received the following information;-

Intumescent paint logs for various components.

Steel Certs

Welding certs

Brookfield confirmed that they will review the above information. They have however provided us with dry film thickness information from J D Pierce for the factory applied intumescent together with the additional dry film thickness records from Stopfire for the component parts. Brookfield has informed us that further works are being implemented on the above steelwork. This will require subsequent further information to be issued by JD Pierce, to supplement the information previously provided. Consequently Brookfield has confirmed that once they have this information they will be able to complete the overall response to this item. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 54.

4.3.22 Doors

We carried out inspections of the gaps between the door frame and inside surface of the structural opening to ensure that the gaps did not exceed the minimum requirement. This was carried out to a sample of access doors on Level 0 Areas 525 and 526.

4.3.23 Equipment

Nothing to report.

4.3.24 Ducting

We have asked Brookfield to confirm that the fire damper actuator highlights in room EMC-011 can be accessed on completion of the cold water and ceiling installation. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 92).



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4.3.25 Ceilings

We noted that there is flaking paintwork on the soffit of the ground floor slab in the basement area between Cores A, B, C and D. Brookfield has confirmed that they will not be repainting any flaking paintwork until the Atrium is weatherproof. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 96 is closed out, however we will continue to monitor this.

4.3.26 Blockwork

The quality and standard of workmanship of the blockwork at the curve of the south east elevations is poor. An area of blockwork has already been taken down and the blockwork as shown in the photographs below is subject to an NCR raised by Brookfield. One of the lintels on the east elevation has deflected and Brookfield has also raised this with their sub-contractor



Inconsistent pointing both colour and quality.



Lintel deflected.

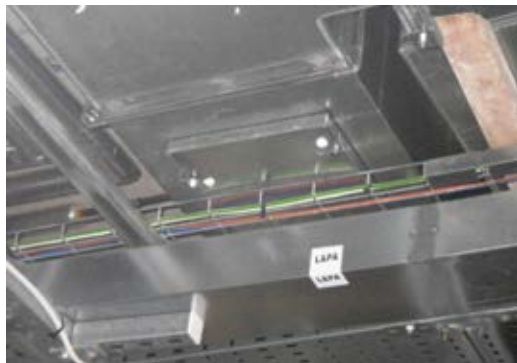




Poor quality blockwork with irregular beds and poor pointing

4.4 Current Defects.

Duct access hatch blocked by chilled water pipework at ground floor area around DB cupboard AAW190. See photograph below. Contractor to confirm when this will be rectified.



Motorised damper the Intervention Theatre THE 228 was inaccessible due to adjacent duct in Plant Room. The column was increased in size and the duct moved from the North wall to West wall for access. Consequently Supervisor's Notification of Defect (CI 42.2) No 12 is closed out.

Restricted access to ductwork access hatch in corridor adjacent to Zone H near Stair Core F. Brookfield has intimated that the hatch is not restricted and access can readily be gained. We revisited the hatch and are still of the opinion that access to the hatch is not feasible as can be seen in Mercury's photograph which shows an attempt to access the hatch without the ceilings. (See Supervisor's Notification of Defect (CI 42.2) No 13).).

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Ductwork obstructed by modular frame Zone H. Brookfield is investigating this and will report (See Supervisor's Notification of Defect (CI 42.2) No 14).

One of the fixings to the cladding is visible beneath the capping pieces and the cladding is indented. Brookfield has confirmed that the vertical 'top hat' flashing is still to be installed and this will cover the fixing and the indent. A joint inspection will be arranged between ourselves and Brookfield to inspect the 'top hat'. (See Supervisor's Notification of Defect (CI 42.2) No 16).



BS5389 recommends that smoke detectors should not be mounted within 500mm of any walls or partitions. This does not appear to have been achieved in room AAW-384. We asked Brookfield to confirm when this has been remedied.

Brookfield has responded stating that BS5839 does recommend smoke detectors to be more than 500mm away from any obstruction, however, in some instances where the room overall size is less than 1100mm from wall to wall it is not possible to achieve this. The fire risk assessment will require that these rooms are to be

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protected such as electrical riser cupboards as shown in the photograph on the following page with the detector being centralized in the room. These rooms are protected but noted as a variation to BS5839 in the Fire Alarm Certificate.

We have reviewed BS5839 and it states that where 500mm clearance cannot be achieved, then the smoke detector should be located to as close to the centre of the room as possible, see extract from BS5839 below.

g) Heat and smoke detectors should not be mounted within 500 mm of any walls, partitions or obstructions to flow of smoke and hot gases, such as structural beams and duct work, where the obstructions are greater than 250 mm in depth. (This recommendation does not apply to detectors within rooms opening into escape routes in a Category L3 system). NOTE 6 If an enclosed area has no horizontal dimension greater than one metre, it is impossible to comply with this recommendation; this should not be regarded as a variation, but the detector should be sited as close as possible to the centre of the space/ 500mm away from the wall.

At this time the smoke detector isn't in the centre of the room. Consequently this issue still requires to be resolved. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 37).



We noted during a joint inspection with Brookfield that insulation has been disturbed behind the boards at high level as a result of electrical installation work. If this is not corrected the acoustic quality of the partition adversely affected. We have asked Brookfield to confirm when this has been remedied. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 39).



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An AVSU penetration has been incorporated into a hazard room partition, on the corridor side of room CCW-019 Disposal Hold in accordance with drawing AST-XX-XX-DT-252-088 which does not show Kanuf board behind the AVSU. HTM 05-02 Table A1 states that the wall should have the integrity of 30 minutes and the method of exposure is to be each side separately.

We asked Brookfield to confirm that the section of partition housing the AVSU can achieve 30 minutes. We were shown a location elsewhere on level 1 which had been constructed in such a manner that there was a back board providing fire protection on the corridor side. However there was an AVSU on level 2 which did not have a back board. This was brought to Brookfield's attention and corrected. We have since asked Brookfield if they intend to carry out an 85 point inspection to this partition on the room side of the AVSU to confirm that the detail has been built correctly. (See Supervisor's Notification of Defect (CI 42.2) No 40).



AVSU corridor side of room CCW-019

Insulation has been removed or displaced at high level where conduits are fitted within the partition. Brookfield confirmed that Astins reinstated the insulation to meet the acoustic requirements within this room whilst second side boarding.

Brookfield also confirmed that Astins have now closed the partition and tape and jointed. The decorators have also applied a mist coat and floor layers are currently screeding in line with Brookfield fit out program of works. Consequently Supervisor's Notification of Defect (CI 42.2) No 41 is closed out.

We noted that there was restrictive access to the ducting on Level 2 Zone D Corridor THE-328. We have asked Brookfield to confirm when this has been addressed. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 42).

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Following discussions with the client in relation to Brookfield's proposal for painting full cladding panels within courtyards 3 & 4 which had been previously unsuccessful repaired. We have asked Brookfield to provide us with a programme for replacing all the damaged panels within the Courtyards. Following the discussion to provide a sample area this defect will be closed if the sample is acceptable. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 44).

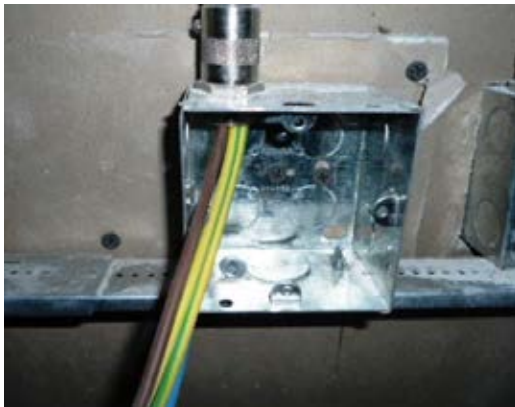
We noted that there were gaps between lead lined noggins and vertical studs on Level 2. We are aware that there is a proposal to cover the noggins with lead and we asked Brookfield to confirm that the proposal has been approved by Knauf and reviewed by the NHS. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 45).



We brought to Brookfield's attention that a back box has been fixed by driving screws from outside to the inside leaving the sharp edge of the screws within the accessory box. If this is not addressed there is a risk of cable damage. We have asked Brookfield to advise when this has been rectified. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 46).

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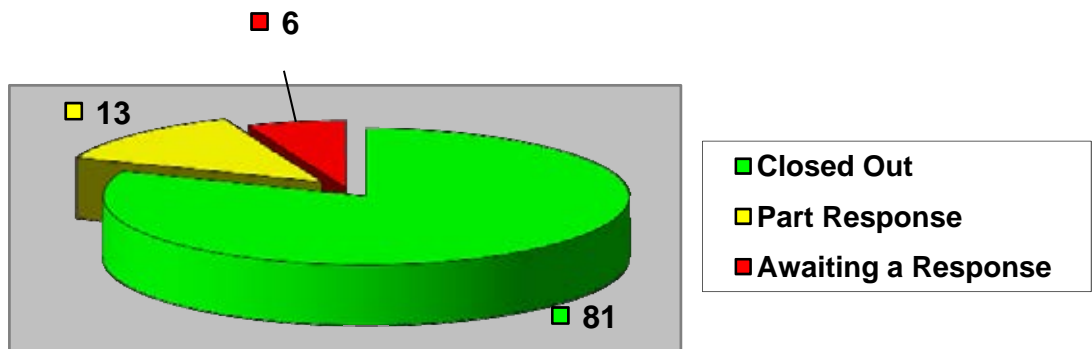


Ducting is inadequately supported in two locations on Level 3 Zone G outside HV room 5A 5B. We have asked Brookfield to confirm when these have been addressed. Brookfield has reviewed the duct on site, and confirmed that this is a temporary duct support which will be replaced with floor mounted supports once the AHUs are installed and connected up to in this area. This was done to allow for un-obstructed floor painting in the area. We shall continue to monitor this work. Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 47 is closed out.



We have asked Brookfield to confirm the measures to address the restricted access problem to the ductwork access hatch on Level 3 Zone A near room GW1-042. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 48).



5.0 INFORMATION REQUIRED

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Item No.	Description	Date Requested	Comment	
Items 1 to 21 have been closed out				
22	Brookfield to provide us with their Air Test Procedures and Programme.	03/07/12	Response received.	
Items 23 to 29 have been closed out				
30	Confirm when cabling is complete, water pumped out and batteries removed.	10/08/12	Response received.	
Items 31 to 44 have been closed out				
45	See Supervisor's Communication No 30.	18/09/12	Response received.	
46	Advise on proposals for preventing rain penetration	10/09/12	Closed out.	
Items 48 to 53 have been closed out				
54	Provide dry film thickness results for factory applied intumescent and remedial repairs on site.	12/10/12	Response received.	
55	Provide air method statement for air leakage tests.	12/10/12	Closed out.	
56	Confirm remedial action to damaged steel framework.	15/10/12	Closed out.	
57	Please confirm if the attached holes without bolts to the steelwork bridge connections reflects the design intent.	16/10/12	Response received.	
Items 58 to 64 have been closed out				
65	Confirm philosophy for void detection on Level 1 Gridline I-H & 1.1-2.1.	12/11/12	Response received.	
Items 66 to 72 have been closed out				
73	Electrical containment appears to be restricting access to duct access hatch Adjacent to riser THE-212.	30/11/12	Response received.	
74	Confirm flow of water from the sprinkler head is not restricted.	30/11/12	Response received.	
75	Confirm the access regime for sprinkler head maintenance / replacement.	30/11/12	Response received.	
76	Confirm when 3m dead legs have been altered in CCW-031	30/11/12	Closed out.	
77	Void detection appears inadequate and inaccessible due to plasterboard ceiling in CCW-051	30/11/12	Response received.	
78	Hoist cabling is inadequately supported.	30/11/12	Response received.	
79	Junction box appears to be inaccessible due to ceiling installation	30/11/12	Response received.	
Items 80 to 89 have been closed out				
90	Confirm void detector above ductwork provides adequate protection.	14/01/13	Response received.	
91	Confirms access hatch shall be accessible.	14/01/13	Closed out.	
92	Confirm that fire damper actuators highlights can be accessed on completion of the cold water and ceiling installation.	14/01/13	Open	
93	Confirm void detector above ductwork provides adequate protection.	14/01/13	Response received.	
Items 94 to 102 have been closed out				
103	Confirm on site painting of panels has the same life expectancy as the factory applied finish.	15/02/13	Open	
104	Confirm safe access through the light fittings will not compromise the finished ceiling installation.	28/02/13	Closed out.	
105	Provide Electronic Roof Integrity Tests for roofs on Levels 3&4. Confirm isolated area under the boiler will be finished in accordance with the manufacturers requirements and any damaged areas due to storing of materials are rectified.	11/03/13	Open	

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106	We have concerns materials and debris on roofs Level 2 Zone H and Level 4 Zone F will damage the membrane. Confirm all risks of damage are removed from the roof	11/03/13	Open	
107	Please investigate the crack in the ground floor, review with your designers and provide a brief summary report on likely causes, including proposed remedial action and timing.	22/03/13	Closed out.	
108	A detail in the construction of the lead lined partition on Level 1 is being used which has not been approved. Ensure that the detail has been approved.	22/03/13	Response received.	
109	Confirm when back to back electrical boxes have been repositioned.	27/03/13	Closed out	
110	We noted that there was restricted access to ductwork. Please confirm remedial measures to address this issue in the corridor near Atrium Void Core C.	27/03/13	Response received.	
111	Please check and confirm that the fixings to the steel angles to the wall at the 1 st floor suspended composite deck are in accordance with the specifications/codes of practice.	28.03.13	Open	
112	Confirm when the protective covers on the void detectors in rooms CCW-053 EQ BAY L and CCW 066 STATUS LAB on Level 1 have been fitted and confirm that the other detectors are also fitted.	10.04.13	Open	
113	Confirm how you will manage the reoccurrence of insulation being disturbed or removed from partitions as a result of the installation of services.	10.04.13	Closed out	

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6.0 SUPERVISORS TESTS AND INSPECTIONS

Tests not required	N/A
Tests required but not tested	Req
Tests required which has passed tests	Pass

Tests				
Ref	Title	To be Notified by	Status	Test Date
01-36	Various tests undertaken from the 9/07/2012 to the 23/11/2012.			
37	Drain air test Zone C Pour 1.	Brookfield	Pass	24/04/2013
38	HV Switchgear Tests	Brookfield	Pass	09/04/2013
39	Plantroom 21 Sprinkler Pipe Test	Brookfield	Pass	10/04/2013
40	HV Switchgear Tests	Brookfield	Pass	11/04/2013
41	Black Start Testing	Brookfield	Pass	22/04/2013

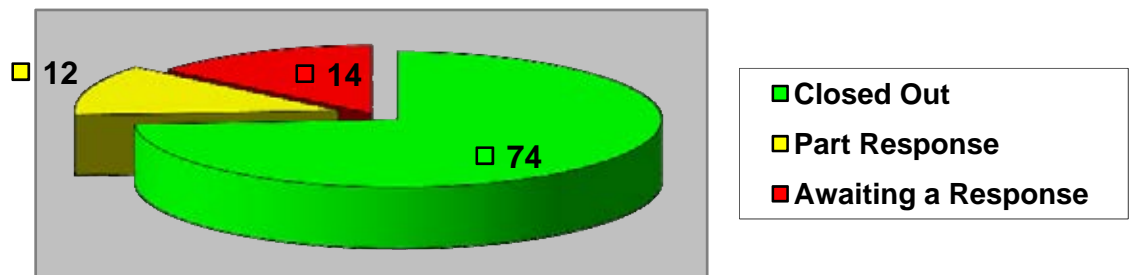
Inspection not required	N/A
Inspection required	Req
Inspection complete	Pass

Inspections				
Ref	Title	To be Notified by	Status	Inspection Date
Inspections 1 to 3 from 09/03/2013 to 20/03/2013				
1	85 point check to partition Level 0	Brookfield	Pass	10/04/2013

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7.0 DEFECTS NOTIFICATIONS ISSUED



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Item No.	Description	Date Requested	Comment	
Items 1 to 11 have been closed out				
12	Motorised damper inaccessible due to adjacent duct in Plant Room.	02.10.12	Closed.	
13	Restricted access to ductwork access hatch in corridor adjacent to Zone H near Stair Core F	02.10.12	Response received.	
14	Ductwork obstructed by modular frame Zone H.	02.10.12	Response received.	
15	Part of stud, Level 2 Zone D cut away.	10.10.12	Closed	
16	Fixing to cladding visible. Confirm when this will be addressed	18.10.12	Response received.	
Items 17 to 36 have been closed out				
37	Confirm that the smoke detect has been fitted in accordance with BS5389 in room AAW-384. E.g., not be mounted within 500mm of any walls or partitions.	14.01.13	Response received.	
38	Fire rated ductwork did not penetrate into the neighbouring space greater than 150mm as detailed on the approved design drawings in level 2 theatres.	14.01.13	Closed	
39	Insulation dislodged at high level due to electrical work. Confirm when remedied.	16.01.13	Open	
40	AVSU incorporated into hazard room partition. Confirm that the partition housing the AVSU can achieve 30 minutes on the corridor side of the partition.	20.02.13	Response received.	
41	Insulation removed and displaced from the partition at high level. Conform when this has been addressed.	21.02.13	Closed	
42	Restrictive access to duct. Confirm when addressed.	26.02.13	Open	
43	Screws within the back boxes. Advise when this has been rectified.	05.03.13	Closed	
44	Provide programme for replacing damaged cladding.	11.03.13	Response received.	
45	Please confirm the proposals to address the gaps between the lead lined noggins and confirm proposals are approved.	12.03.13	Open	
46	A screw is penetrating inside of the back box in room AAW-097. Confirm when this has been addressed.	03.04.13	Open	
47	Ducting inadequately supported.	05.04.13	Closed	
48	Confirm remedial action to address the restricted access to the duct hatch.	09.04.13	Open	
49	Confirm that all curtain rails will be fitted in accordance with the manufacturer's recommendations or provide details where there are changes to the standard detail.	12.04.13	Open	

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND
ENERGY CENTRE****SUPERVISOR'S REPORT NO. 25****APRIL 2013**

**John Redmond
Capita Symonds
Technical Advisory Services**

The Beacon, 8th Floor, 176 St Vincent Street, Glasgow G2 5SG

	Signed	Date
Originated by	John Redmond	9th May 2013
Completed by	John Haggarty	9th May 2013

CAPITA SYMONDS

**NEW SOUTH GLASGOW HOSPITAL
ADULT AND CHILDREN'S HOSPITAL AND THE ENERGY CENTRE
NEC 3 SUPERVISORS REPORT NO. 27
JUNE 2013**

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND
ENERGY CENTRE****SUPERVISOR'S REPORT NO. 27****JUNE 2013****CONTENTS****NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND
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SUPERVISOR'S REPORT NO. 27**JUNE 2013****1.0 EXECUTIVE SUMMARY: ADULT & CHILDREN'S HOSPITAL**

Visits to the site during June 2013 indicated that the construction and procedures are progressing in a satisfactory manner in accordance with the Employer's Requirements.

Throughout, the standard and quality of the workmanship is generally good and operations are being carried out in an acceptable manner.

Together with Brookfield we carried out quality and compliance inspections on Level 1 Area 1-523. The areas inspected were to a good standard and the defects captured by Brookfield were generally of a minor nature. We did however identify a few defects which Brookfield recorded on to their IDMS system.

Brookfield continues to undertake their Quality Assurance systems on site with inspection and checklist documentation available for the ongoing construction activities. Over the period, we have closely liaised with Brookfield and witnessed 85 point check to the partitions on Level 0 Area 0-528, Level 1 Area 1-507 in room OPD-028, Level 2 area 527 and Level 3, plant room 33, HV/LV rooms subs 4 and 4A.

There were no failures in the construction of the partition on Level 0 Area 0-528. Level 1 in room OPD-028 had missing Insulation behind a partition. Partitions were opened up in two other rooms and one of these had a piece of insulation missing. Astins carried out additional 85 point quality inspections on Level 1 to monitor the quality of the construction of their partitions. We witnessed partitions being opened up in an additional two rooms with no failures found. There were no failures in the construction of the partition on Level 2-527. We witness the 85 point check in plant room 33, HV/LV rooms subs 4 and 4A on Level 3. The check was discontinued when it was discovered that there was no sealant applied between the soffit and the Headtrack.

Civil and structural works continue to be to a generally high quality standard.

In respect of the piling records on ZUTEC, replacement of the current construction drawings by 'as built' drawings is still awaited.

Piling is completed in the car park area and from a quality perspective appears to be progressing satisfactorily. Full test results are awaited. Foundation works have commenced and quality to date appears satisfactory.

All floors to the Atrium Bridge have now been cast and deflection checks to date have been further examined in respect of datum issues. A record of deflections has been received prior to installation of the 'pods' and this has been accepted by the structural designers. Remedial work to intumescent paintwork has been ongoing and an independent compliance certificate received.

Concrete slab work to all sections of the ACH has now been effectively completed and a topping out ceremony was held on 24th June to mark this. The concreting work appeared to be of very high quality throughout.

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Steelwork erection has continued to the roof of the Children's Hospital in Zones A and B. Communications have been raised with Brookfield and are listed on the following pages.

Steelwork erection has also continued on the roof of the SE arm (Zone G) and also on the SW arm (Zone D). A couple of communications in respect of this steelwork have been raised.

External blockwork has continued in Zones D and G on the south and east faces, and from a structural perspective generally appears to be satisfactory.

The sample AHU21 in plant room PR21 was inspected and comments provided for action by Mercury. It was agreed that this unit will form the standard for all other AHU's, therefore any issues are to be fully closed out to ensure quality installation.

The M&E installation quality is being maintained to a good standard and we are satisfied that these are being installed to a compliant standard.

The M&E installations are progressing on all levels up to Level 9 and range from first fix module installation to completed and tested areas.

We have carried out a survey of the fire damaged area adjacent to Plant room 21

The installations in the Energy Centre are well advanced with the advanced A-side systems commissioned and handed over. Commissioning programmes for the B Side have been presented and significant commissioning will be taking place from June to December 2013.

We are continuing to work with Brookfield during our inspections highlighting any items that have raised concern. Items identified in this manner are generally being addressed by the site team in advance of any defect notice being raised.

With respect to the potential access issues to high level sprinkler heads raised in Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 75. Brookfield is reviewing potential access issues, in an effort to find a solution but this has not been presented for review. Following this Supervisor's Communications and the Mercury responses, Brookfield has confirmed that Darren Pike has arranged to meet and discuss these issues with Mercury. We have had confirmation that Darren will give an initial response at the Hospital Construction Progress Meeting on Monday 8th July.

In general terms we are satisfied that the installations continue to be installed to a compliant standard, and are of a good quality. However we have noted that certain items this month that have raised concern. These have been raised with the Contractor as follows:-

Supervisor's Communication General Matters / Other Instructions No 125, 126, 127, 128, 129 and 124 were issued in June.

- Seeking confirmation to remedial measures to non-compliant steelwork/concrete bases on the roof.

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- Seeking confirmation that there is sufficient space for maintaining and replacing building services in accordance with the Employers Requirements identified in a number of location.
- Seeking confirmation that duct mounted heater battery coil exposed at high level will be protected from dust and debris ingress.
- Seeking proposals of the design intent at locations where bolts are missing at the parapet of the Children's Hospital Roof Steelwork Zone A.
- Seeking confirmation of the measures to provide insulation to the SFS around the windows of the ground floor elevation Children's Hospital.

No Supervisor's Notification of Defects issued during June.

We continue to be assisted by the site teams and the NHS Project Team who produce an internal weekly report which assists us in resolving various construction, mechanical, electrical and quality issues. We continue to close out our Supervisor's Notifications and Defects when we have received satisfactory responses.

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Currently nothing to report.

3.0 PROCEDURES REVIEW**3.1 Contractor's QA Procedures**

Brookfield and their subcontractors have continued with their QA and checking and inspection procedures during this period. We are in discussion and liaise with Brookfield's Quality Manager on QA matters and we undertake regular reviews of their QA documentation.

Together with Brookfield we carried out quality and compliance inspections on Level 1 Area 1-523. The areas inspected were to a good standard and the defects captured by Brookfield were generally of a minor nature. We did however identify a few minor defects which Brookfield recorded on to their IDMS system.

Inspections were carried out in 1-525 and 1-526 as a QA check to determine if the fire putty pads had been fitted in the sockets in the fire rated partitions. Two back boxes did not have putty pads and these were addressed.

An 85 point check was carried out to a partition formed on Level 0 Area 0-528 and the result of the quality check was satisfactory with no failures in the construction.

There was also an 85 point check carried out on 2-527 to a partition behind an AVSU. The inspection identified no failures and the construction of the fire stopping around the AVSU was in accordance with the detailed drawing.

An 85 point check was carried out on Level 1 in room OPD-028. Insulation was missing from behind a pattrass. As a result of this other areas were opened up in two other rooms and one of these had a piece of insulation missing. Astins carried out additional 85 point quality inspections on Level 1 to monitor the quality of the construction of their partitions. We witnessed the opening up of additional two rooms with no failures found.

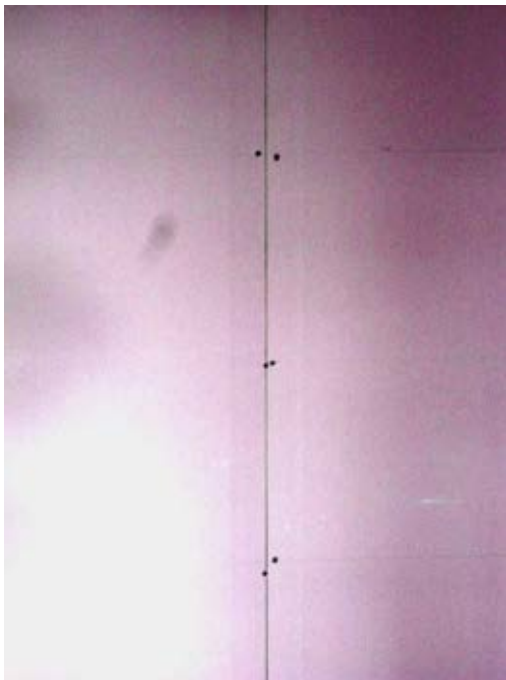
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Insulation missing behind pattress

An 85 point check was carried out on Level 3- PR33 Substation 4 & 4A. and the check was discontinued due to failures identified including the lack of mastic between the fireboard and soffit. The partition was dismantled and re-constructed.



Screws too close to the edge.



Sealant missing at headtracks.

We had concerns that the insulation removed and disturbed at high level was not being managed through the QA system. Brookfield confirmed that Item 10 listed

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below is The 'Hold point' whereby Astins are required to carry out an 'Inspection' to ensure the insulation is complete.

Astins Management will undertake to inspect and offer up to Brookfield at this Hold Point for Review, prior to continuing with the remainder of the installation.

1st fix walls completed					
Tie in to external facade complete					
7 In wall noggin locations / penetrations marked ready for noggin installation					
Item	Programmed Handover Date	Actual Handover Date	Comments	Mercury Signature (date)	BM Acceptance & Comments (date & name)
Noggins installed inc. lead / putty pads					
Holes formed					
8 Noggin installation complete ready for in wall service installation					
Item		Actual Handover Date	Comments	Astins/M&E Signature (date)	BM Acceptance & Comments (date & name)
Mechanical / plumbing					
Electrical / BMS / Nurse call / Alarms					
Door access					
Fire alarm					
Miscellaneous					
9 In wall service installation completed					
Item	Programmed Handover Date	Actual Handover Date	Comments	Mercury Signature (date)	BM Acceptance & Comments (date & name)
Mechanical / plumbing					
Electrical / BMS / Nurse call / Alarms					
Door access					
Fire alarm					
Miscellaneous					
10 In wall service and noggin installation inspected and signed off - HOLD POINT					
Item	Programmed Handover Date	Actual Handover Date	Comments	Mercury Signature (date)	BM Acceptance & Comments (date & name)
Inspection					
11 FFE noggin installation complete					
Item	Programmed Handover Date	Actual Handover Date	Comments	Astins Signature (date)	BM Acceptance & Comments (date & name)
FFE Noggins					
12 Tape and jointing works complete					
Item	Programmed Handover Date	Actual Handover Date	Comments	Astins Signature (date)	BM Acceptance & Comments (date & name)
Tape and jointing					
13 Area handed over for mist coating works to commence.					
Item	Programmed Handover Date	Actual Handover Date	Comments	Astins Signature (date)	BM Acceptance & Comments (date & name)

As a result of inspections on site we have brought to Brookfield's attention a few snags and these have been loaded onto their IDMS system to be resolved as part of their snagging rectification process.

3.3 Board Equipment Installation, Testing and Commissioning

Currently nothing to report.

3.4 Non Conformance Reports

We reviewed Brookfield's NCR Tracker and noted the issues raised by the Package Managers. The blockwork and pointing on the south and east elevations although improved by cleaning continues to be a concern with shading of the mortar evident. Prater has still to offer it up to Brookfield as complete. We are also monitoring the issue in relation to water between the glass of the Structural Panels and this has still to be finalized. The potential flanking issues to the partitions in the Children's Hospital Levels 2 and 3 has still to be completed.

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4.0 CONSTRUCTION REVIEW**4.1 Visits to the Works**

Since our Report No 26, the following members of our team undertook site inspections, reviewed documentation, attended meetings and met with relevant Trust, Project Co and Contractor on-site personnel:- John Redmond (Lead NEC3 Supervisor) 3rd to 7th, 10th to 14th, 17th to 20th and 24th to 28th June; Allan Follett (M&E NEC3 Supervisor) on 6th, 7^h, 19th, 21st, 24th, 25th and 26th June plus remote desk top input; Willie Roxburgh (Civils/Structural NEC3 Supervisor) part days on 5th, 7th, 11th, 12th, 14th, 20th, 21st, 24th and 27th, plus remote desk top input each day ; Ian Barnes (M&E NEC3 Supervisor) on 19th & 26th June plus remote desk top input; Dave Hiatt Jones (M&E NEC3 Supervisor) 26th & 27th June plus remote desk top input; During June 2013, Capita Symonds Independent Tester team visited site a combined 29 person days.

4.2 Elements of the Works available for inspection

- Energy Centre – structurally complete. Civil works around.
- Main building – all concrete areas.
- External Drainage – specific sections of installation where access is possible.
- Tunnels between ACH and Labs, and Cores C to F.
- Structural steelwork to Atrium (limited due to access).
- Structural steelwork to roof at Zones A, B, C, D and G.
- Dual carriageway to Renfrew Road, turning area in front of the main entrance, and carriageway from Hardgate Road.
- Car park piling mat area and foundations.
- Internal Partitions.
- M&E modular units.
- Roofing.
- Cladding.
- Windows.
- Sto system.
- Brickwork Courtyard 5 and south east elevation.
- Brickwork/blockwork south east elevations.
- Basement blockwork.
- Cap park piling mat area.

4.3 Observations from June 2013 Inspections

The visual inspections of the work carried out to date indicate that the works are generally being carried out to a satisfactory standard. We continue to be assisted by the site teams and the NHS Project Team in resolving various construction, mechanical, electrical, and quality issues. We continue to close out our Supervisor's Notification and Defects when we have received satisfactory responses. Listed below are observations closed out, still to be closed and those raised following site visits in June 2013.

4.3.1 Structural

In respect of the piling records on ZUTEC the current construction drawings are still to be replaced by 'as built' drawings. Piling to the new car park has commenced and from a quality perspective appears to be progressing satisfactorily to date.

All floors to the Atrium Bridge have now been cast and deflection checks to date have been further examined in respect of datum issues. A record of deflections has been received prior to installation of the 'pods' and this has been accepted by the structural designers. Remedial work to intumescent paintwork has been ongoing and an independent compliance certificate received

Issues raised re some concrete column bases in the Children's Zone B have been addressed, but some floating columns still need attention. In the small atrium, at 1st floor level, steel angle fixings to the concrete core wall remain in need of remedial attention. The concrete deck above has now been cast.

Steelwork erection to the roof areas at Zones D and G has generally been satisfactory but 2No communications re fixings and column bases have been raised.

Concrete slab work is now effectively completed – quality standard has been high throughout.

Blockwork has continued in the basement areas and workmanship appears of good quality to date. External blockwork has continued in Zones D and G on the south and east external faces of the building with structural quality appearing satisfactory.

We have brought to Brookfield attention the fixings of the steel angle to the wall at the 1st floor suspended composite deck in the atrium area of Zone A of the Children's hospital. We have asked them to confirm they are in accordance with the Specification and relevant current codes of practice and standards. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 111. We would note that this has not been addressed for at least 8 weeks and the concrete deck above has now been cast.

We have received a sketch showing the proposals remedial action to extend the reinforcement to the concrete bases to steel columns in the Children's Hospital Zone B. A letter has also been received from WSP confirming the remedial measures. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 117 is closed out.

Two internal RHS columns in the Children's Hospital Zone B appear to be held up by adjoining steelwork. This may be work in progress, but we asked Brookfield to confirm the final detailing. Brookfield has informed us that the final detail is a connection to concrete. The concrete works and subsequent bolting up will be undertaken prior to the installation of any cladding. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 118.

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Several areas of steelwork in the Children's Hospital Zone B have significant paint damage. Brookfield has confirmed that the painter will return to site (when the liner sheet is in place to offer sufficient protection) to carry out the remedial painterwork. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 119.

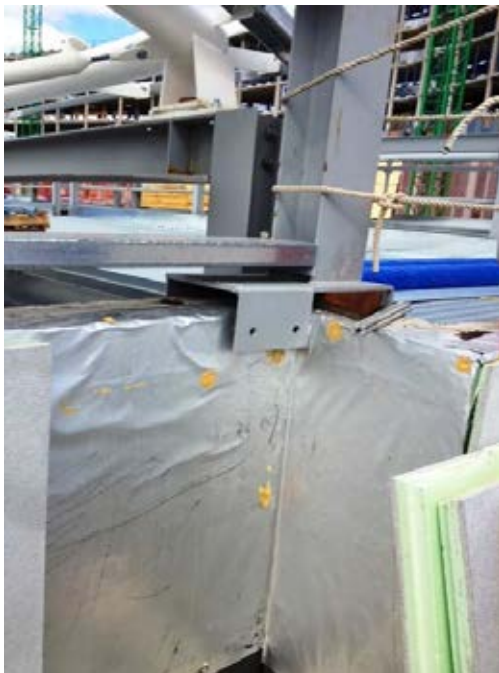
We asked Brookfield to advise on the proposed remedial actions to the non-compliant steelwork/concrete bases on the roof of the SE section of the ACH, and confirm that such measures will be in accordance with the specification. Brookfield has informed us that the solution has been developed by the steelwork contractor alongside WSP and agreed by WSP for those bases where the HD bolts do not align with the steelwork baseplate. This remedial work has been carried out, and, apart from paintwork, appears to be satisfactory. Contractor's proposals for the 'floating' columns are still awaited. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 125.

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We asked Brookfield to provide proposals to meet the design intent for the Children's Hospital Roof Steelwork Zone A where bolts are missing at the parapet. Brookfield reported that they were aware of this situation and has had previous discussions with William McColgan WSP during a visit to site. This will be escalated with WSP and a formal response will follow. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 128.



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4.3.2 Energy Centre

Steelwork snagging appears to have been addressed, but much tidying up remains outstanding in the eastern half of the building.

4.3.3 Drainage

Checks are ongoing re data provided on Zutec.

4.3.4 Dual Carriageway to Renfrew Road. (A&C)

The defects previously identified will be reviewed nearer to completion when they will be effectively rectified.

4.3.5 Pipework.

Installation of hot, cold, heating, & chilled water pipework in the A&C hospital is progressing and in general is being installed to a good standard. Some systems are undergoing chemical clean prior to testing. We have witnessed hydraulic pressure tests in Zone G08, G10 & G11

We are continuing to monitor all pipework installations to identify possible dead legs. The quality checking by Brookfield would appear to be identifying these before our inspections. Open unprotected ends are also being identified on site inspection reports when encountered.

We have asked Brookfield to confirm the flow of water from the sprinkler head highlighted is not restricted by the adjacent section of unistrut. Brookfield has confirmed that the sprinkler head deflector appears to be under the unistrut and that the Sprinkler contractor will check this when they are installing the under services protection. If the head is shielded by the unistrut, they will turn the head pendant. Still awaiting photograph showing completed work. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 74.



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During our inspections in Plant Room 21, we noted that all AHU condensate discharges are routed to gullies via low level unprotected plastic pipework. This is a potential trip hazard. We have asked Brookfield to confirm that the CDM Coordinator has considered this problem and has asked if there are any measures to address this. There is also the risk of the pipes being broken. Refer to SHTM03-01 clause 4.25. Brookfield has confirmed that where appropriate, sheet metal guards will cover condensate discharges. However we have requested to see a typical detail of what they are proposing to allow further comment.

We have asked Brookfield to confirm if a ramp (up/down) will be installed over the low level pipework & be fixed in position. Also in some instances, where the pipework is particularly exposed, this ramp may need to extend further along the length of the pipe or additional protection provided. We have asked again if the CDM Coordinator has considered this problem and has taken cognisance of SHTM03-01 clause 4.25. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 122).

LTHW pumps are mounted on inertia bases however, there are no pump flexes. Vibration will transmit through pipework as a result. Possible longer term leakage/ damage through pipework joints. Please confirm if this has been considered and if there any measures are proposed to address this. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 123.

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Following a visit to site we raised our concerns that there are some locations where there is insufficient space for maintainable, replacement building services and plant as per the Employers Requirement Section 5.13 Facilities Management.

We raised our concerns with Brookfield in relation with the following areas.

Level 2 Zone H. Pipework connections above line of unistrut. Access appears difficult. We have asked Brookfield to confirm that future access will be available.



Level 2 / Zone K. Current access to install chiller water riser pipework appears difficult. We have asked Brookfield to confirm that future access will be available once walls are constructed?

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Level 3 /Zone H. Pipe Racks in area shown below have multiple levels of pipe work. We have asked Brookfield to confirm that future access will be available. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 126).



4.3.6 Ventilation

We raised the following comments with Brookfield on internal AHU components during our site inspections and following their response, our comments have been updated as follows;

- Confirmation received that diffuser plate will be fitted to alleviate fan discharge velocity issues raised (items 1a, b, d, e & f). Please provide details of proposed diffuser plate to be fitted in front of supply AHU fan discharge
- Item c - please confirm Coil 'off coil' conditions.
- Please confirm grade of filtration. Do the bag filter grades vary depending on application?
- Please confirm that the AHU is compliant with SHTM03-01, or state any agreed derogation. Some aspects stated do not comply with the SHTM & will require agreement from the Board.

We noted that there was restricted access to ductwork in the corridor near Atrium Void Core C. Brookfield confirmed that the tray is to be re-routed or access hatch re-positioned. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 110.

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We noted that the air handling unit 21AHU16 supply duct transition does not appear to comply with HVAC DW144 clause 11.6 & 11.7 which could result in high pressure loss.

We have asked Brookfield to confirm the design philosophy in relation to this observation and any proposed remedial measures. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 121).



There is an open duct in the corridor at high level outside room 23HU 044 and we have brought this to Brookfield's attention that it needs to be sealed to prevent contamination/ dust ingress.



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Located outside room 23HU 044.

4.3.7 Insulation

The thermal insulation installation to the pre-fabricated sections of pipework is being completed off site, before delivery and completed after installation.

4.3.8 Pressure testing

Pressure testing of the modular pipework sections on a zone by zone or area by area basis is to be programmed through the commissioning meetings.

We await further information from Brookfield on their programme and methodology.

4.3.9 Medical Gases

Medical Gas pipework is being installed in all areas. Testing has successfully been carried out on some sections of the main distribution systems. We have witnessed these tests with the Authorising Engineer. Additional testing is programmed to take place in May.

4.3.10 Energy Centre

Testing was carried out on the Busbar network linking switchboards 7A to 8A and 7B to 8B. We await feedback from Schneider Switchgear Service regarding the last tests on the continuity of busbars. Response outstanding as of 1/7/13.

There are some defects/snags still to be completed and Brookfield has confirmed that they will be completed by Friday 21st June 2013. We are waiting for advice that these have been completed.

4.3.11 Trunking

Cable trunking is being installed as part of the offsite fabricated sections that are being installed in the A&C hospital and in general the installation is to a good industry standard.

4.3.12 Cable Trays

Cable trays are being installed as part of the offsite fabricated sections that are being installed in the A&C hospital and in general the installation is to a good industry standard.

We noted that the data cabling installed on cable basket did not appear to have capacity for future expansion.

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Modular wiring looms are now being installed as part of the offsite fabricated assemblies and carefully tied up for protection and installation is of a good standard.

We have received Scotshields marked up drawings for the fire detection system on Level 01. There are areas marked in yellow where building control or the specialist has stated further additional fire walls or curtains. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 77 is closed out.

**4.3.14 Conduit**

Solid conduit installations are well progressed in the areas being fitted out and are to a good industry standard.

4.3.15 Void Detection

There appears to be no void coverage as required within the NHS Firecode. We have asked Brookfield to confirm the void protection philosophy On Level 2, Gridlines I-H & 1.1-2.1. They have confirmed that the detection in the zone area noted above has not commenced yet. The lack of void detection now extends between gridline I & E. Currently air handling units and associated ductwork are installed, with ductwork at high level blanketing almost the entire underside of the ceiling slab.

We have received Scotshield's updated drawings following the changes by Building Control to the Fire Strategy. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 65 is closed out.

Hoist cabling in CCW 051 is inadequately supported. Brookfield confirmed this has been clipped and a photograph will follow as soon as they get access back into the area. The detail shown will be that for the rest of the hoist cabling. Photograph still

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awaited. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 78).

There appears to be restrictive space for the void detection. The Scotshield updated drawings following the changes by Building Control to the Fire Strategy are awaited. Once these are received by Mercury these will be issued to confirm adequate protection. Still awaiting drawing. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 90).



We have asked Brookfield to confirm that the void detector above the ductwork in room AAW-381 is providing adequate protection. The Scotshield updated drawings following the changes by Building Control to the Fire Strategy are awaited. Once these are received by Mercury these will be issued to confirm adequate protection. Drawings still awaited. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 93).

We noted that there were no protective covers on the void detectors in rooms CCW-053 EQ BAY L and CCW 066 STATUS LAB on Level 1. We have asked Brookfield to confirm when the covers will be fitted to prevent dust infiltration. We have also asked them to confirm if there are any other void detectors that need to be covered that are not visible and to confirm to us when these been covered. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 112).

4.3.16 Intake Sub Station

Brookfield has confirmed that the final cables will be pulled through over the next few weeks. Last of the cables are being pulled in the Substation, it was expected that the pits would be cleared and apertures sealed by mid June 2013. However it appears this will now be July. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 30 & 45).

4.3.17 Partitions

During an inspection on site we noted that screws had not been fitted at 200mm centres to the end of all the Assess/Treat bays in Area 522. Brookfield confirmed that this would be addressed.

We noted that the gap between the lead lined sheets fixed from the soffit and the sheet fitted from the floor had been in filled with a board which was not lead lined.

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Brookfield has confirmed that Knauf has approved a new detail drawing and has been given a 'B' Status by the NHS. We await a further response from Astins as to how the detail addresses the junctions at the studs and dwangs. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 108).

We carried out inspections in area 1-536 and noted that the installation of the putty pads was progressing satisfactorily.

4.3.18 Roofs

We continue to inspect the roof work and review the QA checks.

Inspections were carried out the roofs currently in progress in the Children's Hospital. The Sarna roof R5-001 at the south end of the Hospital was nearing completion with no apparent defects.



Finished Area of Sarna Roof



Sarna Roof in Progress

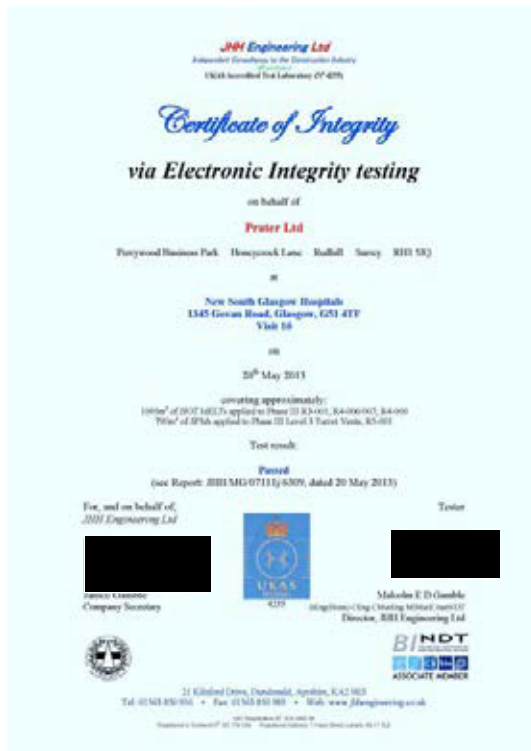
Work was also progressing on Roof R4-004 and R5-002 and the standard was good.

Below is the Independent Certificate of Integrity confirming that Roof R4-009 has passed the Electronic Integrity Test.

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4.3.19 Cladding/Courtyards

Cladding is substantially complete in courtyards 2, 3, & 4 and plant room 21 & 31. The "STO" system is substantially complete in courtyard 2, 3, 4 and 7. Brookfield is to carry out their final quality inspections and sign off. The standard and quality is generally to a good industrial standard.

Repairs and painting was carried out to two damaged panels and these were acceptable to the client. Brookfield await confirmation from Rukki that their Warranty is not compromised as a result of the repair/repaint. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 103).

We carried out an inspection of Core B in the Atrium and found that the cladding was defect free but there were a few stained areas due to bird droppings or grease. These will be cleaned at a later date.

The Atrium Link Bridge external steelwork, cladding and glazing was also inspected and all the snags which were identified were addressed.

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During an inspection with Brookfield we observed that there were areas of damaged intumescent paint on the steelwork to the Atrium Bridge. A subsequent inspection was carried out and the areas were coated with the exception of one damaged area of paintwork. Brookfield provided photographic evidence that the work was completed.



There were steel troughs at the openings to the pods which were full of water. These have since been encased to prevent water gaining entry to these areas.

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Trough full of water.



Trough covered.

4.3.20 Windows

Windows are progressing on the external elevations and courtyards in accordance with the specifications.

4.3.21 Fire protection

Following a site inspection of the Atrium steelwork on 18th June 2013 with Brookfield areas of damaged intumescent were seen. On 26th June 2013 a further visit was carried out and with the exception of one section had been repaired. The final section was repaired and photographed on 27th June 2013 and forwarded to us.

The repairs were carried out by an Independent contractor (Stopfire) and a report and Certificate of Conformity was issued with Supervisor's Communication No 115.

No further DFT tests are required providing the repairs at least match the original factory applied protection in accordance with ASFP Technical Guidance Document – TGD 11, Code of Practice for the specification & on-site installation of intumescent coatings for fire protection of structural steelwork. Section 2.1.4 Repair Procedure and 3.8 Repair and Maintenance of Intumescent coatings. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 54 is closed out.

Following our Supervisor's Communication General Matters / Other Instruction (CI 13.1) No 54 requesting dry film thickness results. We have asked Brookfield to provide evidence that all the steelwork on the structure that requires fire protection has been protected in accordance with the specification.

We observed on site that with external cladding panels being erected, access to some protected areas is no longer possible as can be seen in photo no 2. We asked

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Brookfield that the hidden areas have been coated or will be coated. Brookfield has confirmed that all steelwork requiring Fire Protection was factory applied and any repairs will be carried out by independent contractor Stopfire, All factory applied protection is with the response to Supervisors Communication No 54.

No further DFT tests are required providing the repairs at least match the original factory applied protection in accordance with ASFP Technical Guidance Document – TGD 11, Code of Practice for the specification & on –site installation of intumescent coatings for fire protection of structural steelwork.

Section 2.1.4 Repair Procedure and 3.8 Repair and Maintenance of Intumescent coatings. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 115 is closed out.

**4.3.22 Equipment**

Nothing to report.

4.3.23 Ducting

We have asked Brookfield to confirm that the fire damper actuator highlights in room EMC-011 can be accessed on completion of the cold water and ceiling installation. We still await a response. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 92).

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We noted during our inspections on Level 1 that the duct mounted heater battery coil exposed at high level adjacent riser in Area ref CCI 047 is not cover to prevent dust / debris ingress. We have asked Brookfield to address this. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 127).

**4.3.24 Floors**

We asked Brookfield to confirm the floor flatness and levelness tolerances for the floors to the Atrium Bridge. We have also asked for the floor specification and finish to achieve the tolerances. Brookfield confirmed that the floor flatness, specification calls for an SR2 finish which is then prepared to accept vinyl. In terms of AGV's only Level 7 may be used for Transfer only (i.e. not carrying load) no issues with travelling over slight gradients associated with deadload deflection as long as no abrupt steps in level. Further survey information issued by John Curry on BMCE-GC-036955 in addition to the response from WSP on WSP-GC-007423 intimated no design issues. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 120.

4.3.25 Blockwork

The quality and standard of workmanship of the blockwork at the curve of the south east elevations was not to a good industrial standard. Brookfield highlighted this problem and is subject to an NCR. The work is complete and Brookfield will carry out an inspection after the blockwork is cleaned.

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4.3.25 Pneumatic Tube

Pneumatic tube box at CCW 073 Bay 1 has an exposed end. We have informed and await confirmation that they have blacked it off. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 130).

**4.3.25 Structural Frame System**

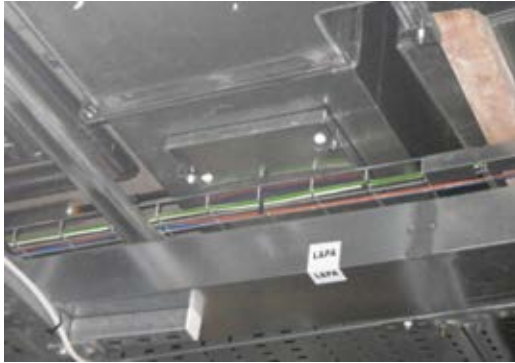
We noted that insulation has not been fitted inside the vertical SFS forming the window openings of the ground floor children's Hospital resulting in cold bridging. We have asked Brookfield to confirm the measures they intend to take to address this. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 129).

**4.4 Current Defects.**

Duct access hatch blocked by chilled water pipework at ground floor area around DB cupboard AAW190. See photograph below. We have asked Brookfield to confirm

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when this will be rectified. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 56).



Restricted access to ductwork access hatch in corridor adjacent to Zone H near Stair Core F. Brookfield has intimated that the hatch is not restricted and access can readily be gained. We revisited the hatch and are still of the opinion that access to the hatch is not feasible as can be seen in Mercury's photograph which shows an attempt to access the hatch without the ceilings. We are still awaiting a response. (See Supervisor's Notification of Defect (CI 42.2) No 13).



Ductwork obstructed by modular frame Zone H. Brookfield is investigating this and will report. Still awaiting a response (See Supervisor's Notification of Defect (CI 42.2) No 14).

Following the discovery of displaced insulation at high level as a result of service installation Brookfield opened up a number of areas. We carried out a joint inspection with Brookfield and can confirm that the insulation has been inserted properly.

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Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 39 is closed out.



We have inspected the construction of partitions around AVSU penetrations in a number of locations including the hazard room partition on the corridor side of room CCW-019 Disposal Hold. All the installations inspected have been consistent.

We have asked Brookfield to confirm the measures to address the restricted access problem to the ductwork access hatch on Level 3 Zone A near room GW1-042. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 48).



There are partitions on Level 0 Area 529 which have screw fixings that have been fixed too close to the edge of the board.

The Knauf/NBS Specification states that screws to be not less than 10mm from edge of board and this is not being achieved in many locations. Brookfield has confirmed that this has been raised at a progress meeting with Astins. The Sub Contractor is currently seeking information from Knauf on this issue. When Brookfield has feedback from Astins they will issue a further response. Brookfield has confirmed however at this stage the integrity and fixing of the boards should not be compromised. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 51).

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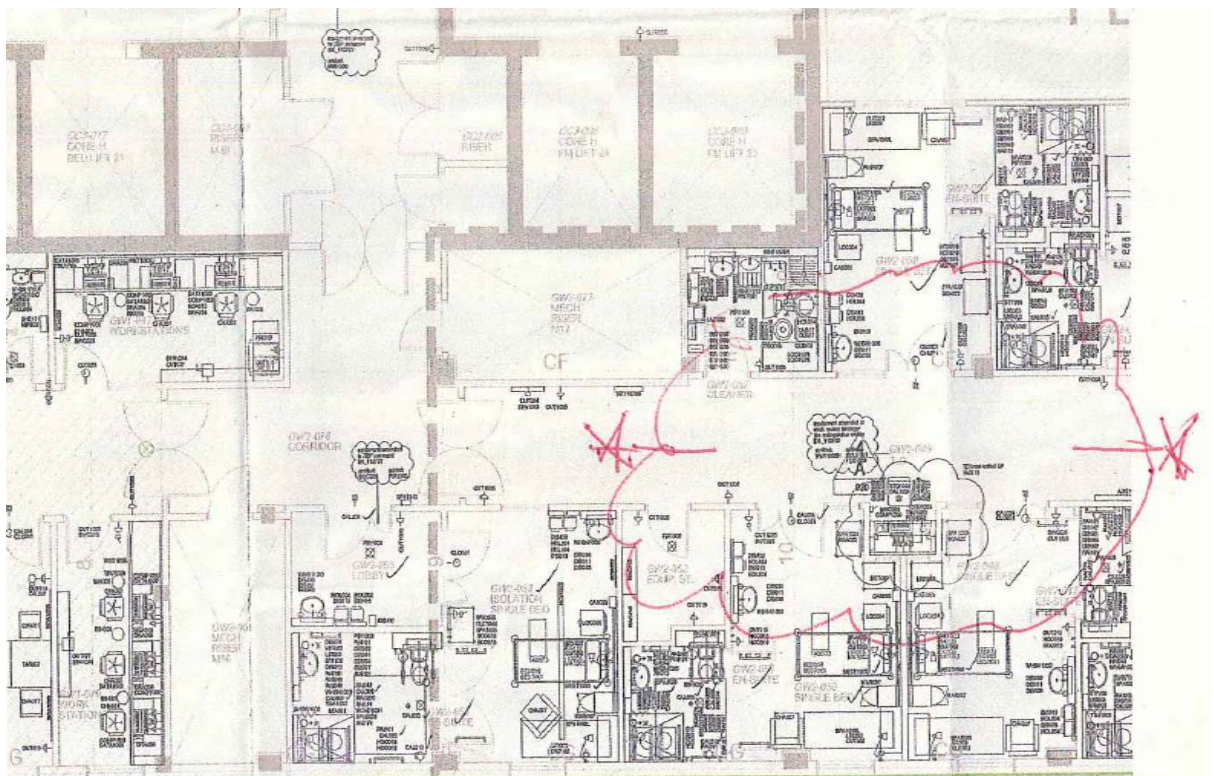
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Two access hatches are blocked by containment in the corridor. See photos and location below.

We have asked Brookfield to confirm when appropriate access has been provided so that we can re-inspect the hatches. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 53).



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We noted that the opening and closing turn handles which operates the internal blinds of the windows in Area1-528 were not operating properly. Some blinds were difficult to open and close and one turn handle at the single isolation room did not operate.

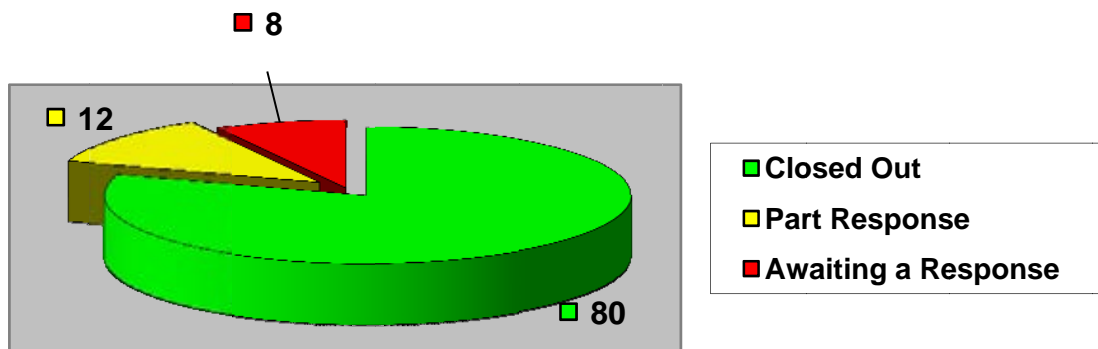
We asked Brookfield to confirm remedial measures and confirm that the operation of the blinds has been checked site wide.

Following a meeting with TDSL and their supplier from Highline Visicom on Tuesday 4th June and subsequent viewing of the units on site the following was agreed.

Supplier confirmed the problem with the opening and closing turn handles which operates the internal blinds of the windows was an alignment issue with the glazing and operating knob on the screens. In Zone G the screens came to site with a faulty clip which was the underlying reason for the defect.

Trace visited the site on Wednesday 19/06/13 and carried out repairs to the Highline blinds on level 1. There are still 6No blinds to be repaired this will be carried out by R&L joiners on Monday 1st July 2013. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 54).

We noted that there are areas of fire coating to the steelwork on the 11th floor Atrium Bridge which is damaged or cracked. We carried out a further inspection with Brookfield and were informed us that Stopfire on behalf of JD Pierce would re-visit the project on Friday 21st June to carry out further repairs to the intumescent fire coating on the atrium steelwork. We note from the Code of Practice for off-site intumescent coating that a dry film thickness test is not required for repairs to damaged coating. We will continue to monitor this. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 55).

5.0 INFORMATION REQUIRED

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Item No.	Description	Date Requested	Comment	
Items 1 to 21 have been closed out				
22	Brookfield to provide us with their Air Test Procedures and Programme.	03/07/12	Response received.	
Items 23 to 29 have been closed out				
30	Confirm when cabling is complete, water pumped out and batteries removed.	10/08/12	Response received.	
Items 31 to 44 have been closed out				
45	See Supervisor's Communication No 30.	18/09/12	Response received.	
Items 46 to 73 have been closed out				
74	Confirm flow of water from the sprinkler head is not restricted.	30/11/12	Response received.	
75	Confirm the access regime for sprinkler head maintenance / replacement.	30/11/12	Response received.	
76	Confirm when 3m dead legs have been altered in CCW-031	30/11/12	Closed out.	
77	Void detection appears inadequate and inaccessible due to plasterboard ceiling in CCW-051	30/11/12	Closed out.	
78	Hoist cabling is inadequately supported.	30/11/12	Response received.	
79	Junction box appears to be inaccessible due to ceiling installation	30/11/12	Closed out.	
Items 80 to 89 have been closed out				
90	Confirm void detector above ductwork provides adequate protection.	14/01/13	Response received.	
91	Confirms access hatch shall be accessible.	14/01/13	Closed out.	
92	Confirm that fire damper actuators highlights can be accessed on completion of the cold water and ceiling installation.	14/01/13	Open	
93	Confirm void detector above ductwork provides adequate protection.	14/01/13	Response received.	
Items 94 to 102 have been closed out				
103	Confirm on site painting of panels has the same life expectancy as the factory applied finish.	15/02/13	Open	
104	Confirm safe access through the light fittings will not compromise the finished ceiling installation.	28/02/13	Closed out.	
105	Provide Electronic Roof Integrity Tests for roofs on Levels 3&4. Confirm isolated area under the boiler will be finished in accordance with the manufacturers requirements and any damaged areas due to storing of materials are rectified.	11/03/13	Closed out.	
106	We have concerns materials and debris on roofs Level 2 Zone H and Level 4 Zone F will damage the membrane. Confirm all risks of damage are removed from the roof	11/03/13	Closed out.	
107	Please investigate the crack in the ground floor, review with your designers and provide a brief summary report on likely causes, including proposed remedial action and timing.	22/03/13	Closed out.	
108	A detail in the construction of the lead lined partition on Level 1 is being used which has not been approved. Ensure that the detail has been approved.	22/03/13	Response received.	
109	Confirm when back to back electrical boxes have been repositioned.	27/03/13	Closed out	
110	We noted that there was restricted access to ductwork. Please confirm remedial measures to address this issue in the corridor near Atrium Void Core C.	27/03/13	Response received.	

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111	Please check and confirm that the fixings to the steel angles to the wall at the 1 st floor suspended composite deck are in accordance with the specifications/codes of practice.	28.03.13	Open	
112	Confirm when the protective covers on the void detectors in rooms CCW-053 EQ BAY L and CCW 066 STATUS LAB on Level 1 have been fitted and confirm that the other detectors are also fitted.	10.04.13	Open	
113	Confirm how you will manage the reoccurrence of insulation being disturbed or removed from partitions as a result of the installation of services.	10.04.13	Closed out	
114	Confirm that there is 25% spare capacity on cable basket.	02.05.13	Closed out	
115	Confirm all Atrium steelwork has been fire protected. Confirm that areas hidden by panels have received a protective intumescent coating.	07.05.13	Closed out	
116	Confirm that there are sufficient access panels in Zone D MH S4 and MH S5. Confirm that 50 mm waste pipes connecting to 100mm pipes at floor level without rodding points are compliant with Building Control.	03.05.13	Open	
117	Confirm procedures to ensure the work to the incomplete concrete base has sufficient structural integrity.	15.05.13	Closed out	
118	Confirm the final detailing to internal RHS columns which appear to be held up by adjoining steelwork.	15.05.13	Response received.	
119	Confirm measures to address areas of steelwork in the Children's Hospital Zone B which have significant paint damage.	15.05.13	Response received.	
120	Confirm flatness and levelness (including floor specification and finishes) to achieve tolerances.	16.05.13	Response received.	
121	Confirm the design philosophy in relation to air handling unit 21AHU16 supply duct transition does not would appear to comply with HVAC DW144 clause 11.6 & 11.7	16.05.13	Open	
122	Condensate discharges are routed to gullies are a potential trip hazard. Confirm that the CDM Coordinator has considered this problem and confirm if there are any measures to address this.	16.05.13	Response received.	
123	LTHW pumps are mounted on inertia bases however, there are no pump flexes. Vibration will transmit through pipework as a result. Please confirm if this has been considered and if there any measures are proposed to address this.	28.05.13	Open	
124	Confirm when remedial measures have been completed in relation to the damaged duct.	28.05.13	Closed out	
125	Confirm proposed remedial actions to the non-compliant steelwork/concrete bases on the roof of the SE section.	20.06.13	Response received.	
126	Confirm areas identified in the Communication can be accessed in accordance with the Employers Requirements	24.06.13	Open	
127	Confirm when exposed heater battery coil has been covered.	25.06.13	Open	
128	Children's Hospital Roof Steelwork Zone A - please provide proposals to meet the design intent at the locations where bolts are missing at the parapet location.	25.06.13	Response received.	
129	Insulation has not been fitted inside the vertical SFS forming the window openings of the ground floor Children's Hospital. Confirm measures to address this.	26.06.13	Open	

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6.0 SUPERVISORS TESTS AND INSPECTIONS

Tests not required	N/A
Tests required but not tested	Req
Tests required which has passed tests	Pass

14/06/13 on Level 1 area 507

Tests				
Ref	Title	To be Notified by	Status	Test Date
01-51	Various tests undertaken from the 9/07/2012 to the 30/05/2013.			
52	85 Point Check Level 0-538.	Brookfield	Pass	11/06/2013
53	85 Point Check Level 1-507.	Brookfield	Pass	14/06/2013
54	85 Point Check Level 2-527.	Brookfield	Pass	19/06/2013
55	85 Point Check Level 3- PR33 Substation 4 & 4A.	Brookfield	Pass	26/05/2013
56	Fire Alarm Testing Level 1 Zone G	Brookfield	Pass	06/06/2013
57	Security System Level 1 Zone G	Brookfield	Pass	07/06/2013
58	Sprinkler Test Level 0 Zone G	Brookfield	Pass	21/06/2013

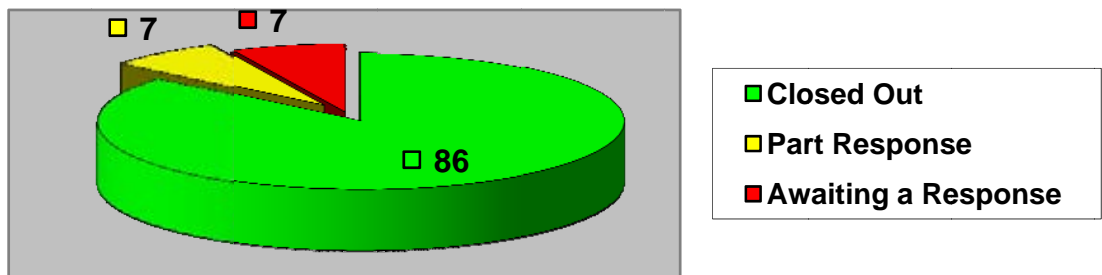
Inspection not required	N/A
Inspection required	Req
Inspection complete	Pass

Inspections				
Ref	Title	To be Notified by	Status	Inspection Date
Inspections 1 to 3 from 09/03/2013 to 20/03/2013				
1	85 point check to partition Level 0	Brookfield	Pass	10/04/2013

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7.0 DEFECTS NOTIFICATIONS ISSUED



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	Description	Date Requested	Comment	
Items 1 to 11 have been closed out				
12	Motorised damper inaccessible due to adjacent duct in Plant Room.	02.10.12	Closed.	
13	Restricted access to ductwork access hatch in corridor adjacent to Zone H near Stair Core F	02.10.12	Response received.	
14	Ductwork obstructed by modular frame Zone H.	02.10.12	Response received.	
Items 15 to 47 have been closed out				
48	Confirm remedial action to address the restricted access to the duct hatch.	09.04.13	Open	
49	Confirm that all curtain rails will be fitted in accordance with the manufacturer's recommendations or provide details where there are changes to the standard detail.	12.04.13	Closed	
50	Confirm when lead lined penetrations have been removed and holes sealed	09.05.13	Closed	
51	Knauf boards not fixed in accordance with NBS Specifications. Boards fixed too close to edge of board.	14.05.13	Open	
52	Confirm when penetrations through roof protection membrane have been repaired.	16.05.13	Closed	
53	Confirm when appropriate access to hatches in level 3 Zone A are provided.	16.05.13	Open	
54	Faulty internal blinds. Confirm when remedial action has been completed.	30.05.13	Response received.	
55	Confirm when damaged fire coating has been renewed and provide dry film test results.	30.05.13	Response received.	
56	Confirm when restriction to access hatch has been addressed.	03.06.13	Open	

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND
ENERGY CENTRE****SUPERVISOR'S REPORT NO. 27****JUNE 2013****John Redmond
Capita Symonds
Technical Advisory Services****The Beacon, 8th Floor, 176 St Vincent Street, Glasgow G2 5SG**

	Signed	Date
Originated by	John Redmond	3rd July 2013
Completed by	John Kilbane	3rd July 2013

CAPITA SYMONDS

**NEW SOUTH GLASGOW HOSPITAL
ADULT AND CHILDREN'S HOSPITAL AND THE ENERGY CENTRE
NEC 3 SUPERVISORS REPORT NO. 28
JULY 2013**

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SUPERVISOR'S REPORT NO. 28**JULY 2013****1.0 EXECUTIVE SUMMARY: ADULT & CHILDREN'S HOSPITAL**

Visits to the site during July 2013 indicated that the construction and procedures are progressing in a satisfactory manner in accordance with the Employer's Requirements.

Throughout, the standard and quality of the workmanship is generally good and operations are being carried out in an acceptable manner.

Together with Brookfield we carried out quality and compliance inspections on Level 1 Area 1-524, 1-521 and 0-528. The areas inspected were to a good standard and the defects captured by Brookfield were generally of a minor nature. We did however identify a few defects which Brookfield recorded on to their IDMS system. We raised a Communication in relation to the position of pull cords in a few en-suites on Level 1. A few were identified on Level 1 and these were brought to the client's attention for them to review. We also intend to raise a Defect for in relation to smoke detectors which are too close to supply grilles.

Brookfield continues to undertake their Quality Assurance systems on site with inspection and checklist documentation available for the ongoing construction activities. Over the period, we have closely liaised with Brookfield and witnessed 85 point check to the partitions on Level 0 Area 0-528, in room THE-137, Level 4 Area ZA Room LVA, and Level 2 Area 2-511 in room DCU-025.

The partition on Level 0 Area 0-528 was an early wall where insulation was found to be disturbed next to conduits and this was addressed prior to the board being refitted. Additional checks were made to partitions in 0-524 and 0-028 and these had no faults. The floortrack in room THE-137 was not bedded with sealant. The partitions on Level 4 Area ZA Room LVA, and Level 2 Area 2-511 room DCU-025 had no faults.

Civil and structural works continue to be to a generally high quality standard.

In respect of the piling records on ZUTEC, replacement of the current construction drawings by 'as built' drawings is still awaited.

Piling is completed in the car park area and from a quality perspective appears to be progressing satisfactorily. Full test results are still awaited. Foundation works have commenced and quality to date appears satisfactory. Drainage, sub-base and tarmac have been placed to a significant area of the ground floor and quality here is also satisfactory.

All pods to the Atrium Bridge have now been positioned and additional deflection checks to date have been further examined in respect of datum issues by the Brookfield team. Proposals in respect of final screeding and floor finish levels are still awaited.

Local concrete work at the top of Cores and in the helipad area has progressed in the period in a satisfactory manner.

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Steelwork erection has continued to the roof of the Children's Hospital in Zones A and B. Communications have been raised with Brookfield and are listed on the following pages. These remain outstanding.

Steelwork erection has also continued on the roof of the ACH and now extends to all 4 arms. Some communications raised in respect of this steelwork are still being addressed.

The sample AHU21 in plant room PR21 was inspected and comments provided for action by Mercury. It was agreed that this unit will form the standard for all other AHU's, therefore any issues are to be fully closed out to ensure quality installation.

The M&E installation quality is being maintained to a good standard and we are satisfied that these are being installed to a compliant standard.

We have identified potential issues with pipework module support and have been provided with comprehensive structural calculations, fixing methods and overall working weights. These calculations appear to provide the required information to allow this issue to be closed. It should however be noted that it would appear the previously identified smaller washer fixings may have been replaced.

The M&E installations are progressing on all levels up to Level 12 and range from first fix module installation to completed and tested areas.

The installations in the Energy Centre are well advanced with the advanced A-side systems commissioned and handed over. Commissioning programmes for the B Side have been presented and significant commissioning will be taking place from June to December 2013.

Various witnessing of commissioning activities has been carried out to structured cable, lighting control system, fire alarm loops and tests to pumps/ boilers. We also assisted in carrying out a quality and compliance check to the ground floor Adult Acute Assessment.

We are continuing to work with Brookfield during our inspections highlighting any items that have raised concern. Items identified in this manner are generally being addressed by the site team in advance of any defect notice being raised.

Brookfield and Mercury are developing an Above Ceiling Access Strategy to address difficult access problems as they arise.

In general terms we are satisfied that the installations continue to be installed to a compliant standard, and are of a good quality. However we have noted that certain items this month that have raised concern. These have been raised with the Contractor as follows:-

Supervisor's Communication General Matters / Other Instructions No 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147 and were issued in July.

- Notification to Brookfield of open end to pneumatic tube.

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- Seeking remedial proposals for the column bases where there is insufficient nut connection to bolt threads.
- Seeking confirmation that specification requirements have been met in relation to cracks in the 4th floor concrete slab Or the proposed remedial action.
- Seeking confirmation that the fire rating of flexible connections, fans supports and in Plant Room PR31.
- Seeking confirmation of the methodology of structural support of prefabricated modules.
- Concerns about the unistrut pipework which is visibly bent. Seeking confirmation that structural supports utilised are compliant with design intent.
- Seeking method for re-coating fire rated ductwork.
- Seeking clarification to issues raised in relation to AHU 21.
- Seeking confirmation when the unsupported ventilation pipe has been addressed.
- Seeking confirmation that there is adequate seal to back boxes.
- Seeking confirmation when pull cord has been re-positioned.
- Seeking technical solutions to various structural issues to steelwork to the Children's Hospital.
- Seeking confirmation when restricted access hatches have been relocated.
- Seeking confirmation when a clash between pipes and drainage has been addressed.
- Seeking confirmation when replacement parts to the AHU on Level 5 have been fitted.
- Seeking confirmation of proposals to achieve level floor at door openings to rooms on the Atrium Bridge.
- Seeking confirmation when smoke detectors have been repositioned to minimum distance from supply grille.
- Seeking confirmation when insulation is fitted to SFS on level 2 Zone J.

Supervisor's Notification of Defects No 57, were issued during July.

- Confirm when insulation has been fitted to upper section of ceiling.
- As there was no sealant to the floor track we are seeking drawings identifying likely partitions that may have to be checked.

We continue to be assisted by the site teams and the NHS Project Team who produce an internal weekly report which assists us in resolving various construction, mechanical, electrical and quality issues. We continue to close out our Supervisor's Notifications and Defects when we have received satisfactory responses.

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2.0 DESIGN COMPLIANCE CHECK

Currently nothing to report.

3.0 PROCEDURES REVIEW**3.1 Contractor's QA Procedures**

Brookfield and their subcontractors have continued with their QA and checking and inspection procedures during this period. We are in discussion and liaise with Brookfield's Quality Manager on QA matters and we undertake regular reviews of their QA documentation.

Together with Brookfield we carried out quality and compliance inspections on Level 1 Area 1-524. The areas inspected were to a good standard and the defects captured by Brookfield were generally of a minor nature. We did however identify a few minor defects which Brookfield recorded on to their IDMS system. These included a broken window blind handle and a handle difficult to operate. The alarm pull cord in Room CCW-179 is in the wrong position at the rear of the wc bowl.

Quality and compliance inspections were carried out on level 1 Area 1-521 and the quality was good. Brookfield has logged defects onto their IDMS system. We did note a few defects which Brookfield recorded onto their IDMS system. We also noted that pull cords next to the WC bowels in the en-suites had not been fitted in a position where they could be used and we have raised A Supervisor's Notification. There were a couple of rooms where the ceiling had not been completed properly and Brookfield has confirmed that these would be addressed. The turn handle to viewing window into CCU-012 was stiff and this was recorded as a defect.



Ceiling not finished properly

The first of the quality and compliance inspections were carried out on level 0 Area 0-528 and the quality was good. We have raised a Supervisor's Communication for the smoke detectors which were too close to supply grilles in a few of the rooms.

We undertook inspection with Brookfield on Level 1 Areas 1-510, 505, and 508 and noted that putty pads were still to be fitted in Areas 1-510. There was no insulation in a section of the wall between THE-152 Corridor and THE-125 Scrubs. Brookfield confirmed that they would pursue this with their sub contractor. Some insulation was missing from the upper section on the partition between THE-050 and RCF-032 Brookfield confirmed that this would be addressed prior to final boarding.

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An 85 point check was carried out to a partition formed on Level 0 Area 0-528 was an early wall and insulation was found to be disturbed next to conduits and this was addressed prior to the board being refitted. Brookfield confirmed that additional checks will be carried out.

The partition in room THE-137 area 1-505 was inspected as part of an 85 point inspection and the check identified that there was no mastic applied to the floortrack. See Defect No 58.

An 85 point check was carried out to a partition in the Children's Hospital formed on Level 4 Area ZA Room LVA and the result of the quality check was satisfactory with no failures in the construction.

We have received Programme BM-G53-OT01-0572 and Drawings indicating the full extent of areas of the Air Test Procedure and Programme together with approx programme dates. Consequently this closes out Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 22.

3.3 Board Equipment Installation, Testing and Commissioning

Currently nothing to report.

3.4 Non Conformance Reports

We reviewed Brookfield's NCR Tracker and noted the issues raised by the Package Managers. The blockwork and pointing on the south and east elevations although improved by cleaning continues to be a concern with shading of the mortar evident. Prater has still to offer it up to Brookfield as complete reference NCR 156. We are also monitoring the issue in relation to water between the glass of the Structal Panels NCR reference 157 and 219. Brookfield has had an independent survey to be carried out by Cladtech Associates and Brookfield await their report.

4.0 CONSTRUCTION REVIEW**4.1 Visits to the Works**

The following members of our team undertook site inspections, reviewed documentation, attended meetings and met with relevant Trust, Project Co and Contractor on-site personnel:- John Redmond (Lead NEC3 Supervisor) 3rd to 7th, 10th to 14th, 17th to 20th and 24th to 28th July; Allan Follett (M&E NEC3 Supervisor) on 17th and 30th July plus remote desk top input; Ian Barnes (M&E NEC3 Supervisor) on 17th & 30th July plus remote desk top input; Dave Hiatt Jones (M&E NEC3 Supervisor) 2nd, 3rd, 10th, 11th, 17th, 18th and 30th July plus remote desk top input; Douglas Wilson (M&E NEC3 Supervisor) 22nd, 23rd, 24th, 25th, 26th, 29th, 30th 31st; Willie Roxburgh (Civils/Structural NEC3 Supervisor) part days on 3rd, 5th, 8th, 10th, 16th, 18th, 22nd, 24th, 29th and 31st, plus remote desk top input each day; Capita Symonds Independent Tester team visited site a combined 48 person days.

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4.2 Elements of the Works available for inspection

- Energy Centre – structurally complete. Civil works around.
- Main building – all concrete areas.
- External Drainage – specific sections of installation where access is possible.
- Tunnels between ACH and Labs, and Cores C to F.
- Structural steelwork to Atrium (limited due to access).
- Structural steelwork to all roof areas.
- Dual carriageway to Renfrew Road, turning area in front of the main entrance, and carriageway from Hardgate Road.
- Car park area.
- Internal Partitions.
- M&E modular units.
- Roofing.
- Cladding.
- Windows.
- Sto system.
- Brickwork Courtyard 5 and south east elevation.
- Brickwork/blockwork south east elevations.
- Basement blockwork.

4.3 Observations from June 2013 Inspections

The visual inspections of the work carried out to date indicate that the works are generally being carried out to a satisfactory standard. We continue to be assisted by the site teams and the NHS Project Team in resolving various construction, mechanical, electrical, and quality issues. We continue to close out our Supervisor's Notification and Defects when we have received satisfactory responses. Listed below are observations closed out, still to be closed and those raised following site visits in July 2013.

4.3.1 Structural

In respect of the piling records on ZUTEC the current construction drawings are still to be replaced by 'as built' drawings. Piling to the new car park has been completed, but piling tests and record details are awaited. Quality of foundation work to date together with the drainage, sub-base and tarmac installed, appears to be satisfactory.

All pods to the Atrium Bridge have now been positioned and additional deflection checks to date have been further examined in respect of datum issues by the Brookfield team. Proposals in respect of final screeding and floor finish levels are still awaited.

On the Children's hospital roof steelwork a number of communications have been raised which are still to be satisfactorily addressed. This is also the case with a communication raised some months ago re connections to a support angle at the 1st floor level in Zone A.

Steelwork erection to the ACH roof areas, now in all areas, has generally been satisfactory but 2No communications re fixings and column bases have been raised and responses are awaited.

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Concrete work has continued in the period in local areas at the top of Cores and in the helipad area in a satisfactory manner.

We have brought to Brookfield attention the fixings of the steel angle to the wall at the 1st floor suspended composite deck in the atrium area of Zone A of the Children's hospital. We have asked them to confirm they are in accordance with the Specification and relevant current codes of practice and standards. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 111. We would note that this has not been addressed for at least 8 weeks and the concrete deck above has now been cast.

Two internal RHS columns in the Children's Hospital Zone B appear to be held up by adjoining steelwork. This may be work in progress, but we asked Brookfield to confirm the final detailing. Brookfield has informed us that the final detail is a connection to concrete. The concrete works and subsequent bolting up will be undertaken prior to the installation of any cladding. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 118.

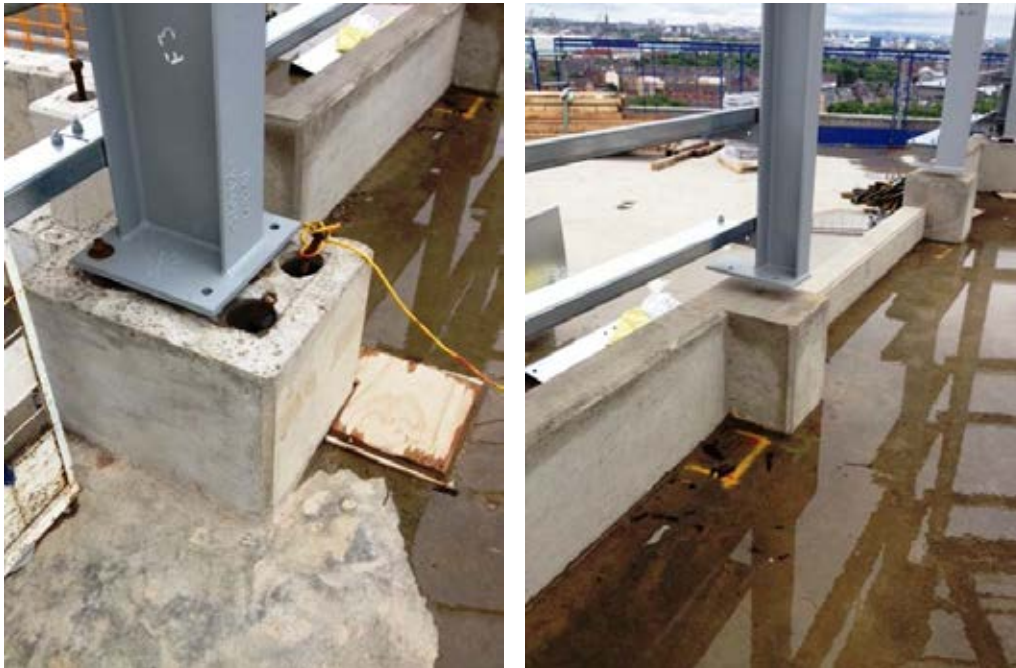


Several areas of steelwork in the Children's Hospital Zone B have significant paint damage. Brookfield has confirmed that the painter will return to site (when the liner sheet is in place to offer sufficient protection) to carry out the remedial painterwork. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 119.

We asked Brookfield to advise on the proposed remedial actions to the non-compliant steelwork/concrete bases on the roof of the SE section of the ACH, and confirm that such measures will be in accordance with the specification. Brookfield has informed us that the solution has been developed by the steelwork contractor alongside WSP and agreed by WSP for those bases where the HD bolts do not align

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with the steelwork baseplate. This remedial work has been carried out, and, apart from paintwork, appears to be satisfactory. Contractor's proposals for the 'floating' columns are still awaited. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 125.



We asked Brookfield to provide proposals to meet the design intent for the Children's Hospital Roof Steelwork Zone A where bolts are missing at the parapet. Brookfield reported that they were aware of this situation and has had previous discussions with William McColgan WSP during a visit to site. This will be escalated with WSP and a formal response will follow. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 128).

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We have asked Brookfield to advise us of the remedial proposals for those column bases where there is at present insufficient nut connection to bolt thread. Brookfield has confirmed that these details have been consistently incorrect throughout and will secure a detail via JDP/WSP. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 131).



Several large cracks have appeared in Children's Hospital Zone A, 4th Floor Concrete Slab. We asked Brookfield if they could investigate and confirm that the specification requirements are met or provide details of proposed remedial action. Brookfield's Manager Samson Abogunleruri discussed this issue with Capita

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Symonds Willie Roxburgh on site. The situation was explained that the cracks had appeared following the blasting of the floors, similar to Supervisor's Communication 107. This area has now been screeded with no sign of cracking. In addition the soffit below was viewed and it was agreed that the outcome was the same as identified in our response to Supervisor's Communication 107. (Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 132 is closed out.



We have asked Brookfield to provide technical solutions to various situations on the structural steelwork to the Children's roof where base plates are 'floating', edge distances are minimal or miss the concrete base, and where cladding rails currently prevent HD bolt fixing. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 141).

4.3.2 Energy Centre

Steelwork snagging appears to have been addressed, but much tidying up remains outstanding in the eastern half of the building.

4.3.3 Drainage

We noted that the above ground storm drainage has a lack of ground floor access panel. Zone D. MH S4 in courtyard has a 100mm storm pipe running from inside the building. This pipe has no access panel in the ground floor partitioning. We have asked Brookfield to advise on their proposals in respect of this to comply with current building standards and/or Building Control requirements. We also asked them to check all such locations throughout the building to ensure that they also comply and advise accordingly.

Brookfield has confirmed that all RWP's and SVP's in all locations have inspection access hatch installed at 1200mm above FFL on the ground floor prior to the connection to the underground drainage.

With reference to the above ground storm drainage position of access panel. Zone D. MH S5 has a 150mm storm pipe running from inside the building. Inside the building the pipe run above slab level is insulated and an access panel at ground floor level is apparent, however this access panel is located in an unsuitable position, and would be very difficult to utilise if the requirement arose. We asked Brookfield to advise on their proposals in respect of this to comply with current standards. We also

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asked them to check all such locations throughout the building that they also comply and advise accordingly.

Brookfield is seeking clarification and would prefer to inspect this pipe on site. Brookfield has confirmed that all pipes have been installed in accordance with these construction issue approved drawings. The ME 581 series drawings provide detailed dimensioned locations for installation of the pipe work.

With reference to above ground waste drainage some waste water pipes (not foul sewer) above ground level are 50mm diameter in size. These connect to 100mm diameter below slab pipes via a transition connecting piece just above floor level. From the perspective of rodding or clearing of any blockage that may occur. We have asked Brookfield to confirm that the installation is in compliance with current standards and Building Control requirements.

With respect to the above Brookfield has confirmed that all pipework is installed in accordance with the approved construction issue coordinated drawings. This is standard practice in accordance with accepted procedure for building control and it is unlikely this pipe would block. This pipe only takes waste water and not soil. We intend to review and inspect with Brookfield/Mercury the issues mentioned above See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 116.

4.3.4 Dual Carriageway to Renfrew Road. (A&C)

The defects previously identified will be reviewed nearer to completion when they will be effectively rectified.

4.3.5 Pipework.

Installation of hot, cold, heating, & chilled water pipework in the A&C hospital is progressing and in general is being installed to a good standard.

We are continuing to monitor all pipework installations to identify possible dead legs. The quality checking by Brookfield would appear to be identifying these before our inspections. Open unprotected ends are also being identified on site inspection reports when encountered. During our visit on 30th July, this was becoming more evident particularly on sprinkler pipework at upper levels.

We have asked Brookfield to confirm the flow of water from the sprinkler head highlighted is not restricted by the adjacent section of unistrut. Brookfield has confirmed that the sprinkler head deflector appears to be under the unistrut and that the Sprinkler contractor will check this when they are installing the under services protection. If the head is shielded by the unistrut, they will turn the head pendant. Still awaiting photograph showing completed work. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 74).

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During our inspections in Plant Room 21, we noted that all AHU condensate discharges are routed to gullies via low level unprotected plastic pipework. This is a potential trip hazard. We have asked Brookfield to confirm that the CDM Coordinator has considered this problem and has asked if there are any measures to address this. There is also the risk of the pipes being broken. Refer to SHTM03-01 clause 4.25. Brookfield has confirmed that where appropriate, sheet metal guards will cover condensate discharges. However we have requested to see a typical detail of what they are proposing to allow further comment.

We have asked Brookfield to confirm if a ramp (up/down) will be installed over the low level pipework & be fixed in position. Also in some instances, where the pipework is particularly exposed, this ramp may need to extend further along the length of the pipe or additional protection provided. We have asked again if the CDM Coordinator has considered this problem and has taken cognisance of SHTM03-01 clause 4.25. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 122).

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LTHW pumps are mounted on inertia bases however, there are no pump flexes. Vibration will transmit through pipework as a result. Possible longer term leakage/damage through pipework joints. We asked Brookfield to confirm if this has been considered and if there any measures are proposed to address this. Brookfield has provided us with an independent vibration testing data verifies that three Victaulic couplings in close proximity to a vibration source (pump, equipment etc.) provide superior vibration attenuation in piping systems. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 123 is closed out.



Following a visit to site we raised our concerns that there are some locations where there is insufficient space for maintainable, replacement building services and plant as per the Employers Requirement Section 5.13 Facilities Management.

We raised our concerns with Brookfield in relation with the following areas.

Level 2 Zone H. Pipework connections above line of unistrut. Access appears difficult. We have asked Brookfield to confirm that future access will be available.



NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND ENERGY CENTRE

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Level 2 / Zone K. Current access to install chiller water riser pipework appears difficult. We have asked Brookfield to confirm that future access will be available once walls are constructed?



Level 3 / Zone H. Pipe Racks in area showed below have multiple levels of pipe work. We have asked Brookfield to confirm that future access will be available. Brookfield confirmed that access to the 3 areas identified will be accessible for FM in compliance with ER Section 5.13. The access arrangements for this item will be recorded as part of the Access Strategy Tracker which is currently being developed by Brookfield and Brookfield. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 126).



During an inspection we noted that the pipework modules in Plant Room PR31 adjacent sub-station 2A are being installed utilising drop rods with Unistrut hangers. These are supported in some cases by what appear to be small size bolt fixings and 10mm drop rods. The bolt and washer fixing shear strength causes concern as the washer itself may fail when pipework is filled increasing weight. We asked Brookfield to confirm methodology for structural support of pre-fabricated pipework modules. In addition, lateral restraints are not currently installed.

They have confirmed that the methodology for structural support of pre-fabricated modules is correct. They have also confirmed that the drop rods for plant room modules are 12mm. They have informed us that the TAPCON fixings are suitable for the application with the "washer" being an integral part of the fixing head. Independent test confirms span of 800mm Unistrut capable of supporting a minimum of 1.5 tonnes, each bolt head at slot taking a minimum of 0.75 tonnes without any deflection of the channel at the slot where the fixing was made. Nine bolts per side on

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a typical 4,800mm plant room module giving an overall support of 13.5 tonnes minimum. They intimated that the heaviest plant room module they have on the site is MEP-5773-PR31-122-001 - Module dry is 1850kg + Water is 1575kg, Total = 3425kg.



Test of TAPCON fixings

Test report for the TAPCON fixings is on the following page.



Test Report

Test Carried out for	Date
Mercury Engineering	25 th June 2013
Address	Test Carried out by
Ravens Rock Road Dublin 18 Ireland	A. Fairweather (MEF Ltd.)
Site Address	Witnesses by
NSGH Hardgate Road Glasgow	David Dickie Gerry Finn
Test Equipment No.	ID03187
Date of last Calibration	12/3/2013

Test No.	Fixing Type	Drill Bit	Embed Depth	Load Applied	Mode of Failure
1	ITW TAPCON LDT 10x64	8mm SDS Drill Bit	62mm	15Kn	Proof Load
2					
3					
4					
5					

Base Material Details
Test conducted in the concrete soffit No deflection of the channel at the slot where the fixing was made was noted

Test Conducted by	Alistair Fairweather		Date	26 th July 2013
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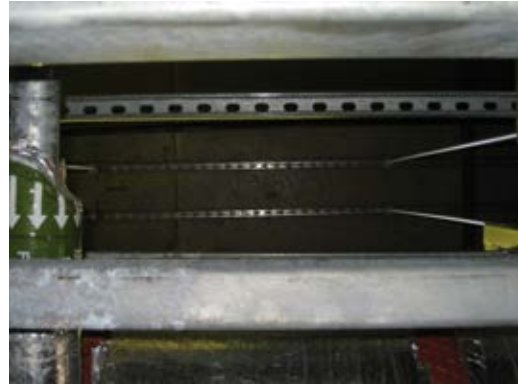
We have also carried out a joint inspection with Brookfield / Mercury of the fixings to the underside of the soffit and are satisfied that they are fixed as specified. We also have received TAPCON data fixing sheets.

Lateral supports are work in progress and are yet to be connected.

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(See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 134).



We noted that the unistrut pipework support had visibly bent under weight of pre-fabricated pipework module in Plant room PR31 adjacent sub-station 2A.

This will become more pronounced when pipework is filled with water. We asked Brookfield to confirm that the structural supports utilised are compliant with the design intent. Brookfield has replied that the frames are suitable for their intended function and have provided calculations. They have informed us that this appears to have been mechanical damage and not deformation due to weight of the services. We have not found any fitted modules with bowed frames in this manner. Further investigations are being carried out by Brookfield and Mercury. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 135).



We noted a clash between the cold water pipes and drainage connection in the corridor and room OPD-031. Brookfield has confirmed that they are investigating this issue. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 143).

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We noted that sprinkler system pipe was clashing with the electrical trunking in rooms DMW-044 AND 045 and AFD-004 on Level 2. This was discussed with Brookfield and they confirmed that they would address this.

4.3.6 Ventilation

We were in attendance to witness the successful test of the supply and extract airflow testing of AHU's 24 & 25 within plant room 21 and levels 1 & 2 of zones D&G, and dirty extract fan 39.

We noted that there was restricted access to ductwork in the corridor near Atrium Void Core C. Brookfield has confirmed that the tray has been re-routed. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 110.



We noted that the air handling unit 21AHU16 supply duct transition does not appear to comply with HVAC DW144 clause 11.6 & 11.7 which could result in high pressure loss.

Brookfield has confirmed that ductwork is not in compliance to drawing/specification and will be replaced. However we await the design philosophy in relation to the proposed remedial measures. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 121).

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There is an open duct in the corridor at high level outside room 23HU 044 and we have brought this to Brookfield's attention that it needs to be sealed to prevent contamination/ dust ingress.



Plant room PR31. Fire rating of fans adjacent to atrium – west side of building.

We have asked Brookfield to confirm that the fire rating of the flexible connections and supporting system in Plant room PR31 is equivalent to the overall system requirements. The fan is located adjacent to atrium at the west side of building. We have also asked them to confirm fire rating of fans (observed as non-bifurcated type). Brookfield confirmed that this is currently being investigated by Mercury and a formal response will be issued in the next period. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 133).

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We noted that some fire rated ductwork sections have been damaged during installation. We asked Brookfield to confirm the method for re-coating the painted finishes, integrity test procedure to meet compliance and identification. They have confirmed that the remedial work will be implemented in accordance with the attached method statement. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 136 is closed out.

APPENDIX E

**METHOD STATEMENT**

THE REPAIR OF F.F.C. FIRE COATING SHOWING SIGNS OF FLAKING OR PEELING DUE TO IMPROPER APPLICATION IN THE FIRST INSTANCE

- 1) The affected area shall be inspected and any loose material removed using a suitable scraper or a light abrasive material.
- 2) The repair area shall be checked to ensure that it is clean and dry.
- 3) Ensure the area is properly etched and no grease or oil is present.
- 4) The repair material will be Fenland Fire Contracts FFC250 fire rated intumescent coating.
- 5) Brush, roller or spray can be used to apply the FFC250 repair material.
- 6) Minimum recommended application temperature 5°C.
- 7) Care should be taken to ensure that the applied thickness of the repaired coating meets with the requirements of the fire rating of the ductwork system.
- 8) A minimum of 24 hours should be allowed for the repaired area to cure.
- 9) Whilst Curing the repair must be protected from frost.

Following an inspection of Plant Room PR21 we raised a number of points which were clarified, however the items below are still awaiting comment from Brookfield.

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- Confirmation received that diffuser plate will be fitted to alleviate fan discharge velocity issues raised (items 1a, b, d, e & f). We asked for details of the proposed diffuser plate to be fitted in front of supply AHU fan discharge. The diffuser plate already fitted to AHU 21 appears inadequate for its intended use. Brookfield is awaiting a response from the Manufacturer.
- Item c - please confirm Coil 'off coil' conditions. Brookfield has confirmed that this is as per ZBO Schedule ZBP-XX-XXSH-600-323.
- Please confirm grade of filtration. Do the bag filter grades vary depending on application? Brookfield has confirmed that standard throughout and as per ZBP Schedule ZBP-XX-XX-SH-600-323.
- We asked for confirmation that the AHU is compliant with SHTM03-01, or state any agreed derogation. Some aspects stated do not comply with the SHTM & will require agreement from the Board. Brookfield has confirmed that all All units are SHTM compliant and inline with ZBPs design. There are a few cases where the specific fan powers could not be achieved as the manufacturers' limiting velocity of 2m/s across components would not have been achieved, this has been brought to ZBP's attention. All units are approved and supplied to ZBP's design schedules.

(See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 137).

There is an unsupported ventilation pipe passing through rooms above the ceiling line of Rooms RCG-067 Cleaner, RCG-068 Baby Sleep and RCG 070 Change. The duct is currently supported across vertical stud members. Brookfield has had to confirmation from Mercury that the spiral duct hasn't been fixed. MJ VENT has been advised and works will be rectified. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 138).

We noted that the access hatches were located within the line of the partition wall on Level 2 room DMW-040. Brookfield confirmed that they are investigating this issue. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 142).

Level 5 AHU 41 AH19 has a damaged door, door handle and isolator handle. Brookfield has confirmed when that this issue is being investigated. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 144).

4.3.7 Insulation

The thermal insulation installation to the pre-fabricated sections of pipework is being completed off site, before delivery and completed after installation.

4.3.8 Pressure testing

Pressure testing of the modular pipework sections on a zone by zone or area by area basis has been programmed through the commissioning meetings.

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4.3.9 Medical Gases

Medical Gas pipework in being installed in all areas and independent tests are being witnessed by Ian Sandford of Hulley and Kirkwood.

4.3.10 Energy Centre

Electrical testing witnessing was undertaken to the energy centre level 2, to MCCA2 and MCCA3. Tests were undertaken on randomly chosen circuits to verify live test results of phase rotation, voltage and impedance. All phase test and voltage results were satisfactory. Impedance results were satisfactory and noted as follows.

4.3.11 Trunking

Cable trunking is being installed as part of the offsite fabricated sections that are being installed in the A&C hospital and in general the installation is to a good industry standard.

4.3.12 Cable Trays

Cable trays are being installed as part of the offsite fabricated sections that are being installed in the A&C hospital and in general the installation is to a good industry standard.

4.3.13 Cabling

Modular wiring looms are now being installed as part of the offsite fabricated assemblies and carefully tied up for protection and installation is of a good standard.

Fire System

We were in attendance to witness the successful test of the fire alarm loop test at panels 22, 59 & 60.

Structured Cabling

We witness the successful test of the structural cable testing between Hubs 128 & 117 and various outlets.

4.3.14 Conduit

Solid conduit installations are well progressed in the areas being fitted out and are to a good industry standard.

4.3.15 Void Detection

Hoist cabling in CCW 051 is inadequately supported. Brookfield confirmed this has been clipped and a photograph will follow as soon as they get access back into the area. The detail shown will be that for the rest of the hoist cabling. Photograph still awaited. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 78).

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Brookfield has confirmed that the relocated void detector provides adequate protection. There is also a gap of 200mm from the top of the ductwork to soffit. We have also received Scotshield's updated drawings. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 90 is closed out.

Brookfield has confirmed that the fire detection system is adequate and no detector heads are obstructed in the location given in this notification. We have also received Scotshield's updated drawings. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 93 is closed out.

We noted that there were no protective covers on the void detectors in rooms CCW-053 EQ BAY L and CCW 066 STATUS LAB on Level 1. Brookfield has confirmed that the detection system at high level in 01-ZG-527 is fully commissioned. Protective covers have been permanently removed as the detector heads are in a clean environment above ceilings. Brookfield has confirmed that the area is locked down and accessible by permit only. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 112 is closed out.

The smoke detector within the lobby on Level 1 Room CCW-049 is within 300mm of the supply grille. We have asked Brookfield to confirm when this has been repositioned to the minimum distance of 1metre. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 146).

4.3.16 Intake Sub Station

Brookfield has confirmed that the communication cables are still to be pulled into the Substation. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 30 & 45).

4.3.17 Partitions

During an inspection on site we noted that screws had not been fitted at 200mm centres to the end of all the Assess/Treat bays in Area 522. Brookfield confirmed that this would be addressed.

We noted that the gap between the lead lined sheets fixed from the soffit and the sheet fitted from the floor had been in filled with a board which was not lead lined. Brookfield has confirmed that Knauf has approved a new detail drawing and has been given a 'B' Status by the NHS. We have received drawing AST-XX-XX-DT-252-111 REV A. This drawing has been updated from the original taking account of NHS Comments and is in workflow awaiting further comments/ Approval from NHS. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 108).

Following an inspection with Brookfield on Level 1 we noted areas where insulation was missing. Brookfield has raised NCR's for the following areas room THE-124 Scrub and THE-152 Corridor. We shall continue to monitor this through Brookfield's NCR tracker.

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4.3.18 Roofs

A&C Roofs

Courtyard 2, 3, 4 and 5 on Level 1 and 2 are progressing to completion with Brookfield awaiting the final snagging by Praters.

The roof covering zones G and D on Level 3 is progressing to completion with Brookfield awaiting the final snagging by Praters.

The remaining roofs on Levels 2, 3 and 4 including the Green Roofs are progressing as are the hotmelt roofs on Level 12.

The Sarna Roof covering is also progressing above Plant Room 121.

Once Brookfield has carried out their final inspections we will re-visit the above roofs to carry out their final inspections.

Generally the quality of the workmanship is good throughout, however some areas of unprotected roof on Level 1 is being used as a storage area resulting in indents in the surface of the roof. Brookfield is aware of this and we will issue a Communication in relation to this issue.

Children's Roofs

The installation of the Barrel Vaulted roof has commenced with the quality of installation good.

The Sarna roof is progressing with only a few minor issues with open welds which Brookfield has highlighted.



Joint section at Barrel Vaulted Roof.



Sarna roof covering nearing completion.

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4.3.19 Cladding/Courtyards

Cladding is substantially complete in courtyards 2, 3, & 4 and plant room 21 & 31. The "STO" system is substantially complete in courtyard 2, 3, 4 and 7. Brookfield is to carry out their final quality inspections and sign off. The STO is in progress in Courtyards 8 and 9 and has progressed around the external façade of the Children's Hospital. The standard and quality is generally to a good industrial standard.

Courtyards 2, 4 and 5 are almost complete and are soon to be offered up to Brookfield for their final inspection. Following this we will carry out our quality and compliance inspection.

The stone rainscreen is progressing on the east elevation and the quality is good.



Repairs and painting was carried out to two damaged panels and these were acceptable to the client. Brookfield awaits confirmation from Rukki that their Warranty is not compromised as a result of the repair/repaint. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 103).

4.3.20 Windows

Windows are progressing on the external elevations and courtyards in accordance with the specifications.

4.3.21 Fire protection

Fire Protection is currently being applied to columns and beams in the plant room area Level 4 Children's Hospital.

4.3.22 Equipment

Nothing to report.

4.3.23 Ducting

We have asked Brookfield to confirm that the fire damper actuator highlights in room EMC-011 can be accessed on completion of the cold water and ceiling installation. Brookfield has confirmed that the damper actuator will be accessible. The access

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arrangements for this item will be recorded as part of the Access Strategy Tracker which is being developed. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 92).



The duct mounted heater battery coil exposed at high level adjacent riser in Area ref CCI 047 has now been suitably protected. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 127 is closed out.

**4.3.24 Floors**

We asked Brookfield to confirm the floor flatness and levelness tolerances for the floors to the Atrium Bridge. We have also asked for the floor specification and finish to achieve the tolerances. Brookfield confirmed that the floor flatness, specification calls for an SR2 finish which is then prepared to accept vinyl. In terms of AGV's only Level 7 may be used for Transfer only (i.e. not carrying load) no issues with travelling over slight gradients associated with deadload deflection as long as no abrupt steps in level. Further survey information issued by John Curry on BMCE-GC-036955 in addition to the response from WSP on WSP-GC-007423 intimated no design issues. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 120 is closed out.

4.3.25 Blockwork

We have reported since April that the quality and standard of workmanship of the blockwork at the curve of the south west elevations was not to a good industrial standard. There is a variation in shade of the pointing mortar. The pointing is also to a poor quality and the perpends are of variable sizes. There also appears to be a

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colour difference to some of the blocks. Brookfield has highlighted some of these problems and is subject to an NCR. In addition to our observations about the poor workmanship there are also specific damaged blockwork.



Damaged Corner.



Damaged edge of blockwork at perpend.



Damaged blockwork and overspill of mortar pointing at edge of blockwork.



Damaged blockwork and overspill of mortar pointing at edge of blockwork.

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Shading of mortar pointing.

4.3.26 Pneumatic Tube

Pneumatic tube box at CCW 073 Bay 1 has an exposed end. The pneumatic tube was left open to allow purging. A temporary cover has now been fitted, consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 130 is closed out.



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4.3.27 Structural Frame System

We noted that insulation has not been fitted inside the vertical SFS forming the window openings of the ground floor children's Hospital resulting in cold bridging. Brookfield has confirmed that insulation has been placed within the SFS vertical members. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 129 is closed out.



During an inspection with Brookfield on Level 2 Zones F & J we noted that the insulation has not been fitted to the SFS abutting the columns on the west facing elevation and at the double studs on the external radius facades in areas 2-507, 2-530 and 2-533. Consequently we have raised Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 147 asking Brookfield to confirm when this will be been addressed.

4.3.28 Flooring

Copper earthing strips are being installed on Levels 0 and Level 1.



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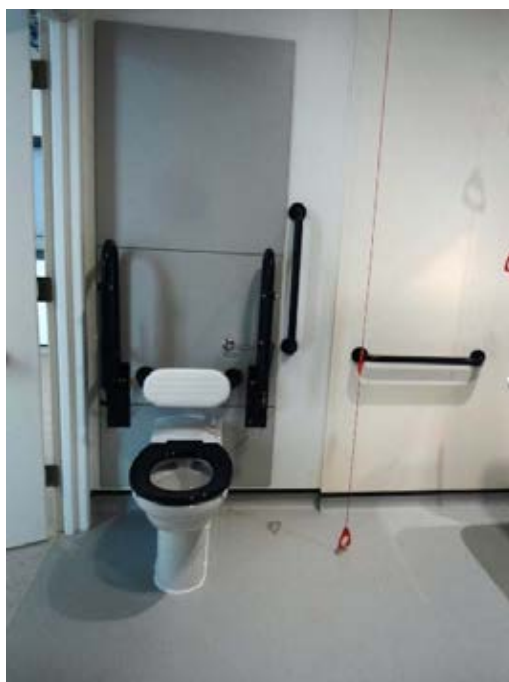
JULY 2013

4.3.29 Electrical Fittings & Fixtures

The en-suite circular boxes in Level 0 OBW-023 appears to be recessed too far back and the openings are not cut out properly. This occurs in the en-suite on level 3. We asked Brookfield to confirm that an adequate seal between the boxes and the inner face of the board and around the perimeter can be achieved especially in any fire walls. Brookfield has confirmed that this is being investigated and a formal response will be issued in the next reporting period. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 139).



With the exception of room CCU-065 on level 1 1-521 all of the pull cords next to the WC bowls in the en-suites are not in their correct positions. We have asked Brookfield to confirm when they have been relocated. Brookfield has instructed Mercury Floor/Package managers to investigate and advise. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 140).



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The access machinery required at these locations will be provided by BMCE/ Mercury for use by the NHS FM team when required.

At this time this covers the following;-

Supervisors Communications – 75, 92, 126

Notification of Defects – 13,

4.3.31 Lighting

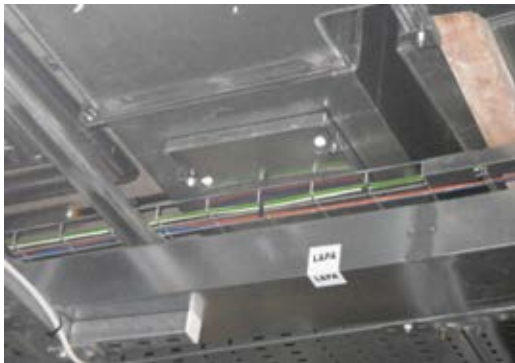
We were in attendance to witness the successful testing of the lighting control system within Level 1 Zone D.

4.3.32 Power

Electrical testing witnessing was undertaken to the energy centre level 2, to MCCA2 and MCCA3. Tests were undertaken on randomly chosen circuits to verify live test results of phase rotation, voltage and impedance. All phase test and voltage results were satisfactory. Impedance results were satisfactory and noted as follows.

4.4 Current Defects.

Duct access hatch which was blocked by chilled water pipework at ground floor area around DB cupboard AAW190 has been resolved by fitting a new hatch. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 56 is closed out.



Existing hatch



New hatch location

Restricted access to ductwork access hatch in corridor adjacent to Zone H near Stair Core F. Brookfield has confirmed that this issue will be added to an Access Tracker forming part of the Brookfield/Mercury Above Ceiling Access Strategy which is being developed. This will highlight the Method of access required for Maintenance or replacement. (See Supervisor's Notification of Defect (CI 42.2) No 13).

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Ductwork obstructed by modular frame Zone H. Mercury has investigated and this was work in progress. All of the systems in the Zone H areas of levels 0 and 1 are now connected. Consequently Supervisor's Notification of Defect (CI 42.2) No 14 is closed out.

We have inspected the construction of partitions around AVSU penetrations in a number of locations including the hazard room partition on the corridor side of room CCW-019 Disposal Hold. All the installations inspected have been consistent.

We asked Brookfield to confirm the measures to address the restricted access problem to the ductwork access hatch on Level 3 Zone A near room GW1-042. We can confirm that an access hatch has been cut in free of pipe services. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 48 is closed out.

There are partitions on Level 0 Area 529 which have screw fixings that have been fixed too close to the edge of the board. The Knauf/NBS Specification states that screws to be not less than 10mm from edge of board and this is not being achieved in many locations. Brookfield has confirmed that this has been raised at a progress meeting with Astins. The Sub Contractor is currently seeking information from Knauf on this issue. When Brookfield has feedback from Astins they will issue a further response. Brookfield has confirmed however at this stage the integrity and fixing of the boards should not be compromised. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 51).

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Two access hatches are blocked by containment in the corridor. New access hatches have been located in these and another two identified by Mercury. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 53 is closed out.



Example of new access hatch formed.

Following a meeting with TDSL and their supplier from Highline Visicom on Tuesday 4th June and subsequent viewing of the units on site the following was agreed.

Supplier confirmed the problem with the opening and closing turn handles which operates the internal blinds of the windows was an alignment issue with the glazing and operating knob on the screens. In Zone G the screens came to site with a faulty clip which was the underlying reason for the defect.

Trace visited the site on Wednesday 19/06/13 and carried out repairs to the Highline blinds on level 1. There are still 6No blinds to be replaced this will be carried out by TRACE. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 54).

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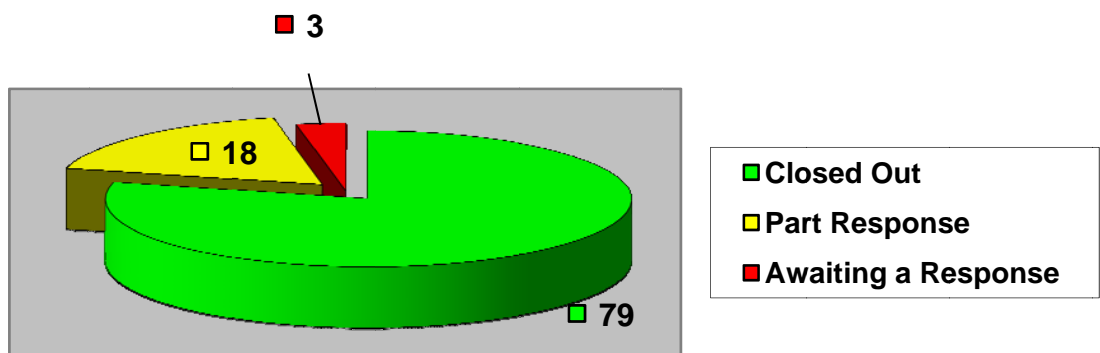
We noted that there are areas of fire coating to the steelwork on the 11th floor Atrium Bridge which is damaged or cracked. We carried out a further inspection with Brookfield and were informed us that Stopfire on behalf of JD Pierce would re-visit the project on Friday 21st June to carry out further repairs to the intumescent fire coating on the atrium steelwork. We note from the Code of Practice for off-site intumescent coating that a dry film thickness test is not required for repairs to damaged coating. We will continue to monitor this. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 55 is closed out.

The upper section of the partition above the ceiling level does not have insulation. We asked Brookfield to confirm when this has been addressed so that a further inspection can be undertaken. We have been informed that the upper level of the partition will have insulation installed prior to 2nd side boarding. This is currently being addressed and can be viewed on site from 05/08/13. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 57).



Following an 85 point check to the partition in room THE-137 Store Bulk the floor track did not have sealant in accordance with the specification.

We have asked Brookfield to provide us with a drawing identifying the partitions constructed by the operative/s who constructed the failed partition. We have also asked them to confirm when they will be lifting sections of the floortrack identified on their drawings as part of their checks. Brookfield has confirmed that these rooms have been screeded up to the partitions following the installation of a picture frame of mastic which to eliminate any acoustic issues. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 58 is closed out.

5.0 INFORMATION REQUIRED

NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND ENERGY CENTRE

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Item No.	Description	Date Requested	Comment	
Items 1 to 21 have been closed out				
22	Brookfield to provide us with their Air Test Procedures and Programme.	03/07/12	Closed out.	
Items 23 to 29 have been closed out				
30	Confirm when cabling is complete, water pumped out and batteries removed.	10/08/12	Response received.	
Items 31 to 44 have been closed out				
45	See Supervisor's Communication No 30.	18/09/12	Response received.	
Items 46 to 73 have been closed out				
74	Confirm flow of water from the sprinkler head is not restricted.	30/11/12	Response received.	
75	Confirm the access regime for sprinkler head maintenance / replacement.	30/11/12	Response received.	
76	Confirm when 3m dead legs have been altered in CCW-031	30/11/12	Closed out.	
77	Void detection appears inadequate and inaccessible due to plasterboard ceiling in CCW-051	30/11/12	Closed out.	
78	Hoist cabling is inadequately supported.	30/11/12	Response received.	
79	Junction box appears to be inaccessible due to ceiling installation	30/11/12	Closed out.	
Items 80 to 89 have been closed out				
90	Confirm void detector above ductwork provides adequate protection.	14/01/13	Closed out.	
91	Confirms access hatch shall be accessible.	14/01/13	Closed out.	
92	Confirm that fire damper actuators highlights can be accessed on completion of the cold water and ceiling installation.	14/01/13	Response received.	
93	Confirm void detector above ductwork provides adequate protection.	14/01/13	Closed out.	
Items 94 to 102 have been closed out				
103	Confirm on site painting of panels has the same life expectancy as the factory applied finish.	15/02/13	Response received.	
104	Confirm safe access through the light fittings will not compromise the finished ceiling installation.	28/02/13	Closed out.	
105	Provide Electronic Roof Integrity Tests for roofs on Levels 3&4. Confirm isolated area under the boiler will be finished in accordance with the manufacturers requirements and any damaged areas due to storing of materials are rectified.	11/03/13	Closed out.	
106	We have concerns materials and debris on roofs Level 2 Zone H and Level 4 Zone F will damage the membrane. Confirm all risks of damage are removed from the roof	11/03/13	Closed out.	
107	Please investigate the crack in the ground floor, review with your designers and provide a brief summary report on likely causes, including proposed remedial action and timing.	22/03/13	Closed out.	
108	A detail in the construction of the lead lined partition on Level 1 is being used which has not been approved. Ensure that the detail has been approved.	22/03/13	Response received.	
109	Confirm when back to back electrical boxes have been repositioned.	27/03/13	Closed out	
110	We noted that there was restricted access to ductwork. Please confirm remedial measures to address this issue in the corridor near Atrium Void Core C.	27/03/13	Closed out	

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111	Please check and confirm that the fixings to the steel angles to the wall at the 1 st floor suspended composite deck are in accordance with the specifications/codes of practice.	28.03.13	Open	
112	Confirm when the protective covers on the void detectors in rooms CCW-053 EQ BAY L and CCW 066 STATUS LAB on Level 1 have been fitted and confirm that the other detectors are also fitted.	10.04.13	Closed out	
113	Confirm how you will manage the reoccurrence of insulation being disturbed or removed from partitions as a result of the installation of services.	10.04.13	Closed out	
114	Confirm that there is 25% spare capacity on cable basket.	02.05.13	Closed out	
115	Confirm all Atrium steelwork has been fire protected. Confirm that areas hidden by panels have received a protective intumescent coating.	07.05.13	Closed out	
116	Confirm that there are sufficient access panels in Zone D MH S4 and MH S5. Confirm that 50 mm waste pipes connecting to 100mm pipes at floor level without rodding points are compliant with Building Control.	03.05.13	Response received.	
117	Confirm procedures to ensure the work to the incomplete concrete base has sufficient structural integrity.	15.05.13	Closed out	
118	Confirm the final detailing to internal RHS columns which appear to be held up by adjoining steelwork.	15.05.13	Response received.	
119	Confirm measures to address areas of steelwork in the Children's Hospital Zone B which have significant paint damage.	15.05.13	Response received.	
120	Confirm flatness and levelness (including floor specification and finishes) to achieve tolerances.	16.05.13	Closed out	
121	Confirm the design philosophy in relation to air handling unit 21AHU16 supply duct transition does not would appear to comply with HVAC DW144 clause 11.6 & 11.7	16.05.13	Response received.	
122	Condensate discharges are routed to gullies are a potential trip hazard. Confirm that the CDM Coordinator has considered this problem and confirm if there are any measures to address this.	16.05.13	Response received.	
123	LTHW pumps are mounted on inertia bases however, there are no pump flexes. Vibration will transmit through pipework as a result. Please confirm if this has been considered and if there any measures are proposed to address this.	28.05.13	Closed out	
124	Confirm when remedial measures have been completed in relation to the damaged duct.	28.05.13	Closed out	
125	Confirm proposed remedial actions to the non-compliant steelwork/concrete bases on the roof of the SE section.	20.06.13	Response received.	
126	Confirm areas identified in the Communication can be accessed in accordance with the Employers Requirements	24.06.13	Response received.	
127	Confirm when exposed heater battery coil has been covered.	25.06.13	Closed out	
128	Children's Hospital Roof Steelwork Zone A - please provide proposals to meet the design intent at the locations where bolts are missing at the parapet location.	25.06.13	Response received.	
129	Insulation has not been fitted inside the vertical SFS forming the window openings of the ground floor Children's Hospital. Confirm measures to address this.	26.06.13	Closed out	
130	Pneumatic tube box at CCW 073 Bay 1 has an open end. Please confirm when this blacked off.	02.07.13	Closed out	
131	Advise the remedial proposals for those column bases where there is at present insufficient nut connection to bolt thread.	03.07.13	Response received.	
132	investigate cracks and confirm that the specification requirements are met or provide details of proposed remedial action.	03.07.13	Closed out	

NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND ENERGY CENTRE

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133	Plant room PR31. Confirm that fire rating of flexible connections and supporting system is equivalent to overall system requirements. Confirm fire rating of fans (observed as non-bifurcated type).	03.07.13	Response received.	
134	PR31 adjacent sub-station 2A. Confirm methodology for structural support of pre-fabricated pipework modules.	03.07.13	Response received.	
135	Unistrut pipework support visibly bent under weight of pre-fabricated pipework module. Confirm that structural supports utilised are compliant with the design intent.	03.07.13	Response received.	
136	Level 3 Zones G/H. Confirm method for re-coating painted finishes, integrity test procedure to meet compliance and identification.	03.07.13	Closed out	
137	Various points requiring clarification in relation to the AHU 21.	08.07.13	Response received.	
138	Confirm when ventilation pipe in RCG-067 AND RCG-068 has adequate support.	09.07.13	Response received.	
139	Confirm that there is adequate seal between back boxes and the board especially in fire walls.	17.07.13	Response received.	
140	Pull cords in 1-521 too far from wc.	18.07.13	Response received.	
141	Please provide technical solutions to various issues to the steelwork to the Children's Roof.	23.07.13	Open	
142	Confirm measures to address access hatches in line with the head of the partition.	25.07.13	Response received.	
143	Confirm measures to address clash between the cold water pipes and drainage connection.	25.07.13	Response received.	
144	Confirm when damaged parts to AHU AH10 on Level 5 are replaced.	25.07.13	Response received.	
145	Confirm proposals to achieve level floors to the Atrium Bridge Corridors at door openings to offices/rooms	25.07.13	Open	
146	Confirm when smoke detector is repositioned to the require3d distance from the supply grille.	25.07.13	Open	
147	Confirm when insulation will be fitted to SFS LEVEL 2 Zone J.	31.07.13	Open	

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6.0 SUPERVISORS TESTS AND INSPECTIONS

Tests not required	N/A
Tests required but not tested	Fail
Tests required which has passed tests	Pass

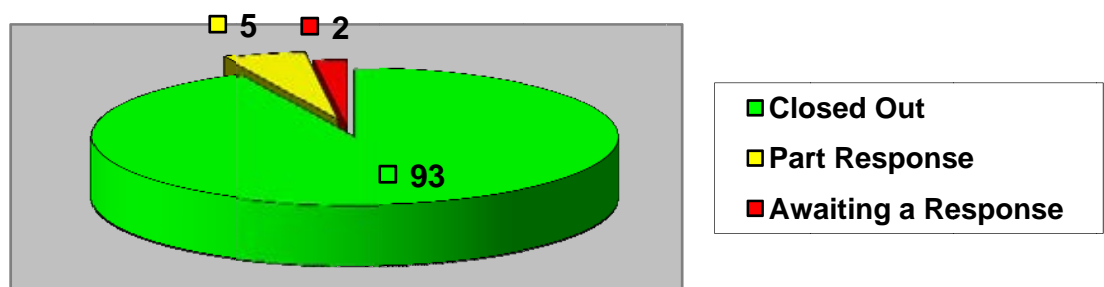
14/06/13 on Level 1 area 507

Tests				
Ref	Title	To be Notified by	Status	Test Date
01-62	Various tests undertaken from the 9/07/2012 to the 30/06/2013.			
59	85 Point Check Level 0-535.	Brookfield	Pass	04/07/2013
60	85 Point Check Level 1-505.	Brookfield	Fail	10/07/2013
61	85 Point Check Level 4-xxx.	Brookfield	Pass	17/06/2013
62	85 Point Check Level 3- PR33 Substation 4 & 4A.	Brookfield	Pass	17/06/2013
63	Electrical testing to the Energy Centre Level 2, MCCA2 & MCCA3		Pass	17/06/2013
64	PR21 6 ventilation systems	Brookfield	Pass	22/07/2013
65	L1ZD - lighting control witnessing.	Brookfield	Pass	26/07/2013
66	Hub 117 & 128 - structural cabling test	Brookfield	Pass	29/07/2013
67	Fire alarm loop test at panels 22, 59 & 60.	Brookfield	Pass	26/07/2013

Inspection not required	N/A
Inspection required	Req
Inspection complete	Pass

Inspections				
Ref	Title	To be Notified by	Status	Inspection Date
Inspections July 2013				
1	Zone 1-521	Brookfield	Pass	17/07/2013
2	Zone 1-528	Brookfield	Pass	30/07/2013

7.0 DEFECTS NOTIFICATIONS ISSUED



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	Description	Date Requested	Comment	
Items 1 to 11 have been closed out				
12	Motorised damper inaccessible due to adjacent duct in Plant Room.	02.10.12	Closed.	
13	Restricted access to ductwork access hatch in corridor adjacent to Zone H near Stair Core F	02.10.12	Response received.	
14	Ductwork obstructed by modular frame Zone H.	02.10.12	Closed	
Items 15 to 47 have been closed out				
48	Confirm remedial action to address the restricted access to the duct hatch.	09.04.13	Closed	
49	Confirm that all curtain rails will be fitted in accordance with the manufacturer's recommendations or provide details where there are changes to the standard detail.	12.04.13	Closed	
50	Confirm when lead lined penetrations have been removed and holes sealed	09.05.13	Closed	
51	Knauf boards not fixed in accordance with NBS Specifications. Boards fixed too close to edge of board.	14.05.13	Open	
52	Confirm when penetrations through roof protection membrane have been repaired.	16.05.13	Closed	
53	Confirm when appropriate access to hatches in level 3 Zone A are provided.	16.05.13	Closed	
54	Faulty internal blinds. Confirm when remedial action has been completed.	30.05.13	Response received.	
55	Confirm when damaged fire coating has been renewed and provide dry film test results.	30.05.13	Closed	
56	Confirm when restriction to access hatch has been addressed.	03.06.13	Closed	
57	Missing insulation above ceiling level confirm when this has been addressed.	10.07.13	Response received.	
58	Head track did not have sealant. Provide drawings showing the partitions constructed by the operative/s and confirm when the floor tracks identified on the drawings will be opened up and checked.	10.07.13	Closed	

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND
ENERGY CENTRE****SUPERVISOR'S REPORT NO. 28****JULY 2013**

**John Redmond
Capita Symonds
Technical Advisory Services**

The Beacon, 8th Floor, 176 St Vincent Street, Glasgow G2 5SG

	Signed	Date
Originated by	John Redmond	7th August 2013
Completed by	Douglas Wilson	7th August 2013

CAPITA SYMONDS

**NEW SOUTH GLASGOW HOSPITAL
ADULT AND CHILDREN'S HOSPITAL AND THE ENERGY CENTRE
NEC 3 SUPERVISORS REPORT NO. 29
AUGUST 2013**

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND
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AUGUST 2013

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**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND
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SUPERVISOR'S REPORT NO. 29**AUGUST 2013****1.0 EXECUTIVE SUMMARY: ADULT & CHILDREN'S HOSPITAL**

Visits to the site during August 2013 continue to indicate that the construction and procedures are progressing in a satisfactory manner in accordance with the Employer's Requirements.

Throughout, the standard and quality of the workmanship is generally good and operations are being carried out in an acceptable manner.

Together with Brookfield we carried out quality and compliance inspections on Level 0 Area 0-526 and 0-525. The areas inspected were to a good standard and the defects captured by Brookfield were generally of a minor nature. We have informed the client that the alarm pull cord in Room AAW-207 was fitted in accordance with the contract drawings but was fitted towards the rear of the WC bowl. This is because of the restricted space available on the ceiling.

Following our identification that smoke detectors had been sited to close to air supply grills in some locations Scotshield has carried out a survey. They have moved detectors to a uniformed position throughout the project with a measured distance of approximately > 950mm away from ceiling grilles

Scotshield has confirmed that the smoke detector system is designed to BS5839-1:2002+A2: 2008 Clause 22.3 Sub Clause (M) which recommends a distance of 1000mm. However they confirmed that In terms of the short fall of approximately 50mm. They have confirmed that this will have no detrimental effect on how the system operates. This may require a minor derogation to record the change.

Brookfield continues to undertake their Quality Assurance systems on site with inspection and checklist documentation available for the ongoing construction activities. Over the period, we have closely liaised with Brookfield and witnessed 85 point check to the partitions on Level 0 Area 531, Level 1 Area 516, Level 2 Area 514 and Level 3 Area 511. In two locations the partitions had missing insulation.

Inspection on Level 2 of the Children's Hospital indicated that insulation had been omitted at the junctions of partition with the external elevation. Brookfield has issued an NCR to Astins and they will be opening up additional areas as part of their quality checks to ensure that the partitions comply with the specifications.

Civil and structural works continue to be to a generally high quality standard.

Piling is completed in the car park area but full test results are still awaited. Foundation works are nearing completion and quality to date appears satisfactory. Drainage, sub-base and tarmac have been placed to a significant area of the ground floor and quality here is also satisfactory. The 1st floor slab has been poured and post tensioning applied. Brookfield quality checks on this appear sound and the floor finish achieved appears to be satisfactory.

All pods to the Atrium Bridge have now been positioned and additional deflection checks to date have been further examined in respect of datum issues by the Brookfield team. Proposals in respect of final screeding and floor finish levels are still awaited.

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Final elements of steelwork erection have continued to the roof of the Children's Hospital in Zones A and B. Communications have been raised with Brookfield and are listed on the following pages. These still remain outstanding and have been examined with Brookfield who will ensure that they are addressed at the appropriate time.

Steelwork erection has also continued on the roof of the ACH and now extends to all 4 arms. Some communications raised in respect of this steelwork are still being addressed.

The sample AHU21 in plant room PR21 was inspected and comments provided for action by Mercury. It was agreed that this unit will form the standard for all other AHU's, therefore any issues are to be fully closed out to ensure quality installation. We still await a response from Brookfield to allow close out of remaining issues. It should be noted however, that some items will only be closed out once full commissioning has been undertaken.

The M&E installation quality is being maintained to a good standard and we are generally satisfied that the installation is compliant with exception of the specific items raised under communication.

The installations in the Energy Centre are well advanced with the A-side systems commissioned and handed over and ground floor pipework being prepared for the CHP installation. Commissioning programmes for the B Side have been presented and significant commissioning will be taking place from June to December 2013.

The M&E installations are progressing on all levels up to Level 12 and range from first fix module installation to completed and tested areas. Major works are now well underway within level 3 plant rooms.

Various witnessing of commissioning activities has been carried out to smoke dampers, air flow tests ventilation duct pressure tests and fire alarm loops tests all of which were satisfactory.

We are continuing to work with Brookfield during our inspections highlighting any items that have raised concern. Items identified in this manner are generally being addressed by the site team in advance of any defect notice being raised.

In general terms we are satisfied that the installations continue to be installed to a compliant standard, and are of a good quality. However we have noted that certain items this month that have raised concern. These have been raised with the Contractor as follows:-

Supervisor's Communication General Matters / Other Instructions No 148, 149, 150, 151, 152, 153, 154, 155, 156, 157 and 158 were issued during August.

- Seeking proposals/method statement for the flushing of LTHW and CW and the reuse of flushed water.
- Seeking the specification and design requirements for the POD glazing.
- Seeking confirmation that the hatch clashing with the partition will be accessible.

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- Seeking confirmation that the extract fan in Plant Room 31 is installed to provide unrestricted access for maintenance.
- Seeking marked up drawing showing detectors in accordance with BS5839-1:2002.
- Seeking confirmation when inspection hatch in room HOW-031 on level 4 is fully accessible.
- Seeking confirmation if the isolation ductwork hatch in Plant Room 21 needs a double seal.
- Seeking confirmation if the multiple types of Isolation ductwork flexible connections used in Plant Room 21 provide an adequate seal against air leakage especially to spiral ductwork? Seeking confirmation if fire integrity is maintained with all types of flexible connection used.
- Seeking confirmation if the waste pipes are to be insulated at the external soffit area on the underside of Level 4 Zone H and on the underside of Level 1 above the entrance to Accident and Emergency.
- Seeking confirmation of proposals / method statement for the flushing of Water Tanks within the hospital and reuse of water.
- Seeking manufacturer's literature/guidelines or method statement for maintaining the refrigeration units.

Supervisor's Notification of Defects No 59, 60, 61, 62, 63 and 64 were issued during August.

- Seeking confirmation when smoke detectors have been repositioned to the minimum regulation distance.
- Seeking confirmation when damaged Pod has been addressed.
- Seeking confirmation when a penetration through the protective area of the roof level 12 is completed. (Location 1).
- Seeking confirmation when a penetration through the protective area of the roof level 12 is completed. (Location 2).
- Seeking confirmation when the partition has been constructed properly to allow the sprinkler pipe to pass through the wall.
- Seeking confirmation when poor quality blockwork / perpend are addressed.

We continue to be assisted by the site teams and the NHS Project Team who produce an internal weekly report which assists us in resolving various construction, mechanical, electrical and quality issues. We continue to close out our Supervisor's Notifications and Defects when we have received satisfactory responses.

SUPERVISOR'S REPORT NO. 29**AUGUST 2013****2.0 DESIGN COMPLIANCE CHECK**

Currently nothing to report.

3.0 PROCEDURES REVIEW**3.1 Contractor's QA Procedures / Compliance Inspections**

Brookfield and their subcontractors have continued with their QA and checking and inspection procedures during this period. We are in discussion and liaise with Brookfield's Quality Manager on QA matters and we undertake regular reviews of their QA documentation.

Due to the number of quality issues in relation to partitions Brookfield has reviewed Astins quality records. This related to Communications/Defects issues raised by Capita and those recorded in Brookfield's own NCR register. Discussions took place between Brookfield and Astins. Astins undertook to have these resolved.

Astins are working to close out the outstanding issues together with Brookfield and have looked at the results of 85 point plans from a number of their other projects for comparison purposes.

Together with Brookfield we carried out quality and compliance inspections on Level 0-526. The areas inspected were to a good standard and the defects captured by Brookfield were generally of a minor nature. We did however identify a few minor defects which Brookfield recorded on to their IDMS system. The alarm pull cord in Room AAW-207 was fitted in accordance with the contract drawings but was fitted towards the rear of the WC bowl because of the restricted space available on the ceiling. We have informed the client of this.

Quality and compliance inspections were carried out on Level 0 Area 0-525 and the quality was to a good standard. Brookfield provided a list of their defects which have been logged on their IDMS system. We did identify a few additional defects which Brookfield recorded onto their IDMS system.

We had discussions with Brookfield concerning the location of smoke detectors which are too close to air supply grilles. Scotshield has carry out surveys of 1-521, 1-522, 1-523. They have confirmed that the smoke detector system is designed to BS5839-1:2002+A2: 2008 Clause 22.3 Sub Clause (M)

The recommendation is that any detector sighted next to a forced air inlet should be 1000mm away from the grille unit. At present Scotshield has installed detectors in uniformed positions throughout the project with a measured distance of approximately > 950mm away from ceiling grilles. We shall continue to monitor the repositioning of detectors.

Scotshield has confirmed that In terms of the short fall of approximately 50mm, this will have no detrimental effect on how the system operates. The technologies used within present day systems are more advanced to monitor all situations therefore reducing the level of false alarms created by previous developed systems. We are of the opinion that this should be recorded as a minor derogation. Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 152

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We undertook inspection with Brookfield of all Zones on Level 4 and noted that the works were progressing at varying stages in all Zones. The works are generally to a good industrial standard. However we brought to Brookfield's attention locations where there were double studs without insulation. Brookfield confirmed that they would address this but we will monitor this during further visits.



Double stud resulting failure of insulation qualities of partition.

A joint inspection was carried out on site on Level 2 with Brookfield and Astins in the rooms listed below.

- ARU 034: Shower side of junctions of partition with the external elevation detail no insulation, not as approved detail.
- ARU 031: Bed wall high level no insulation, not as approved detail.
- ARU 030: Shower side high level insulation, constructed correctly,
- ARU 026: Bed wall low level junction of partition with the external elevation constructed correctly,
- ARU 026: Bed wall high level, constructed correctly,
- ARU 043: Bed wall low level junction of partition with the external elevation no insulation, not as approved detail.
- ARU 089: Bed wall high level, insulation missing at service drop,
- ARU 048: South wall, no insulation installed between full height noggin.

Further inspection indicated external junctions of partition with the external elevation have not been insulated as works progress. Brookfield has raised an NCR to Astins and they will be opening up addition areas as part of their quality checks to ensure that the partitions comply with the specifications. We shall continue to monitor this work.

85 point Checks

During an 85 point inspection of the partition in room No RAG-032 General X-Ray on Level 0 Zone E 0-531 Astins identified that insulation had not been placed behind

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vertical conduits. They immediately addressed this and checked partitions which had not been sheeted in other rooms to ensure the insulation were fitted.



An 85 point check was carried out to a partition in the Children's Hospital which has a 47db rating formed on Level 1 Area 1-516 in room CCW-085. The partition had only one minor failing which was a couple of missing screws. These were fixed immediately.

An 85 point check was carried out to a partition in the Children's Hospital which has a 47db rating formed on Level 2 Area ZA Room ARU-101 and the result of the quality check were generally satisfactory with all of the insulation in place. There were some screw missing and a short section of back plate missing at high level but these were addressed immediately.

An 85 point inspection of the 47db wall within room ARU-034 on Level 3 identified insulation missing at high level above 3m. Brookfield issued an NCR to Astins to reinstate the area. In addition they instructed them to carry out random sample core holes throughout the area to confirm if missing insulation is an isolated issue.

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We asked Brookfield to provide us with a copy their proposals / method statement for the flushing of Water Tanks within the Hospital and asked if there is a provision for the re-use of flushed water. Flushing of tanks and subsequent re-use of contaminated water will not take place as the water tanks will be sterilised approximately 3 months prior to handover of the hospital. An agreed method statement will be produced in due course. Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 157 is closed out.

We asked Brookfield to provide us with the manufacturer's literature/guidelines or method statement for maintaining the refrigeration units on site keeping them closed off, air tight and clean. The Cold / Freezer rooms are not yet commissioned and still under construction. Brookfield has confirmed that there are no manufacturer's guidelines on keeping the units closed off and air tight until the system is commissioned and they are bringing the rooms down to design temperature. We shall keep this Communication in the report until a later date. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 158.

3.2 Witness Testing and Commissioning

We witnessed a number of tests during August all of which were satisfactory and these were as follows:

- Fire alarm loop test within areas 0-527 & 0-530.
- Smoke damper test in PR21, L1 ZDG & L0 ZDG.
- Random air flow tests of ventilation systems 21-AHU-34. 21-34 EF01 & 21-38 EF02.
- Ductwork pressure test at PR 31 AHU 58 extract duct
- Ventilation ductwork leakage test on Level 3 PR31-AHU61 air intake duct.

3.3 Board Equipment Installation,

Currently nothing to report.

3.4 Non Conformance Reports

We reviewed Brookfield's NCR Tracker and noted the issues raised by the Package Managers. The blockwork and pointing on the south and east elevations although improved by cleaning continues to be a concern with shading of the mortar evident. Prater has still to offer it up to Brookfield as complete reference NCR 156. We are also monitoring the issue in relation to

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water between the glass of the Structural Panels NCR reference 157 and 219. Brookfield has had an independent survey carried out by Cladtech Associates and Brookfield awaits their report. The recent NCR issued to Astins in relation to the lack of insulation at abutments between internal partitions and external walls.

4.0 CONSTRUCTION REVIEW**4.1 Visits to the Works**

The following members of our team undertook site inspections, reviewed documentation, attended meetings and met with relevant Trust, Project Co and Contractor on-site personnel:- John Redmond (Lead NEC3 Supervisor) 1st to 2nd, 5th to 9th, 12th to 16th, 19th to 23rd and 26th to 30rd August; Ian Barnes (M&E NEC3 Supervisor) on 7th & 14th August plus remote desk top input; Dave Hiett Jones (M&E NEC3 Supervisor) 2nd, 3rd, 10th, 11th, 17th, 18th and 21st August plus remote desk top input; Douglas Wilson (M&E NEC3 Supervisor) 1st to 2nd, 5th to 9th, 12th to 16th, 19th to 23rd and 26th to 30rd August; Willie Roxburgh (Civils/Structural NEC3 Supervisor) part days on 6th, 12th, 16th, 19th, 22nd, 27th and 29th, plus remote desk top input each day; Capita Symonds Supervisor's team visited site a combined 60 person days.

4.2 Elements of the Works available for inspection

- Energy Centre – structurally complete. Civil works around.
- Main building – all concrete areas.
- External Drainage – specific sections of installation where access is possible.
- Tunnels between ACH and Labs, and Cores C to F.
- Structural steelwork to Atrium (limited due to access).
- Structural steelwork to all roof areas.
- Dual carriageway to Renfrew Road, turning area in front of the main entrance, and carriageway from Hardgate Road.
- Car park area.
- Internal Partitions.
- M&E modular units.
- Roofing.
- Cladding.
- Windows.
- Sto system.
- Brickwork Courtyard 5 and south east elevation.
- Brickwork/blockwork south east elevations.
- Basement blockwork.

4.3 Observations from August 2013 Inspections

The visual inspections of the work carried out to date indicate that the works are generally being carried out to a satisfactory standard. We continue to be assisted by the site teams and the NHS Project Team in resolving various construction, mechanical, electrical, and quality issues. We continue to close out our Supervisor's Notification and Defects when we have received satisfactory responses. Observations on the following pages are closed out, still to be closed and those raised following site visits in August 2013.

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All pods to the Atrium Bridge have now been positioned and additional deflection checks to date have been further examined in respect of datum issues by the Brookfield team. Proposals in respect of final screeding and floor finish levels are still awaited.

On the Children's hospital roof steelwork a number of communications have been raised which are still to be satisfactorily addressed. This is also the case with a communication raised some months ago re connections to a support angle at the 1st floor level in Zone A.

Steelwork erection to the ACH roof areas, now in all areas, has generally been satisfactory but 2 No communications re fixings and column bases have been raised and responses are still awaited.

We brought to Brookfield attention the fixings of the steel angle to the wall at the 1st floor suspended composite deck in the atrium area of Zone A of the Children's hospital. We asked them to confirm they are in accordance with the Specification and relevant current codes of practice and standards. Resin anchors are the correct fixings as agreed with WSP, these will now be fitted. We were informed that this would be completed by Monday 19th August and that we would inspect on completion. However the work is still not complete. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 111.

Two internal RHS columns in the Children's Hospital Zone B appear to be held up by adjoining steelwork. Brookfield has informed us that the final detail is a connection to concrete. The concrete works and subsequent bolting up will be undertaken prior to the installation of any cladding. The fitting of additional brackets has been agreed by WSP and we were informed that this would be completed by Monday 19th August. It was our intention to inspect on completion, however the work is still not complete. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 118.

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The areas of steelwork in the Children's Hospital Zone B had significant paint damage which is now completed and a joint inspection between Brookfield and Capita is to be arranged. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 119.

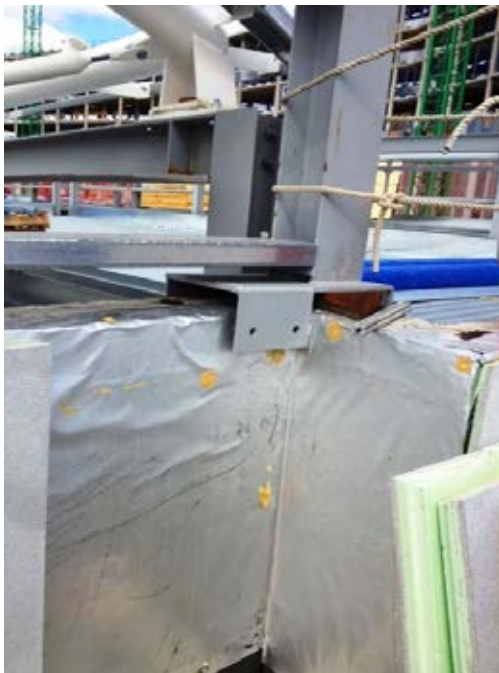
We asked Brookfield to advise on the proposed remedial actions to the non-compliant steelwork/concrete bases on the roof of the SE section of the ACH, and confirm that such measures will be in accordance with the specification. A solution has been developed by the steelwork contractor alongside WSP and agreed by WSP for those bases where the HD bolts do not align with the steelwork baseplate. Remedial work has been carried out satisfactorily including to the 'floating' columns. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 125 is closed out.

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We asked Brookfield to provide proposals to meet the design intent for the Children's Hospital Roof Steelwork Zone A where bolts are missing at the parapet. Brookfield has had discussions with William McColgan WSP during a visit to site. Subsequent to this visit Dunne has provided a detailed sketch which has been approved by WSP. We shall inspect this on completion. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 128.



We have asked Brookfield to advise us of the remedial proposals for those column bases where there is at present insufficient nut connection to bolt thread. Brookfield has confirmed that W Mc Colgan of WSP has accepted proposals from J&D Pierce.

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Who has also provided WSP with an isometric indicating the locations and JDP Sketch sheet BP1. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 131).



We asked Brookfield to provide technical solutions to various situations on the structural steelwork to the Children's roof where base plates are (floating) edge distances are minimal or miss the concrete base. Cladding rails also prevented HD bolt fixing. WSP has provided a detailed sketch to show remedial work to plinth. We shall inspect this on completion. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 141.

Car Park 1

Piling is completed in the car park area but full test results are still awaited. Foundation works are nearing completion and quality to date appears satisfactory. Drainage, sub-base and tarmac have been placed to a significant area of the ground floor and quality here is also satisfactory. The 1st floor slab has been poured and post tensioning applied. Brookfield quality checks on this appear sound and the floor finish achieved appears to be satisfactory.

4.3.2 Energy Centre

Steelwork snagging appears to have been addressed, but much tidying up remains outstanding in the eastern half of the building.

4.3.3 Drainage

We noted that the above ground storm drainage has a lack of ground floor access panel. Zone D. MH S4 in courtyard has a 100mm storm pipe running from inside the building. Brookfield is currently marking up drawings indicating the locations of access panels. We shall review these when complete.

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With reference to the above ground storm drainage position of access panel. Zone D. MH S5 has a 150mm storm pipe running from inside the building. Inside the building the pipe runs above slab level is insulated and an access panel at ground floor level is apparent, however this access panel is located in an unsuitable position, and would be very difficult to utilise if the requirement arose. We asked Brookfield to advise on their proposals in respect of this to comply with current standards. We also asked them to check all such locations throughout the building that they also comply and advise accordingly.

Brookfield is seeking clarification and would prefer to inspect this pipe on site. Brookfield has confirmed that all pipes have been installed in accordance with these construction issue approved drawings. The ME 581 series drawings provide detailed dimensioned locations for installation of the pipe work. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 116.

4.3.4 Dual Carriageway to Renfrew Road. (A&C)

The defects previously identified will be reviewed nearer to completion when they will be effectively rectified.

4.3.5 Pipework.

Installation of hot, cold, heating, & chilled water pipework in the A&C hospital is progressing and in general is being installed to a good standard.

We are continuing to monitor all pipework installations to identify possible dead legs. The quality checking by Brookfield would appear to be identifying these before our inspections. Open unprotected ends are also being identified on our weekly site inspection reports when encountered and notified to Brookfield. During our visit on 30th July and 14th August, this was becoming more evident particularly on sprinkler pipework at upper levels.

We asked Brookfield to provide us with a copy of their proposals / method statement for the flushing of the LTHW and CW etc. services within the hospital. We also asked them if there was a provision for the re-use of flushed water within their method statement. Brookfield has responded by and intimated that within Section 3 Hazard Identification of the Method Statement there is reference to '*Chemical will be discharged under NHS Discharge License.*' Their Commissioning manager D Wilson has requested this statement on the MS as Brookfield is working under the NHS licenses on the project.

In addition they have confirmed that they will not be re-using any water with the flushing as there are impurities in following the flushing. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 148 is closed out.

We have asked Brookfield to confirm the flow of water from the sprinkler head highlighted is not restricted by the adjacent section of unistrut. Brookfield has confirmed that the sprinkler head deflector appears to be under the unistrut and that the Sprinkler contractor will check this when they are installing the under services protection. If the head is shielded by the unistrut, they will turn the head pendant. Still awaiting photograph showing completed work. We have requested access to inspect

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the sprinkler head. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 74).

During our inspections in Plant Room 21, we noted that all AHU condensate discharges are routed to gullies via low level unprotected plastic pipework. This is a potential trip hazard. We have asked Brookfield to confirm that the CDM Coordinator has considered this problem and has asked if there are any measures to address this. There is also the risk of the pipes being broken. Refer to SHTM03-01 clause 4.25. Brookfield has confirmed that where appropriate, sheet metal guards will cover condensate discharges. However we have requested to see a typical detail of what they are proposing to allow further comment.

We have asked Brookfield to confirm if a ramp (up/down) will be installed over the low level pipework & be fixed in position. Also in some instances, where the pipework is particularly exposed, this ramp may need to extend further along the length of the pipe or additional protection provided. We have asked again if the CDM Coordinator has considered this problem and has taken cognisance of SHTM03-01 clause 4.25. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 122.

Following a visit to site we raised our concerns that there are some locations where there is insufficient space for maintainable, replacement building services and plant as per the Employers Requirement Section 5.13 Facilities Management.

We raised our concerns with Brookfield in relation with the following areas.

Level 2 Zone H. Pipework connections above line of unistrut. Access appears difficult. We have asked Brookfield to confirm that future access will be available.



Level 2 / Zone K. Current access to install chilled water riser pipework appears difficult. We have asked Brookfield to confirm that future access will be available once walls are constructed?

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Level 3 / Zone H. Pipe Racks in area shown below have multiple levels of pipe work. We have asked Brookfield to confirm that future access will be available. Brookfield confirmed that access to the 3 areas identified will be accessible for FM in compliance with ER Section 5.13. The access arrangements for this item will be recorded as part of the Access Strategy Tracker which is currently being developed by Brookfield and Mercury. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 126).

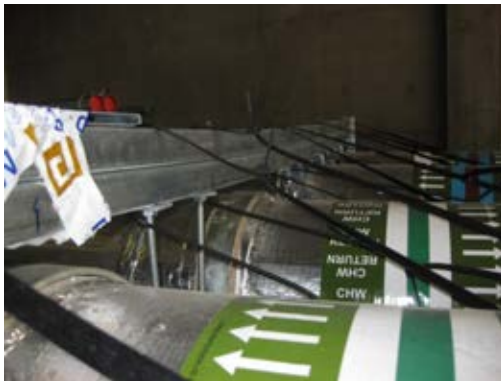


We noted that the unistrut pipework support had visibly bent under weight of pre-fabricated pipework module in Plant room PR31 adjacent sub-station 2A.

This will become more pronounced when pipework is filled with water. We asked Brookfield to confirm that the structural supports utilised are compliant with the design intent. Brookfield has replied that the frames are suitable for their intended function and have provided calculations. They have informed us that this appears to have been mechanical damage and not deformation due to weight of the services. We have not found any fitted modules with bowed frames in this manner. Further investigations are being carried out by Brookfield and Mercury. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 135).

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We noted a clash between the cold water pipes and drainage connection in the corridor and room OPD-031. Brookfield has confirmed that they are investigating this issue. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 143).

The waste pipes are not insulated to the external soffit area on the underside of Level 4 Zone H and on the underside of Level 1 above the entrance to Accident and Emergency. We have asked Brookfield if insulation is required to these pipes. This Notification has been forwarded to the relative floor manager and is being investigated. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 156).

**4.3.6 Ventilation**

We were in attendance to witness the successful test of the supply and extract airflow testing of AHU's 24 & 25 within plant room 21 and levels 1 & 2 of zones D&G, and dirty extract fan 39.

We noted that the air handling unit 21AHU16 supply duct transition does not appear to comply with HVAC DW144 clause 11.6 & 11.7 which could result in high pressure loss.

Brookfield has confirmed that ductwork is not in compliance to drawing/specification and will be replaced. However we await the design philosophy in relation to the proposed remedial measures. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 121).

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We asked Brookfield to confirm that the fire rating of the flexible connections and supporting system in Plant room PR31 is equivalent to the overall system requirements. The fan is located adjacent to atrium at the west side of building. We have also asked them to confirm fire rating of fans (observed as non-bifurcated type). ZBP has confirmed to Brookfield that fans require to be fire rated and are at technical submittal stage. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 133).



Following an inspection of Plant Room PR21 we raised a number of points which were clarified, however the items below are still awaiting comment from Brookfield.

- Confirmation received that diffuser plates will be fitted to alleviate fan discharge velocity issues raised (items 1a, b, d, e & f). We asked for details of the proposed diffuser plate to be fitted in front of supply AHU fan discharge. The diffuser plate already fitted to AHU 21 appears inadequate for its intended use. Brookfield is awaiting a response from the Manufacturer.
- Item c - please confirm Coil 'off coil' conditions. Brookfield has confirmed that this is as per ZBO Schedule ZBP-XX-XXSH-600-323.
- Please confirm grade of filtration. Do the bag filter grades vary depending on application? Brookfield has confirmed that standard throughout and as per ZBP Schedule ZBP-XX-XX-SH-600-323.

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- We asked for confirmation that the AHU is compliant with SHTM03-01, or state any agreed derogation. Some aspects stated do not comply with the SHTM & will require agreement from the Board. Brookfield has confirmed that all All units are SHTM compliant and inline with ZBP's design. There are a few cases where the specific fan powers could not be achieved. The manufacturers' limiting velocity of 2m/s across components would not have been achieved. This has been brought to ZBP's attention. All units are approved and supplied to ZBP's design schedules.

(See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 137).

There is an unsupported ventilation pipe passing through rooms above the ceiling line of Rooms RCG-067 Cleaner, RCG-068 Baby Sleep and RCG 070 Change. The duct is currently supported across vertical stud members. Brookfield has had to confirmation from Mercury that the spiral duct hasn't been fixed. MJ VENT has been advised and works will be rectified. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 138).

We noted that the access hatches were located within the line of the partition wall on Level 2 room DMW-040. Brookfield confirmed that they are investigating this issue. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 142).

Level 5 AHU 41 AH19 has a damaged door, door handle and isolator handle. Brookfield has confirmed that this has been recorded and will be replaced prior to final commissioning. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 144 is closed out but we will continue to monitor until replaced.

During our inspections on Level 2 we noted that the duct inspection hatch is located above the partition dividing rooms DMW-037 & 038. We have received confirmation that the duct access hatch will be repositioned to allow access to the duct. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 150).

We have asked Brookfield to confirm when the hatch will be accessible.



A ductwork inspection hatch has been installed in middle of the partition in room HOW-301 Level 4. We have asked Brookfield to confirm when the inspection hatch

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will be fully accessible. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 153).

We have asked Brookfield if the Isolation ductwork hatch to the fire rated ductwork in Plant Room 21 needs a double seal. This Notification has been forwarded to the relative floor manager and is being investigated. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 154).

There are multiple types of Isolation ductwork flexible connections used in Plant Room 21, all secured with single jubilee clip at either end. We have asked Brookfield to confirm if these provide an adequate seal against air leakage especially to spiral ductwork?

We have asked Brookfield to confirm if fire integrity is maintained with all types of flexible connection used? This Notification has been forwarded to the relative floor manager and is being investigated. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 155).

**4.3.7 Insulation**

The thermal insulation installation to the pre-fabricated sections of pipework is being completed off site before delivery and completed after installation.

4.3.8 Pressure testing

Pressure testing of the modular pipework sections on a zone by zone or area by area basis has been programmed through the commissioning meetings.

4.3.9 Medical Gases

Medical Gas pipework in being installed in all areas and independent tests are being witnessed by Ian Sandford of Hulley and Kirkwood.

4.3.10 Energy Centre

The installations in the Energy Centre are well advanced with the A-side systems commissioned and handed over and ground floor pipework being prepared for the

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CHP installation. Commissioning programmes for the B Side have been presented and significant commissioning will be taking place from June to December 2013.

4.3.11 Trunking

Cable trunking is being installed as part of the offsite fabricated sections that are being installed in the A&C hospital and in general the installation is to a good industry standard.

4.3.12 Cable Trays

Cable trays are being installed as part of the offsite fabricated sections that are being installed in the A&C hospital and in general the installation is to a good industry standard.

4.3.13 Cabling

Modular wiring looms are now being installed as part of the offsite fabricated assemblies and carefully tied up for protection and installation is of a good standard.

4.3.14 Conduit

Solid conduit installations are well progressed in the areas being fitted out and are to a good industry standard.

4.3.15 Void Detection

Hoist cabling in CCW 051 is inadequately supported. A joint inspection was carried out by Capita and Brookfield and confirmed that the cable is adequately supported. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 78 is closed out.

The smoke detector within the lobby on Level 1 Room CCW-049 is within 300mm of the supply grille. We asked Brookfield to confirm when this has been repositioned to the minimum distance of 1metre. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 146).



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4.3.16 Intake Sub Station

Brookfield has confirmed that the communication cables are still to be pulled into the Substation. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 30 & 45).

4.3.17 Partitions

During an inspection on site we noted that screws had not been fitted at 200mm centres to the end of all the Assess/Treat bays in Area 522. Brookfield confirmed that this would be addressed.

We noted that the gap between the lead lined sheets fixed from the soffit and the sheet fitted from the floor had been in filled with a board which was not lead lined. Brookfield has confirmed that Knauf has approved a new detail drawing and has been given a 'B' Status by the NHS. We have received drawing AST-XX-XX-DT-252-111 REV A. This drawing has been updated from the original taking account of NHS comments and the construction of the partitions has been carried out in accordance with the revised drawing. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 108 is closed out.

4.3.18 Roofs**A&C Roofs**

Courtyard 2, 3, 4 and 5 on Level 1 and 2 are progressing to completion with Brookfield awaiting the final snagging by Praters.

Level 4 Zone E&H Structural to remove materials to allow work to recommence.

The roof covering zones G and D on Level 3 is progressing to completion with Brookfield awaiting the final snagging by Praters.

The remaining roofs on Levels 2, 3 and 4 including the Green Roofs are progressing.

The hot melt roof on Level 12 is nearing completion.

Generally the quality of the workmanship throughout is to a good industrial standard.

The Sarna Roof covering is progressing above Plant Room 121. The photo below shows the membrane sealed at all laps.

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Checks and tests have been carried out at various stages of the roofing process and on the following page is a Checklist for the Courtyard Roof 2-3 on Level 2.

NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND ENERGY CENTRE

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HOT MELT BITUMEN MEMBRANE INSPECTION CHECKLIST

CONTRACT: NSGH A&C

PACKAGE NO: 002

Building/ Roof Area Inspected: COURTYARD 2-3 LEVEL 2

Inspection By: C CONNOLLY

Contract no: 1204

Activity to inspect (Refer to Inspection and Test Plan for details of hold points and joint inspections)	Conform Y/N	Date of Inspection	Comment
MATERIALS			
1. AS ORDERED	YES	23/5/12	
2. CONDITION OF MATERIALS OK	YES	23/5/12	
3. STORAGE ON GROUND & ROOF OK	YES	23/5/12	Stored on roof
PRIOR TO START			
1. HANDOVER NOTE RECEIVED	YES		
2. ACCESS	YES	23/5/12	
3. ROOF AREA READY TO START	YES	23/5/12	
4. SUITABILITY OF CONCRETE SLAB SUBSTRATE	YES	23/5/12	
5. FALLS, SKIRTING HEIGHTS	YES	23/5/12	
6. HOISTING/ CRANEAGE	YES	23/5/12	Ongoing use of crane
7. SAFETY ARRANGEMENTS IN PLACE	YES	23/5/12	
WORKMANSHIP			
1. CONCRETE PRIMED	YES	9/6/12	
2. HOT MELT COMPLETE	YES	29/6/12	
3. HOT MELT PEEL TESTS(show position and results)	YES	25/6/12	Refer to check sheet
4. HOT MELT THICKNESS TESTS(show a. position and results)	YES	2/7/12	Refer to marked up drawing
5. PERIMETER DETAIL OK	YES	29/6/12	
6. PITCH POCKETS OK	N/A		
7. ELECTRONIC TESTING OK	YES	3/7/12	Refer to check sheet
8. INSULATION OK	Yes	8/8/12	
9. FILTER LAYER OK			
10. DRAINAGE MAT OK			
11. RETENTION ANGLE OK			
12. SUBSTRATE OK			
13. SEDUM / PLUG PLANT OK			
14. COBBLES/ PAVINGS			
15. FINISHED WORK INSPECTED			
PRIOR TO HANDOVER			
1. FINISHED WORK PROTECTED			
2. DAMAGE RECORDED			
3. WASTE & SURPLUS MATERIALS REMOVED			
4. ROOF CLEANED DOWN			
5. HANDOVER TO CLIENT WITH HANDOVER FORM – (date and number)			

Frequency of inspection and items to be inspected to be in accordance with the I&TP.
If the level of workmanship does not conform, details of this and corrective action should be described on this form.
PR/OP08 Form 10 11/05/10 Rev 2

The extract from the Electronic Integrity Test on the following page identified some areas where the roof had been punctured.

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The table below shows

JHH Engineering Ltd
UKAS Accredited Test Laboratory (N° 4255)

5. FINDINGS / RESULTS

NB: see Schematic for areas tested.

Phase III - Zone D - Level 3 (Tue 03 07 12) (approx 800m²)

- 3 N° punctures.

Phase III - Zone D - Level 2 (Tue 03 07 12) (approx 245m²)

- 2 N° punctures.

Phase III - Zone D - Level 1 (Fri 06 07 12) (approx 75m²)

- clear.

6. COMMENTARY

Electronic Integrity (EI) testing, via the Earth Leakage Detector and Holiday Detector methods, identified the defects listed above.

7. EXCLUSIONS / RESTRICTIONS / ANOMALIES

The following membranes were either (a) NOT tested, or (b) tested but without guaranteed results:

- nil.

Please note:

- where membranes terminate or are sited at, or adjacent to, metallic structures, eg lightning conductors, outlets, hand rail stanchions, cladding/parapet cover flashings, plant stanchions, etc, testing may have been compromised - the validity of this test regime, with regard to these circumstances, cannot be guaranteed.

Tel: 01563 850 916
Fax: 01563 850 989
Web: www.jhhengineering.co.uk

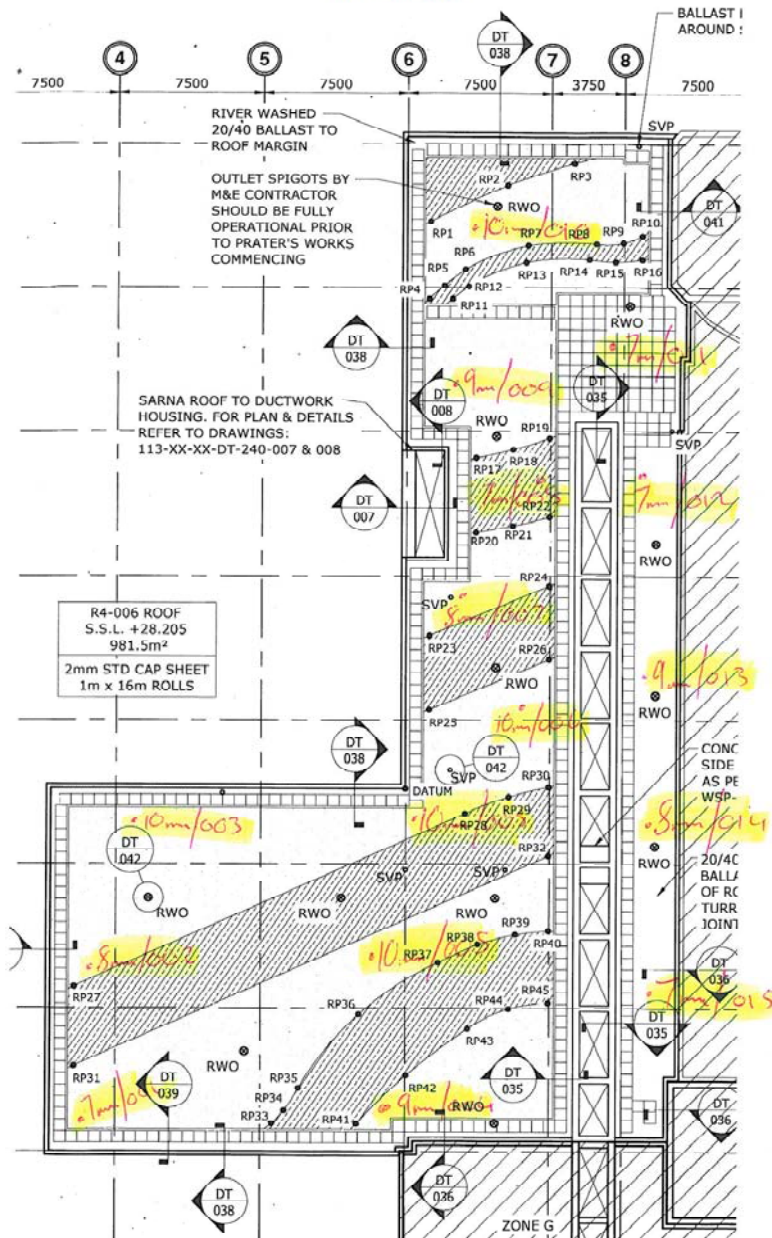
Job N°: 07111c
Page N°: 5 of 7
06 July 2012

The table below shows the peel tests for the roof on Level 4.

AREA, ROOF 4	LEVEL	REF NUMBER	DATE	PICTURE REF	PASS/FAIL	CHECKED BY
ZONE D	4	OO1	30/7/12	R4 001 ZD	PASS	Franky Martin
ZONE D	4	OO2	30/7/12	R4 002 ZD	PASS	Franky Martin
ZONE D	4	OO3	30/7/12	R4 003 ZD	PASS	Franky Martin
ZONE D	4	OO4	30/7/12	R4 004 ZD	PASS	Franky Martin
ZONE D	4	OO5	30/7/12	R4 005 ZD	PASS	Franky Martin

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① Dermaguard Depth Check
R4-006



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The photograph below shows the build up of the Green Roof.

**Children's Roofs**

The Sarna roof on Level 5 is progressing and the quality is to a good industrial standard.

Hot melt application is progressing on level 2 balconies and Level 3 roof and the quality is to a good industrial standard.

ETFE is also progressing the work to the Atrium Roof.

4.3.19 Cladding/Courtyards**A&C**

Cladding is substantially complete in courtyards 2, 3, 4, & 8 and plant room 21 & 31. The "STO" system is substantially complete in courtyard 2, 3, 4 and 7. Brookfield is to carry out their final quality inspections and sign off. The STO is in progress in Courtyards 9 and 10 with the standard and quality generally to a good industrial standard.

Insulation has started in courtyard 11.

The stone rainscreen is progressing on the east elevation and the quality is good.

Repairs and painting was carried out to two damaged panels and these were acceptable to the client. Brookfield awaits confirmation from Rukki that their Warranty is not compromised as a result of the repair/repaint. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 103).

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Children's Hospital

The STO is in progress progressed around the external façade of the Children's Hospital.

4.3.20 Windows

Windows are progressing on the external elevations and courtyards in accordance with the specifications.

4.3.21 Fire protection

Fire Protection is complete to columns and beams in the plant room area Level 4 Children's Hospital.

4.3.22 Equipment

Extract fan on Level L3 PR31 extract fan unit Number 30EF1 has been installed on the floor of the plantroom with the service access on the underside of the unit making servicing impossible. We asked Brookfield to confirm that the extract fan will be installed in a manner which will allow unrestricted maintenance. We have received a response that access is via the top and sides however the unit fitted does not allow access as described. We asked Brookfield to provide the manufacturers information in relation to maintenance access but received information for a different model. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 151).

4.3.23 Ducting

We have asked Brookfield to confirm that the fire damper actuator highlights in room EMC-011 can be accessed on completion of the cold water and ceiling installation. Brookfield has confirmed that the damper actuator will be accessible. The access arrangements for this item will be recorded as part of the Access Strategy Tracker which is being developed. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 92).



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4.3.24 Floors

We have asked Brookfield to confirm their proposals to achieve level floors to the Atrium Bridge Corridors at door openings to offices/rooms and adjacent levels within these rooms. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 145).

4.3.25 Blockwork

We have reported since April that the quality and standard of workmanship of the blockwork at the curve of the south west elevations was not to a good industrial standard. There is a variation in shade of the pointing mortar. The pointing is also to a poor quality and the perpends are of variable sizes. There also appears to be a colour difference to some of the blocks. Brookfield has highlighted some of these problems and is subject to an NCR. In addition to our observations about the poor workmanship there are also specific additional damaged blockwork.



Damaged caused by plant

4.3.26 Pneumatic Tube

Currently nothing to report.

4.3.27 Structural Frame System

During an inspection with Brookfield on Level 2 Zones F & J we noted that the insulation has not been fitted to the SFS abutting the columns on the west facing elevation and at the double studs on the external radius facades in areas 2-507, 2-530 and 2-533. This has now been addressed consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 147 is closed out.

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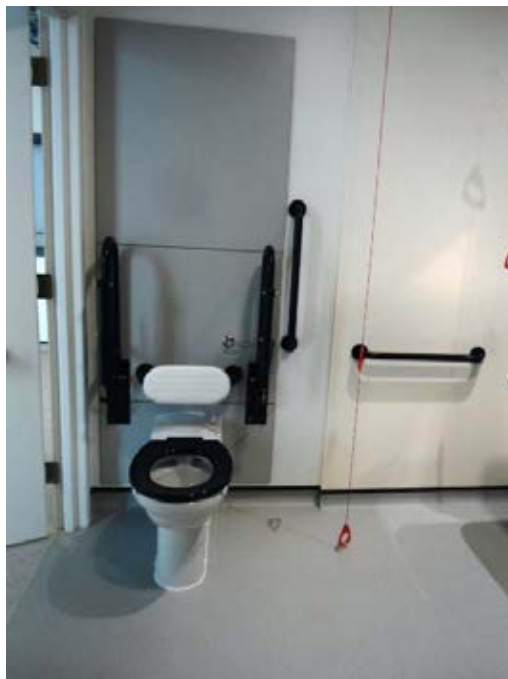
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4.3.28 Electrical Fittings & Fixtures

The en-suite circular boxes in Level 0 OBW-023 appears to be recessed too far back and the opening is not cut out properly. This occurs in the en-suites on level 3. We asked Brookfield to confirm that there is an adequate seal between the boxes, the inner face of the boards and around the perimeter. This is especially important in any fire walls. Brookfield has confirmed that this is being investigated and a formal response will be issued in the next reporting period. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 139).



With the exception of room CCU-065 on level 1 1-521 all of the pull cords next to the WC bowls in the en-suites are not in their correct positions. We have asked Brookfield to confirm when they have been relocated. Brookfield has instructed Mercury Floor / Package managers to investigate and advise. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 140).



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4.3.30 Sprinklers

We asked Brookfield to confirm the access arrangements to high level sprinkler heads. They have provided us with a copy of the sprinkler standards BS EN 12845. This states that a sample number of heads are tested every 25 years. They have also informed us that sprinklers are designed to last 100 years. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 75.

4.3.31 Lighting

The quality of the general and emergency lighting installed to date is of a good standard. The lighting controls within L1 ZD have been witnessed and proved operational.

4.3.32 Power

The quality of the small power installation installed to date is generally good with only minor defects noted which have been rectified.

4.3.33 Glazing

The glazing to the Pods are to BS EN 14179-3. Please confirm that this is in the design requirements and provide a copy of the specification.

The glass to the Atrium Bridge on Level 4 North Elevation nearest to core D does not appear to have a Kitemark. The glass has narrow sections linked with flexible seals. The glazed area appears to have a pronounced flexing. Please confirm the specification for this area of glass. We have received a specification and drawing and this is being reviewed (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 149).

4.4 Current Defects.

Restricted access to ductwork access hatch in corridor adjacent to Zone H near Stair Core F. Brookfield has confirmed that this issue will be added to an Access Tracker forming part of the Brookfield/Mercury Above Ceiling Access Strategy which is being developed. This will highlight the Method of access required for Maintenance or replacement. (See Supervisor's Notification of Defect (CI 42.2) No 13).

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There are partitions on Level 0 Area 529 which have screw fixings that have been fixed too close to the edge of the board. The Knauf/NBS Specification states that screws to be not less than 10mm from edge of board and this is not being achieved in many locations. Brookfield has confirmed that this has been raised at a progress meeting with Astins. The Sub Contractor is currently seeking information from Knauf on this issue. When Brookfield has feedback from Astins they will issue a further response. Brookfield has confirmed however at this stage the integrity and fixing of the boards should not be compromised. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 51).



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Trace visited the site on Wednesday 19/06/13 and carried out repairs to the Highline blinds on level 1. There are still 6No blinds to be replaced this will be carried out by TRACE. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 54).

The upper section of the partition above the ceiling level did not have insulation. Brookfield has confirmed that this has been addressed. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 57 has been closed out.

We noted that some smoke detectors were too near to supply grilles in all rooms in area 0-528 with the exception of rooms AAW-260, AAW-263 & AAW-366 which were locked at the time of the inspection. The smoke detectors are recommended to be no less than 1000mm from the supply grille in accordance with BS5839-1:2002+A2: 2008 Clause 22.3 Sub Clause (M). We have received confirmation that this system is designed to this standard.

The recommendation is that any detector sighted next to a forced air inlet should be 1000mm away from the grille unit. At present Scotshield have installed detectors in uniformed positions throughout the project with a measured distance of approximately > 950mm away from ceiling grilles.

In terms of the short fall of approximately 50mm, they have confirmed that this will have no detrimental effect on how the system operates. The technologies used within present day systems are more advanced to monitor all situations therefore reducing the level of false alarms created by previous developed systems. This may require to be recorded as a minor derogation. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 59).



The Pod on the North East corner of the 4th floor Atrium Bridge has sustained damage. We have asked Brookfield to confirm when this has been addressed. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 60).

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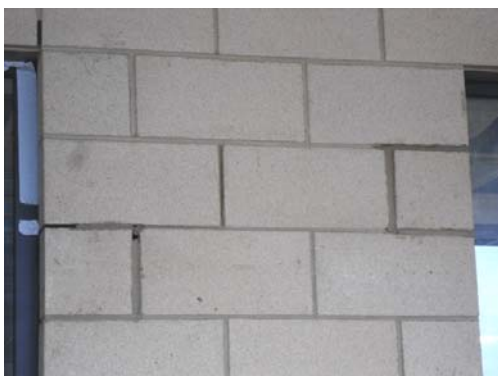
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The partition in Room ARU-034 on Level 2 has been cut to allow the sprinkler pipe to pass between rooms resulting in the partition being weakened. Brookfield has passed this to Astins to investigate. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 63).



The quality of the workmanship to the blockwork on the West Facing Elevation is poor and requires to be addressed. The widths of perpend varying at various locations on this elevation. This is particularly evident between the windows on the right hand side of the entrance to A&E. See photo below. We have asked Brookfield to confirm when this issue has been addressed. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 64).



We noted that there were indentations / penetrations through the protective layer of the Level 12 roof and we have asked Brookfield to confirm when these have been addressed to allow for a further inspection. (See Supervisor's notification of Defects (CI 42.2) No 61). Location 1.

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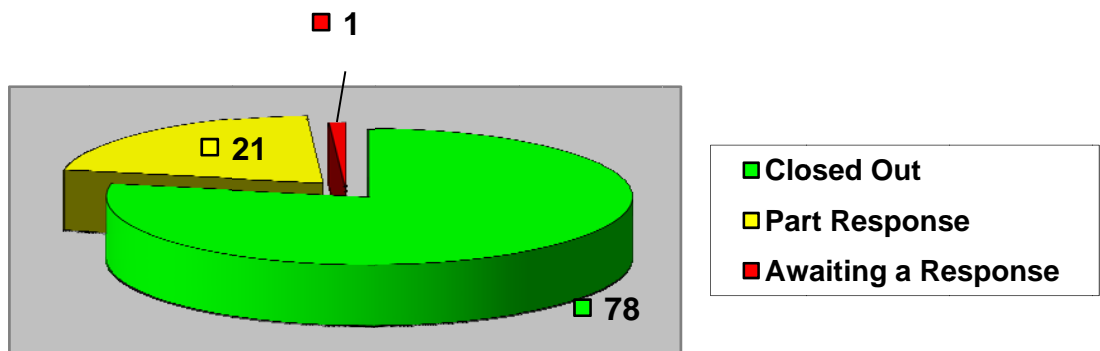


We noted that there were indentations/penetrations through the protective layer of the Level 12 roof and we have asked Brookfield to confirm when these have been addressed to allow for a further inspection. (See Supervisor's notification of Defects (CI 42.2) No 62). Location 2.



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5.0 INFORMATION REQUIRED

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Item No.	Description	Date Requested	Comment	
Items 1 to 29 have been closed out.				
30	Confirm when cabling is complete, water pumped out and batteries removed.	10/08/12	Response received.	
Items 31 to 44 have been closed out				
45	See Supervisor's Communication No 30.	18/09/12	Response received.	
Items 46 to 73 have been closed out.				
74	Confirm flow of water from the sprinkler head is not restricted.	30/11/12	Response received.	
75	Confirm the access regime for sprinkler head maintenance / replacement.	30/11/12	Response received.	
Items 76 to 91 have been closed out				
92	Confirm that fire damper actuators highlights can be accessed on completion of the cold water and ceiling installation.	14/01/13	Response received.	
93	Confirm void detector above ductwork provides adequate protection.	14/01/13	Closed out.	
Items 94 to 102 have been closed out				
103	Confirm on site painting of panels has the same life expectancy as the factory applied finish.	15/02/13	Response received.	
Items 104 to 110 have been closed out				
111	Please check and confirm that the fixings to the steel angles to the wall at the 1 st floor suspended composite deck are in accordance with the specifications/codes of practice.	28.03.13	Response received.	
Items 112 to 115 have been closed out.				
116	Confirm that there are sufficient access panels in Zone D MH S4 and MH S5. Confirm that 50 mm waste pipes connecting to 100mm pipes at floor level without rodding points are compliant with Building Control.	03.05.13	Response received.	
117	Confirm procedures to ensure the work to the incomplete concrete base has sufficient structural integrity.	15.05.13	Closed out	
118	Confirm the final detailing to internal RHS columns which appear to be held up by adjoining steelwork.	15.05.13	Response received.	
119	Confirm measures to address areas of steelwork in the Children's Hospital Zone B which have significant paint damage.	15.05.13	Response received.	
120	Confirm flatness and levelness (including floor specification and finishes) to achieve tolerances.	16.05.13	Closed out	
121	Confirm the design philosophy in relation to air handling unit 21AHU16 supply duct transition does not would appear to comply with HVAC DW144 clause 11.6 & 11.7	16.05.13	Response received.	
122	Condensate discharges are routed to gullies are a potential trip hazard. Confirm that the CDM Coordinator has considered this problem and confirm if there are any measures to address this.	16.05.13	Response received.	
123	LTHW pumps are mounted on inertia bases however, there are no pump flexes. Vibration will transmit through pipework as a result. Please confirm if this has been considered and if there any measures are proposed to address this.	28.05.13	Closed out	
124	Confirm when remedial measures have been completed in relation to the damaged duct.	28.05.13	Closed out	
125	Confirm proposed remedial actions to the non-compliant steelwork/concrete bases on the roof of the SE section.	20.06.13	Closed out	

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126	Confirm areas identified in the Communication can be accessed in accordance with the Employers Requirements.	24.06.13	Response received.	
127	Confirm when exposed heater battery coil has been covered.	25.06.13	Closed out	
128	Children's Hospital Roof Steelwork Zone A - please provide proposals to meet the design intent at the locations where bolts are missing at the parapet location.	25.06.13	Response received.	
129	Insulation has not been fitted inside the vertical SFS forming the window openings of the ground floor Children's Hospital. Confirm measures to address this.	26.06.13	Closed out	
130	Pneumatic tube box at CCW 073 Bay 1 has an open end. Please confirm when this is blanked off.	02.07.13	Closed out	
131	Advise the remedial proposals for those column bases where there is at present insufficient nut connection to bolt thread.	03.07.13	Response received.	
132	investigate cracks and confirm that the specification requirements are met or provide details of proposed remedial action.	03.07.13	Closed out	
133	Plant room PR31. Confirm that fire rating of flexible connections and supporting system is equivalent to overall system requirements. Confirm fire rating of fans (observed as non-bifurcated type).	03.07.13	Response received.	
134	PR31 adjacent sub-station 2A. Confirm methodology for structural support of pre-fabricated pipework modules.	03.07.13	Closed out	
135	Unistrut pipework support visibly bent under weight of pre-fabricated pipework module. Confirm that structural supports utilised are compliant with the design intent.	03.07.13	Response received.	
136	Level 3 Zones G/H. Confirm method for re-coating painted finishes, integrity test procedure to meet compliance and identification.	03.07.13	Closed out	
137	Various points requiring clarification in relation to the AHU 21.	08.07.13	Response received.	
138	Confirm when ventilation pipe in RCG-067 AND RCG-068 has adequate support.	09.07.13	Response received.	
139	Confirm that there is adequate seal between back boxes and the board especially in fire walls.	17.07.13	Response received.	
140	Pull cords in 1-521 too far from wc.	18.07.13	Response received.	
141	Please provide technical solutions to various issues to the steelwork to the Children's Roof.	23.07.13	Response received.	
142	Confirm measures to address access hatches in line with the head of the partition.	25.07.13	Response received.	
143	Confirm measures to address clash between the cold water pipes and drainage connection.	25.07.13	Response received.	
144	Confirm when damaged parts to AHU AH10 on Level 5 are replaced.	25.07.13	Closed out	
145	Confirm proposals to achieve level floors to the Atrium Bridge Corridors at door openings to offices/rooms	25.07.13	Open	
146	Confirm when smoke detector is repositioned to the required distance from the supply grille.	25.07.13	Open	
147	Confirm when insulation will be fitted to SFS LEVEL 2 Zone J.	31.07.13	Closed out	
148	Provide us with a copy of your proposals / method statement for the flushing of the LTHW and CW and re-use of flushed water.	13.08.13	Closed out	
149	The gazing to the Pods are to BS EN 14179-3. Please confirm that this is the design requirements and provide a copy of the specification.	15.08.13	Response received.	
150	Hatch clashes with partition in DMW-037. Confirm when accessible.	15.08.13	Response received.	
151	Confirm when extract fan in Plant Room 31 is installed to allow unrestricted access for maintenance.	15.08.13	Response received.	
152	Provide marked up drawing from Scotshield showing smoke detectors not in accordance with BS 5839-1.	15.08.13	Response received	
153	Confirm when inspection hatch in room HOW-031 on level 4 fully accessible.	26.08.13	Open	

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154	Confirm if isolation ductwork hatch in Plant Room 21 needs a double seal?	26.08.13	Response received.	
155	Plant room 21. Confirm if the multiple types of Isolation ductwork flexible connections used in Plant Room 21 provide an adequate seal against air leakage especially to spiral ductwork? Confirm if fire integrity is maintained with all types of flexible connection used.	26.08.13	Response received.	
156	Confirm if the waste pipes are to be insulated at the external soffit area on the underside of Level 4 Zone H and on the underside of Level 1 above the entrance to Accident and Emergency.	26.08.13	Response received.	
157	Provide a copy your proposals / method statement for the flushing of Water Tanks within the hospital.	29.08.13	Closed out	
158	Provide us with the manufacturer's literature/guidelines or method statement for maintaining the refrigeration units	29.08.13	Response received.	

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6.0 SUPERVISORS TESTS AND INSPECTIONS

Tests not required	N/A
Tests required but not tested	Fail
Tests required which has passed tests	Pass

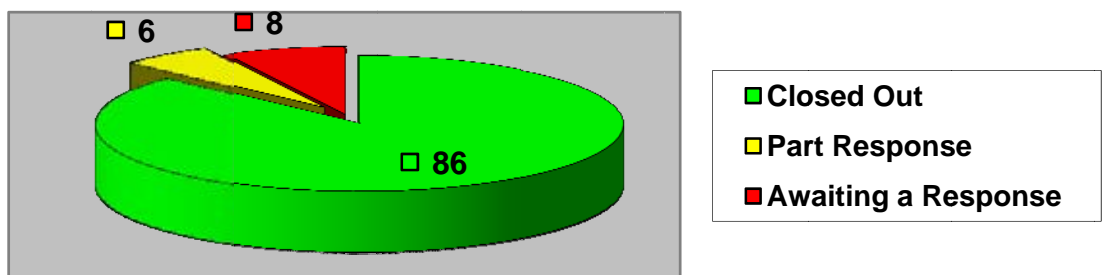
14/06/13 on Level 1 area 507

Tests				
Ref	Title	To be Notified by	Status	Test Date
01-71	Various tests undertaken from the 9/07/2012 to the 30/06/2013.			
72	85 Point Check Level 0-531.	Brookfield	Fail	09/08/2013
73	85 Point Check Level 1-516.	Brookfield	Pass	20/08/2013
74	85 Point Check Level 2-514.	Brookfield	Pass	21/08/2013
75	85 Point Check Level 3- 511	Brookfield	Fail	29/08/2013
76	Fire alarm loop test in 0-527 & 0-530.	Brookfield	Pass	13/08/2013
77	Smoke damper test verification - L1 ZDG. (Random dampers selected)	Brookfield	Pass	20/08/2013
78	Witnessed air flow readings being verified within PR21 for AHU-34, 34 EF01 & 38 EF02	Brookfield	Pass	26/08.2013
79	PR 31 AHU 58 extract duct ventilation pressure test	Brookfield	Pass	29/08/2013
80	PR 31-AHU 61 supply air intake duct ventilation leakage test.	Brookfield	Pass	30/08.2013

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7.0 DEFECTS NOTIFICATIONS ISSUED



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	Description	Date Requested	Comment	
Items 1 to 12 have been closed out				
13	Restricted access to ductwork access hatch in corridor adjacent to Zone H near Stair Core F	02.10.12	Response received.	
Items 14 to 50 have been closed out				
51	Knauf boards not fixed in accordance with NBS Specifications. Boards fixed too close to edge of board.	14.05.13	Open	
52	Confirm when penetrations through roof protection membrane have been repaired.	16.05.13	Closed	
53	Confirm when appropriate access to hatches in level 3 Zone A are provided.	16.05.13	Closed	
54	Faulty internal blinds. Confirm when remedial action has been completed.	30.05.13	Response received.	
55	Confirm when damaged fire coating has been renewed and provide dry film test results.	30.05.13	Closed	
56	Confirm when restriction to access hatch has been addressed.	03.06.13	Closed	
57	Missing insulation above ceiling level confirm when this has been addressed.	10.07.13	Closed	
58	Head track did not have sealant. Provide drawings showing the partitions constructed by the operative/s and confirm when the floor tracks identified on the drawings will be opened up and checked.	10.07.13	Closed	
59	Confirm when smoke detectors have been repositioned to the minimum regulation distance.	13.07.13	Response received.	
60	Confirm when damaged Pod has been addressed.	15.07.13	Open	
61	Confirm when penetrations through the protective area level 12.	15.07.13	Open	
62	Confirm when penetrations through the protective area level 12.	15.07.13	Open	
63	Confirm when partition has been constructed properly to allow the sprinkler pipe to pass through wall.	20.07.13	Response received.	
64	Confirm when poor quality blockwork / perpends are addressed.	29.07.13	Open	

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND
ENERGY CENTRE****SUPERVISOR'S REPORT NO. 29****AUGUST 2013**

**John Redmond
Capita Symonds
Technical Advisory Services**

The Beacon, 8th Floor, 176 St Vincent Street, Glasgow G2 5SG

	Signed	Date
Originated by	John Redmond	5th September 2013
Completed by	Douglas Wilson	5th September 2013

CAPITA SYMONDS

**NEW SOUTH GLASGOW HOSPITAL
ADULT AND CHILDREN'S HOSPITAL AND THE ENERGY CENTRE
NEC 3 SUPERVISORS REPORT NO. 30
SEPTEMBER 2013**

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND
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SUPERVISOR'S REPORT NO. 30**SEPTEMBER 2013****1.0 EXECUTIVE SUMMARY: ADULT & CHILDREN'S HOSPITAL**

Visits to the site during September 2013 continue to indicate that the construction and procedures are progressing in a satisfactory manner in accordance with the Employer's Requirements.

Throughout, the standard and quality of the workmanship is generally good and operations are being carried out in an acceptable manner.

Following our identification that smoke detectors had been sited too close to air supply grilles in some locations by quality and compliance inspections last month we carried out inspections in Zone H, 1-529 and 1-530. We have raised a Supervisor's Communication highlighting the close proximity of smoke detector in relation to chilled beams throughout Zone H, 1-529 and 1-530. We have also asked if Scotshield will be continuing with their surveys and repositioning smoke detectors to their recommended distance of approximately > 950mm away from ceiling grilles.

Brookfield continues to undertake their Quality Assurance systems on site with inspection and checklist documentation available for the ongoing construction activities. Over the period, we have closely liaised with Brookfield and witnessed 85 point check to the partitions on Level 4 Zone E 4-143, Level 0 Area 1-515. The partitions were constructed in accordance with the specifications. However on Level 4 Zone E 4-143 there is a small step between the concrete upstand and the Unitised Panel which was filled with sealant. Brookfield is seeking advice in relation to this detail. An 85 point check was also carried out on Level 1 Area 1-506 and was constructed in accordance with the specification.

Civil and structural works continue to be to a generally high quality standard.

Piling as built drawings are still to be inserted on Zutec.

In the car park test results for the piling have now been received and these appear to be satisfactory. Foundation works are nearing completion and quality to date has been to an acceptable standard. Drainage, sub-base and tarmac have been placed to a significant area of the ground floor and quality here is also satisfactory. The 1st floor slab and part of the 2nd floor have been poured and post tensioning applied. Brookfield quality checks on this appear sound and the floor finish achieved appears to be satisfactory.

All pods to the Atrium Bridge have now been positioned and additional deflection checks to date have been further examined in respect of datum issues by the Brookfield team. Proposals in respect of final screeding and floor finish levels are still awaited.

Final elements of steelwork erection have continued to the roof of the Children's Hospital in Zones A and B. Communications have been raised with Brookfield and are listed on the following pages. These still remain outstanding and have been examined with Brookfield who will ensure that they are addressed at the appropriate time.

Steelwork erection has also continued on the roof of the ACH and now extends to all 4 arms. Some communications raised in respect of this steelwork are still being

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addressed. In addition steelwork erection is proceeding on the helipad structure, and queries have been raised in respect of some handling damage to the galvanised finish and how this will be addressed. A similar query has been raised re some, albeit limited, damage to paintwork finish to the main atrium roof steelwork (white).

The steel structures for the bridge link to the existing neuro-building have been assembled in sections on site in preparation for single day lifting into position. A query has been raised re the single column moment connection to the bridge structure.

The sample AHU21 in plant room PR21 was inspected and comments provided for action by Mercury. It was agreed that this unit will form the standard for all other AHU's, therefore any issues are to be fully closed out to ensure quality installation. We still await a response from Brookfield to allow close out of remaining issues. It should be noted however, that some items will only be closed out once full commissioning has been undertaken.

The M&E installation quality is being maintained to a good standard and we are generally satisfied that the installation is compliant with exception of the specific items raised under communication.

The M&E installations are progressing on all levels up to Level 12 and range from first fix module installation to completed and tested areas. Major works are now well underway within levels 2, 3 & 4 plantrooms.

The installations in the Energy Centre are well advanced with the advanced A-side systems commissioned and handed over. Commissioning programmes for the B Side have been presented and significant commissioning has been taking place from June and will continue through to December 2013.

Various witnessing of commissioning activities has been carried including air flow tests, duct pressure tests, gas soundness tests, electrical testing, oil line pressure tests, smoke damper tests, and fire alarm loops tests. All with the exception of one smoke damper test were tested satisfactory.

We are continuing to work with Brookfield during our inspections highlighting any items that have raised concern. Items identified in this manner are generally being addressed by the site team in advance of any defect notice being raised.

In general terms we are satisfied that the installations continue to be installed to a compliant standard, and are of a good quality. However we have noted that certain items this month have raised concern. These have been raised with the Contractor as follows:-

Supervisor's Communication General Matters / Other Instructions No 159, 160, 161, 162, 163, 164, 165, 166 and 167 were issued during September.

- Seeking confirmation that the gap between the internal partition and external unit has been filled to avoid flanking.

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- Seeking confirmation that the appropriate action has been taken to address the shaded areas below the finished surface of the render on the east elevation.
- Seeking confirmation when all medical gas valves are covered.
- Seeking confirmation when legs to steel framework have been extended.
- Seeking details of the lead protection to the penetrations above ceilings within Radiology.
- Seeking confirmation when rodding eye inspection cover has been repositioned.
- Seeking confirmation of measures to improve the quality of finish to the blockwork.
- Seeking confirmation when the water damaged boards have been replaced.
- Seeking confirmation that smoke detectors in 1-529 & 1-530 will be surveyed and repositioned appropriately.

Supervisor's Notification of Defects No 65 and 66 were issued during September.

- Seeking confirmation when damaged medical gas pipes have been addressed. (Location1).
- Seeking confirmation when damaged medical gas pipe has been addressed. (Location 2).

We continue to be assisted by the site teams and the NHS Project Team who produce an internal weekly report which assists us in resolving various construction, mechanical, electrical and quality issues. We continue to close out our Supervisor's Notifications and Defects when we have received satisfactory responses.

SUPERVISOR'S REPORT NO. 30**SEPTEMBER 2013****2.0 DESIGN COMPLIANCE CHECK**

Currently nothing to report.

3.0 PROCEDURES REVIEW**3.1 Contractor's QA Procedures / Compliance Inspections**

Brookfield and their subcontractors have continued with their QA and checking and inspection procedures during this period. We are in discussion and liaise with Brookfield's Quality Manager on QA matters and we undertake regular reviews of their QA documentation.

We await further survey from Scotshield showing the smoke detectors which are too close to service grills and their new positions. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 152).

We undertook inspection with Brookfield on Level 0 Zones 0-522, 0-520, 0-523, 0-524 and 0-519 and noted that the works were progressing at varying stages in all Zones. The works are generally to a good industrial standard. However we brought to Brookfield's attention that fire putty was missing from two back boxes Brookfield confirmed that they would address this but we will monitor this during further visits.

Inspections were carried out with Brookfield on Level 1 Zones 1-534, 1-533, 1-530, 1-532, 1-539, 1-537 and 1-538. The quality of the work was to a good industrial standard. We have raised a Supervisor's Communication requesting details of the lead protection to ducts and penetrations passing through walls above the ceilings within Radiology. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 163).

We carried out a joint inspection with Brookfield on level 2 Zones 2-520, 2-521 and 2-521B. The quality of the work was to a good industrial standard. Permit access only is being initiated on Level 2 Zones 2-526 and 2-524 in advance of quality and compliance inspections.

The blockwork on the South Elevation of Area 9 is progressing with some areas finished up to the underside of the render. The quality was good with only a few localised vertical pointing which were too deep.

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Blockwork at the Children's Hospital.



Reinforcing at window.

The works to Courtyard 1 is progressing with the quality good. The works to the intensive roof between the Children's and the Acute Hospital is progressing with the insulation being laid on the hotmelt. The quality of the work is good. The roof to the Atrium at the main entrance is progressing in readiness for the roof to be installed.



The Main Atrium roof is nearing completion.

85 point Checks

An 85 point inspection of the partition in room RENW-143 on Level 4 Zone E 4-143 and the partition was constructed in accordance with the specification. There was a small step between the concrete upstand and the Unitised Panel which was filled with sealant. This may allow flanking of sound and Brookfield is seeking advice from Nightingales.

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An 85 point check was carried out to a partition in the Children's Hospital which has a 47db rating formed on Level 0 Area 1-515 in rooms OPD-769 and 133. The partition had been constructed in accordance with the specification. A check was also carried out to the junction with the external wall and the partition which was full insulated.



Insulation in partition.



Junction of partition with external wall

An 85 point check was carried out to a partition Level 1 Area 1-506 and the partition was constructed satisfactorily.

We asked Brookfield to provide us with the manufacturer's literature/guidelines or method statement for maintaining the refrigeration units on site keeping them closed off air tight and clean. The Cold/ Freezer rooms are not yet commissioned and still under construction. Brookfield has confirmed that there are no manufacturer's guidelines on keeping the units closed off and air tight until the system is commissioned and they are bringing the rooms down to design temperature. Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 158 is closed out.

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Early in the month WSP carried out a visual inspection. They have confirmed that in accordance with Technical Report 68 the Class of Damage to be Class 1 and as such no further testing of the concrete is deemed necessary. We have been inspecting the reinstatement work in the fire damaged area and can confirm that the work is satisfactory.

3.2 Witness Testing and Commissioning

We witnessed a number of tests during September which were satisfactory and these were as follows:

- Electrical inspection within the Energy Centre.
- Gas strength and soundness test within the EnergyC.
- Proportional air flow tests of ventilation systems 21-AHU-28.
- Oil line pressure test in Energy Centre.
- Local fire alarm panel commissioning on Level 2 Zones 17 & 19.

We witnessed one smoke damper test which failed, consequently this requires to be retested.

- Smoke damper tests in L0, Zones D & G.

3.3 Board Equipment Installation,

Currently nothing to report.

3.4 Non Conformance Reports

We reviewed Brookfield's NCR Tracker and noted the issues raised by the Package Managers. The blockwork and pointing on the south and east elevations although improved by cleaning continues to be a concern with shading of the mortar evident. Prater has still to offer it up to Brookfield as complete reference NCR 156. We are also monitoring the issue in relation to water between the glass of the Structural Panels NCR reference 157 and 219. Brookfield an independent survey carried out by Cladtech Associates has been forwarded to Structural. Brookfield are reviewing all the information. NCR 237 was issued to Astins in relation to the lack of insulation at abutments between internal partitions and external walls.

4.0 CONSTRUCTION REVIEW**4.1 Visits to the Works**

The following members of our team undertook site inspections, reviewed documentation, attended meetings and met with relevant Trust, Project Co and Contractor on-site personnel:- John Redmond (Lead NEC3 Supervisor) 2nd to 6th, 9th to 13th, 16th to 20th, 23rd to 26th September; Douglas Wilson (M&E NEC3 Supervisor) 2nd to 6th, 9th to 13th, 16th to 20th, 23rd to 27th and 30th September; Willie Roxburgh (Civils/Structural NEC3 Supervisor) part days on 4th, 9th, 11th, 16th and 18th, plus remote desk top input each day of the month until the 18th September. Capita Symonds Independent Tester team visited site a combined 44 person days.

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4.2 Elements of the Works available for inspection

- Energy Centre – structurally complete. Civil works around.
- Main building – all concrete areas.
- External Drainage – specific sections of installation where access is possible.
- Tunnels between ACH and Labs, and Cores C to F.
- Structural steelwork to Atrium (limited due to access).
- Structural steelwork to all roof areas (limited due to access)
- Neuro bridge assembly area.
- Dual carriageway to Renfrew Road, turning area in front of the main entrance, and carriageway from Hardgate Road.
- Car park area.
- Internal Partitions.
- M&E modular units.
- Roofing.
- Cladding.
- Windows.
- Sto system.
- Brickwork Courtyard 5 and south east elevation.
- Brickwork/blockwork south east elevations.
- Basement blockwork.

4.3 Observations from September 2013 Inspections

The visual inspections of the work carried out to date indicate that the works are generally being carried out to a satisfactory standard. We continue to be assisted by the site teams and the NHS Project Team in resolving various construction, mechanical, electrical, and quality issues. We continue to close out our Supervisor's Notification and Defects when we have received satisfactory responses. Listed below are observations closed out, still to be closed and those raised following site visits in September 2013.

4.3.1 Structural

All pods to the Atrium Bridge have now been positioned and additional deflection checks to date have been further examined in respect of datum issues by the Brookfield team. Proposals in respect of final screeding and floor finish levels are still awaited.

Final elements of steelwork erection have continued to the roof of the Children's Hospital in Zones A and B. Communications have been raised with Brookfield and are listed on the following pages. These still remain outstanding and have been examined with Brookfield who will ensure that they are addressed at the appropriate time. This is also the case with a communication raised some months ago re connections to a support angle at the 1st floor level in Zone A.

Steelwork erection has also continued on the roof of the ACH and now extends to all 4 arms. Some communications raised in respect of this steelwork are still being addressed. In addition erection is proceeding on the helipad structure, and queries have been raised in respect of some handling damage to the galvanised finish and

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how this will be addressed. A similar query has been raised re some, albeit limited, damage to paintwork finish to the main atrium roof steelwork (white).

The steel structures for the bridge link to the existing neuro-building have been assembled in sections on site in preparation for single day lifting into position. A query has been raised re the single column moment connection to the bridge structure.

We brought to Brookfield attention the fixings of the steel angle to the wall at the 1st floor suspended composite deck in the atrium area of Zone A of the Children's hospital. We asked them to confirm they are in accordance with the Specification and relevant current codes of practice and standards. Resin anchors are the correct fixings as agreed with WSP, these will now be fitted. Larger washers were installed on the 17th September 2013. We will carry out a further inspection. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 111).

Two internal RHS columns in the Children's Hospital Zone B appear to be held up by adjoining steelwork. Brookfield has informed us that the final detail is a connection to concrete. The concrete works and subsequent bolting up will be undertaken prior to the installation of any cladding. The fitting of additional brackets has been agreed by WSP and we were informed that this would be completed by Monday 19th August. It was our intention to inspect on completion, however the work is still not complete. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 118).



The areas of steelwork in the Children's Hospital Zone B had significant paint damage is now completed and a joint inspection between Brookfield and Capita is to be arranged. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 119).

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We asked Brookfield to provide proposals to meet the design intent for the Children's Hospital Roof Steelwork Zone A where bolts are missing at the parapet. Brookfield has had discussions with William McColgan WSP during a visit to site. Subsequent to this visit Dunne has provided a detailed sketch which has been approved by WSP. We shall inspect this on completion. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 128).



We have asked Brookfield to advise us of the remedial proposals for those column bases where there is at present insufficient nut connection to bolt thread. Brookfield has confirmed that W Mc Colgan of WSP has accepted of proposal from J&D Pierce. They have provided WSP with an isometric indicating the locations and JDP Sketch sheet BP1. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 131).

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We asked Brookfield to provide technical solutions to various situations on the structural steelwork to the Children's roof where base plates are (floating), edge distances are minimal or miss the concrete base. Cladding rails also prevented HD bolt fixing. WSP has provided a detailed sketch to show remedial work to plinth. We shall inspect this on completion. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 141).

The steel framework in riser on Level 0 ZF Riser M30 has had the legs extended immediately in front of the entrance door. There are other legs which have not been extended yet and we asked Brookfield to confirm when the other legs will be extended. This work is in progress and they will advise when complete. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 162).



Extended legs



Leg still to be extended.

Car Park 1

In the car park test results for the piling have now been received and these appear to be satisfactory. Foundation works are nearing completion and quality to date has

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been to an acceptable standard. Drainage, sub-base and tarmac have been placed to a significant area of the ground floor and quality here is also satisfactory. The 1st floor slab and part of the 2nd floor have been poured and post tensioning applied. Brookfield quality checks on this appear sound and the floor finish achieved appears to be satisfactory.

4.3.2 Energy Centre

Steelwork snagging appears to have been addressed, but much tidying up remains outstanding in the eastern half of the building.

4.3.3 Drainage

We noted that the above ground storm drainage has a lack of ground floor access panel. Zone D. MH S4 in courtyard has a 100mm storm pipe running from inside the building. Brookfield is currently marking up drawings indicating the locations of access panels. We shall review these when complete.

With reference to the above ground storm drainage position of access panel. Zone D. MH S5 has a 150mm storm pipe running from inside the building. Inside the building the pipe runs above slab level is insulated and an access panel at ground floor level is apparent, however this access panel is located in an unsuitable position, and would be very difficult to utilise if the requirement arose. We asked Brookfield to advise on their proposals in respect of this to comply with current standards. We also asked them to check all such locations throughout the building that they also comply and advise accordingly.

Brookfield is seeking clarification and would prefer to inspect this pipe on site. Brookfield has confirmed that all pipes have been installed in accordance with these construction issue approved drawings. The ME 581 series drawings provide detailed dimensioned locations for installation of the pipe work. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 116).

Rodding eye inspection cover facing wrong direction for access. We have asked Brookfield to confirm when this has to be addressed to allow access from behind removable panel within toilet MDU-011. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 164).



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The defects previously identified will be reviewed nearer to completion when they will be effectively rectified.

4.3.5 Pipework.

Installation of hot, cold, heating, & chilled water pipework in the A&C hospital is progressing and in general is being installed to a good standard.

We are continuing to monitor all pipework installations to identify possible dead legs. The quality checking by Brookfield would appear to be identifying these before our inspections. Open unprotected ends are also being identified in our weekly site inspection reports and these are notified to Brookfield. During September there has been a reduction in the number of open ends

We have asked Brookfield to confirm the flow of water from the sprinkler head highlighted is not restricted by the adjacent section of unistrut. We have received a photograph from Brookfield which confirms that the sprinkler head deflector is under the unistrut. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 74 is closed out.

During our inspections in Plant Room 21, we noted that all AHU condensate discharges are routed to gullies via low level unprotected plastic pipework. This is a potential trip hazard. We have asked Brookfield to confirm that the CDM Coordinator has considered this problem and has asked if there are any measures to address this. There is also the risk of the pipes being broken. Refer to SHTM03-01 clause 4.25. Brookfield has confirmed that where appropriate, sheet metal guards will cover condensate discharges. However we have requested to see a typical detail of what they are proposing to allow further comment.

We have asked Brookfield to confirm if a ramp (up/down) will be installed over the low level pipework & be fixed in position. Also in some instances, where the pipework is particularly exposed, this ramp may need to extend further along the length of the pipe or additional protection provided. We have asked again if the CDM Coordinator has considered this problem and has taken cognisance of SHTM03-01 clause 4.25. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 122.

Following a visit to site we raised our concerns that there are some locations where there is insufficient space for maintainable, replacement building services and plant as per the Employers Requirement Section 5.13 Facilities Management.

We raised our concerns with Brookfield in relation with the following areas.

Level 2 Zone H. Pipework connections above line of unistrut. Access appears difficult. We have asked Brookfield to confirm that future access will be available.

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Level 2 / Zone K. Current access to install chilled water riser pipework appears difficult. We have asked Brookfield to confirm that future access will be available once the walls are constructed.



Level 3 / Zone H. Pipe Racks in area shown below have multiple levels of pipe work. We have asked Brookfield to confirm that future access will be available. Brookfield confirmed that access to the 3 areas identified will be accessible for FM in compliance with ER Section 5.13. The access arrangements for this item will be recorded as part of the Access Strategy Tracker which is currently being developed by Brookfield and Mercury. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 126).

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We noted that the unistrut pipework support had visibly bent under weight of pre-fabricated pipework module in Plant room PR31 adjacent sub-station 2A. This will become more pronounced when pipework is filled with water. We asked Brookfield to confirm that the structural supports utilised are compliant with the design intent. Brookfield has replied that the frames are suitable for their intended function and have provided calculations. They have informed us that this appears to have been mechanical damage and not deformation due to weight of the services. We have not found any fitted modules with bowed frames in this manner. Further investigations are being carried out by Brookfield and Mercury. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 135).



We noted a clash between the cold water pipes and drainage connection in the corridor and room OPD-031. Brookfield has resolved this issue and consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 143) is closed out.

The waste pipes are uninsulated to the external soffit area on the underside of Level 4 Zone H and on the underside of Level 1 above the entrance to Accident and Emergency. We have asked Brookfield if insulation is required to these pipes. This Notification has been forwarded to the relative floor manager and is being investigated. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 156).

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**4.3.6 Ventilation**

We were in attendance to witness the successful test of the supply and extract airflow testing of AHU's 24 & 25 within plant room 21 and levels 1 & 2 of zones D&G, and dirty extract fan 39.

We noted that the air handling unit 21AHU16 supply duct transition does not appear to comply with HVAC DW144 clause 11.6 & 11.7 which could result in high pressure loss.

Brookfield has confirmed that ductwork is not in compliance to drawing/specification and will be replaced. However we await the design philosophy in relation to the proposed remedial measures. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 121).



We asked Brookfield to confirm that the fire rating of the flexible connections and supporting system in Plant room PR31 is equivalent to the overall system requirements. The fan is located adjacent to atrium at the west side of building. We have also asked them to confirm fire rating of fans (observed as non-bifurcated type). ZBP has confirmed to Brookfield that fans require to be fire rated and are at technical submittal stage. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 133).

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Following an inspection of Plant Room PR21 we raised a number of points which were clarified, however the items below are still awaiting comment from Brookfield.

- Confirmation received that diffuser plate will be fitted to alleviate fan discharge velocity issues raised (items 1a, b, d, e & f). We asked for details of the proposed diffuser plate to be fitted in front of supply AHU fan discharge. The diffuser plate already fitted to AHU 21 appears inadequate for its intended use. Brookfield is awaiting a response from the Manufacturer.
- Item c - please confirm Coil 'off coil' conditions. Brookfield has confirmed that this is as per ZBO Schedule ZBP-XX-XXSH-600-323.
- Please confirm grade of filtration. Do the bag filter grades vary depending on application? Brookfield has confirmed that standard throughout and as per ZBP Schedule ZBP-XX-XX-SH-600-323. We will monitor this during commissioning.
- We asked for confirmation that the AHU is compliant with SHTM03-01, or state any agreed derogation. Some aspects stated do not comply with the SHTM & will require agreement from the Board. Brookfield has confirmed that all All units are SHTM compliant and inline with ZBPs design. There are a few cases where the specific fan powers could not be achieved as the manufacturers' limiting velocity of 2m/s across components would not have been achieved, this has been brought to ZBP's attention. All units are approved and supplied to ZBP's design schedules.

(See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 137).

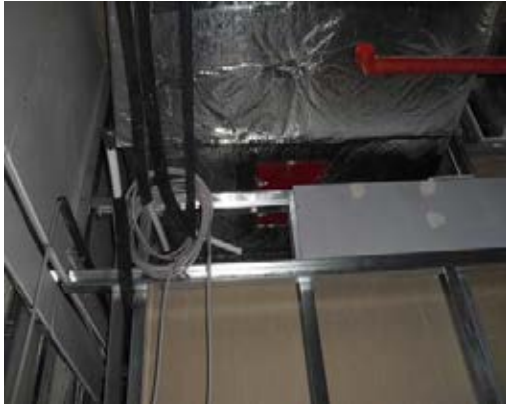
There is an unsupported ventilation pipe passing through rooms above the ceiling line of Rooms RCG-067 Cleaner, RCG-068 Baby Sleep and RCG 070 Change. The duct is currently supported across vertical stud members. Brookfield have resolved this issue consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 138) is closed out.

We noted that the access hatches were located within the line of the partition wall on Level 2 room DMW-040. Brookfield confirmed that two access doors will be installed. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 142 is closed out

During our inspections on Level 2 we noted that the duct inspection hatch is located above the partition dividing rooms DMW-037 & 038. We have received confirmation

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that the duct access hatch will be repositioned to allow access to the duct. We have asked Brookfield to confirm when the hatch will be accessible. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 150).



A ductwork inspection hatch has been installed in middle of the partition in room HOW-301 Level 4. We have asked Brookfield to confirm when the inspection hatch will be fully accessible. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 153).

We have asked Brookfield if the Isolation ductwork hatch to the fire rated ductwork in Plant Room 21 needs a double seal. This Notification has been forwarded to the relative floor manager and is being investigated. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 154).

There are multiple types of Isolation ductwork flexible connections used in Plant Room 21, all secured with single jubilee clip at either end. We have asked Brookfield to confirm if these provide an adequate seal against air leakage especially to spiral ductwork.

We have asked Brookfield to confirm if fire integrity is maintained with all types of flexible connection used? This Notification has been forwarded to the relative floor manager and is being investigated. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 155).



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We noted that the smoke detectors on Level 1 Zone H, 1-529 and 1-530 are too close to the chilled beams. Please confirm if Scotshield will be surveying the rooms in these areas and relocating the detectors to approximately > 950mm away from ceiling grilles as per their previous report. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 167).

4.3.7 Insulation

The thermal insulation installation to the pre-fabricated sections of pipework is being completed off site, before delivery and completed after installation.

4.3.8 Pressure testing

Pressure testing of the modular pipework sections on a zone by zone or area by area basis has been programmed through the commissioning meetings.

4.3.9 Medical Gases

Medical Gas pipework in being installed in all areas and independent tests are being witnessed by Ian Sandford of Hulley and Kirkwood.

We noted that there were a number of medical gas valves on all floors which were not covered. Some rooms in the same zone have covers and other do not. Brookfield has confirm that the "do not use labels" do not form part of any type of seal or cover. Labels are to make the medical practitioners aware of outlets should not be used. We shall continue to monitor the installation to ensure that any valves are protected in construction areas. Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 161 is closed out.

4.3.10 Energy Centre

The installations in the Energy Centre are well advanced with the A-side systems commissioned and handed over and ground floor pipework being prepared for the CHP installation. Commissioning programmes for the B Side have been presented and significant commissioning will be taking place from June to December 2013.

4.3.11 Trunking

Cable trunking is being installed as part of the offsite fabricated sections that are being installed in the A&C hospital and in general the installation is to a good industry standard.

4.3.12 Cable Trays

Cable trays are being installed as part of the offsite fabricated sections that are being installed in the A&C hospital and in general the installation is to a good industry standard.

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4.3.13 Cabling

Modular wiring looms are now being installed as part of the offsite fabricated assemblies and carefully tied up for protection and installation is of a good standard.

4.3.14 Conduit

Solid conduit installations are well progressed in the areas being fitted out and are to a good industry standard.

4.3.15 Void Detection

The smoke detector within the lobby on Level 1 Room CCW-049 is within 300mm of the supply grille. We asked Brookfield to confirm when this has been repositioned to the minimum distance of 1metre. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 146).

**4.3.16 Intake Sub Station**

Brookfield has confirmed that the communication cables are still to be pulled into the Substation. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 30 & 45).

4.3.17 Partitions

The partition between the east side of the atrium and plant room 41 has been damaged by water ingress. Brookfield to confirm they are aware there has been some damage, and will replace the boards after they have completed the resin flooring works. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 166).

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Water damaged boards.

4.3.18 Roofs**A&C Roofs**

Courtyard 2, 3, 4 and 5 on Level 1 and 2 are progressing to completion with Brookfield awaiting the final snagging by Praters.

Level 4 Zone E&H Structural to remove materials to allow work to recommence.

The roof covering zones G and D on Level 3 is progressing to completion with Brookfield to carry out final checks.

The remaining roofs on Levels 2, 3 and 4 including the Green Roofs are progressing.

The hot melt roof on Level 12 is nearing completion.

Generally the quality of the workmanship throughout is to a good industrial standard.

The Sarna Roof covering is progressing above Plant Room 121. The photo below shows the membrane sealed at all laps.

Children's Roofs

The Sarna roof on Level 5 is nearing completion and the quality is to a good industrial standard.

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Below is the QA check list for the Sarna Roof.

CONTRACT: 1204.....PACKAGE NO:.....

Building/ Roof Area Inspected: Zone A Level 5 R5-001

Inspection By: **Jay Campbell**.....

Contract no:.....

Activity to inspect (Refer to Inspection and Test Plan for details of hold points and joint inspections)	Conform Y/N	Date of inspection	Comment
MATERIALS	Yes	17/02/13	
1. AS ORDERED	Yes	17/02/13	
2. CONDITION OF MATERIALS	Yes	17/02/13	
OK			
3. STORAGE ON GROUND & ROOF OK	Yes	25/03/13	
	Yes	25/03/13	
	Yes	25/03/13	
	Yes	25/03/13	
PRIOR TO START			
1. HANDOVER NOTE RECEIVED			
2. ACCESS			
3. ROOF AREA READY TO START	Yes	25/03/13	
4. SUITABILITY OF CONCRETE SLAB SUBSTRATE (if appropriate)	Yes	25/03/13	
5. CHECK STEEL ARRANGEMENT (if appropriate)	Yes	25/03/13	
6. FALLS, SKIRTING HEIGHTS	Yes	25/03/13	
7. HOISTING/ CRANEAGE	Yes	19/04/13	
8. SAFETY ARRANGEMENTS IN PLACE	Yes	03/05/13	
WORKMANSHIP			
1. METAL DECK INSTALLED & FIXED	Yes	10/05/13	
OK			
2. VAPOUR BARRIER LAPS SEALED, DAMAGE REPAIRED OK	Yes	10/05/13	
3. INSULATION BONDED OR			
			8. Safety Nets in place

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MECHANICALLY FIXED OK	Yes	28/05/13	2. No damage
4. SINGLE PLY FIXINGS AS DRAWING	Yes	28/05/13	
(check fixing and/ or bar centres, peel	No	28/05/13	
stops OK)	Yes	28/05/13	
5. END AND SIDE LAPS OK	Yes	28/05/13	
6. PERIMETER DETAILS OK	Yes	28/05/13	
7. NIGHT JOINT DETAIL	Yes	28/05/13	
APPROPRIATE	N/A		
8. OUTLETS FITTED OK	N/A		
9. SINGLE PLY FINISH OK	Yes	03/06/13	
10. ELECTRONIC TESTING OK	Yes	03/06/13	
11. FINISHED WORK INSPECTED	Yes	05/07/13	
<i>PRIOR TO HANDOVER</i>			
1. FINISHED WORK PROTECTED			
2. DAMAGE RECORDED			
3. WASTE & SURPLUS MATERIALS REMOVED			
4. ROOF CLEANED DOWN			
5. HANDOVER TO CLIENT WITH HANDOVER FORM – (date and number)			

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JHH Engineering Ltd

Independent Consultancy to the Construction Industry
UKAS Accredited to ISO/IEC 17025:2005



Mr Stuart Hay
Prater Ltd
Perrywood Business Park
Honeycroft Lane
REDHILL
Surrey
RH1 5JQ

JHH/07111n/6468
07 August 2013

Reference:

- A. Your Purchase Order No EC1204/PS004, dated 05 Sep 12
- B. Your Oral Instruction, dated 31 Jul 13

Dear Mr Hay

NEW SOUTH GLASGOW HOSPITALS - VISIT 14

Further to the References, JHH Engineering carried out Electronic Integrity testing to the PERMAQUIK / SARNAFIL membranes, at the Title property. Testing was completed on Wednesday 7th August 2013

The report is enclosed.

Should you have queries, or seek clarification, please do not hesitate to contact me. In the meantime, we at JHH Engineering look forward with pleasure to our being of Service in the future.

Yours sincerely



Malcolm E D Gamble
BEng (Hons) CEng CMarEng MIMarE MInstNDT
Director, JHH Engineering Ltd

- Electronic Integrity testing of roof system and building envelope membranes
- Watertightness testing of glazing systems and building envelope components (to AAMA 501.2.03 / BS EN 13051)
- Airtightness testing of building envelopes (to ATTMA T81)
- Thermography Inspections - eg insulation integrity, electrical systems, predictive maintenance
- "Long Reach" camera inspections
- Roofing System / Building Envelope / Dilapidation surveys and leak detection (inc moisture build-up / retention within insulation, etc)
- Concrete moisture/hardness testing; noise/vibration testing; environmental monitoring
- Design calculations for roofing systems.

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Hot melt application is progressing on level 2 balconies and Level 3 roof and the quality is to a good industrial standard.

ETFE roof above the Atrium is nearing completion.

4.3.19 Cladding/Courtyards

A&C

Cladding is substantially complete in courtyards 2, 3, 4, & 8 and plant room 21 & 31. The "STO" system is substantially complete in courtyard 2, 3, 4 and 7. Brookfield is to carry out their final quality inspections and sign off. The STO is in progress in

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Courtyards 9, 10 and 11 with the standard and quality generally to a good industrial standard.

The stone rainscreen has progressed on the east elevation and the quality is good.

Repairs and painting was carried out to two damaged panels and these were acceptable to the client. Brookfield instructed Prater to repair and repaint damaged cladding panels. They are awaiting confirmation from Rukki that their Warranty is not compromised as a result of the repair/repaint. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 103).

The STO render to the upper panel on the east facing elevation nearest Core E has shaded areas visible below the finished surface. Confirm the appropriate action to ensure that there is a uniform covering to the panel and when this is completed. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 160).

Children's Hospital

The STO is in progress progressed around the external façade of the Children's Hospital.

4.3.20 Windows

Windows are progressing on the external elevations and courtyards in accordance with the specifications.

4.3.21 Equipment

Extract fan on Level L3 PR31 extract fan unit Number 30EF1 has been installed on the floor of the plantroom with the service access on the underside of the unit making servicing impossible. We asked Brookfield confirm that extract fan will be installed in a manner which will allow unrestricted maintenance. We have received a response that access is via the top and sides however the unit fitted does not allow access as described. We asked Brookfield to provide the manufacturers information in relation to maintenance access but received information for a different model. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 151).

4.3.22 Ducting

We have asked Brookfield to confirm that the fire damper actuator highlights in room EMC-011 can be accessed on completion of the cold water and ceiling installation. Brookfield has confirmed that the damper actuator will be accessible. The access arrangements for this item will be recorded as part of the Access Strategy Tracker which is being developed. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 92).

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**4.3.23 Floors**

We have asked Brookfield to confirm their proposals to achieve level floors to the Atrium Bridge Corridors at door openings to offices/rooms and adjacent levels within these rooms. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 145).

4.3.24 Blockwork

We have reported since April that the quality and standard of workmanship of the blockwork on the east elevations was not to a good industrial standard.

Some of the blockwork panels are taken to have 10mm joints and other 14mm in accordance with the construction approved drawing NA-XX-XX-EL-251-500. The panel at drawing reference 8 has joint ranging from 8mm to 15mm but is taken for 10mm in accordance with the construction approved drawing.

The panel at drawing reference 6 and 7 has generally 10mm joints below the window sill and 14mm to the left and above the window.

The blockwork panel between drawing reference 5 and 6 is taken for 10mm but is generally 14mm.

The panel next to the block curve is taken for 10mm but is generally 14mm

Other panels have also a variety of joint widths.

Shading of joints are present in most panels. There are also localised vertical hairline cracking to vertical joint especially below window sills. The depth of the pointing is deeper at wide joints and narrower at narrow joints.

We have asked Brookfield to confirm their measures to improve the quality of finish. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 165).

4.3.25 Pneumatic Tube

Currently nothing to report.

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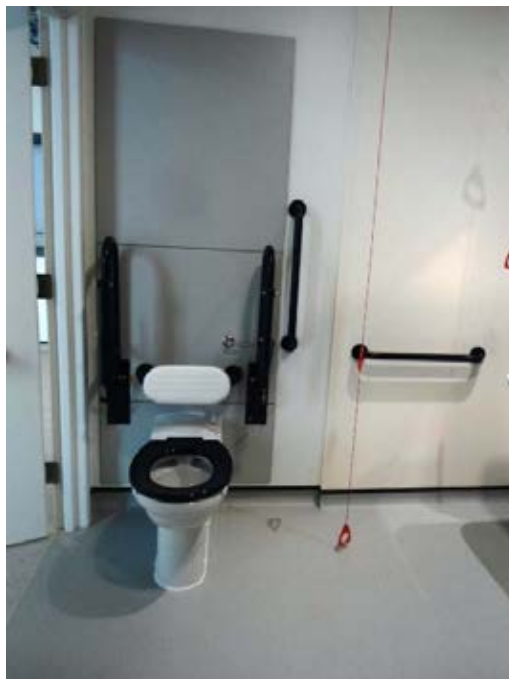
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4.3.27 Electrical Fittings & Fixtures

The en-suite circular boxes in Level 0 OBW-023 appears to be recessed too far back and the opening is not cut out properly. This occurs in the en-suites on level 3. We asked Brookfield to confirm that there is an adequate seal between the boxes, the inner face of the boards and around the perimeter. This is especially important in any fire walls. Brookfield has confirmed that this is being investigated and a formal response will be issued in the next reporting period. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 139).



With the exception of room CCU-065 on level 1 1-521 all of the pull cords next to the WC bowls in the en-suites are not in their correct positions. We have asked Brookfield to confirm when they have been relocated. Brookfield has instructed Mercury Floor/Package managers to investigate and advise. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 140).



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4.3.28 Sprinklers

We asked Brookfield to confirm the access arrangements to high level sprinkler heads. They have provided us with a copy of the sprinkler standards BS EN 12845. This states that a sample number of heads are tested every 25 years. They have also informed us that sprinklers are designed to last 100 years. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 75).

4.3.29 Lighting

The quality of the general and emergency lighting installed to date is of a good standard.

4.3.30 Power

The quality of the small power installation installed to date is generally good with only minor defects noted which have been rectified.

4.3.31 Glazing

Brookfield has confirmed that the glazings to the Pods are to the design requirements and have provided us with a copy of the specification and fire certificate for the glass. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 149 is closed out.

4.4 Current Defects.

Restricted access to ductwork access hatch in corridor adjacent to Zone H near Stair Core F. Brookfield has confirmed that this issue will be added to an Access Tracker forming part of the Brookfield/Mercury Above Ceiling Access Strategy which is being developed. This will highlight the Method of access required for Maintenance or replacement. (See Supervisor's Notification of Defect (CI 42.2) No 13).

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There are partitions on Level 0 Area 529 which have screw fixings that have been fixed too close to the edge of the board. The Knauf/NBS Specification states that screws to be not less than 10mm from edge of board and this is not being achieved in many locations. Brookfield has confirmed that this has been raised at a progress meeting with Astins. The Sub Contractor is currently seeking information from Knauf on this issue. When Brookfield has feedback from Astins they will issue a further response. Brookfield has confirmed however at this stage the integrity and fixing of the boards should not be compromised. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 51).



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Trace visited the site on Wednesday 19/06/13 and carried out repairs to the Highline blinds on level 1. There are still 6No blinds to be replaced this will be carried out by TRACE. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 54).

We noted that some smoke detectors were too near to supply grilles in all rooms in area 0-528 with the exception of rooms AAW-260, AAW-263 & AAW-366 which were locked at the time of the inspection. The smoke detectors are recommended to be no less than 1000mm from the supply grille in accordance with BS5839-1:2002+A2: 2008 Clause 22.3 Sub Clause (M). We have received confirmation that this system is designed to this standard.

The recommendation is that any detector sighted next to a forced air inlet should be 1000mm away from the grille unit. At present Scotshield have installed detectors in uniformed positions throughout the project with a measured distance of approximately > 950mm away from ceiling grilles.

In terms of the short fall of approximately 50mm, they have confirmed that this will have no detrimental effect on how the system operates. The technologies used within present day systems are more advanced to monitor all situations therefore reducing the level of false alarms created by previous developed systems. This may require to be recorded as a minor derogation. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 59 is closed out.



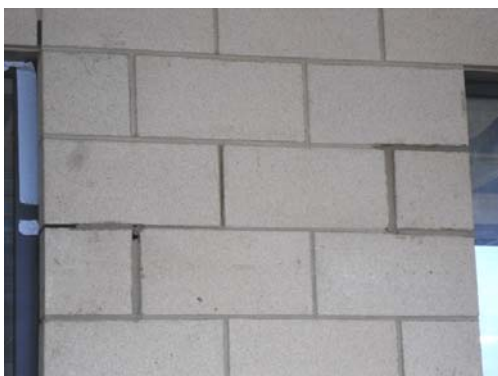
The Pod on the North East corner of the 4th floor Atrium Bridge has sustained damage. We have asked Brookfield to confirm when this has been addressed. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 60).

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The partition in Room ARU-034 on Level 2 has been cut to allow the sprinkler pipe to pass between rooms resulting in the partition being weakened. Brookfield has passed this to Astins to investigate. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 63).



The quality of the workmanship to the blockwork on the West Facing Elevation is poor and requires to be addressed. The widths of perpend varying at various locations on this elevation. This is particularly evident between the windows on the right hand side of the entrance to A&E. See photo below. We have asked Brookfield to confirm when this issue has been addressed. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 64).



We noted that there were indentations/penetrations through the protective layer of the Level 12 roof and we have asked Brookfield to confirm when these have been addressed to allow for a further inspection. (See Supervisor's notification of Defects (CI 42.2) No 61).

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We noted that there were indentations/penetrations through the protective layer of the Level 12 roof and we have asked Brookfield to confirm when these have been addressed to allow for a further inspection. (See Supervisor's notification of Defects (CI 42.2) No 62).



There is a damaged medical gas pipe on Level 1 room MDU 051 above the ceiling. We have asked Brookfield to confirm when this has been addressed. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 65).



There are damaged medical gas pipes on Level 1 room MDU 012 above the ceiling. We have asked Brookfield to confirm when this has been addressed. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 66).

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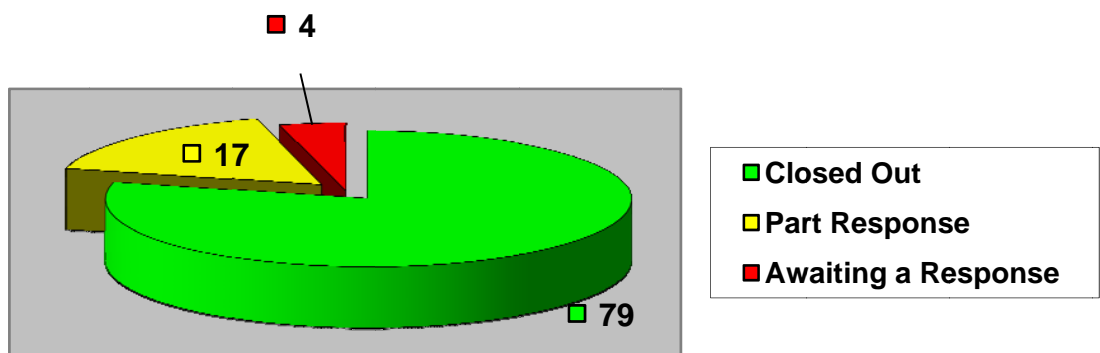
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5.0 INFORMATION REQUIRED

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Item No.	Description	Date Requested	Comment	
Items 1 to 29 have been closed out				
30	Confirm when cabling is complete, water pumped out and batteries removed.	10/08/12	Response received.	
Items 31 to 44 have been closed out				
45	See Supervisor's Communication No 30.	18/09/12	Response received.	
Items 46 to 73 have been closed out				
74	Confirm flow of water from the sprinkler head is not restricted.	30/11/12	Closed out.	
75	Confirm the access regime for sprinkler head maintenance / replacement.	30/11/12	Response received.	
Items 76 to 91 have been closed out				
92	Confirm that fire damper actuators highlights can be accessed on completion of the cold water and ceiling installation.	14/01/13	Response received.	
Items 93 to 102 have been closed out				
103	Confirm on site painting of panels has the same life expectancy as the factory applied finish.	15/02/13	Response received.	
Items 104 to 110 have been closed out				
111	Please check and confirm that the fixings to the steel angles to the wall at the 1 st floor suspended composite deck are in accordance with the specifications/codes of practice.	28.03.13	Response received.	
Items 112 to 115 have been closed out.				
116	Confirm that there are sufficient access panels in Zone D MH S4 and MH S5. Confirm that 50 mm waste pipes connecting to 100mm pipes at floor level without rodding points are compliant with Building Control.	03.05.13	Response received.	
117	Confirm procedures to ensure the work to the incomplete concrete base has sufficient structural integrity.	15.05.13	Closed out.	
118	Confirm the final detailing to internal RHS columns which appear to be held up by adjoining steelwork.	15.05.13	Response received.	
119	Confirm measures to address areas of steelwork in the Children's Hospital Zone B which have significant paint damage.	15.05.13	Response received.	
120	Confirm flatness and levelness (including floor specification and finishes) to achieve tolerances.	16.05.13	Closed out	
121	Confirm the design philosophy in relation to air handling unit 21AHU16 supply duct transition does not would appear to comply with HVAC DW144 clause 11.6 & 11.7.	16.05.13	Response received.	
122	Condensate discharges are routed to gullies are a potential trip hazard. Confirm that the CDM Coordinator has considered this problem and confirm if there are any measures to address this.	16.05.13	Response received.	
123	LTHW pumps are mounted on inertia bases however, there are no pump flexes. Vibration will transmit through pipework as a result. Please confirm if this has been considered and if there any measures are proposed to address this.	28.05.13	Closed out	
124	Confirm when remedial measures have been completed in relation to the damaged duct.	28.05.13	Closed out	
125	Confirm proposed remedial actions to the non-compliant steelwork/concrete bases on the roof of the SE section.	20.06.13	Closed out	
126	Confirm areas identified in the Communication can be accessed in accordance with the Employers Requirements.	24.06.13	Response received.	

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127	Confirm when exposed heater battery coil has been covered.	25.06.13	Closed out	
128	Children's Hospital Roof Steelwork Zone A - please provide proposals to meet the design intent at the locations where bolts are missing at the parapet location.	25.06.13	Response received.	
129	Insulation has not been fitted inside the vertical SFS forming the window openings of the ground floor Children's Hospital. Confirm measures to address this.	26.06.13	Closed out	
130	Pneumatic tube box at CCW 073 Bay 1 has an open end. Please confirm when this is blanked off.	02.07.13	Closed out	
131	Advise the remedial proposals for those column bases where there is at present insufficient nut connection to bolt thread.	03.07.13	Response received.	
132	investigate cracks and confirm that the specification requirements are met or provide details of proposed remedial action.	03.07.13	Closed out	
133	Plant room PR31. Confirm that fire rating of flexible connections and supporting system is equivalent to overall system requirements. Confirm fire rating of fans (observed as non-bifurcated type).	03.07.13	Response received.	
134	PR31 adjacent sub-station 2A. Confirm methodology for structural support of pre-fabricated pipework modules.	03.07.13	Closed out	
135	Unistrut pipework support visibly bent under weight of pre-fabricated pipework module. Confirm that structural supports utilised are compliant with the design intent.	03.07.13	Response received.	
136	Level 3 Zones G/H. Confirm method for re-coating painted finishes, integrity test procedure to meet compliance and identification.	03.07.13	Closed out	
137	Various points requiring clarification in relation to the AHU 21.	08.07.13	Response received.	
138	Confirm when ventilation pipe in RCG-067 AND RCG-068 has adequate support.	09.07.13	Closed out	
139	Confirm that there is adequate seal between back boxes and the board especially in fire walls.	17.07.13	Response received.	
140	Pull cords in 1-521 too far from wc.	18.07.13	Response received.	
141	Please provide technical solutions to various issues to the steelwork to the Children's Roof.	23.07.13	Response received.	
142	Confirm measures to address access hatches in line with the head of the partition.	25.07.13	Closed out	
143	Confirm measures to address clash between the cold water pipes and drainage connection.	25.07.13	Closed out	
144	Confirm when damaged parts to AHU AH10 on Level 5 are replaced.	25.07.13	Closed out	
145	Confirm proposals to achieve level floors to the Atrium Bridge Corridors at door openings to offices/rooms.	25.07.13	Open	
146	Confirm when smoke detector is repositioned to the required distance from the supply grille.	25.07.13	Response received.	
147	Confirm when insulation will be fitted to SFS LEVEL 2 Zone J.	31.07.13	Closed out	
148	Provide us with a copy of your proposals / method statement for the flushing of the LTHW and CW and re-use of flushed water.	13.08.13	Closed out	
149	The gazing to the Pods are to BS EN 14179-3. Please confirm that this is the design requirements and provide a copy of the specification.	15.08.13	Closed out	
150	Hatch clashes with partition in DMW-037. Confirm when accessible.	15.08.13	Response received.	
151	Confirm when extract fan in Plant Room 31 is installed to allow unrestricted access for maintenance.	15.08.13	Response received.	
152	Provide marked up drawing from Scotshield showing smoke detectors not in accordance with BS 5839-1.	15.08.13	Response received	
153	Confirm when inspection hatch in room HOW-031 on level 4 fully accessible.	26.08.13	Response received.	
154	Confirm if isolation ductwork hatch in Plant Room 21 needs a double seal.	26.08.13	Response received.	

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155	Plant room 21. Confirm if the multiple types of Isolation ductwork flexible connections used in Plant Room 21 provide an adequate seal against air leakage especially to spiral ductwork? Confirm if fire integrity is maintained with all types of flexible connection used.	26.08.13	Response received.	
156	Confirm if the waste pipes are to be insulated at the external soffit area on the underside of Level 4 Zone H and on the underside of Level 1 above the entrance to Accident and Emergency.	26.08.13	Response received.	
157	Provide a copy your proposals / method statement for the flushing of Water Tanks within the hospital.	29.08.13	Closed out	
158	Provide us with the manufacturer's literature/guidelines or method statement for maintaining the refrigeration units	29.08.13	Closed out	
159	Confirm when the gap between the junction of the internal partition and external units in room AAW-093 & 094.	10.09.13	Closed out	
160	Confirm the appropriate action to ensure that there is a uniform covering of the shaded STO panel on the east elevation adjacent Core E.	10.09.13	Open	
161	Confirm when all medical gas valves are covered al floors.	12.09.13	Closed out	
162	Confirm when the other legs have been extended to the steel framework in riser on Level 0 ZF Riser M30.	16.09.13	Response received.	
163	Provide details of the lead protection to ducts and penetrations passing through walls above the ceilings within Radiology.	16.09.13	Open	
164	Confirm when rodding eye inspection cover has been repositioned to allow access within toilet MDU-011.	17.09.13	Open	
165	Confirm measures to improve the poor quality finish to the blockwork on the east elevation.	20.09.13	Open	
166	Confirm when water damaged boards in Plant Room 41 are replaced.	20.09.13	Response received.	
167	Confirm that smoke detectors on Level 1 Zone H, 1-529 and 1-530 are repositioned approximately > 950mm away from ceiling grilles.	24.09.13	Open	

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6.0 SUPERVISORS TESTS AND INSPECTIONS

Tests not required	N/A
Tests required but not tested	Fail
Tests required which has passed tests	Pass

14/06/13 on Level 1 area 507

Tests				
Ref	Title	To be Notified by	Status	Test Date
01-80	Various tests undertaken from the 9/07/2012 to the 30/06/2013.			
81	85 Point Check Level 4-143.	Brookfield	Fail	04/09/2013
82	85 Point Check Level 1-515.	Brookfield	Pass	11/09/2013
83	Electrical testing in Energy Centre. DB's 8a & 8B.	Brookfield	Pass	03.09.2013
84	Gas soundness test in Energy centre.	Brookfield	Pass	05.09.2013
85	Witnessed air flow readings being verified within PR21 and Level 0 for AHU-28.	Brookfield	Pass	19.09.2013
86	Oil line pressure test in Energy Centre.	Brookfield	Pass	20.09.2013
87	Smoke damper test verification - Level 0, zones D & G.	Brookfield	Fail	24.09.2013
88	Local fire alarm commissioning at panels 17 & b19.	Brookfield	Pass	26.09.2013

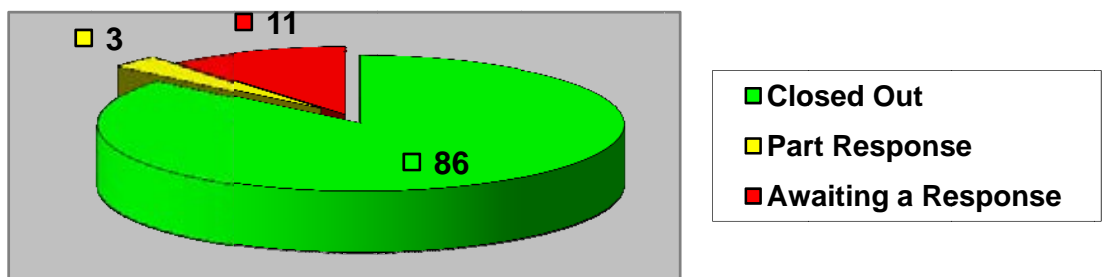
Inspection not required	N/A
Inspection required	Req
Inspection complete	Pass

Inspections				
Ref	Title	To be Notified by	Status	Inspection Date
Inspections July 2013				
1	Zone 1-521	Brookfield	Pass	17/07/2013
2	Zone 1-528	Brookfield	Pass	30/07/2013

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7.0 DEFECTS NOTIFICATIONS ISSUED



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	Description	Date Requested	Comment	
Items 1 to 12 have been closed out.				
13	Restricted access to ductwork access hatch in corridor adjacent to Zone H near Stair Core F.	02.10.12	Response received.	
Items 14 to 50 have been closed out.				
51	Knauf boards not fixed in accordance with NBS Specifications. Boards fixed too close to edge of board.	14.05.13	Open	
52	Confirm when penetrations through roof protection membrane have been repaired.	16.05.13	Closed	
53	Confirm when appropriate access to hatches in level 3 Zone A are provided.	16.05.13	Closed	
54	Faulty internal blinds. Confirm when remedial action has been completed.	30.05.13	Response received.	
55	Confirm when damaged fire coating has been renewed and provide dry film test results.	30.05.13	Closed	
56	Confirm when restriction to access hatch has been addressed.	03.06.13	Closed	
57	Missing insulation above ceiling level confirm when this has been addressed.	10.07.13	Closed	
58	Head track did not have sealant. Provide drawings showing the partitions constructed by the operative/s and confirm when the floor tracks identified on the drawings will be opened up and checked.	10.07.13	Closed	
59	Confirm when smoke detectors have been repositioned to the minimum regulation distance.	13.07.13	Closed	
60	Confirm when damaged Pod has been addressed.	15.07.13	Open	
61	Confirm when penetrations through the protective area level 12.	15.07.13	Open	
62	Confirm when penetrations through the protective area level 12.	15.07.13	Open	
63	Confirm when partition has been constructed properly to allow the sprinkler pipe to pass through wall.	20.07.13	Response received.	
64	Confirm when poor quality blockwork / perpends are addressed.	29.07.13	Open	
65	Confirm when damaged medical gas pipe on Level 1 room MDU 051 above the ceiling have been addressed.	17.09.13	Open	
66	Confirm when damaged medical gas pipes on Level 1 room MDU 012 above the ceiling have been addressed.	17.09.13	Open	

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**John Redmond
Capita Symonds
Technical Advisory Services**

The Beacon, 8th Floor, 176 St Vincent Street, Glasgow G2 5SG

	Signed	Date
Originated by	John Redmond	26th September 2013
Completed by	Douglas Wilson	26th September 2013

CAPITA

**NEW SOUTH GLASGOW HOSPITAL
ADULT AND CHILDREN'S HOSPITAL AND THE ENERGY CENTRE
NEC 3 SUPERVISORS REPORT NO. 31
OCTOBER 2013**

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SUPERVISOR'S REPORT NO. 31**OCTOBER 2013****1.0 EXECUTIVE SUMMARY: ADULT & CHILDREN'S HOSPITAL**

Visits to the site during October 2013 continue to indicate that the construction and procedures are progressing in a satisfactory manner in accordance with the Employer's Requirements.

Throughout, the standard and quality of the workmanship is generally good and operations are being carried out in an acceptable manner.

Quality and compliance inspections were carried out with Brookfield and they provided us with their QA documentation including a list of their defects which had been logged on their IDMS system. We carried out quality and compliance inspections on Level 0 Areas 0-523, 0-524, Level 1 Area 1-529, 1-530, Theatres on Level 2 Area 2-524 and Level 0 Areas 0-519 and 0-520. The areas inspected were generally to a good standard and the defects captured by Brookfield were generally of a minor nature. We identify only a few additional defects which Brookfield recorded onto their IDMS system. It was noted that there were some pull cords on Level 1 Area 1-529, 1-530 which were difficult to reach. Brookfield confirmed that these would be repositioned. There was also a couple of drop down handrails fitted to the IPS board and one clashing with a wash hand basin. Our inspections on Level 2, 2-526 indicated that the good standard of quality and compliance is being maintained. Brookfield is seeking a contractor's change for two doors which are not fitted in accordance with the drawings. The quality of the finish on Level 0 Area 0-522 was to a high industrial standard with very few defects. However the wall cabinets in the majority of the Generic Assess & Treatment rooms clash with the bed heads.

Brookfield continues to undertake their Quality Assurance systems on site with inspection and checklist documentation available for the ongoing construction activities. Over the period, we closely liaised with Brookfield and witnessed 85 point check to the partitions in room RENW-143 on Level 4 Zone E 4-143 and Level 0 Zone J 0-507. These were constructed in accordance with the specifications. The partition witnessed on Level 5 Area 5-510 in rooms GEN WC-028 had a piece of insulation adjacent the external wall which was too narrow resulting in a failure of the acoustic property of the partition.

Civil and structural works continue to be to a generally high quality standard.

Piling as built drawings are still to be inserted on Zutec.

In the car park concrete floor slab work has now reached the 4th floor level, and the ramps to the 1st floor level have also been cast. All works appear to have been carried out satisfactorily and finishes to floors and ramps are good.

The Atrium Bridge proposals in respect of final screeding was discussed at the Progress Meeting held on the 7th October and was agreed that the floor finish on the 4th floor of the Atriums Bridge would be used as a benchmark for all the Atrium Bridge Floors.

Final elements of steelwork connections are still to be completed to the roof of the Children's Hospital in Zones A and B. Communications have been raised with Brookfield and are listed on the following pages. These still remain outstanding and

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have been examined with Brookfield who has indicated that these will be addressed at the appropriate time. However other trades, particularly M&E, are progressing apace in these areas which may result in completion of these details being awkward.

Steelwork erection to the roof of the ACH together with erection of the main atrium steelwork is virtually completed. From a quality perspective this all appears satisfactory with previous communications addressed. Steelwork erection at the helipad structure is continuing and will be inspected when access is available.

Two of the steel structure sections for the bridge link to the existing neuro-building have been satisfactorily positioned, the lifting of the final section being delayed by high winds.

The M&E installation quality is being maintained to a good standard and we are generally satisfied that the installation is compliant with exception of the specific items raised under communication.

The M&E installations are progressing on all levels up to Level 12 and range from first fix module installation to completed and tested areas. Major works are now well underway within levels 2, 3 & 4 plantrooms. Level 12 sprinkler and ductwork installation is in progress and the quality is to a good industrial standard.

The installations in the Energy Centre are well advanced and we await notification of witnessing in the coming months.

The sample AHU21 in plant room PR21 was inspected and comments provided for action by Mercury. It was agreed that this unit will form the standard for all other AHU's, therefore any issues are to be fully closed out to ensure quality installation. We still await a response from Brookfield to allow close out of remaining issues. It should be noted however, that some items will only be closed out once full commissioning has been undertaken.

Various witnessing of commissioning activities has been carried out including LTHW balancing, water quality tests, air flow tests, motorised and mechanical smoke damper tests, fire alarm loops tests lighting and local KNX HVAC controls and sprinkler pipework pressure tests. All of the tests were completed satisfactory with the exception of two of fire alarm loop tested which failed. This test will require to be carried out again.

We are continuing to work with Brookfield during our inspections highlighting any items that have raised concern. Items identified in this manner are generally being addressed by the site team in advance of any defect notice being raised.

In general terms we are satisfied that the installations continue to be installed to a compliant standard, and are of a good quality. However we have noted that certain items this month have raised concern. These have been raised with the Contractor as follows:-

Supervisor's Communication General Matters / Other Instructions No 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181 and 182 were issued during October.

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- Seeking confirmation that unrestricted access can be gained to smoke detector in 2-524.
- Seeking confirmation that unrestricted access can be gained to the fire damper in THE-348.
- Seeking confirmation of the access controls to the-144 & THE-147 Scrubs.
- Seeking confirmation when water damaged boards will be replaced in SCH-046.
- Seeking confirmation of proposals in respect to rust marks and chipped painterwork to the white roof atrium steelwork.
- Seeking confirmation that connection details to 5th floor roof steelwork complies with the design intent.
- Seeking confirmation that the unused bolt holes satisfy the design intent.
- Seeking confirmation when the damage hotmelt caused by temporary supports the the Main Atrium Roof is repaired.
- Seeking confirmation if the photovoltaic panels should be installed on **slabs**.
- Seeking confirmation that the hatch between RENO-064 and DOPD-037 will be moved or fire seal is adequate.
- Seeking confirmation on access arrangements to sprinkler head in level 1 Zone K.
- Seeking confirmation on access to rodding access.
- Seeking confirmation when water damage boards in RENW-125 is replaced.
- Seeking confirmation when water damage boards between rooms DCFP-010 and DCFP-025 ARE replaced.
- Seeking confirm that the 2 out of 4 HD bolts either missing or not protruding through the baseplate satisfies the design and specification intent or provide a remedial solution.

No Defects were issued during October.

We continue to be assisted by the site teams and the NHS Project Team who produce an internal weekly report which assists us in resolving various construction, mechanical, electrical and quality issues. We continue to close out our Supervisor's Notifications and Defects when we have received satisfactory responses.

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2.0 DESIGN COMPLIANCE CHECK

Currently nothing to report.

3.0 PROCEDURES REVIEW**3.1 Contractor's QA Procedures / Compliance Inspections**

Brookfield and their subcontractors have continued with their QA and checking and inspection procedures during this period. We are in discussion and liaise with Brookfield's Quality Manager on QA matters and we undertake regular reviews of their QA documentation.

Together with Brookfield we carried out quality and compliance inspections on Level 0 Areas 0-523 and 0-524. The areas inspected were to a good standard and the defects captured by Brookfield were generally of a minor nature. We did however identify a number of minor defects which Brookfield recorded on to their IDMS system. Below is a photo of one of the defects identified showing gaps between the floor vinyl and the upstand. This occurs in a number of locations where this vinyl has been laid.



Quality and compliance inspections were carried out on Level 1 Area 1-529 and 1-530. The quality of the finish was to a good standard. Brookfield provided a list of their defects which have been logged on their IDMS system. We did identify only a few additional defects which Brookfield recorded onto their IDMS system. It was noted that there were a number of pull cords which were in position difficult to reach and Brookfield confirmed that these would be repositioned.

Quality and compliance inspections were carried out in the Theatres on Level 2 Area 2-524. The quality of finish was to a good standard and the defects captured by Brookfield were generally of a minor nature. A few additional defects were identified and recorded on to Brookfield's IDMS System. We noted that the pass doors from the corridors into THE-144 Scrub, THE-147 Scrub and THE- 157 did not have door closers. We asked Brookfield to confirm the access controls to these doors. They have confirmed that the access Controls for the Scrub doors are in compliance with NHS Board signed RDD as indicated on NA-XX-02-PL-322-250. There has also been continual dialogue with the board on this and the above RDD sign off is to remain. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 170 is closed out.

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Gap between sink base unit and wall.



Restricted access to smoke detector.



We carried out quality and compliance inspections on Level 0 Areas 0-519 and 0-520. The areas inspected were to a good industrial standard and the defects captured by Brookfield were generally of a minor nature. There were however issues with drop down handrails. One clashed with the wash hand basin and two others were fixed to the IPS boards. There was also one smoke detector which was too close to a vent



Quality and compliance were carried out on Level 2 Area 2-526. The area inspected was to a good industrial standard with only a few minor defects identified. There was however two doors to toilets which were hung opening in the wrong direction. Brookfield is seeking a contractor's change to maintain the doors in their current position.



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The quality of the finish on Level 0 Area 0-522 was to a high industrial standard with very few defects. However the wall cabinets in the majority of the Generic Assess & Treatment rooms clash with the bed heads.



Inspections were carried out on Level 2 Area 2-529, 2-530, 2-531, 2-532 and 2- 532. The quality of the finish was to a good industrial standard. The areas inspected were to a good industrial standard and the defects captured by Brookfield were generally of a minor nature. We only observed a few minor defects which were recorded by Brookfield on their IDMS.

Inspections were carried out on Levels 1 and 2 of the Children's Hospital and the quality of work was to a good industrial standard. We noted water damaged boards to some partitions and Brookfield has issued instructions for these to be replaced. We also noted that the vertical stud above a double door had been cut to accommodate a nurse call indicator light. Brookfield confirmed that they were aware of this and that this would be addressed.

We await further survey from Scotshield showing the smoke detectors which are too close to service grills and their new positions. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 152).

We undertook inspection with Brookfield on Level 5 Zones 5-513 and 5-511 0 and noted that the works were progressing at varying stages in these Zones. The works are generally to a good industrial standard. During the inspection we witnessed a QA check of the pattresses between Brookfield and Astins and the sample inspected were confirmed by Brookfield to be as specified.

Inspections were carried out to the 4th Floor Atrium Bridge and we noted the door lintels were not level. This was immediately addressed by Brookfield and Astins to ensure that all doors are level irrespective of the deflection in the bridge.

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Inspections were carried out with Brookfield on Level 1 Zones 1-534, 1-533, 1-530, 1-532, 1-539, 1-537 and 1-538. The quality of the work was to a good industrial standard. We have raised a Supervisor's Communication requesting details of the lead protection to ducts and penetrations passing through walls above the ceilings within Radiology. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 163).

85 point Checks

An 85 point inspection of the partition in room RENW-143 on Level 4 Zone E 4-143 and the partition was constructed in accordance with the specification. There was a small step between the concrete upstand and the Unitised Panel which was filled with sealant. This may allow flanking of sound and Brookfield is seeking advice from Nightingales.



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An 85 point check was carried out to a partition in The Tower which has a 47db rating formed on Level 5 Area 5-510 in rooms GEN WC-028. A piece of insulation adjacent the external wall was too narrow resulting in a failure of the acoustic property of the partition.



An 85 point inspection of the partition in room RAD-110-143 on Level 0 Zone J 0-507 and the partition was constructed in accordance with the specification.



Brookfield has confirmed that acoustic tests will commence early next year.

3.2 Witness Testing and Commissioning

We witnessed a number of tests during October which were satisfactory and these were as follows:

- Manual fire damper drop tests were carried out in Level 2, 2-517, 2-528, and 2-534.
- Proportional air flow tests of ventilation systems 21-AHU 29 and 21 AHU 31.

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- Sprinkler pipework pressure tests Level 0, Zone E Branches No's G05 and G06, tested.
- Sprinkler pipework pressure tests Level 1 Zone E. Branches No's G09 & 106 tested.
- LTHW balancing in PR21 and on four locations within Level 1.
- Water quality samples were taken from the LTHW circuit in PR21 and in the Energy Centre. The samples were then tested for acids, minerals etc. which were satisfactory.
- Lighting and HVAC controls witnessed within Level 1, Zone H 1-529, 1-530 and in Plantroom 21.
- Fire alarm loop tests were carried out Level 2, Zone A, Level 1, Zone E and B, Level 1, Zone C and Level 0, Zone E.
- Manual fire damper drop tests were carried out on Level 0, 0-519, 0-520, 0-521, 0-522, 0-523 and 0-524.
- Manual fire damper drop tests were carried out on Level 1, 1-531, 1-532, 1-534 and 1-535.

Mercury reported that the smoke dampers which failed in September have been repaired and will be retested during next scheduled testing in that area.

3.3 Board Equipment Installation,

Currently nothing to report.

3.4 Non Conformance Reports

We reviewed Brookfield's NCR Tracker and noted the issues raised by the Package Managers. The blockwork and pointing on the south and east elevations although improved by cleaning continues to be a concern with shading of the mortar evident. Prater has still to offer it up to Brookfield as complete reference NCR 156. We are also monitoring the issue in relation to water between the glass of the Structural Panels NCR reference 157 and 219. Brookfield an independent survey carried out by Cladtech Associates has been forwarded to Structural. Brookfield is reviewing all the information. NCR 237 was issued to Astins in relation to the lack of insulation at abutments between internal partitions and external walls.

4.0 CONSTRUCTION REVIEW

4.1 Visits to the Works

The following members of our team undertook site inspections, reviewed documentation, attended meetings and met with relevant Trust, Project Co and Contractor on-site personnel:- John Redmond (Lead NEC3 Supervisor) 1st to 4th, 7th to 11th, 14th to 18th, 21st to 25th and 28th to 31st, October; Douglas Wilson (M&E NEC3 Supervisor) 3rd and 4th, 7th to 11th, 14th to 18th, 21st to 25th and 28th to 31st, October; Willie Roxburgh (Civils/Structural NEC3 Supervisor) part days on 7th, 9th, 11th, 18th, 22nd, 24th and 29th October, plus remote desk top input most days of the month. Capita's NEC3 Supervisor's team visited site a combined 57 person days.

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4.2 Elements of the Works available for inspection

- Energy Centre – structurally complete. Civil works around.
- Main building – all concrete areas.
- Tunnels between ACH and Labs, and Cores C to F.
- Structural steelwork to all roof areas (partly limited due to access)
- Neuro bridge (partly limited due to access)
- Dual carriageway to Renfrew Road, turning area in front of the main entrance, and carriageway from Hardgate Road.
- Car park area.
- Internal Partitions.
- M&E modular units.
- Roofing.
- Cladding.
- Windows.
- Sto system.
- Brickwork Courtyard 5 and south east elevation.
- Brickwork/blockwork south east elevations.
- Basement blockwork.

4.3 Observations from October 2013 Inspections

The visual inspections of the work carried out to date indicate that the works are generally being carried out to a satisfactory standard. We continue to be assisted by the site teams and the NHS Project Team in resolving various construction, mechanical, electrical, and quality issues. We continue to close out our Supervisor's Notification and Defects when we have received satisfactory responses. Listed below are observations closed out, still to be closed and those raised following site visits in October 2013.

4.3.1 Structural

At the Atrium Bridge proposals in respect of final screeding and floor finish levels are still awaited. However this was discussed at the Progress Meeting held on the 7th October and was agreed that the floor finish on the 4th floor of the Atriums Bridge would be used as a benchmark for all the Atrium Bridge Floors.

Final elements of steelwork connections are still to be completed to the roof of the Children's Hospital in Zones A and B. Communications have been raised with Brookfield and are listed on the following pages. These still remain outstanding and have been examined with Brookfield who have indicated that these will be addressed at the appropriate time. However other trades, particularly M&E, are progressing apace in these areas which may result in completion of these details being awkward.

Steelwork erection to the roof of the ACH together with erection of the main atrium steelwork is virtually completed. From a quality perspective this all appears satisfactory with previous communications addressed. Steelwork erection at the helipad structure is continuing and will be inspected when access is available.

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Two of the steel structure sections for the bridge link to the existing neuro-building have been satisfactorily positioned, the lifting of the final section being delayed by high winds.

We brought to Brookfield attention the fixings of the steel angle to the wall at the 1st floor suspended composite deck in the atrium area of Zone A of the Children's hospital. We asked them to confirm they are in accordance with the Specification and relevant current codes of practice and standards. Resin anchors are the correct fixings as agreed with WSP, these will now be fitted. Larger washers were installed on the 17th September 2013. Fixings of the steel angle to the wall at the 1st floor suspended composite deck in the atrium area of Zone A of the Children's hospital is now complete. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 111) is closed out.

Two internal RHS columns in the Children's Hospital Zone B appear to be held up by adjoining steelwork. Brookfield has informed us that the final detail is a connection to concrete. The concrete works and subsequent bolting up will be undertaken prior to the installation of any cladding. The fitting of additional brackets has been agreed by WSP and we were informed that this would be completed by Monday 19th August. It was our intention to inspect on completion, however the work is still not complete. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 118).



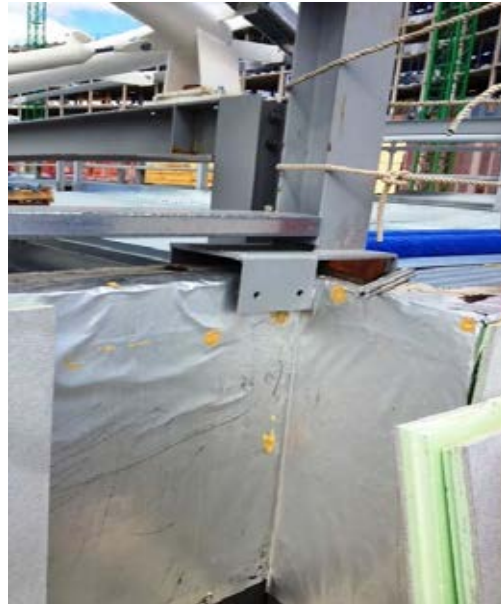
The areas of steelwork in the Children's Hospital Zone B had significant paint damage is now completed and a joint inspection between Brookfield and Capita is to be arranged. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 119).

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We asked Brookfield to provide proposals to meet the design intent for the Children's Hospital Roof Steelwork Zone A where bolts are missing at the parapet. Brookfield has had discussions with William McColgan WSP during a visit to site. Subsequent to this visit Dunne has provided a detailed sketch which has been approved by WSP. We shall inspect this on completion. Some work has been done in this area and confirmation that it meets the new design and specification intent is awaited. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 128).



We asked Brookfield to advise us of the remedial proposals for those column bases where there is at present insufficient nut connection to bolt thread. Brookfield has confirmed that following a site visit on 23/10/13 the remedial solution adopted by JDP at EB/E12 matches the sketch proposal as issued by JDP. They further clarified that the small welded plates to the base plate are simply there to ensure the nut does not loosen due to the limited thread connection. The column in question has an uplift force of 250kN which can be accommodated by the 3 other bolts in the group. In terms of shear on the baseplate this is not an issue and is not impacted by the nut connection as the HD bolt passes fully through the 30mm thick column base plate. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 131 is closed out.

We asked Brookfield to provide technical solutions to various situations on the structural steelwork to the Children's roof where base plates are (floating), edge distances are minimal or miss the concrete base. Cladding rails also prevented HD bolt fixing. WSP has provided a detailed sketch to show remedial work to plinth. We shall inspect this on completion. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 141).

The steel framework in riser on Level 0 ZF Riser M30 has had the legs extended immediately in front of the entrance door. There are other legs which have not been

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extended yet and we asked Brookfield to confirm when the other legs will be extended. Manufacturer is producing adaptors for the short legs and will be fitted within the next 3 weeks. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 162).



Extended legs



Leg still to be extended.

We asked Brookfield to confirm their proposals in respect of attention to rust marks and chipped paintwork to the white roof atrium steelwork. Following a joint inspection on Friday 01/11/13 between ourselves and Brookfield it was agreed that the works had been rectified. However once the scaffold is dropped a further inspection will be carried out from the scaffold below. Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 172 is closed out.



The attached photographs indicate a connection detail that has previously been drawn to Brookfield's attention. We asked them to confirm that this detail complies with the specification and the design intent or provide their proposals for remedial action. Brookfield has responded indication that the Aquapanel is in place as a means of protection until the Cladding is installed and is sacrificial however it will be left in-situ. The steel beams are installed initially to stabilise the column head until the ETFE raking trusses are connected. These are now redundant however will be left in place. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 173 is closed out.

At the southern skylight, Children's 3rd floor podium, there are 4No steel column baseplates which have only 1No bolt connection to the concrete upstand. The position of the other bolt at each of these locations being above the edge chamfer of

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the concrete upstand. (For the structure as a whole there are a total of 8No bolts in place but there are 12No bolt holes.)

We asked Brookfield to confirm that this arrangement satisfies the design and specification intent or provide remedial proposals. (The situation is different at the northern skylight where concrete walls extend to the underside of the skylight panels.) A check should also be made on the northern skylight steelwork. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 174).



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One of the base plates Level 4 Zone B has 2 out of 4 HD bolts either missing or not protruding through the baseplate. We have asked Brookfield to confirm that this satisfies the design and specification intent or provide a remedial solution. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 182).

**Car Park 1**

In the car park concrete floor slab work has now reached the 4th floor level, and the ramps to the 1st floor level have also been cast. All works appear to have been carried out satisfactorily and finishes to floors and ramps are good.

4.3.2 Energy Centre

Steelwork snagging appears to have been addressed, but much tidying up remains outstanding in the eastern half of the building.

4.3.3 Above Ground Drainage

With reference to our quire in relation to the above ground storm drainage position of access panel. Brookfield has confirmed that access points are indicated on the 400 series drawings. These are used for the Quality Internal inspection process and those access hatches are being installed. If not installed at inspection stage, they are added to the IDMS for action by Astins. Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 116 is closed out.

Rodding eye inspection cover facing wrong direction for access. We have asked Brookfield to confirm when this has been addressed to allow access from behind removable panel within toilet MDU-011. This has been rectified and we currently await photographic to confirm this. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 164).



4.3.4 Dual Carriageway to Renfrew Road. (A&C)

The defects previously identified will be reviewed nearer to completion when they will be effectively rectified.

4.3.5 Pipework.

Installation of hot, cold, heating, & chilled water pipework in the A&C hospital is progressing and in general is being installed to a good standard.

We are continuing to monitor all pipework installations to identify possible dead legs. The quality checking by Brookfield would appear to be identifying these before our inspections. Open unprotected ends are also being identified in our weekly site inspection reports and these are notified to Brookfield. During September there has been a reduction in the number of open ends.

During our inspections in Plant Room 21, we noted that all AHU condensate discharges are routed to gullies via low level unprotected plastic pipework. This is a potential trip hazard. We have asked Brookfield to confirm that the CDM Coordinator has considered this problem and has asked if there are any measures to address this. There is also the risk of the pipes being broken. Refer to SHTM03-01 clause 4.25. Brookfield has confirmed that where appropriate, sheet metal guards will cover condensate discharges. However we have requested to see a typical detail of what they are proposing to allow further comment.

We have asked Brookfield to confirm if a ramp (up/down) will be installed over the low level pipework & be fixed in position. Also in some instances, where the pipework is particularly exposed, this ramp may need to extend further along the length of the pipe or additional protection provided. We have asked again if the CDM Coordinator has considered this problem and has taken cognisance of SHTM03-01 clause 4.25. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 122.

Following a visit to site we raised our concerns that there are some locations where there is insufficient space for maintainable, replacement building services and plant as per the Employers Requirement Section 5.13 Facilities Management.

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We raised our concerns with Brookfield in relation with the following areas Level 2 Zone H. Pipework connections above line of unistrut. Access appears difficult. We have asked Brookfield to confirm that future access will be available.



Level 2 / Zone K. Current access to install chilled water riser pipework appears difficult. We have asked Brookfield to confirm that future access will be available once the walls are constructed.



Level 3 / Zone H. Pipe Racks in area shown below have multiple levels of pipe work. We have asked Brookfield to confirm that future access will be available. Brookfield confirmed that access to the 3 areas identified will be accessible for FM in compliance with ER Section 5.13. The access arrangements for this item will be recorded as part of the Access Strategy Tracker which is currently being developed by Brookfield and Mercury. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 126).



We noted that the unistrut pipework support had visibly bent under weight of pre-fabricated pipework module in Plant room PR31 adjacent sub-station 2A. Following the initial joint inspections Brookfield confirms although there is minor damage to the frame there is no weight issue with the framework and this damage can be confirmed as mechanical damage prior to installation on this individual module. Consequently

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Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 135 is closed out.

The waste pipes are uninsulated to the external soffit area on the underside of Level 4 Zone H and on the underside of Level 1 above the entrance to Accident and Emergency. We asked Brookfield if insulation is required to these pipes. Brookfield has confirmed that there is no requirement for insulation in these locations. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 156 is closed out.

4.3.6 Ventilation

We were in attendance to witness the successful test of the supply and extract airflow testing of AHU's 24 & 25 within plant room 21 and levels 1 & 2 of zones D&G, and dirty extract fan 39.

We noted that the air handling unit 21AHU16 supply duct transition does not appear to comply with HVAC DW144 clause 11.6 & 11.7 which could result in high pressure loss.

Brookfield has confirmed that ductwork is not in compliance to drawing/specification and will be replaced. However we await the design philosophy in relation to the proposed remedial measures. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 121).



We asked Brookfield to confirm that the fire rating of the flexible connections and supporting system in Plant room PR31 is equivalent to the overall system requirements. The fan is located adjacent to atrium at the west side of building. We have also asked them to confirm fire rating of fans (observed as non-bifurcated type). ZBP has confirmed to Brookfield that fans require to be fire rated and are at technical submittal stage. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 133



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Following an inspection of Plant Room PR21 we raised a number of points which were clarified, however the items below are still awaiting comment from Brookfield.

- Confirmation received that diffuser plate will be fitted to alleviate fan discharge velocity issues raised (items 1a, b, d, e & f). We asked for details of the proposed diffuser plate to be fitted in front of supply AHU fan discharge. The diffuser plate already fitted to AHU 21 appears inadequate for its intended use. Brookfield is awaiting a response from the Manufacturer.
- We asked for confirmation that the AHU is compliant with SHTM03-01, or state any agreed derogation. Some aspects stated do not comply with the SHTM & will require agreement from the Board. Brookfield has confirmed that all All units are SHTM compliant and inline with ZBP's design. There are a few cases where the specific fan powers could not be achieved as the manufacturers' limiting velocity of 2m/s across components would not have been achieved, this has been brought to ZBP's attention. All units are approved and supplied to ZBP's design schedules.

(See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 137).

During our inspections on Level 2 we noted that the duct inspection hatch is located above the partition dividing rooms DOPD-037 & 038. We have received confirmation that the duct access hatch will be repositioned to allow access to the duct. We have asked Brookfield to confirm when the hatch will be accessible. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 150)



A ductwork inspection hatch has been installed in middle of the partition in room HOW-301 Level 4. We asked Brookfield to confirm when the inspection hatch will be fully accessible. Brookfield confirmed that the duct access hatch will be repositioned to allow access to the duct. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 153).

We have asked Brookfield if the Isolation ductwork hatch to the fire rated ductwork in Plant Room 21 needs a double seal. This Notification has been forwarded to the relative floor manager and is being investigated. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 154).

There are multiple types of Isolation ductwork flexible connections used in Plant Room 21, all secured with single jubilee clip at either end. We have asked Brookfield to confirm if these provide an adequate seal against air leakage especially to spiral ductwork.

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We have asked Brookfield to confirm if fire integrity is maintained with all types of flexible connection used. Brookfield has confirmed that all the types of connections provide adequate seal against air leakage and the fire integrity is maintained. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 155 is closed out.

We noted that the smoke detectors on Level 1 Zone H, 1-529 and 1-530 are too close to the chilled beams. Brookfield has confirmed that the smoke detectors in 1-529 have been rectified. They have also confirmed that once access is gained to 1-530, these will be altered to the required distance. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 167).

The access hatches in the Plantroom on Level 3 are too close consequently access is not possible. We have asked Brookfield to confirm the remedial measures required to allow access. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 179).



Access to the fire damper between room THE Exit Bay and THE 348 Dirty Utility is restricted. Brookfield to confirm that a new access cleaning hatch has been fitted (not a damper hatch), old hatch will be marked not in use. We will review on site. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 169).

**4.3.7 Insulation**

The thermal insulation installation to the pre-fabricated sections of pipework is being completed off site, before delivery and completed after installation. During our joint inspections with Brookfield we noted some damaged insulation within the plant rooms and these are being addressed.

4.3.8 Pressure testing

Pressure testing of the modular pipework sections on a zone by zone or area by area basis has been programmed through the commissioning meetings.

4.3.9 Medical Gases

Medical Gas pipework in being installed in all areas and independent tests are being witnessed by Ian Sandford of Hulley and Kirkwood.

4.3.10 Energy Centre

The installations in the Energy Centre are well advanced with the A-side systems commissioned and handed over and ground floor pipework being prepared for the CHP installation. Commissioning programmes for the B Side have been presented and significant commissioning will be taking place from June to December 2013.

4.3.11 Trunking

Cable trunking is being installed as part of the offsite fabricated sections that are being installed in the A&C hospital and in general the installation is to a good industry standard.

4.3.12 Cable Trays

Cable trays are being installed as part of the offsite fabricated sections that are being installed in the A&C hospital and in general the installation is to a good industry standard.

4.3.13 Cabling

Modular wiring looms are now being installed as part of the offsite fabricated assemblies and carefully tied up for protection and installation is of a good standard.

4.3.14 Conduit

Solid conduit installations are well progressed in the areas being fitted out and are to a good industry standard.

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4.3.15 Void Detection

The smoke detector within the lobby on Level 1 Room CCW-049 is within 300mm of the supply grille. We asked Brookfield to confirm when this has been repositioned to the minimum distance of 1metre. Mercury's specialist contractor has confirmed that in terms of BS5839-1 Clause 22.3 Paragraph M minimum spacing cannot be achieved. They state further that given this recommendation and the dimensions of the area in question; along with the finished ceiling layout of third party equipment, they cannot see how you can demonstrate the recommendation without infringing on the minimum distance required to be away from the finished wall surfaces. They have stated that the detector can remain in position as is. We shall review this on site.

(See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 146)



Access to the smoke detector in corridor THE-129 opposite room THE 158 is inaccessible. We have asked Brookfield to confirm the appropriate remedial action to achieve unrestricted access to the smoke detector. Mercury has instructed Scotshield to review this. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 168).

**4.3.16 Intake Sub Station**

The Installation of the new transformer for Car Park 1 will coincide with all HV cables being pulled through to the Substation. It is anticipated that all cables will be pulled through approximately the end of January beginning of February 2014. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 30 & 45).

4.3.17 Partitions

The partition between the east side of the atrium and plant room 41 has been damaged by water ingress. Brookfield to confirm they are aware there has been

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some damage, and will replace the boards after they have completed the resin flooring works. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 166).



Water damaged boards.

The boards in room SCH-046 Level 2 has water damaged boards. We have asked Brookfield to confirm when the boards are replaced so that a further inspection can be carried out. Brookfield has informed us that Zone C is currently progressing with 1st fix. Their intention would be to complete water damaged boards to this area and below the movement joint between zone B & C at 2nd fix stage. As they are still suffering water ingress from level 4 they have informed us that 2nd fix will be around the 28th October. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 171).



Boards have been damaged by water ingress and we have asked Brookfield to confirm when these have been replaced. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 180).



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We asked Brookfield to confirm when water damaged boards will be replaced in the rooms between DCFP-010 and DCFP-025 on Level 4. They have confirmed that they will be replaced at second side boarding stage. We will continue to monitor (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 181).



During an inspection of the Atrium Bridge on Level 4 with Brookfield we noted that the lintels to the door openings were not level. This was noted by Brookfield and addressed.



4.3.18 Roofs

A&C Roofs

Steel supports are in place to provide temporary supports to the main Atrium Roof. The end of these supports has penetrated the hotmelt roofs on Level 12. Consequently we asked Brookfield to confirm when these areas have been repaired and provide the accompanying QA information. Brookfield has advised that this area will be revisited with remedial works to hot melt. Once remedial works are complete along with the remaining roof slab Prater will carry out the testing and advise accordingly. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 175).



Courtyard 2, 3, 4 and 5 on Level 1 and 2 are progressing to completion with Brookfield awaiting the final snagging by Praters.

Level 4 Zone E&H hotmelt progressing.

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The roof covering zones G and D on Level 3 is progressing to completion with Brookfield to carry out final checks.

The remaining roofs on Levels 2, Zones D and G and Level 3 are progressing.

Level 4 landscaping is in progress.

The hot melt roof on Level 12 is nearing completion.

Generally the quality of the workmanship throughout is to a good industrial standard and we have reviewed the QA documentation.

The Sarna Roof covering is progressing to completion above Plant Room 21.

Children's Roofs

Hot melt application is progressing on level 2 balconies and Level 3 roof and the quality is to a good industrial standard.

4.3.19 Cladding/Courtyards

A&C

Cladding is substantially complete in courtyards 1, 2, 3, 4, 5, 6, 7, 8 & 9. The "STO" system is substantially complete in courtyard 2, 3, 4, 5, 6, 7 and 8. Brookfield is to carry out their final quality inspections and sign off. The STO is in progress in Courtyards 9, 10 and 11 with the standard and quality generally to a good industrial standard.

The stone rainscreen has progressed on the east elevation and the quality is good.



East Elevation



Curved stone at South East Corner.

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Hotmelt application in progress to ground floor above the basement.



We have received confirmation from Brookfield that the onsite repair/painting of the panels will have the same life expectancy as the factory produced painted finish. The following letters guarantees will be placed on Zutec.

1. RUUKKI letter dated 22nd August 2013- confirming that the technical performance criteria remains covered under the RUUKKI 25 year warranty of the panel.
2. RUUKKI e-mail dated 21st May 2013, confirming KRJ Panting Services as approved by RUUKKI to carry out painting repairs to their panels.
3. KRJ Services 'sample' 25 Year guarantee.

Most of the repairs have been carried out and a quality & compliance inspection will be carried out after Brookfield has accepted the works from Prater. Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 103 is closed out.

The STO render to the upper panel on the east facing elevation nearest Core E has shaded areas visible below the finished surface. We asked Brookfield to confirm the appropriate action to ensure that there is a uniform covering to the panel and when completed. Brookfield has confirmed that they did not find the standard to be of a poor condition, although they do admit that some areas are marked or shaded but not obtrusive. We will monitor this in the coming weeks and if the marks are still present we will report accordingly. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 160).

Children's Hospital

The STO is in progress progressed around the external façade of the Children's Hospital.

4.3.20 Windows

Windows are progressing on the external elevations and courtyards in accordance with the specifications.

4.3.21 Equipment

Extract fan on Level L3 PR31 extract fan unit Number 30EF1 has been installed on the floor of the plantroom with the service access on the underside of the unit making servicing impossible. We asked Brookfield confirm that extract fan will be installed in

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a manner which will allow unrestricted maintenance. We have received a response that access is via the top and sides however the unit fitted does not allow access as described. We asked Brookfield to provide the manufacturers information in relation to maintenance access but received information for a different model. We have received a further response that extract fan replacement panels with access doors arrived on site and they are still to be fitted. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 151).

4.3.22 Ducting

We have asked Brookfield to confirm that the fire damper actuator highlights in room EMC-011 can be accessed on completion of the cold water and ceiling installation. Brookfield has confirmed that the damper actuator will be accessible. The access arrangements for this item will be recorded as part of the Access Strategy Tracker which is being developed. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 92).



The hatch is too close to the partition between Room RENO-064 and DOPD-037 Level 2, 2-531. Consequently the joint between the hatch and the board is not sealed. We have asked Brookfield to confirm if there is a fire seal between the underside of the trunking and the main partition board. If not Brookfield to confirm if hatch will be moved. This Notification has been forwarded to the relative floor manager and is being investigated. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 177).

**4.3.23 Floors**

We have asked Brookfield to confirm their proposals to achieve level floors to the Atrium Bridge Corridors at door openings to offices/rooms and adjacent levels within these rooms. It was agreed at the Progress Meeting on Monday 7th October 2013 that Level 4 will be offered as a benchmark for review by client once the screed has been laid. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 145).

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We have reported since April that the quality and standard of workmanship of the blockwork on the east elevations was not to a good industrial standard.

This was discussed on site with Peter Moir, John Redmond and Alasdair Fernie. It was agreed that the joint variance is as per the block sizes and no amount of remedial works would eliminate this. The repairs to damaged block and the cracks were getting addressed with a further visit required in around 6 weeks (Mid November) to allow the mortar colour to blend in. Prater will clean down the elevation and offer up for inspection again in the very near future (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 165).

4.3.25 Pneumatic Tube

Currently nothing to report.

4.3.27 Electrical Fittings & Fixtures

The pull cords in room CCU-065 on level 1 1-521 has been repositioned and we shall review the new position. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 140.

4.3.28 Sprinklers

We asked Brookfield to confirm the access arrangements to high level sprinkler heads. They have provided us with a copy of the sprinkler standards BS EN 12845. This states that a sample number of heads are tested every 25 years and informed us that sprinklers are designed to last 100 years. They have confirmed that in future if individual sprinklers are identified with restricted access, these will be highlighted on the Above Ceiling Access Tracker. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 75 is closed out.

The sprinkler heads on Level 1 Zone K adjacent to Core "A" staircase appear difficult to access for maintenance or replacement. Brookfield confirmed that this is being investigated. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 178.

**4.3.29 Lighting**

The quality of the general and emergency lighting installed to date is of a good standard.

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The quality of the small power installation installed to date is generally good with only minor defects noted which have been rectified.

4.3.31 Solar Panels

The photovoltaic panels are mounted on frame work with spreader feet which are sitting directly onto ballast. We asked Brookfield to confirm if these require to be fitted on flat slabs. Brookfield confirmed that this was raised at the Mechanical Workshop with Brendan Rooney (Mercury) on 17/10/13. He has come back with information from the PV Design Engineer at Renewables Energy.

They previously responded that there is no issue with having the feet stand on top of gravel or pebbles but would have the manufacturer to confirm this in writing. We have since been informed that the frames are never bolted to the roof nor do they sit on slabs or plinths. They sit directly on the membrane. They have confirmed that pebbles will be removed from underneath feet and units place directly on the membrane.



See Supervisor's Communication
General Matters / Other Instructions
(CI 13.1) No 176.

4.3.32 Fire Dampers

During the mechanical fire damper drop tests and the Quality and Compliance Inspections, several damper positional indicators have been found to be obscured by sealant. This is being addressed by Brookfield.

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4.4 Current Defects.

We identified restricted access to a ductwork access hatch in the corridor adjacent to Zone H near Stair Core F. Following the demonstration of the confined space handrail, Power Tower it was shown that access is possible through the ceiling. Consequently Supervisor's Notification of Defect (CI 42.2) No 13 is closed out.

There are partitions on Level 0 Area 529 which have screw fixings that have been fixed too close to the edge of the board. The Knuaf/NBS Specification states that screws to be not less than 10mm from edge of board and this is not being achieved in many locations. Brookfield has advised us that all operatives have receive a toolbox talk that where a screw bursts the edge of a board an additional screw is to be added 60mm above or below this screw. Furthermore Knauf has confirmed that they are satisfied that the screw fixings are suitable for the partition work being carried out on site. Consequently Supervisor's Notification of Defect (CI 42.2) No 51 is closed out.

Trace visited the site on Wednesday 19/06/13 and carried out repairs to the Highline blinds on level 1. The outstanding replacements were delivered to site and 5 off the 6 were fitted on Friday 25th October. 1 no is still to be fitted. (See Supervisor's Notification of Defect (CI 42.2) No 54).

The Pod on the North East corner of the 4th floor Atrium Bridge which had sustained damage been rectified. Consequently Supervisor's Notification of Defect (CI 42.2) No 60 has been closed out.

The partition in Room ARU-034 on Level 2 has been cut to allow the sprinkler pipe to pass between rooms resulting in the partition being weakened.

Brookfield has passed this to Astins to investigate. (See Supervisor's Notification of Defect (CI 42.2)) No 63).



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The quality of the workmanship to the blockwork on the West Facing Elevation is poor and requires to be addressed. The widths of perpends varying at various locations on this elevation. This is particularly evident between the windows on the right hand side of the entrance to A&E. See photo. Brookfield has confirmed that the issue has been addressed. We shall carry out a further inspection. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 64).



We noted that there were indentations/penetrations through the protective layer of the Level 12 roof and we have asked Brookfield to confirm when these have been addressed to allow for a further inspection. (See Supervisor's Notification of Defect (CI 42.2) No 61).



We noted that there were indentations / penetrations through the protective layer of the Level 12 roof and we have asked Brookfield to confirm when these have been addressed to allow for a further inspection. (See Supervisor's Notification of Defects (CI 42.2) No 62).



There is a damaged medical gas pipe on Level 1 room MDU 051 above the ceiling. We have asked Brookfield to confirm when this has been addressed. (See Supervisor's Notification of Defect (CI 42.2) No 65).



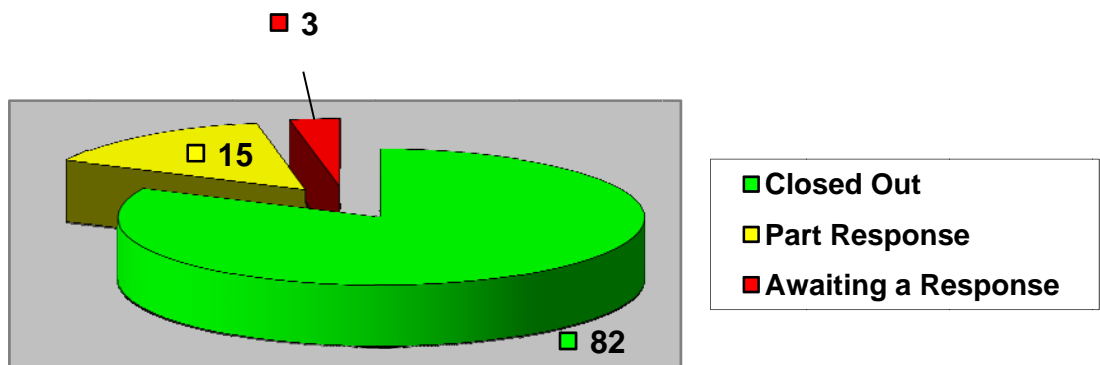
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There are damaged medical gas pipes on Level 1 room MDU 012 above the ceiling. We have asked Brookfield to confirm when this has been addressed. (See Supervisor's Notification of Defect (CI 42.2) No 66).



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5.0 INFORMATION REQUIRED

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Item No.	Description	Date Requested	Comment	
Items 1 to 29 have been closed out				
30	Confirm when cabling is complete, water pumped out and batteries removed.	10/08/12	Response received.	
Items 31 to 44 have been closed out				
45	See Supervisor's Communication No 30.	18/09/12	Response received.	
Items 46 to 73 have been closed out				
74	Confirm flow of water from the sprinkler head is not restricted.	30/11/12	Closed out.	
75	Confirm the access regime for sprinkler head maintenance / replacement.	30/11/12	Closed out.	
Items 76 to 91 have been closed out				
92	Confirm that fire damper actuators highlights can be accessed on completion of the cold water and ceiling installation.	14/01/13	Response received.	
Items 93 to 102 have been closed out				
103	Confirm on site painting of panels has the same life expectancy as the factory applied finish.	15/02/13	Closed out.	
Items 104 to 110 have been closed out				
111	Please check and confirm that the fixings to the steel angles to the wall at the 1 st floor suspended composite deck are in accordance with the specifications/codes of practice.	28.03.13	Closed out.	
Items 112 to 115 have been closed out.				
116	Confirm that there are sufficient access panels in Zone D MH S4 and MH S5. Confirm that 50 mm waste pipes connecting to 100mm pipes at floor level without rodding points are compliant with Building Control.	03.05.13	Closed out.	
117	Confirm procedures to ensure the work to the incomplete concrete base has sufficient structural integrity.	15.05.13	Closed out.	
118	Confirm the final detailing to internal RHS columns which appear to be held up by adjoining steelwork.	15.05.13	Response received.	
119	Confirm measures to address areas of steelwork in the Children's Hospital Zone B which have significant paint damage.	15.05.13	Response received.	
120	Confirm flatness and levelness (including floor specification and finishes) to achieve tolerances.	16.05.13	Closed out	
121	Confirm the design philosophy in relation to air handling unit 21AHU16 supply duct transition does not would appear to comply with HVAC DW144 clause 11.6 & 11.7.	16.05.13	Response received.	
122	Condensate discharges are routed to gullies are a potential trip hazard. Confirm that the CDM Coordinator has considered this problem and confirm if there are any measures to address this.	16.05.13	Response received.	
123	LTHW pumps are mounted on inertia bases however, there are no pump flexes. Vibration will transmit through pipework as a result. Please confirm if this has been considered and if there any measures are proposed to address this.	28.05.13	Closed out	
124	Confirm when remedial measures have been completed in relation to the damaged duct.	28.05.13	Closed out	
125	Confirm proposed remedial actions to the non-compliant steelwork/concrete bases on the roof of the SE section.	20.06.13	Closed out	
126	Confirm areas identified in the Communication can be accessed in accordance with the Employers Requirements.	24.06.13	Response received.	

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127	Confirm when exposed heater battery coil has been covered.	25.06.13	Closed out	
128	Children's Hospital Roof Steelwork Zone A - please provide proposals to meet the design intent at the locations where bolts are missing at the parapet location.	25.06.13	Response received.	
129	Insulation has not been fitted inside the vertical SFS forming the window openings of the ground floor Children's Hospital. Confirm measures to address this.	26.06.13	Closed out	
130	Pneumatic tube box at CCW 073 Bay 1 has an open end. Please confirm when this is blanked off.	02.07.13	Closed out	
131	Advise the remedial proposals for those column bases where there is at present insufficient nut connection to bolt thread.	03.07.13	Closed out	
132	Investigate cracks and confirm that the specification requirements are met or provide details of proposed remedial action.	03.07.13	Closed out	
133	Plant room PR31. Confirm that fire rating of flexible connections and supporting system is equivalent to overall system requirements. Confirm fire rating of fans (observed as non-bifurcated type).	03.07.13	Response received.	
134	PR31 adjacent sub-station 2A. Confirm methodology for structural support of pre-fabricated pipework modules.	03.07.13	Closed out	
135	Unistrut pipework support visibly bent under weight of pre-fabricated pipework module. Confirm that structural supports utilised are compliant with the design intent.	03.07.13	Closed out	
136	Level 3 Zones G/H. Confirm method for re-coating painted finishes, integrity test procedure to meet compliance and identification.	03.07.13	Closed out	
137	Various points requiring clarification in relation to the AHU 21.	08.07.13	Response received.	
138	Confirm when ventilation pipe in RCG-067 AND RCG-068 has adequate support.	09.07.13	Closed out	
139	Confirm that there is adequate seal between back boxes and the board especially in fire walls.	17.07.13	Response received.	
140	Pull cords in 1-521 too far from wc.	18.07.13	Response received.	
141	Please provide technical solutions to various issues to the steelwork to the Children's Roof.	23.07.13	Response received.	
142	Confirm measures to address access hatches in line with the head of the partition.	25.07.13	Closed out	
143	Confirm measures to address clash between the cold water pipes and drainage connection.	25.07.13	Closed out	
144	Confirm when damaged parts to AHU AH10 on Level 5 are replaced.	25.07.13	Closed out	
145	Confirm proposals to achieve level floors to the Atrium Bridge Corridors at door openings to offices/rooms.	25.07.13	Response received.	
146	Confirm when smoke detector is repositioned to the required distance from the supply grille.	25.07.13	Response received.	
147	Confirm when insulation will be fitted to SFS LEVEL 2 Zone J.	31.07.13	Closed out	
148	Provide us with a copy of your proposals / method statement for the flushing of the LTHW and CW and re-use of flushed water.	13.08.13	Closed out	
149	The gazing to the Pods are to BS EN 14179-3. Please confirm that this is the design requirements and provide a copy of the specification.	15.08.13	Closed out	
150	Hatch clashes with partition in DMW-037. Confirm when accessible.	15.08.13	Response received.	
151	Confirm when extract fan in Plant Room 31 is installed to allow unrestricted access for maintenance.	15.08.13	Response received.	
152	Provide marked up drawing from Scotshield showing smoke detectors not in accordance with BS 5839-1.	15.08.13	Response received	
153	Confirm when inspection hatch in room HOW-031 on level 4 fully accessible.	26.08.13	Response received.	
154	Confirm if isolation ductwork hatch in Plant Room 21 needs a double seal.	26.08.13	Response received.	

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155	Plant room 21. Confirm if the multiple types of Isolation ductwork flexible connections used in Plant Room 21 provide an adequate seal against air leakage especially to spiral ductwork? Confirm if fire integrity is maintained with all types of flexible connection used.	26.08.13	Closed out	
156	Confirm if the waste pipes are to be insulated at the external soffit area on the underside of Level 4 Zone H and on the underside of Level 1 above the entrance to Accident and Emergency.	26.08.13	Closed out	
157	Provide a copy your proposals / method statement for the flushing of Water Tanks within the hospital.	29.08.13	Closed out	
158	Provide us with the manufacturer's literature/guidelines or method statement for maintaining the refrigeration units	29.08.13	Closed out	
159	Confirm when the gap between the junction of the internal partition and external units in room AAW-093 & 094.	10.09.13	Closed out	
160	Confirm the appropriate action to ensure that there is a uniform covering of the shaded STO panel on the east elevation adjacent Core E.	10.09.13	Response received.	
161	Confirm when all medical gas valves are covered al floors.	12.09.13	Closed out	
162	Confirm when the other legs have been extended to the steel framework in riser on Level 0 ZF Riser M30.	16.09.13	Response received.	
163	Provide details of the lead protection to ducts and penetrations passing through walls above the ceilings within Radiology.	16.09.13	Open	
164	Confirm when rodding eye inspection cover has been repositioned to allow access within toilet MDU-011.	17.09.13	Response received.	
165	Confirm measures to improve the poor quality finish to the blockwork on the east elevation.	20.09.13	Response received.	
166	Confirm when water damaged boards in Plant Room 41 are replaced.	20.09.13	Response received.	
167	Confirm that smoke detectors on Level 1 Zone H, 1-529 and 1-530 are repositioned approximately > 950mm away from ceiling grilles.	24.09.13	Response received	
168	Confirm action to achieve unrestricted access to the smoke detector.	08.10.13	Response received	
169	Confirm that remedial action to allow unrestricted access to the fire damper and notify us on completion.	08.10.13	Response received.	
170	Confirm the access controls into scrubs Level 2 Area 245.	08.10.13	Closed out	
171	Confirm when water damaged boards are replaced,	08.10.13	Response received.	
172	Confirm proposals in respect of attention to rust marks and chipped paintwork to the white roof atrium steelwork.	09.10.13	Closed out	
173	Confirm that this detail complies with the specification and the design intent or provide their proposals for remedial action.	10.10.13	Closed out	
174	Confirm that this arrangement satisfies the design and specification intent or provide remedial proposals.	14.10.13	Response received.	
175	Confirm when the hotmelt areas damaged by temporary supports to Atrium Roof have been repaired and provide the accompanying QA information.	16.10.13	Response received.	
176	Confirm if there is a provision for these to be fitted on flat slabs and provide the manufacturer's installation guidelines.	17.10.13	Response received.	
177	Confirm if there is a fire seal between the underside of the trunking and the main partition board. If not Brookfield to confirm if hatch will be moved.	17.10.13	Response received.	
178	The sprinkler heads on Level 1 Zone K adjacent to Core "A" staircase appear difficult to access for maintenance or replacement.	17.10.13	Response received.	
179	Confirm remedial measures to allow access into ducting Level 3 near Core G.	21.10.13	Open	
180	Confirm when water damaged boards are replaced in RENW-125.	21.10.13	Open	
181	Confirm when water damaged boards are replaced between rooms DCFP-010 and DCFP -023 Level 4	23.10.13	Open	

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182	Confirm that the 2 out of 4 HD bolts either missing or not protruding through the baseplate satisfies the design and specification intent or provide a remedial solution	30.10.13	Open	
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6.0 SUPERVISORS TESTS AND INSPECTIONS

Tests not required	N/A
Tests required but not tested	Fail
Tests required which has passed tests	Pass

14/06/13 on Level 1 area 507

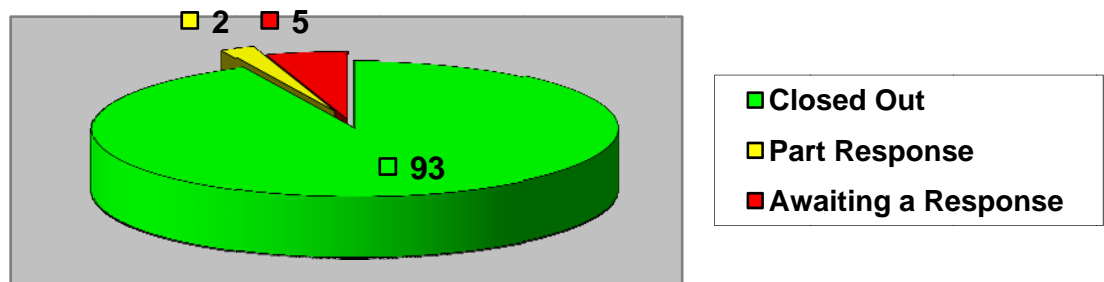
Tests				
Ref	Title	To be Notified by	Status	Test Date
01-86	Various tests undertaken from the 9/07/2012 to the 30/06/2013.			
87	Smoke damper test verification - Level 0, zones D & G.	Brookfield	Fail To be re-witnessed	24.09.2013
88-89	Tests 28.09.2013 & 09.10.2013			
90	Manual fire damper drop tests in 2-517, 2-528, 2-534	Brookfield	Pass	08.10.2013
91	85 Point Check Level 5, 5-510.	Brookfield	Fail	09.10.2013
92	Lighting and HVAC controls witnessed within L1ZH areas 1-529, 1-530 and in Plantroom 21.	Brookfield	Pass	10.10.2013
93	Manual fire damper drop test in 1-531, 1-532, 1-534 & 1-535.	Brookfield	Pass	11.10.2013
94	Manual fire damper drop test in 0-519, 0-520, 0-521, 0-522, 0-523, 0-524.	Brookfield	Pass	15.10.2013
95	85 Point Check Level 0, 0.597.	Brookfield	Pass	16.10.2013
96	85 Point Check Level 0, 0-507.	Brookfield	Pass	16.10.2013
97	LTHW balancing in PR21 and on four locations within L1.	Brookfield	Pass	24.10.2013
98	Water quality samples were taken from the LTHW circuit in PR21 and in the Energy Centre.	Brookfield	Pass	24.10.2013
99	Sprinkler pipework pressure tests L0ZE & L1ZE. Branches No's G09 & 106 tested.	Brookfield	Pass	25.10.2013
100	Proportional air flow tests of ventilation systems 21-AHU 29 & 21 AHU 31.	Brookfield	Pass	27.10.2013
101	Fire alarm loop tests were carried out on L2ZA, L2ZE, L1ZE, L1ZB, L1ZC & L0ZE.	Brookfield	2 Loops Failed	29.10.2013
102	Sprinkler pipework pressure tests L0ZE & L1ZE G05 and G06 tested.	Brookfield	Pass	30.10.2013

Inspection not required	N/A
Inspection required	Req
Inspection complete	Pass

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7.0 DEFECTS NOTIFICATIONS ISSUED



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	Description	Date Requested	Comment	
Items 1 to 12 have been closed out.				
13	Restricted access to ductwork access hatch in corridor adjacent to Zone H near Stair Core F.	02.10.12	Closed	
Items 14 to 50 have been closed out.				
51	Knauf boards not fixed in accordance with NBS Specifications. Boards fixed too close to edge of board.	14.05.13	Closed	
52	Confirm when penetrations through roof protection membrane have been repaired.	16.05.13	Closed	
53	Confirm when appropriate access to hatches in level 3 Zone A is provided.	16.05.13	Closed	
54	Faulty internal blinds. Confirm when remedial action has been completed.	30.05.13	Response received.	
55	Confirm when damaged fire coating has been renewed and provide dry film test results.	30.05.13	Closed	
56	Confirm when restriction to access hatch has been addressed.	03.06.13	Closed	
57	Missing insulation above ceiling level confirm when this has been addressed.	10.07.13	Closed	
58	Head track did not have sealant. Provide drawings showing the partitions constructed by the operative/s and confirm when the floor tracks identified on the drawings will be opened up and checked.	10.07.13	Closed	
59	Confirm when smoke detectors have been repositioned to the minimum regulation distance.	13.07.13	Closed	
60	Confirm when damaged Pod has been addressed.	15.07.13	Closed	
61	Confirm when penetrations through the protective area level 12.	15.07.13	Open	
62	Confirm when penetrations through the protective area level 12.	15.07.13	Open	
63	Confirm when partition has been constructed properly to allow the sprinkler pipe to pass through wall.	20.07.13	Response received.	
64	Confirm when poor quality blockwork / perpendes are addressed.	29.07.13	Response received.	
65	Confirm when damaged medical gas pipe on Level 1 room MDU 051 above the ceiling have been addressed.	17.09.13	Open	
66	Confirm when damaged medical gas pipes on Level 1 room MDU 012 above the ceiling have been addressed.	17.09.13	Open	

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND
ENERGY CENTRE****SUPERVISOR'S REPORT NO. 31****OCTOBER 2013****John Redmond, Technical Advisory Services****Property and infrastructure****Capita, The Beacon, 8th Floor, 176 St Vincent Street, Glasgow G2 5SG**

	Signed	Date
Originated by	John Redmond	05th November 2013
Completed by	Douglas Wilson	05th November 2013

CAPITA

**NEW SOUTH GLASGOW HOSPITAL
ADULT AND CHILDREN'S HOSPITAL AND THE ENERGY CENTRE
NEC 3 SUPERVISORS REPORT NO. 32
NOVEMBER 2013**

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND
ENERGY CENTRE****SUPERVISOR'S REPORT NO. 32****NOVEMBER 2013****CONTENTS****NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND
ENERGY CENTRE**

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SUPERVISOR'S REPORT NO. 32**NOVEMBER 2013****1.0 EXECUTIVE SUMMARY: ADULT & CHILDREN'S HOSPITAL**

Visits to the site during November 2013 continue to indicate that the construction and procedures are progressing in a satisfactory manner in accordance with the Employer's Requirements.

Throughout, the standard and quality of the workmanship is generally good and operations are being carried out in an acceptable manner.

Quality and compliance inspections were carried out with Brookfield and they provided us with their QA documentation including a list of their defects which had been logged on their IDMS system. We carried out quality and compliance inspections on Level 2 Areas 2-523, 2-524. The areas inspected were generally to a good standard and the defects captured by Brookfield were generally of a minor nature. We identify only a few additional defects which Brookfield recorded onto their IDMS system.

It was noted that there were some pull cords on Level 0 Area 0-529 which were difficult to reach. These were not in accordance with HBN 00-02. Brookfield confirmed that these would be repositioned. Our inspections on Level 2, 2-527 identified gaps between sink bases and walls sink bases and walls which is a potential infection control issue. Brookfield has reviewed this issue and propose to infill the gap by fixing a return to the plinth of the work units, scribing the edge to the contour of the coved skirting and sealing all joints with clear silicon sealant.

Brookfield continues to undertake their Quality Assurance systems on site with inspection and checklist documentation available for the ongoing construction activities. Over the period, we closely liaised with Brookfield and witnessed 85 point check to the partitions. These were undertaken on Level 2, Area 2-509 room SCH-049, Level 5, 5-507 Level 2, Level 0 Area 0-508 Room REH-002 and Level 3, Area 3-507 room GW3- 004.

In room Level 2, Area 2-509 room SCH-049 a small area of insulation was missing at the location of the entertainment area. Checks were carried out in an additional two rooms and insulation was found to be missing in the same location. Brookfield raised an NCR for the other walls in adjacent rooms and insulation was found to be present in these areas.

A small area of insulation was missing on Level 5, Area 5-507 room GENWB 028. An additional area was opened up in another room and the insulation was present.

The partition in Level 0, Area 0-508 Room REH-002 was constructed in accordance with the specification.

A small area of insulation was missing on Level 3, Area 3-507 room GW3- 004. An additional area was opened up in another room and the insulation was present.

Civil and structural works continue to be to a generally high quality standard.

Piling as built drawings are still to be inserted on Zutec.

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In the car park concrete floor slab work has now reached the 5th floor level, and the ramps to the 4th floor level have also been cast. All works appear to have been carried out satisfactorily and finishes to floors and ramps remain good.

The final screed to the Atrium Bridge on the 4th floor will be used as a benchmark for all the Atrium Bridge Floors and we await confirmation when this is complete.

Final elements of steelwork connections are still to be completed to the roof of the Children's Hospital in Zones A and B. Communications have been raised with Brookfield and they are listed on the following pages. These still remain outstanding and have been examined with Brookfield who has indicated that these will be addressed at the appropriate time. However other trades, particularly M&E, are progressing apace in these areas which may result in the completion of these details being awkward.

Steelwork erection to the roof of the ACH together with erection of the main atrium steelwork is virtually completed. From a quality perspective this all appears satisfactory with previous communications addressed. Steelwork erection at the helipad structure has also been substantially completed and from a quality aspect appears satisfactory. The aluminium deck and supports to the helipad have also been substantially completed and again quality appears satisfactory.

All of the steel structure sections for the bridge link to the existing neuro-building have now been satisfactorily positioned. Prior to erection the bridge sections were stored on the dual carriageway leading onto Renfrew Road. During the lifting process several kerb sections have been significantly damaged and disturbed. Brookfield is aware of this and will rectify at an appropriate time in line with their programme for this area.

The M&E installation quality is being maintained to a good standard and we are generally satisfied that the installation is compliant with exception of the specific items raised under communication.

The M&E installations are progressing on all levels up to Level 12 and range from first fix module installation to completed and tested areas. Major works are now well underway within levels 2, 3 & 4 plantrooms. Level 12 sprinkler and ductwork installation is in progress and the quality is to a good industrial standard.

The installations in the Energy Centre are well advanced and we await notification of witnessing in the coming months.

The sample AHU21 in plant room PR21 was inspected and comments provided for action by Mercury. It was agreed that this unit will form the standard for all other AHU's, therefore any issues are to be fully closed out to ensure quality installation. We still await a response from Brookfield to allow close out of remaining issues. It should be noted however, that some items will only be closed out once full commissioning has been undertaken.

Various witnessing of commissioning activities were carried out including sprinkler tests, air flow tests, chilled water CT circuit, LV boards, lighting, data circuits, fire damper drop tests, dry risers, fire panels, door access, CCTV, tower bus bars. Most

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of the tests were completed satisfactorily with the exception of two of the Energy Centre fire test, panel 13 & four fire dampers which require repairs and retesting.

We are continuing to work with Brookfield during our inspections highlighting any items that have raised concern. Items identified in this manner are generally being addressed by the site team in advance of any defect notice being raised.

In general terms we are satisfied that the installations continue to be installed to a compliant standard, and are of a good quality. However we have noted that certain items this month have raised concern. These have been raised with the Contractor as follows:-

Supervisor's Communication General Matters / Other Instructions No 183, 184, 185, 186, and 187 were issued during November.

- Seeking confirmation that a door selector will be fitted to the doors leading into room THE-361 in Area 2-527.
- Seeking confirmation of the solution to overcome the gaps between base units and walls in Area 2-524.
- Seeking confirmation when insulation will be fitted into SFS members either side of window in rooms GW3-027 and GW3-031.
- Seeking confirmation when inspection hatch fitted within the partition is repositioned.
- Seeking confirmation when air intake duct will be fitted in Plant Room 21.

No Defects were issued during November.

We continue to be assisted by the site teams and the NHS Project Team who produce an internal weekly report which assists us in resolving various construction, mechanical, electrical and quality issues. We continue to close out our Supervisor's Notifications and Defects when we have received satisfactory responses.

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2.0 DESIGN COMPLIANCE CHECK

Currently nothing to report.

3.0 PROCEDURES REVIEW**3.1 Contractor's QA Procedures / Compliance Inspections**

Brookfield and their subcontractors have continued with their QA and checking and inspection procedures during this period. We are in discussion and liaise with Brookfield's Quality Manager on QA matters and we undertake regular reviews of their QA documentation.

Together with Brookfield we carried out quality and compliance inspections on Level 2 Areas 2-527. The areas inspected were to a good standard and the defects captured by Brookfield were generally of a minor nature. We did however identify a number of minor defects which Brookfield recorded on to their IDMS system and these are shown below.

We reported in last month's report that there were gaps between sink bases and walls in Area 2-524. This problem was identified again in Area 2-527. We asked Brookfield to provide a solution to overcome this. Brookfield has reviewed this issue and proposes to infill the gap. This will be achieved by fixing a return to the plinth of the work units, scribing the edge to the contour of the coved skirting and sealing all joints with clear silicon sealant. They have instructed their sub contractor to prepare a sample for inspection and approval. Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 184).



Quality and compliance inspections were carried out on Level 0 Area 0-529. The quality of the finish was to a high standard. Brookfield provided a list of their defects which have been logged on their IDMS system. We identified only a few additional defects which Brookfield recorded onto their IDMS system. It was noted that there were a number of pull cords which were in a position difficult to reach and Brookfield confirmed that their positions would be reviewed. There was also a smoke detector which was too close to one of two grills. Brookfield confirmed that they would confirm if the smoke detector requires to be moved.

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Room AAW-240 a pull cord had not been fitted.

There was a pull cord missing in room THE-028 which Brookfield recorded on to their IDMS.



We have asked Brookfield to confirm if a door selector is required to allow the fire doors to room THE-361 Bulk Store to close properly and provide the requisite fire protection. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 183).



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Inspections were carried out on Levels 2 and 3 of the Children's Hospital and the quality of work was to a good industrial standard. We noted that there was no insulation inside the vertical SFS members either side of the windows in rooms GW3-027 and GW3-031 in Area 3-507. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 185).

We await further survey from Scotshield showing the smoke detectors which are too close to service grills and their new positions. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 152).

We undertook inspection with Brookfield on Level 0 Areas 0-524, 0-531, 0-532, 0-533, 0-535 and 0-536 and noted that the works were progressing at varying stages in these areas. The works are generally to a good industrial standard.

A joint inspection was carried out on Levels 0 and 1 of the Children's Hospital and the works were progressing and was to a good industrial standard. Brookfield confirmed that water damaged boards will be replaced.

Together with Brookfield we inspected Level 4 4-509 and 4-510. Brookfield indicated some water damaged boards which they confirmed would be replacing. The quality of the work is to a good industrial standard and we shall continue to monitor the work in the coming weeks.

Inspections were carried out with Brookfield on Level 1 Areas 1-534, 1-533, 1-530, 1-532, 1-539, 1-537 and 1-538. The quality of the work was to a good industrial standard. We have raised a Supervisor's Communication requesting details of the lead protection to ducts and penetrations passing through walls above the ceilings within Radiology. Brookfield has confirmed that drawing No AST-XX-XX-DT-252-112 from Astins has been given status B by both NHS and Brookfield with overmarked comments. Brookfield discussed this with Astins and further feedback on the details is forthcoming. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 163).

A number of inspections of the finished walls at high level within the Children's Atrium and the final inspection confirmed that the finish was to a good industrial finish.

**85 point Checks**

An 85 point check was carried out to a partition in the Children's Hospital Level 2, Area 2-509 room SCH-049. Insulation was missing at the location of the patient entertainment area resulting in a failure of the acoustic performance of the partition. As an additional check two additional partitions were opened up and insulation was

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found to be missing from the partition in room SCH-053. Consequently Brookfield raised an NCR and all walls in the area were opened up to confirm if insulation was present at the entertainment area. All areas were found to have insulation.

An 85 point check was carried out to a partition in the Children's Hospital Level 5, Area 5-507 room GENWB 028. A strip of insulation approximately 80mm wide was found to be missing. Additional inspections were carried out in other rooms and the insulation was found to be present.

An 85 point check was carried out to a partition in room REH-002 Level 0-508 and the partition had been constructed in accordance with the specification.



We witnessed an 85 point inspection in room GW3-004 on Level 3, Area 3-507. There was a small area of insulation removed from behind conduits.



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3.2 Witness Testing and Commissioning

We witnessed a number of tests during November which were satisfactory and these were as follows:

- Sprinkler pipework pressure tests were witnessed on Level 0 Zone E branch G09 & level 1 Zone E branch 106. Both tested satisfactorily.
- Proportional air flow tests of the ventilation system to PR21 40 EF 02 were carried out satisfactorily.
- Proportional air flow tests were carried out to PR21 AHU 30 satisfactorily.
- Chilled water CT circuit within PR21, AHU's 8, 29, 34, two UPS rooms, one FCU and one chilled beam within 0-521.
Water quality samples were taken from the chilled water circuit in PR21 and visually inspected and found to be satisfactory. Sample later analysed in Energy Centre and results recorded.
- The test sheets of two LV boards on Level 2 Zones G&H were viewed and selected circuits were retested and found satisfactory.
- Lighting and HVAC controls were witnessed satisfactorily within Level 0 Zone G.
- Fire damper drop tests were carried out in Areas 2-525, 2-527, 2-523, 2-518, 2-519 & 2-534. One damper in Zones 2-527 & 2-519 failed and will require repairs / modifications.
- The dry riser serving core A was pressure tested and witnessed satisfactorily.
- Randomly selected data circuits by the NHS Project Engineer from Hubs on L0 105, 107, L1 121, 122, L2 124 & 130 were all tested satisfactory.
- Fire panel No 16 was tested. Several devices were picked at random and alarms activated and were displaying correct identification and location.
- We witnessed a proportional functionality test of the door access system within Level 0 Zones D & G.
- Several CCTV cameras were offered for viewing at the monitors within the main NHS computer room and the quality of the pictures was satisfactory.
- The eight bus bars serving the Towers from level four to eleven were tested and the results were satisfactory.
- Manual fire damper drop tests were carried out on Level 1 Areas 1-516, 1-517, 1-518 and 1-539. One damper in 1-518 and 1-536 failed and require repairs / modifications.

We witnessed a number of tests during November which were unsatisfactory and these were as follows:

- Fire panel in side B of the Energy Centre loop 15 was tested. One smoke detector tested satisfactorily, and one call point failed to activate. The test was aborted at this point.
- Fire panel No 113 Level 0, 0-526 was tested and several smoke detectors and one call point activated satisfactorily. The test was aborted when on call point failed.
- FD-2-519-016 – Fire damper test lever was too close to partition preventing smooth closure. The fire damper is to be repositioned.
- FD-1-539-002 – The fire damper test lever was fouling adjacent ductwork. The fire damper is to be repositioned and retested.

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- FD-1-518-001 - Difficult to access and activate damper link due to type of hatch fitted, and damper status indicator was obscured. A new hatch is to be installed and status indicator to be exposed.
- FD-1-539 003, Unable to access fire damper damper inspection hatch. A new inspection hatch to be fitted on opposite side of wall.

The dampers repaired by Mercury in September have been repaired and have still to be retested.

3.3 Board Equipment Installation,

Currently nothing to report.

3.4 Non Conformance Reports

We reviewed Brookfield's NCR Tracker and noted the issues raised by the Package Managers. The blockwork and pointing on the south and east elevations although improved by cleaning continues to be a concern with shading of the mortar evident. Prater has still to offer it up to Brookfield as complete reference NCR 156. We are also monitoring the issue in relation to water between the glass of the Structural Panels NCR reference 157 and 219. Brookfield an independent survey carried out by Cladtech Associates has been forwarded to Structal. Brookfield is reviewing all the information. NCR 237 was issued to Astins in relation to the lack of insulation at abutments between internal partitions and external walls.

4.0 CONSTRUCTION REVIEW**4.1 Visits to the Works**

The following members of our team undertook site inspections, reviewed documentation, attended meetings and met with relevant Contractors representatives on-site personnel:- John Redmond (Lead NEC3 Supervisor) 1st, 4th to 8th, 11th to 13th, 20th, 20th to 22nd and 25th to 29th November; Douglas Wilson (M&E NEC3 Supervisor) 1st, 4th to 8th, 11th to 15th to 18th, 22nd to 25th and 29th November; Willie Roxburgh (Civils/Structural NEC3 Supervisor) part days on 5th, 8th, 13th, 18th, 21st, 26th and 28th November, plus remote desk top input most days of the month. Capita's NEC3 Supervisor's team visited site a combined 45 person days.

4.2 Elements of the Works available for inspection

- Energy Centre – structurally complete. Civil works around.
- Main building – all concrete areas. (becoming limited due to access)
- Tunnels between ACH and Labs, and Cores C to F.
- Structural steelwork to all roof areas (partly limited due to access).
- Neuro bridge (partly limited due to access).
- Dual carriageway to Renfrew Road, turning area in front of the main entrance, and carriageway from Hardgate Road.
- Car park area.
- Internal Partitions.
- M&E modular units.

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- Roofing.
- Cladding.
- Windows.
- Sto system.
- Brickwork Courtyard 8, p and 10.
- Brickwork/blockwork: Zone J North, East elevation and Basement Bockwork.
- Rainscreen: Zone F & C.

4.3 Observations from November 2013 Inspections

The visual inspections of the work carried out to date indicate that the works are generally being carried out to a satisfactory standard. We continue to be assisted by the site teams and the NHS Project Team in resolving various construction, mechanical, electrical, and quality issues. We continue to close out our Supervisor's Notification and Defects when we have received satisfactory responses. Listed below are observations closed out, still to be closed and those raised following site visits in November 2013.

4.3.1 Structural

At the Atrium Bridge in respect of final screeding the floor finish on the 4th floor will be used as a benchmark for all the Atrium Bridge Floors and this remains to be finalised.

Final elements of steelwork connections are still to be completed to the roof of the Children's Hospital in Zones A and B. Communications have been raised with Brookfield and are listed on the following pages. These still remain outstanding and have been examined with Brookfield who has indicated that these will be addressed at the appropriate time. However other trades, particularly M&E, are progressing apace in these areas which may result in completion of the above details being difficult. This has remained outstanding for approximately 6 months.

Steelwork erection to the roof of the ACH together with erection of the main atrium steelwork is virtually completed. From a quality perspective this all appears satisfactory with previous communications addressed. Steelwork erection at the helipad structure has also been substantially completed and from a quality aspect appears satisfactory. The aluminium deck and supports to the helipad have also been substantially completed and again quality appears satisfactory.

All of the steel structure sections for the bridge link to the existing neuro-building have now been satisfactorily positioned. Prior to erection the bridge sections were stored on the dual carriageway leading onto Renfrew Road. During the lifting process several kerb sections have been significantly damaged and disturbed. Brookfield is well aware of this and will rectify at an appropriate time in line with their programme for this area.

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Two internal RHS columns in the Children's Hospital Zone B appear to be held up by adjoining steelwork. Brookfield has informed us that the final detail is a connection to concrete. The concrete works and subsequent bolting up will be undertaken prior to the installation of any cladding. The fitting of additional brackets has been agreed by WSP and we were informed that this would be completed by Monday 19th August. It was our intention to inspect on completion, however the work is still not complete. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 118).



The areas of steelwork in the Children's Hospital Zone B had significant paint damage is now completed and a joint inspection between Brookfield and Capita is to be arranged. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 119).

We asked Brookfield to provide proposals to meet the design intent for the Children's Hospital Roof Steelwork Zone A where bolts are missing at the parapet. Brookfield has had discussions with William McColgan WSP during a visit to site. Subsequent to this visit Dunne has provided a detailed sketch which has been approved by WSP. Brookfield has confirmed that the bolts have been completed. See photo opposite. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 128 is closed out.



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We asked Brookfield to provide technical solutions to various situations on the structural steelwork to the Children's roof where base plates are (floating), edge distances are minimal or miss the concrete base. Cladding rails also prevented HD bolt fixing. WSP has provided a detailed sketch to show remedial work to plinth. We shall inspect this on completion. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 141).

The steel framework in riser on Level 0 ZF Riser M30 has had the legs extended immediately in front of the entrance door. There are other legs which have not been extended yet and we asked Brookfield to confirm when the other legs will be extended. Brookfield has confirmed that these legs are not weight bearing and the weight bearing supports are on Level 01. They also confirmed that the extended legs will be cut back to be completely clear of the ground floor to finish flush with the frame. We have asked for confirmation that the justification for this is based on an analytical assessment, and that the details provided are in accordance with this. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 162).



Extended legs



Leg still to be extended.

At the southern skylight, Children's 3rd floor podium, there are 4No steel column baseplates which have only 1No bolt connection to the concrete upstand. The position of the other bolt at each of these locations being above the edge chamfer of the concrete upstand. (For the structure as a whole there are a total of 8No bolts in place but there are 12No bolt holes.)

We asked Brookfield to confirm that this arrangement satisfies the design and specification intent or provide remedial proposals. (The situation is different at the northern skylight where concrete walls extend to the underside of the skylight

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panels.) Brookfield has confirmed that the design calculations provided by their sub-contractor engineer satisfies the fixing requirements. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 174 is closed out.

One of the base plates Level 4 Zone B has 2 out of 4 HD bolts either missing or not protruding through the baseplate. We have asked Brookfield to confirm that this satisfies the design and specification intent or provide a remedial solution. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 182).



Car Park 1

In the car park concrete floor slab work has now reached the 5th floor level, and the ramps to the 4th floor level have also been cast. All works appear to have been carried out satisfactorily and finishes to floors and ramps continue to be good.

4.3.2 Energy Centre

Steelwork snagging appears to have been addressed, but much tidying up remains outstanding in the eastern half of the building.

4.3.3 Above Ground Drainage

With reference to our query in relation to the above ground storm drainage position of access panel. Brookfield has confirmed that access points are indicated on the 400 series drawings and access hatches are being installed in accordance with these drawings. If not installed at the Quality and Compliance inspection stage, they are added to the IDMS for action by Astins. Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 116 is closed out.

Rodding eye inspection cover facing wrong direction for access within toilet MDU-011. Brookfield has confirmed that this has been addressed and has provided photographic evidence. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 164 is closed out.

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**4.3.4 Dual Carriageway to Renfrew Road. (A&C)**

The defects previously identified will be reviewed nearer to completion when they will be effectively rectified. This will also now include the significantly damaged kerb lines affected by the storage and lifting of the neuro-bridge sections.

4.3.5 Pipework.

Installation of hot, cold, heating, & chilled water pipework in the A&C hospital is progressing and in general is being installed to a good standard.

We are continuing to monitor all pipework installations to identify possible dead legs. The quality checking by Brookfield would appear to be identifying these before our inspections. Open unprotected ends are also being identified in our weekly site inspection reports and these are notified to Brookfield. During September there has been a reduction in the number of open ends.

During our inspections in Plant Room 21, we noted that all AHU condensate discharges are routed to gullies via low level unprotected plastic pipework. This is a potential trip hazard. We have asked Brookfield to confirm that the CDM Coordinator has considered this problem and has asked if there are any measures to address this. There is also the risk of the pipes being broken. Refer to SHTM03-01 clause 4.25. Brookfield has confirmed that where appropriate, sheet metal guards will cover condensate discharges. However we have requested to see a typical detail of what they are proposing to allow further comment.

We have asked Brookfield to confirm if a ramp (up/down) will be installed over the low level pipework & be fixed in position. Also in some instances, where the pipework is particularly exposed, this ramp may need to extend further along the length of the pipe or additional protection provided. We have asked again if the CDM Coordinator has considered this problem and has taken cognisance of SHTM03-01 clause 4.25. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 122.

Following a visit to site we raised our concerns that there are some locations where there is insufficient space for maintainable, replacement building services and plant as per the Employers Requirement Section 5.13 Facilities Management.

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We raised our concerns with Brookfield in relation with the following areas Level 2 Zone H. Pipework connections above line of unistrut. Access appears difficult. We have asked Brookfield to confirm that future access will be available.



Level 2 / Zone K. Current access to install chilled water riser pipework appears difficult. We have asked Brookfield to confirm that future access will be available once the walls are constructed.



Level 3 / Zone H. Pipe Racks in area shown below have multiple levels of pipe work. We have asked Brookfield to confirm that future access will be available. Brookfield confirmed that access to the 3 areas identified will be accessible for FM in compliance with ER Section 5.13. The access arrangements for this item will be recorded as part of the Access Strategy Tracker which is currently being developed by Brookfield and Mercury. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 126).

**4.3.6 Ventilation**

We were in attendance to witness the successful test of the supply and extract airflow testing of AHU's 24 & 25 within plant room 21 and levels 1 & 2 of zones D&G, and dirty extract fan 39.

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We noted that the air handling unit 21AHU16 supply duct transition does not appear to comply with HVAC DW144 clause 11.6 & 11.7 which could result in high pressure loss.

Brookfield has confirmed that ductwork is not in compliance to drawing/specification and will be replaced. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 121).



We asked Brookfield to confirm that the fire rating of the flexible connections and supporting system in Plant room PR31 is equivalent to the overall system requirements. The fan is located adjacent to atrium at the west side of building. We have also asked them to confirm fire rating of fans (observed as non-bifurcated type). ZBP has confirmed to Brookfield that fans require to be fire rated and are at technical submittal stage. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 133.



Following an inspection of Plant Room PR21 we raised a number of points which were clarified, however the items below are still awaiting comment from Brookfield.

- Confirmation received that diffuser plate will be fitted to alleviate fan discharge velocity issues raised (items 1a, b, d, e & f). We asked for details of the proposed diffuser plate to be fitted in front of supply AHU fan discharge. The diffuser plate already fitted to AHU 21 appears inadequate for its intended use. Brookfield is awaiting a response from the Manufacturer.
- We asked for confirmation that the AHU is compliant with SHTM03-01, or state any agreed derogation. Some aspects stated do not comply with the SHTM & will require agreement from the Board. Brookfield has confirmed that all All units are SHTM compliant and inline with ZBPs design. There are a few cases where the specific fan powers could not be achieved as the manufacturers' limiting velocity of 2m/s across components would not have

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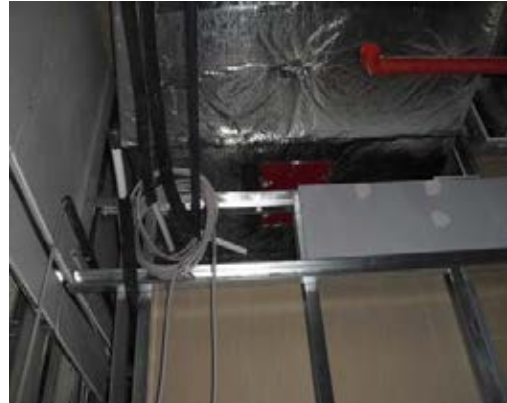
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been achieved, this has been brought to ZBP's attention. All units are approved and supplied to ZBP's design schedules.

(See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 137).

During our inspections on Level 2 we noted that the duct inspection hatch is located above the partition dividing rooms DOPD-037 & 038. We have received confirmation that the duct access hatch will be repositioned to allow access to the duct. We have asked Brookfield to confirm when the hatch will be accessible. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 150).



A ductwork inspection hatch has been installed in middle of the partition in room HOW-301 Level 4. We asked Brookfield to confirm when the inspection hatch will be fully accessible. Brookfield confirmed that the duct access hatch will be repositioned to allow access to the duct. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 153).

We have asked Brookfield if the Isolation ductwork hatch to the fire rated ductwork in Plant Room 21 needs a double seal. This Notification has been forwarded to the relative floor manager and is being investigated. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 154).

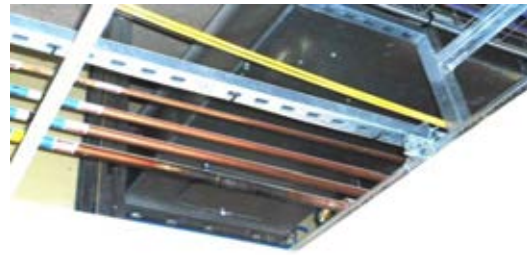
We noted that the smoke detectors on Level 1 Zone H, 1-529 and 1-530 are too close to the chilled beams. Brookfield has confirmed that the smoke detectors in 1-529 have been rectified. They have also confirmed that once access is gained to 1-530, these will be altered to the required distance. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 167).

The access hatches in the Plantroom on Level 3 are too close consequently access is not possible. We have asked Brookfield to confirm the remedial measures required to allow access. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 179).



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Access to the fire damper between room THE Exit Bay and THE 348 Dirty Utility is restricted. Brookfield has confirmed that a new access cleaning hatch has been fitted and we have inspected this on site. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 169 is closed out.



The inspection hatch installed within the adjacent partition in room DMW-004 Therapy Room. We have asked Brookfield to confirm when the hatch has been repositioned. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 186).



We asked Brookfield to confirm when the fresh air inlet duct in Plant Room 21, on Level 2 Zone D will be fitted as indicated on drawing NE-ZD-02-PL-524-102 Rev H. They have informed us that they had to increase the size of the plenum boxes in Plant Room 21. This took away one of the FAI spaces from this area. The louvres require to be cut at a later date to accommodate this. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 187).

4.3.7 Insulation

The thermal insulation installation to the pre-fabricated sections of pipework is being completed off site, before delivery and completed after installation. During our joint inspections with Brookfield we noted some damaged insulation within the plant rooms and these are being addressed.

4.3.8 Pressure testing

Pressure testing of the modular pipework sections on a zone by zone or area by area basis has been programmed through the commissioning meetings.

4.3.9 Medical Gases

Medical Gas pipework in being installed in all areas and independent tests are being witnessed by Ian Sandford of Hulley and Kirkwood.

4.3.10 Energy Centre

The installations in the Energy Centre are well advanced with the A-side systems commissioned and handed over and ground floor pipework being prepared for the

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CHP installation. Commissioning programmes for the B Side have been presented and significant commissioning has been taking place from June to December 2013.

4.3.11 Trunking

Cable trunking is being installed as part of the offsite fabricated sections that are being installed in the A&C hospital and in general the installation is to a good industry standard.

4.3.12 Cable Trays

Cable trays are being installed as part of the offsite fabricated sections that are being installed in the A&C hospital and in general the installation is to a good industry standard.

4.3.13 Cabling

Modular wiring looms are now being installed as part of the offsite fabricated assemblies and carefully tied up for protection and installation is of a good standard.

4.3.14 Conduit

Solid conduit installations are well progressed in the areas being fitted out and are to a good industry standard.

4.3.15 Void Detection

The smoke detector within the lobby on Level 1 Room CCW-049 is within 300mm of the supply grille. We asked Brookfield to confirm when this has been repositioned to the minimum distance of one metre. Mercury's specialist contractor has confirmed that in terms of BS5839-1 Clause 22.3 Paragraph M minimum spacing cannot be achieved. They cannot see how they are able to demonstrate the recommendation without infringing on the minimum distance required to be away from the finished wall surfaces. They state further that due to third party equipment on the ceiling this restricts the position on the smoke detector. Consequently they state that it can remain in position. However we await confirmation that it has been repositioned. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 146)



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Access to the smoke detector in corridor THE-129 opposite room THE 158 is inaccessible. We have asked Brookfield to confirm the appropriate remedial action to achieve unrestricted access to the smoke detector. Mercury has instructed Scotshield to review this. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 168).



4.3.16 Intake Sub Station

The Installation of the new transformer for Car Park 1 will coincide with all HV cables being pulled through to the Substation. It is anticipated that all cables will be pulled through approximately the end of January beginning of February 2014. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 30 & 45).

4.3.17 Partitions

The partition between the east side of the atrium and plant room 41 has been damaged by water ingress. Brookfield to confirm they are aware there has been some damage, and will replace the boards after they have completed the resin flooring works. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 166).



Water damaged boards.

The boards in room SCH-046 Level 2 has water damaged boards. We have asked Brookfield to confirm when the boards are replaced so that a further inspection can be carried out. Brookfield has informed us that Zone C is currently progressing with 1st fix. Their intention would be to complete water damaged boards to this area and below the movement joint between zone B & C at 2nd fix stage. As they are still suffering water ingress from level 4 they have informed us that 2nd fix will be around the 28th October. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 171).

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Boards have been damaged by water ingress and we have asked Brookfield to confirm when these have been replaced. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 180).



We asked Brookfield to confirm when water damaged boards will be replaced in the rooms between DCFP-010 and DCFP-025 on Level 4. They have confirmed that they will be replaced at second side boarding stage. We will continue to monitor (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 181).



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4.3.18 Roofs

A&C Roofs

Steel supports are in place to provide temporary supports to the main Atrium Roof. The end of these supports has penetrated the hotmelt roofs on Level 12. Consequently we asked Brookfield to confirm when these areas have been repaired and provide the accompanying QA information. Brookfield has advised that this area will be revisited with remedial works to hot melt. Once remedial works are complete along with the remaining roof slab Prater will carry out the testing and advise accordingly. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 175).



Courtyard 2, 3, 4 and 5 on Level 1 and 2 are progressing to completion with Brookfield awaiting the final snagging by Praters.

Level 4 Zone E&H hotmelt progressing.

The roof covering zones G and D on Level 3 are progressing to completion with Brookfield has carried out final checks.

The remaining roofs on Levels 2, Zones D and G and Level 3 are progressing.

Level 4 landscaping is in progress.

Level 3 Zone J has been handed over for hotmelt.

The hot melt roof on Level 12 is nearing completion.

Generally the quality of the workmanship throughout is to a good industrial standard and we have reviewed the QA documentation.

The Sarna Roof covering is progressing to completion above Plant Room 21.

Children's Roofs

Hot melt application is progressing on level 2 balconies and Level 3 roof and the quality is to a good industrial standard.

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4.3.19 Cladding/Courtyards**A&C**

Cladding is substantially complete in courtyards 1, 2, 3, 4, 5, 6, 7, 8 & 9. The "STO" system is substantially complete in courtyard 2, 3, 4, 5, 6, 7 and 8. Brookfield is to carry out their final quality inspections and sign off. The STO is in progress in Courtyards 9, 10 and 11 with the standard and quality generally to a good industrial standard.

The stone rainscreen has progressed on the east elevation and the quality is good.

The STO render to the upper panel on the east facing elevation nearest Core E has shaded areas visible below the finished surface. We asked Brookfield to confirm the appropriate action to ensure that there is a uniform covering to the panel and when completed. Brookfield has confirmed that they did not find the standard to be of a poor condition, although they do admit that some areas are marked or shaded but not obtrusive. We will monitor this in the coming weeks and if the marks are still present we will report accordingly. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 160).

Children's Hospital

The STO is in progress progressed around the external façade of the Children's Hospital.

4.3.20 Windows

Windows are progressing on the external elevations and courtyards in accordance with the specifications.

4.3.21 Equipment

Extract fan on Level L3 PR31 extract fan unit Number 30EF1 has been installed on the floor of the plantroom with the service access on the underside of the unit making servicing impossible. We asked Brookfield confirm that extract fan will be installed in a manner which will allow unrestricted maintenance. We have received a response that access is via the top and sides however the unit fitted does not allow access as described. We asked Brookfield to provide the manufacturers information in relation to maintenance access but received information for a different model. We have received a further response that extract fan replacement panels with access doors arrived on site and they are still to be fitted. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 151).

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4.3.22 Ducting

We have asked Brookfield to confirm that the fire damper actuator highlights in room EMC-011 can be accessed on completion of the cold water and ceiling installation. Brookfield has confirmed that the damper actuator will be accessible. The access arrangements for this item will be recorded as part of the Access Strategy Tracker which is being developed. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 92).



The hatch is too close to the partition between Room RENO-064 and DOPD-037 Level 2, 2-531. Consequently the joint between the hatch and the board is not sealed. We have asked Brookfield to confirm if there is a fire seal between the underside of the trunking and the main partition board. If not Brookfield to confirm if hatch will be moved. This Notification has been forwarded to the relative floor manager and is being investigated. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 177).

**4.3.23 Floors**

We have asked Brookfield to confirm their proposals to achieve level floors to the Atrium Bridge Corridors at door openings to offices/rooms and adjacent levels within these rooms. It was agreed at the Progress Meeting on Monday 7th October 2013 that Level 4 will be offered as a benchmark for review by client once the screed has been laid. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 145).

4.3.24 Blockwork

We have reported since April that the quality and standard of workmanship of the blockwork on the east elevations was not to a good industrial standard.

This was discussed on site with Peter Moir, John Redmond and Alasdair Fernie. It was agreed that the joint variance is as per the block sizes and no amount of remedial works would eliminate this. The repairs to damaged block and the cracks were getting addressed with a further visit required in around 6 weeks (Mid November) to allow the mortar colour to blend in. Prater will clean down the elevation and offer up for inspection again in the very near future. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 165).

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4.3.25 Security

We witnessed a proportional functionality test of the door access system within Level 0 zones D & G. The test consisted of walking through the areas and accessing through controlled doors via proximity readers and exiting via internal push button releases. Emergency door release break glasses, door open alarms and forced exits were all simulated successfully. In a few instances the fixed magnets did not engage onto the magnetic lock cleanly. It should be noted that no external doors or Hospital street doors were tested due to either being incomplete or doorways barricaded off.

4.3.26 Pneumatic Tube

Currently nothing to report.

4.3.27 Electrical Fittings & Fixtures

We have inspected the pull cords in room CCU-065 on level 1 1-521 and this has not been repositioned yet. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 140.

4.3.28 Sprinklers

The sprinkler heads on Level -1 Zone K adjacent to Core "A" staircase appear difficult to access for maintenance or replacement. Brookfield confirmed that this is being investigated. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 178.

**4.3.29 Lighting**

The quality of the general and emergency lighting installed to date is of a good standard.

4.3.30 Power

The quality of the small power installation installed to date is generally good with only minor defects noted which have been rectified.

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4.3.31 Solar Panels

The photovoltaic panels are mounted on frame work with spreader feet which are sitting directly onto ballast. We asked Brookfield to confirm if these require to be fitted on flat slabs. They have confirmed that pebbles will be removed from underneath the feet and units place directly on the membrane. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 176 is closed out

**4.3.32 Fire Dampers**

During the mechanical fire damper drop tests and the Quality and Compliance Inspections, several damper positional indicators have been found to be obscured by sealant. This is being addressed by Brookfield.

4.4 Current Defects.

Trace visited the site on Wednesday 19/06/13 and carried out repairs to the Highline blinds on level 1. The outstanding replacements were delivered to site and 5 off the 6 were fitted on Friday 25th October. 1 no is still to be fitted. (See Supervisor's Notification of Defect (CI 42.2) No 54).

The partition in Room ARU-034 on Level 2 has been cut to allow the sprinkler pipe to pass between rooms resulting in the partition being weakened. Brookfield has passed this to Astins to investigate. (See Supervisor's Notification of Defect (CI 42.2)) No 63).



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The quality of the workmanship to the blockwork on the West Facing Elevation is poor and requires to be addressed. The widths of perpends varying at various locations on this elevation. This is particularly evident between the windows on the right hand side of the entrance to A&E. See photo. Brookfield has confirmed that the issue has been addressed. We carried out a further inspection and noted that the pointing was still darker than the surrounding joints. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 64).



We noted that there were indentations and penetrations through the protective layer of the Level 12 roof and we asked Brookfield to confirm when these would be addressed. Brookfield has confirmed that this has been addressed and provided photographic evidence. Consequently Supervisor's Notification of Defects (CI 42.2) No 62 is closed out.

We noted that there were indentations/penetrations through the protective layer of the Level 12 roof and we asked Brookfield to confirm when these would be addressed. Brookfield has confirmed that this has been addressed and provided photographic evidence. Consequently Supervisor's Notification of Defect (CI 42.2) No 61 is closed out.

There is a damaged medical gas pipe on Level 1 room MDU 051 on the ceiling. We have asked Brookfield to confirm when this has been addressed. (See Supervisor's Notification of Defect (CI 42.2) No 65).



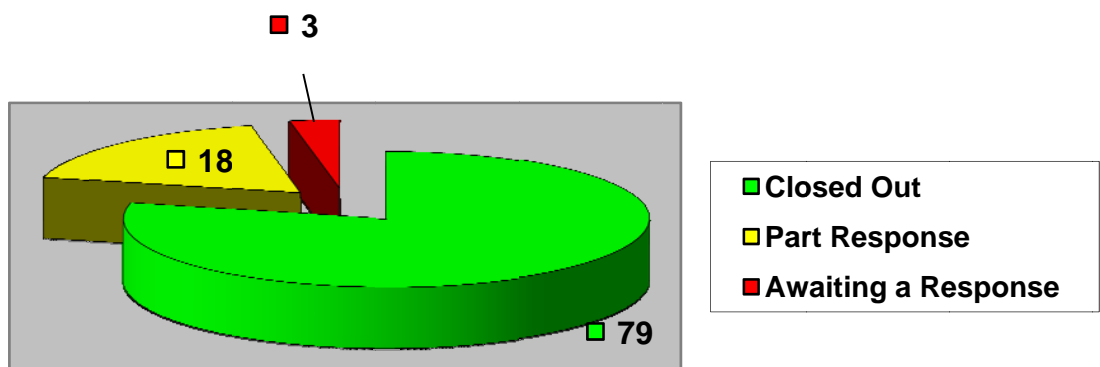
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There are damaged medical gas pipes on Level 1 room MDU 012 on the bedhead. We have asked Brookfield to confirm when this has been addressed. (See Supervisor's Notification of Defect (CI 42.2) No 66).



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5.0 INFORMATION REQUIRED

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Item No.	Description	Date Requested	Comment	
Items 1 to 29 have been closed out				
30	Confirm when cabling is complete, water pumped out and batteries removed.	10/08/12	Response received.	
Items 31 to 44 have been closed out				
45	See Supervisor's Communication No 30.	18/09/12	Response received.	
Items 46 to 92 have been closed out				
92	Confirm that fire damper actuators highlights can be accessed on completion of the cold water and ceiling installation.	14/01/13	Response received.	
Items 93 to 117 have been closed out				
118	Confirm the final detailing to internal RHS columns which appear to be held up by adjoining steelwork.	15.05.13	Response received.	
119	Confirm measures to address areas of steelwork in the Children's Hospital Zone B which have significant paint damage.	15.05.13	Response received.	
120	Confirm flatness and levelness (including floor specification and finishes) to achieve tolerances.	16.05.13	Closed out.	
121	Confirm the design philosophy in relation to air handling unit 21AHU16 supply duct transition does not would appear to comply with HVAC DW144 clause 11.6 & 11.7.	16.05.13	Response received.	
122	Condensate discharges are routed to gullies are a potential trip hazard. Confirm that the CDM Coordinator has considered this problem and confirm if there are any measures to address this.	16.05.13	Response received.	
123	LTHW pumps are mounted on inertia bases however, there are no pump flexes. Vibration will transmit through pipework as a result. Please confirm if this has been considered and if there any measures are proposed to address this.	28.05.13	Closed out.	
124	Confirm when remedial measures have been completed in relation to the damaged duct.	28.05.13	Closed out.	
125	Confirm proposed remedial actions to the non-compliant steelwork/concrete bases on the roof of the SE section.	20.06.13	Closed out	
126	Confirm areas identified in the Communication can be accessed in accordance with the Employers Requirements.	24.06.13	Response received.	
127	Confirm when exposed heater battery coil has been covered.	25.06.13	Closed out.	
128	Children's Hospital Roof Steelwork Zone A - please provide proposals to meet the design intent at the locations where bolts are missing at the parapet location.	25.06.13	Response received.	
129	Insulation has not been fitted inside the vertical SFS forming the window openings of the ground floor Children's Hospital. Confirm measures to address this.	26.06.13	Closed out.	
130	Pneumatic tube box at CCW 073 Bay 1 has an open end. Please confirm when this is blanked off.	02.07.13	Closed out.	
131	Advise the remedial proposals for those column bases where there is at present insufficient nut connection to bolt thread.	03.07.13	Closed out.	
132	Investigate cracks and confirm that the specification requirements are met or provide details of proposed remedial action.	03.07.13	Closed out.	
133	Plant room PR31. Confirm that fire rating of flexible connections and supporting system is equivalent to overall system requirements. Confirm fire rating of fans (observed as non-bifurcated type).	03.07.13	Response received.	
134	PR31 adjacent sub-station 2A. Confirm methodology for structural support of pre-fabricated pipework modules.	03.07.13	Closed out.	
135	Unistrut pipework support visibly bent under weight of pre-fabricated pipework module. Confirm that structural supports utilised are compliant with the design intent.	03.07.13	Closed out.	

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136	Level 3 Zones G/H. Confirm method for re-coating painted finishes, integrity test procedure to meet compliance and identification.	03.07.13	Closed out.	
137	Various points requiring clarification in relation to the AHU 21.	08.07.13	Response received.	
138	Confirm when ventilation pipe in RCG-067 AND RCG-068 has adequate support.	09.07.13	Closed out.	
139	Confirm that there is adequate seal between back boxes and the board especially in fire walls.	17.07.13	Response received.	
140	Pull cords in 1-521 too far from wc.	18.07.13	Response received.	
141	Please provide technical solutions to various issues to the steelwork to the Children's Roof.	23.07.13	Response received.	
142	Confirm measures to address access hatches in line with the head of the partition.	25.07.13	Closed out.	
143	Confirm measures to address clash between the cold water pipes and drainage connection.	25.07.13	Closed out.	
144	Confirm when damaged parts to AHU AH10 on Level 5 are replaced.	25.07.13	Closed out.	
145	Confirm proposals to achieve level floors to the Atrium Bridge Corridors at door openings to offices/rooms.	25.07.13	Response received.	
146	Confirm when smoke detector is repositioned to the required distance from the supply grille.	25.07.13	Response received.	
147	Confirm when insulation will be fitted to SFS LEVEL 2 Zone J.	31.07.13	Closed out.	
148	Provide us with a copy of your proposals / method statement for the flushing of the LTHW and CW and re-use of flushed water.	13.08.13	Closed out.	
149	The gazing to the Pods are to BS EN 14179-3. Please confirm that this is the design requirements and provide a copy of the specification.	15.08.13	Closed out.	
150	Hatch clashes with partition in DMW-037. Confirm when accessible.	15.08.13	Response received.	
151	Confirm when extract fan in Plant Room 31 is installed to allow unrestricted access for maintenance.	15.08.13	Response received.	
152	Provide marked up drawing from Scotshield showing smoke detectors not in accordance with BS 5839-1.	15.08.13	Response received.	
153	Confirm when inspection hatch in room HOW-031 on level 4 fully accessible.	26.08.13	Response received.	
154	Confirm if isolation ductwork hatch in Plant Room 21 needs a double seal.	26.08.13	Response received.	
155	Plant room 21. Confirm if the multiple types of Isolation ductwork flexible connections used in Plant Room 21 provide an adequate seal against air leakage especially to spiral ductwork? Confirm if fire integrity is maintained with all types of flexible connection used.	26.08.13	Closed out.	
156	Confirm if the waste pipes are to be insulated at the external soffit area on the underside of Level 4 Zone H and on the underside of Level 1 above the entrance to Accident and Emergency.	26.08.13	Closed out.	
157	Provide a copy your proposals / method statement for the flushing of Water Tanks within the hospital.	29.08.13	Closed out.	
158	Provide us with the manufacturer's literature/guidelines or method statement for maintaining the refrigeration units	29.08.13	Closed out.	
159	Confirm when the gap between the junction of the internal partition and external units in room AAW-093 & 094.	10.09.13	Closed out.	
160	Confirm the appropriate action to ensure that there is a uniform covering of the shaded STO panel on the east elevation adjacent Core E.	10.09.13	Response received.	
161	Confirm when all medical gas valves are covered all floors.	12.09.13	Closed out.	
162	Confirm when the other legs have been extended to the steel framework in riser on Level 0 ZF Riser M30.	16.09.13	Response received.	
163	Provide details of the lead protection to ducts and penetrations passing through walls above the ceilings within Radiology.	16.09.13	Response received.	
164	Confirm when rodding eye inspection cover has been repositioned to allow access within toilet MDU-011.	17.09.13	Closed out.	

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165	Confirm measures to improve the poor quality finish to the blockwork on the east elevation.	20.09.13	Response received.	
166	Confirm when water damaged boards in Plant Room 41 are replaced.	20.09.13	Response received.	
167	Confirm that smoke detectors on Level 1 Zone H, 1-529 and 1-530 are repositioned approximately > 950mm away from ceiling grilles.	24.09.13	Response received.	
168	Confirm action to achieve unrestricted access to the smoke detector.	08.10.13	Response received.	
169	Confirm that remedial action to allow unrestricted access to the fire damper and notify us on completion.	08.10.13	Response received.	
170	Confirm the access controls into scrubs Level 2 Area 245.	08.10.13	Closed out.	
171	Confirm when water damaged boards are replaced,	08.10.13	Response received.	
172	Confirm proposals in respect of attention to rust marks and chipped paintwork to the white roof atrium steelwork.	09.10.13	Closed out.	
173	Confirm that this detail complies with the specification and the design intent or provide their proposals for remedial action.	10.10.13	Closed out.	
174	Confirm that this arrangement satisfies the design and specification intent or provide remedial proposals.	14.10.13	Closed out.	
175	Confirm when the hotmelt areas damaged by temporary supports to Atrium Roof have been repaired and provide the accompanying QA information.	16.10.13	Response received.	
176	Confirm if there is a provision for these to be fitted on flat slabs and provide the manufacturer's installation guidelines.	17.10.13	Closed out.	
177	Confirm if there is a fire seal between the underside of the trunking and the main partition board. If not Brookfield to confirm if hatch will be moved.	17.10.13	Response received.	
178	The sprinkler heads on Level 1 Zone K adjacent to Core "A" staircase appear difficult to access for maintenance or replacement.	17.10.13	Response received.	
179	Confirm remedial measures to allow access into ducting Level 3 near Core G.	21.10.13	Open.	
180	Confirm when water damaged boards are replaced in RENW-125.	21.10.13	Open.	
181	Confirm when water damaged boards are replaced between rooms DCFP-010 and DCFP -023 Level 4	23.10.13	Response received.	
182	Confirm that the 2 out of 4 HD bolts either missing or not protruding through the baseplate satisfies the design and specification intent or provide a remedial solution	30.10.13	Open.	
183	Confirm that a door selector will be fitted to the doors leading into room THE-361 IN Area 2-527	25.11.13	Open.	
184	Confirm the solution to overcome the gaps between base units and walls in Area 2-524.	25.11.13	Response received.	
185	Confirm if door selector will be fitted to fire doors leading into room the-361 Bulk Store.	28.11.13	Open.	
186	Confirm when the hatch DMW-004 Therapy Room has been repositioned.	28.11.13	Open.	
187	Please confirm when the fresh air inlet duct in Plant Room 21, on Level 2 Zone D.	28.11.13	Response received.	

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6.0 SUPERVISORS TESTS AND INSPECTIONS

Tests not required	N/A
Tests required but not tested	Fail
Tests required which has passed tests	Pass

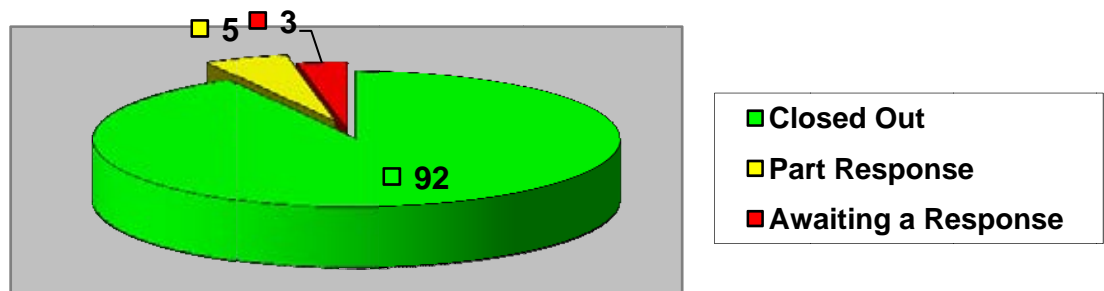
14/06/13 on Level 1 area 507

Tests				
Ref	Title	To be Notified by	Status	Test Date
01-86	Various tests undertaken from the 9/07/2012 to the 30/06/2013.			
87	Smoke damper test verification - Level 0, zones D & G.	Brookfield	Fail To be re-witnessed	24.09.2013
88-100	Tests 28.09.2013 & 09.10.2013			
101	Fire alarm loop tests were carried out on L2ZA, L2ZE, L1ZE, L1ZB, L1ZC & L0ZE.	Brookfield	2 Loops Failed	29.10.2013
102	Sprinkler pipework pressure tests L0ZE & L1ZE G05 and G06 tested.	Brookfield	Pass	30.10.2013
103	85 Point Check Level 2 Area 2-509	Brookfield	Fail	01.11.2013
104	85 Point Check Level 5 Area 5-507	Brookfield	Fail	13.11.2013
105	85 Point Check Level 0 Area 0-508	Brookfield	Pass	21.11.2013
106	85 Point Check Level 3 Area 3-507	Brookfield	Fail	27.11.2013
107	L0 Zone E - Sprinkler tests	Brookfield	Pass	30.10.2013
108	PR21 EF 02 – Proportional air balancing	Brookfield	Pass	01.11.2013
109	PR21 AHU 30 – Proportional air balancing.	Brookfield	Pass	01.11.2013
110	PR21 - Chilled water CT circuit proportional balancing.	Brookfield	Pass	08.11.2013
111	L2 Zones D & H – LV boards.	Brookfield	Pass	15.11.2013
112	L0 Zones D & G – Lighting control commissioning	Brookfield	Pass	15.11.2013
113	Lighting	Brookfield	Pass	21.11.2013
114	L1 - Fire dampers	Brookfield	Fail	21.11.2013
115	L1 & 2 - Fire dampers	Brookfield	Fail	22.11.2013
116	Cores H, A, K & BD - Dry riser hydraulic test.	Brookfield	Pass	22.11.2013
117	L0 Zones G & D – Door access.	Brookfield	Pass	28.11.2013
118	L0 Zones G & D – CCTV.	Brookfield	Pass	28.11.2013
119	L4 / L11 – Tower bus bar risers.	Brookfield	Pass	28.11.2013
120	1A & 1J - Fire damper drop tests.	Brookfield	Fail	29.11.2013
121	L4 / L11 – Tower bus bar risers.	Brookfield	Pass	28.11.2013
122	Fire damper drop tests on L1, 1-516, 1-517, L1-518 & 1-539.	Brookfield	Pass	29.11.2013
123	FD 1-518 001 Fire damper drop test.	Brookfield	Fail	29.11.2013
124	FD 1-539 002 Fire damper drop test.	Brookfield	Fail	29.11.2013

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7.0 DEFECTS NOTIFICATIONS ISSUED



**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND
ENERGY CENTRE**

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NOVEMBER 2013

	Description	Date Requested	Comment	
Items 1 to 53 have been closed out.				
54	Faulty internal blinds. Confirm when remedial action has been completed.	30.05.13	Response received.	Yellow
Items 1 to 62 have been closed out.				
63	Confirm when partition has been constructed properly to allow the sprinkler pipe to pass through wall.	20.07.13	Response received.	Yellow
64	Confirm when poor quality blockwork / perpend is addressed.	29.07.13	Response received.	Yellow
65	Confirm when damaged medical gas pipe on Level 1 room MDU 051 above the ceiling have been addressed.	17.09.13	Open	Red
66	Confirm when damaged medical gas pipes on Level 1 room MDU 012 above the ceiling have been addressed.	17.09.13	Open	Red

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND
ENERGY CENTRE****SUPERVISOR'S REPORT NO. 32****NOVEMBER 2013****John Redmond, Technical Advisory Services****Property and infrastructure****Capita, The Beacon, 8th Floor, 176 St Vincent Street, Glasgow G2 5SG**

	Signed	Date
Originated by	John Redmond	5th December 2013
Completed by	Douglas Wilson	5th December 2013

CAPITA

**NEW SOUTH GLASGOW HOSPITAL
ADULT AND CHILDREN'S HOSPITAL AND THE ENERGY CENTRE
NEC 3 SUPERVISORS REPORT NO. 33
DECEMBER 2013 & JANUARY 2014**

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND
ENERGY CENTRE****SUPERVISOR'S REPORT NO. 33****DECEMBER 2013 & JANUARY 2014****CONTENTS****NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND
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NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND ENERGY CENTRE

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1.0 EXECUTIVE SUMMARY: ADULT & CHILDREN'S HOSPITAL

Visits to the site during December 2013 and January 2014 continue to indicate that the construction and procedures are progressing in a satisfactory manner in accordance with the Employer's Requirements.

Throughout, the standard and quality of the workmanship is generally good and operations are being carried out in an acceptable manner.

Quality and compliance inspections were carried out on Level 0 Area 0-527, 0-530 and 0-524, Level 2 Area 2-528, Level 1 Area 1-535, 1-531, 1-532, 1-510, 1-534, Level 2 2-520A, 2-521A, 2-520B, 2-522A and we noted that the quality of the work was to a good industrial standard.

Brookfield provided us with their QA documentation including a list of their defects which had been logged on their IDMS system. The areas inspected on Level 1 Areas 1-534 were generally to a good standard and the defects captured by Brookfield were generally of a minor nature. We did however identify a number of minor defects which Brookfield recorded on to their IDMS system and these included pull cords and smoke detectors in the wrong position. The ceiling grid system requires to be supported on either side of the curtain rail hanger and 4No rodding eyes require access hatches. There was also one damaged medical gas pipe. In other areas there were a few pull cords which were in a position difficult to reach and Brookfield confirmed that their positions would be reviewed. We noted that there were four penetrations through the walls to room RAF-008 which did not have adequate fire stopping. This was recorded by Brookfield and they confirmed that this would be addressed.

Brookfield continues to undertake their Quality Assurance checks on site with inspection and checklist documentation available for the ongoing construction activities. Over the period, we closely liaised with Brookfield and witnessed 85 point check to the partitions. These were undertaken on Level 2, Area 2-507 between room SCH-049, Level 5, 5-507 Level 2, Level 0 Area 0-508 Room REH-002 and Level 3, Area 3-507 room GW3- 004 and Level 10, Room GENW-18-019. All of the partitions complied with the construction specifications.

Piling as built drawings have now been uploaded to Zutec.

In the car park concrete floor slab work has now reached the top floor level with only one slab pour outstanding. One ramp section plus a final stairwell lift also remains outstanding. All works appear to have been carried out satisfactorily and finishes to floors and ramps remain good.

The final screed to the Atrium Bridge on the 4th floor will be used as a benchmark for all the Atrium Bridge Floors and we still await confirmation when this is complete.

Final elements of steelwork connections are still to be completed to the roof of the Children's Hospital in Zones A and B. Communications have been raised with Brookfield and they are addressing these, but some remain outstanding. Other

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trades, particularly M&E, are progressing apace in these areas which may result in the completion of these details being awkward.

Steelwork erection to the roof of the ACH together with erection of the main atrium steelwork is virtually completed. From a quality perspective this all appears satisfactory with previous communications addressed. Steelwork erection at the helipad structure has also been substantially completed and from a quality aspect appears satisfactory. The aluminium deck and supports to the helipad have also been substantially completed and again quality appears satisfactory.

All of the steel structure sections for the bridge link to the existing neuro-building have now been satisfactorily positioned. Prior to erection the bridge sections were stored on the dual carriageway leading onto Renfrew Road. During the lifting process several kerb sections have been significantly damaged and disturbed. Brookfield is aware of this and will rectify at an appropriate time in line with their programme for this area.

Light civil work to landscaping areas in courtyards has commenced and quality to date appears to be satisfactory.

The M&E installation quality is being maintained to a good industrial standard and we are generally satisfied that the installation is compliant with exception of the specific items raised under communication.

The M&E installations are progressing on all levels up to Level 12 and range from first fix module installation to completed and tested areas. Work is progressing within levels 2, 3 & 4 plantroom. Ductwork and sprinkler installation is in progress together with the positioning of plant on Level 12.

The installations in the Energy Centre are well advanced and we have witnessed a retest of the fire alarm system and an analysis of the quality of the chilled water. The delivery of the CHP's commenced Tuesday 29th January.

It was agreed that AHU 21 would form the standard for all other AHU's, therefore any issues are to be fully closed out to ensure quality installation. We still await a response from Brookfield to allow us to close out remaining issues. It should be noted however, that some items will only be closed out once full commissioning has been undertaken.

Various witnessing of commissioning activities were carried out high voltage cable, ductwork, fire alarm (loop tests) (2 off), Dali lighting, air flow and chilled water quality. Tests also witnessed were for fire alarm system (2 off) IT Infrastructure (2 off), nurses call, (2 off) and LTHW CT circuit water balancing. These tests were completed satisfactorily. Ventilation duct pressure test within riser M 25 between levels 4 & 12.6 failed and there were some damper failures in plantroom 31. These will be re-tested.

We are continuing to work with Brookfield during our inspections highlighting any items that have raised concern. Items identified in this manner are generally being addressed by the site team in advance of any defect notice being raised.

In general terms we are satisfied that the installations continue to be installed to a compliant standard, and are of a good quality. However we have noted that certain

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items this month have raised concern. These have been raised with the Contractor as follows:-

Supervisor's Communication General Matters / Other Instructions No 188, 189 and 190 were issued during December/January.

- Seeking confirmation that the fire alarm cable which is installed in Core Levels 1 and 2 will be wired in accordance with BS7629.
- Seeking confirmation that some bedheads in Area 0-522 have been fitted in accordance with drawing No BA-SZ-00-PL-400-522.
- Seeking confirmation of remedial action in relation to main cleats which are completely rusted and fire protected steelwork painting which is also chipped.

Supervisor's Notification of Defect No 67 and 68 were issued during December/January.

- Seeking confirmation when damaged medical gas pipe has been addressed.
- Seeking confirmation when the alarm cable fitted in Core a Staircase 1 & 2 has been addressed to conformance with BS7629.

We continue to be assisted by the site teams and the NHS Project Team who produce an internal weekly report which assists us in resolving various construction, mechanical, electrical and quality issues. We continue to close out our Supervisor's Notifications and Defects when we have received satisfactory responses.

SUPERVISOR'S REPORT NO. 33**DECEMBER 2013 & JANUARY 2014****2.0 DESIGN COMPLIANCE CHECK**

Currently nothing to report.

3.0 PROCEDURES REVIEW**3.1 Contractor's QA Procedures / Compliance Inspections**

Brookfield and their subcontractors have continued with their QA and checking and inspection procedures during this period. We are in discussion and liaise with Brookfield's Quality Manager on QA matters and we undertake regular reviews of their QA documentation.

Quality and compliance inspections were carried out with Brookfield in a number of areas. Brookfield provided us with their quality packs which included a list of their outstanding works, defects recorded on to their IDMS system quality sign of sheets and drawings.

Together with Brookfield we carried out quality and compliance inspections on Level 1 Areas 1-534. The areas inspected were to a good standard and the defects captured by Brookfield were generally of a minor nature. We did however identify a number of minor defects which Brookfield recorded on to their IDMS system and these included pull cords and smoke detectors in the wrong position. The ceiling grid system requires to be supported either side of the curtain rail hanger and 4No rodding eyes require access hatches. There was also one damaged medical gas pipe.

The issue with gaps either side of the base unit in Area 2-527 has been resolved. Infill pieces have been satisfactorily fitted and sealed. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 184 is closed out.

Quality and compliance inspections were carried out on Level 1 Area 1-510. The quality of the finish was to a good standard. We identified only a few additional defects which Brookfield recorded onto their IDMS system. It was noted that there were a few pull cords which were in a position difficult to reach and Brookfield confirmed that their positions would be reviewed. We noted that there were four penetrations through the walls to room RAF-008 which did not have adequate fire stopping. This was recorded by Brookfield and they confirmed that this would be addressed.

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We asked Brookfield to confirm if a door selector is required to allow the fire doors to room THE-361 Bulk Store to close properly and provide the requisite fire protection. They have confirmed that this is a staff area. This store is locked in normal operation. Closing of these doors is a normal management procedure for this type of room. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 183 is closed out.

We noted that there is a damaged medical gas pipe above the circulation area adjacent to bay RAF-024. We asked Brookfield to confirm when this would be addressed. They have confirmed that Mercury has replaced the damaged pipe. Consequently Supervisor's Notification of Defect (CI 42.2) No 67 is closed out.



Quality and compliance inspections were carried out on Level 0 Area 0-527, Level 2 Area 2-528, Level 1 Area 1-535, 1-531, 1-532, Level 2 2-520A, 2-521A, 2-520B, 2-522A and we noted that the quality of the work was to a high standard with only a few minor defects visible at the time of the inspection.

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Quality and compliance inspections were carried out on Level 1 Area 1-531 and 1-532. The quality of the work was to a good standard with only a few minor defects visible at the time of the inspection.



Quality and compliance inspections were carried on Level 0 Area 0-524. The quality of the work was to a good standard with only a few minor defects visible at the time of the inspection.

Quality and compliance inspections were carried on Level 0 Area 0-530. The quality of the work was to a good standard with only a few minor defects visible at the time of the inspection.

Quality and compliance inspections were carried Courtyard 2, 3, 4 and 5 on Level 0 to 2. The quality of the work was to a good standard with very few minor defects visible at the time of the inspection.

Inspections were carried out on Levels 2 and 3 of the Children's Hospital and the quality of work was to a good industrial standard. We noted that there was no insulation inside the vertical SFS members either side of the windows in rooms GW3-027 and GW3-031 in Area 3-507. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 185).

We carried out inspections with Brookfield in the Children's Hospital in Areas 1-517, 1-518, 1-519 and 1-520 and the quality of work was to a good industrial standard.

We have received survey from Scotshield showing the smoke detectors which are too close to service grills and their new positions consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 152 is closed out.

We undertook inspection with Brookfield on Level 2 Areas 0-507, 2-505, 2-529, 2-530, 2-531, 2-532, and 2-533 and noted that the works were progressing at varying stages in these areas. The works are generally to a good industrial standard. There were several unglazed windows in 2-505, 2-529 and 2-530 which Brookfield protected over the Christmas/New Year holiday period. It was noted that there were no dampers fitted in room RENO-090 Store and Brookfield confirmed that these would be introduced.

Audit of Area 0-530 Level 0

We carried out an Audit of Brookfield's Quality Management Package Sign Off – Internal Fit-out As Built Inspection Procedures. This contains a sign off of each contractor's element of work by Brookfield, a list of exclusions, defects listed on their

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IDMS and drawings for ceiling and soffit and fixtures and fittings. We reviewed their checks and procedures in relation to their construction, checking and signing off process leading to completion of this area.

We are satisfied that the Quality Management Package Sign Off – Internal Fit-out As Built Inspection Sheet was initialed and signed indicating that Brookfield has checked the work and reviewed individual contractors quality documentation. However the Ceiling Grid & MF Plasterboard Ceiling Check Sheets is only a stage completion.

We reviewed the Ceiling Grid & MF Plasterboard ceiling check sheets provided by PFP. The section for the installation of hatches was not signed off. Brookfield explained that no hatches were taken. We suggested that a note should be placed on the check sheet to indicate this status.

The image shows a 'Plasterboard Ceilings Sign-off Sheet' form. At the top right is the PFP logo. The form contains several sections with checkboxes and signature lines. The sections are:

- MF grid constructed in accordance with manufacturers recommendations:** Checked by NMA/P, Date 15/8/13.
- Plasterboard fixed to metal framework:** Checked by NMA/P, Date 15/8/13.
- Service boxes formed:** Checked by NMA/P, Date 15/8/13.
- Installation of access hatches:** This section is not signed off.
- Joint repair & fill:** Checked by NMA/P, Date 15/8/13.
- Area complete and accepted by Brookfield:** Checked by Brookfield, Date 15/8/13.

 There are also fields for 'Room Number' (0 630), 'Location Date', and 'Comments'.

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Brookfield MULTIPLIER		BM	Location	
New South Glasgow Hospital Stage 1 - Adult & Children's Hospital			Store	11
			Level	0
			Area	530

Stage 1 - Adult & Children's Hospital
Quality Management Package Sign Off - Internal Fit-out As Built Inspection

Element	Coverage	Sign Off (Initials)	Sign
Services Above Ceiling (if not Type Off)	Masonry	yes	11
Services to Wall/ Partition Sign Off	Masonry	yes	11
Ceiling Grid & MR Plasterboard Ceiling	Plaster	yes	11
Dry lining/ Internal Partition	Acrylic	yes	11
Wall Protection	Concrete	yes	11
Internal Doors, Screens, Vision Panels and Tertiary Glazing	CGMA	yes	11
External Windows	Plaster	yes	11
Handing	AC Flooring	yes	11
Furniture/ Equipment	JPS	yes	11
Phone Stations/ Benks	Materials & Spectrometric	yes	11
PM Units	Plasterboard	yes	11
Painting & Decoration	Stucco & Gypsum	yes	11
			11
			11

In addition to the above, the following have been Reviewed as part of this inspection:

BAKE - GMS - Snapping Sheets	
400 Series Layout Drawings	NA-25-00-PL-400-530
532 Series Reflected Ceiling Plans (RCP's)	NA-25-00-PL-532-530
Room Data Sheets (RDS)	
Exclusions - As noted below	
Exclusions - As noted below	
RTV's - As noted below	
PM's - As noted below	
Consultants Observations -	

We confirm that following regular reviews this identifies the adequacy and effectiveness of the Project Package and project completion for the inspection.



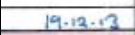
NOT A Client Package and cannot be used for any similar facility. Responsibility is noted above

BAKE Floor Manager	<div style="background-color: black; width: 100px; height: 30px; display: inline-block;"></div>	Date	20/2/13
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Page 1

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Brookfield's Quality Management Package Sign Off – Internal Fit-out as Built Inspection.

Room		Roomwork S.I.T. To Sign		KSH Adult & Children's				
Committer email		Committer - W.P.		Level C				
Instructor email		Name Candidate		Updated - 19/12/2019				
Department	Zone	Room Number	Room Name	Programme Title	Signed For	Signed By	Comments (Additional - Date Received)	
PLEASE NOTE ALL SIGNATORY'S MUST SIGN FOR DECLARATION VALIDATION FOR PROOF OF COMPLETION AND ROOMS ARE FREE OF DRUGS								
AUTHORISED SIGNATURE (ON BEHALF OF THE AGENCY)				AUTHORISED SIGNATURE (ON BEHALF OF BROOKFIELD)				
								
28	ADULT ADOLESC	9-218	ADULT ADOLESC	ADULT ADOLESC	P. Kneave	P. Kneave	Completed 19/12/2019	
29	ADULT ADOLESC	9-218	ADULT ADOLESC	ADULT ADOLESC	P. Kneave	P. Kneave	Completed 19/12/2019	
30	ADULT ADOLESC	9-218	ADULT ADOLESC	ADULT ADOLESC	P. Kneave	P. Kneave	Completed 19/12/2019	
31	ADULT ADOLESC	9-218	ADULT ADOLESC	ADULT ADOLESC	P. Kneave	P. Kneave	Completed 19/12/2019	
32	ADULT ADOLESC	9-218	ADULT ADOLESC	ADULT ADOLESC	P. Kneave	P. Kneave	Completed 19/12/2019	
33	ADULT ADOLESC	9-218	ADULT ADOLESC	ADULT ADOLESC	P. Kneave	P. Kneave	Completed 19/12/2019	
34	ADULT ADOLESC	9-218	ADULT ADOLESC	ADULT ADOLESC	P. Kneave	P. Kneave	Completed 19/12/2019	
35	ADULT ADOLESC	9-218	ADULT ADOLESC	ADULT ADOLESC	P. Kneave	P. Kneave	Completed 19/12/2019	
36	ADULT ADOLESC	9-218	ADULT ADOLESC	ADULT ADOLESC	P. Kneave	P. Kneave	Completed 19/12/2019	
37	ADULT ADOLESC	9-218	ADULT ADOLESC	ADULT ADOLESC	P. Kneave	P. Kneave	Completed 19/12/2019	
38	ADULT ADOLESC	9-218	ADULT ADOLESC	ADULT ADOLESC	P. Kneave	P. Kneave	Completed 19/12/2019	
39	ADULT ADOLESC	9-218	ADULT ADOLESC	ADULT ADOLESC	P. Kneave	P. Kneave	Completed 19/12/2019	
40	ADULT ADOLESC	9-218	ADULT ADOLESC	ADULT ADOLESC	P. Kneave	P. Kneave	Completed 19/12/2019	
41	ADULT ADOLESC	9-218	ADULT ADOLESC	ADULT ADOLESC	P. Kneave	P. Kneave	Completed 19/12/2019	
42	ADULT ADOLESC	9-218	ADULT ADOLESC	ADULT ADOLESC	P. Kneave	P. Kneave	Completed 19/12/2019	
43	ADULT ADOLESC	9-218	ADULT ADOLESC	ADULT ADOLESC	P. Kneave	P. Kneave	Completed 19/12/2019	
44	ADULT ADOLESC	9-218	ADULT ADOLESC	ADULT ADOLESC	P. Kneave	P. Kneave	Completed 19/12/2019	
45	ADULT ADOLESC	9-218	ADULT ADOLESC	ADULT ADOLESC	P. Kneave	P. Kneave	Completed 19/12/2019	
46	ADULT ADOLESC	9-218	ADULT ADOLESC	ADULT ADOLESC	P. Kneave	P. Kneave	Completed 19/12/2019	
47	ADULT ADOLESC	9-218	ADULT ADOLESC	ADULT ADOLESC	P. Kneave	P. Kneave	Completed 19/12/2019	
48	ADULT ADOLESC	9-218	ADULT ADOLESC	ADULT ADOLESC	P. Kneave	P. Kneave	Completed 19/12/2019	
49	ADULT ADOLESC	9-218	ADULT ADOLESC	ADULT ADOLESC	P. Kneave	P. Kneave	Completed 19/12/2019	
50	ADULT ADOLESC	9-218	ADULT ADOLESC	ADULT ADOLESC	P. Kneave	P. Kneave	Completed 19/12/2019	
51	ADULT ADOLESC	9-218	ADULT ADOLESC	ADULT ADOLESC	P. Kneave	P. Kneave	Completed 19/12/2019	
52	ADULT ADOLESC	9-218	ADULT ADOLESC	ADULT ADOLESC	P. Kneave	P. Kneave	Completed 19/12/2019	
53	ADULT ADOLESC	9-218	ADULT ADOLESC	ADULT ADOLESC	P. Kneave	P. Kneave	Completed 19/12/2019	
54	ADULT ADOLESC	9-218	ADULT ADOLESC	ADULT ADOLESC	P. Kneave	P. Kneave	Completed 19/12/2019	
55	ADULT ADOLESC	9-218	ADULT ADOLESC	ADULT ADOLESC	P. Kneave	P. Kneave	Completed 19/12/2019	
56	ADULT ADOLESC	9-218	ADULT ADOLESC	ADULT ADOLESC	P. Kneave	P. Kneave	Completed 19/12/2019	
57	ADULT ADOLESC	9-218	ADULT ADOLESC	ADULT ADOLESC	P. Kneave	P. Kneave	Completed 19/12/2019	
58	ADULT ADOLESC	9-218	ADULT ADOLESC	ADULT ADOLESC	P. Kneave	P. Kneave	Completed 19/12/2019	
59	ADULT ADOLESC	9-218	ADULT ADOLESC	ADULT ADOLESC	P. Kneave	P. Kneave	Completed 19/12/2019	
60	ADULT ADOLESC	9-218	ADULT ADOLESC	ADULT ADOLESC	P. Kneave	P. Kneave	Completed 19/12/2019	
61	ADULT ADOLESC	9-218	ADULT ADOLESC	ADULT ADOLESC	P. Kneave	P. Kneave	Completed 19/12/2019	
62	ADULT ADOLESC	9-218	ADULT ADOLESC	ADULT ADOLESC	P. Kneave	P. Kneave	Completed 19/12/	

Mercury's Master Sign Off Sheet.

Wall Protection quality sheet by Gradus has still to uploaded onto Aconex.

The quality sheets' for Internal Screens Vision Panels & Tertiary Glazing by TDSL was satisfactorily signed off.

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We commented that the "External Windows" listed on the Quality Management Package Sign Off – Internal Fit-out As Built Inspection should be identified as referring to the internal surface only.

The quality sheets' for Internal Flooring by AC Flooring was satisfactorily signed off.

The quality sheets' for Furniture/Equipment which had 1st, 2nd and 3rd by JTC was satisfactorily signed off.

The quality sheets' for Nurse Station Desks by Morrison & Spottiswood were satisfactorily signed off.

The quality sheets' for IPS installation by Deanster was satisfactorily signed off.

The quality sheets' for Painting by Baxter & Gillespie were satisfactorily signed off.

Individual quality sheet for three rooms were reviewed in conjunction with Mercury's sign of sheet for all rooms.

The room sign off sheet for AAW 046 above ceiling insulation has not been signed off. Brookfield explained that the insulation works were not complete and confirmed that the outstanding works would be inspected on completion and signed off. This should have been highlighted as an exclusion.

The room sign off sheet for AAW 390 states that Ventrac have still to sign off the incomplete works however the summary sheet states MJ Vent are responsible for the area. Brookfield confirmed that MJ Vent is responsible for the area and that he would arrange for the sheet to be amended, and for the outstanding duct works to be completed.

Brookfield explained that no parts of the Medical gas installation within 0-530 have been completed and therefore no areas have been signed off.

BMCE were asked to explain why the room data sheets referred to "insulation" and "lagging". Brookfield explained that there was no difference and would arrange to have the sheets amended.

It was noted that the room data sheets within AAW 114 regarding data points had not been signed off and no comments offered. BMCE confirmed that there are data points in the area concerned and that Boston's will be requested to sign this off.

It is noted that there is no specific mention for the inspection and sign off for individual supports being fitted for lights and ventilation plenum boxes within the Room Data Sign off sheet. Brookfield informed that the supports are checked when the above ceiling inspections are carried out. However there is not an individual sign off sheet.

The Flowcon actuators are not mentioned within the room sign off sheets and the actuators have not been fitted to the valve bodies at the time of inspections. We asked how the tests / commissioning and the results are logged and signed off.

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Brookfield stated that the operation of the actuators is tested and logged during Schneider's pre commission, and also checked during final commissioning when they will be offered for witnessing and final sign off.

It was noted that the room sign off package included the fixture and fittings IDMS sheets, but not the M&E IDMS sheets. Brookfield confirmed that the M&E IDMS sheets were available for inspection and would be forwarded to us for inspection and would be included in all future room sign off packages.

Zutec Review

We carried out a review of information loaded onto Zutec in relation to the commissioning of some AHU within plantroom 21. We found some anomalies in the information forwarded a list of issues to Brookfield. Brookfield has noted these and will be amending the information on Zutec.

Acoustic Tests

Some tests were carried out on site in December and January by Acoustic Logic. We await their report.

General Photos

Partitions marked out for the inclusion of new fire dampers.

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The hoist has been removed in Area 2-507 allowing work to progress in the area.

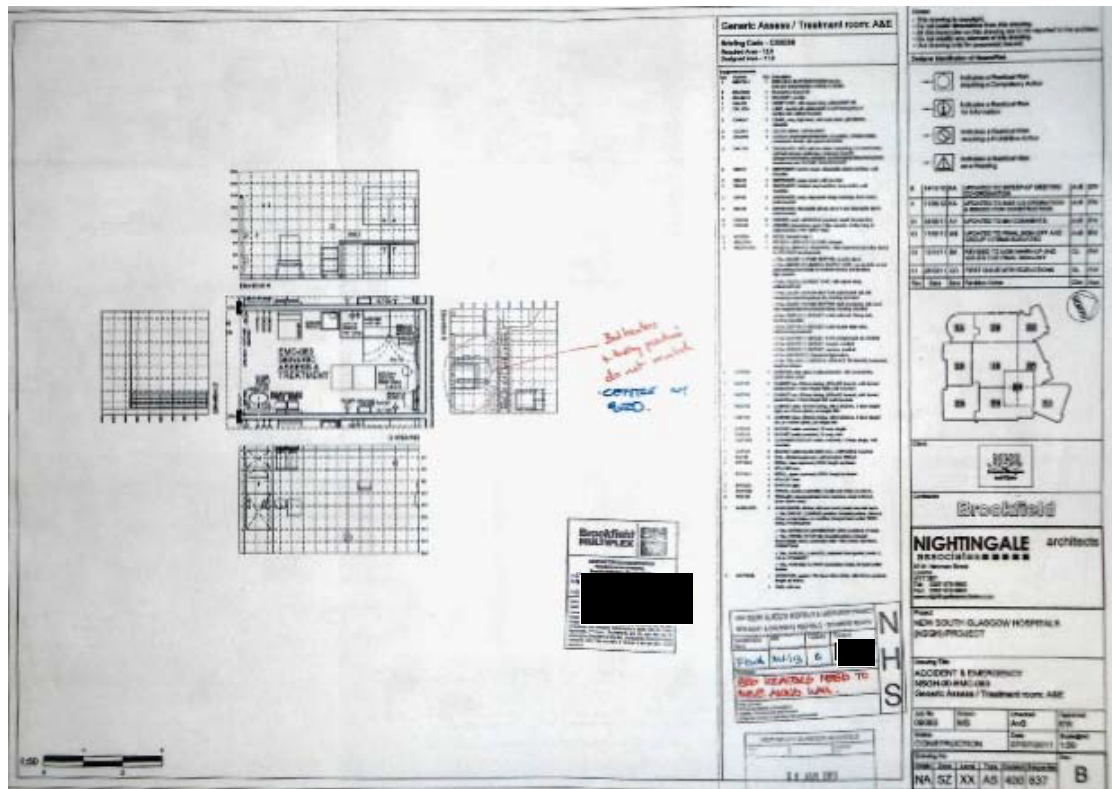
We undertook inspection with Brookfield on Level 6 and 7 in all areas including the Atrium Bridges and noted that the works were progressing at varying stages in these areas. The works are generally to a good industrial standard.

Joint inspections were carried out in areas on Levels 8, 9, 10 and 11. The work was to a good industrial standard, however we noted that during the fixing of the pattresses some of the insulation had been left short from the floor. We raised our concerns that these areas might be overlooked. Brookfield showed us partitions which had been insulated prior to the second side board and these areas had been insulated.

We await details of the lead protection to ducts and penetrations passing through walls above the ceilings within Radiology. Brookfield has confirmed that drawing No AST-XX-XX-DT-252-112 from Astins has been given status B by both NHS and Brookfield with over marked comments. Brookfield discussed this with Astins and a test of a room is planned for February. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 163).

The Bed Head Buffers in some of the Generic Assess & Treatment Rooms, Area 0-522 have not been fitted in their correct position centred on the beds as shown on drawing NA-SZ-00-PL-400-522. This was previously recorded as part of a document review. We asked Brookfield to confirm when this has been addressed. Brookfield has requested setting out dimensions from Nightingales Associates. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 189).

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85 point Checks

An 85 point check was carried out to a partition in the Children's Hospital Level 2, Area 2-507 between rooms DMW-082 (social care) and DMW-029 (single bed), Level 8 Area 8-509 room GENW11-014 and room GENW1-060 ON Level 6. All partitions had been constructed in accordance with the specification.

An 85 point check was carried out to a partition in room 23HU-027 and the partition was constructed in accordance with the specification.

An 85 point check was carried out to a partition in room GEN-W10 and the partition was constructed in accordance with the specification.



Level 8 Area 8-509 room GENW11-014.

3.2 Witness Testing and Commissioning

We witnessed a number of tests during December 2013 / January 2014 which were satisfactory and these were as follows:

- High voltage cable test between the main intake substation and substation 4A.
- Fire alarm loop test in 0J, Panel 61 loop 2.
- Dali lighting controls were witnessed within Level 0 Zone H.
- Proportional air flow tests of the ventilation system to PR21 AHU26 were carried out.
- Chilled water samples were taken from the CW pumps in the Energy Centre and from heat exchangers within PR22 and PR31.
- A re-test of the fire alarm system in the Energy Centre side B was carried out.
- Fire alarm loop tests were carried out within the basement at panel 64 loop 1 serving B;501, B-502, B-503 & B-510, Panel 2 loop 1 serving B-507, B-508, B-509 & B-511 & loop 2 serving B-504, B-505 & B-506.
- Fire alarm system test was carried out on Level 1 Zones D & G panels 14 & 15.
- IT Infrastructure cable test from Hubs 103, 113 & 131.
- Nurses call system test in 1-529, 1-530, 2-517 & 2-519.
- IT Infrastructure cable test from Hubs 110, 111 & 132.
- Nurses call system test in 0-529, 0-530 & 0-527

We witnessed a number of tests during December/January which were unsatisfactory and these were as follows:

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- Ventilation duct pressure test between Riser M25 Core D between Levels 4 and 12.
- Smoke damper tests in plantroom 31. Some fails.

Previously witnessed tests which require to be retaken.

- Fire panel No 113 Level 0, 0-526 was tested and several smoke detectors and one call point activated satisfactorily. The test was aborted when on call point failed.
- FD-2-519-016 – Fire damper test lever was too close to partition preventing smooth closure. The fire damper is to be repositioned.
- FD-1-539-002 – The fire damper test lever was fouling adjacent ductwork. The fire damper is to be repositioned and retested.
- FD-1-518-001 - Difficult to access and activate damper link due to type of hatch fitted, and damper status indicator was obscured. A new hatch is to be installed and status indicator to be exposed.
- FD-1-539-003, Unable to access fire damper inspection hatch. A new inspection hatch to be fitted on opposite side of wall.
- ITEM 87 – Smoke damper verification and operational tests were carried out in Level 0 zones D & G which was aborted for the following reasons - One actuator not being connected, new hatch required in plaster board to gain access to one actuator and duplicate addresses being discovered on several other actuators tested.
- ITEM 101 – Fire alarm loop tests were carried out within L2ZA, L2ZE, L1 ZE, and L1ZB which tested satisfactorily.
Fire alarm loop tests were carried out within L1ZC panel 28 & L0ZE panel 11 which failed and will require retesting.

3.3 Board Equipment Installation,

Currently nothing to report.

3.4 Non Conformance Reports

We reviewed Brookfield's NCR Tracker and noted the issues raised by the Package Managers. The blockwork and pointing on the south and east elevations although improved by cleaning continues to be a concern with shading of the mortar evident. Prater has still to offer it up to Brookfield as complete reference NCR 156. We are also monitoring the issue in relation to water between the glass of the Structal Panels NCR reference 157 and 219. Brookfield has had an independent survey carried out by Cladtech Associates which has been forwarded to Structal. Brookfield is reviewing all the information. NCR 237 was issued to Astins in relation to the lack of insulation at abutments between internal partitions and external walls.

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4.0 CONSTRUCTION REVIEW

4.1 Visits to the Works

The following members of our team undertook site inspections, reviewed documentation, attended meetings and met with relevant Contractors representatives on-site personnel:- John Redmond (Lead NEC3 Supervisor) 2nd to 6th, 9th to 13th, 16th to 20th, 23rd and 24th December; Douglas Wilson (M&E NEC3 Supervisor) 2nd to 6th, 9th to 13th, 16th to 20th, 23rd and 24th December; Willie Roxburgh (Civils/Structural NEC3 Supervisor) part days on 2nd, 4th, 6th, 9th, 11th, 17th, and 19th December plus remote desk top input most days of the month. Capita's NEC3 Supervisor's team visited site a combined 41 person days.

John Redmond (Lead NEC3 Supervisor) 3rd, 6th to 10th, 13th to 17th, 27th to 31st, January; Douglas Wilson (M&E NEC3 Supervisor) 3rd, 6th to 10th, 13th to 17th, 20th to 24th, 27th to 31st, January; 3rd, John Redmond (Lead NEC3 Supervisor) 13th to 17th, 20th to 24th, 27th to 31st January; David Ramsay (NEC3 Supervisor) 20th to 22nd January; John Haggarty 23rd and 24th January; Willie Roxburgh (Civils/Structural NEC3 Supervisor) part days on 7th, 13th, 16th, 20th, 24th, 28th and 30th January, plus remote desk top input most working days. Capita's NEC3 Supervisor's team visited site a combined 49 person days.

4.2 Elements of the Works available for inspection

- Energy Centre – structurally complete. Civil works around.
- Main building – all concrete areas. (becoming limited due to access)
- Tunnels between ACH and Labs, and Cores C to F.
- Structural steelwork to all roof areas (partly limited due to access).
- Neuro bridge (partly limited due to access).
- Dual carriageway to Renfrew Road, turning area in front of the main entrance, and carriageway from Hardgate Road.
- Car park area.
- Internal Partitions.
- M&E modular units.
- Roofing.
- Cladding.
- Windows.
- Sto system.
- Brickwork Courtyard 8, and 10.
- Brickwork/blockwork: Zone J North, East elevation and Basement Blockwork.
- Rainscreen: Zone F & C.

4.3 Observations from December 2013 and January 2014 Inspections

The visual inspections of the work carried out to date indicate that the works are generally being carried out to a satisfactory standard. We continue to be assisted by the site teams and the NHS Project Team in resolving various construction, mechanical, electrical, and quality issues. We continue to close out our Supervisor's Notification and Defects when we have received satisfactory responses. Listed below are observations closed out, still to be closed and those raised following site visits in December 2013 and January 2014.

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4.3.1 Structural

At the Atrium Bridge in respect of final screeding the floor finish on the 4th floor will be used as a benchmark for all the Atrium Bridge Floors and this remains to be finalised.

Final elements of steelwork connections are still to be completed to the roof of the Children's Hospital in Zones A and B. Communications have been raised with Brookfield and are listed on the following pages. These still remain outstanding and have been examined with Brookfield who has indicated that these will be addressed at the appropriate time. However other trades, particularly M&E, are progressing apace in these areas which may result in completion of the above details being difficult. This has remained outstanding for approximately 6 months.

Steelwork erection to the roof of the ACH together with erection of the main atrium steelwork is virtually completed. From a quality perspective this all appears satisfactory with previous communications addressed. Steelwork erection at the helipad structure has also been substantially completed and from a quality aspect appears satisfactory. The aluminium deck and supports to the helipad have also been substantially completed and again quality appears satisfactory.

All of the steel structure sections for the bridge link to the existing neuro-building have now been satisfactorily positioned. Prior to erection the bridge sections were stored on the dual carriageway leading onto Renfrew Road. During the lifting process several kerb sections have been significantly damaged and disturbed. Brookfield is well aware of this and will rectify at an appropriate time in line with their programme for this area.

Previous 'floating' steel columns for door frames in Zones A and B in the Children's have been addressed, and although the workmanship is not good it appears to have generally addressed the issues. Locally some mortaring to concrete and removal of rust marks and repainting is required and Brookfield is aware of this. Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 118 is closed out.

The area of steelwork in the Children's Hospital Zone B with previous paint damage now appears to have been generally addressed. Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 119 is closed.

We asked Brookfield to provide technical solutions to various situations on the structural steelwork to the Children's roof where base plates are (floating), edge distances are minimal or miss the concrete base. Cladding rails also prevented HD bolt fixing. WSP has provided a detailed sketch to show remedial work to plinth. We shall inspect this on completion. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 141).

The steel framework in riser on Level 0 ZF Riser M30 has had the legs extended immediately in front of the entrance door. There are other legs which have not been extended yet and we asked Brookfield to confirm when the other legs will be extended. Brookfield has confirmed that these legs are not weight bearing and the weight bearing supports are on Level 01. They also confirmed that the extended legs will be cut back to be completely clear of the ground floor to finish flush with the frame. We asked for confirmation that the justification for this is based on an

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analytical assessment, and that the details provided are in accordance with this. We have received a further response but not an analytical assessment. We await a further response. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 162).



Extended legs



Leg still to be extended.

At the southern skylight, Children's 3rd floor podium, there are 4No steel column baseplates which have only 1No bolt connection to the concrete upstand. This communication has been closed out. One of the base plates Level 4 Zone B has 2 out of 4 HD bolts either missing or not protruding through the baseplate. We have asked Brookfield to confirm that this satisfies the design and specification intent or provide a remedial solution. Brookfield have intimated that this will be attended to in the next period. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 182).



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We noted at the VIE Building structure almost all main cleats connecting the galvanised cladding rails to the main fire protected steelwork structure are completely rusted. The fire protected steelwork painting is also chipped with protection incomplete in several places. Brookfield is aware of this and paint is on site ready to carry out the remedials. This will be done when M & S alter the bracing and add the additional trimming to the purlins. See Communication General Matters / Other Instructions (CI 13.1) No 190



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Car Park 1

In the car park concrete floor slab work has now reached the top floor level with only one slab pour outstanding. One ramp section plus a final stairwell lift also remains outstanding. All works appear to have been carried out satisfactorily and finishes to floors and ramps remain good.

4.3.2 Energy Centre

Steelwork snagging appears to have been addressed, but much tidying up remains outstanding in the eastern half of the building.

4.3.3 Above Ground Drainage

Nothing to report

4.3.4 Dual Carriageway to Renfrew Road. (A&C)

The defects previously identified will be reviewed nearer to completion when they will be effectively rectified. This will also now include the significantly damaged kerb lines affected by the storage and lifting of the neuro-bridge sections.

4.3.5 Pipework.

Installation of hot, cold, heating, & chilled water pipework in the A&C hospital is progressing and in general is being installed to a good standard.

We are continuing to monitor all pipework installations to identify possible dead legs. The quality checking by Brookfield would appear to be identifying these before our inspections. Open unprotected ends are being monitored during our site inspections and there has been a marked improvement in all areas.

During our inspections in Plant Room 21, we noted that all AHU condensate discharges are routed to gullies via low level unprotected plastic pipework. This is a potential trip hazard. We have asked Brookfield to confirm that the CDM Coordinator has considered this problem and has asked if there are any measures to address this. There is also the risk of the pipes being broken. Refer to SHTM03-01 clause 4.25. Brookfield has confirmed that where appropriate, sheet metal guards will cover condensate discharges. However we have requested to see a typical detail of what they are proposing to allow further comment. We have asked Brookfield to confirm if a ramp (up/down) will be installed over the low level pipework & be fixed in position. Also in some instances, where the pipework is particularly exposed, this ramp may need to extend further along the length of the pipe or additional protection provided. We have asked again if the CDM Coordinator has considered this problem and has taken cognisance of SHTM03-01 clause 4.25. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 122.

Following a visit to site we raised our concerns that there are some locations where there is insufficient space for maintainable, replacement building services and plant as per the Employers Requirement Section 5.13 Facilities Management.

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We raised our concerns with Brookfield in relation with the following areas Level 2 Zone H. Pipework connections above line of unistrut. Access appears difficult. We have asked Brookfield to confirm that future access will be available.



Level 2 / Zone K. Current access to install chilled water riser pipework appears difficult. We have asked Brookfield to confirm that future access will be available once the walls are constructed.



Level 3 / Zone H. Pipe Racks in area shown below have multiple levels of pipe work. We have asked Brookfield to confirm that future access will be available. Brookfield confirmed that access to the 3 areas identified will be accessible for FM in compliance with ER Section 5.13. The access arrangements for this item will be recorded as part of the Access Strategy Tracker which is currently being developed by Brookfield and Mercury. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 126).



4.3.6 Ventilation

We were in attendance to witness the successful test of the supply and extract airflow testing of AHU unit 26 in Plantroom 21.

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We noted that the air handling unit 21AHU16 supply duct transition does not appear to comply with HVAC DW144 clause 11.6 & 11.7 which could result in high pressure loss. Brookfield has confirmed that ductwork which was not in compliance to drawing/specification has been replaced and has provided photographic evidence. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 121 is closed out.

We asked Brookfield to confirm that the fire rating of the flexible connections and supporting system in Plant room PR31 is equivalent to the overall system requirements. The fan is located adjacent to atrium at the west side of building. We have also asked them to confirm fire rating of fans (observed as non-bifurcated type). ZBP has confirmed to Brookfield that fans require to be fire rated and are at technical submittal stage. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 133.



Following an inspection of Plant Room PR21 we raised a number of points which were clarified, however the items below are still awaiting comment from Brookfield.

- Confirmation received that diffuser plate will be fitted to alleviate fan discharge velocity issues raised (items 1a, b, d, e & f). We asked for details of the proposed diffuser plate to be fitted in front of supply AHU fan discharge. The diffuser plate already fitted to AHU 21 appears inadequate for its intended use. Brookfield is awaiting a response from the Manufacturer.
- We asked for confirmation that the AHU is compliant with SHTM03-01, or state any agreed derogation. Some aspects stated do not comply with the SHTM & will require agreement from the Board. Brookfield has confirmed that all All units are SHTM compliant and inline with ZBPs design. There are a few cases where the specific fan powers could not be achieved as the manufacturers' limiting velocity of 2m/s across components would not have been achieved, this has been brought to ZBP's attention. All units are approved and supplied to ZBP's design schedules.

(See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 137).

During our inspections on Level 2 we noted that the duct inspection hatch is located above the partition dividing rooms DOPD-037 & 038. We have received confirmation that the duct access hatch has been repositioned to allow access to the duct and we have inspected this. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 150 is closed out.

A ductwork inspection hatch has been installed in middle of the partition in room HOW-301 Level 4. We asked Brookfield to confirm when the inspection hatch will be

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fully accessible. Brookfield confirmed that there has been major modification carried out in this area and this is no longer an issue. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 153 is closed out

We have asked Brookfield if the Isolation ductwork hatch to the fire rated ductwork in Plant Room 21 needs a double seal. This Notification has been forwarded to the relative floor manager and is being investigated. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 154).

We noted that the smoke detectors on Level 1 Zone H, 1-529 and 1-530 are too close to the chilled beams. Brookfield has confirmed that Scotshield has surveyed the areas and identified 12 detectors which had to be relocated. These have been re-positioned and we have inspected the areas. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 167 is closed out.

The access hatches in the Plantroom on Level 3 are too close consequently access is not possible. Hatches have now been fitted on reverse side of ducts to provide access. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 179 is closed out.

The inspection hatch is installed within the adjacent partition in room DMW-004 Therapy Room. We have received photographic evidence that the hatch has been repositioned. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 186 is closed out.



We asked Brookfield to confirm when the fresh air inlet duct in Plant Room 21, on Level 2 Zone D will be fitted as indicated on drawing NE-ZD-02-PL-524-102 Rev H. They have informed us that they had to increase the size of the plenum boxes in Plant Room 21. This took away one of the FAI spaces from this area. The louvres require to be cut at a later date to accommodate this. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 187).

4.3.7 Insulation

The thermal insulation installation to the pre-fabricated sections of pipework is being completed off site, before delivery and completed after installation. During our joint inspections with Brookfield we noted some damaged insulation within the plant rooms and these are being addressed. The ducting is currently being overclad with VentureClad Jacketing.

4.3.8 Pressure testing

Pressure testing of the modular pipework sections on a zone by zone or area by area basis has been programmed through the commissioning meetings.

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4.3.9 Medical Gases

Medical Gas pipework is being installed in all areas and independent tests are being witnessed by Ian Sandford of Hulley and Kirkwood.

4.3.10 Energy Centre

The installations in the Energy Centre are well advanced with the A-side systems commissioned and handed over. The delivery of the CHP's commenced Tuesday 29th January.

4.3.11 Trunking

Cable trunking is being installed as part of the offsite fabricated sections that are being installed in the A&C hospital and in general the installation is to a good industry standard.

4.3.12 Cable Trays

Cable trays are being installed as part of the offsite fabricated sections that are being installed in the A&C hospital and in general the installation is to a good industry standard.

4.3.13 Cabling

Modular wiring looms are now being installed as part of the offsite fabricated assemblies and carefully tied up for protection and installation is of a good standard.

There are fire alarm FP cables in Core Staircase Levels 1 and 2 and other locations which have been forced into the back entry conduit boxes causing stress to the cables. This is not in accordance BS7629-1:2008 A.5 Minimum installation radius which states that during installation, the cables should not be bent to a radius smaller than six times the overall diameter of the cable and the manufacturer's recommendations. We asked Brookfield to confirm when this has been addressed to comply with BS BS7629-1:2008. They have responded by stating that the cables have been fixed to remove kinks and fixed cable radii in all locations. Glands have also been fitted in all locations. However the radii of the cables passing through the back of the end boxes were still not in compliance with the manufacturer's recommendations and BS 7629. Mercury has revisited these areas and after further inspection we are satisfied that Supervisor's Notification of Defect (CI 42.2) No 188 can be closed out.

4.3.14 Conduit

Solid conduit installations are well progressed in the areas being fitted out and are to a good industry standard.

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4.3.15 Void Detection

The smoke detector within the lobby on Level 1 Room CCW-049 is within 300mm of the supply grille. We asked Brookfield to confirm when this has been repositioned to the minimum distance of one metre. Mercury's specialist contractor has confirmed that in terms of BS5839-1 Clause 22.3 Paragraph M minimum spacing cannot be achieved. They cannot see how they are able to demonstrate the recommendation without infringing on the minimum distance required to be away from the finished wall surfaces. They state further that due to third party equipment on the ceiling this restricts the position on the smoke detector. They state that it can remain in position. However this will mean that this is not compliant in terms of BS5839-1 Clause 22.3. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 146).



Access to the smoke detector in corridor THE-129 opposite room THE 158 is inaccessible. We asked Brookfield to confirm the appropriate remedial action to achieve unrestricted access to the smoke detector. Brookfield arranged Scotshield to demonstrate that access was available to the smoke detector. We witnessed the successful demonstration. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 168 is closed out.



4.3.16 Intake Sub Station

The Installation of the new transformer for Car Park 1 will coincide with all HV cables being pulled through to the Substation. It is anticipated that all cables will be pulled through approximately the end of January beginning of February 2014. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 30 & 45).

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4.3.17 Partitions

The partition between the east side of the atrium and plant room 41 has been damaged by water ingress. Brookfield to confirm they are aware there has been some damage, and will replace the boards after they have completed the resin flooring works. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 166).



Water damaged boards.

The water damaged boards in room SCH-046 Level 2 have now been replaced. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 171 is closed out.

The water damaged boards in room RENW-125 Level 4 have now been replaced. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 180).

We asked Brookfield to confirm when water damaged boards will be replaced in the rooms between DCFP-010 and DCFP-025 on Level 4. They have confirmed that they will be replaced at second side boarding stage. We will continue to monitor (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 181).



4.3.18 Roofs**A&C Roofs**

The Steel supports providing temporary supports to the main Atrium Roof have been removed and the penetrated into the hotmelt roofs repaired. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 175 is closed out.



Material has been removed from Roof R3-005 and work is progressing satisfactory with the quality to a good industrial standard.

Hotmelt work is complete on roof R3-006 with the quality of the work to a good the quality to a good industrial standard.

Hotmelt work still to commence on Roof R3-004.

Roof R12-003 nearing completion.

Roof R3-003 work progressing to completion.

Roof R12-002 work progressing to completion.

Roof R12-001 work progressing to completion.

Podium roofs are nearing completion.

Roofs R4-010 and R3-004 hotmelt to commence in February. We shall continue to monitor the ongoing work.

Generally the quality of the workmanship throughout is to a good industrial standard and we have reviewed the QA documentation.

All the Sarna Roof covering is progressing to completion.

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Children's Roofs

Hot melt application is progressing on level 2 balconies and Level 3 roof and the quality is to a good industrial standard.

4.3.19 Cladding/Courtyards**A&C**

Work is substantially complete in courtyards 1, 6, 7, 8, 9 10 & 11 with the standard and quality generally to a good industrial standard.

The stone rainscreen is progressing to completion and the quality is good.

The STO render to the upper panel on the east facing elevation nearest Core E has shaded areas visible below the finished surface. We asked Brookfield to confirm the appropriate action to ensure that there is a uniform covering to the panel and when completed. Brookfield has confirmed that they did not find the standard to be of a poor condition, although they do admit that some areas are marked or shaded but not obtrusive. We will monitor this in the coming weeks and if the marks are still present we will report accordingly. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 160).

Children's Hospital

The STO is in progressing in Core 2 and the West Elevation and the quality is to a good industrial standard.

Blockwork

Blockwork is progressing on the west elevation and is to a good industrial standard.

Cladding

Cladding is progressing at plantroom 41 A and is to a good industrial standard.

4.3.20 Windows

Windows are progressing on the external elevations and courtyards in accordance with the specifications.

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4.3.21 Equipment

Extract fan on Level L3 PR31 extract fan unit Number 30EF1 has been installed on the floor of the plantroom with the service access on the underside of the unit making servicing impossible. We asked Brookfield confirm that extract fan will be installed in a manner which will allow unrestricted maintenance. Removable Panels have been fitted on 3 fan casings as shown in photographs below to allow unrestricted access. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 151 is closed out.

**4.3.22 Ducting**

We have asked Brookfield to confirm that the fire damper actuator highlights in room EMC-011 can be accessed on completion of the cold water and ceiling installation. Brookfield has confirmed that the damper actuator will be accessible. The access arrangements for this item will be recorded as part of the Access Strategy Tracker which is being developed. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 92).



A new hatch has been fitted to allow access to the ducting in room RENO-064. Consequently Supervisor's Communication General Matters / Other (CI 13.1) No 177 is closed out.

4.3.23 Floors

We have asked Brookfield to confirm their proposals to achieve level floors to the Atrium Bridge Corridors at door openings to offices/rooms and adjacent levels within these rooms. It was agreed at the Progress Meeting on Monday 7th October 2013 that Level 4 will be offered as a benchmark for review by client once the screed has been laid. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 145).

4.3.24 Blockwork

We have reported since April that the quality and standard of workmanship of the blockwork on the east elevations was not to a good industrial standard.

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This was discussed on site with Peter Moir, John Redmond and Alasdair Fernie. It was agreed that the joint variance is as per the block sizes and no amount of remedial works would eliminate this. The repairs to damaged block and the cracks were getting addressed with a further visit required in around 6 weeks (Mid November) to allow the mortar colour to blend in. Prater will clean down the elevation and offer up for inspection again in the very near future. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 165).

4.3.25 Security

We witnessed a proportional functionality test of the door access system within Level 0 zones D & G. The test consisted of walking through the areas and accessing through controlled doors via proximity readers and exiting via internal push button releases. Emergency door release break glasses, door open alarms and forced exits were all simulated successfully. In a few instances the fixed magnets did not engage onto the magnetic lock cleanly. It should be noted that no external doors or Hospital street doors were tested due to either being incomplete or doorways barricaded off.

4.3.26 Pneumatic Tube

Currently nothing to report.

4.3.27 Electrical Fittings & Fixtures

We have inspected the pull cords in room CCU-065 on level 1 1-521 and this has not been repositioned yet. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 140.

4.3.28 Sprinklers

The sprinkler heads on Level -1 Zone K adjacent to Core "A" staircase appear difficult to access for maintenance or replacement. Brookfield together with Mercury has investigated this and confirmed that the basket can be removed in 5 minutes, cables moved to the side to gain access. They have also confirmed that the head only requires maintenance/replacement when it is activated and the ceiling and other services are likely to be replaced should that situation arise. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 178 is closed out.



4.3.29 Lighting

The quality of the general and emergency lighting installed to date is of a good standard.

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The quality of the small power installation installed to date is generally good with only minor defects noted which have been rectified.

4.3.31 Solar Panels**4.3.32 Fire Dampers**

During the mechanical fire damper drop tests and the Quality and Compliance Inspections, several damper positional indicators have been found to be obscured by sealant. This is being addressed by Brookfield.

4.4 Current Defects.

Trace visited the site on Wednesday 19/06/13 and carried out repairs to the Highline blinds on level 1. The outstanding replacements were delivered to site and 5 off the 6 were fitted on Friday 25th October. 1No is still to be fitted. (See Supervisor's Notification of Defect (CI 42.2) No 54).

The partition in Room ARU-034 on Level 2 has been cut to allow the sprinkler pipe to pass between rooms resulting in the partition being weakened. Brookfield has confirmed that Astins have rectified this at the 2nd fix stage by introducing a transom. Consequently Supervisor's Notification of Defect (CI 42.2) No 63 is closed out.



The damaged medical gas pipe on Level 1 room MDU 051 has been replaced. Consequently Supervisor's Notification of Defect (CI 42.2) No 65 is closed out.

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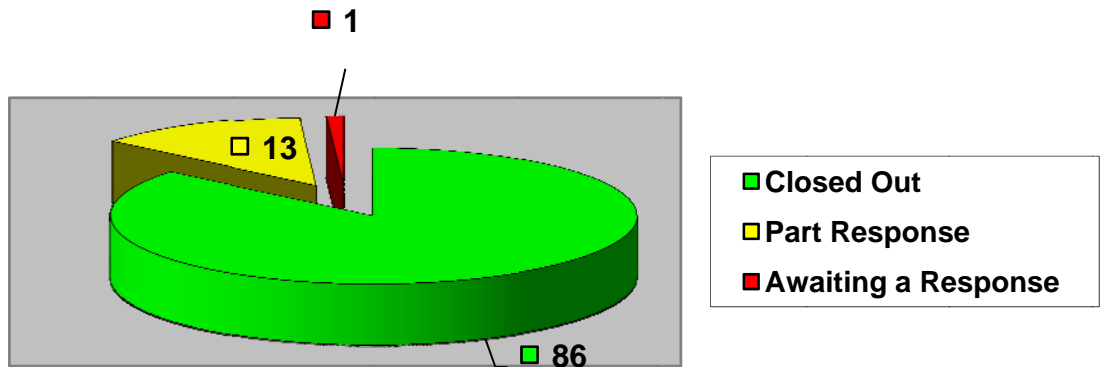
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There are damaged medical gas pipes on Level 1 room MDU 012 on the bedhead. We have asked Brookfield to confirm when this has been addressed. (See Supervisor's Notification of Defect (CI 42.2) No 66).



There are fire alarm FP cables in Core A Staircase Levels 1 and 2 and other locations which have been forced into the back entry conduit boxes causing stress to the cables. This is not in accordance BS7629-1:2008 A.5 Minimum installation radius which states that during installation, the cables should not be bent to a radius smaller than six times the overall diameter of the cable and the manufacturer's recommendations. We asked Brookfield to confirm when this has been addresses to comply with BS BS7629-1:2008. They have responded by stating that the cables have been fixed to remove kinks and fixed cable radii in all locations. Glands have also been fitted in all locations. However the radii of the cables passing through the back of the back boxes were still not in compliance with the manufacturer's recommendations and BS 7629. Mercury has revisited these areas and after further inspection we are satisfied that Supervisor's Notification of Defect (CI 42.2) No 68 can be closed out.

5.0 INFORMATION REQUIRED

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Item No.	Description	Date Requested	Comment	
Items 1 to 29 have been closed out				
30	Confirm when cabling is complete, water pumped out and batteries removed.	10/08/12	Response received.	
Items 31 to 44 have been closed out				
45	See Supervisor's Communication No 30.	18/09/12	Response received.	
Items 46 to 92 have been closed out				
92	Confirm that fire damper actuators highlights can be accessed on completion of the cold water and ceiling installation.	14/01/13	Response received.	
Items 93 to 117 have been closed out				
118	Confirm the final detailing to internal RHS columns which appear to be held up by adjoining steelwork.	15.05.13	Closed out.	
119	Confirm measures to address areas of steelwork in the Children's Hospital Zone B which have significant paint damage.	15.05.13	Closed out.	
120	Confirm flatness and levelness (including floor specification and finishes) to achieve tolerances.	16.05.13	Closed out.	
121	Confirm the design philosophy in relation to air handling unit 21AHU16 supply duct transition does not would appear to comply with HVAC DW144 clause 11.6 & 11.7.	16.05.13	Closed out	
122	Condensate discharges are routed to gullies are a potential trip hazard. Confirm that the CDM Coordinator has considered this problem and confirm if there are any measures to address this.	16.05.13	Response received.	
Items 123 to 126 have been closed out				
126	Confirm areas identified in the Communication can be accessed in accordance with the Employers Requirements.	24.06.13	Response received.	
Items 127 to 132 have been closed out				
133	Plant room PR31. Confirm that fire rating of flexible connections and supporting system is equivalent to overall system requirements. Confirm fire rating of fans (observed as non-bifurcated type).	03.07.13	Response received.	
Items 134 to 136 have been closed out				
137	Various points requiring clarification in relation to the AHU 21.	08.07.13	Response received.	
138	Confirm when ventilation pipe in RCG-067 AND RCG-068 has adequate support.	09.07.13	Closed out.	
139	Confirm that there is adequate seal between back boxes and the board especially in fire walls.	17.07.13	Response received.	
140	Pull cords in 1-521 too far from wc.	18.07.13	Response received.	
141	Please provide technical solutions to various issues to the steelwork to the Children's Roof.	23.07.13	Response received.	
Items 142 to 144 have been closed out				
145	Confirm proposals to achieve level floors to the Atrium Bridge Corridors at door openings to offices/rooms.	25.07.13	Response received.	
146	Confirm when smoke detector is repositioned to the required distance from the supply grille.	25.07.13	Response received.	
Items 147 to 153 have been closed out				
154	Confirm if isolation ductwork hatch in Plant Room 21 needs a double seal.	26.08.13	Response received.	

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Items 155 to 159 have been closed out				
160	Confirm the appropriate action to ensure that there is a uniform covering of the shaded STO panel on the east elevation adjacent Core E.	10.09.13	Response received.	
161	Confirm when all medical gas valves are covered at floors.	12.09.13	Closed out.	
162	Confirm when the other legs have been extended to the steel framework in riser on Level 0 ZF Riser M30.	16.09.13	Response received.	
163	Provide details of the lead protection to ducts and penetrations passing through walls above the ceilings within Radiology.	16.09.13	Response received.	
164	Confirm when rodding eye inspection cover has been repositioned to allow access within toilet MDU-011.	17.09.13	Closed out.	
165	Confirm measures to improve the poor quality finish to the blockwork on the east elevation.	20.09.13	Response received.	
166	Confirm when water damaged boards in Plant Room 41 are replaced.	20.09.13	Response received.	
Items 1672 to 174 have been closed out				
175	Confirm when the hotmelt areas damaged by temporary supports to Atrium Roof have been repaired and provide the accompanying QA information.	16.10.13	Response received.	
176	Confirm if there is a provision for these to be fitted on flat slabs and provide the manufacturer's installation guidelines.	17.10.13	Closed out.	
177	Confirm if there is a fire seal between the underside of the trunking and the main partition board. If not Brookfield to confirm if hatch will be moved.	17.10.13	Closed out.	
178	The sprinkler heads on Level 1 Zone K adjacent to Core "A" staircase appear difficult to access for maintenance or replacement.	17.10.13	Closed out.	
179	Confirm remedial measures to allow access into ducting Level 3 near Core G.	21.10.13	Closed out.	
180	Confirm when water damaged boards are replaced in RENW-125.	21.10.13	Closed out.	
181	Confirm when water damaged boards are replaced between rooms DCFP-010 and DCFP -023 Level 4	23.10.13	Response received.	
182	Confirm that the 2 out of 4 HD bolts either missing or not protruding through the baseplate satisfies the design and specification intent or provide a remedial solution	30.10.13	Open.	
183	Confirm that a door selector will be fitted to the doors leading into room THE-361 IN Area 2-527	25.11.13	Closed out.	
184	Confirm the solution to overcome the gaps between base units and walls in Area 2-524.	25.11.13	Closed out.	
185	Confirm if door selector will be fitted to fire doors leading into room the-361 Bulk Store.	28.11.13	Open.	
186	Confirm when the hatch DMW-004 Therapy Room has been repositioned.	28.11.13	Closed out.	
187	Please confirm when the fresh air inlet duct in Plant Room 21, on Level 2 Zone D.	28.11.13	Response received.	
188	Confirm when fire alarm FP cables have not been installed in accordance with BS7629-1:2008 and the manufacturer's recommendations. (See Defect 68)	13.12.13	Closed out.	
189	Confirm when the Bed Head Buffers in some of the Generic Assess & Treatment Rooms, Area 0-522 have been position centred on the beds.	17.12.13	Response received.	
190	Main cleats completely rusted and fire protected steelwork painting is also chipped at VIE. Confirm remedial action.	29.01.14	Response received.	

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6.0 SUPERVISORS TESTS AND INSPECTIONS

Tests not required	N/A
Tests required but not tested	Fail
Tests required which has passed tests	Pass

Tests				
Ref	Title	To be Notified by	Status	Test Date
01-86	Various tests undertaken from the 9/07/2012 to the 30/06/2013.			
87	Smoke damper test verification - Level 0, zones D & G.	Brookfield	Fail To be re-witnessed	24.09.2013
88-100	Tests 28.09.2013 & 09.10.2013			
101	Fire alarm loop tests were carried out on L2ZA, L2ZE, L1ZE, L1ZB, L1ZC & L0ZE.	Brookfield	2 Loops Failed	29.10.2013
102-113	Various tests undertaken from the 30/10/2013 to the 27/11/2013.			
114	L2 – 2-519 Fire dampers	Brookfield	Fail	21.11.2013
115	L1 1-539 Fire dampers	Brookfield	Fail	22.11.2013
115A	Fire panel No13 Level 0, 0-526 tested. On cal point failed.	Brookfield	Fail	22.11.2013
116-119	Various tests undertaken from the 22/11/2012 to the 28/11/2013.			
120	1A & 1J - Fire damper drop tests. See 123 & 124 below.	Brookfield	N/A	29.11.2013
121-122	Various tests undertaken from the 28/11/2012 to the 29/11/2013.			
123	FD 1-518 001 Fire damper drop test.	Brookfield	Fail	29.11.2013
124	FD 1-539 002 Fire damper drop test.	Brookfield	Fail	29.11.2013
125	High voltage cable test between the main intake substation and substation 4A.	Brookfield	Pass	04.12.2013
126	Ventilation duct pressure test between Riser M25 Core D between Levels 4 and 12.	Brookfield	Fail	18.12.2013
127	Fire alarm loop test in 0J, Panel 61 loop 2.	Brookfield	PASS	10.01.2014
128	Dali lighting test at DB2, L0ZH.	Brookfield	PASS	10.01.2014
129	Ventilation witnessing.	Brookfield	PASS	16.01.2014
130	Chilled water, quality test, samples taken in Energy Centre, PR31 & PR22	Brookfield	PASS	17.01.2014
131	Re-test off Fire alarm system in Energy Centre.	Brookfield	PASS	22.01.2014
132	Fire alarm loop test in basement.	Brookfield	PASS	22.01.2014
133	Fire alarm system test Level 1 zones D & G panels 14 & 15.	Brookfield	PASS	23.01.2014
134	IT Infrastructure test from Hubs 103, 113 & 131.	Brookfield	PASS	24.01.2014

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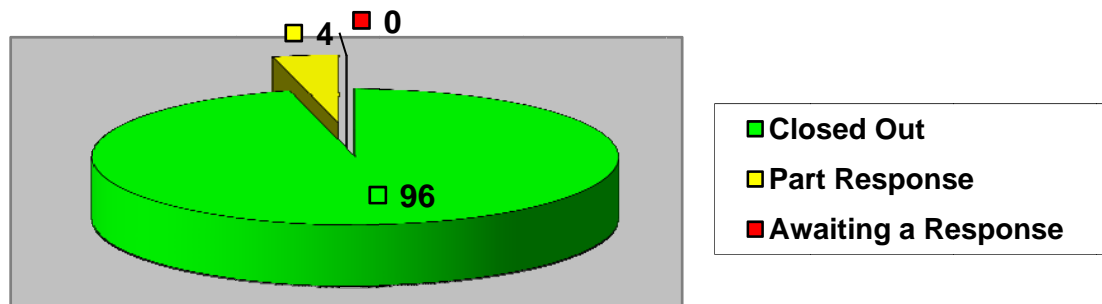
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135	Nurses call system test in 1-529, 1-530, 2-517 & 2-519.	Brookfield	PASS	24.01.2014
136	IT Infrastructure test from Hubs 110, 111 & 132.	Brookfield	PASS	24.01.2014
137	Nurses call system test in 0-529, 0-530 & 0-527.	Brookfield	PASS	27.01.2014
138	LTHW CT balancing in PR21.	Brookfield	PASS	29.01.2014
130	Smoke damper tests in plantroom 31. Some fails.		FAIL	

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7.0 DEFECTS NOTIFICATIONS ISSUED



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	Description	Date Requested	Comment	
Items 1 to 53 have been closed out.				
54	Faulty internal blinds. Confirm when remedial action has been completed.	30.05.13	Response received.	
Items 1 to 62 have been closed out.				
63	Confirm when partition has been constructed properly to allow the sprinkler pipe to pass through wall.	20.07.13	Closed out.	
64	Confirm when poor quality blockwork / perpend is addressed.	29.07.13	Response received.	
65	Confirm when damaged medical gas pipe on Level 1 room MDU 051 above the ceiling have been addressed.	17.09.13	Closed out.	
66	Confirm when damaged medical gas pipes on Level 1 room MDU 012 above the ceiling have been addressed.	17.09.13	Open	
67	Confirm when damaged medical gas pipes on Level 1 room MDU 012 above the ceiling have been addressed.	10.12.13	Closed out.	
68	Confirm when fire alarm FP cables have not been installed in accordance with BS7629-1:2008 and the manufacturer's recommendations.	14.01.14	Closed out.	

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	Signed	Date
Originated by	John Redmond	5th January 2014
Completed by	Douglas Wilson	5th January 2014

CAPITA

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ADULT AND CHILDREN'S HOSPITAL AND ENERGY CENTRE
NEC 3 SUPERVISORS REPORT NO. 34
FEBRUARY 2014**

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SUPERVISOR'S REPORT NO. 34**FEBRUARY 2014****1.0 EXECUTIVE SUMMARY: ADULT & CHILDREN'S HOSPITAL**

Visits to the site during February 2014 continue to indicate that the construction and procedures are progressing in a satisfactory manner in accordance with the Employer's Requirements.

Throughout, the standard and quality of the workmanship is generally good and operations are being carried out in an acceptable manner.

Quality and compliance inspections were carried out on Level 1 Areas 1-537, 1-518 1-517 and 1-539, Level 2 Area 2-516, 2-517, 2-518 and 2-519. The quality of the work was to a good industrial standard.

Brookfield provided us with their QA documentation including a list of their defects which had been logged on their IDMS system. The areas inspected were generally to a good industrial standard and the defects captured by Brookfield were generally of a minor nature. We did however identify a number of minor defects which Brookfield recorded on to their IDMS system. These included pull cords and smoke detectors in the wrong position. We raised with Brookfield the lack of preformed seals fitted to the bedhead elsewhere in the Hospital. There was also a lack of space in room OPD1-004 Level 1 Area 1-539. The nurse call pull handle and dispenser cannot be fitted in the space as per the drawing.

Brookfield continues to undertake their Quality Assurance checks on site with inspection and checklist documentation available for the ongoing construction activities. Over the period two 85 point check were carried out to two partitions.

Acoustic Tests were carried out during the period and we witnessed a test in room DCT-013. We await a report for this and other rooms tested.

Zutec entries continue to be under review.

The car park concrete works are virtually complete and a good quality finish has been maintained throughout. Minor tidying up work is ongoing. Handrailing and barrier erection has commenced but Brookfield has initiated some checks. Steelwork column foundation at the stairwell is in need of remediation.

The final screed to the Atrium Bridge on the 4th floor will be used as a benchmark for all the Atrium Bridge Floors and this is to be completed during March.

Final elements of steelwork connections are still to be completed to the roof of the Children's Hospital in Zones A and B. Communications have been raised with Brookfield and they are addressing these, but some still remain outstanding. Other trades, particularly M&E, are progressing apace in these areas which may result in the completion of these details being awkward.

Roadway issues on the dual carriageway leading to Renfrew Road remain outstanding. Brookfield is aware of this and will rectify at an appropriate time in line with their programme for this area.

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Light civil work to landscaping areas in courtyards has commenced and quality to date appears to be satisfactory. Work to drainage and an underground retention system at the south end of the site has commenced with quality to date satisfactory.

The M&E installation quality is being maintained to a good industrial standard and we are generally satisfied that the installation is compliant with exception of the specific items raised under communication.

The M&E installations are progressing on all levels up to Level 12 and range from first fix module installation to completed and tested areas. Work is progressing within levels 2, 3 & 4 plantrooms. Ductwork and sprinkler installation is in progress together with the positioning and installation of plant on Level 12. The installations in the Energy Centre are well advanced and we have witnessed a retest of the fire alarm system and an analysis of the quality of the chilled water. The installation of the CHP's in progress.

It was agreed that AHU 21 would form the standard for all other AHU's, therefore any issues are to be fully closed out to ensure quality installation. We still await a response from Brookfield to allow us to close out remaining issues. It should be noted however, that some items will only be closed out once full commissioning has been undertaken.

We witnessed various tests and commissioning activities to fire alarm loops, AHU ventilation systems, high voltage cables, bus bar auto change over panel, fire dampers, BMS controls and alarm witnessing and lighting and KNX controls. There was only one which was not satisfactory.

We are continuing to work with Brookfield during our inspections highlighting any items that have raised concern. Items identified in this manner are generally being addressed by the site team in advance of any defect notice being raised.

In general terms we are satisfied that the installations continue to be installed to a compliant standard, and are of a good quality. However we have noted that certain items this month have raised concern. These have been raised with the Contractor as follows:-

Supervisor's Communication General Matters / Other Instructions No 191, 192, 193, 194, 195, and 196 were issued during February.

- Seeking confirmation that the nurse call points will be fitted in 1-537 Room OPD1-122 and 1-539 Room OPD1-097.
- Seeking confirmation of the current approved specification for the partition between the Snoozelum Room GW3-049 and the Medi Cinema.
- Seeking confirmation that the application of sealant at the vertical/junction of the bedheads has been changed from the previous signed off specification.
- Seeking confirmation how fittings can be fitted in accordance with the drawing when the space has been reduced.
- Seeking confirmation when the suspended ceiling supports will be properly fitted on Level 0 Area 0-535.

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- Seeking confirmation in relation to the procedures for accessing the valves in accordance with SHTM 2035 Section 5 on Level 0 Zone C in corridor OPD 024 adjacent OPD 025.

Supervisor's Notification of Defect No 69 was issued during December/January.

- Seeking confirmation that ducting passing through fire walls between rooms CCW-034 and CCW-033 has the same resistance to fire as the partition.

We continue to be assisted by the site teams and the NHS Project Team who produce an internal weekly report which assists us in resolving various construction, mechanical, electrical and quality issues. We continue to close out our Supervisor's Notifications and Defects when we have received satisfactory responses.

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2.0 DESIGN COMPLIANCE CHECK

Currently nothing to report.

3.0 PROCEDURES REVIEW**3.1 Contractor's QA Procedures / Compliance Inspections****Quality and Compliance inspections**

Brookfield and their subcontractors have continued with their QA and checking and inspection procedures during this period. We are in discussion and liaison with Brookfield's Quality Manager on QA matters and we undertake regular reviews of their QA documentation.

Quality and compliance inspections were carried out with Brookfield in a number of areas. Brookfield provided us with their quality packs which included a list of their outstanding works, defects recorded on to their IDMS system quality sign off sheets and drawings.

Together with Brookfield we carried out quality and compliance inspections on Level 1 Areas 1-537 and 1-539. The areas inspected were to a good standard and the defects captured by Brookfield were generally of a minor nature. We did however identify some minor defects which Brookfield recorded on to their IDMS system. These included two nurse call points missing in rooms OPD1-122 and OPD1-097.

We have raised a Supervisor's Communication No 191 in relation to the Nurse call points not installed in these rooms and asked Brookfield to confirm when this work has been completed.

We have also raised a Communication in relation to the lack of seals between the horizontal beadheads and the vertical section asking Brookfield if there has been a change to the specification. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 193).



Bedhead junction at the horizontal



Bedhead junction at the horizontal

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vertical sections currently fitted on Level 0 showing gasket.

vertical sections currently fitted on Level 1, Area 1-537 and 1-539 showing sealant.

The recessed area on the right hand side of the wash hand basin in room OPD1-004 Level 1 Area 1-539 is congested. There is a nurse call, dispenser and grab rail to be fitted. We have asked Brookfield to confirm how the fittings can be fitted within the present space or if there are any proposals to reposition fittings. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 194).

Quality inspections were also carried out on Level 2, Areas 2-516, 2-517, 2-518, 2-519, Level 1 Areas 1-517 and 1-518. The areas inspected were to a good standard and the defects captured by Brookfield were generally of a minor nature.

General Inspections

Inspections were carried out on Levels 2 and 3 of the Children's Hospital and the quality of work was to a good industrial standard. We noted that there was no insulation inside the vertical SFS members either side of the windows in rooms GW3-027 and GW3-031 in Area 3-507. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 185).

We carried out inspections with Brookfield on Level 4 Areas 4-513, 1-514 and 1-512 and the works were progressing at varying stages in these areas. The quality of work was to a good industrial standard. We noted that one door had been hung on the wrong side of the door frame. There were also gaps between the sills and the windows which Brookfield confirmed would be filled although they were still to decide on a solution

We undertook inspection with Brookfield on Level 2 Areas 0-518, 2-519, 2-523 and 2-525, Level 4, 4-517, 4-515 and 4-515. The works were progressing towards completion and was generally to a good industrial standard.

Following a previous general inspection of 1-518 and 1-519 with Brookfield we revisited the area to undertake a random check to satisfy ourselves that putt pads were fitted and to check beneath insulation to determine if the ducting was fire rated. During our inspection it was noted that two ducts had been fitted without fire dampers and this is now being addressed. Brookfield carried out a thorough inspection of 1-518 and 1-519 and provided us with a marked up drawing showing all of the dampers which had been fitted.

A joint inspection of above ceiling fire stopping was carried out on Level 1 Area 1-521 and only a couple of sleeves required to be fitted.

Inspections were carried out with Brookfield on Level 0 Areas 0-535, 0-536, 0-533 and 0-532. The works were progressing towards completion and was generally to a good industrial standard. However there was an area of corridor on Level 0 Area 0-535 where the suspended ceiling hangers were not fixed to the structural soffit in accordance with SHTM 60. We raised this with Brookfield and they have confirmed that the ceiling hangers have been removed from the Service Module and refixed

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directly to the concrete soffit. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 195 is closed out.

Inspections were carried out on Level 0 Areas 1-531, 1-532, 1-534, 1-501, 1-538 and parts of Core B and D. With the exception of one smoke detector to be repositioned the works are to a good industrial standard and progressing towards completion. We were invited by Brookfield to inspect above ceiling fire stopping and acoustic stropping in the Children's Hospital on Level 4 Areas 4-515 and part of 4-516. Area 4-515 was to a good industrial standard however Area 4-516 still had incomplete works.

Zutec Review

We reviewed testing information on Zutec for the Air Handling Units 07 and 08 in PR 31 and these were acceptable.

Acoustic Tests

Tests were carried out during February by Acoustic Logic and we were present during the testing of room DCT-013. We await a formal report of the tests carried out.

We await details of the lead protection to ducts and penetrations passing through walls above the ceilings within Radiology. Brookfield has confirmed that drawing No AST-XX-XX-DT-252-112 from Astins has been given status B by both NHS and Brookfield with over marked comments. Brookfield discussed this with Astins and a test of a room is planned for February. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 163).



The Bed Head Buffers in some of the Generic Assess & Treatment Rooms, Area 0-522 have not been fitted in their correct position centred on the beds as shown on drawing NA-SZ-00-PL-400-522. This was previously recorded as part of a document review. Brookfield has informed us that proposals are being submitted to the Board week commencing 3rd March. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 189).

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Architectural Drawings:

- Floor Plans:** Detailed plans of the treatment room, bathroom, and living room, showing furniture, fixtures, and dimensions.
- Elevations:** Wall and ceiling elevations for the treatment room, showing door and window placements.
- Section:** A vertical section through the treatment room, showing the internal structure and roof profile.

Handwritten Notes:

- Red:** Bathrooms & living rooms do not match
- Blue:** CONFIRM

Scale: 0 to 1000 mm

Legend:

Material	Finish
WALL	PLASTER
FLOOR	CONCRETE
CEILING	PLASTER
DOOR	WOOD
WINDOW	WOOD
FURNITURE	WOOD
FIXTURES	WOOD
PAINT	WHITE
GLASS	GLASS
METAL	METAL
TEXTILE	TEXTILE
STONE	STONE
BRICK	BRICK
ROOF	ROOF
LANDSCAPE	LANDSCAPE
VEGETATION	VEGETATION
WATER	WATER
SKY	SKY

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85 point Checks

Brookfield continues to undertake their Quality Assurance checks on site with inspection and checklist documentation available for the ongoing construction activities. Over the period two 85 point checks were carried out satisfactorily to partitions.

3.2 Witness Testing and Commissioning

We witnessed a number of tests during February 2014 which was satisfactory and these were as follows:

- Fire alarm loop test within L0ZC Panel 31 loop 2.
- Witnessing of ventilation balancing of AHU's 10, 11 & 12 in PR31 and in Theatres 120, 124 & 137. To be revisited when lights and ceilings are complete.
- High voltage cable testing between substation 3 and Sub station 4.
- Bus bar auto change over panel in PR31.
- Witnessing of ventilation balancing of AHU's 22 & 23 in PR21.
- Fire damper drop tests in L2 zones 510, 511, 519, 525, 529 & 530.
- Fire damper drop test in Level 3 plant room 31.
- BMS control and alarm witnessing within PR21 AHU's 15, 19 & 25.
- Lighting and KNX control witnessing within L1ZA.
- BMS control and alarm witnessing of CW and LTHW pumps and pressurisation units within PR21.
- Witnessing of ventilation balancing of AHU's 15 & 09 and in theatres THE 350 & THE 141. To be revisited when lights and ceilings are complete.
- Witnessing of ventilation balancing of AHU's 07, & 08 in PR31 and in Theatres 154, & 150. To be revisited when lights and ceilings are complete.
- Witnessed chilled water flow rates for fan coil units 138, 026, 028, 012, 006, 004 and computer room RAC 101 within zones D and G.

We witnessed a test during February 2014 which were unsatisfactory. See below

- Witnessing of ventilation balancing within PR31 AHU 16. Results within Plant room 31 satisfactorily, but airflows within THE 354 erratic and require to be reviewed and retested.

Previously witnessed tests which failed and has been re-tested successfully:

- FD-2-519-016 – Fire damper test lever was too close to partition preventing smooth closure. The fire damper was repositioned and tested on 12th February 2014.

Previously witnessed tests which require to be retaken.

- Fire panel No 13 Level 0, 0-526 was tested and several smoke detectors and one call point activated satisfactorily. The test was aborted when on call point failed.

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- FD-1-539-002 – The fire damper test lever was fouling adjacent ductwork. The fire damper is to be repositioned and retested.
- FD-1-518-001 - Difficult to access and activate damper link due to type of hatch fitted, and damper status indicator was obscured. A new hatch is to be installed and status indicator to be exposed.
- FD-1-539-003, Unable to access fire damper inspection hatch. A new inspection hatch to be fitted on opposite side of wall.
- Smoke damper verification and operational tests were carried out in Level 0 zones D & G which was aborted for the following reasons - One actuator not being connected, new hatch required in plaster board to gain access to one actuator and duplicate addresses being discovered on several other actuators tested.
- Fire alarm loop tests were carried out within L2ZA, L2ZE, L1 ZE, and L1ZB which tested satisfactorily.
- Fire alarm loop tests were carried out within L1ZC panel 28 & L0ZE panel 11 which failed and will require retesting.
- Ventilation duct pressure test between Riser M25 Core D between Levels 4 and 12.
- Smoke dampers were tested in plantroom 31 and there were some which failed.

3.3 Board Equipment Installation,

Currently nothing to report.

3.4 Non Conformance Reports

We reviewed Brookfield's NCR Tracker and noted the issues raised by the Package Managers. The blockwork and pointing on the south and east elevations although improved by cleaning continues to be a concern with shading of the mortar evident. Prater has still to offer it up to Brookfield as complete reference NCR 156. We are also monitoring the issue in relation to water between the glass of the Structal Panels NCR reference 157 and 219. Brookfield has had an independent survey carried out by Cladtech Associates which has been forwarded to Structal. Brookfield is reviewing all the information. NCR 237 was issued to Astins in relation to the lack of insulation at abutments between internal partitions and external walls.

4.0 CONSTRUCTION REVIEW**4.1 Visits to the Works**

The following members of our team undertook site inspections, reviewed documentation, attended meetings and met with relevant Contractors representatives on-site personnel:- John Redmond (Lead NEC3 Supervisor) 3rd to 7th, 10th to 14th, 17th to 21st and 24th to 28th February; Douglas Wilson (M&E NEC3 Supervisor) 3rd to 7th, 10th to 14th, 17th to 21st and 24th to 28th February; Willie Roxburgh (Civils/Structural NEC3 Supervisor) part days on 5th, 7th, 12th, 14th, 21st and 27th February, plus remote desk top input most days of the month. Capita's NEC3 Supervisor's team visited site a combined 46 person days.

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4.2 Elements of the Works available for inspection

- Energy Centre – structurally complete.
- Main building – all concrete areas. (becoming very limited due to access and partitions)
- Tunnels between ACH and Labs, and Cores C to F.
- Structural steelwork to all roof areas (partly limited due to access and partitions).
- Neuro bridge (partly limited due to access).
- Dual carriageway to Renfrew Road, turning area in front of the main entrance, and carriageway from Hardgate Road.
- South site drainage areas.
- Car park area.
- Internal partitions.
- M&E modular units.
- Roofing.
- Cladding.
- Windows.
- Sto system.
- Brickwork Courtyard 8, and 10.
- Brickwork/blockwork: Zone J North, East elevation and Basement Blockwork.
- Rainscreen: Zone F & C.

4.3 Current Observations

The visual inspections of the work carried out to date indicate that the works are generally being carried out to a satisfactory standard. We continue to be assisted by the site teams and the NHS Project Team in resolving various construction, mechanical, electrical, and quality issues. We continue to close out our Supervisor's Notification and Defects when we have received satisfactory responses. Listed below are observations closed out, still to be closed and those raised following site visits in February 2014.

4.3.1 Structural

At the Atrium Bridge in respect of final screeding the floor finish on the 4th floor will be used as a benchmark for all the Atrium Bridge Floors and this remains to be finalised.

Final elements of steelwork connections are still to be completed to the roof of the Children's Hospital in Zones A and B. Communications have been raised with Brookfield and are listed on the following pages. These still remain outstanding and have been examined with Brookfield who has indicated that these will be addressed at the appropriate time. However other trades, particularly M&E, are progressing apace in these areas which may result in completion of the above details being difficult. This has remained outstanding for approximately 6 months.

Roadway issues on the dual carriageway leading to Renfrew Road remain outstanding. Brookfield is aware of this and will rectify at an appropriate time in line with their programme for this area.

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We asked Brookfield to provide technical solutions to various situations on the structural steelwork to the Children's roof where base plates are "floating", edge distances are minimal or miss the concrete base. Cladding rails also prevented HD bolt fixing. WSP has provided a detailed sketch to show remedial work to plinth. We shall inspect this on completion. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 141).

The steel framework in riser on Level 0 ZF Riser M30 has had the legs extended immediately in front of the entrance door. There are other legs which have not been extended yet and we asked Brookfield to confirm when the other legs will be extended. Brookfield has confirmed that these legs are not weight bearing and the weight bearing supports are on Level 01. They also confirmed that the extended legs will be cut back to be completely clear of the ground floor to finish flush with the frame. We asked for confirmation that the justification for this is based on an analytical assessment, and that the details provided are in accordance with this. We have received a further response but not an analytical assessment. We await a further response. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 162).



Extended legs



Leg still to be extended.

One of the base plates Level 4 Zone B has 2 out of 4 HD bolts either missing or not protruding through the baseplate. We have asked Brookfield to confirm that this satisfies the design and specification intent or provide a remedial solution. Brookfield have intimated that this will be attended to in the next period. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 182).



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We noted at the VIE Building structure almost all main cleats connecting the galvanised cladding rails to the main fire protected steelwork structure are completely rusted. The fire protected steelwork painting is also chipped with protection incomplete in several places. Brookfield is aware of this and paint is on site ready to carry out the remedials. This will be done when M & S alter the bracing and add the additional trimming to the purlins. Communication General Matters / Other Instructions (CI 13.1) No 190 is closed out.



Car Park 1

At the car park concrete works are virtually complete and good quality has been maintained throughout. Minor tidying up work is ongoing. Handrailing and barrier erection has commenced but Brookfield has initiated some checks. Steelwork column foundation at the stairwell is in need of remediation.

4.3.2 Energy Centre

Steelwork snagging appears to have been addressed, but much tidying up remains outstanding in the eastern half of the building.

4.3.3 Above Ground Drainage

Work to drainage and an underground retention system at the south end of the site has commenced with quality to date satisfactory.

4.3.4 Dual Carriageway to Renfrew Road. (A&C)

The defects previously identified will be reviewed nearer to completion when they will be effectively rectified. This will also now include the significantly damaged kerb lines affected by the storage and lifting of the neuro-bridge sections.

4.3.5 Pipework.

Installation of hot, cold, heating, & chilled water pipework in the A&C hospital is progressing and in general is being installed to a good standard.

We are continuing to monitor all pipework installations to identify possible dead legs. The quality checking by Brookfield would appear to be identifying these before our inspections. Open unprotected ends are being monitored during our site inspections and there has been a marked improvement in all areas.

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During our inspections in Plant Room 21, we noted that all AHU condensate discharges are routed to gullies via low level unprotected plastic pipework. This is a potential trip hazard. We have asked Brookfield to confirm that the CDM Coordinator has considered this problem and has asked if there are any measures to address this. There is also the risk of the pipes being broken. Refer to SHTM03-01 clause 4.25. Brookfield has confirmed that where appropriate, sheet metal guards will cover condensate discharges. However we have requested to see a typical detail of what they are proposing to allow further comment. We have asked Brookfield to confirm if a ramp (up/down) will be installed over the low level pipework & be fixed in position. Also in some instances, where the pipework is particularly exposed, this ramp may need to extend further along the length of the pipe or additional protection provided. We have asked again if the CDM Coordinator has considered this problem and has taken cognisance of SHTM03-01 clause 4.25. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 122.

Following a visit to site we raised our concerns that there are some locations where there is insufficient space for maintainable, replacement building services and plant as per the Employers Requirement Section 5.13 Facilities Management.

We raised our concerns with Brookfield in relation with the following areas Level 2 Zone H. Pipework connections above line of unistrut. Access appears difficult. We have asked Brookfield to confirm that future access will be available.



Level 2 / Zone K. Current access to install chilled water riser pipework appears difficult. We have asked Brookfield to confirm that future access will be available once the walls are constructed.



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Level 3 / Zone H. Pipe Racks in area shown below have multiple levels of pipe work. We have asked Brookfield to confirm that future access will be available. Brookfield confirmed that access to the 3 areas identified will be accessible for FM in compliance with ER Section 5.13. The access arrangements for this item will be recorded as part of the Access Strategy Tracker which is currently being developed by Brookfield and Mercury. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 126).



We noted that the service valves on Level 0 Zone C in corridor OPD 024 adjacent OPD 025 are inaccessible within the ceiling space. Please confirm the procedures for access to these valves in accordance with SHTM 2035 Section 5. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 122).



4.3.6 Ventilation

We were in attendance to witness the successful test of the supply and extract airflow testing of AHU unit 26 in Plantroom 21.

We asked Brookfield to confirm that the fire rating of the flexible connections and supporting system in Plant room PR31 is equivalent to the overall system requirements. The fan is located adjacent to atrium at the west side of building. We also asked them to confirm fire rating of fans (observed as non-bifurcated type). ZBP has confirmed to Brookfield that fans require to be fire rated and are at technical submittal stage. Brookfield has issued an instruction to have the fans replaced. We await comments in relation to the connections. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1)



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No 133.

Following an inspection of Plant Room PR21 we raised a number of points which were clarified, however the items below are still awaiting comment from Brookfield.

- Confirmation received that diffuser plate will be fitted to alleviate fan discharge velocity issues raised (items 1a, b, d, e & f). We asked for details of the proposed diffuser plate to be fitted in front of supply AHU fan discharge. The diffuser plate already fitted to AHU 21 appears inadequate for its intended use. Brookfield is awaiting a response from the Manufacturer.
- We asked for confirmation that the AHU is compliant with SHTM03-01, or state any agreed derogation. Some aspects stated do not comply with the SHTM & will require agreement from the Board. Brookfield has confirmed that all All units are SHTM compliant and inline with ZBP's design. There are a few cases where the specific fan powers could not be achieved as the manufacturers' limiting velocity of 2m/s across components would not have been achieved, this has been brought to ZBP's attention. All units are approved and supplied to ZBP's design schedules.

(See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 137).

We have asked Brookfield if the Isolation ductwork hatch to the fire rated ductwork in Plant Room 21 needs a double seal. This Notification has been forwarded to the relative floor manager and is being investigated. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 154).

We asked Brookfield to confirm when the fresh air inlet duct in Plant Room 21, on Level 2 Zone D will be fitted as indicated on drawing NE-ZD-02-PL-524-102 Rev H. They have informed us that once the plant room was completed, they would find available space albeit not at low level. They have discussed this with ZBP who are happy with the proposed location/solution at high level. A section of blanking panel will be cut out for natural ventilation. Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 187 is closed out.

4.3.7 Insulation

The thermal insulation installation to the pre-fabricated sections of pipework is being completed off site, before delivery and completed after installation. During our joint inspections with Brookfield we noted some damaged insulation within the plant rooms and these are being addressed. The ducting is currently being overlaid with VentureClad Jacketing.

4.3.8 Pressure testing

Pressure testing of the modular pipework sections on a zone by zone or area by area basis has been programmed through the commissioning meetings.

4.3.9 Medical Gases

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Medical Gas pipework in being installed in all areas and independent tests are being witnessed by Ian Sandford of Hulley and Kirkwood.

4.3.10 Energy Centre

The installations in the Energy Centre are well advanced with the A-side systems commissioned and handed over. The installation of the CHP's is in progress.

4.3.11 Trunking

Cable trunking is being installed as part of the offsite fabricated sections that are being installed in the A&C hospital and in general the installation is to a good industry standard.

4.3.12 Cable Trays

Cable trays are being installed as part of the offsite fabricated sections that are being installed in the A&C hospital and in general the installation is to a good industry standard.

4.3.13 Cabling

Modular wiring looms are now being installed as part of the offsite fabricated assemblies and carefully tied up for protection and installation is of a good standard.

4.3.14 Conduit

Solid conduit installations are well progressed in the areas being fitted out and are to a good industry standard.

4.3.15 Void Detection

The smoke detector within the lobby on Level 1 Room CCW-049 is within 300mm of the supply grille. We asked Brookfield to confirm when this has been repositioned to the minimum distance of one metre. Mercury's specialist contractor has confirmed that in terms of BS5839-1 Clause 22.3 Paragraph M minimum spacing cannot be achieved. They cannot see how they are able to demonstrate the recommendation without infringing on the minimum distance required to be away from the finished wall surfaces. They state further that due to third party equipment on the ceiling this restricts the position on the smoke detector. They state that it can remain in position. However this will mean that this is not compliant in terms of BS5839-1 Clause 22.3. During joint inspections also identified two other locations where the smoke detectors are too close to the walls and we have asked them to review the requirements of (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 146).

**4.3.16 Intake Sub Station**

The Installation of the new transformer for Car Park 1 will coincide with all HV cables being pulled through to the Substation. It is anticipated that all cables will be pulled through approximately the end of January beginning of February 2014. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 30 & 45).

4.3.17 Partitions

The partition between the Snoozelum Room GW3-049 and the Medi Cinema has 50mm insulation fitted in the cavity. The Acoustic Logic Report ALC-SZ-SL-DC-660-001 reviewed by the client on 6/5/13 and by Brookfield on 16/05/13 specifies 100mm thick insulation. This supersedes a previous drawing AST-XX0XXDT-252-006 reviewed by Brookfield on 1/2/13 which shows no insulation. We asked Brookfield to confirm which specification is to be used to provide the required Rw 52dB. Brookfield

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has confirmed that they have issued the Communication to Astins together with the relevant drawings. They have asked Astins to issue the partition detail to comply with the required Db rating required at this location. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 192).

The partition between the east side of the atrium and plant room 41 has been damaged by water ingress. Brookfield to confirm they are aware there has been some damage, and will replace the boards after they have completed the resin flooring works. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 166).



Water damaged boards.

The water damaged boards in room RENW-125 Level 4 have now been replaced. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 180 is closed out.

We asked Brookfield to confirm when water damaged boards will be replaced in the rooms between DCFP-010 and DCFP-025 on Level 4. Brookfield has confirmed that the water damaged boards have been replaced. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 181 is closed out.

4.3.18 Roofs

A&C Roofs

Material has been removed from Roof R3-005 and work is progressing satisfactory with the quality to a good industrial standard.

Hotmelt work is complete on roof R3-006 with the quality of the work to a good the quality to a good industrial standard.

Hotmelt work still to commence on Roof R3-004.

Roof R12-003 nearing completion.

Roof R3-003 work progressing to completion.

Roof R12-002 work progressing to completion.

Roof R12-001 work progressing to completion.

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Podium roofs are nearing completion.

Roofs R4-010 and R3-004 hotmelt to commence in February. We shall continue to monitor the ongoing work.

Generally the quality of the workmanship throughout is to a good industrial standard and we have reviewed the QA documentation.

All the Sarna Roof covering is progressing to completion.

Children's Roofs

Hot melt application is progressing on level 2 balconies and Level 3 roof and the quality is to a good industrial standard.

4.3.19 Cladding/Courtyards**A&C**

Work is substantially complete in courtyards 1, 6, 7, 8, 9 10 & 11 with the standard and quality generally to a good industrial standard.

The stone rainscreen is progressing to completion and the quality is good.

The STO render to the upper panel on the east facing elevation nearest Core E has shaded areas visible below the finished surface. We asked Brookfield to confirm the appropriate action to ensure that there is a uniform covering to the panel and when completed. Brookfield has confirmed that they did not find the standard to be of a poor condition, although they do admit that some areas are marked or shaded but not obtrusive. We will monitor this in the coming weeks and if the marks are still present we will report accordingly. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 160).

Children's Hospital

The STO is in progressing in Core 2 and the West Elevation and the quality is to a good industrial standard.

Blockwork

Blockwork is progressing on the west elevation and is to a good industrial standard.

Cladding

Cladding is progressing at plantroom 41 A and is to a god industrial standard.

4.3.20 Windows

Windows are progressing on the external elevations and courtyards in accordance with the specifications.

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Nothing to report.

4.3.22 Ducting

We have asked Brookfield to confirm that the fire damper actuator highlights in room EMC-011 can be accessed on completion of the cold water and ceiling installation. Brookfield has confirmed that the damper actuator will be accessible. The access arrangements for this item will be recorded as part of the Access Strategy Tracker which is being developed. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 92).

**4.3.23 Floors**

We have asked Brookfield to confirm their proposals to achieve level floors to the Atrium Bridge Corridors at door openings to offices/rooms and adjacent levels within these rooms. Brookfield confirmed at the Progress Meeting on Monday 10th February 2014 that Level 4 will be screeded and offered as a benchmark for review by client. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 145).

4.3.24 Blockwork

We have reported since April that the quality and standard of workmanship of the blockwork on the east elevations was not to a good industrial standard.

This was discussed on site with Peter Moir, John Redmond and Alasdair Fernie. It was agreed that the joint variance is as per the block sizes and no amount of remedial works would eliminate this. The repairs to damaged block and the cracks are to be addressed with a further visit required in around 6 weeks (Mid November) to allow the mortar colour to blend in. Brookfield has confirmed that they are awaiting the handover of the blockwork from Prater. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 165).

4.3.25 Security

No witnessing took place during the period.

4.3.26 Pneumatic Tube

Currently nothing to report.

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We have inspected the pull cords in room CCU-065 on level 1 1-521 and this has not been repositioned yet. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 140.

4.3.28 Sprinklers

Nothing to report

4.3.29 Lighting

The quality of the general and emergency lighting installed to date is of a good standard.

4.3.30 Power

The quality of the small power installation installed to date is generally good with only minor defects noted which have been rectified.

4.3.31 Solar Panels

Nothing to report.

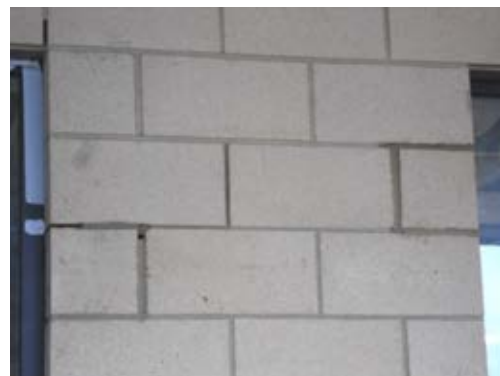
4.3.32 Fire Dampers

During the mechanical fire damper drop tests and the Quality and Compliance Inspections, several damper positional indicators have been found to be obscured by sealant. This is being addressed by Brookfield.

4.4 Current Defects.

All the Highline blinds on level 1 have now been fitted. Consequently Supervisor's Notification of Defect (CI 42.2) No 54 has been closed out.

The quality of the workmanship to the blockwork on the West Facing Elevation is poor and requires to be addressed. The widths of perpends varying at various locations on this elevation. This is particularly evident between the windows on the right hand side of the entrance to A&E. See photo. Brookfield has confirmed that the issue has been addressed. We carried out a further inspection and noted that the pointing was still darker than the surrounding joints. (See Supervisor's Communication General Matters / Other Instructions



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(CI 13.1) No 64.

The damaged medical gas pipes on Level 1 room MDU 012 at the bedhead have been addressed with new bed head trunking installed. Consequently Supervisor's Notification of Defect (CI 42.2) No 66 has been closed out.

During an inspection on Level 1 Area 1-519 we noted that the ducting passing through partition between the hazard rooms Regen Kitchens CCW-032, Disposal Hold CCW-034 and the Fluid Hold CCW-033 did not appear to have fire dampers and were not fire rated. We have asked Brookfield to confirm that the ducts are to the appropriate fire resistance compatible with the partitions or ensure that the appropriate dampers are fitted to satisfy the integrity of the partitions in compliance with both SHTM 85 and the Scottish Building Standards. Brookfield confirmed that where there were clusters of Hazard Rooms the enclosure of the rooms will be treated as a fire Hazard Room as agreed by Building Control and the NHS Board. Consequently Supervisor's Notification of Defect (CI 42.2) No 69 is closed out.



Photo in Disposal Hold CCW-034 showing ducting passing through in to Regen Kitchens CCW-032.



Photo in Disposal Hold CCW-034 showing ducting passing through in to Regen Kitchens CCW-032.

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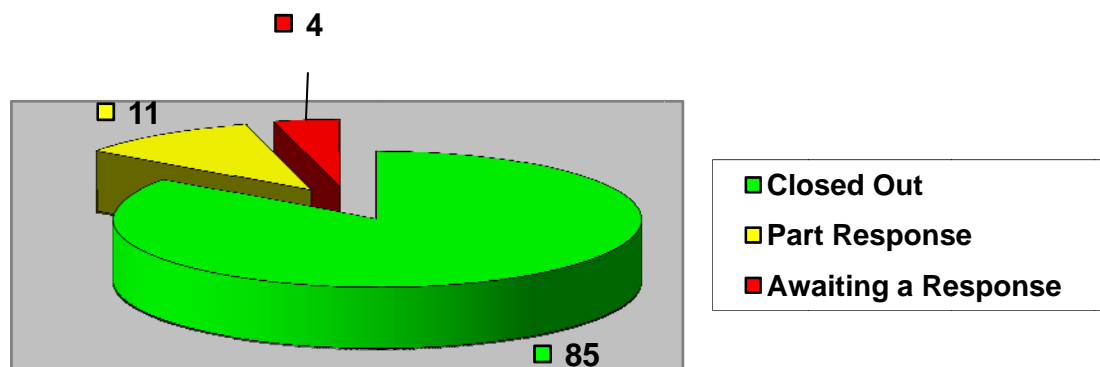


Photo in Disposal Hold CCW-034 showing ducting passing through in to Fluid Hold CCW-033.



Photo in Disposal Hold CCW-034 showing ducting passing through in to Fluid Hold CCW-033.

5.0 INFORMATION REQUIRED



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<i>Item No.</i>	<i>Description</i>	<i>Date Requested</i>	<i>Comment</i>	
Items 1 to 29 have been closed out				
30	Confirm when cabling is complete, water pumped out and batteries removed.	10/08/12	Response received.	
Items 31 to 44 have been closed out				
45	See Supervisor's Communication No 30.	18/09/12	Response received.	
Items 46 to 92 have been closed out				
92	Confirm that fire damper actuators highlights can be accessed on completion of the cold water and ceiling installation.	14/01/13	Response received.	
Items 93 to 121 have been closed out				
122	Condensate discharges are routed to gullies are a potential trip hazard. Confirm that the CDM Coordinator has considered this problem and confirm if there are any measures to address this.	16.05.13	Response received.	
Items 123 to 126 have been closed out				
126	Confirm areas identified in the Communication can be accessed in accordance with the Employers Requirements.	24.06.13	Response received.	
Items 127 to 132 have been closed out				
133	Plant room PR31. Confirm that fire rating of flexible connections and supporting system is equivalent to overall system requirements. Confirm fire rating of fans (observed as non-bifurcated type).	03.07.13	Response received.	

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Items 134 to 136 have been closed out				
137	Various points requiring clarification in relation to the AHU 21.	08.07.13	Response received.	
138	Confirm when ventilation pipe in RCG-067 AND RCG-068 has adequate support.	09.07.13	Closed out.	
139	Confirm that there is adequate seal between back boxes and the board especially in fire walls.	17.07.13	Response received.	
140	Pull cords in 1-521 too far from wc.	18.07.13	Response received.	
141	Please provide technical solutions to various issues to the steelwork to the Children's Roof.	23.07.13	Response received.	
Items 142 to 144 have been closed out				
145	Confirm proposals to achieve level floors to the Atrium Bridge Corridors at door openings to offices/rooms.	25.07.13	Response received.	
146	Confirm when smoke detector is repositioned to the required distance from the supply grille.	25.07.13	Response received.	
Items 147 to 153 have been closed out				
154	Confirm if isolation ductwork hatch in Plant Room 21 needs a double seal.	26.08.13	Response received.	
Items 155 to 159 have been closed out				
160	Confirm the appropriate action to ensure that there is a uniform covering of the shaded STO panel on the east elevation adjacent Core E.	10.09.13	Response received.	
161	Confirm when all medical gas valves are covered al floors.	12.09.13	Closed out.	
162	Confirm when the other legs have been extended to the steel framework in riser on Level 0 ZF Riser M30.	16.09.13	Response received.	
163	Provide details of the lead protection to ducts and penetrations passing through walls above the ceilings within Radiology.	16.09.13	Response received.	
164	Confirm when rodding eye inspection cover has been repositioned to allow access within toilet MDU-011.	17.09.13	Closed out.	
165	Confirm measures to improve the poor quality finish to the blockwork on the east elevation.	20.09.13	Response received.	
166	Confirm when water damaged boards in Plant Room 41 are replaced.	20.09.13	Response received.	
Items 167 to 174 have been closed out				
175	Confirm when the hotmelt areas damaged by temporary supports to Atrium Roof have been repaired and provide the accompanying QA information.	16.10.13	Response received.	
Items 176 to 181 have been closed out				
182	Confirm that the 2 out of 4 HD bolts either missing or not protruding through the baseplate satisfies the design and specification intent or provide a remedial solution	30.10.13	Open.	
183	Confirm that a door selector will be fitted to the doors leading into room THE-361 IN Area 2-527	25.11.13	Closed out.	
184	Confirm the solution to overcome the gaps between base units and walls in Area 2-524.	25.11.13	Closed out.	
185	Confirm if door selector will be fitted to fire doors leading into room the-361 Bulk Store.	28.11.13	Open.	
186	Confirm when the hatch DMW-004 Therapy Room has been repositioned.	28.11.13	Closed out.	
187	Please confirm when the fresh air inlet duct in Plant Room 21, on Level 2 Zone D.	28.11.13	Closed out.	
188	Confirm when fire alarm FP cables have not been installed in accordance with BS7629-1:2008 and the manufacturer's recommendations. (See Defect 68)	13.12.13	Closed out.	
189	Confirm when the Bed Head Buffers in some of the Generic Assess & Treatment Rooms, Area 0-522 have been position centred on the beds.	17.12.13	Response received.	
190	Main cleats completely rusted and fire protected steelwork painting is also chipped at VIE. Confirm remedial action.	29.01.14	Closed out.	

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191	Confirm that the nurse call points will be fitted in 1-537 Room OPD1-122 and 1-539 Room OPD1-097.	10.02.14	Open	
192	Confirm appropriate specification for the partition between the Medi Cinema and the Snoozelum Room.	12.02.14	Open	
193	Confirm if the mastic sealants which have been applied to junction of the horizontal beadheads and the vertical sections replace the specified preformed gaskets.	13.02.14	Open	
194	Seeking confirmation how the fittings can be fitted within the present space or congested.	17.02.14	Open	
195	Confirm when suspended ceiling supports are fitted on Level 0 Area 0-535.	27.02.14	Closed out.	
196	Confirm the procedures for accessing the valves in accordance with SHTM 2035 Section 5 on Level 0 Zone C in corridor OPD 024 adjacent OPD 025.	28.02.14	Open	

6.0 SUPERVISORS TESTS AND INSPECTIONS

Tests not required	N/A
Tests required but not tested	Fail
Tests required which has passed tests	Pass

Tests				
Ref	Title	To be Notified by	Status	Test Date
01-86	Various tests undertaken from the 9/07/2012 to the 30/06/2013.			
87	Smoke damper test verification - Level 0, zones D & G.	Brookfield	Fail To be re-witnessed	24.09.2013
88-100	Tests 28.09.2013 & 09.10.2013			
101	Fire alarm loop tests were carried out on L2ZA, L2ZE, L1ZE, L1ZB, L1ZC & L0ZE.	Brookfield	2 Loops Failed	29.10.2013
102-	Various tests undertaken from the 30/10/2013 to the 27/11/2013.			

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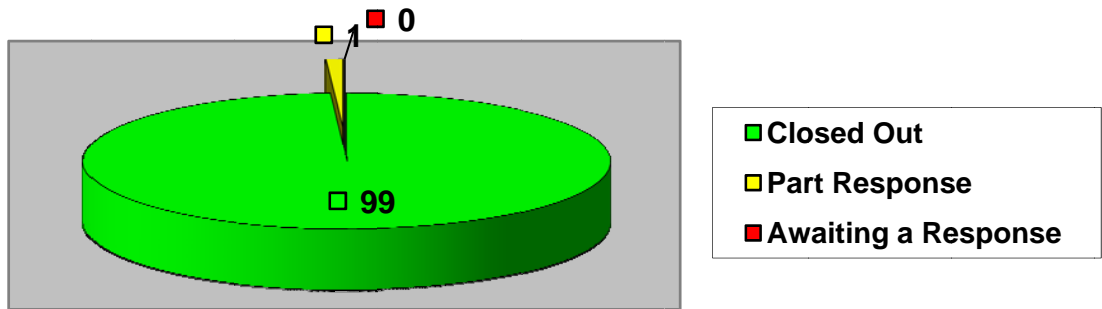
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113				
114	L2 – 2-519 Fire dampers	Brookfield	PASS	12.02.2014
115	L1 1-539 Fire dampers	Brookfield	Fail	22.11.2013
115A	Fire panel No13 Level 0, 0-526 tested. On call point failed.	Brookfield	Fail	22.11.2013
116-119	Various tests undertaken from the 22/11/2012 to the 28/11/2013.			
120	1A & 1J - Fire damper drop tests. See 123 & 124 below.	Brookfield	N/A	29.11.2013
121-122	Various tests undertaken from the 28/11/2012 to the 29/11/2013.			
123	FD 1-518 001 Fire damper drop test.	Brookfield	Fail	29.11.2013
124	FD 1-539 002 Fire damper drop test.	Brookfield	Fail	29.11.2013
125	High voltage cable test between the main intake substation and substation 4A.	Brookfield	Pass	04.12.2013
126	Ventilation duct pressure test between Riser M25 Core D between Levels 4 and 12.	Brookfield	Fail	18.12.2013
127-138	Various tests undertaken from the 10/01/2012 to the 29/1/2014.			
139	Smoke damper tests in plantroom 31. Some fails.		FAIL	
140	Fire alarm loop test in L0ZC panel 31 loop 2	Brookfield	PASS	03.02.2014
141	PR31 - ventilation balancing to AHU's 10, 11 & 12.	Brookfield	PASS	04.02.2014
142	High Voltage cable test between Sub station 3 and Sub station 4.	Brookfield	PASS	05.02.2014
143	Witnessing the testing and energising of bus bar auto change over panel BB2 P31-1 in PR31.	Brookfield	PASS	07.02.2014
144	Ventilation system witnessing in PR21 AHU's 22 & 23.	Brookfield	PASS	07.02.2014
145	Fire damper drop tests in L2ZA areas 510, 511, 519, 525, 529 & 530.	Brookfield	PASS	12.02.2014
146	Fire damper drop tests in PR31.	Brookfield	PASS	13.02.2014
147	PR21 AHU's 15, 19 & 25 BMS alarm and control witnessing	Brookfield	PASS	13.02.2014
148	Lighting and KNX controls witnessing in L1ZA.	Brookfield	PASS	14.02.2014
149	PR21 LTHW & CW pumps and pressurisation units BMS alarm and control witnessing.	Brookfield	PASS	14.02.2014
150	Witnessing of ventilation balancing within PR31 AHU 15 & 9 & theatres THE 350 & THE 141.	Brookfield	PASS	21.02.2014
151	Witnessing of ventilation balancing within PR31 AHU 16. Results within Plant room 31 satisfactorily, but airflows within THE 354 erratic and require be reviewing and retesting.	Brookfield	FAIL	21.02.2014
152	Witnessing of ventilation balancing of AHU's 07, & 08 in PR31 and in Theatres 154, & 150.	Brookfield	PASS	28.02.2014
153	Witnessed chilled water flow rates for fan coil units 138, 026, 028, 012, 006, 004 and computer room RAC 101 within zones D and G.	Brookfield	PASS	28.02.2014

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7.0 DEFECTS NOTIFICATIONS ISSUED



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	Description	Date Requested	Comment	
Items 1 to 63 have been closed out.				
64	Confirm when poor quality blockwork / perpends are addressed.	29.07.13	Response received.	
Items 65 to 68 have been closed out.				
69	Confirm that ducts are to the required fire rating or if dampers are required to ensure the appropriate fire integrity of the partitions in rooms CCW-032, CCW-034 and CCW-033..	19.02.14	Closed Out	

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ENERGY CENTRE****SUPERVISOR'S REPORT NO. 34****FEBRUARY 2014****John Redmond, Technical Advisory Services****Property and infrastructure****Capita, The Beacon, 8th Floor, 176 St Vincent Street, Glasgow G2 5SG**

	Signed	Date
Originated by	John Redmond	6th March 2014
Completed by	Douglas Wilson	6th March 2014

CAPITA

**NEW SOUTH GLASGOW HOSPITAL
ADULT AND CHILDREN'S HOSPITAL AND ENERGY CENTRE
NEC 3 SUPERVISORS REPORT NO. 35
MARCH 2014**

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SUPERVISOR'S REPORT NO. 34**FEBRUARY 2014****1.0 EXECUTIVE SUMMARY: ADULT & CHILDREN'S HOSPITAL**

Visits to the site during March 2014 continue to indicate that the construction and procedures are progressing in a satisfactory manner in accordance with the Employer's Requirements.

Throughout, the standard and quality of the workmanship is generally good and operations are being carried out in an acceptable manner.

Quality and compliance inspections were carried out on Level 1 Areas 1-537, 1-518 1-517 and 1-539, Level 2 Area 2-516, 2-517, 2-518 and 2-519. The quality of the work was to a good industrial standard.

Brookfield provided us with their QA documentation including a list of their defects which had been logged on their IDMS system. The areas inspected were generally to a good industrial standard and the defects captured by Brookfield were generally of a minor nature. We did however identify a number of minor defects which Brookfield recorded on to their IDMS system. These included pull cords and smoke detectors in the wrong position. We raised with Brookfield the lack of preformed seals fitted to the bedhead elsewhere in the Hospital. There was also a lack of space in room OPD1-004 Level 1 Area 1-539. The nurse call pull handle and dispenser cannot be fitted in the space as per the drawing.

Brookfield continues to undertake their Quality Assurance checks on site with inspection and checklist documentation available for the ongoing construction activities. Over the period two 85 point check were carried out to two partitions.

Acoustic Tests were carried out during the period and we witnessed a test in room DCT-013. We await a report for this and other rooms tested.

Zutec entries continue to be under review.

The car park concrete works are virtually complete and a good quality finish has been maintained throughout. Minor tidying up work is ongoing. Handrailing and barrier erection has commenced but Brookfield has initiated some checks. Steelwork column foundation at the stairwell is in need of remediation.

The final screed to the Atrium Bridge on the 4th floor will be used as a benchmark for all the Atrium Bridge Floors and this is to be completed during March.

Final elements of steelwork connections are still to be completed to the roof of the Children's Hospital in Zones A and B. Communications have been raised with Brookfield and they are addressing these, but some still remain outstanding. Other trades, particularly M&E, are progressing apace in these areas which may result in the completion of these details being awkward.

Roadway issues on the dual carriageway leading to Renfrew Road remain outstanding. Brookfield is aware of this and will rectify at an appropriate time in line with their programme for this area.

NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND ENERGY CENTRE**SUPERVISOR'S REPORT NO. 34****FEBRUARY 2014**

Light civil work to landscaping areas in courtyards has commenced and quality to date appears to be satisfactory. Work to drainage and an underground retention system at the south end of the site has commenced with quality to date satisfactory.

The M&E installation quality is being maintained to a good industrial standard and we are generally satisfied that the installation is compliant with exception of the specific items raised under communication.

The M&E installations are progressing on all levels up to Level 12 and range from first fix module installation to completed and tested areas. Work is progressing within levels 2, 3 & 4 plantrooms. Ductwork and sprinkler installation is in progress together with the positioning and installation of plant on Level 12. The installations in the Energy Centre are well advanced and we have witnessed a retest of the fire alarm system and an analysis of the quality of the chilled water. The installation of the CHP's in progress.

It was agreed that AHU 21 would form the standard for all other AHU's, therefore any issues are to be fully closed out to ensure quality installation. We still await a response from Brookfield to allow us to close out remaining issues. It should be noted however, that some items will only be closed out once full commissioning has been undertaken.

We witnessed various tests and commissioning activities to fire alarm loops, AHU ventilation systems, high voltage cables, bus bar auto change over panel, fire dampers, BMS controls and alarm witnessing and lighting and KNX controls. There was only one which was not satisfactory.

We are continuing to work with Brookfield during our inspections highlighting any items that have raised concern. Items identified in this manner are generally being addressed by the site team in advance of any defect notice being raised.

In general terms we are satisfied that the installations continue to be installed to a compliant standard, and are of a good quality. However we have noted that certain items this month have raised concern. These have been raised with the Contractor as follows:-

Supervisor's Communication General Matters / Other Instructions No 197, 198, 199, 200, 201, and 210 were issued during March.

- **Seeking copy of the acoustic report.**
- **Seeking proposals that the column fixings to the foundations at the car Park stairwell comply with design intent and grouting is in accordance with the specification.**
- **Seeking confirmation that remedial action will be taken re gaps in the thermal insulation in back boxes of remote TVR's.**
- **Seeking confirmation of measures to address materials being stored in AHU's.**
- **Seeking confirmation that the fixings to the underside of the roof slab supporting services on Level 3 Area 3-501 are in accordance with the design**

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- Seeking confirmation if quality inspections will be carried out to crimped joints on Levels 1 & 2 were joints have failed.

Supervisor's Notification of Defect No 70, 71, 72 was issued during March.

- Seeking confirmation that smoke detectors on Level 1, 1-517 and 1-518 which are fitted too close to walls will be repositioned in compliance with BS5839-1 Clause 22.3
- Seeking confirmation that smoke detectors on Level 2, 2-517 which are fitted too close to walls will be repositioned in compliance with BS5839-1 Clause 22.3
- Seeking confirmation that smoke detectors which are fitted too close to walls in rooms THE-268, 270, 271, 272, 273 and 274 will be repositioned in compliance with BS5839-1 Clause 22.3.
- Seeking confirmation when overcrowding of cables on Level 5, 5-110 will be addressed.
- Seeking confirmation when the smoke detector in room CCW-049 which is too close to a supply grill will be repositioned.

We continue to be assisted by the site teams and the NHS Project Team who produce an internal weekly report which assists us in resolving various construction, mechanical, electrical and quality issues. We continue to close out our Supervisor's Notifications and Defects when we have received satisfactory responses.

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2.0 DESIGN COMPLIANCE CHECK

Currently nothing to report.

3.0 PROCEDURES REVIEW**3.1 Contractor's QA Procedures / Compliance Inspections****Quality and Compliance inspections**

Brookfield and their subcontractors have continued with their QA and checking and inspection procedures during this period. We are in discussion and liaise with Brookfield's Quality Manager on QA matters and we undertake regular reviews of their QA documentation.

Quality and compliance inspections were carried out with Brookfield in a number of areas. Brookfield provided us with their quality packs which included a list of their outstanding works, defects recorded on to their IDMS system quality sign off sheets and drawings.

Together with Brookfield we carried out quality and compliance inspections on Level 1 Areas 1-505 and 1-507 and a part inspection in Area 1-533, The areas inspected were to a good standard and the defects captured by Brookfield were generally of a minor nature.

Quality and compliance inspections were carried out with Brookfield on Level 1, 1-536, 1-508 and 1-509. The areas inspected were to a good standard and the defects captured by Brookfield were generally of a minor nature.

Quality and compliance inspections were carried out with Brookfield on Level 0, 0-518 and 0-517. The areas inspected were to a good standard and the defects captured by Brookfield were generally of a minor nature.

Quality inspections were also carried out on Level 2, Areas 2-523, 2-525 and Level Area 1-538. The areas inspected were to a good standard and the defects captured by Brookfield were generally of a minor nature. However we have raised a Defect for smoke detectors which are located too close to walls and did not comply with BS 5839-1:2002.

We carried out a Quality & Compliance Inspection of Level 2, Areas 2- 531 and 2- 533 with Brookfield and the area inspected were to a good standard. We did however note a few defects which Brookfield recorded on their IDMS. These were as follows:

- 2-531 RENO 084 - Smoke detector too close to supply grille.
- 2-531 RENO 082 corridor - Smoke detector too close to supply grille.
- 2-531 several sprinkler system fittings not painted.

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- 2-533 Smoke detectors too close to walls in rooms RENO 023, 024, 025, 016 & 090.
- 2-533 several sprinkler system fittings not painted.

We shall continue to monitor these defects until they are addressed.

We have raised a Supervisor's Communication No 191 in relation to the Nurse call points not installed in these rooms and asked Brookfield to confirm when this works have been completed.

We have also raised a Communication in relation to the lack of seals between the horizontal beadheads and the vertical section asking Brookfield if there has been a change to the specification. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 193). **AWAITING RESPONSE FROM JOHN WALES**



Bedhead junction at the horizontal vertical sections currently fitted on Level 0 showing gasket.



Bedhead junction at the horizontal vertical sections currently fitted on Level 1, Area 1-537 and 1-539 showing sealant.

The recessed area on the right hand side of the wash hand basin in room OPD1-004 Level 1 Area 1-539 is congested. There is a nurse call, dispenser and grab rail to be fitted. We have asked Brookfield to confirm how the fittings can be fitted within the present space or if there are any proposals to reposition fittings. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 194). **AWAITING RESPONSE FROM JOHN WALES**

General Inspections

Inspections were carried out on Levels 2 and 3 of the Children's Hospital and the quality of work was to a good industrial standard. We noted that there was no insulation inside the vertical SFS members either side of the windows in rooms GW3-027 and GW3-031 in Area 3-507. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 185).

We carried out inspections with Brookfield on Level 4 Areas 2-523, and 1-525 and the works were progressing at varying stages in these areas. The quality of work was to a good industrial standard.

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An inspection with Brookfield was carried out to the wall on Grid Line 22 in the Children's Hospital. The quality of the finished surface was to a good industrial standard. Inspections were also carried out in the Children's Atriums and the work was progressing towards completion and to a good industrial standard. There was water damage to boards in Area 2-510 and these will be replaced by Brookfield.

Inspections were carried out in Courtyards No 6, 7, 8 and 9. Courtyards No 6 and 7 were complete with the exceptions of snagging. Courtyard 8 had hotmelt and insulation applied to the concrete cap over the basement. In courtyard 9 hotmelt has been done around the perimeter and brickwork in progress. Generally

We undertook inspection with Brookfield on Levels 10 and 11 and Levels 5 and 6 the works were progressing towards completion and was generally to a good industrial standard.

A joint inspection of above ceiling fire stopping was carried out on Level 1 Area 1-521 and only a couple of sleeves required to be fitted.

Zutec Review

We reviewed testing information on Zutec for the Air Handling Units 07 and 08 in PR 31 and these were acceptable.

Acoustic Tests

We asked Brookfield to provide us with a copy of the Acoustic Test Report. They have informed us that the acoustic testing will be taking place as per the Acoustic Testing Programme. They have provided us with a report for one of their tests and the additional tests carried out during their visit will be reported in due course. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 197 is closed out.

Acoustic tests were carried out to partitions dividing the following rooms:

- AAW 271 Single Bed to AAW 270 Single Bed.
- ENC 115 Bier Body Viewing Room to EMC 116 Bier Body Viewing Room.
- CCW 015 Relatives to CCW 014 Relatives.
- CCW 023 Dirty Utility to CCW 014 Relatives
- CCW 052 BED BAY to CCW 051 Single Bed Isolation Room.
- Only one partition did not achieve the performance criteria and that was the partition between CCW 015 Relatives to CCW 014 Relatives.

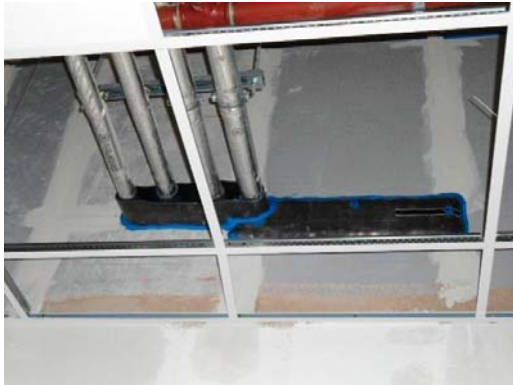
We await details of the lead protection to ducts and penetrations passing through walls above the ceilings within Radiology. Brookfield has confirmed that drawing No AST-XX-XX-DT-252-112 from Astins has been given status B by both NHS and Brookfield with over marked comments. Brookfield discussed this with Astins and a test of a room is planned for February. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 163). **AWAITING RESPONSE FROM JOHN WALES**

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The Bed Head Buffers in some of the Generic Assess & Treatment Rooms, Area 0-522 have not been fitted in their correct position centred on the beds as shown on drawing NA-SZ-00-PL-400-522. This was previously recorded as part of a document review. A PMI has been fitted to redesign. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 189 is closed out. Awaiting response from John Wales

85 point Checks

Brookfield continues to undertake their Quality Assurance checks on site with inspection and checklist documentation available for the ongoing construction activities. Over the period one 85 point checks was carried out to partitions. Level 6 Zone F 504 Room GENW1-031. There was only one fail which was addressed during the quality check.

Above Ceiling Inspections

We carried out above ceiling inspections of the partition walls with Brookfield on Level 0 Zone D. Only minor issues were identified such as missing or dislodged fire pillow at penetrations and a few areas of missing fire stopping/acoustic sealant. The defects were recorded on a drawing and addressed. Below is a copy of the marked up drawing and signed off "Above ceiling Sign Off Sheet".

3.2 Witness Testing and Commissioning

We witnessed a number of tests during March 2014 which was satisfactory and these were as follows:

- Fire alarm loop test within L0ZC Panel 31 loop 2.
- Witnessing of ventilation balancing of AHU's 10, 11 & 12 in PR31 and in Theatres 120, 124 & 137. To be revisited when lights and ceilings are complete.
- High voltage cable testing between substation 3 and Sub station 4.
- Bus bar auto change over panel in PR31.
- Witnessing of ventilation balancing of AHU's 22 & 23 in PR21.
- Fire damper drop tests in L2 zones 510, 511, 519, 525, 529 & 530.

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- Fire damper drop test in Level 3 plant room 31.
- BMS control and alarm witnessing within PR21 AHU's 15, 19 & 25.
- Lighting and KNX control witnessing within L1ZA.
- BMS control and alarm witnessing of CW and LTHW pumps and pressurisation units within PR21.
- Witnessing of ventilation balancing of AHU's 15 & 09 and in theatres THE 350 & THE 141. To be revisited when lights and ceilings are complete.
- Witnessing of ventilation balancing of AHU's 07, & 08 in PR31 and in Theatres 154, & 150. To be revisited when lights and ceilings are complete.
- Witnessed chilled water flow rates for fan coil units 138, 026, 028, 012, 006, 004 and computer room RAC 101 within zones D and G.

We witnessed a test during March 2014 which were unsatisfactory. See below

- Witnessing of ventilation balancing within PR31 AHU 16. Results within Plant room 31 satisfactorily, but airflows within THE 354 erratic and require to be reviewed and retested.

Previously witnessed tests which failed and has been re-tested successfully:

- FD-2-519-016 – Fire damper test lever was too close to partition preventing smooth closure. The fire damper was repositioned and tested on 12th February 2014.

Previously witnessed tests which require to be retaken.

- Fire panel No 13 Level 0, 0-526 was tested and several smoke detectors and one call point activated satisfactorily. The test was aborted when on call point failed.
- FD-1-539-002 – The fire damper test lever was fouling adjacent ductwork. The fire damper is to be repositioned and retested.
- FD-1-518-001 - Difficult to access and activate damper link due to type of hatch fitted, and damper status indicator was obscured. A new hatch is to be installed and status indicator to be exposed.
- FD-1-539-003, Unable to access fire damper inspection hatch. A new inspection hatch to be fitted on opposite side of wall.
- Smoke damper verification and operational tests were carried out in Level 0 zones D & G which was aborted for the following reasons - One actuator not being connected, new hatch required in plaster board to gain access to one actuator and duplicate addresses being discovered on several other actuators tested.
- Fire alarm loop tests were carried out within L2ZA, L2ZE, L1 ZE, and L1ZB which tested satisfactorily.
- Fire alarm loop tests were carried out within L1ZC panel 28 & L0ZE panel 11 which failed and will require retesting.
- Ventilation duct pressure test between Riser M25 Core D between Levels 4 and 12.
- Smoke dampers were tested in plantroom 31 and there were some which failed.

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Currently nothing to report.

3.4 Non Conformance Reports

We reviewed Brookfield's NCR Tracker and noted the issues raised by the Package Managers. The blockwork and pointing on the south and east elevations although improved by cleaning continues to be a concern with shading of the mortar evident. Prater has still to offer it up to Brookfield as complete reference NCR 156. We are also monitoring the issue in relation to water between the glass of the Structural Panels NCR reference 157 and 219. Brookfield has had an independent survey carried out by Cladtech Associates which has been forwarded to Structal. Brookfield is reviewing all the information. NCR 237 was issued to Astins in relation to the lack of insulation at abutments between internal partitions and external walls.

4.0 CONSTRUCTION REVIEW**4.1 Visits to the Works**

The following members of our team undertook site inspections, reviewed documentation, attended meetings and met with relevant Contractors representatives on-site personnel:- John Redmond (Lead NEC3 Supervisor) 3rd to 7th, 10th to 14th, 17th to 21st and 24th to 28th February; Douglas Wilson (M&E NEC3 Supervisor) 3rd to 7th, 10th to 14th, 17th to 21st and 24th to 28th February; Willie Roxburgh (Civils/Structural NEC3 Supervisor) part days on 5th, 7th, 12th, 14th, 21st and 27th February, plus remote desk top input most days of the month. Capita's NEC3 Supervisor's team visited site a combined 46 person days.

4.2 Elements of the Works available for inspection

- Energy Centre – structurally complete.
- Main building – all concrete areas. (becoming very limited due to access and partitions)
- Tunnels between ACH and Labs, and Cores C to F.
- Structural steelwork to all roof areas (partly limited due to access and partitions).
- Neuro bridge (partly limited due to access).
- Dual carriageway to Renfrew Road, turning area in front of the main entrance, and carriageway from Hardgate Road.
- South site drainage areas.
- Car park area.
- Internal partitions.
- M&E modular units.
- Roofing.
- Cladding.
- Windows.
- Sto system.
- Brickwork Courtyard 8, and 10.
- Brickwork/blockwork: Zone J North, East elevation and Basement Blockwork.

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- Rainscreen: Zone F & C.

4.3 Current Observations

The visual inspections of the work carried out to date indicate that the works are generally being carried out to a satisfactory standard. We continue to be assisted by the site teams and the NHS Project Team in resolving various construction, mechanical, electrical, and quality issues. We continue to close out our Supervisor's Notification and Defects when we have received satisfactory responses. Listed below are observations closed out, still to be closed and those raised following site visits in February 2014.

4.3.1 Structural

At the Atrium Bridge in respect of final screeding the floor finish on the 4th floor will be used as a benchmark for all the Atrium Bridge Floors and this remains to be finalised.

Final elements of steelwork connections are still to be completed to the roof of the Children's Hospital in Zones A and B. Communications have been raised with Brookfield and are listed on the following pages. These still remain outstanding and have been examined with Brookfield who has indicated that these will be addressed at the appropriate time. However other trades, particularly M&E, are progressing apace in these areas which may result in completion of the above details being difficult. This has remained outstanding for approximately 6 months.

Roadway issues on the dual carriageway leading to Renfrew Road remain outstanding. Brookfield is aware of this and will rectify at an appropriate time in line with their programme for this area.

We asked Brookfield to provide technical solutions to various situations on the structural steelwork to the Children's roof where base plates are "floating", edge distances are minimal or miss the concrete base. Cladding rails also prevented HD bolt fixing. WSP has provided a detailed sketch to show remedial work to plinth. We shall inspect this on completion. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 141). **AWAITING RESPONSE FROM JOHN WALES**

The steel framework in riser on Level 0 ZF Riser M30 has had the legs extended immediately in front of the entrance door. There are other legs which have not been extended yet and we asked Brookfield to confirm when the other legs will be extended. Brookfield has confirmed that these legs are not weight bearing and the weight bearing supports are on Level 01. They also confirmed that the extended legs will be cut back to be completely clear of the ground floor to finish flush with the frame. We asked for confirmation that the justification for this is based on an analytical assessment, and that the details provided are in accordance with this. We have received a further response but not an analytical assessment. We await a further response. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 162). **AWAITING RESPONSE FROM JOHN WALES**

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Extended legs



Leg still to be extended.

One of the base plates Level 4 Zone B has 2 out of 4 HD bolts either missing or not protruding through the baseplate. We have asked Brookfield to confirm that this satisfies the design and specification intent or provide a remedial solution. Brookfield have intimated that this will be attended to in the next period. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 182). AWAITING RESPONSE FROM JOHN WALES



Several fixings to the underside of the roof slab for prefabricated framework supporting services on Level 3 zones E, K & F Zone 3-501 are not as originally intended. We have asked Brookfield to confirm that what has been provided has been designed and that the installation is in accordance with that design.

Car Park 1

At the car park concrete works are virtually complete and good quality has been maintained throughout. Minor tidying up work is ongoing. Handrailing and barrier erection has commenced but Brookfield has initiated some checks. Steelwork column foundation at the stairwell is in need of remediation.

We have asked Brookfield to advise on their proposals to ensure that the column fixings to the foundations comply with the design intent. We have also asked them to confirm that grouting to the baseplates is in accordance with the specification. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 198).

4.3.2 Energy Centre

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Steelwork snagging appears to have been addressed, but much tidying up remains outstanding in the eastern half of the building.

4.3.3 Above Ground Drainage

Work to drainage and an underground retention system at the south end of the site has commenced with quality to date satisfactory.

4.3.4 Dual Carriageway to Renfrew Road. (A&C)

The defects previously identified will be reviewed nearer to completion when they will be effectively rectified. This will also now include the significantly damaged kerb lines affected by the storage and lifting of the neuro-bridge sections.

4.3.5 Pipework.

Installation of hot, cold, heating, & chilled water pipework in the A&C hospital is progressing and in general is being installed to a good standard.

We are continuing to monitor all pipework installations to identify possible dead legs. The quality checking by Brookfield would appear to be identifying these before our inspections. Open unprotected ends are being monitored during our site inspections and there has been a marked improvement in all areas.

During our inspections in Plant Room 21, we noted that all AHU condensate discharges are routed to gullies via low level unprotected plastic pipework. This is a potential trip hazard. We have asked Brookfield to confirm that the CDM Coordinator has considered this problem and has asked if there are any measures to address this. There is also the risk of the pipes being broken. Refer to SHTM03-01 clause 4.25. Brookfield has confirmed that where appropriate, sheet metal guards will cover condensate discharges. However we have requested to see a typical detail of what they are proposing to allow further comment. We have asked Brookfield to confirm if a ramp (up/down) will be installed over the low level pipework & be fixed in position. Also in some instances, where the pipework is particularly exposed, this ramp may need to extend further along the length of the pipe or additional protection provided. We have asked again if the CDM Coordinator has considered this problem and has taken cognisance of SHTM03-01 clause 4.25. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 122. **AWAITING RESPONSE FROM JOHN WALES**)

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We noted that the service valves on Level 0 Zone C in corridor OPD 024 adjacent OPD 025 are inaccessible within the ceiling space. We vasked Brookfield to confirm the procedures for access to these valves in accordance with SHTM 2035 Section 5. Brookfield has confirmed that a section of unistrut has been removed and a modified 550x550mm MEWP cage would allow access to the valves. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 122 is closed out



Following a visit to site we raised our concerns that there are some locations where there is insufficient space for maintainable, replacement building services and plant as per the Employers Requirement Section 5.13 Facilities Management.

We raised our concerns with Brookfield in relation with the following areas Level 2 Zone H. Pipework connections above line of unistrut. Access appears difficult. We have asked Brookfield to confirm that future access will be available.



Level 2 / Zone K. Current access to install chilled water riser pipework appears difficult. We have asked Brookfield to confirm that future access will be available once the walls are constructed.



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Level 3 / Zone H. Pipe Racks in area shown below have multiple levels of pipe work. We have asked Brookfield to confirm that future access will be available. Brookfield confirmed that access to the 3 areas identified will be accessible for FM in compliance with ER Section 5.13. The access arrangements for this item will be recorded as part of the Access Strategy Tracker which is currently being developed by Brookfield and Mercury. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 126).



We asked Brookfield to confirm that future access will be available to pipework on Level 3 / Zone H and Level 2 Zone K. Brookfield confirmed that access to the areas identified will be by an adapted MEWP 540x 540. This has been recorded on their Access Strategy Tracker. Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 126 is closed out.

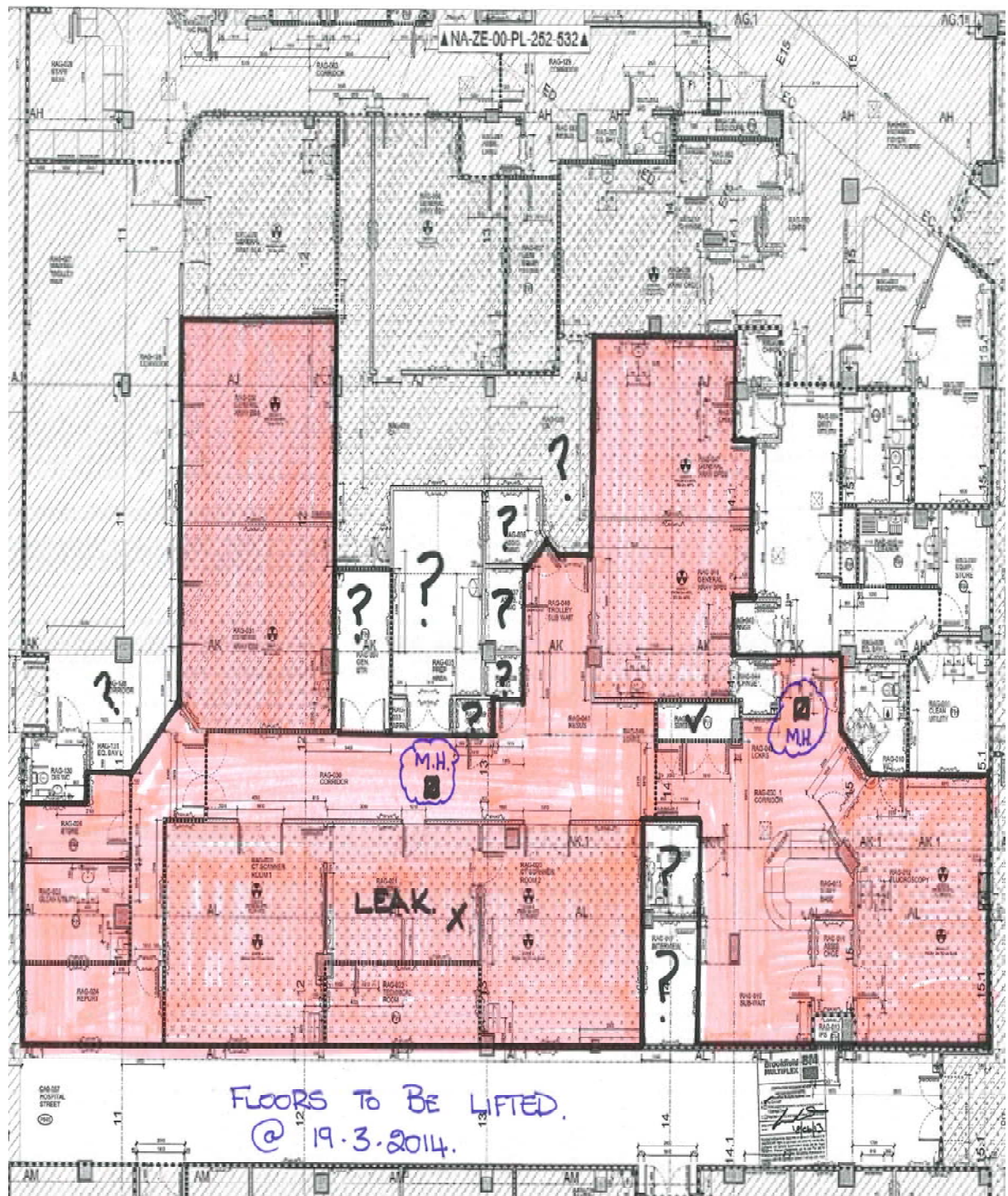
Level 1 Area 1-533 and Level 0 Area 0-531.

Over the past few weeks there have been failures of crimped joints on Level 1 Area 1-533 and Level 0 Area 0-531. Please confirm if you propose to carry out a percentage quality inspection of all crimped joints in the areas to assess if the cause is associated with fixing by an operative or operatives which don't comply with the fixing specification. Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 202.

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During our Quality and Compliance Inspection of Level 1, 1- 536 and various other areas we noted that fittings i.e. elbows, "T" pieces etc are not being painted after installation in accordance with BS 5306 - section 21.2.1.2.



This states that non-galvanized ferrous pipes for use above ground shall be supplied to site with one external coat of paint or varnish, and fittings shall be coated, and pipes shall be further coated, as soon as practicable after installation.

4.3.6 Ventilation

We were in attendance to witness the successful test of the supply and extract airflow testing of AHU unit 26 in Plantroom 21.

We asked Brookfield to confirm that the fire rating of the flexible connections and supporting system in Plant room PR31 is equivalent to the overall system requirements. The fan is located adjacent to atrium at the west side of building. We also asked them to confirm fire rating of fans (observed as non-bifurcated type). ZBP has confirmed to Brookfield that fans require to be fire rated and are at technical submittal stage. Brookfield has issued an instruction to have the fans replaced. We await comments in relation to the connections. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 133. AWAITING RESPONSE FROM JOHN WALES



Following an inspection of Plant Room PR21 we raised a number of points which were clarified, however the items below are still awaiting comment from Brookfield.

- Confirmation received that diffuser plate will be fitted to alleviate fan discharge velocity issues raised (items 1a, b, d, e & f). We asked for details of the proposed diffuser plate to be fitted in front of supply AHU fan discharge. The diffuser plate already fitted to AHU 21 appears inadequate for its intended use. Brookfield is awaiting a response from the Manufacturer.
- We asked for confirmation that the AHU is compliant with SHTM03-01, or state any agreed derogation. Some aspects stated do not comply with the SHTM & will require agreement from the Board. Brookfield has confirmed that

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all All units are SHTM compliant and inline with ZBP's design. There are a few cases where the specific fan powers could not be achieved as the manufacturers' limiting velocity of 2m/s across components would not have been achieved, this has been brought to ZBP's attention. All units are approved and supplied to ZBP's design schedules.

(See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 137). **AWAITING RESPONSE FROM JOHN WALES**

We have asked Brookfield if the Isolation ductwork hatch to the fire rated ductwork in Plant Room 21 needs a double seal. This Notification has been forwarded to the relative floor manager and is being investigated. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 154). **AWAITING RESPONSE FROM JOHN WALES**

We have brought to Brookfield's attention that materials are being stored within Plantroom 32 AHU 02 which can cause damage to the heating and cooling coil aluminium fins in plantroom 32 AHU 02. We have asked Brookfield to confirm their measures to address this bad practise. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 200).

4.3.7 Insulation

The thermal insulation installation to the pre-fabricated sections of pipework is being completed off site, before delivery and completed after installation. During our joint inspections with Brookfield we noted some damaged insulation within the plant rooms and these are being addressed. The ducting is currently being overclad with VentureClad Jacketing.

4.3.8 Pressure testing

Pressure testing of the modular pipework sections on a zone by zone or area by area basis has been programmed through the commissioning meetings.

4.3.9 Medical Gases

Medical Gas pipework in being installed in all areas and independent tests are being witnessed by Ian Sandford of Hulley and Kirkwood.

4.3.10 Energy Centre

The installations in the Energy Centre are well advanced with the A-side systems commissioned and handed over. The installation of the CHP's is in progress.

4.3.11 Trunking

Cable trunking is being installed as part of the offsite fabricated sections that are being installed in the A&C hospital and in general the installation is to a good industry standard.

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4.3.12 Cable Trays

Cable trays are being installed as part of the offsite fabricated sections that are being installed in the A&C hospital and in general the installation is to a good industry standard.

4.3.13 Cabling

Modular wiring looms are now being installed as part of the offsite fabricated assemblies and carefully tied up for protection and installation is of a good standard.

4.3.14 Conduit

Solid conduit installations are well progressed in the areas being fitted out and are to a good industry standard.

4.3.15 Void Detection

The smoke detector within the lobby on Level 1 Room CCW-049 is within 300mm of the supply grille. We asked Brookfield to confirm when this has been repositioned to the minimum distance of one metre. Mercury's specialist contractor has confirmed that in terms of BS5839-1 Clause 22.3 Paragraph M minimum spacing cannot be achieved. They cannot see how they are able to demonstrate the recommendation without infringing on the minimum distance required to be away from the finished wall surfaces. They state further that due to third party equipment on the ceiling this restricts the position on the smoke detector. They state that it can remain in position. However this will mean that this is not compliant in terms of BS5839-1 Clause 22.3. Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 146 has been closed out and subsequently raised as a defect.



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4.3.16 Intake Sub Station

The Installation of the new transformer for Car Park 1 will coincide with all HV cables being pulled through to the Substation. It is anticipated that all cables will be pulled through approximately the end of March 2014. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 30 & 45).

4.3.17 Partitions

The partition between the Snoozelum Room GW3-049 and the Medi Cinema has 50mm insulation fitted in the cavity. The Acoustic Logic Report ALC-SZ-SL-DC-660-001 reviewed by the client on 6/5/13 and by Brookfield on 16/05/13 specifies 100mm thick insulation. This supersedes a previous drawing AST-XX0XXDT-252-006 reviewed by Brookfield on 1/2/13 which shows no insulation. We asked Brookfield to confirm which specification is to be used to provide the required Rw 52dB. Brookfield has confirmed that they have issued the Communication to Astins together with the relevant drawings. They have asked Astins to issue the partition detail to comply with the required Db rating required at this location. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 192). **AWAITING RESPONSE FROM JOHN WALES**

The partition between the east side of the atrium and plant room 41 has been damaged by water ingress. Brookfield to confirm they are aware there has been some damage, and will replace the boards after they have completed the resin flooring works. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 166). **AWAITING RESPONSE FROM JOHN WALES**



Water damaged boards.

4.3.18 Roofs

A&C Roofs

Children's play area R3005 insulation has been completed and planters are being filled.

Hotmelt work still to commence on Roof R3-004.

Roof R12-003 nearing completion.

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Roof R3-003 work progressing to completion.

Roof R3-006 roof complete with landscape in progress.

Roof R4-008 work progressing to completion.

Roof R12-002 work progressing to completion.

Roof R12-001 work progressing to completion.

Podium roofs are nearing completion.

Roofs R4-010 and R3-004 hotmelt complete. We shall continue to monitor the ongoing work.

The West Link Roof R12 between zones F and E have been retested and a number of repairs require to be carried out.

Generally the quality of the workmanship throughout is to a good industrial standard and we have reviewed the QA documentation.

All the Sarna Roof covering is progressing to completion.

Children's Roofs

Hot melt application is progressing on level 2 balconies and Level 3 roof and the quality is to a good industrial standard.

4.3.19 Cladding/Courtyards

A&C

See comments under 3.1 Quality and Compliance Inspections.

The STO render to the upper panel on the east facing elevation nearest Core E has shaded areas visible below the finished surface. We asked Brookfield to confirm the appropriate action to ensure that there is a uniform covering to the panel and when completed. Brookfield has confirmed that they did not find the standard to be of a poor condition, although they do admit that some areas are marked or shaded but not obtrusive. We will monitor this in the coming weeks and if the marks are still present we will report accordingly. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 160). **AWAITING RESPONSE FROM JOHN WALES**

Children's Hospital

The STO is in progressing in Core 2 and the West Elevation and the quality is to a good industrial standard.

Blockwork

Blockwork is progressing on the west elevation and is to a good industrial standard.

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Cladding

Cladding is progressing at plantroom 41 A and is to a good industrial standard.

4.3.20 Windows

Windows are progressing on the external elevations and courtyards in accordance with the specifications.

4.3.21 Equipment

Nothing to report.

4.3.22 Ducting

We asked Brookfield to confirm that the fire damper actuator highlights in room EMC-011 can be accessed on completion of the cold water and ceiling installation. Brookfield has confirmed that a confined space handrail or combination ladder will be provided access and this has been recorded on the Access Tracker. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 92 is closed out.

4.3.23 Floors

We have asked Brookfield to confirm their proposals to achieve level floors to the Atrium Bridge Corridors at door openings to offices/rooms and adjacent levels within these rooms. Brookfield confirmed at the Progress Meeting on Monday 10th February 2014 that Level 4 will be screeded and offered as a benchmark for review by client. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 145).

4.3.24 Blockwork

We have reported since April that the quality and standard of workmanship of the blockwork on the east elevations was not to a good industrial standard.

This was discussed on site with Peter Moir, John Redmond and Alasdair Fernie. It was agreed that the joint variance is as per the block sizes and no amount of remedial works would eliminate this. The repairs to damaged block and the cracks are to be addressed with a further visit required in around 6 weeks (Mid November) to allow the mortar colour to blend in. Brookfield has confirmed that they are awaiting the handover of the blockwork from Prater. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 165).

E-MAIL JW RE INSPECTION

4.3.25 Security

No witnessing took place during the period.

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4.3.26 Pneumatic Tube

Currently nothing to report.

4.3.27 Electrical Fittings & Fixtures

We have inspected the pull cords in room CCU-065 on level 1 1-521 and this has not been repositioned yet. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 140. **INSPECT WITH JW 23RD MARCH**

4.3.28 Sprinklers

Nothing to report

4.3.29 Lighting

The quality of the general and emergency lighting installed to date is of a good standard.

4.3.30 Power

The quality of the small power installation installed to date is generally good with only minor defects noted which have been rectified.

4.3.31 Solar Panels

Nothing to report.

4.3.32 Fire Dampers

During the mechanical fire damper drop tests and the Quality and Compliance Inspections, several damper positional indicators have been found to be obscured by sealant. This is being addressed by Brookfield.

4.3.33 Heating

There are gaps in the thermal insulation in the back box of the remote TRV's mounted on external walls controlling the radiant panel heater in Level 0, ZA ward OBW 009. There is the likelihood that this will cause the TRV to be affected by the lower temperature in the partition void causing the Radiant panel to emit heat unnecessarily wasting energy. This applies to other similar TRV's on outside walls. We have asked Brookfield to confirm if this has been considered and if remedial action will be taken to address this. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 199).

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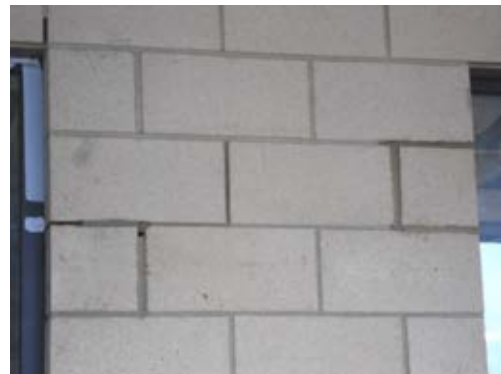
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4.4 Current Defects.

The smoke detector within the lobby on Level 1 Room CCW-049 is within 300mm of the supply grille. We asked Brookfield to confirm when this has been repositioned to the minimum distance of one metre. Mercury's specialist contractor has confirmed that in terms of BS5839-1 Clause 22.3 Paragraph M minimum spacing cannot be achieved. They cannot see how they are able to demonstrate the recommendation without infringing on the minimum distance required to be away from the finished wall surfaces. They state further that due to third party equipment on the ceiling this restricts the position on the smoke detector. They state that it can remain in position. However this will mean that this is not compliant in terms of BS5839-1 Clause 22.3. (See Supervisor's Notification of Defect (CI 42.2) No 74).



The quality of the workmanship to the blockwork on the West Facing Elevation is poor and requires to be addressed. The widths of perpends varying at various locations on this elevation. This is particularly evident between the windows on the right hand side of the entrance to A&E. See photo. Brookfield has confirmed that the issue has been addressed. We carried out a further inspection and noted that the pointing was still darker than the surrounding joints. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 64.



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Smoke detectors on Level 1 Areas 1-517 and 1-518 have been fitted too close to the walls in rooms CCW-100 Isolation Ward Lobby and CCW-147 Recess. Consequently these are not compliant with BS5839-1 Clause 22.3 which states that smoke detectors should not be within 500mm of any walls, partitions or obstructions to flow of hot gases. We have asked Brookfield to confirm when the above smoke detectors have been repositioned. (See Supervisor's Notification of Defect (CI 42.2) No 70).



CCW-100



CCW-047

Smoke detectors have been fitted too close to the walls in rooms MP-018 Staff WC, MP-017 Staff WC, MP-002 Reception and MP-013 Cleaners. They are not compliant with BS5839-1 Clause 22.3 which states that smoke detectors should not be within 500mm of any walls, partitions or obstructions to flow of hot gases. We have asked Brookfield to confirm when the above smoke detectors have been repositioned. (See Supervisor's Notification of Defect (CI 42.2) No 71).



MP-017

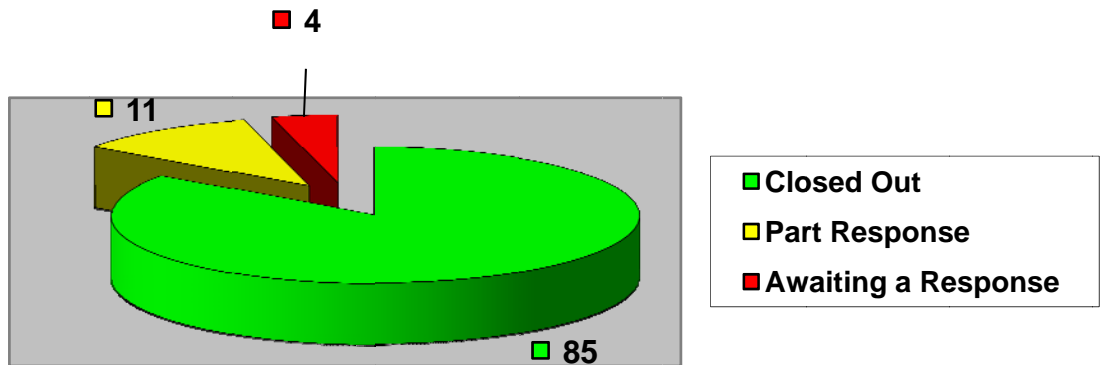
Smoke detectors have been fitted too close to the walls in rooms THE-268, 270, 271, 272, 273 and 274. Staff WC. They are not compliant with BS5839-1 Clause 22.3 which states that smoke detectors should not be within 500mm of any walls, partitions or obstructions to flow of hot gases. We have asked Brookfield to confirm when the above smoke detectors have been repositioned. (See Supervisor's Notification of Defect (CI 42.2) No 72).

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The wiring installed within the trunking at DB 4A-5-1 exceeds the regulated space factor for wiring installations as per section 4.5.3 of the 17th Edition of the IEE Regulations concerning cable capacities in conduits and trunkings. Confirm when this has been addressed.



5.0 INFORMATION REQUIRED



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Item No.	Description	Date Requested	Comment	
Items 1 to 29 have been closed out				
30	Confirm when cabling is complete, water pumped out and batteries removed.	10/08/12	Response received.	
Items 31 to 44 have been closed out				
45	See Supervisor's Communication No 30.	18/09/12	Response received.	
Items 46 to 91 have been closed out				
92	Confirm that fire damper actuators highlights can be accessed on completion of the cold water and ceiling installation.	14/01/13	Closed out.	
Items 93 to 121 have been closed out				
122	Condensate discharges are routed to gullies are a potential trip hazard. Confirm that the CDM Coordinator has considered this problem and confirm if there are any measures to address this.	16.05.13	Closed out.	
Items 123 to 125 have been closed out				
126	Confirm areas identified in the Communication can be accessed in accordance with the Employers Requirements.	24.06.13	Closed out.	
Items 127 to 132 have been closed out				
133	Plant room PR31. Confirm that fire rating of flexible connections and supporting system is equivalent to overall system requirements. Confirm fire rating of fans (observed as non-bifurcated type).	03.07.13	Response received.	
Items 134 to 136 have been closed out				
137	Various points requiring clarification in relation to the AHU 21.	08.07.13	Response received.	
138	Confirm when ventilation pipe in RCG-067 AND RCG-068 has adequate support.	09.07.13	Closed out.	
139	Confirm that there is adequate seal between back boxes and the board especially in fire walls.	17.07.13	Response received.	
140	Pull cords in 1-521 too far from wc.	18.07.13	Response received.	
141	Please provide technical solutions to various issues to the steelwork to the Children's Roof.	23.07.13	Response received.	
Items 142 to 144 have been closed out				
145	Confirm proposals to achieve level floors to the Atrium Bridge Corridors at door openings to offices/rooms.	25.07.13	Response received.	
146	Confirm when smoke detector is repositioned to the required distance from the supply grille.	25.07.13	Closed out.	
Items 147 to 153 have been closed out				
154	Confirm if isolation ductwork hatch in Plant Room 21 needs a double seal.	26.08.13	Response received.	
Items 155 to 159 have been closed out				
160	Confirm the appropriate action to ensure that there is a uniform covering of the shaded STO panel on the east elevation adjacent Core E.	10.09.13	Response received.	
161	Confirm when all medical gas valves are covered all floors.	12.09.13	Closed out.	
162	Confirm when the other legs have been extended to the steel framework in riser on Level 0 ZF Riser M30.	16.09.13	Response received.	
163	Provide details of the lead protection to ducts and penetrations passing through walls above the ceilings within Radiology.	16.09.13	Response received.	

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164	Confirm when rodding eye inspection cover has been repositioned to allow access within toilet MDU-011.	17.09.13	Closed out.	
165	Confirm measures to improve the poor quality finish to the blockwork on the east elevation.	20.09.13	Response received.	
166	Confirm when water damaged boards in Plant Room 41 are replaced.	20.09.13	Response received.	
Items 167 to 174 have been closed out				
175	Confirm when the hotmelt areas damaged by temporary supports to Atrium Roof have been repaired and provide the accompanying QA information.	16.10.13	Response received.	
Items 176 to 181 have been closed out				
182	Confirm that the 2 out of 4 HD bolts either missing or not protruding through the baseplate satisfies the design and specification intent or provide a remedial solution	30.10.13	Open.	
183	Confirm that a door selector will be fitted to the doors leading into room THE-361 IN Area 2-527	25.11.13	Closed out.	
184	Confirm the solution to overcome the gaps between base units and walls in Area 2-524.	25.11.13	Closed out.	
185	Confirm if door selector will be fitted to fire doors leading into room the-361 Bulk Store.	28.11.13	Open.	
186	Confirm when the hatch DMW-004 Therapy Room has been repositioned.	28.11.13	Closed out.	
187	Please confirm when the fresh air inlet duct in Plant Room 21, on Level 2 Zone D.	28.11.13	Closed out.	
188	Confirm when fire alarm FP cables have not been installed in accordance with BS7629-1:2008 and the manufacturer's recommendations. (See Defect 68)	13.12.13	Closed out.	
189	Confirm when the Bed Head Buffers in some of the Generic Assess & Treatment Rooms, Area 0-522 have been position centred on the beds.	17.12.13	Closed out.	
190	Main cleats completely rusted and fire protected steelwork painting is also chipped at VIE. Confirm remedial action.	29.01.14	Closed out.	
191	Confirm that the nurse call points will be fitted in 1-537 Room OPD1-122 and 1-539 Room OPD1-097.	10.02.14	Open	
192	Confirm appropriate specification for the partition between the Medi Cinema and the Snoozelum Room.	12.02.14	Response received.	
193	Confirm if the mastic sealants which have been applied to junction of the horizontal beadheads and the vertical sections replace the specified preformed gaskets.	13.02.14	Open	
194	Seeking confirmation how the fittings can be fitted within the present space or congested.	17.02.14	Open	
195	Confirm when suspended ceiling supports are fitted on Level 0 Area 0-535.	27.02.14	Closed out.	
196	Confirm the procedures for accessing the valves in accordance with SHTM 2035 Section 5 on Level 0 Zone C in corridor OPD 024 adjacent OPD 025.	28.02.14	Closed out.	
197	Provide a copy of the Acoustic Test Report.	06.02.14	Closed out.	
198	Advise on proposals to ensure that the column fixings to the foundations comply with the design intent and that grouting to the baseplates is in accordance with the specification.	06.02.14	Open	
199	There are gaps in the thermal insulation in back box of remote TVR's. Confirm remedial action.	20.03.14	Open	
200	Materials being stored in AHU in plantroom 32	20.03.14	Open	
201	Confirm supports to services in Level 3 Zones E, K & F Zone 3-501 are in accordance with that design.	21.03.14	Open	
202	Confirm if quality inspections will be carried out to crimped joints.	21.03.14	Open	

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FEBRUARY 2014

6.0 SUPERVISORS TESTS AND INSPECTIONS

Tests not required	N/A
Tests required but not tested	Fail
Tests required which has passed tests	Pass

Tests				
Ref	Title	To be Notified by	Status	Test Date
01-86	Various tests undertaken from the 9/07/2012 to the 30/06/2013.			
87	Smoke damper test verification - Level 0, zones D & G.	Brookfield	Fail To be re-witnessed	24.09.2013
88-100	Tests 28.09.2013 & 09.10.2013			
101	Fire alarm loop tests were carried out on L2ZA, L2ZE, L1ZE, L1ZB, L1ZC & L0ZE.	Brookfield	2 Loops Failed	29.10.2013
102-113	Various tests undertaken from the 30/10/2013 to the 27/11/2013.			
114	L2 – 2-519 Fire dampers	Brookfield	PASS	12.02.2014
115	L1 1-539 Fire dampers	Brookfield	Fail	22.11.2013
115A	Fire panel No13 Level 0, 0-526 tested. On call point failed.	Brookfield	Fail	22.11.2013
116-119	Various tests undertaken from the 22/11/2012 to the 28/11/2013.			
120	1A & 1J - Fire damper drop tests. See 123 & 124 below.	Brookfield	N/A	29.11.2013
121-122	Various tests undertaken from the 28/11/2012 to the 29/11/2013.			
123	FD 1-518 001 Fire damper drop test.	Brookfield	Fail	29.11.2013
124	FD 1-539 002 Fire damper drop test.	Brookfield	Fail	29.11.2013
125	High voltage cable test between the main intake substation and substation 4A.	Brookfield	Pass	04.12.2013
126	Ventilation duct pressure test between Riser M25 Core D between Levels 4 and 12.	Brookfield	Fail	18.12.2013
127-138	Various tests undertaken from the 10/01/2012 to the 29/1/2014.			
139	Smoke damper tests in plantroom 31. Some fails.		FAIL	
140	Fire alarm loop test in L0ZC panel 31 loop 2	Brookfield	PASS	03.02.2014
141	PR31 - ventilation balancing to AHU's 10, 11 & 12.	Brookfield	PASS	04.02.2014
142	High Voltage cable test between Sub station 3 and Sub station 4.	Brookfield	PASS	05.02.2014
143	Witnessing the testing and energising of bus bar auto change over panel BB2 P31-1 in PR31.	Brookfield	PASS	07.02.2014
144	Ventilation system witnessing in PR21 AHU's 22 & 23.	Brookfield	PASS	07.02.2014

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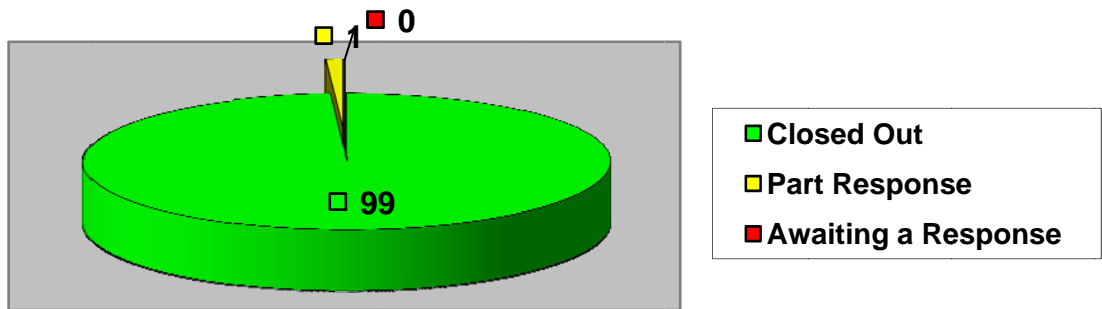
FEBRUARY 2014

145	Fire damper drop tests in L2ZA.areas 510, 511, 519, 525, 529 & 530.	Brookfield	PASS	12.02.2014
146	Fire damper drop tests in PR31.	Brookfield	PASS	13.02.2014
147	PR21 AHU's 15, 19 & 25 BMS alarm and control witnessing	Brookfield	PASS	13.02.2014
148	Lighting and KNX controls witnessing in L1ZA.	Brookfield	PASS	14.02.2014
149	PR21 LTHW & CW pumps and pressurisation units BMS alarm and control witnessing.	Brookfield	PASS	14.02.2014
150	Witnessing of ventilation balancing within PR31 AHU 15 & 9 & theatres THE 350 & THE 141.	Brookfield	PASS	21.02.2014
151	Witnessing of ventilation balancing within PR31 AHU 16. Results within Plant room 31 satisfactorily, but airflows within THE 354 erratic and require be reviewing and retesting.	Brookfield	FAIL	21.02.2014
152	Witnessing of ventilation balancing of AHU's 07, & 08 in PR31 and in Theatres 154, & 150.	Brookfield	PASS	28.02.2014
153	Witnessed chilled water flow rates for fan coil units 138, 026, 028, 012, 006, 004 and computer room RAC 101 within zones D and G.	Brookfield	PASS	28.02.2014

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7.0 DEFECTS NOTIFICATIONS ISSUED



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	Description	Date Requested	Comment	
Items 1 to 63 have been closed out.				
64	Confirm when poor quality blockwork / perpends are addressed.	29.07.13	Response received.	
Items 65 to 68 have been closed out.				
69	Confirm that ducts are to the required fire rating or if dampers are required to ensure the appropriate fire integrity of the partitions in rooms CCW-032, CCW-034 and CCW-033..	19.02.14	Closed Out	
70	Confirm when smoke detectors fitted too close to wall have been repositioned	11.03.14	Open	
71	Smoke detectors have been fitted too close to the walls in rooms MP-018 Staff WC, MP-017 Staff WC, MP-002 Reception & MP-013 Cleaners. Confirm when addressed.	29.03.14	Open	
72	Smoke detectors have been fitted too close to the walls in rooms THE-268, 270, 271, 272, 273 and 274. Staff WC. Confirm when addressed.	29.03.14	Open	
73	The wiring installed within the trunking at DB 4A-5-1 exceeds the regulated space factor for wiring Confirm when this has been addressed.	21.03.14	Open	
74	Confirm when the smoke detector in room CCW-049 which is too close to a supply grill will be repositioned.	24.03.14	Open	
75	Confirm when sprinkler elbows and tee pieces are painted.	25.03.14	Open	

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND
ENERGY CENTRE****SUPERVISOR'S REPORT NO. 34****FEBRUARY 2014****John Redmond, Technical Advisory Services****Property and infrastructure****Capita, The Beacon, 8th Floor, 176 St Vincent Street, Glasgow G2 5SG**

	Signed	Date
Originated by	John Redmond	6th March 2014
Completed by	Douglas Wilson	6th March 2014

CAPITA

**NEW SOUTH GLASGOW HOSPITAL
ADULT AND CHILDREN'S HOSPITAL AND ENERGY CENTRE
NEC 3 SUPERVISORS REPORT NO. 36
APRIL 2014**

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND
ENERGY CENTRE**

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**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND
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1.0 EXECUTIVE SUMMARY: ADULT & CHILDREN'S HOSPITAL

Visits to the site during April 2014 continue to indicate that the construction and procedures are progressing in a satisfactory manner in accordance with the Employer's Requirements.

Throughout, the standard and quality of the workmanship is generally good and operations are being carried out in an acceptable manner.

Quality and compliance inspections were carried out on Ground floor Zones 0-506, 0-532, 0-533, 0-534, 0-535, Level 1 Zone 1-536, Level 2 Zones 2-514, 2-513, 2-512, 2-510, 2-529 and 2-530, Level 2 Area 2-529 and 2-530. The quality of the work was to a good industrial standard.

Brookfield provided us with their QA documentation including a list of their defects which had been logged on their IDMS system. The areas inspected were generally to a good industrial standard and the defects captured by Brookfield were generally of a minor nature. We did however identify a number of minor defects which Brookfield recorded on to their IDMS system. On Level 2, Areas 2-513, 2-514 we noted that many of the drop down grab rails did not stay in the upright position. There were also two doors leading onto the flat roof which had been hung on the wrong side. We noted on Level 2, Areas 2-512 and 2-510 and Level 0 Area 0-533 and 0-534 that a couple of rooms had base units with doors which were hung on the wrong side.

Acoustic Tests were carried out during the period and they have provided us with a report of tests carried out in six locations. The results were ambiguous and we have asked Brookfield for clarification. One partition between rooms THE 326 Recovery Bay to THE 327 Recovery Bay did not achieve the performance criteria.

A connection at one end of one of the circular hollow steel members of the main atrium roof failed during the previous period. Brookfield has initiated a detailed investigation into the causes of this incident and a report is awaited in respect of this. A remedial connection detail is understood to have been developed which will be installed at all similar joints in this proprietary roof structure.

Zutec entries continue to be under review.

The car park structural works are virtually complete with only the SW stairwell to be completed. Steelwork column foundation at the NE stairwell is still in need of remediation. Facing stonework is almost completed on the south and east faces and is of very good quality to date. Work is almost completed on the link road from the car park to Hardgate Road and quality to date is satisfactory other than for some minor snagging. Ground floor asphalt surfacing has been placed to the ground floor and is of a good quality standard. Some remedial work to concrete finishes, including at post tensioning positions, remains outstanding.

The final screed to the Atrium Bridge on the 4th floor will be used as a benchmark for all the Atrium Bridge Floors and completion of this is expected shortly.

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Final elements of steelwork connections are still to be completed to the roof of the Children's Hospital in Zones A and B. Communications have been raised **with** Brookfield and they are addressing these, but some still remain outstanding. Other trades, particularly M&E, are progressing apace in these areas which may result in the completion of these details being awkward.

Roadway issues on the dual carriageway leading to Renfrew Road remain outstanding. Brookfield is aware of this and will rectify at an appropriate time in line with their programme for this area.

Light civil work to landscaping areas in courtyards has progressed and quality to date appears to be satisfactory. Work to drainage and an underground retention system at the south end of the site is almost complete with quality to date satisfactory.

The M&E installation quality is being maintained to a good industrial standard and we are generally satisfied that the installation is compliant with exception of the specific items raised under communication.

The M&E installations are progressing on all levels up to Level 12 and range from first fix module installation to completed and tested areas. Work is progressing within levels 2, 3 & 4 plantrooms. On Level 12 the ductwork and sprinkler installation is well in advance, together with the positioning and installation of plant and pipework. Positioning of electrical switch boards and the wiring of sub mains and BMS controls are in progress.

The installation of the CHP in the Energy Centre is in progress.

During April, we were in attendance during sprinkler pipework pressure tests in four areas, lighting control, computer room chilled water flow rates, ventilation plant, wireless access, dry riser pressure test and fire damper drop tests. Two of the tests witnessed were unsuccessful and these will be re-tested.

We are continuing to work with Brookfield during our inspections highlighting any items that have raised concern. Items identified in this manner are generally being addressed by the site team in advance of any defect notice being raised.

In general terms we are satisfied that the installations continue to be installed to a compliant standard, and are of a good quality. However we have noted that certain items this month have raised concern. These have been raised with the Contractor as follows:-

Supervisor's Communication General Matters / Other Instructions 204 and 205 were issued during April.

- Seeking confirmation that drop down grab rails will be adjusted to stay in the upright position.
- Seeking confirmation when finishing works to areas of the external slab will be completed.

Supervisor's Notification of Defect No 77 was issued during April.

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- Seeking the method of treatment to prevent further rusting to the sprinkler pipes and when this will be carried out.

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2.0 DESIGN COMPLIANCE CHECK

Currently nothing to report.

3.0 PROCEDURES REVIEW**3.1 Contractor's QA Procedures / Compliance Inspections****Quality and Compliance inspections**

Brookfield and their subcontractors have continued with their QA and checking and inspection procedures during this period. We are in discussion and liaise with Brookfield's Quality Manager on QA matters and we undertake regular reviews of their QA documentation.

Quality and compliance inspections were carried out with Brookfield in a number of areas. Brookfield provided us with their quality packs which included a list of their outstanding works, defects recorded on to their IDMS system quality sign off sheets and drawings.

Together with Brookfield we carried out quality and compliance inspections on Level 0 Areas 0-506 and Level 1 1-506. The areas inspected were to a good standard and the defects captured by Brookfield were generally of a minor nature.

Quality & Compliance inspections were also carried out on Level 2, Areas 2-513 and 2- 514. The areas inspected were to a good standard and the defects captured by Brookfield were generally of a minor nature. However in on Level 2, Areas 2-513, 2-514 we noted that many of the drop down grab rails did not stay in the upright position. This was evident in all locations. There were also two doors leading onto the small flat roof area which had been hung on the wrong side.

We have asked Brookfield to confirm when the problem with the drop down grab rails have been addressed and any remedial work completed and other areas checked in the hospital for the same problem. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 204).

Quality & Compliance inspections were also carried out on Level 2, Areas 2-512 and 2- 510 and Level 0 Area 0-533 and 0-534. The areas inspected were to a good standard and the defects captured by Brookfield were generally of a minor nature. We did note that in a couple of rooms room base unit doors were hung in the wrong side and drop down grab rails did not stay in the upright position. In area 0-533 and 0-534 drop down grab rails were not fitted.

Quality & Compliance inspections were carried on Level 0 area 0-535 and the quality of the work is being maintained. However in one room doors to base units were hung in the wrong side of the unit. There was also another room which had less units fitted than was shown on the drawing Brookfield are reviewing this.

We carried out a Quality & Compliance Inspection of Level 2, Areas 2- 529 and 2-530 with Brookfield and the area inspected were to a good standard. We did however note a few defects which Brookfield recorded on their IDMS. These included unit

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doors hung on the wrong side, sink unit fitted as specified but a base unit fitted which was not specified. Brookfield is looking into this issue.

We carried out a Quality & Compliance Inspection of Level 0 Areas 0-536 with Brookfield and the area inspected were generally to a good standard. We did however note a few minor defects which Brookfield recorded on their IDMS. These included unit doors hung on the wrong side and walls. The General x-Ray Rooms RCG-053, RCG-077 and RCG-082 require partitions to be constructed and Brookfield await information from the client.

We have raised a Supervisor's Communication No 191 in relation to the Nurse call points not installed in these rooms and asked Brookfield to confirm when these works have been completed. Brookfield has confirmed that they are awaiting confirmation from Mercury when they will be fitted. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 191).

The recessed area on the right hand side of the wash hand basin in room OPD1-004 Level 1 Area 1-539 is congested. There is a nurse call, dispenser and grab rail to be fitted. We asked Brookfield to confirm how the fittings can be fitted within the present space or if there are any proposals to reposition fittings. Brookfield has confirmed that the OPD1-005 – nurse call is to be located to correct location as per 400series drawing and the grab rail may be situated on side panel but this has to be investigated. The OPD1-004 – IPS trespass location to be investigated on potential move to allow space for grab rail. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 194).

General Inspections

We carried out an inspection of the blockwork with Brookfield on the south and east elevation. The pointing in some areas is darker than the specified pointing. Brookfield intends to tint a sample area to demonstrate that a uniform colour can be attained to the pointing.



Zutec Review

We continue reviewed testing information on Zutec.

Acoustic Tests

Acoustic tests were carried out to partitions dividing the following rooms:

- THE 054 Cardiac Theatre to RCG 023 Image Analysis Laboratory.
- THE 103 General Theatre to STW 046 Single Bed.
- THE 103 General Theatre to STW 044 Single Bed.

NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND ENERGY CENTRE

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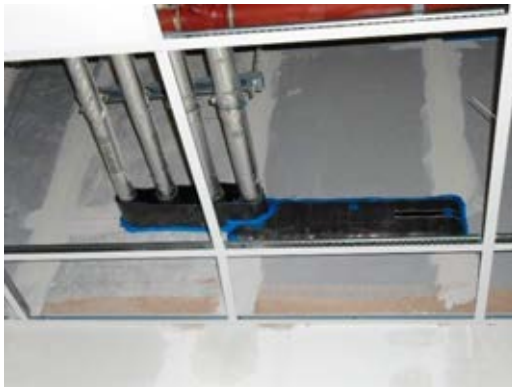
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- THE 326 Recovery Bay to THE 327 Recovery Bay.
- THE 281 Reg Nurse Office to THE 282 Recovery Bay.
- RAF 035 Ultrasound to RAF 033 Mammogram.
- RCI 002 Anaesthetic to RCI 001 Dirty Utility.

The results were ambiguous and we have asked Brookfield for clarification. Only one partition did not achieve the performance criteria and that was the partition between THE 326 Recovery Bay to THE 327 Recovery Bay.

We await retest results for the partition between CCW 015 Relatives to CCW 014 Relatives.

We await details of the lead protection to ducts and penetrations passing through walls above the ceilings within Radiology. Brookfield has confirmed that drawing No AST-XX-XX-DT-252-112 from Astins has been given status B by both NHS and Brookfield with over marked comments. Brookfield discussed this with Astins and a test of rooms is planned for 1st May in specific areas on the ground floor. The results of these tests will confirm if the detail is satisfactory. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 163.



85 point Checks

No 85 point checks were carried out during the period.

Above Ceiling Inspections

We carried out above ceiling inspections of the partition walls with Brookfield on Level 1 Zones H and G and Level 0 Zones H. We identified defects such as missing or dislodged fire pillow at penetrations a few areas of missing fire stopping/acoustic sealant collar missing, incomplete fire stopping and fire damper bulb covered. The defects were recorded on a drawing and will be addressed. Below is a copy of the signed off "Pre- Ceiling Closure above Ceiling Sign Off Sheet" and a marked up drawing for part of the area inspected.

Other above ceiling inspections of the partition walls was carried out on Level 0 Zone G and level 2 Zone E. A few minor fire stopping defects were identified and recorded on a marked up drawings to be remedied later. These included missing or displaced fire pillows fire stopping incomplete and missing sleeve to vent. These were addressed and the area signed off by Building Control.

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Pre-Ceiling Closure above Ceiling Sign Off Sheet.

Floor : 2 Zone : ZE NA Drawing No. : HA-XR-02-PL-572-104

PEP - Cavity Barrier Inspection.

*Note: Any defects found are to be notated in the comment box supplied and logged on the IDMS system / highlighted on the referenced drawing and attached to this sign off sheet.

Defect Free: ☐ Defect Found: ☒

Comments: VARIOUS DAMAGE MADE GOOD TO CAVITY BARRIERS

Acceptable: ☒ Defect Remediated: ☒

PEP Manager (Print): A. N. M. P. H. K. E. Signature: 

BMCE Manager (Print): C. W. I. S. O. N. Signature: 

Astins - Fire Compartment / Sub Compartment Inspection.

*Note: Any defects found are to be notated in the comment box supplied and logged on the IDMS system / highlighted on the referenced drawing and attached to this sign off sheet.

Defect Free: ☐ Defect Found: ☐

Comments: VARIOUS SEE ATTACHED DRAWING No. 1

Acceptable: ☐ Defect Remediated: ☐

Astins Manager (Print): T. O. N. R. E. D. M. O. N. D. Signature: 

CE Manager (Print): C. W. I. S. O. N. Signature: 

BMCE Quality Manager - Fire Compartment / Sub Compartment / Cavity Barrier Inspection.

*Note: Any defects found are to be notated in the comment box supplied and logged on the IDMS system / highlighted on the referenced drawing and attached to this sign off sheet.

Defect Free: ☐ Defect Found: ☒

Comments: SEE ATTACHED DRAWING No. 2. DO NOT CLOSE HIGHLIGHTED HASHED RED ROOMS.

Acceptable: ☒ Defect Remediated: ☐

BM Quality Assurance MGR (Print): _____ Signature: _____ BM Manager (Print): _____ Signature: _____

Glasgow City Council Building Control - Fire Compartment / Sub Compartment / Cavity Barrier Inspection.

BCO Available at time of inspection Y/N: ☒ Acceptable: ☒ for as can be reasonably ascertained ☒ Unacceptable Item: ☒

BCRC (Print): T. M. H. E. D. Signature: 

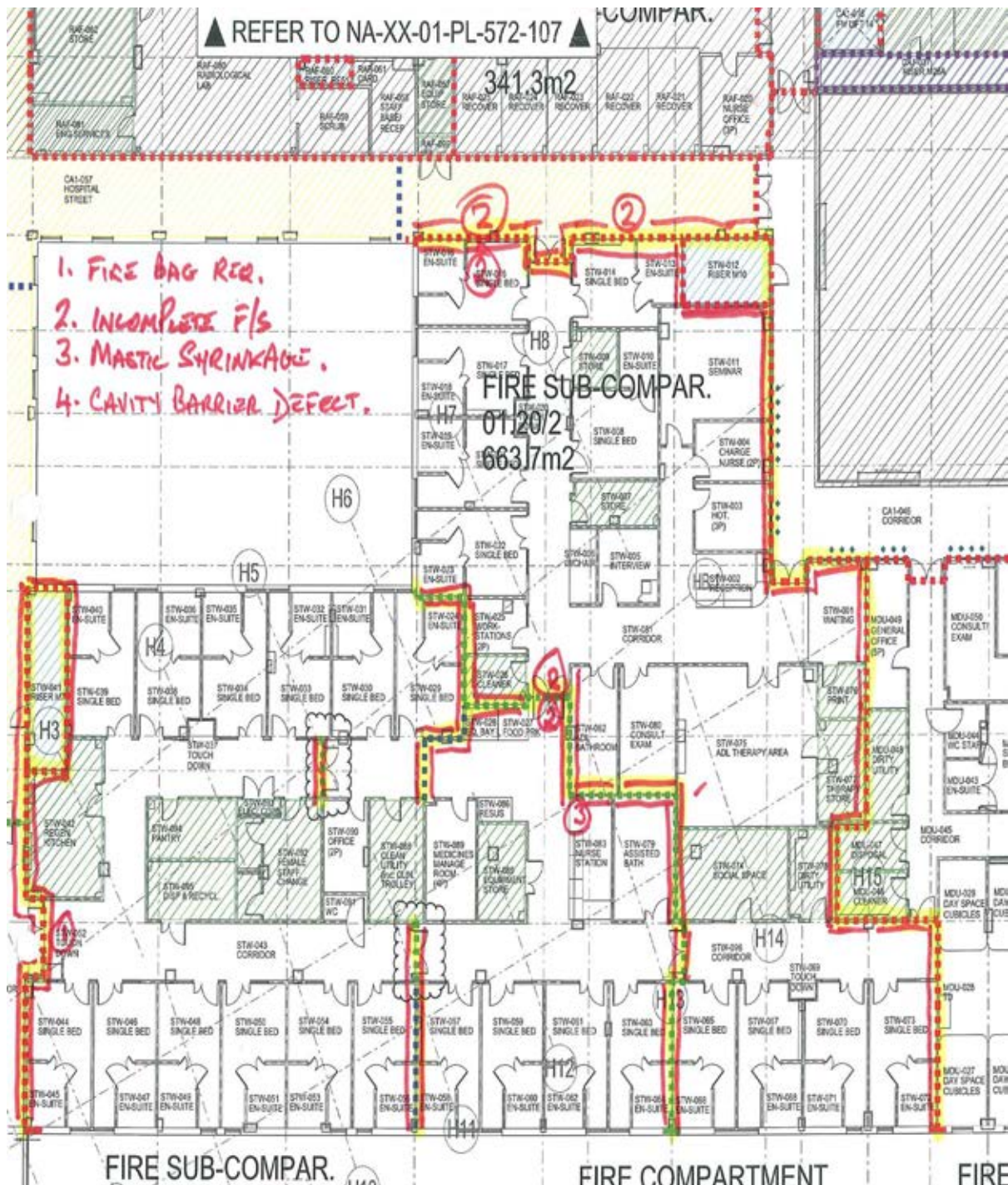
CE Manager (Print): P. D. O. R. T. O. N. Signature: 

Comments: SEE ATTACHED DRAWING No. 3 DO NOT CLOSE HIGHLIGHTED HASHED RED ROOMS UNTIL REINSPECTED.

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3.2 Witness Testing and Commissioning

We witnessed a number of tests during April 2014 which was satisfactory and these were as follows:

- Sprinkler pipework pressure testing. L2 riser 25a branches 211, 212 & 213.
- Lighting control in Level 4 & 5 zone H.

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- Ground floor computer room chilled water witnessing.
- Ventilation plant witnessing in PR21 & PR31, on levels 0, 1 & 2.
- Vent plant witnessing. PR31 48 EF01 & AHU 48, 04 & 05.
- Sprinkler hydraulic test, Zone 201 M38 L2ZA, Zone 202 M38 L2ZA, Zone 203 M32 L2ZC & Zone 4 M32 L2ZC.
- Wireless access system.
- Sprinkler pressure test:
 - Zone E & F, Sprinkler Zone 107 Riser M25 Area 507.
 - Zone F & K, Sprinkler Zone 111 Riser M25 Area 501, 502, 503 & 504.
 - Zone J, Sprinkler Zone 114, Riser M25, Area 537, 538 & 539.
- Dry Riser Pressure test at Core L.
- Fire damper drop tests in L4ZH, L5ZH and L6ZH.
- Twelve dampers tested, one failed. (VPI missing).
- Fire damper drop tests in L2ZJ, L2ZE, L2ZF, L2ZC and L3ZB.
- Sprinkler pressure test Zone 101 Riser CCB-007, Area 516, 517, 518, Zone 102 Riser CCB-007, Area 519, 520, Zone 103, Riser CCB-019, Area 506, 513, 514, Zone 104, Riser CCB-019, Area 511, 512.
- Sprinkler pipework pressure test in zone G12 riser M25A area 0 529 & 0 530 & zone G07 riser M25A areas 0 534, 0 507 & 0 508.
- PR31 Ventilation witnessing of AHU's 02, 06, 09 & 61.

We witnessed tests during April 2014 which were unsatisfactory. See below

- Pressure gauge at dry riser inlet inspected and confirmed reading 10 bar at start of test. The dry riser route was followed and all outlets inspected. Two of the outlets were found to be weeping slightly, which was put down to sludge and required further flushing. One air eliminator which was found to be closed on inspection was opened and found to be passing water. The eliminator was designated faulty. Brookfield drawing showed an outlet on the fourth floor which had not been installed. It was agreed that the riser outlets be flushed and cleaned, a new air eliminator be fitted and that checks made to see if an outlet should have been fitted on the fourth floor.
- VPI missing from Level 6 Zone H fire damper FD 6 511 001.
- VPI missing from Level 6 Zone H fire damper FD 0 530 013.

Previously witnessed tests which failed and has been re-tested successfully:

- PR31 AHU 16 - Airflows within theatre THE 354 to be retested. Retested satisfactorily 09.04.2014.
- Ventilation duct pressure test between Riser M25 Core D between Levels 4 and 12. This test passed. The issue was a lack of understanding of the duct fitter in what happens when the air is released.
- Fire alarm loop tests were carried out within L2ZA, L2ZE, and L1ZE, L1ZB and L1ZC panel 28 & L0ZE panel 11.
- Witnessing of fire damper drop tests Level 0 zone H:
 1. FD-0-527 002.
 2. FD-0-530-008.
 3. FD-0-530-013
- Witnessing of PR31 AHU 56, air flow below design at two grilles.

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Previously witnessed tests which require to be retaken.

- Fire panel No 13 Level 0, 0-526 was tested and several smoke detectors and one call point activated satisfactorily. The test was aborted when on call point failed. New test date to be confirmed.
- FD-1-539-002 – The fire damper test lever was fouling adjacent ductwork. The fire damper is to be repositioned and retested.
- FD-1-518-001 - Difficult to access and activate damper link due to type of hatch fitted, and damper status indicator was obscured. A new hatch is to be installed and status indicator to be exposed.
- FD-1-539-003, Unable to access fire damper inspection hatch. A new inspection hatch to be fitted on opposite side of wall.
- Smoke damper verification and operational tests were carried out in Level 0 zones D & G which was aborted for the following reasons - One actuator not being connected, new hatch required in plaster board to gain access to one actuator and duplicate addresses being discovered on several other actuators tested. New test date 05.05.2014.
- Smoke dampers were tested in plantroom 31 and there were some which failed.

3.3 Board Equipment Installation,

Currently nothing to report.

3.4 Non Conformance Reports

We reviewed Brookfield's NCR Tracker and noted the issues raised by the Package Managers. The blockwork and pointing on the south and east elevations although improved by cleaning continues to be a concern with shading of the mortar evident. Prater has still to offer it up to Brookfield as complete reference NCR 156. We are also monitoring the issue in relation to water between the glass of the Structal Panels NCR reference 157 and 219. Brookfield has had an independent survey carried out by Cladtech Associates which has been forwarded to Structal. Brookfield has reviewing all the information and instructed the rectification of all of the outstanding issues. NCR 237 was issued to Astins in relation to the lack of insulation at abutments between internal partitions and external walls. This work is complete and an acoustic test is to be carried out.

4.0 CONSTRUCTION REVIEW**4.1 Visits to the Works**

The following members of our team undertook site inspections, reviewed documentation, attended meetings and met with relevant Contractors representatives on-site personnel:- John Redmond (Lead NEC3 Supervisor) 1st to 4rd, 7th to 11th, 14th to 16th, 23rd to 25th and 28th to 30th. Douglas Wilson (M&E NEC3 Supervisor) 1st to 3rd, 7th to 11th, 14th to 17th, 22nd to 25th and 28th to 30th April. Willie Roxburgh (Civils/Structural NEC3 Supervisor) part days on 4th, 14th, 17th, 22nd, 24th and 30th April, plus remote desk top input most days of the month. Capita's NEC3 Supervisor's team visited site a combined 45 person days.

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4.2 Elements of the Works available for inspection

- Energy Centre – structurally complete.
- Main building – all concrete areas. (becoming very limited due to access and partitions)
- Tunnels between ACH and Labs, and Cores C to F.
- Structural steelwork to all roof areas (partly limited due to access and partitions).
- Neuro bridge (partly limited due to access).
- Dual carriageway to Renfrew Road, turning area in front of the main entrance, and carriageway from Hardgate Road.
- South site drainage areas.
- Car park area.
- Internal partitions.
- M&E modular units.
- Roofing.
- Cladding.
- Windows.
- Sto system.
- Brickwork Courtyard 8, and 10.
- Brickwork/blockwork: Zone J North, East elevation and Basement Blockwork.
- Rainscreen: Zone F & C.

4.3 Current Observations

The visual inspections of the work carried out to date indicate that the works are generally being carried out to a satisfactory standard. We continue to be assisted by the site teams and the NHS Project Team in resolving various construction, mechanical, electrical, and quality issues. We continue to close out our Supervisor's Notification and Defects when we have received satisfactory responses. Listed below are observations closed out, still to be closed and those raised following site visits in March 2014.

4.3.1 Structural

At the Atrium Bridge in respect of final screeding the floor finish on the 4th floor will be used as a benchmark for all the other Atrium Bridge Floors. Floor screeding is completed and it is expected that the vinyl will commence in June.

Final elements of steelwork connections are still to be completed to the roof of the Children's Hospital in Zones A and B. Communications have been raised with Brookfield and are listed on the following pages. These still remain outstanding and have been examined with Brookfield who has indicated that these will be addressed at the appropriate time. However other trades, particularly M&E, are progressing apace in these areas which may result in completion of the above details being difficult. This has remained outstanding for approximately 6 months.

Roadway issues on the dual carriageway leading to Renfrew Road remain outstanding. Brookfield is aware of this and will rectify at an appropriate time in line with their programme for this area.

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We asked Brookfield to provide technical solutions to various situations on the structural steelwork to the Children's roof where base plates are "floating"; edge distances are minimal or miss the concrete base. Cladding rails also prevented HD bolt fixing. The base plate details have been addressed other than at the north east door set on the fifth floor which Brookfield has indicated will be adjusted once the final door arrangement is known. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 141.

The steel framework in riser on Level 0 ZF Riser M30 has had the legs extended immediately in front of the entrance door. There are other legs which have not been extended yet and we asked Brookfield to confirm when the other legs will be extended. Brookfield has confirmed that these legs are not weight bearing and the weight bearing supports are on Level 01. They also confirmed that the extended legs will be cut back to be completely clear of the ground floor to finish flush with the frame. We asked for confirmation that the justification for this is based on an analytical assessment, and that the details provided are in accordance with this. We have received a further response but not an analytical assessment. We await a further response. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 162).



Extended legs



Leg still to be extended.

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One of the base plates Level 4 Zone B has 2 out of 4 HD bolts either missing or not protruding through the baseplate. Brookfield has confirmed that post fixed anchors were installed and we will inspect this during our next site visit. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 182).



Several fixings to the underside of the roof slab for prefabricated framework supporting services on Level 3 zones E, K & F Zone 3-501 are not as originally intended. We asked Brookfield to confirm that what has been provided has been designed and that the installation is in accordance with that design. They have confirmed that the notification has been forwarded to the Mercury subcontractor for action. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 201).

The floor to the link bridge to the neuro-science block was cast during the previous period. The localised protruding top reinforcement from this reported in the last period has been addressed.

We are aware that Brookfield has instigated a report into the causes of the recent failure of one of the connections to one of the steel sections on the atrium roof support arrangement. We asked them to provide a copy of this to the NHS and ourselves when available. We have also asked them to confirm that all necessary safety precautions have been taken with respect to the overall atrium steelwork. We asked them to provide us with details of the proposed remedial actions when these are available and an early indication of timescale for these elements would be appreciated. Brookfield has confirmed that the report into the recent failure of a connection has been carried out and was issued by aconex 02/05/14. The report by David Dexter Associates, dated 15th April was issued to P Moir, D Hall and J Redmond. We confirm the report has been reviewed by WSP in advance of issue. See attached copy. Brookfield confirmed all necessary safety precautions were taken in respect of the atrium steelwork. The remedial actions are contained in sections 3 and 4 of the attached report. The remedial works will commence within a week or so. Approx during w/c 12/05/14. Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 203 is closed out.

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Car Park 1

The car park structural works are virtually complete with only the SW stairwell to be completed. Steelwork column foundation at the NE stairwell is still in need of remediation. Facing stonework is almost completed on the south and east faces and is of very good quality to date. Work is almost completed on the link road from the car park to Hardgate Road and quality is satisfactory, other than for minor snagging. Ground floor asphalt surfacing has been placed to the ground floor to a good quality standard to date. Some remedial work to concrete finishes, including at post tensioning positions, remains outstanding.

We have asked Brookfield to advise on their proposals to ensure that the column fixings to the foundations comply with the design intent. We have also asked them to confirm that grouting to the baseplates is in accordance with the specification. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 198).

Several areas of the external slab still require some finishing attention, particularly at the prestressing positions. See attached photograph. We asked Brookfield to advise how and when these areas will be addressed. They have informed us that Dunnes currently have operatives working on the inside of the ramps (photo 1) and should be complete by 9th May. They will access the areas above the car park access road using the cladding scissor lift which is due once the tower crane comes down. They expect this to be completed by 16th May. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 205).

**4.3.2 Energy Centre**

Steelwork snagging appears to have been addressed, but much tidying up remains outstanding in the eastern half of the building.

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4.3.3 Above Ground Drainage

Work to drainage and an underground retention system at the south end of the site is nearing completion with quality to date satisfactory.

4.3.4 Dual Carriageway to Renfrew Road. (A&C)

The defects previously identified will be reviewed nearer to completion when they will be effectively rectified. This will also now include the significantly damaged kerb lines affected by the storage and lifting of the neuro-bridge sections.

4.3.5 Pipework.

Installation of hot, cold, heating, & chilled water pipework in the A&C hospital is progressing and in general is being installed to a good standard.

We are continuing to monitor all pipework installations to identify possible dead legs. The quality checking by Brookfield would appear to be identifying these before our inspections. Open unprotected ends are being monitored during our site inspections and there has been a marked improvement in all areas.

During our inspections in Plant Room 21, we noted that all AHU condensate discharges are routed to gullies via low level unprotected plastic pipework. This is a potential trip hazard. Below are photographs which show the solution to the problem and Brookfield has reported that this has been agreed to by NHS Board. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 122 is closed out.



Over the past few weeks there have been failures of crimped joints on Level 1 Area 1-533 and Level 0 Area 0-531. We asked Brookfield to confirm if they propose to carry out a percentage quality inspection of the crimped joints to identify if it is operative error. Brookfield has been informed by Mercury that a percentage quality inspection of crimped joints in the areas where the leaks have occurred have been conducted. They were able to trace operatives to the joints they formed. The cause being that a single operator in each leak did not adequately crimp a fitting. Tool box talks and refresher training have taken place; a pre-test check sheet to be completed by the relevant supervisor prior, during and after test has been produced along with an emergency procedure for all test personnel. Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 202 is closed out.

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4.3.6 Ventilation

We asked Brookfield to confirm that the fire rating of the flexible connections and supporting system in Plant room PR31 is equivalent to the overall system requirements. The fan is located adjacent to atrium at the west side of building. We also asked them to confirm fire rating of fans (observed as non-bifurcated type). ZBP has confirmed to Brookfield that fans require to be fire rated and are at technical submittal stage. Brookfield has issued an instruction to have the fans replaced. Brookfield has confirmed that the neck pieces are flame retardant to BS 7837:1996. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 133 is closed out.



Following an inspection of Plant Room PR21 we raised a number of points all of which were clarified. These included difuser plate details and clarification on the specific fan power and the associated design process. We shall continue to monitor the performance of the AHU's during final commissioning. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 137 is closed out.

We have asked Brookfield if the Isolation ductwork hatch to the fire rated ductwork in Plant Room 21 needs a double seal. This Notification has been forwarded to the relative floor manager and is being investigated. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 154).

We have brought to Brookfield's attention that materials are being stored within Plantroom 32 AHU 02 which can cause damage to the heating and cooling coil aluminium fins in plantroom 32 AHU 02. We have asked Brookfield to confirm their measures to address this bad practise. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 200).

4.3.7 Insulation

The thermal insulation installation to the pre-fabricated sections of pipework is being completed off site, before delivery and completed after installation. During our joint inspections with Brookfield we noted some damaged insulation within the plant rooms and these are being addressed. The ducting is currently being overclad with VentureClad Jacketing.

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4.3.8 Pressure testing

Pressure testing of the modular pipework sections on a zone by zone or area by area basis has been programmed through the commissioning meetings.

4.3.9 Medical Gases

Medical Gas pipework is being installed in all areas and independent tests are being witnessed by Ian Sandford of Hulley and Kirkwood.

4.3.10 Energy Centre

The installations in the Energy Centre are well advanced with the A-side systems commissioned and handed over. The installation of the CHP's is in progress.

4.3.11 Trunking

Cable trunking is being installed as part of the offsite fabricated sections that are being installed in the A&C hospital and in general the installation is to a good industry standard.

4.3.12 Cable Trays

Cable trays are being installed as part of the offsite fabricated sections that are being installed in the A&C hospital and in general the installation is to a good industry standard.

4.3.13 Cabling

Modular wiring looms are now being installed as part of the offsite fabricated assemblies and carefully tied up for protection and installation is of a good standard.

4.3.14 Conduit

Solid conduit installations are well progressed in the areas being fitted out and are to a good industry standard.

4.3.15 Void Detection

Nothing to report

4.3.16 Intake Sub Station

The Installation of the new transformer for Car Park 1 will coincide with all HV cables being pulled through to the Substation. It is anticipated that all cables will be pulled through during May 2014 to coincide with other work associated with the completion of the Car Park. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 30 & 45).

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4.3.17 Partitions

The partition between the Snoozelum Room GW3-049 and the Medi Cinema has 50mm insulation fitted in the cavity. The Acoustic Logic Report ALC-SZ-SL-DC-660-001 reviewed by the client on 6/5/13 and by Brookfield on 16/05/13 specifies 100mm thick insulation. This supersedes a previous drawing AST-XX0XXDT-252-006 reviewed by Brookfield on 1/2/13 which shows no insulation. We asked Brookfield to confirm which specification is to be used to provide the required Rw 52dB. Brookfield has confirmed that they have issued the Communication to Astins together with the relevant drawings. They have asked Astins to issue the partition detail to comply with the required Db rating required at this location. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 192).

The partition between the east side of the atrium and plant room 41 has been damaged by water ingress. Brookfield to confirm they are aware there has been some damage, and will replace the boards after they have completed the resin flooring works. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 166).



Water damaged boards.

4.3.18 Roofs

A&C Roofs

Children's play area R3005 insulation has been completed and planters are being filled and planted.

Hotmelt work still to commence on Roof R3-004.

Roof R12-003 nearing completion.

Roof R3-003 work progressing to completion.

Roof R3-006 roof complete with landscape in progress.

Roof R4-008 work progressing to completion.

Roof R12-002 work progressing to completion.

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Roof R12-001 work progressing to completion.

Podium roofs are nearing completion.

Roofs R4-010 hotmelt is complete.

R3-004 hotmelt still to commence.

R2-008 Hotmelt planned to commence this month.

The West Link Roof R12 between zones F and E have been retested and a number of repairs have been carried out.

Generally the quality of the workmanship throughout is to a good industrial standard and we have reviewed the QA documentation.

All the Sarna Roof covering is progressing to completion.

Children's Roofs

Hot melt is complete on level 2 balconies and Level 3 roof and the quality is to a good industrial standard.

R4-005, R6-002 and R1-007 hotmelt complete.

R5-005 hotmelt nearing completion.

4.3.19 Cladding/Courtyards

A&C

See comments under 3.1 Quality and Compliance Inspections.

The STO render to the upper panel on the east facing elevation nearest Core E has shaded areas visible below the finished surface. We asked Brookfield to confirm the appropriate action to ensure that there is a uniform covering to the panel and when completed. The panel has been recoated and the shaded areas are no longer visible consequently. Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 160 is closed out.

Children's Hospital

The STO is in progressing in Core 2 and the West Elevation and the quality is to a good industrial standard.

Blockwork

Blockwork is nearing completion on the west elevation and is to a good industrial standard.

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Cladding

Cladding is nearing completion at plantroom 41 A and is to a good industrial standard.

4.3.20 Windows

Windows are progressing on the external elevations and courtyards in accordance with the specifications.

4.3.21 Equipment

Nothing to report.

4.3.22 Ducting

Nothing to report.

4.3.23 Floors

We asked Brookfield to confirm their proposals to achieve level floors to the Atrium Bridge Corridors at door openings to offices/rooms and adjacent levels within these rooms. The atrium Bridge Floor on Level 4 has been screeded and we await confirmation when the vinyl will be fitted. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 145).

4.3.24 Blockwork

We have reported since April 2013 that the quality and standard of workmanship of the blockwork on the east elevations was not to a good industrial standard.

This was discussed on site with Peter Moir, John Redmond and Alasdair Fernie. It was agreed that the joint variance is as per the block sizes and no amount of remedial works would eliminate this. The repairs to damaged block and the cracks are to be addressed with a further visit required in around 6 weeks (Mid November) to allow the mortar colour to blend in. Brookfield has confirmed that they are awaiting the handover of the blockwork from Prater. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 165).

4.3.25 Security

No witnessing took place during the period.

4.3.26 Pneumatic Tube

Currently nothing to report.

4.3.27 Electrical Fittings & Fixtures

The pull cords in room CCU-065 on level 1 1-521 has been repositioned consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 140 is closed out.

4.3.28 Sprinklers

Nothing to report

4.3.29 Lighting

The quality of the general and emergency lighting installed to date is of a good standard.

4.3.30 Power

The quality of the small power installation installed to date is generally good with only minor defects noted which have been rectified.

4.3.31 Solar Panels

Nothing to report.

4.3.32 Fire Dampers

During the mechanical fire damper drop tests and the Quality and Compliance Inspections, several damper positional indicators have been found to be obscured by sealant. This is being addressed by Brookfield.

4.3.33 Heating

There are gaps in the thermal insulation in the back box of the remote TRV's mounted on external walls controlling the radiant panel heater in Level 0, ZA ward OBW 009. There is the likelihood that this will cause the TRV to be affected by the lower temperature in the partition void causing the Radiant panel to emit heat unnecessarily wasting energy. This applies to other similar TRV's on outside walls. We have asked Brookfield to confirm if this has been considered and if remedial action will be taken to address this. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 199).

4.4 Current Defects.

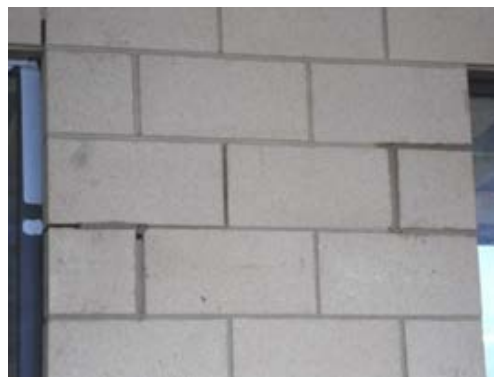
The smoke detector within the lobby on Level 1 Room CCW-049 is within 300mm of the supply grille. We asked Brookfield to confirm when this has been repositioned to the minimum distance of one metre. Mercury's specialist contractor has confirmed that In terms of BS5839-1 Clause 22.3 Paragraph M minimum spacing cannot be achieved. They cannot see how they are able to demonstrate the recommendation without infringing on



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the minimum distance required to be away from the finished wall surfaces. They state further that due to third party equipment on the ceiling this restricts the position on the smoke detector. They state that it can remain in position. However this will mean that this is not compliant in terms of BS5839-1 Clause 22.3. Mercury together with their specialist fire systems installers is currently reviewing the position of the detectors. (See Supervisor's Notification of Defect (CI 42.2) No 74).

The quality of the workmanship to the blockwork on the West Facing Elevation is poor and requires to be addressed. The widths of perpends varying at various locations on this elevation. This is particularly evident between the windows on the right hand side of the entrance to A&E. See photo. Brookfield has confirmed that the issue has been addressed. We carried out a further inspection and noted that the pointing was still darker than the surrounding joints. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 64).



Smoke detectors on Level 1 Areas 1-517 and 1-518 have been fitted too close to the walls in rooms CCW-100 Isolation Ward Lobby and CCW-147 Recess. Consequently these are not compliant with BS5839-1 Clause 22.3 which states that smoke detectors should not be within 500mm of any walls, partitions or obstructions to flow of hot gases. We asked Brookfield to confirm when the above smoke detectors have been repositioned. Brookfield has informed us that following a response from their specialist fire system installers the

**CCW-100**

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positions of the detectors have been reviewed. They have informed us that the detector positions in room CCW-100 will remain unchanged. They claim they are in the best positions. This still remains a defect.

In room CCW-047 Brookfield's Sub Contractor Mercury together with their specialist fire systems installers is currently reviewing the position of the detectors. (See Supervisor's Notification of Defect (CI 42.2) No 70).



CCW-047

Smoke detectors have been fitted too close to the walls in rooms MP-018 Staff WC, MP-017 Staff WC, MP-002 Reception and MP-013 Cleaners. They are not compliant with BS5839-1 Clause 22.3 which states that smoke detectors should not be within 500mm of any walls, partitions or obstructions to flow of hot gases. We asked Brookfield to confirm when the above smoke detectors have been repositioned. Brookfield's Sub Contractor Mercury together with their specialist fire systems installers is currently reviewing the position of the detectors. (See Supervisor's Notification of Defect (CI 42.2) No 71).



MP-017

Smoke detectors have been fitted too close to the walls in rooms THE-268, 270, 271, 272, 273 and 274. Staff WC. They are not compliant with BS5839-1 Clause 22.3 which states that smoke detectors should not be within 500mm of any walls, partitions or obstructions to flow of hot gases. We asked Brookfield to confirm when the above smoke detectors have been repositioned and they have confirmed that they have passed the Defect notification to the installation team for further investigation and they are currently reviewing the position of the detectors. (See Supervisor's Notification of Defect (CI 42.2) No 72).

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The wiring installed within the trunking at DB 4A-5-1 exceeds the regulated space factor for wiring installations as per section 4.5.3 of the 17th Edition of the IEE Regulations concerning cable capacities in conduits and trunkings. Confirm when this has been addressed. We have revisited the completed installation and are satisfied that the cables have now been posited properly within the trunking. Consequently Supervisor's Notification of Defect (CI 42.2) No 73 is closed out.

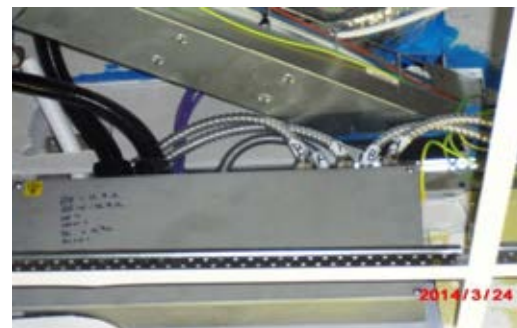


On Level 5 Zone J ward No GENW 006 a Metaflex type wiring system is being used to serve the power outlets in the bed head units. See photos. The cable is plugged into the Wago trunking in the ceiling void via a manufactured plug and drops down the vertical bed head trunking to the socket outlets. In other parts of the hospital installation (Level 1) the Metaflex cable is glanded into a metal box above the bed head dropper and then run within the trunking to the outlets.

In GENW 006 the Metaflex cables enters the trunking via an open end and run down the inside of the trunking with the end of the Metaflex cable bound with PVC tape. This is not a recognised practice for terminating this type of cable as it leaves a sharp ragged edge which can cause damage to either the cable conductors themselves or neighbouring cables. This practice is not confined to this area alone and is evident on other floors. We asked Brookfield to confirm when the cables are installed correctly in this and other locations where this is evident. Mercury has consulted with the manufacturer and has fitted an anti shorting bush to prevent damage. We have reviewed a sample and the modification appears to resolve the issue. Supervisor's Notification of Defect (CI 42.2) No 76 is closed out but we will continue to monitor the installation.



Room GENW 006 Cable plugged into Wago power outlet.



Level 1 Cable glanded properly into bedhead box trunking.

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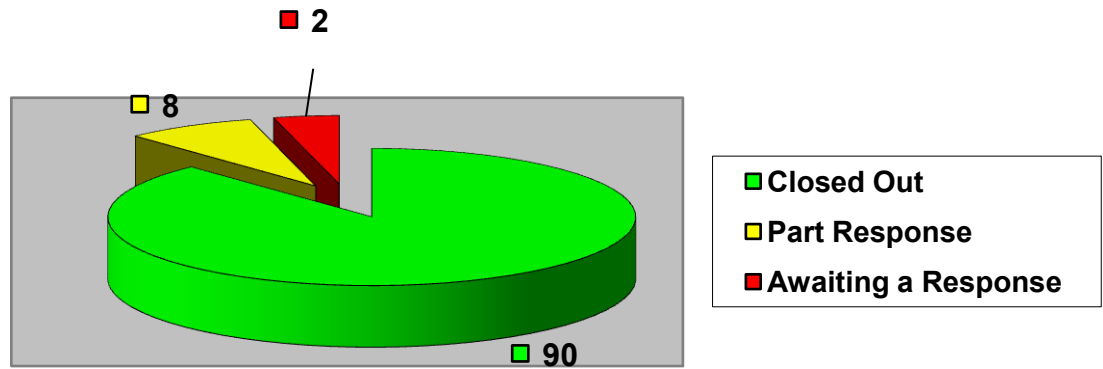


Metaflex cable incorrectly installed with PVC tape.

The sprinkler pipes on Level 2, Zone J, Area 2-532 are rusty. We asked Brookfield to confirm the treatment to prevent further rusting of these pipes and confirm when this will be carried out and completed. They have informed us that the defect notification has been forwarded to sprinkler specialist for their action. (See Supervisor's Notification of Defect (CI 42.2) No 77).



5.0 INFORMATION REQUIRED



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Item No.	Description	Date Requested	Comment	
Items 1 to 29 have been closed out				
30	Confirm when cabling is complete, water pumped out and batteries removed.	10.08.12	Response received.	
Items 31 to 44 have been closed out				
45	See Supervisor's Communication No 30.	18.09.12	Response received.	
Items 46 to 139 have been closed out				
140	Pull cords in 1-521 too far from wc.	18.07.13	Closed out.	
141	Please provide technical solutions to various issues to the steelwork to the Children's Roof.	23.07.13	Response received.	
Items 142 to 144 have been closed out				
145	Confirm proposals to achieve level floors to the Atrium Bridge Corridors at door openings to offices/rooms.	25.07.13	Response received.	
146	Confirm when smoke detector is repositioned to the required distance from the supply grille.	25.07.13	Closed out.	
Items 147 to 153 have been closed out				
154	Confirm if isolation ductwork hatch in Plant Room 21 needs a double seal.	26.08.13	Response received.	
Items 155 to 159 have been closed out				
160	Confirm the appropriate action to ensure that there is a uniform covering of the shaded STO panel on the east elevation adjacent Core E.	10.09.13	Closed out.	
161	Confirm when all medical gas valves are covered al floors.	12.09.13	Closed out.	
162	Confirm when the other legs have been extended to the steel framework in riser on Level 0 ZF Riser M30.	16.09.13	Response received.	
163	Provide details of the lead protection to ducts and penetrations passing through walls above the ceilings within Radiology.	16.09.13	Response received.	
164	Confirm when rodding eye inspection cover has been repositioned to allow access within toilet MDU-011.	17.09.13	Closed out.	
165	Confirm measures to improve the poor quality finish to the blockwork on the east elevation.	20.09.13	Response received.	
166	Confirm when water damaged boards in Plant Room 41 are replaced.	20.09.13	Response received.	
Items 167 to 174 have been closed out				
175	Confirm when the hotmelt areas damaged by temporary supports to Atrium Roof have been repaired and provide the accompanying QA information.	16.10.13	Closed out.	
Items 176 to 181 have been closed out				
182	Confirm that the 2 out of 4 HD bolts either missing or not protruding through the baseplate satisfies the design and specification intent or provide a remedial solution	30.10.13	Response received.	
Items 183 to 190 have been closed out				
191	Confirm that the nurse call points will be fitted in 1-537 Room OPD1-122 and 1-539 Room OPD1-097.	10.02.14	Response received.	
192	Confirm appropriate specification for the partition between the Medi Cinema and the Snoozelum Room.	12.02.14	Response received.	
193	Confirm if the mastic sealants which have been applied to junction of the horizontal beadheads and the vertical sections replace the specified preformed gaskets.	13.02.14	Closed out.	
194	Seeking confirmation how the fittings can be fitted within the present space or congested.	17.02.14	Response received.	

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195	Confirm when suspended ceiling supports are fitted on Level 0 Area 0-535.	27.02.14	Closed out.	
196	Confirm the procedures for accessing the valves in accordance with SHTM 2035 Section 5 on Level 0 Zone C in corridor OPD 024 adjacent OPD 025.	28.02.14	Closed out.	
197	Provide a copy of the Acoustic Test Report.	06.02.14	Closed out.	
198	Advise on proposals to ensure that the column fixings to the foundations comply with the design intent and that grouting to the baseplates is in accordance with the specification.	06.02.14	Open	
199	There are gaps in the thermal insulation in back box of remote TVR's. Confirm remedial action.	20.03.14	Open	
200	Materials being stored in AHU in plantroom 32	20.03.14	Open	
201	Confirm supports to services in Level 3 Zones E, K & F Zone 3-501 are in accordance with that design.	21.03.14	Response received.	
202	Confirm if quality inspections will be carried out to crimped joints.	21.03.14	Closed out.	
203	Provide report in relation to the failure of the steel connection, remedial measures and confirm that all necessary safety precautions have been taken.	26.03.14	Closed out.	
204	Confirm the remedial measures to address the issue of drop down handrail not being able to remain in the upright position. and confirm when complete	11.04.14	Open	
205	Finishing attention required to concrete slab confirm. Confirm when addressed.	30.04.14	Response received.	

NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND ENERGY CENTRE

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6.0 SUPERVISORS TESTS AND INSPECTIONS

Tests not required	N/A
Tests required but not tested	Fail
Tests required which has passed tests	Pass

Tests				
Ref	Title	To be Notified by	Status	Test Date
01-86	Various tests undertaken from the 9/07/2012 to the 30/06/2013.			
87	Smoke damper test verification - Level 0, zones D & G.	Brookfield	Fail To be re-witnessed	24.09.2013
88-100	Tests 28.09.2013 & 09.10.2013			
101	Fire alarm loop tests were carried out on L2ZA, L2ZE, L1ZE, L1ZB, L1ZC & L0ZE.	Brookfield	PASS	29.10.2013
102-113	Various tests undertaken from the 30/10/2013 to the 27/11/2013.			
114	L2 – 2-519 Fire dampers	Brookfield	PASS	12.02.2014
115	L1 1-539 Fire dampers	Brookfield	Fail	22.11.2013
115A	Fire panel No13 Level 0, 0-526 tested. On call point failed.	Brookfield	Fail	22.11.2013
116-119	Various tests undertaken from the 22/11/2012 to the 28/11/2013.			
120	1A & 1J - Fire damper drop tests. See 123 & 124 below.	Brookfield	N/A	29.11.2013
121-122	Various tests undertaken from the 28/11/2012 to the 29/11/2013.			
123	FD 1-518 001 Fire damper drop test.	Brookfield	Fail	29.11.2013
124	FD 1-539 002 Fire damper drop test.	Brookfield	Fail	29.11.2013
125	High voltage cable test between the main intake substation and substation 4A.	Brookfield	Pass	04.12.2013
126	Ventilation duct pressure test between Riser M25 Core D between Levels 4 and 12.	Brookfield	Pass	18.12.2013
127-138	Various tests undertaken from the 10/01/2012 to the 29/1/2014.			
139	Smoke damper tests in plantroom 31. Some fails.		FAIL	
140-150	Various tests undertaken from the 03/02/2014 to the 21/02/2014.			
151	Witnessing of ventilation balancing within PR31 AHU 16. Results within Plant room 31 satisfactorily, but airflows within THE 354 erratic and require be reviewing and retesting.	Brookfield	Pass	21.02.2014
152-159	Various tests undertaken from the 28/02/2014 to the 18/03/2014.			
160	Fire Damper drop tests L0.	Brookfield	Pass	19.03.2014
161	Ventilation witnessing in PR31 and	Brookfield	Pass	24.03.2014

NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND ENERGY CENTRE

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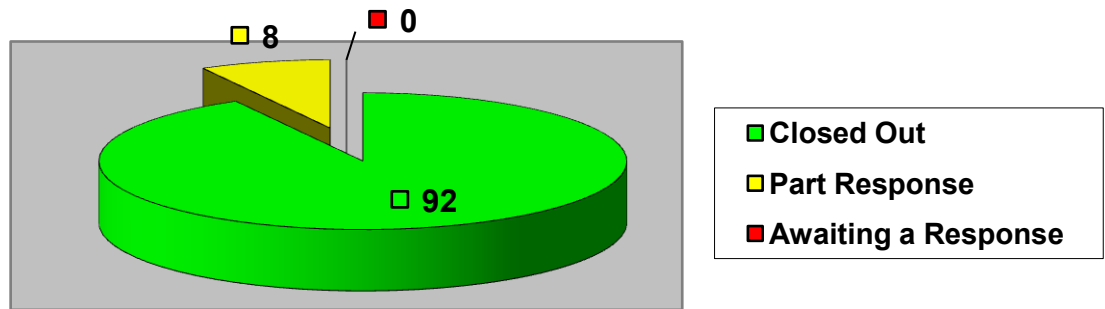
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	L0.			
162	Sprinkler pipework pressure testing. L2 riser 25a branches 211, 212 & 213.	Brookfield	PASS	01.04.2014
163	Lighting control in Level 4 & 5 zone H.	Brookfield	PASS	01.04.2014
164	Ground floor computer room chilled water witnessing.	Brookfield	PASS	09.04.2014
165	Ventilation plant witnessing in PR21 & PR31, on levels 0, 1 & 2.	Brookfield	PASS	09.04.2014
166	Vent plant witnessing. PR31 48 EF01 & AHU 48, 04 & 05.	Brookfield	PASS	
167	Sprinkler hydraulic test, Zone 201 M38 L2ZA, Zone 202 M38 L2ZA, Zone 203 M32 L2ZC & Zone 4 M32 L2ZC.	Brookfield	PASS	11.04.2014
168	Wireless access system.	Brookfield	PASS	14.04.2014
169	Sprinkler pressure test: Zone E & F, Sprinkler Zone 107 Riser M25 Area 507 Zone F & K, Sprinkler Zone 111 Riser M25 Area 501, 502, 503 & 504 Zone J, Sprinkler Zone 114, Riser M25, Area 537, 538 & 539.	Brookfield	PASS	16.04.2014
170	Dry Riser Pressure test at Core L	Brookfield	FAILED	17.04.2014
171	Fire damper drop tests in L4ZH, L5ZH and L6ZH. Twelve dampers tested, one failed. (VPI missing)	Brookfield	One damper failed	24.04.2014
172	Fire damper drop tests in L2ZJ, L2ZE, L2ZF, L2ZC and L3ZB.	Brookfield	PASS	25.04.2014
173	Sprinkler pressure test Zone 101 Riser CCB-007, Area 516, 517, 518, Zone 102 Riser CCB-007, Area 519, 520, Zone 103, Riser CCB-019, Area 506, 513, 514, Zone 104, Riser CCB-019, Area 511, 512	Brookfield	PASS	25.04.2014
174	Sprinkler pipework pressure test in zone G12 riser M25A area 0 529 & 0 530 & zone G07 riser M25A areas 0 534, 0 507 & 0 508.	Brookfield	PASS	29.04.2014
175	PR31 Ventilation witnessing of AHU's 02, 06, 09 & 61.	Brookfield	PASS	29.04.2014
176	VPI missing from FD 0-530 013	Brookfield	FAILED	29.04.2014

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7.0 DEFECTS NOTIFICATIONS ISSUED



NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND ENERGY CENTRE

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	Description	Date Requested	Comment	
Items 1 to 63 have been closed out.				
64	Confirm when poor quality blockwork / perpends are addressed.	29.07.13	Response received.	
Items 65 to 68 have been closed out.				
69	Confirm that ducts are to the required fire rating or if dampers are required to ensure the appropriate fire integrity of the partitions in rooms CCW-032, CCW-034 and CCW-033.	19.02.14	Closed Out	
70	Confirm when smoke detectors fitted too close to wall have been repositioned	11.03.14	Response received.	
71	Smoke detectors have been fitted too close to the walls in rooms MP-018 Staff WC, MP-017 Staff WC, MP-002 Reception & MP-013 Cleaners. Confirm when addressed.	29.03.14	Response received.	
72	Smoke detectors have been fitted too close to the walls in rooms THE-268, 270, 271, 272, 273 and 274. Staff WC. Confirm when addressed.	29.03.14	Response received.	
73	The wiring installed within the trunking at DB 4A-5-1 exceeds the regulated space factor for wiring Confirm when this has been addressed.	21.03.14	Closed Out	
74	Confirm when the smoke detector in room CCW-049 which is too close to a supply grill will be repositioned.	24.03.14	Response received.	
75	Confirm when sprinkler elbows and tee pieces are painted.	25.03.14	Closed Out	
76	Confirm when metaflex cables are installed correctly level 5 Zone J.	26.03.14	Closed Out	
77	Confirm the treatment to prevent further rusting of sprinkler pipes and confirm when this will be carried out and completed.	30.04.14	Response received.	

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John Redmond, Technical Advisory Services

Property and infrastructure

Capita, The Beacon, 8th Floor, 176 St Vincent Street, Glasgow G2 5SG

	Signed	Date
Originated by	John Redmond	6th May 2014
Completed by	David Ramsay	6th May 2014

CAPITA

**NEW SOUTH GLASGOW HOSPITAL
ADULT AND CHILDREN'S HOSPITAL AND ENERGY CENTRE
NEC 3 SUPERVISORS REPORT NO. 37
MAY 2014**

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**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND
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SUPERVISOR'S REPORT NO. 37**MAY 2014****1.0 EXECUTIVE SUMMARY: ADULT & CHILDREN'S HOSPITAL**

Visits to the site during May 2014 continue to indicate that the construction and procedures are progressing in a satisfactory manner in accordance with the Employer's Requirements.

Throughout, the standard and quality of the workmanship is generally good and operations are being carried out in an acceptable manner.

Quality and compliance inspections were carried out on Ground floor Areas 0-531, 0-537, 0-538, 0-539, 0-540, Level 1 Areas 1-537 and 1-538, Level 2 Area 2-511, Level 3 Area 3-510, 3-511, 3-512, 3-513 and 3-514, Level 5 Area 5-509, 5-510 and 5-511. The quality of the work was generally to a good industrial standard.

Back checks were also carried out in rooms in 0-519, 0-521 and 0-524. The quality of the finish was generally good with a few defects/snags to be addressed which included minor re-decoration.

Brookfield provided us with their QA documentation including a list of their defects which had been logged on their IDMS system. They also provided us with a list of excluded rooms and list of works and equipment that require to be completed or installed. The areas inspected were generally to a good industrial standard and the defects captured by Brookfield were generally of a minor nature. We did however identify a number of minor defects which Brookfield recorded on to their IDMS system.

We attended an Acoustic Workshop where Acoustic Logic reported on their procedures carried out during the period and they have provided us with a report of tests carried out in five locations. All of the partitions achieved the performance criteria. Two rooms tested previously where partitions did not achieve the performance criteria require to be re-tested.

A connection at one end of one of the circular hollow steel members of the main atrium roof has failed as previously reported. Brookfield initiated a detailed investigation into the causes of this incident and although a fully detailed report is awaited a remedial connection detail has been developed and will be installed at all similar joints in this proprietary roof structure.

Zutec entries continue to be under review.

The car park structural works are virtually complete. Steelwork column foundation at the NE stairwell is still in need of remediation. Facing stonework is almost finished and is of very good quality to date. Work is almost completed on the link road from the car park to Hardgate Road and quality to date is satisfactory other than for some minor snagging. Ground floor asphalt surfacing has been placed to the ground floor and is of a good quality standard as is the final floor finish at other levels where applied. Some remedial work to concrete finishes, including at post tensioning positions, remains outstanding, particularly to drainage channels and ramp edges.

At the Atrium Bridge on the 4th floor the 'benchmark' flooring has been completed and, together with the door frames is almost ready for Client inspection/review.

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NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND ENERGY CENTRE**SUPERVISOR'S REPORT NO. 37****MAY 2014**

At the roof of the Children's Hospital in Zones A and B the previously noted snagging has been addressed other than the door framing at plant room level, north east corner which awaits a final decision on door arrangement.

Roadway issues on the dual carriageway leading to Renfrew Road remain outstanding. Brookfield is aware of this and will rectify at an appropriate time in line with their programme for this area.

Light civil work to landscaping areas in courtyards has progressed significantly and quality to date appears to be satisfactory. Work to kerbs on the south and east sides of the building has progressed during the period and quality to date is satisfactory.

The M&E installation quality is being maintained to a good industrial standard and we are generally satisfied that the installation is compliant with exception of the specific items raised under communication.

The M&E installations are progressing on all levels up to Level 12 and range from 1st and 2nd fix module installation to completed and tested areas. Work is progressing within levels 2, 3, 4 & 12 plantrooms. On Level 12 the installation is well in advance, with the installation of plant, pipework, ducting, electrical switch boards, power and control wiring all in progress.

The installation of the CHP in the Energy Centre is in progress.

During May we were in attendance during the witnessing of nurse call systems, sprinkler pipework pressure tests on Levels 3 and 4, dry riser pressure tests, fire damper drop tests in areas 1-505, 1-508, 1-537 and 1-538. We also witnessed gas soundness tests to the energy centre CHP units, lighting controls on levels 0 & 1 zones J and ventilation tests in PR31. All of the tests witnessed were successful with the exception of six fire dampers which will require remedial works prior to retesting.

We are continuing to work with Brookfield during our inspections highlighting any items that have raised concern. Items identified in this manner are generally being addressed by the site team in advance of any defect notice being raised.

In general terms we are satisfied that the installations continue to be installed to a compliant standard, and are of a good quality. However we have noted that certain items this month have raised concern. These have been raised with the Contractor as follows:-

Supervisor's Communication General Matters / Other Instructions 206 was issued during May.

- Seeking confirmation of the remedial measures to address access difficulties to fire dampers.

Supervisor's Notification of Defect No 71 was issued during May.

- Seeking confirmation that the vertical bedhead trunking will have earth protection to the metal conduit and no sharp edges of the metallic conduit will come into contact with the electrical conductors

NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND ENERGY CENTRE

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2.0 DESIGN COMPLIANCE CHECK

Currently nothing to report.

3.0 PROCEDURES REVIEW

3.1 Contractor's QA Procedures / Compliance Inspections

Quality and Compliance inspections

Brookfield and their subcontractors have continued with their QA and checking and inspection procedures during this period. We are in discussion and liaise with Brookfield's Quality Manager on QA matters and we undertake regular reviews of their QA documentation.

Quality and compliance inspections were carried out with Brookfield in a number of areas. Brookfield provided us with their quality packs which included a list of their outstanding works, defects recorded on to their IDMS system quality sign off sheets and drawings.

As part of our joint inspections with Brookfield they provide us with a QA pack for each area. Included in the report are extracts from Area 3-513. Below is the sign off sheet for the various elements and contractors. There are individual sign off sheets for each contractor.

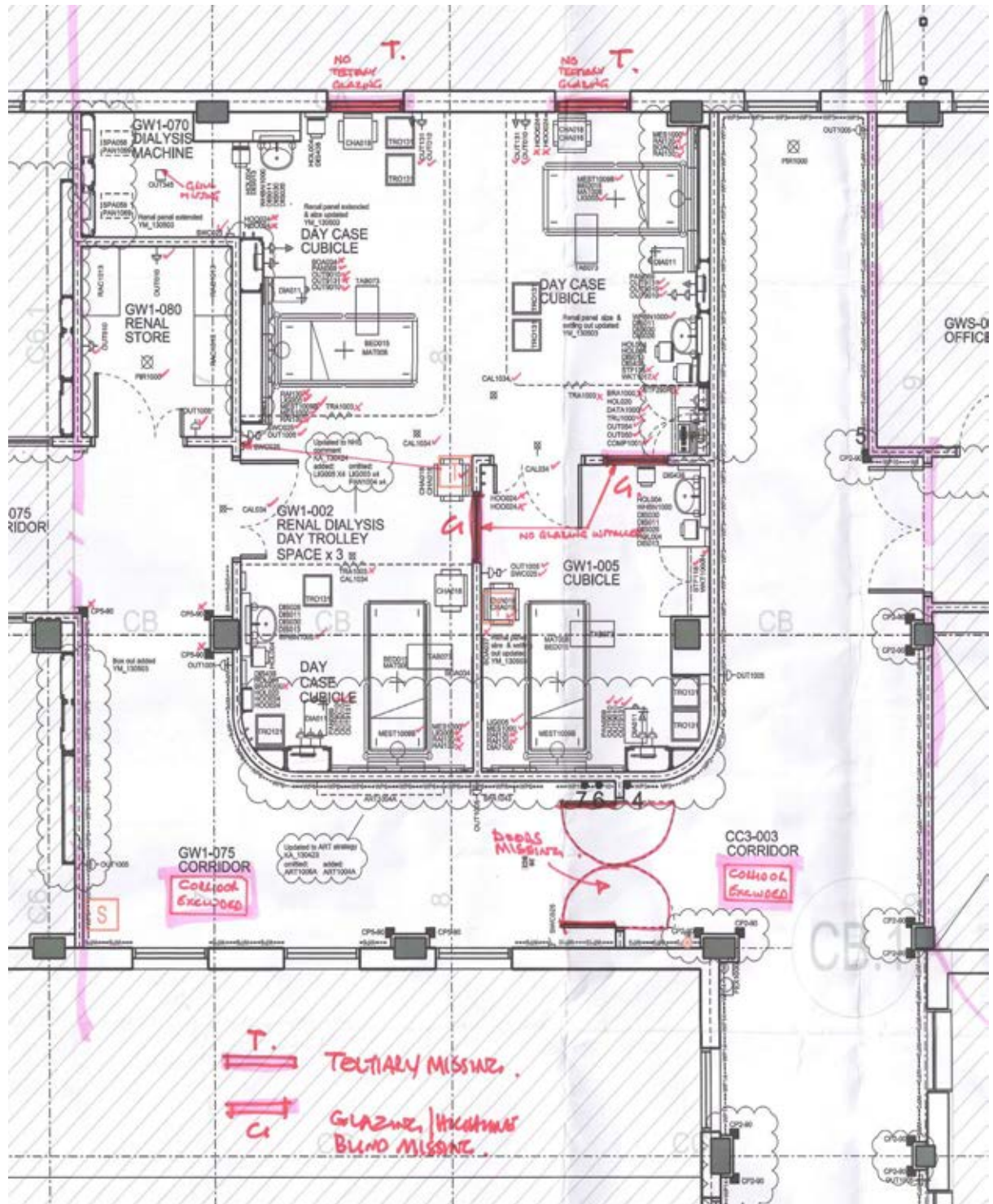
Brookfield MULTIPLEX BM		Location										
New South Glasgow Hospital Stage 3 - Adult & Children's Hospitals		Zone	A									
		Level	3									
		Area	513									
Quality Management Package Sign Off - Internal Fit-out As Built Inspection												
Element	Contractor	Sign Off Sheets Seen										
Services Above Ceiling Grid Sign Off	Mercury											
Services In Wall/ Partition Sign Off	Mercury											
Ceiling Grid & MF Plasterboard Ceiling	PFP											
Dry Lining/ Internal Partitions	Astins											
Wall Protection	Gradus											
Internal Doors, Screens, Vision Panels and Tertiary Glazing	TDSL											
External Windows	Prater											
Flooring	AC Flooring											
Furniture/ Equipment	JTC											
Nurse Stations/ Desks	Morris & Spottiswood											
IPS Units	Deanestor											
Painting & Decoration	Baxter & Gillespie											
In addition to the above, the following have been Reviewed as part of this inspection:-												
<table border="1"> <tr><td>BMCE - IDMS - Snagging Sheets</td></tr> <tr><td>400 Series Layout Drawings</td></tr> <tr><td>332 Series Reflected Ceiling Plans (RCP's)</td></tr> <tr><td>Room Data Sheets (RDS)</td></tr> <tr><td>Exclusions - As noted below</td></tr> <tr><td>Exceptions - As noted below</td></tr> <tr><td>RFI's - As noted below</td></tr> <tr><td>PMI's - As noted below</td></tr> <tr><td>Consultants Observations -</td></tr> </table>				BMCE - IDMS - Snagging Sheets	400 Series Layout Drawings	332 Series Reflected Ceiling Plans (RCP's)	Room Data Sheets (RDS)	Exclusions - As noted below	Exceptions - As noted below	RFI's - As noted below	PMI's - As noted below	Consultants Observations -
BMCE - IDMS - Snagging Sheets												
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Exclusions - As noted below												
Exceptions - As noted below												
RFI's - As noted below												
PMI's - As noted below												
Consultants Observations -												
<p>We confirm that following regular reviews this identifies the adequacy and effectiveness of the Project Packages and system compliance for this inspection.</p> <p>NEC 3 Client Supervisor has inspected and seen sample Quality Assurance checklists as noted above</p>												
BMCE Floor Manager		Date 19/05/14										

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The red line drawing below shows the status of the work at the time of inspection on 19/05/14 and identifies incomplete work. Items ticked are fitted and those with a cross are still to be fitted.

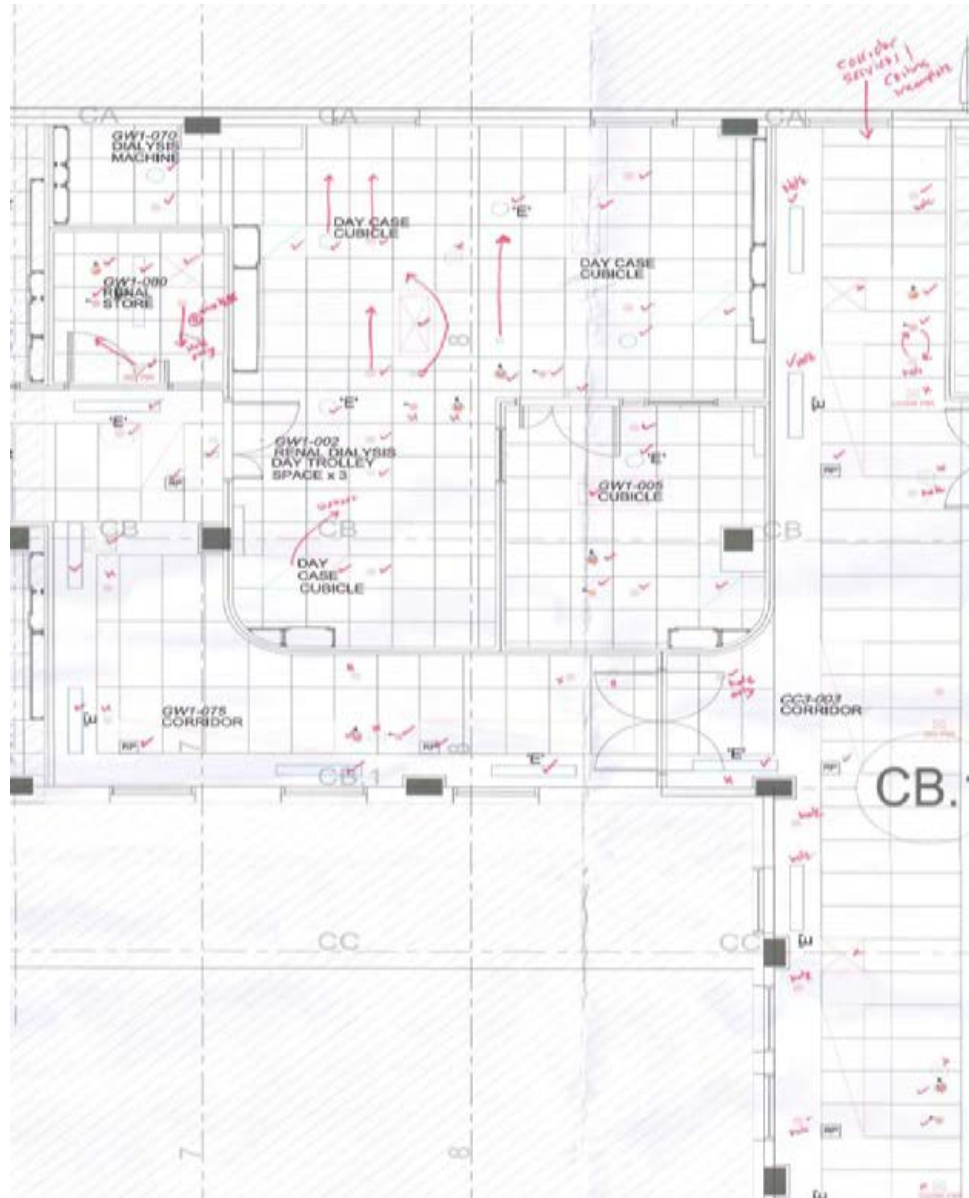


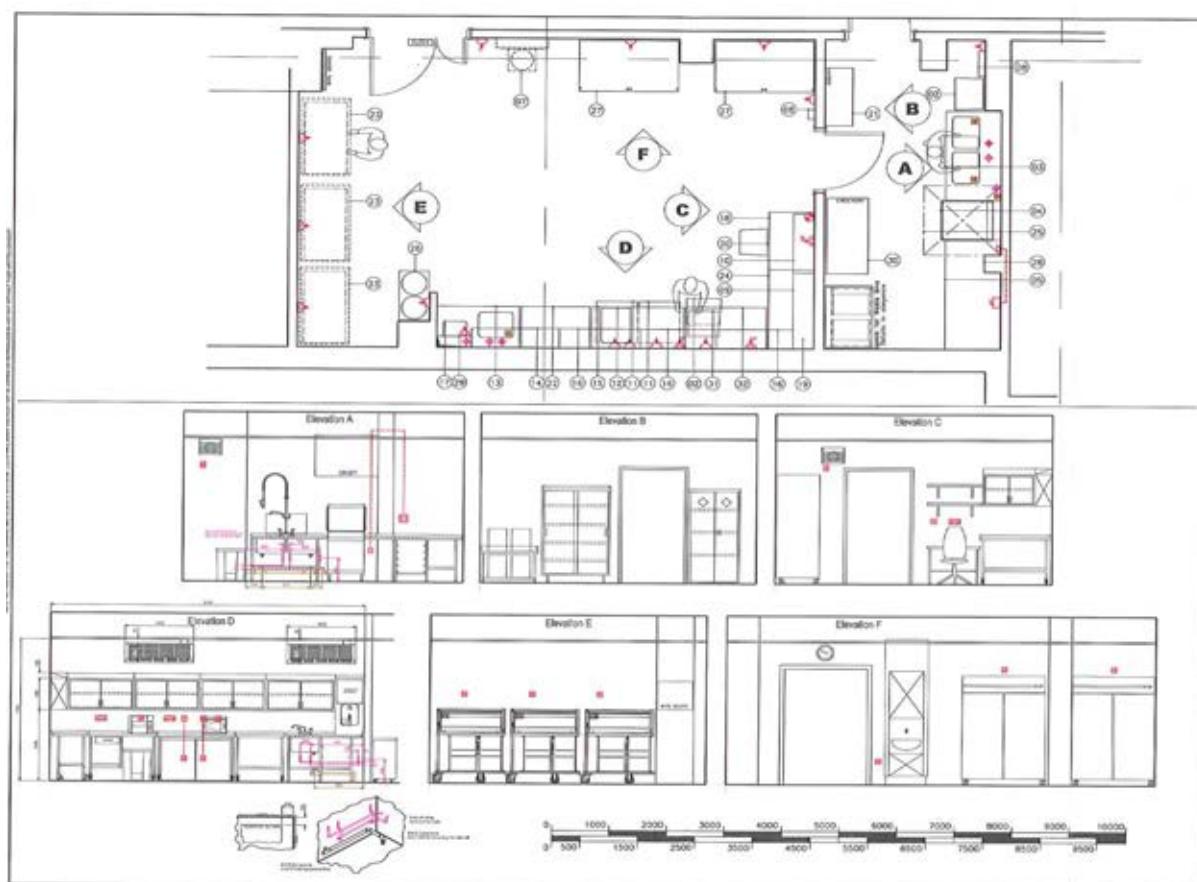
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Below is a marked up reflected ceiling plan showing the services which are either in their correct position or require to be moved.





We asked Brookfield to confirm when the problem with the drop down grab rails have been addressed and any remedial work completed and other areas checked in the hospital for the same problem. Brookfield has informed us that the installer JTC have been contacted with a view to having the drop down grabrails adjusted to allow them to remain in the vertical position. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 204 is closed out.

Quality & Compliance inspections were also carried out on Level 0, Areas 0-531. The areas inspected were to a good standard and the defects captured by Brookfield were generally of a minor nature. We did note that in a couple of rooms base unit doors were hung in the wrong side and drop down grab rails did not stay in the upright position.

Quality & Compliance inspections were carried on Level 0 Areas 0-519, 0-521 and 0-524, 0-538 and 0-539 the quality of the work was being maintained. We did however note a few defects which Brookfield recorded on their IDMS. We also identified seven rooms where smoke detectors were too close to walls and supply vents. Brookfield has recorded these defects in their IDMS for action. We will continue to monitor the remedial work.

Quality & Compliance inspections were carried on Level 1 Areas 1-537 and 1-538 the quality of the work was being maintained. We did however note a few defects which Brookfield recorded on their IDMS. We also identify two rooms where smoke detectors which were too close to walls and supply vent, consequently not installed

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as per BS5839. Brookfield has recorded these defects in their IDMS for action. We will continue to monitor the remedial work.

We carried out a Quality & Compliance Inspection of Level 5, Areas 5-509, 5-510 and 5-511 with Brookfield and the quality of the work inspected was to a good standard. We did however note a few defects which Brookfield recorded on their IDMS. These included unit doors hung on the wrong side, drop down grab rails did not stay in the upright position. Because the floor is not level in room GENWC-065 the doors leading into the en-suite and the doors leading into the room do not fully open. They strike the floor before they can be fully opened. Brookfield confirmed that they will address this and we shall continue to monitor this until resolved.

Quality & Compliance Inspection were carried on Level 3, 3-511, 3-512, 3-513 and 3-514 with Brookfield and the quality of the work inspected was to a good standard. Brookfield has recorded any defects on their IDMS and this included unit doors which require to be re-hung on the side specified on the drawings and isolated incomplete welds to flooring and isolated bubbles. We noted that the wiring to the sockets installed on the bed head units in both areas have been installed within flexible metallic conduit plugged into WAGO trunking. This is via manufactured plug to a plastic enclosure above the bed heads. Conduit has been installed using plastic stuffing glands rather than the conduit manufacturer's metal glands which are normally used. This does not provide the required earth protection to the metal conduit. See section 4.4 Current Defects.

Quality & Compliance Inspection were carried out to part of 0-519, 0-516, 0-537 and 0-540. Brookfield had captured the snags/defects and listed exclusions which included incomplete work. They also recorded the adjustments required to drop down grabrails which we highlighted in other areas.

Quality & Compliance Inspection were carried out to part of 3-510. Brookfield had captured the snags/defects and listed exclusions which included incomplete work. They also recorded the adjustments required to drop down grabrails which we highlighted in other areas.

Back checks were also carried out in rooms in 0-519, 0-521 and 0-524. The quality of the finish was generally good with a few defects/snags to be addressed which included minor re-decoration.

It was noted during fire damper tests at various locations on Level 1 that access to testing the operations of each fire damper was difficult due to the size of the access hatch. Below is a list of the locations. Note: Zutec provides for 6 monthly tests for operation and sealing. We have asked Brookfield to confirm the remedial measures to address these issues on Level 1 Area 505, 508 and 538. On Level 1 Area 537 the fire damper was not located in the wall. We have asked Brookfield to confirm measures to maintain fire barrier. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 206).

We have raised a Supervisor's Communication No 191 in relation to the Nurse call points not installed in these rooms and asked Brookfield to confirm when these works have been completed. Brookfield has confirmed that they are awaiting confirmation from Mercury when they will be fitted. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 191).

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The recessed area on the right hand side of the wash hand basin in room OPD1-004 Level 1 Area 1-539 is congested. There is a nurse call, dispenser and grab rail to be fitted. We asked Brookfield to confirm how the fittings can be fitted within the present space or if there are any proposals to reposition fittings. Brookfield has confirmed that the OPD1-005 – nurse call is to be located to correct location as per 400series drawing and the grab rail may be situated on side panel but this has to be investigated. The OPD1-004 – IPS trespar location to be investigated on potential move to allow space for grab rail. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 194).

General Inspections

We carried out an inspection of the blockwork with Brookfield on the south and east elevation. The pointing in some areas is darker than the specified pointing. Brookfield tinted a sample area to demonstrate that a uniform colour can be attained to the pointing. The tinting inspected was an improvement to the original finish. A further joint inspection is to be carried with the NHS. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 165).

**Zutec Review**

We continue reviewed testing information on Zutec.

Acoustic Tests

Acoustic tests were carried out to partitions dividing the following rooms during May:

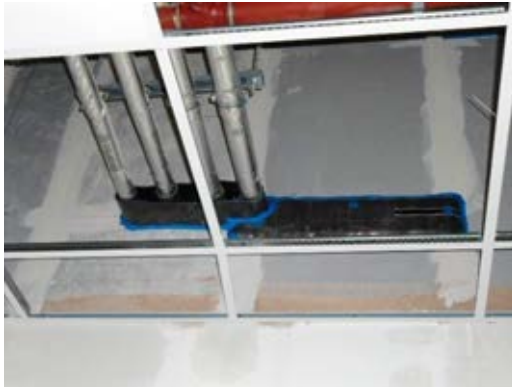
- RAF 063 anaesthetic to AAW161 Regen Kitchen.
- STW 048 Single Bed to AAW 098 Single Bed.
- CCW 055 Clinical Staff Office to AAW 279 Work Station.
- STW 092 Female Staff Change to STW 094 Office.
- STW 092 Female Change to STW 094 Male Staff Change.

The partition between THE 326 Recovery Bay to THE 327 Recovery Bay and CCW-15 TO CCW- 14 did not achieve the performance criteria. We await retest results for these partitions

We await details of the lead protection to ducts and penetrations passing through walls above the ceilings within Radiology. Brookfield has confirmed that drawing No AST-XX-XX-DT-252-112 from Astins has been given status B by both NHS and Brookfield with over marked comments. Brookfield discussed this with Astins and a test of rooms is planned for 1st May in specific areas on the ground floor. The results of these tests will confirm if the detail is satisfactory. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 163.

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85 point Checks

An 85 point checks was carried out Level 5 Zone F Room GENWA 029 ON 30th April 2014. Astins found no mastic under the floor track and replaced it and applied mastic seal. They also fitted additional fixings at abutment studs.

Above Ceiling Inspections

Following discussions at the Supervisors Interface Meeting it was noted that the "Pre-Ceiling Closure above Ceiling Sign Off Sheet" for Floor 2 Zone was incomplete. Although it had been signed off by Building Control there were still two issues still to be resolved and there was no allowance for this in the QA check sheet. Brookfield has since addressed this and confirmed that once the issues were closed out the sheet would be re-issued with the issues closed out and Building Control advised.

3.2 Witness Testing and Commissioning

We witnessed a number of tests during May 2014 which was satisfactory and these were as follows:

- Nurses call systems on level 1.
- Sprinkler pipework pressure tests on Levels 3.
- Sprinkler pipework pressure tests on Levels 4.
- Dry riser pressure tests.
- Fire damper drop tests L1ZJ area 537.
- Gas soundness tests in the Energy centre CHP units.
- Lighting controls on Levels 0 & 1 Zones J.
- Ventilation tests in PR31.

We witnessed tests during May 2014 which were unsatisfactory. See below

- FD 1-505 006 - Access hatch too small and sharp edges on inside of hatch.
- FD 1-508 004 - Fire damper closed ok but failed to reset due to size of access hatch.
- FD 1-508 005 - Fire damper closed ok but failed to reset due to size of access hatch.
- FD 1-537 004 - Access hatch too small and fire seal or repositioning required.
- FD 1-537 005 - Access hatch too small and sharp edges on inside of hatch.

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Previously witnessed tests which failed and have been re-tested successfully:

None offered.

Previously witnessed tests which require to be retaken.

- Fire panel No 13 Level 0, 0-526 was tested and several smoke detectors and one call point activated satisfactorily. The test was aborted when on call point failed. New test date to be confirmed.
- FD-1-539-002 – The fire damper test lever was fouling adjacent ductwork. The fire damper is to be repositioned and retested.
- FD-1-518-001 - Difficult to access and activate damper link due to type of hatch fitted, and damper status indicator was obscured. A new hatch is to be installed and status indicator to be exposed.
- FD-1-539-003, Unable to access fire damper inspection hatch. A new inspection hatch to be fitted on opposite side of wall.
- Smoke damper verification and operational tests were carried out in Level 0 zones D & G which was aborted for the following reasons - One actuator not being connected, new hatch required in plaster board to gain access to one actuator and duplicate addresses being discovered on several other actuators tested. New test date 05.05.2014.
- Smoke dampers were tested in plantroom 31 and there were some which failed.
- Dry riser pressure test in Zone C.
- VPI missing from Level 6 Zone H fire damper FD 6 511 001.
- VPI missing from Level 6 Zone H fire damper FD 6 530 013.

3.3 Board Equipment Installation,

Currently nothing to report.

3.4 Non Conformance Reports

We reviewed Brookfield's NCR Tracker and noted the issues raised by the Package Managers. The blockwork and pointing on the south and east elevations although improved by cleaning continues to be a concern with shading of the mortar evident. Prater has still to offer it up to Brookfield as complete reference NCR 156. NCR 237 was issued to Astins in relation to the lack of insulation at abutments between internal partitions and external walls. This work is complete and an acoustic test is to be carried out.

4.0 CONSTRUCTION REVIEW

4.1 Visits to the Works

The following members of our team undertook site inspections, reviewed documentation, attended meetings and met with relevant Contractors representatives on-site personnel:- John Redmond (Lead NEC3 Supervisor) 1st, 6th to 9th, 12th to 16th to 19th to 22nd 27th to 30th. Douglas Wilson (M&E NEC3 Supervisor) 1st, 16th, 19th to 23rd and 27th to 30th. Bill Lang (M&E NEC3 Supervisor) 1st and 2nd May, 5th to 9th, 12th to 16th, Willie Roxburgh (Civils/Structural NEC3 Supervisor) part days on 6th, 15th,

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19th, 23rd, and 30th May, plus remote desk top input most days of the month. Capita's NEC3 Supervisor's team visited site a combined 46 person days.

4.2 Elements of the Works available for inspection

Main building – all concrete areas. (becoming very limited due to access and partitions)

Tunnels between ACH and Labs, and Cores C to F.

Structural steelwork to all roof areas (partly limited due to access and partitions).

Neuro bridge (partly limited due to access).

Dual carriageway to Renfrew Road, turning area in front of the main entrance, and carriageway from Hardgate Road.

South and east sides external works

Internal courtyards.

Car park area.

Internal partitions.

M&E modular units.

Roofing.

Cladding.

Windows.

Sto system.

Brickwork Courtyard 8, and 10.

Brickwork/blockwork: Zone J North, East elevation and Basement Blockwork.

Rainscreen: Zone F & C.

Internal fit out

4.3 Current Observations

The visual inspections of the work carried out to date indicate that the works are generally being carried out to a satisfactory standard. We continue to be assisted by the site teams and the NHS Project Team in resolving various construction, mechanical, electrical, and quality issues. We continue to close out our Supervisor's Notification and Defects when we have received satisfactory responses. Listed below are observations closed out, still to be closed and those raised following site visits to site in May 2014.

4.3.1 Structural

A connection at one end of one of the circular hollow steel members of the main atrium roof has failed as previously reported. Brookfield initiated a detailed investigation into the causes of this incident and although a fully detailed report is awaited a remedial connection detail has been developed and will be installed at all similar joints in this proprietary roof structure.

At the Atrium Bridge on the 4th floor the 'benchmark' flooring has been completed and, together with the door frames is almost ready for Client inspection/review.

At the roof of the Children's Hospital in Zones A and B the previously noted snagging has been addressed other than the door framing at plant room level, north east corner which awaits a final decision on door arrangement.

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Roadway issues on the dual carriageway leading to Renfrew Road remain outstanding. Brookfield is aware of this and will rectify at an appropriate time in line with their programme for this area.

We asked Brookfield to provide technical solutions to various situations on the structural steelwork to the Children's roof where base plates are "floating"; edge distances are minimal or miss the concrete base. Cladding rails also prevented HD bolt fixing. The base plate details have been addressed other than at the north east door set on the fifth floor which Brookfield has indicated will be adjusted once the final door arrangement is known. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 141.

The steel framework in riser on Level 0 ZF Riser M30 has had the legs extended immediately in front of the entrance door. There are other legs which have not been extended yet and we asked Brookfield to confirm when the other legs will be extended. Brookfield informed us that Mercury removed the feet on the framing having it suspended from the soffit of the floor above. Brookfield has consulted with WSP re the allowable load on the slab edge around the risers. The design line load around the riser slab edges is based upon 0.8kN/m height/sq.m plan area. The calculations submitted by Mercury show a load of 0.99kN/m/sq.m which exceeds the design criteria therefore the legs will require extending to provide support from the lower floor. Mercury has been informed to replace/ extend the feet. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 162).



Extended legs



Leg still to be extended.

One of the base plates Level 4 Zone B has 2 out of 4 HD bolts either missing or not protruding through the baseplate. Brookfield has confirmed that post fixed anchors were installed and we have inspected this on site. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 182 is closed out.

Several fixings to the underside of the roof slab for prefabricated framework supporting services on Level 3 zones E, K & F Zone 3-501 are not as originally intended. We asked Brookfield to confirm that what has been provided has been designed and that the installation is in accordance with that design. They have confirmed that some of the fixings could not be fitted through the pre-drilled holes on the end plates due to the location of rebar within the slab. The specialist installer has confirmed that 1 bolt in each end plate is sufficient to support the full systems as per the independent calculations attached on the next page. Each of the end plates has at least 3 fixings, some with extended fish plates fitted to avoid the rebar.

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Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 201 is closed out.

Car Park 1

The car park structural works are virtually complete. Steelwork column foundation at the NE stairwell is still in need of remediation. Facing stonework is almost completed and is of very good quality to date. Work is almost completed on the link road from the car park to Hardgate Road and quality to date is satisfactory other than for some minor snagging. Ground floor asphalt surfacing has been placed to the ground floor and is of a good quality standard as is the final floor finish at other levels where applied. Some remedial work to concrete finishes, including at post tensioning positions, remains outstanding, particularly to drainage channels and ramp edges.

We have asked Brookfield to advise on their proposals to ensure that the column fixings to the foundations comply with the design intent. We have also asked them to confirm that grouting to the baseplates is in accordance with the specification. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 198).

Several areas of the external slab still require some finishing attention, particularly at the prestressing positions. See attached photograph. We asked Brookfield to advise how and when these areas will be addressed. They have informed us that Dunnes currently have operatives working on the inside of the ramps (photo 1) and should be complete by 9th May. They will access the areas above the car park access road using the cladding scissor lift which is due once the tower crane comes down. They expect this to be completed by 16th May. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 205).



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Steelwork snagging appears to have been addressed, but much tidying up remains outstanding in the eastern half of the building.

4.3.3 Above Ground Drainage

Substantially completed with satisfactory quality to date.

4.3.4 Dual Carriageway to Renfrew Road. (A&C)

The defects previously identified will be reviewed nearer to completion when they will be effectively rectified. This will also now include the significantly damaged kerb lines affected by the storage and lifting of the neuro-bridge sections.

4.3.5 Pipework.

Installation of hot, cold, heating, & chilled water pipework in the A&C hospital is progressing and in general is being installed to a good standard and we are continuing to monitor all pipework installations.

4.3.6 Ventilation

We asked Brookfield if the Isolation ductwork hatch to the fire rated ductwork in Plant Room 21 needs a double seal. They have confirmed that a double seal is definitely not required for this hatch as it is on the vacuum side. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 154 is closed out

We brought to Brookfield's attention that materials are being stored within Plantroom 32 AHU 02 which can cause damage to the heating and cooling coil aluminium fins in plantroom 32 AHU 02. Materials were removed from the Plant room at AHU 02 and toolbox talks were held with the relevant sub contractors on storage of materials. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 200 is closed out.

4.3.7 Insulation

The thermal insulation installation to the pre-fabricated sections of pipework is being completed off site, before delivery and completed after installation. During our joint inspections with Brookfield we noted some damaged insulation within the plant rooms and these are being addressed. The ducting is currently being overclad with VentureClad Jacketing.

4.3.8 Pressure testing

Pressure testing of the modular pipework sections on a zone by zone or area by area basis has been programmed through the commissioning meetings.

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4.3.9 Medical Gases

Medical Gas pipework is being installed in all areas and independent tests are being witnessed by Ian Sandford of Hulley and Kirkwood.

4.3.10 Energy Centre

The installations in the Energy Centre are well advanced with the A-side systems commissioned and handed over. The installation of the CHP's is in progress.

4.3.11 Trunking

Branch connections are being installed in a few remaining areas and is to a good industrial standard.

4.3.12 Cable Trays

Cable tray containment is being installed in a few remaining areas and is to a good industrial standard.

4.3.13 Cabling

Sub-circuit wiring is ongoing and is to a good industrial standard.

4.3.14 Conduit

Solid conduit installations are well progressed in the areas being fitted out and are to a good industry standard.

4.3.15 Void Detection

Nothing to report.

4.3.16 Intake Sub Station

Brookfield has informed us that all the cables have now been pulled through to the sub- station and associated works to draining and sealing will be completed by the end of June 14. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 30 & 45).

4.3.17 Partitions

The ambiguity over the specification of the partition between the Snoozelum Room GW3-049 and the Medi Cinema has been resolved. Brookfield has received a letter from Knauf stating that the current construction detail will achieve the required 52 Db Rw acoustic figure. A revised drawing has also been provided by Astins. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 192 is closed out.

The partition between the east side of the atrium and plant room 41 has been damaged by water ingress. Brookfield to confirm they are aware there has been

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some damage, and will replace the boards after they have completed the resin flooring works. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 166).



Water damaged boards.

4.3.18 Roofs

A&C Roofs

In the Children's play area R3-005 planting is in progress. Roof R6-001 is nearing completion with only capping pieces to be fitted. On Roof R6-002 hotmelt complete, Roof R4-005 insulation has been completed and on Roof R5-003 only short section of the perimeter is to be completed.

In the Adult Hospital hotmelt is in progress on Roof R3-004, nearing completion on Roof R2-005 and complete on Roof R2-009.

Roof R12-003 nearing completion.

Roof R3-003 landscaping is in progress.

Roof R3-006 landscape in progress.

Roof R4-008 work progressing to completion.

Roofs R12-001, R12-002, R12-003, R12-004, work progressing to completion.

Roof work progressing to completion.

Awaiting Podium Roofs for inspection.

Roofs R4-010 landscaping is complete.

R3-004 hotmelt still to commence.

R2-008 Hotmelt complete with penetrations to be sealed.

Roof R2-010 awaiting the removal of scaffold to enable completion of the landscaping.

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The West Link Roof R12 between zones F and E landscaping nearing completion.

Generally the quality of the workmanship throughout is to a good industrial standard and we have reviewed the QA documentation.

All the Sarna Roof covering is progressing to completion.

Children's Roofs

Hot melt is complete on level 2 balconies and Level 3 roof and the quality is to a good industrial standard.

R4-005, R6-002 and R1-007 hotmelt complete.

R5-005 hotmelt complete.

4.3.19 Cladding/Courtyards

A&C

Remedial work to be carried out and Brookfield to carry out handover inspections.

Children's Hospital

The STO is nearing completion.

Blockwork

Blockwork is nearing completion.

Cladding.

Cladding is nearing completion at plantroom 41 A and is to a good industrial standard.

4.3.20 Windows

Windows are progressing on the external elevations and courtyards in accordance with the specifications.

4.1.21

Equipment

Nothing to report.

4.3.22 Ducting

Nothing to report.

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We asked Brookfield to confirm their proposals to achieve level floors to the Atrium Bridge Corridors at door openings to offices/rooms and adjacent levels within these rooms. The atrium Bridge Floor on Level 4 has been screeded and we await confirmation when the vinyl will be fitted. The top of the door openings are level but the top of the door frames have been installed with a sane width of architrave. A joint inspection with the Peter Moir to be arranged. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 145).

4.3.24 Blockwork

We have reported since April 2013 that the quality and standard of workmanship of the blockwork on the east elevations was not to a good industrial standard.

This was discussed on site with Peter Moir, John Redmond and Alasdair Fernie. It was agreed that the joint variance is as per the block sizes and no amount of remedial works would eliminate this. The repairs to damaged block and the cracks are to be addressed with a further visit required in around 6 weeks (Mid November) to allow the mortar colour to blend in. Brookfield has confirmed that they are awaiting the handover of the blockwork from Prater. A joint inspection with the Peter Moir to be arranged. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 165).

4.3.25 Security

No witnessing took place during the period.

4.3.26 Pneumatic Tube

Currently nothing to report.

4.3.27 Electrical Fittings & Fixtures

Nothing to report.

4.3.28 Sprinklers

Nothing to report

4.3.29 Lighting

The quality of the general and emergency lighting installed to date is of a good standard.

4.3.30 Power

The quality of the small power installation installed to date is generally good with only minor defects noted which have been rectified.

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Nothing to report.

4.3.32 Fire Dampers

During the mechanical fire damper drop tests and the Quality and Compliance Inspections, several damper positional indicators have been found to be obscured by sealant. This is being addressed by Brookfield.

4.3.33 Heating

There are gaps in the thermal insulation in the back box of the remote TRV's mounted on external walls controlling the radiant panel heater in Level 0, ZA ward OBW 009. There is the likelihood that this will cause the TRV to be affected by the lower temperature in the partition void causing the Radiant panel to emit heat unnecessarily wasting energy. This applies to other similar TRV's on outside walls. We have asked Brookfield to confirm if this has been considered and if remedial action will be taken to address this. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 199).

4.4 Current Defects.

In relation to the locations where smoke detectors have not been able to be located in accordance with BS5839-1 please note the following information provided by Brookfield. Scotshield a LPCB (LPS1014 Scheme) registered contractor, have been appointed to Design Install and Commission the Fire Detection & Alarm System at the NSGH; where practically possible they will install and locate all ceiling mounted detection devices in accordance with the recommendations of BS5839-1 Clause 22.3g and Clause 22.3n. In circumstances where it's impossible to achieve this due to engineering restrictions and/or room dimensions they will install the detection device in the most suitable position ensuring no detrimental effect on the active performance or longevity of the system. In terms of any detection device installed in this manner a variation to the standard shall be recorded on the system commissioning and LPS1014 certification highlighting the location and reasons for this action as in accordance with BS5839-1. In terms of BS5839 it should be remembered that the standard is based on recommendations.

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The smoke detector within the lobby on Level 1 Room CCW-049 is within 300mm of the supply grille. Due to restrictions on the ceiling the smoke detector has been fitted in its best location, consequently Supervisor's Notification of Defect (CI 42.2) No 74 is closed out.



The quality of the workmanship to the blockwork on the West Facing Elevation was poor and required to be addressed. The above area was re-inspected on Friday 16/05/14 with Brookfield, Prater Sub Contractor JB Brickwork and ourselves. The remedial work had been carried out, consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 64 is closed out.



Smoke detectors on Level 1 Areas 1-517 and 1-518 have been fitted too close to the walls in rooms CCW-100 Isolation Ward Lobby and CCW-147 Recess. Mercury has reviewed the positioning of the detectors and can advise as follows. In 1-517 the detector holes have been cut in the best location possible with the constraints limiting positioning within the room. The devices will be fitted in the holes as cut. In 1-518 the detector would be better positioned further away from the wall to the full tile adjacent to the light fitting. They will advise when the work is completed in 1-518. See Supervisor's Notification of Defect (CI 42.2) No 70).



CCW-100



CCW-047

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Smoke detectors have been fitted too close to the walls in rooms MP-018 Staff WC, MP-017 Staff WC, MP-002 Reception and MP-013 Cleaners. Due to restrictions on the ceiling the smoke detector has been fitted in its best location. Consequently Supervisor's Notification of Defect (CI 42.2) No 71 is closed out.

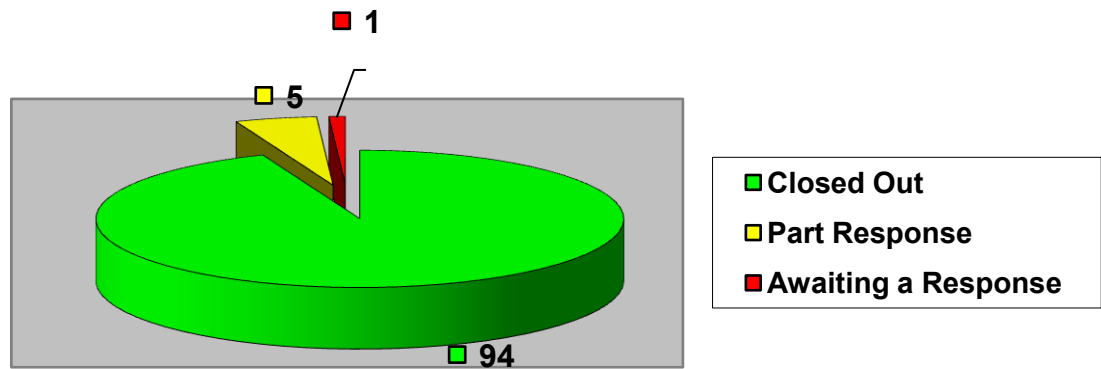
Smoke detectors have been fitted too close to the walls in rooms THE-268, 270, 271, 272, 273 and 274. Staff WC. Due to restrictions on the ceiling the smoke detector has been fitted in its best location, consequently Supervisor's Notification of Defect (CI 42.2) No 72 is closed out.

The sprinkler pipes on Level 2, Zone J, and Area 2-532 became rusty during the installation of sprinkler pipe when the building was not water tight. The affected pipework has now been cleaned with a wire brush and re-painted as shown in photograph below. Similar work would take place should any other pipework be subjected to similar conditions that require cleaning and repainting. Supervisor's Notification of Defect (CI 42.2) No 77 is closed out.

**Before****After**

Conduit has been installed using plastic stuffing glands rather than the conduit manufacturer's metal glands which are normally used. This does not provide the required earth protection to the metal conduit. The flexible metal conduit is fitted within the vertical bedhead trunking and is not mechanically glanded. The issue has been noted by Brookfield and is logged in their IDMS system. And notification has been passed to Mercury floor manager for investigation. (See Supervisor's Notification of Defect (CI 42.2) No 78).

5.0 INFORMATION REQUIRED



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Item No.	Description	Date Requested	Comment	
Items 1 to 29 have been closed out				
30	Confirm when cabling is complete, water pumped out and batteries removed.	10.08.12	Response received.	
Items 31 to 44 have been closed out				
45	See Supervisor's Communication No 30.	18.09.12	Response received.	
Items 46 to 139 have been closed out				
140	Pull cords in 1-521 too far from wc.	18.07.13	Closed out.	
141	ease provide technical solutions to various issues to the steelwork the Children's Roof.	23.07.13	Response received.	
Items 142 to 144 have been closed out				
145	Confirm proposals to achieve level floors to the Atrium Bridge Corridors at door openings to offices/rooms.	25.07.13	Response received.	
Items 146 to 153 have been closed out				
154	Confirm if isolation ductwork hatch in Plant Room 21 needs a double seal.	5.08.13	Closed out.	
Items 155 to 161 have been closed out				
162	Confirm when the other legs have been extended to the steel framework in riser on Level 0 ZF Riser M30.	16.09.13	Response received.	
163	Provide details of the lead protection to ducts and penetrations passing through walls above the ceilings within Radiology.	16.09.13	Response received.	
164	Confirm when rodding eye inspection cover has been repositioned to allow access within toilet MDU-011.	17.09.13	Closed out.	
165	Confirm measures to improve the poor quality finish to the blockwork on the east elevation.	20.09.13	Response received.	
166	Confirm when water damaged boards in Plant Room 41 are replaced.	20.09.13	Response received.	
Items 167 to 190 have been closed out				
191	Confirm that the nurse call points will be fitted in 1-537 Room OPD1-122 and 1-539 Room OPD1-097.	10.02.14	Response received.	
192	Confirm appropriate specification for the partition between the Medi Cinema and the Snoozelum Room.	12.02.14	Closed out.	
193	Confirm if the mastic sealants which have been applied to junction of the horizontal beadheads and the vertical sections replace the specified preformed gaskets.	13.02.14	Closed out.	
194	Seeking confirmation how the fittings can be fitted within the present space or congested.	17.02.14	Response received.	
195	Confirm when suspended ceiling supports are fitted on Level 0 Area 0-535.	27.02.14	Closed out.	
196	Confirm the procedures for accessing the valves in accordance with SHTM 2035 Section 5 on Level 0 Zone C in corridor OPD 024 adjacent OPD 025.	28.02.14	Closed out.	
197	Provide a copy of the Acoustic Test Report.	06.02.14	Closed out.	
198	Advise on proposals to ensure that the column fixings to the foundations comply with the design intent and that grouting to the baseplates is in accordance with the specification.	06.02.14	Open.	
199	There are gaps in the thermal insulation in back box of remote TVR's. Confirm remedial action.	20.03.14	Open.	
200	Materials being stored in AHU in plantroom 32	20.03.14	Closed out.	
201	Confirm supports to services in Level 3 Zones E, K & F Zone 3-501 are in accordance with that design.	21.03.14	Closed out.	
202	Confirm if quality inspections will be carried out to crimped joints.	21.03.14	Closed out.	
203	Provide report in relation to the failure of the steel connection, remedial measures and confirm that all necessary safety precautions have been taken.	26.03.14	Closed out.	
204	Confirm the remedial measures to address the issue of drop down handrail not being able to remain in the upright position. and confirm when complete	11.04.14	Closed out.	
205	Finishing attention required to concrete slab confirm. Confirm when addressed.	30.04.14	Response received.	

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206	Confirm that the difficult access to various fire dampers on Level 1 Areas 505, 508 and 537 will be addressed.	19.05.14	Open	
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6.0 SUPERVISORS TESTS AND INSPECTIONS

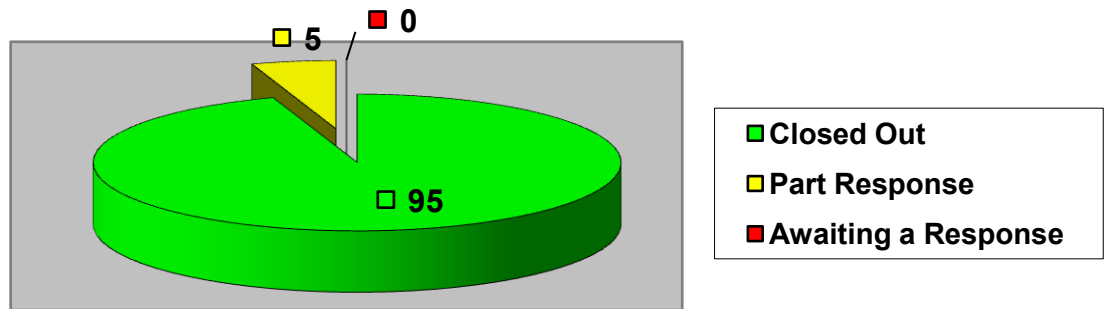
Tests not required	N/A
Tests required but not tested	Fail
Tests required which has passed tests	Pass

Tests				
Ref	Title	To be Notified by	Status	Test Date
01-86	Various tests undertaken from the 09. 07.2012 to the 30.06 2013.			
87	Smoke damper test verification - Level 0, zones D & G.	Brookfield	Fail To be re-witnessed	24.09.2013
88-114	Tests 28.09.2013 to 12.02.2014			
115	L1 1-539 Fire dampers	Brookfield	Fail	22.11.2013
115A	Fire panel No13 Level 0, 0-526 tested. On call point failed.	Brookfield	Fail	22.11.2013
116-119	Various tests undertaken from the 22.11.2012 to the 28.11. 2013.			
120	1A & 1J - Fire damper drop tests. See 123 & 124 below.	Brookfield	N/A	29.11.2013
121-122	Various tests undertaken from the 28.11.2012 to the 29.11.2013.			
123	FD 1-518 001 Fire damper drop test.	Brookfield	Fail	29.11.2013
124	FD 1-539 002 Fire damper drop test.	Brookfield	Fail	29.11.2013
125-138	Various tests undertaken from 04.12.2013 to the 29.01. 2014.			
139	Smoke damper tests in plantroom 31. Some fails.		FAIL	
140-169	Various tests undertaken from the 03.02.2014 to the 16.04.2014.			
170	Dry Riser Pressure test at Core L	Brookfield	FAILED	17.04.2014
171	Fire damper drop tests in L4ZH, L5ZH and L6ZH. Twelve dampers tested, one failed. (VPI missing)	Brookfield	One damper failed	24.04.2014
172-175	Various tests undertaken from 25.04.2014 to 29.04.2014.			
176	VPI missing from FD 0-530 013	Brookfield	FAILED	29.04.2014

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7.0 DEFECTS NOTIFICATIONS ISSUED



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	Description	Date Requested	Comment	
Items 1 to 63 have been closed out.				
64	Confirm when poor quality blockwork / perpends are addressed.	29.07.13	Closed Out	
Items 65 to 68 have been closed out.				
69	Confirm that ducts are to the required fire rating or if dampers are required to ensure the appropriate fire integrity of the partitions in rooms CCW-032, CCW-034 and CCW-033.	19.02.14	Closed Out	
70	Confirm when smoke detectors fitted too close to wall have been repositioned	11.03.14	Closed Out	
71	Smoke detectors have been fitted too close to the walls in rooms MP-018 Staff WC, MP-017 Staff WC, MP-002 Reception & MP-013 Cleaners. Confirm when addressed.	29.03.14	Closed Out	
72	Smoke detectors have been fitted too close to the walls in rooms THE-268, 270, 271, 272, 273 and 274. Staff WC. Confirm when addressed.	29.03.14	Closed Out	
73	The wiring installed within the trunking at DB 4A-5-1 exceeds the regulated space factor for wiring Confirm when this has been addressed.	21.03.14	Closed Out	
74	Confirm when the smoke detector in room CCW-049 which is too close to a supply grill will be repositioned.	24.03.14	Response received.	
75	Confirm when sprinkler elbows and tee pieces are painted.	25.03.14	Closed Out	
76	Confirm when metaflex cables are installed correctly level 5 Zone J.	26.03.14	Closed Out	
77	Confirm the treatment to prevent further rusting of sprinkler pipes and confirm when this will be carried out and completed.	30.04.14	Response received.	
78	Confirm when earth protection is installed to provide earth protection to metal conduit.	21.05.14	Response received.	

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John Redmond, Technical Advisory Services

Property and infrastructure
Capita, The Beacon, 8th Floor, 176 St Vincent Street, Glasgow G2 5SG

	Signed	Date
Originated by	John Redmond	5th May 2014
Completed by	Douglas Wilson	5th May 2014

CAPITA

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1.0 EXECUTIVE SUMMARY: ADULT & CHILDREN'S HOSPITAL

Visits to the site during June 2014 continue to indicate that the construction and procedures are progressing in a satisfactory manner in accordance with the Employer's Requirements.

Throughout, the standard and quality of the workmanship is generally good and operations are being carried out in an acceptable manner.

Quality and compliance inspections were carried out on Ground floor Areas 0-507, 0-508, 0-512 and 0-514. Level 1 Areas 1-513 and 1-514, Level 3 Areas 3-503, 3-504 and 3-515, Level 4 Areas 4-506, 4-507 and 4-508, and part of 4-503, 4-504, 4-505, Level 5 Area 5-506, 5-507, 5-508, 5-512, 5-513 and 5-514, Level 6 Areas 6-509, 6-510 6-511, 6-512, 6-513 and 6-514. Quality and compliance inspections were carried out on Level 7 Areas 7-509, 7-510 and 7-511. The quality of the work was generally to a good industrial standard, however there were some rooms where the quality was not as good as previous areas inspected due to the number of snagging items and incomplete work.

Brookfield provided us with their QA documentation including a list of their defects which had been logged on their IDMS system. They also provided us with a list of excluded rooms and list of works and equipment that require to be completed or installed. We reviewed this information prior to undertaking the inspections. The areas inspected were generally to a good industrial standard and the defects captured by Brookfield were generally of a minor nature. We did however identify a number of minor defects including, interstitial blinds not level, seals missing from door frames, screws missing from hinges, damage to door frames and doors, wall vinyl becoming detached in the en-suites which Brookfield recorded onto their IDMS system.

A Joint inspection of the car park was undertaken, a few issues were raised with Brookfield including providing adequate ramps to the entrance doors to the stairs at all levels, and prefixing some isolated horizontal timber slats.

We continue to liaise between Brookfield and the NHS Project Team in relation to snags/defects identified by the NHS Project Team.

An inspection of the 4th floor (benchmark) Atrium Bridge by Peter Moir and John Redmond was carried out and Peter agreed that the finish to the architraves above the doors were acceptable. Brookfield will be fitting a section of the vinyl coving for client inspection /review.

All connections of the circular hollow steel members of the main atrium, similar to the one which had failed, as previously reported, have now been replaced with another connection design detail. A detailed report regarding this issue has also now been received from Brookfield.

During the period the link bridge to the existing Neo-natal facility has been erected. Quality of this to date appears satisfactory. At the connection positions into the

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existing building steelwork however, final clarification regarding the design detail is awaited.

Zutec entries continue to be under review.

The car park structural works are virtually complete. Steelwork column foundation at the NE stairwell has been partly addressed but final welding and cosmetic attention is still required. Facing stonework is almost finished and is of very good quality to date. Some minor snagging is outstanding on the link road from the car park to Hardgate Road with quality to date satisfactory. Ground floor asphalt surfacing has been placed to the ground floor and is of a good quality standard as is the final floor finish at other levels where applied. Some remedial work to concrete finishes, including at post tensioning positions, is ongoing, particularly to drainage channels and ramp edges.

At the roof of the Children's Hospital in Zones A and B the previously noted snagging has been addressed other than the door framing at plant room level, north east corner which awaits a final decision on door arrangement.

Roadway issues on the dual carriageway leading to Renfrew Road remain outstanding. Brookfield is aware of this and will rectify at an appropriate time in line with their programme for this area.

Light civil work to landscaping areas in courtyards has again progressed significantly and quality to date appears to be satisfactory. Significant progress to road and footpath bases on the south and east sides of the building has been made during the period with tarmac to underside of wearing course placed on the south side. Quality to date appears good.

The M&E installation quality is being maintained to a good industrial standard and we are generally satisfied that the installation is compliant with exception of the specific items raised under communication.

The M&E installations are continuing to progress on all levels up to Level 12 and range from 1st and 2nd fix module installation to completed and tested areas. Work is progressing within levels 2, 3, 4 & 12 plantrooms. On Level 12 the installation is well in advance, with the installation of plant, pipework, ducting, electrical switch boards, power and control wiring all in progress.

The installation of the CHP in the Energy Centre is in progress.

During June we were in attendance during the witnessing of sprinkler pipework pressure tests on Levels 5, 7, 8 & 6, ventilation systems in PR31 & PR33, fire damper drop tests on Levels 1, 5, 6 & 7, fire alarm system testing in Basement, levels 0, 1 & 2, electrical circuit testing in car park, LTHW pressure testing of pipework between the A & C and Maternity, lighting control in L0ZA & IT data circuit testing in carpark. All of the tests witnessed were successful.

We are continuing to work with Brookfield during our inspections highlighting any items that have raised concern. Items identified in this manner are generally being addressed by the site team in advance of any defect notice being raised.

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In general terms we are satisfied that the installations continue to be installed to a compliant standard, and are of a good quality. However we have noted that certain items this month have raised concern. These have been raised with the Contractor as follows:-

Supervisor's Communication General Matters / Other Instructions 207 was issued during June.

- Seeking confirmation if the suction and discharge inspection hatches require a double seal.

Supervisor's Notification of Defects (CI 42.2) No 79 and 80 was issued during June.

- Seeking confirmation when the poor quality blockwork will be addressed.
- Seeking confirmation when the damaged blockwork in the Children's Hospital will be replaced.

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2.0 DESIGN COMPLIANCE CHECK

Currently nothing to report.

3.0 PROCEDURES REVIEW

3.1 Contractor's QA Procedures / Compliance Inspections

Quality and Compliance inspections

Brookfield and their subcontractors have continued with their QA and checking and inspection procedures during this period. We are in discussion and liaise with Brookfield's Quality Manager on QA matters and we undertake regular reviews of their QA documentation.

Quality and compliance inspections were carried out with Brookfield in a number of areas. Brookfield provided us with their quality packs which included a list of their outstanding works, defects recorded on to their IDMS system quality sign off sheets and drawings.

Quality & Compliance inspections were also carried out on Level 5, Areas 5-506, 5-507, 5-508, 5-512, 5-513 and 5-514. The areas inspected were to a good standard and the defects captured by Brookfield were generally of a minor nature. We did however identify a number of minor defects which Brookfield recorded onto their IDMS

Quality & Compliance inspections were carried on Level 6 Areas 6-509, 6-510 and 6-511, the quality of the work was being maintained. We did however note a few defects which Brookfield recorded on their IDMS. Together with Brookfield we identified a number of en-suite doors where the lead door was hung on the wrong side of the door frames.

Quality & Compliance inspections were carried on Level 0 Areas 0-507 and although the quality of the work was being maintained there was a notable increase in number of grubby marks on the walls. We revisited this area a week later and the finish to the walls were to a good industrial standard.

We carried out a Quality & Compliance Inspection of Level 4, Areas 4-506, 4-507 and 4-508 with Brookfield and the quality of the work inspected was to a good standard. We did however note a few defects which Brookfield recorded on their IDMS.

Quality & Compliance Inspection were carried on Level 1, 1-513 and 1-514 with Brookfield and the quality of the work inspected was to a good standard. Brookfield has recorded any defects on their IDMS.

Quality & Compliance Inspection were carried on Level 0, 0-512 and 0-514 with Brookfield and the quality of the work inspected was to a good standard. Brookfield has recorded any defects on their IDMS. However a number of rooms were excluded and some work in the rooms inspected was incomplete but these were recorded on their IDMS. Below are examples of defects recorded on the Brookfield's IDMS

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Room OPD 047 Medical trunking incomplete



Typical finish within rooms



Corridors available for inspection with vinyl weld incomplete.



Incomplete welds.

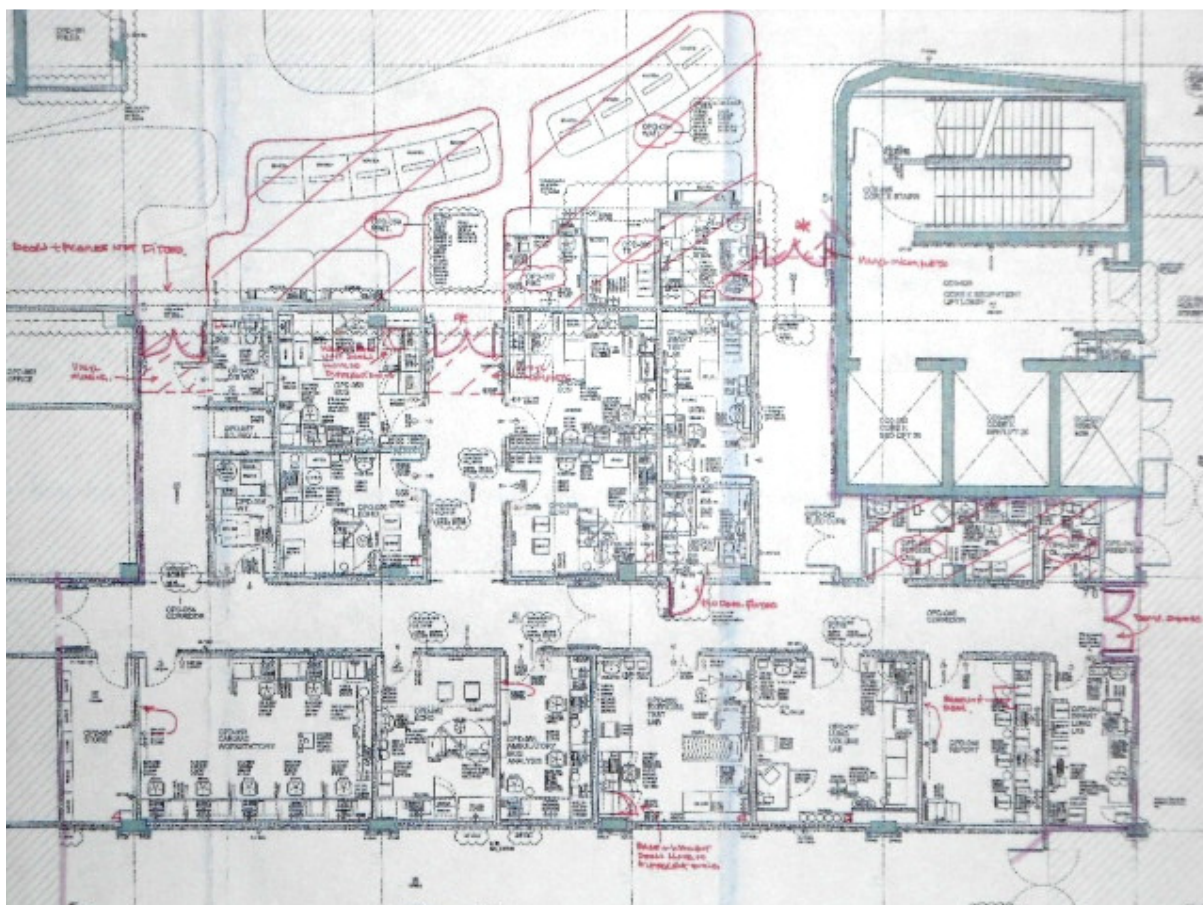
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Poorly fitted joint to worktop recorded on Brookfield's IDMS

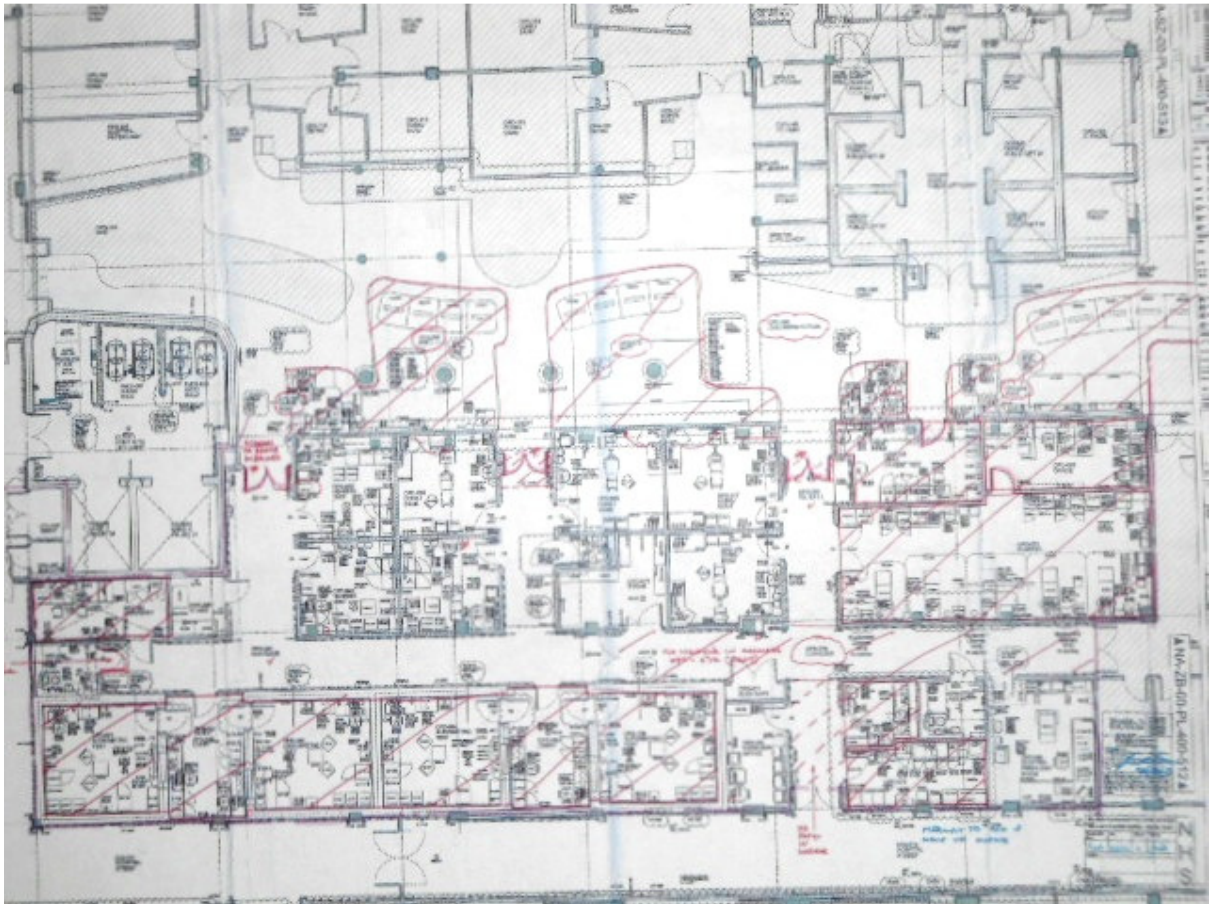


Children's Hospital 0-512: Excluded areas show in read.

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Children's Hospital 0-514: Excluded areas show in red.

Quality & Compliance Inspections were carried out to part of 7-509, 7-510 and 7-511. Brookfield had captured the snags/defects and listed exclusions which included incomplete work. There were a few rooms where the quality was not as good as previous areas inspected due to the number of incomplete snagging items. We noted that vinyl sheeting to the en-suite walls was becoming detached. See photo below. As a result of our inspections with Brookfield we identified a further sixty four minor defects/snags which Brookfield recorded on their IDMS. Generally the majority of the rooms were to a good industrial standard.

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Vinyl becoming detached from the wall.



Room GENW7-076 Inspected but no doors and no wall protection.

Quality & Compliance Inspection were carried out to parts of 6-512, 6-513 and 6-514. Brookfield provided a list of the snags/defects and listed exclusions which included incomplete work. As a result of our inspections we identified a further 50 minor defects/snags which Brookfield recorded on the IDMS. The quality of the work was generally to a good industrial standard.

We carried out inspections of the west and north facing elevations of the atrium walls from level 12 to level 5. The quality of the finish was to a good industrial standard and Brookfield had indentified some minor snags/defects to be remedied.

Quality & Compliance Inspection were carried out to 5-506, 5-507 and 5-508. Brookfield provided a list of the snags/defects and listed exclusions which included incomplete work. As a result of our inspections we identified further minor defects/snags which Brookfield recorded on the IDMS. The quality of the work was generally to a good industrial standard.

Quality & Compliance Inspection were carried out to 3-515. The work was to a good industrial standard with an additional 28 minor snags/defects added to the IDMS.

Quality & Compliance Inspection were carried on Level 3, 3-503 and 3-504 with Brookfield and the quality of the work inspected was to a good standard. Brookfield has recorded any defects on their IDMS.

Quality & Compliance Inspection in part of 4-503, 4-504 and 4-505. Brookfield provided a list of the snags/defects and listed exclusions which included incomplete work. As a result of our inspections we identified further minor defects/snags which Brookfield recorded on the IDMS. The quality of the work was generally to a good

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industrial standard. Below is photographs showing an example of snags/defects which were identified. We also noted that a double stainless steel sink to the Dirty Utility had no support legs although we had seen a single deep bowl stainless steel sink in 0-508 with legs. Brookfield are currently investigating this.



Handle to vision screen loose.



Handle to vision screen detached.



Blinds not level



Rooms to the left available for inspection.
Corridor excluded.

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Fire putty present behind cover plate.

Room Back Checks

None carried out during the June.

It was noted during fire damper tests at various locations on Level 1 that access to testing the operations of each fire damper was difficult due to the size of the access hatch. Below is a list of the locations. Note: Zutec provides for 6 monthly tests for operation and sealing. We have asked Brookfield to confirm the remedial measures to address these issues on Level 1 Area 505, 508 and 538. On Level 1 Area 537 the fire damper was not located in the wall. We have asked Brookfield to confirm measures to maintain fire barrier. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 206).

We have raised a Supervisor's Communication No 191 in relation to the Nurse call points not installed in these rooms and asked Brookfield to confirm when these works have been completed. Brookfield has confirmed that they are awaiting confirmation from Mercury when they will be fitted. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 191).

The recessed area on the right hand side of the wash hand basin in room OPD1-004 Level 1 Area 1-539 is congested. There is a nurse call, dispenser and grab rail to be fitted. We asked Brookfield to confirm how the fittings can be fitted within the present space or if there are any proposals to reposition fittings. Brookfield has confirmed that the OPD1-005 – nurse call is to be positioned to the correct location as per 400 series drawing and the grab rail may be situated on side panel but this has to be investigated. The OPD1-004 – IPS trespar location to be investigated on potential move to allow space for grab rail. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 194).

General Inspections

An inspection was carried out of the door frames and architraves on the Atrium Bridge by Peter Moir and John Redmond. Peter agreed that the finish to the architraves above the doors was acceptable.

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We carried out an inspection of the Car Park with Brookfield and the work is progressing to completion. There were only a few issues raised and these were, the edge of the ramp is too steep and some of the horizontal timber board were not fitted tight against the metal backplates. Brookfield confirmed that these would be remedied. We shall continue to monitor the works.



We noted that the frost coil on PR41 AHU 27A had not been piped up correctly and this was raised with Brookfield. Brookfield responded without delay and corrected the problem.

Zutec Review

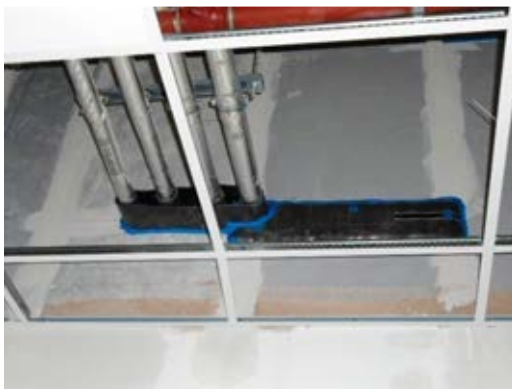
We continue review testing information on Zutec.

Acoustic Tests

Acoustic tests were carried out to partitions during June and a report is awaited

The partition between THE 326 Recovery Bay to THE 327 Recovery Bay and CCW-15 TO CCW-14 did not achieve the performance criteria. We await retest results for these partitions

We await details of the lead protection to ducts and penetrations passing through walls above the ceilings within Radiology. Brookfield has confirmed that drawing No AST-XX-XX-DT-252-112 from Astins has been given status B by both NHS and Brookfield with over marked comments. Brookfield discussed this with Astins and a test of rooms is planned for 1st May in specific areas on the ground floor. The results of these tests will confirm if the detail is satisfactory. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 163.

**Above Ceiling Inspections**

Building Control have signed off Areas 1-533, 1-534 and 1-535.

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3.2 Witness Testing and Commissioning

We witnessed a number of tests during June 2014 which was satisfactory and these were as follows:

- Sprinkler pressure tests on Levels 5, 7, 8, 6, & 0.
- Ventilation systems in PR31 & PR33.
- Fire damper drop tests on Levels 1, 5, 6 & 7.
- Fire alarm tests on Basement, Levels 0, 1 & 2.
- Electrical circuit testing in car park.
- Pressure test of LTHW STAR pipes.
- Lighting control witnessing in LOZA.
- IT data circuit testing in car park.

Previously witnessed tests which failed and have been re-tested successfully:

- FD 1-537 004 - Access hatch too small and fire seal or repositioning required. New hatch fitted and retested 12.06.2014.
- Dry riser pressure test in Zone C. (Core G)
- Fire panel No 13 Level 0, 0-526 was tested and several smoke detectors and one call point activated satisfactorily. The test was aborted when on call point failed. Retested 17.06.2014.

Previously witnessed tests which require to be retaken.

- FD-1-539-002 – The fire damper test lever was fouling adjacent ductwork. The fire damper is to be repositioned and retested.
- FD-1-518-001 - Difficult to access and activate damper link due to type of hatch fitted, and damper status indicator was obscured. A new hatch is to be installed and status indicator to be exposed.
- FD-1-539-003, Unable to access fire damper inspection hatch. A new inspection hatch to be fitted on opposite side of wall.
- Smoke damper verification and operational tests were carried out in Level 0 zones D & G which was aborted for the following reasons - One actuator not being connected, new hatch required in plaster board to gain access to one actuator and duplicate addresses being discovered on several other actuators tested. New test date 05.05.2014.
- Smoke dampers were tested in plantroom 31 and there were some which failed. No power to panel.
- VPI missing from Level 6 Zone H fire damper FD 6 511 001.
- VPI missing from Level 0 Zone H fire damper FD 0 530 013.
- FD 1-505 006 - Access hatch too small and sharp edges on inside of hatch.
- FD 1-508 004 - Fire damper closed ok but failed to reset due to size of access hatch.
- FD 1-508 005 - Fire damper closed ok but failed to reset due to size of access hatch.
- FD 1-537 005 - Access hatch too small and sharp edges on inside of hatch.

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Currently nothing to report.

3.4 Non Conformance Reports

We reviewed Brookfield's NCR Tracker and noted the issues raised by the Package Managers. Brookfield confirmed that tinting to be carried out to the blockwork and pointing on the south and east elevations when the hard landscaping is complete. Prater has still to offer it up to Brookfield as complete reference NCR 156. NCR 237 was issued to Astins in relation to the lack of insulation at abutments between internal partitions and external walls. This work is complete and an acoustic test is to be carried out.

4.0 CONSTRUCTION REVIEW**4.1 Visits to the Works**

The following members of our team undertook site inspections, reviewed documentation, attended meetings and met with relevant Contractors representatives on-site personnel:- John Redmond (Lead NEC3 Supervisor) 2nd to 6th, 9th to 13th, 16th to 19th, 23rd to 27th & 30th. Douglas Wilson (M&E NEC3 Supervisor) 2nd to 6th, 9th to 13th, 16th to 19th, 23rd to 27th & 30th. Willie Roxburgh (Civils/Structural NEC3 Supervisor) part days on 5th, 9th, 11th, 17th, 19th, and 24th June, plus remote desk top input most days of the month. Capita's NEC3 Supervisor's team visited site a combined 48 person days.

4.2 Elements of the Works available for inspection

Main building – structural areas very limited.

Tunnels between ACH and Labs, and Cores C to F.

Structural steelwork to all roof areas (increasingly limited due to access and partitions).

Neuro bridge (partly limited due to access).

Dual carriageway to Renfrew Road, turning area in front of the main entrance and carriageway from Hardgate Road.

South and east sides external works

Internal courtyards.

Car park area.

Internal partitions.

M&E modular units.

Roofing.

Cladding.

Windows.

Sto system.

Brickwork Courtyard 8, and 10.

Brickwork/blockwork: Zone J North, East elevation and Basement Blockwork.

Rainscreen: Zone F & C.

Internal fit out.

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4.3 Current Observations

The visual inspections of the work carried out to date indicate that the works are generally being carried out to a satisfactory standard. We continue to be assisted by the site teams and the NHS Project Team in resolving various construction, mechanical, electrical, and quality issues. We continue to close out our Supervisor's Notification and Defects when we have received satisfactory responses. Listed below are observations closed out, still to be closed and those raised following site visits to site in June 2014.

4.3.1 Structural

All connections of the circular hollow steel members of the main atrium, similar to the one which had failed, as previously reported, have now been replaced with another connection design detail. A detailed report regarding this issue has also now been received from Brookfield.

During the period the link bridge to the existing Neo-natal facility has been erected. Quality of this to date appears satisfactory. At the connection positions into the existing building steelwork however, final clarification regarding the design detail is awaited.

An inspection of the 4th floor (benchmark) Atrium Bridge by Peter Moir and John Redmond was carried out and Peter agreed that the finish to the architraves above the doors were acceptable. Brookfield will be fitting a section of the vinyl coving for client inspection /review.

We asked Brookfield to provide technical solutions to various situations on the structural steelwork to the Children's roof where base plates are "floating"; edge distances are minimal or miss the concrete base. Cladding rails also prevented HD bolt fixing. The base plate details have been addressed other than at the north east door set on the fifth floor which Brookfield has indicated will be adjusted once the final door arrangement is known. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 141.

The steel framework in riser on Level 0 ZF Riser M30 has had the legs extended immediately in front of the entrance door. There are other legs which have not been extended yet and we asked Brookfield to confirm when the other legs will be extended. Brookfield informed us that Mercury removed the feet on the framing having it suspended from the soffit of the floor above. Brookfield has consulted with WSP re the allowable load on the slab edge around the risers. The design line load around the riser slab edges is based upon 0.8kN/m height/sq.m plan area. The calculations submitted by Mercury show a load of 0.99kN/m/sq.m which exceeds the design criteria therefore the legs will require extending to provide support from the lower floor. Mercury has been informed to replace/ extend the feet. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 162).

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Extended legs



Leg still to be extended.

Car Park 1

The car park structural works are virtually complete. Steelwork column foundation at the NE stairwell has been partly addressed but final welding and cosmetic attention is still required. Facing stonework is almost finished and is of very good quality to date. Some minor snagging is outstanding on the link road from the car park to Hardgate Road with quality to date satisfactory. Ground floor asphalt surfacing has been placed to the ground floor and is of a good quality standard as is the final floor finish at other levels where applied. Some remedial work to concrete finishes, including at post tensioning positions, is ongoing, particularly to drainage channels and ramp edges.

We have asked Brookfield to advise on their proposals to ensure that the column fixings to the foundations comply with the design intent. Brookfield advised us that this work is in progress. We have also asked them to confirm that grouting to the baseplates is in accordance with the specification. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 198).

Several areas of the external slab still required some finishing attention, particularly at the prestressing positions. See attached photograph. Brookfield has advised us that this work is complete. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 205).

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Light civil work to landscaping areas in courtyards has again progressed significantly and quality to date appears to be satisfactory. Significant progress to road and footpath bases on the south and east sides of the building has been made during the period with tarmac to underside of wearing course placed on the south side. Quality to date appears good.

4.3.2 Energy Centre

Steelwork snagging appears to have been addressed, but much tidying up remains outstanding in the eastern half of the building.

4.3.3 Above Ground Drainage

Substantially completed with satisfactory quality to date.

4.3.4 Dual Carriageway to Renfrew Road. (A&C)

The defects previously identified will be reviewed nearer to completion when they will be effectively rectified. This will also now include the significantly damaged kerb lines affected by the storage and lifting of the neuro-bridge sections.

4.3.5 Pipework.

Installation of hot, cold, heating & chilled water pipework in the A&C Hospital and Children's Hospital is well in advance in all plantrooms and in general is being installed to a good standard which we are continuing to monitor.

4.3.6 Ventilation

Witnessing of the ventilation systems is ongoing with no failures to date.

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4.3.7 Insulation

Insulation has been completed in plantroom 21 with the other plantrooms requiring minor tidying up works and completion of the Venture clad jacketing. The damage reported during our joint inspections of plant rooms with Brookfield has been addressed. We will still continue to monitor the quality of the installation.

Following Brookfield's response to Communication No 154 we requested clarification if both suction (vacuum) and discharge inspection hatches require a double seal. Brookfield has confirmed that these types of doors meet the requirement of HVCA DW144 specification regarding air leakage criteria. All doors have been tested by BSRIA the approved Test House for HVCA. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 207 ids closed out.

4.3.8 Pressure testing

Pressure testing of the modular pipework sections on a zone by zone or area by area basis has been programmed through the commissioning meetings and is still ongoing.

4.3.9 Medical Gases

Medical Gas pipework in being installed in all areas and independent tests are being witnessed by Ian Sandford of Hulley and Kirkwood.

4.3.10 Energy Centre

The installations in the Energy Centre are well advanced with the A-side systems commissioned and handed over. The installation of the CHP's is in progress. The installation of the CHP's is continuing with the gas and LTHW pipework installed and the electrical installation ongoing.

4.3.11 Trunking

The main containment routes have all been installed to a good industrial standard with only some off shoots, where required, and stair lobbies etc to be completed.

4.3.12 Cable Trays

Cable tray containment is being installed in a few remaining areas and is to a good industrial standard.

4.3.13 Cabling

The main containment routes have all been installed to a good industrial standard with only a few remaining sections to be completed.

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4.3.14 Conduit

Conduit installations are well progressed in the areas being fitted out and are to a good industry standard.

4.3.15 Void Detection

Nothing to report.

4.3.16 Intake Sub Station

Brookfield has informed us that only one cable is to be pulled through to the sub-station and then sealed. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 30 & 45).

4.3.17 Partitions

The partition between the east side of the atrium and plant room 41 has been damaged by water ingress. Brookfield to confirm they are aware there has been some damage, and will replace the boards after they have completed the resin flooring works. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 166).



Water damaged boards.

4.3.18 Roofs

A&C Roofs

In the Children's play area R3-005 planting is in progress. Roof R6-001 is nearing completion with only capping pieces to be fitted. On Roof R6-002 hotmelt complete, Roof R4-005 insulation has been completed and on Roof R5-003 only short section of the perimeter is to be completed.

In the Adult Hospital hotmelt is complete on Roof R3-004, Roof R2-005 and Roof R2-009.

Roof R12-003 nearing completion.

Roof R3-003 landscaping is nearing completion.

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Roof R3-006 landscape is nearing completion.

Roof R4-008 work progressing to completion.

Roofs R12-001, R12-002, R12-003 and R12-004 have work progressing to completion.

Awaiting Podium Roofs for inspection.

Roofs R4-010 is complete.

R3-004 hotmelt is complete with insulation ongoing.

R2-008 Hotmelt complete with penetrations to be sealed.

Roof R2-010 awaiting the removal of scaffold to enable completion of the landscaping.

The West Link Roof R12 between zones F and E landscaping nearing completion.

Generally the quality of the workmanship throughout is to a good industrial standard and we have reviewed the QA documentation.

All the Sarna Roof covering is progressing to completion.

Children's Roofs

Hot melt is complete on level 2 balconies and the Level 3 roof and the quality is to a good industrial standard.

R5-005 hotmelt complete.

4.3.19 Cladding/Courtyards

A&C

Remedial work to be carried out and Brookfield to carry out handover inspections.

Children's Hospital

The STO is nearing completion.

Blockwork

Blockwork is nearing completion.
Cladding.

Cladding is nearing completion at plantroom 41 A and is to a good industrial standard.

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4.3.20 Windows

Windows are progressing on the external elevations and courtyards in accordance with the specifications.

4.1.21

Equipment

Nothing to report.

4.3.22 Ducting

The ventilation ductwork has been completed in plantroom 22 with plantroom 21 also complete apart from one fresh air intake.

Ductwork to several items of plant which have still to be installed within plantrooms 41, 121, 122, 123 & 124 is incomplete.

4.3.23 Floors

We asked Brookfield to confirm their proposals to achieve level floors to the Atrium Bridge Corridors at door openings to offices/rooms and adjacent levels within these rooms. An inspection of the 4th floor (benchmark) Atrium Bridge by Peter Moir and John Redmond was carried out and Peter agreed that the finish to the architraves above the doors were acceptable. Brookfield will be fitting a section of the vinyl coving for client inspection /review. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 145).

4.3.24 Blockwork

We have reported since April 2013 that the quality and standard of workmanship of the blockwork on the east elevations was not to a good industrial standard.

We carried out an inspection of the blockwork with Brookfield on the south and east elevation. The pointing in some areas is darker than the specified pointing. Brookfield tinted a sample area to demonstrate that a uniform colour can be attained to the pointing. The tinting inspected was an improvement to the original finish. A further joint inspection was carried with the NHS and it was agreed that the tinting was acceptable. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 165 is closed out.



Tinting of the dark pointing has not commenced yet but Brookfield has informed us that this will be done when the formation of the roads and paths are completed.

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We have asked Brookfield to confirm when the damaged external blockwork on the curve of Area 2-513 in the Children's will be replaced. See Supervisor's Notification of Defect (CI 42.2) No 80.



The blockwork at the right hand side of the Children's A&E entrance on the external wall of room EMC-009 is poor quality workmanship. The mortar beds vary in thickness and blocks have not been laid level. We have asked Brookfield when this will be addressed. See Supervisor's Notification of Defect (CI 42.2) No 79.



4.3.25 Security

No witnessing took place during the period.

4.3.26 Pneumatic Tube

Currently nothing to report.

4.3.27 Electrical Fittings & Fixtures

Nothing to report.

4.3.28 Sprinklers

The pressure testing of the sprinkler systems throughout both hospitals is ongoing.

4.3.29 Lighting

The quality of the general and emergency lighting installed to date is of a good standard with the witnessing of the lighting controls ongoing.

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4.3.30 Power

The installation of the power outlets is ongoing

4.3.31 Solar Panels

Nothing to report.

4.3.32 Fire Dampers

Mechanical fire damper drop tests and the Quality and Compliance Inspections, are continuing and the damper positional indicators which have been found to be obscured by sealant are continuing to being addressed by Brookfield.

4.3.33 Heating

There are gaps in the thermal insulation in the back box of the remote TRV's mounted on external walls controlling the radiant panel heater in Level 0, ZA ward OBW 009. There is the likelihood that this will cause the TRV to be affected by the lower temperature in the partition void causing the Radiant panel to emit heat unnecessarily wasting energy. This applies to other similar TRV's on outside walls. We have asked Brookfield to confirm if this has been considered and if remedial action will be taken to address this. Brookfield has asked Mercury to report on this issue. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 199).

4.4 Current Defects.

Smoke detectors on Level 1 Areas 1-517 and 1-518 have been fitted too close to the walls in rooms CCW-100 Isolation Ward Lobby and CCW-147 Recess. Mercury has reviewed the positioning of the detectors and can advise as follows. In 1-517 the detector holes have been cut in the best location possible with the constraints limiting positioning within the room. The devices will be fitted in the holes as cut. In 1-518 the detector would be better positioned further away from the wall to the full tile adjacent to the light fitting. They will advise when the work is completed in 1-518. See Supervisor's Notification of Defect (CI 42.2) No 70).



CCW-100

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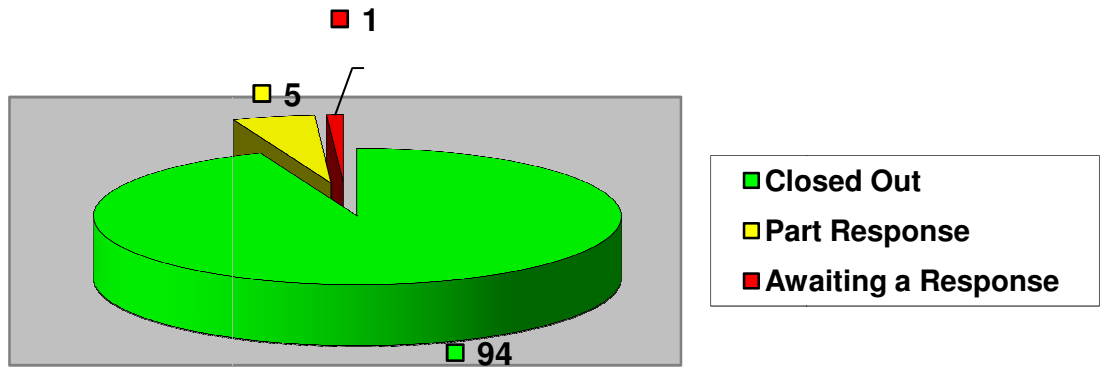
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CCW-047

Conduit has been installed using plastic stuffing glands rather than the conduit manufacturer's metal glands which are normally used. This does not provide the required earth protection to the metal conduit. The flexible metal conduit is fitted within the vertical bedhead trunking and is not mechanically glanded. Brookfield has confirmed that metal glands and metal back boxes will be fitted in order to gland the metal Kopex tubing to ensure the required earthing. Supervisor's Notification of Defect (CI 42.2) No 78 is closed out.

5.0 INFORMATION REQUIRED



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Item No.	Description	Date Requested	Comment	
Items 1 to 29 have been closed out				
30	Confirm when cabling is complete, water pumped out and batteries removed.	10.08.12	Response received.	
Items 31 to 44 have been closed out				
45	See Supervisor's Communication No 30.	18.09.12	Response received.	
Items 46 to 140 have been closed out				
141	Pease provide technical solutions to various issues to the eelwork to the Children's Roof.	23.07.13	Response received.	
Items 142 to 144 have been closed out				
145	Confirm proposals to achieve level floors to the Atrium Bridge Corridors at door openings to offices/rooms.	25.07.13	Response received.	
Items 146 to 161 have been closed out				
162	Confirm when the other legs have been extended to the steel framework in riser on Level 0 ZF Riser M30.	16.09.13	Response received.	
163	Provide details of the lead protection to ducts and penetrations passing through walls above the ceilings within Radiology.	16.09.13	Response received.	
164	Confirm when rodding eye inspection cover has been repositioned to allow access within toilet MDU-011.	17.09.13	Closed out.	
165	Confirm measures to improve the poor quality finish to the blockwork on the east elevation.	20.09.13	Closed out.	
166	Confirm when water damaged boards in Plant Room 41 are replaced.	20.09.13	Response received.	
Items 167 to 190 have been closed out				
191	Confirm that the nurse call points will be fitted in 1-537 Room OPD1-122 and 1-539 Room OPD1-097.	10.02.14	Response received.	
192	Confirm appropriate specification for the partition between the Medi Cinema and the Snoozelum Room.	12.02.14	Closed out.	
193	Confirm if the mastic sealants which have been applied to junction of the horizontal beadheads and the vertical sections replace the specified preformed gaskets.	13.02.14	Closed out.	
194	Seeking confirmation how the fittings can be fitted within the present space or congested.	17.02.14	Response received.	
195	Confirm when suspended ceiling supports ar fitted on Level 0 Area 0-535.	27.02.14	Closed out.	
196	Confirm the procedures for accessing the valves in accordance with SHTM 2035 Section 5 on Level 0 Zone C in corridor OPD 024 adjacent OPD 025.	28.02.14	Closed out.	
197	Provide a copy of the Acoustic Test Report.	06.03.14	Closed out.	
198	Advise on proposals to ensure that the column fixings to the foundations comply with the design intent and that grouting to the baseplates is in accordance with the specification.	06.03.14	Response received.	
199	There are gaps in the thermal insulation in back box of remote TVR's. Confirm remedial action.	20.03.14	Open.	
200	Materials being stored in AHU in plantroom 32	20.03.14	Closed out.	
201	Confirm supports to services in Level 3 Zones E, K & F Zone 3-501 are in accordance with that design.	21.03.14	Closed out.	
202	Confirm if quality inspections will be carried out to crimped joints.	21.03.14	Closed out.	
203	Provide report in relation to the failure of the steel connection, remedial measures and confirm that all necessary safety precautions have been taken.	26.03.14	Closed out.	

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204	Confirm the remedial measures to address the issue of drop down handrail not being able to remain in the upright position. and confirm when complete	11.04.14	Closed out.	
205	Finishing attention required to concrete slab confirm. Confirm when addressed.	30.04.14	Response received.	
206	Confirm that the difficult access to various fire dampers on Level 1 Areas 505, 508 and 537 will be addressed.	19.05.14	Open.	
207	Confirm if both suction and discharge inspection hatches in plant Room 21 require a double seal.	20.06.14	Closed out.	

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6.0 SUPERVISORS TESTS AND INSPECTIONS

Tests not required	N/A
Tests required but not tested	Fail
Tests required which has passed tests	Pass

Tests				
Ref	Title	To be Notified by	Status	Test Date
01-86	Various tests undertaken from the 09. 07.2012 To the 30.06 2013.			
87	Smoke damper test verification - Level 0, zones D & G.	Brookfield	Fail To be re-witnessed	24.09.2013
88-114	Tests 28.09.2013 to 12.02.2014			
115	L1 1-539 Fire dampers.	Brookfield	Fail	22.11.2013
115A	Fire panel No13 Level 0, 0-526 tested. On call point failed.	Brookfield	PASSED	22.11.2013 17.06.2014
116-122	Various tests undertaken from the 22.11.2012 to the 29.11. 2013.			
123	FD 1-518 001 Fire damper drop test.	Brookfield	Fail	29.11.2013
124	FD 1-539 002 Fire damper drop test.	Brookfield	Fail	29.11.2013
125-138	Various tests undertaken from 04.12.2013 to the 29.01. 2014.			
139	Smoke damper tests in plantroom 31. Some fails.		FAIL	
140-169	Various tests undertaken from the 03.02.2014 to the 16.04.2014.			
170	Dry Riser Pressure test at Core L.	Brookfield	PASSED	17.04.2014 12.05.2014
171	Fire damper drop tests in L4ZH, L5ZH and L6ZH. Twelve dampers tested, one failed. (VPI missing).	Brookfield	One damper failed	24.04.2014
172-175	Various tests undertaken from 25.04.2014 to 29.04.2014.			
176	VPI missing from FD 0-530 013.	Brookfield	FAILED	29.04.2014
177	Nurses call system - 1-510, 1-536, 1-508, 1-509, 1-505 & 1-507.	Brookfield	PASSED	08.05.2014
178	Sprinklers Level 3 Zones A, B & C.	Brookfield	PASSED	09.05.2014
179	Sprinklers Level 4 Zone C.	Brookfield	PASSED	09.05.2014
180	Fire dampers on Level 1 Zones 505 (FD 1-505 006, 508 (FD 1-508 004), 519 (All ok) & 538 FD 1-538 008.	Brookfield	FAILED	15.05.2014
181	Fire dampers on Level 1 Zone 537.	Brookfield	PASSED	15.05.2014
182	Gas soundness test. (CHP's in Energy Centre).	Brookfield	PASSED	19.05.2014
183	Lighting controls. (L0ZJ & L1ZJ.)	Brookfield	PASSED	23.05.2014
184	Ventilation tests - PR31 AHU's 29, 36 & 52.	Brookfield	PASSED	29.05.2014

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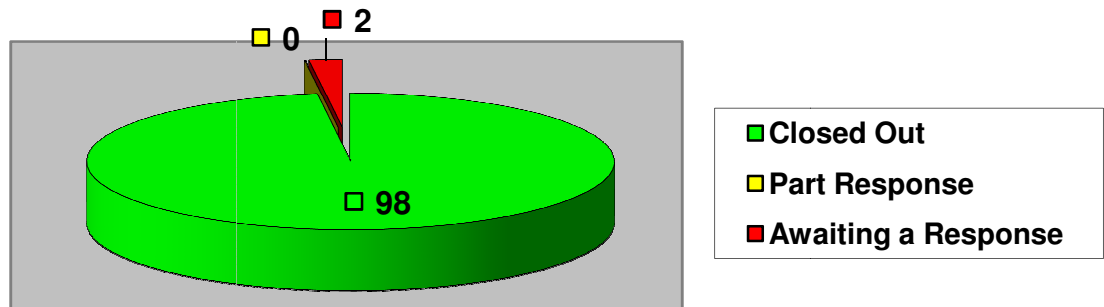
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185	Sprinkler pressure test Level 5.	Brookfield	PASSED	04.06.2014
186	Sprinkler pressure test Level 7.	Brookfield	PASSED	06.06.2014
187	Ventilation systems PR31 & 33.	Brookfield	PASSED	10.06.2014
188	Sprinkler pressure test Level 8.	Brookfield	PASSED	11.06.2014
189	Fire damper drop tests Level 1	Brookfield	PASSED	12.06.2014
190	Sprinkler pressure test Level 6.	Brookfield	PASSED	12.06.2014
191	Fire alarm witnessing in basement Panels 2 & 64..	Brookfield	PASSED	12.06.2014
192	Fire alarm witnessing in L0ZJ Panel 60 & L1ZD Panel 13.	Brookfield	PASSED	13.06.2014
193	Fire alarm witnessing on L2ZJ Panel 18, L0ZD Panel 13 & L0ZG Panel 16.	Brookfield	PASSED	17.06.2014
194	Fire alarm witnessing L1ZH Panel 12, L1ZE Panels 20, 10 & 22.	Brookfield	PASSED	19.06.2014
	Fire alarm witnessing L0ZE Panel 21 & L2ZJ Panel 58.	Brookfield	PASSED	23.06.2014
195	Fire damper drop tests on Levels 5, 6 & 7.	Brookfield	PASSED	23.06.2014
196	Pressure testing of STAR pipe. (Air)	Brookfield	PASSED	24.06.2014
197	Car Park - Electrical circuit testing.	Brookfield	PASSED	24.06.2014
198	Witnessing of lighting controls in L0ZA.	Brookfield	PASSED	25.06.2014
199	Sprinkler pressure test on Level 6.	Brookfield	PASSED	26.06.2014
200	Car park - IT data port testing.	Brookfield	PASSED	26.06.2014
201	Sprinkler pressure test on Level 0.	Brookfield	PASSED	27.06.2014

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7.0 DEFECTS NOTIFICATIONS ISSUED



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Items 1 to 68 have been closed out.				
69	Confirm that ducts are to the required fire rating or if dampers are required to ensure the appropriate fire integrity of the partitions in rooms CCW-032, CCW-034 and CCW-033.	19.02.14	Closed Out.	
70	Confirm when smoke detectors fitted too close to wall have been repositioned	11.03.14	Closed Out.	
71	Smoke detectors have been fitted too close to the walls in rooms MP-018 Staff WC, MP-017 Staff WC, MP-002 Reception & MP-013 Cleaners. Confirm when addressed.	29.03.14	Closed Out.	
72	Smoke detectors have been fitted too close to the walls in rooms THE-268, 270, 271, 272, 273 and 274. Staff WC. Confirm when addressed.	29.03.14	Closed Out.	
73	The wiring installed within the trunking at DB 4A-5-1 exceeds the regulated space factor for wiring Confirm when this has been addressed.	21.03.14	Closed Out.	
74	Confirm when the smoke detector in room CCW-049 which is too close to a supply grill will be repositioned.	24.03.14	Response received.	
75	Confirm when sprinkler elbows and tee pieces are painted.	25.03.14	Closed Out.	
76	Confirm when metaflex cables are installed correctly level 5 Zone J.	26.03.14	Closed Out.	
77	Confirm the treatment to prevent further rusting of sprinkler pipes and confirm when this will be carried out and completed.	30.04.14	Response received.	
78	Confirm when earth protection is installed to provide earth protection to metal conduit.	21.05.14	Closed Out.	
79	Confirm when the poor workmanship to the blockwork outside room EMC-009 has been addressed.	01.07.14	Open.	
80	Confirm when the damaged blockwork to the external curve in area 2-513 has been addressed.	01.07.14	Open.	

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John Redmond, Technical Advisory Services

Property and infrastructure

Capita, The Beacon, 8th Floor, 176 St Vincent Street, Glasgow G2 5SG

	Signed	Date
Originated by	John Redmond	2nd July 2014
Completed by	Douglas Wilson	2nd July 2014

CAPITA

**NEW SOUTH GLASGOW HOSPITAL
ADULT AND CHILDREN'S HOSPITAL AND ENERGY CENTRE
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1.0 EXECUTIVE SUMMARY: ADULT & CHILDREN'S HOSPITAL

Our site inspections during July 2014 continue to indicate that the construction and procedures are progressing in a satisfactory manner in accordance with the Employer's Requirements.

Throughout, the standard and quality of the workmanship is generally good and operations are being carried out in an acceptable manner.

Brookfield provided us with their QA documentation including a list of their defects which had been logged on their IDMS system. They also provided us with a list of excluded rooms and list of works and equipment that required to be completed or installed. We reviewed this information prior to undertaking the inspections. The areas inspected were generally to a good industrial standard and the defects captured by Brookfield were generally of a minor nature. We did however identify a number of minor defects including, tertiary blinds not level, seals missing from door frames, damage to door frames and doors, dirt between external and internal windows, condensation and dirt on the glass within the cavity and some wall vinyl becoming detached in the en-suites. Brookfield recorded these onto their IDMS system.

Quality and compliance inspections were carried out on Level 1 Areas 1-506, 1-533, 1-534 and 1-535. Level 2, Area 2-506, 2-521B and 2-522B, Level 3, Areas 3-501, 3-502 and 3-505. Level 4 Areas 515, 4-516 and 4-517 Level 5 Areas, 5-503, 5-504 and 5-505. Level 6-507, 6-508, 6-503, 6-504 and 6-505. Level 7 Areas 7-506, 7-507, 7-508, 7-512, 7-513 and 7-514. Level 8 Areas 8-509, 8-510 and 8-511 8-512, 8-513 and 8-514. The quality of the work was generally to a good industrial standard, however there were some rooms which had incomplete work such as doors, drop handrails and windows still to be fitted.

Inspections were also carried out to internal courtyards 1 and 5 and both the quality of the soft and hard landscaping was to a good industrial standard.

Inspections were also carried out to the facades of courtyard No 7 and the quality was to a good industrial standard with only a few snags recorded.

We continue to liaise between Brookfield and the NHS Project Team in relation to snags/defects identified by the NHS Project Team.

An inspection of the 4th floor (benchmark) Atrium Bridge was carried out and the finish to the vinyl floor covering and coving was acceptable.

Work to the link bridge to the existing Neo-natal facility has continued during the period. Quality of this to date appears satisfactory. At the connection positions into the existing building steelwork however, final clarification is awaited from the Contractor on a couple of points.

Zutec entries continue to be under review.

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In the car park the final welding to the steelwork column base plate at the NE stairwell, noted in the last reports, has now been addressed. Quality throughout the car park is generally of a good standard and currently relatively minor snagging is ongoing. A final clean up and wash down is anticipated.

At the roof of the Children's Hospital in Zones A and B the previously noted snagging has been addressed. However the door framing at plant room level, north east corner which awaits a final decision on door arrangement.

Steelwork erection to the 1st floor east side podium in the main atrium is completed with overcladding ongoing. Some areas of intumescent paint are in need of remedial action.

Roadway issues on the dual carriageway leading to Renfrew Road remain outstanding. Brookfield is aware of this and will rectify at an appropriate time in line with their programme for this area.

Landscaping areas in courtyards and at 3rd floor roof levels are now well advanced and quality to date appears to be satisfactory. Significant progress to road and footpath bases on the south and east sides of the building has again been made during the period with tarmac to underside of wearing course placed on the south side. Quality to date appears good.

The M&E installation quality is being maintained to a good industrial standard and we are generally satisfied that the installation is compliant with exception of the specific items raised under communication.

The M&E installations is continuing with 1st fix installations mainly confined to specific specialist areas, lift and stair lobbies and "B" programme areas on Zone F Levels 0 to 11. The quality of the work in these areas has been to a good industrial standard.

Commissioning and testing on Levels 0 to 3 is the most advanced. Final proving / commissioning are still to be carried out in operating theatres etc, when the doors, lights and grilles are complete. 2nd fix installation and testing is continuing on all Levels with 0 to 3 the most advanced. Levels 4 to 11 is also progressing. The installation work within PR21 is almost complete while testing and commissioning is continuing in plantrooms in PR22, PR31, PR32 & PR33 & PR41(A). On Level 12 the installation of plant and equipment, pipework, ductwork, insulation, smoke extract systems are all in progress with some lighting distribution boards already energised. Lift electrical supplies, electrical switch boards, power and control wiring all in progress.

The installation of the CHP in the Energy Centre is continuing with gas and LTHW pipework installed and electrical and control wiring in progress.

During July we witnessed the testing of the lighting control system in the basement, sprinkler system pressure tests on the ground and third floors. We also witnessed tests to nurses call systems on the first floor zone J and the fourth floor zone C and fire alarm systems on the ground floor. We witnessed IT high activity tests within the ground floor computer room and Hub 115 which were satisfactory. Electrical

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distribution board testing in the Children's Hospital were also undertaken. All the systems tested satisfactorily.

We are continuing to work with Brookfield during our inspections highlighting any items that have raised concern. Items identified in this manner are generally being addressed by the site team in advance of any defect notice being raised.

In general terms we are satisfied that the installations continue to be installed to a compliant standard, and are of a good quality. However we have noted that certain items this month have raised concern. These have been raised with the Contractor as follows:-

Supervisor's Communication General Matters / Other Instructions 208 and 209 were issued during July.

- Seeking confirmation that the steep gradient will be addressed to avoid the trip risk.
- Seeking confirmation that the potential trip risk caused by the channel in front of the stairwell doors on the Hardgate Rd elevation will be addressed.
- Seeking confirmation that the chipped areas of intumescent paint on the 1st Floor Podium will be addressed.

No Supervisor's Notification of Defects (CI 42.2) were issued during July.

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2.0 DESIGN COMPLIANCE CHECK

Currently nothing to report.

3.0 PROCEDURES REVIEW

3.1 Contractor's QA Procedures / Compliance Inspections

Quality and Compliance inspections

Brookfield and their subcontractors have continued with their QA and checking and inspection procedures during this period. We are in discussion and liaise with Brookfield's Quality Manager on QA matters and we undertake regular reviews of their QA documentation.

Quality and compliance inspections were carried out with Brookfield in a number of areas. Brookfield provided us with their quality packs which included a list of their outstanding works, defects recorded on to their IDMS system quality sign off sheets and drawings.

Quality & Compliance inspections were also carried out on Level 3, Areas 3-501 and 3-502. The areas inspected were to a good standard and the defects captured by Brookfield were generally of a minor nature. We did however identify a number of minor defects which Brookfield recorded onto their IDMS.

Quality & Compliance inspections were carried out on Level 8 Areas 8-509, 8-510 and 8-511, the quality of the work was being maintained. We did however note a number of minor defects which Brookfield recorded on their IDMS these included a broken pane, condensation between glass and a blind which did not fit properly.



Blind not fitted in the window properly.



Broken pane of glass.

Quality & Compliance inspections were carried on Level Areas 7-512, 7-513 and 7-514. The areas inspected were to a good standard and the defects captured by Brookfield were generally of a minor nature. We did however identify a number of

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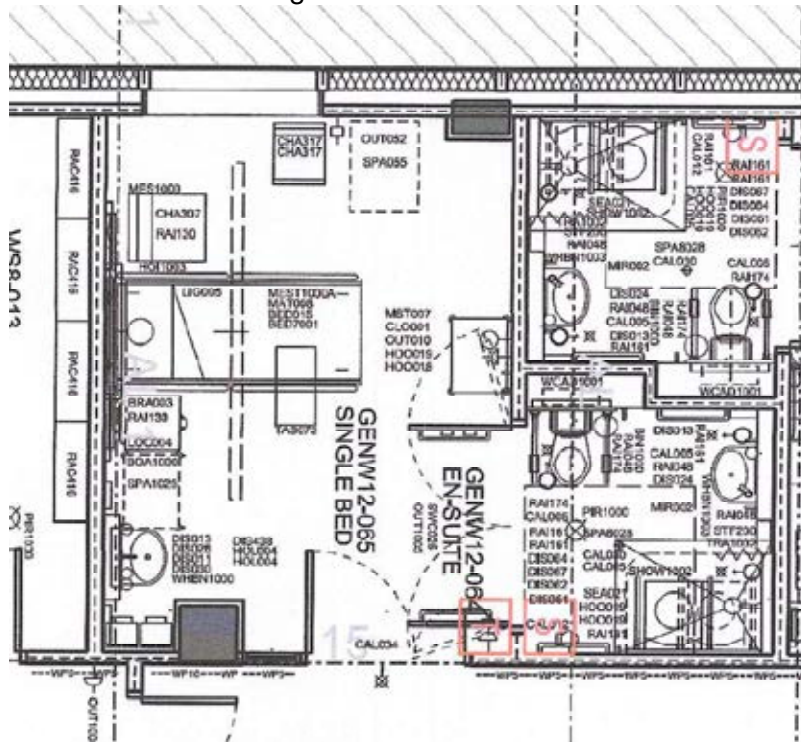
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minor defects which Brookfield recorded onto their IDMS. We also noted that the door leading into room GEN WS-065 clashed with en-suite door but is in accordance with the 400 series drawings. This affects rooms in Zone E Area 512 on all areas.



Entrance door clashing with en-suite door.



400 series drawing showing clash.

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We carried out a Quality & Compliance Inspection of Level 2, Area 2-506 with Brookfield and the quality of the work inspected was to a good standard. We did however note a few minor defects which Brookfield recorded on their IDMS.

Quality & Compliance Inspections were carried on Level 6, 6-506, 6-507 and 6-508 with Brookfield and the quality of the work inspected was to a good standard. Brookfield recorded any defects which we identified on their IDMS.

Quality & Compliance Inspection were carried on Level 8, 8-512, 8-513 and 8-514 with Brookfield and the quality of the work inspected was to a good standard. Brookfield recorded defects which we identified on their IDMS. We noted that there was some glass panes were dirty on the inside surface of the pane within the room and some panes had condensation within the cavity between the glass panes.



We asked Brookfield if the cupboard doors in the anaesthetic rooms which were not in accordance with the 400 series drawings would be changed. Brookfield has confirmed that JTC have been instructed to replace the single doors with double doors to the ADB Code unit MSC1003 in all anaesthetic rooms.

Quality & Compliance Inspections were carried in 1-506. Brookfield had captured the snags/defects and listed exclusions which included 12 no doors which still required to be fitted. The quality of the work inspected was to a good standard. We noted only minor defects/snags which Brookfield recorded on their IDMS. Generally the majority of the rooms were to a good industrial standard.

Quality & Compliance Inspection were carried out to parts of 7-506, 7-507 and 7-508. Brookfield provided a list of the snags/defects and listed exclusions which included incomplete work. We did however identify 133 minor defects which Brookfield recorded onto their IDMS. The quality of the work was generally to a good industrial standard.

We inspected the midi-cinema and adjoining rooms with Brookfield in Area 3-505. The area was completed up to a stage prior to a client fit out. The work was general to a good standard and Brookfield had identified defects/snags and had a sign off sheet reflecting the work carried out.

Quality & Compliance Inspection were carried out to parts of Areas 6-503, 6-504 and 6-505. Brookfield provided a list of the snags/defects and listed exclusions which

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included incomplete work. We did however identify 140 minor defects which Brookfield recorded onto their IDMS. The quality of the work was generally to a good industrial standard. However there are rooms which still required doors to be fitted.



Condensation inside the inner pane of glass.



bubbling of the vinyl in the en-suites.

Quality & Compliance Inspections were carried out to part inspections of 5-503, 5-504 and 5-505. Brookfield provided a list of the snags/defects and listed exclusions which included incomplete work. As a result of our inspections we identified a few defects/snags which Brookfield recorded on the IDMS. A substantial number of rooms were excluded but the quality of the work in the rooms offered up were generally to a good industrial standard.

Quality & Compliance Inspections were carried to Areas 4-515, 4-516 and 4-517. Brookfield had captured the snags/defects and listed exclusions which included doors which still required to be fitted and the finish around the windows.. The quality of the work inspected was to a good standard. We noted only minor defects/snags which Brookfield recorded on their IDMS. Generally the majority of the rooms were to a good industrial standard.

Inspections were also carried out to internal courtyards 1 and 5 and both the quality of the soft and hard landscaping was to a good industrial standard.

Inspections were also carried out to the facades of courtyard No 7 and the quality was to a good industrial standard with only a few snags recorded.

Room Back Checks

Back checks were carried out to rooms in Areas 2-521B and 2-522B. The quality of the finish was to a good industrial standard and Brookfield had identified some minor snags/defects to be remedied. We did however note that a timber viewing

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window had been fitted between the Control Room THE-240 and Interventional 1 Vascurology THE- 232. All other doors and the other viewing screen are plastic coated. We did note that one door had a glazed viewing panel and not an obscure window. Brookfield is investigating this.

We re-visited rooms in Areas 1-533, 1-534 and 1-535 and some minor snags were identified and recorded on the IDMS.



Weld not completed.

It was noted during fire damper tests at various locations on Level 1 that access to testing the operations of each fire damper was difficult due to the size of the access hatch. Below is a list of the locations. Note: Zutec provides for 6 monthly tests for operation and sealing. We have asked Brookfield to confirm the remedial measures to address these issues on Level 1 Area 505, 508 and 538. On Level 1 Area 537 the fire damper was not located in the wall. We have asked Brookfield to confirm measures to maintain fire barrier. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 206).

We have raised a Supervisor's Communication No 191 in relation to the Nurse call points not installed in these rooms and asked Brookfield to confirm when these works have been completed. Brookfield has confirmed that they are awaiting confirmation from Mercury when they will be fitted. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 191).

The recessed area on the right hand side of the wash hand basin in room OPD1-004 Level 1 Area 1-539 is congested. There is a nurse call, dispenser and grab rail to be fitted. We asked Brookfield to confirm how the fittings can be fitted within the present space or if there are any proposals to reposition fittings. Brookfield has confirmed that the OPD1-005 – nurse call is to be positioned to the correct location as per 400 series drawing and the grab rail may be situated on side panel but this has to be investigated. The OPD1-004 – IPS trespass location to be investigated on potential move to allow space for grab rail. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 194).

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Car Park 1.

The ramped floor on levels 2, 3, 4, 5 and 6 leading from the car park to the main stairwell is ramped and part of the ramp has a steep gradient which does not appear to be DDA compliant and is also a trip risk. We have asked Brookfield to confirm what remedial work will be undertaken to remove this risk. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 208.



The car park floors on levels 3, 4, 5 and 6 have recessed channels which are less than a metre from the stairwell doors on the Hardgate Rd elevation. The channel is a potential trip hazard. We have asked Brookfield to confirm what remedial work will be undertaken to remove this risk. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 209.

Zutec Review

We are continuing to review the testing information on Zutec on a regular basis as it is entered.

Acoustic Tests

Airborne sound insulation tests were carried out on the following wall partitions during May:

- OBW 056 WC to OBW 057 to WC.
- OBW 014 Single Bedroom to OBW 015 to Single Bedroom.
- MDU 012 Treatment Room to POA 015 Consulting Examination.
- MDU 010 Day Space Cubicle to POA 017 Treatment Room.
- POA 003 Consult / Exam to POA 004 Consult / Exam.
- MDU 005 Beverage to MDU 0053 Reception Point / Counter.
- OPD0 055 Consult / Exam to OPD0 056 Consult / Exam.

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- ORT 043 Prep & Splinter Fitting to ORT 040 Treatment Room.

Airborne and impact sound and insulation tests on the following floor / ceilings during May;

- CCW 117 Store to EMC 018 Resuscitation Bays.
- CCW 099 Single Bed Isolation to OPD 014 Single Bedroom.
- POA 017 Treatment Room to OPD 076 Store.
- POA 03 Consulting Room to OPD 075 Dis WC.
- FMA0 11 Computer Room to MDU 3 Reception Point / Counter.
- OPD1 089 Urology Waiting Area to ORT 029 Activity Area.
- RENO 028 8 Recliner chair Bays to OPD1 111 Consultat / Exam.
- DOPD 033 Consult / Exam to OPD1 029 Consult / Exam.

The following partition did not achieve the performance criteria:

- OBW 014 Single Bedroom to OBW 015 to Single Bedroom.

We await retest to the partitions between THE 326 Recovery Bay to THE 327 Recovery Bay and CCW-15 TO CCW- 14 which did not achieve the performance criteria.

Details of the penetrations passing through walls above the ceilings have been reviewed by Dr John Robertson and Andy Brenna of NHS who have agreed the details. In addition Andy Brenna has confirmed that shelves be fitted to 2.5 times the aperture diameter. Most testing of the details has been carried out by Dr John Robertson and Andy Brenna of NHS. In level 2 Hybrid theatres a one metre high wall has been built around the penetrations to plant room areas. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 163 is closed out.

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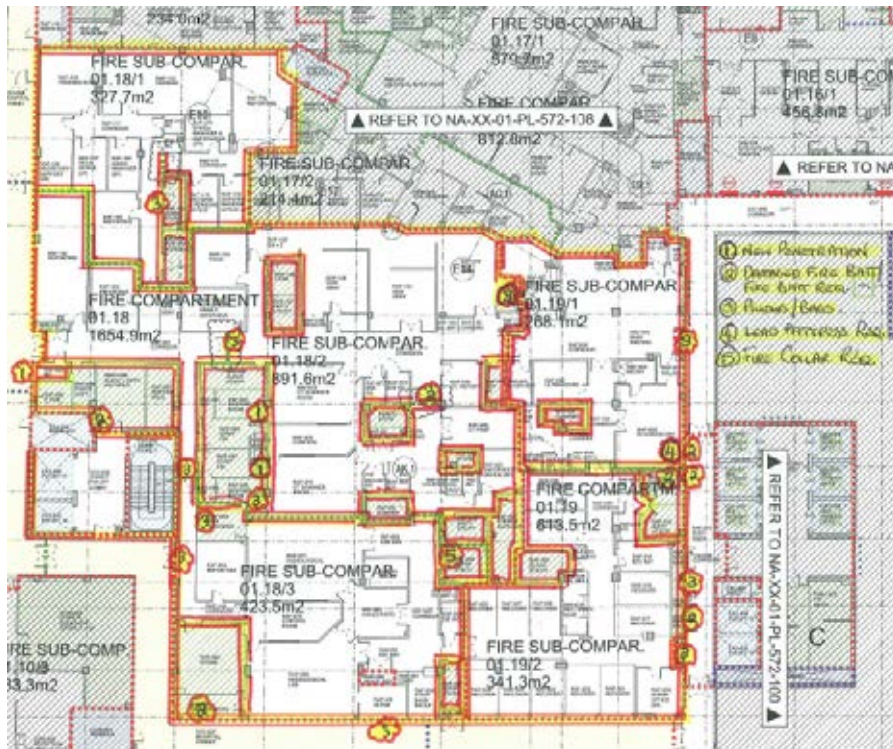
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Above Ceiling Inspections.

During July above ceiling inspections were carried out on Level 2, Areas 2-527 and 2-528

Building Control has also signed off Areas 1-533, 1-534 and 1-535.



Marked up drawing showing remedial fire stopping work above ceiling Area 2-528.

3.2 Witness Testing and Commissioning

We witnessed a number of tests during July 2014 which were satisfactory and these were as follows:

- Lighting control in the Basement.
- Sprinkler pressure test on Ground floor.
- Sprinkler pressure test on Level 3.
- Nurses call system on level 1.
- Nurses call system on level 4.
- Fire alarm systems on level 0.
- IT High availability test in the main computer room and Hub 115.
- Electrical Distribution Boards on L1ZA.
- Electrical Distribution Boards on L2ZA.

Previously witnessed tests which failed and have been re-tested successfully:

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- FD 1-508 004 - Fire damper closed ok but failed to reset due to size of access hatch. Re tested 12.06.2014.

Previously witnessed tests which require to be retaken.

- FD-1-539-002 – The fire damper test lever was fouling adjacent ductwork. The fire damper is to be repositioned and retested.
- FD-1-518-001 - Difficult to access and activate damper link due to type of hatch fitted, and damper status indicator was obscured. A new hatch is to be installed and status indicator to be exposed.
- FD-1-539-003, Unable to access fire damper inspection hatch. A new inspection hatch to be fitted on opposite side of wall.
- Smoke damper verification and operational tests were carried out in Level 0 zones D & G which was aborted for the following reasons - One actuator not being connected, new hatch required in plaster board to gain access to one actuator and duplicate addresses being discovered on several other actuators tested. New test date 05.05.2014.
- Smoke dampers were tested in plantroom 31 and there were some which failed. No power to panel.
- VPI missing from Level 6 Zone H fire damper FD 6 511 001.
- VPI missing from Level 0 Zone H fire damper FD 0 530 013.
- FD 1-505 006 - Access hatch too small and sharp edges on inside of hatch. See table reference 180.
- FD 1-508 005 - Fire damper closed ok but failed to reset due to size of access hatch.
- FD 1-537 005 - Access hatch too small and sharp edges on inside of hatch.
- FD 1-537 004 - Access hatch too small and fire seal or repositioning required. (Previously cleared in error.) All dampers in area to be retested.
- FD 1-538 008 - Access hatch too small. See table reference 180.

3.3 Board Equipment Installation,

Currently nothing to report.

3.4 Non Conformance Reports

We reviewed Brookfield's NCR Tracker and noted the issues raised by the Package Managers. Brookfield confirmed that tinting to be carried out to the blockwork and pointing on the south and east elevations when the hard landscaping is complete. Prater has still to offer it up to Brookfield as complete reference NCR 156. NCR 237 was issued to Astins in relation to the lack of insulation at abutments between internal partitions and external walls. This work is complete and an acoustic test is to be carried out.

4.0 CONSTRUCTION REVIEW

4.1 Visits to the Works

The following members of our team undertook site inspections, reviewed documentation, attended meetings and met with relevant Contractors representatives on-site personnel:- John Redmond (Lead NEC3 Supervisor) 1nd to 4th, 7th to 11th, 14th
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to 18th, & 22nd to 25th, and 28th to 31st. Douglas Wilson (M&E NEC3 Supervisor) 2nd to 4th, 7th to 10th, 14th to 18th, & 22nd to 25th and 28th to 31st. Willie Roxburgh (Civils/Structural NEC3 Supervisor) part days on 4th, 9th, 22nd and 29th July, plus remote desk top input most days of the month. Capita's NEC3 Supervisor's team visited site a combined 49 person days.

4.2 Elements of the Works available for inspection

Main building – structural areas very limited.

Tunnels between ACH and Labs, and Cores C to F.

Structural steelwork to all roof areas (increasingly limited due to access and partitions).

Neuro bridge (partly limited due to access).

Dual carriageway to Renfrew Road, turning area in front of the main entrance and carriageway from Hardgate Road.

South and east sides external works

Internal courtyards.

Car park area.

Internal partitions.

M&E modular units.

Roofing.

Cladding.

Windows.

Sto system.

Brickwork Courtyard 8, and 10.

Brickwork/blockwork: Zone J North, East elevation and Basement Blockwork.

Rainscreen: Zone F & C.

Internal fit out.

4.3 Current Observations

The visual inspections of the work carried out to date indicate that the works are generally being carried out to a satisfactory standard. We continue to be assisted by the site teams and the NHS Project Team in resolving various construction, mechanical, electrical, and quality issues. We continue to close out our Supervisor's Notification and Defects when we have received satisfactory responses. Listed below are observations closed out, still to be closed and those raised following site visits to site in July 2014.

4.3.1 Structural

Work to the link bridge to the existing Neo-natal facility has continued during the period. Quality of this to date appears satisfactory. At the connection positions into the existing building steelwork however, final clarification is awaited from the Contractor on a couple of points.

At the roof of the Children's Hospital in Zones A and B the previously noted snagging has been addressed other than the door framing at plant room level, north east corner which awaits a final decision on door arrangement. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 141.

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The steel framework in riser on Level 0 ZF Riser M30 has had the legs extended immediately in front of the entrance door. There are other legs which have not been extended yet and we asked Brookfield to confirm when the other legs will be extended. Brookfield informed us that Mercury removed the feet on the framing having it suspended from the soffit of the floor above. Brookfield has consulted with WSP re the allowable load on the slab edge around the risers. The design line load around the riser slab edges is based upon 0.8kN/m height/sq.m plan area. The calculations submitted by Mercury show a load of 0.99kN/m/sq.m which exceeds the design criteria therefore the legs will require extending to provide support from the lower floor. Mercury has been informed to replace/ extend the feet. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 162).



Extended legs



Leg still to be extended.

Car Park 1

In the car park the final welding to the steelwork column base plate at the NE stairwell, noted in the last reports, has now been addressed. Quality throughout the car park is generally of a good standard and currently relatively minor snagging is ongoing. A final clean up and wash down is anticipated.

We asked Brookfield to advise on their proposals to ensure that the column fixings to the foundations comply with the design intent. Brookfield advised us that this work is in progress. We also asked them to confirm that grouting to the baseplates is in accordance with the specification. Brookfield confirmed that they are awaiting a response from WSP re the Mortar/ Grouting to the baseplates. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 198).

Several areas of the external slab still required some finishing attention, particularly at the prestressing positions. See attached photograph. Brookfield has advised us that this work is complete. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 205 is closed out.

Landscaping areas in courtyards and at 3rd floor roof levels are now well advanced and quality to date appears to be satisfactory. Significant progress to road and footpath bases on the south and east sides of the building has again been made during the period with tarmac to underside of wearing course placed on the south side. Quality to date appears good.

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Some areas of intumescent painting to the steelwork on the 1st Floor Podium on the East Side of the Main Atrium appear to be chipped. We asked Brookfield to confirm that this will be addressed as required to ensure overall compatibility with the specification. They have confirmed any areas of the intumescent fire protection on the steelwork that has been damaged will be rectified and that we would be invited to inspect prior to any closing up of the areas. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 210).



4.3.2 Energy Centre

Steelwork snagging appears to have been addressed, but much tidying up remains outstanding in the eastern half of the building.

4.3.3 Above Ground Drainage

Substantially completed with satisfactory quality to date.

4.3.4 Dual Carriageway to Renfrew Road. (A&C)

The defects previously identified will be reviewed nearer to completion when they will be effectively rectified. This will also now include the significantly damaged kerb lines affected by the storage and lifting of the neuro-bridge sections.

4.3.5 Pipework.

Installation of hot, cold, heating & chilled water pipework in the A&C Hospital and Children's Hospital is well in advance in all plantrooms and in general is being installed to a good standard which we are continuing to monitor. The DHWS and CW are being installed to a good standard with 2nd fix still to be completed. There is no water being discharged from the outlets at present.

4.3.6 Ventilation

Witnessing of the ventilation systems is ongoing with no recent failures to date. The operating theatre areas are to be revisited for final proving once doors, lights and grilles are installed.

4.3.7 Insulation

Insulation has been completed in plantroom 21 and continuing in all other plantrooms. Minor tidying up works and completion of the Venture clad jacketing is

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ongoing. Any damage reported during our joint inspections of plant rooms with Brookfield have been addressed and passed to Mercury. We will still continue to monitor the quality of the installation and await an invitation for final inspection.

4.3.8 Pressure testing

Pressure testing of the modular pipework sections on a zone by zone or area by area basis has been programmed through the commissioning meetings and is still ongoing.

4.3.9 Medical Gases

Medical Gas pipework in being installed in all areas and independent tests are being witnessed by Ian Sandford of Hulley and Kirkwood.

4.3.10 Energy Centre

The installations in the Energy Centre are well advanced with the A-side systems commissioned and handed over. The installation of the CHP's is continuing with the gas and LTHW pipework installed and the electrical installation ongoing.

4.3.11 Trunking

The main containment routes have all been installed to a good industrial standard with only some off shoots and stair lobbies etc to be completed.

4.3.12 Cable Trays

Cable tray containment is being installed in a few remaining areas and is to a good industrial standard.

4.3.13 Cabling

The main containment routes have all been installed to a good industrial standard with only a few remaining sections to be completed.

4.3.14 Conduit

Conduit installations are well progressed in the areas being fitted out and are to a good industry standard.

4.3.15 Void Detection

Nothing to report.

4.3.16 Intake Sub Station

Brookfield has informed us that only one cable is to be pulled through to the sub-station and then sealed. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 30 & 45).

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4.3.17 Partitions

The partition between the east side of the atrium and plant room 41 has been damaged by water ingress. Brookfield to confirm they are aware there has been some damage, and will replace the boards after they have completed the resin flooring works. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 166).



Water damaged boards.

4.3.18 Roofs

Adult and Children's Roofs are nearing completion and handover of them is expected to commence by mid August.

4.3.19 Courtyards

Remedial work to be carried out to and Brookfield to carry out handover inspections.

Children's Hospital

The STO is nearing completion.

4.3.20 Windows

Windows are progressing on the external elevations and courtyards in accordance with the specifications.

4.1.21

Equipment

Nothing to report.

4.3.22 Ducting

The ventilation ductwork has been completed in plantroom 22 with plantroom 21 also complete apart from one fresh air intake.

Ductwork to several items of plant which have still to be installed within plantrooms 41, 121, 122, 123 & 124 is incomplete.

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4.3.23 Floors

An inspection of the 4th floor (benchmark) Atrium Bridge was carried out and the finish to the vinyl floor covering and coving was acceptable. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 145 is closed out.



4.3.24 Blockwork

We have reported since April 2013 that the quality and standard of workmanship of the blockwork on the east elevations was not to a good industrial standard.

Tinting of the dark pointing has not commenced yet but Brookfield has informed us that this will be done when the formation of the roads and paths are completed.

4.3.25 Security

No witnessing took place during the period.

4.3.26 Pneumatic Tube

Currently nothing to report.

4.3.27 Electrical Fittings & Fixtures

Nothing to report.

4.3.28 Sprinklers

The pressure testing of the sprinkler systems throughout both hospitals is ongoing.

4.3.29 Lighting

The quality of the general and emergency lighting installed to date is of a good standard with the witnessing of the lighting controls ongoing.

4.3.30 Power

The installation of the power outlets is ongoing

4.3.31 Solar Panels

Nothing to report.

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4.3.32 Fire Dampers

Mechanical fire damper drop tests and the Quality and Compliance Inspections, are continuing and the damper positional indicators which have been found to be obscured by sealant are continuing to being addressed by Brookfield.

4.3.33 Heating

There are gaps in the thermal insulation in the back box of the remote TRV's mounted on external walls controlling the radiant panel heater in Level 0, ZA ward OBW 009. There is the likelihood that this will cause the TRV to be affected by the lower temperature in the partition void causing the Radiant panel to emit heat unnecessarily wasting energy. This applies to other similar TRV's on outside walls. We have asked Brookfield to confirm if this has been considered and if remedial action will be taken to address this. Brookfield has asked Mercury to report on this issue. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 199).

4.4 Current Defects.

Smoke detectors on Level 1 Areas 1-517 and 1-518 have been fitted too close to the walls in rooms CCW-100 Isolation Ward Lobby and CCW-147 Recess. Mercury has reviewed the positioning of the detectors and can advise as follows. In 1-517 the detector holes have been cut in the best location possible with the constraints limiting positioning within the room. The devices will be fitted in the holes as cut. In 1-518 the detector would be better positioned further away from the wall to the full tile adjacent to the light fitting. They will advise when the work is completed in 1-518. See Supervisor's Notification of Defect (CI 42.2) No 70).



CCW-100



CCW-047

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We asked Brookfield to confirm when the damaged external blockwork on the curve of Area 2-513 in the Children's will be replaced. Brookfield confirmed that the damage shown on the defect notice has been noted by Prater and the damage reported to Brookfield. It is the subject of CEN which an instruction is awaited. Brookfield has intimated that it is intended that these works will be completed at a time to be agreed with them but before 31 August 14. See Supervisor's Notification of Defect (CI 42.2) No 80.



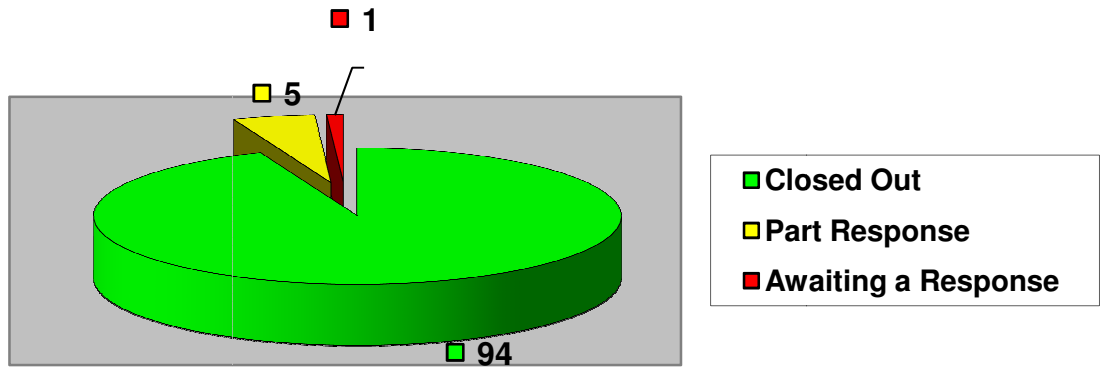
The blockwork at the right hand side of the Children's A&E entrance on the external wall of room EMC-009 is poor quality workmanship. The mortar beds vary in thickness and blocks have not been laid level. We asked Brookfield when this will be addressed. They confirmed that the blockwork panel was inspected by the installer and accepted that the quality is not at the standard required. The panel will be taken down and rebuilt at a time to be agreed with BMCE, but before end of August 2014.



In respect of the mortar beds, these will be tinted to match the adjacent blockwork at the time when the remaining remedials are being carried out.

See Supervisor's Notification of Defect (CI 42.2) No 79.

5.0 INFORMATION REQUIRED



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Item No.	Description	Date Requested	Comment	
Items 1 to 29 have been closed out				
30	Confirm when cabling is complete, water pumped out and batteries removed.	10.08.12	Response received.	
Items 31 to 44 have been closed out				
45	See Supervisor's Communication No 30.	18.09.12	Response received.	
Items 46 to 140 have been closed out				
141	ease provide technical solutions to various issues to the steelwork to the Children's Roof.	23.07.13	Response received.	
Items 142 to 144 have been closed out				
145	Confirm proposals to achieve level floors to the Atrium Bridge Corridors at door openings to offices/rooms.	25.07.13	Closed out.	
Items 146 to 161 have been closed out				
162	Confirm when the other legs have been extended to the steel framework in riser on Level 0 ZF Riser M30.	16.09.13	Response received.	
163	Provide details of the lead protection to ducts and penetrations passing through walls above the ceilings within Radiology.	16.09.13	Closed out.	
164	Confirm when rodding eye inspection cover has been repositioned to allow access within toilet MDU-011.	17.09.13	Closed out.	
165	Confirm measures to improve the poor quality finish to the blockwork on the east elevation.	20.09.13	Closed out.	
166	Confirm when water damaged boards in Plant Room 41 are replaced.	20.09.13	Response received.	
Items 167 to 190 have been closed out				
191	Confirm that the nurse call points will be fitted in 1-537 Room OPD1-122 and 1-539 Room OPD1-097.	10.02.14	Response received.	
192	Confirm appropriate specification for the partition between the Medi Cinema and the Snoozelum Room.	12.02.14	Closed out.	
193	Confirm if the mastic sealants which have been applied to junction of the horizontal beadheads and the vertical sections replace the specified preformed gaskets.	13.02.14	Closed out.	
194	Seeking confirmation how the fittings can be fitted within the present space or congested.	17.02.14	Response received.	
195	Confirm when suspended ceiling supports are fitted on Level 0 Area 0-535.	27.02.14	Closed out.	
196	Confirm the procedures for accessing the valves in accordance with SHTM 2035 Section 5 on Level 0 Zone C in corridor OPD 024 adjacent OPD 025.	28.02.14	Closed out.	
197	Provide a copy of the Acoustic Test Report.	06.03.14	Closed out.	
198	Advise on proposals to ensure that the column fixings to the foundations comply with the design intent and that grouting to the baseplates is in accordance with the specification.	06.03.14	Response received.	
199	There are gaps in the thermal insulation in back box of remote TVR's. Confirm remedial action.	20.03.14	Response received.	
200	Materials being stored in AHU in plantroom 32	20.03.14	Closed out.	
201	Confirm supports to services in Level 3 Zones E, K & F Zone 3-501 are in accordance with that design.	21.03.14	Closed out.	
202	Confirm if quality inspections will be carried out to crimped joints.	21.03.14	Closed out.	
203	Provide report in relation to the failure of the steel connection, remedial measures and confirm that all necessary safety precautions have been taken.	26.03.14	Closed out.	

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204	Confirm the remedial measures to address the issue of drop down handrail not being able to remain in the upright position. and confirm when complete	11.04.14	Closed out.	
205	Finishing attention required to concrete slab confirm. Confirm when addressed.	30.04.14	Closed out.	
206	Confirm that the difficult access to various fire dampers on Level 1 Areas 505, 508 and 537 will be addressed.	19.05.14	Open.	
207	Confirm if both suction and discharge inspection hatches in plant Room 21 require a double seal.	20.06.14	Closed out.	
208	Confirm remedial work to remove ramp which is too steep.	04.07.14	Open.	
209	Confirm remedial action to remove the risk of tripping over the recessed Chanel in front of the door to the stairwell.	08.07.14	Open.	
210	Confirm that the chipped intumescent paint will be addressed.	11.07.14	Response received.	

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6.0 SUPERVISORS TESTS AND INSPECTIONS

Tests not required	N/A
Tests required but not tested	Fail
Tests required which has passed tests	Pass

Tests				
Ref	Title	To be Notified by	Status	Test Date
01-86	Various tests undertaken from the 09. 07.2012 To the 30.06 2013.			
87	Smoke damper test verification - Level 0, zones D & G.	Brookfield	Fail To be re-witnessed	24.09.2013
88-114	Tests 28.09.2013 to 12.02.2014			
115	L1 1-539 Fire dampers.	Brookfield	Fail	22.11.2013
115A-122	Various tests undertaken from the 22.11.2012 to the 29.11. 2013.			
123	FD 1-518 001 Fire damper drop test.	Brookfield	Fail	29.11.2013
124	FD 1-539 002 Fire damper drop test.	Brookfield	Fail	29.11.2013
125-138	Various tests undertaken from 04.12.2013 to the 29.01. 2014.			
139	Smoke damper tests in plantroom 31. Some fails.		FAIL	
140-170	Various tests undertaken from the 03.02.2014 to the 16.04.2014.			
171	Fire damper drop tests in L4ZH, L5ZH and L6ZH. Twelve dampers tested, one failed. (VPI missing).	Brookfield	One damper failed	24.04.2014
172-175	Various tests undertaken from 25.04.2014 to 29.04.2014.			
176	VPI missing from FD 0-530 013.	Brookfield	FAILED	29.04.2014
177	Nurses call system - 1-510, 1-536, 1-508, 1-509, 1-505 & 1-507.	Brookfield	PASSED	08.05.2014
178	Sprinklers Level 3 Zones A, B & C.	Brookfield	PASSED	09.05.2014
179	Sprinklers Level 4 Zone C.	Brookfield	PASSED	09.05.2014
180	Fire dampers on Level 1 Zones 505 (FD 1-505 006, 508 (FD 1-508 005), 519 (All ok) & 538 FD 1-538 008.	Brookfield	FAILED	15.05.2014
181	Fire dampers on Level 1 Zone 537.	Brookfield	FAILED	
182-201	Various tests undertaken from 19.04.2014 to 27.06.2014.			
202	Lighting control in basement.	Brookfield	PASSED	02.07.14
203	Sprinkler pressure test on Ground floor.	Brookfield	PASSED	03.07.14
204	Sprinkler pressure test on Level 378.	Brookfield	PASSED	08.07.14
205	Nurses call witnessing on L1ZJ.	Brookfield	PASSED	16.07.14
206	Nurses call witnessing on L4ZC.	Brookfield	PASSED	16.07.14
207	Fire alarm witnessing Level 0.	Brookfield	PASSED	17.07.14

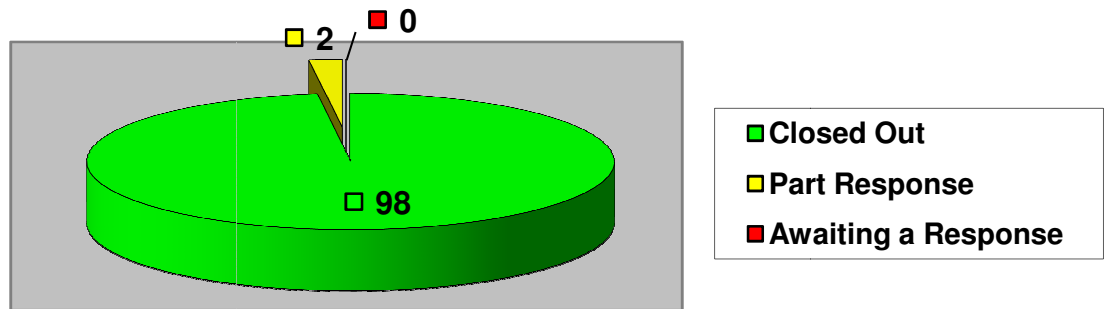
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208	IT High Availability Test	Brookfield	PASSED	18.07.14
209	L1ZA Electrical Distribution Board testing.	Brookfield	PASSED	24.07.14
210	L2ZA Electrical Distribution Board testing.	Brookfield	PASSED	24.07.14

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7.0 DEFECTS NOTIFICATIONS ISSUED



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	Description	Date Requested	Comment	
Items 1 to 78 have been closed out.				
79	Confirm when the poor workmanship to the blockwork outside room EMC-009 has been addressed.	01.07.14	Response received.	
80	Confirm when the damaged blockwork to the external curve in area 2-513 has been addressed.	01.07.14	Response received.	

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John Redmond, Technical Advisory Services

Property and infrastructure
Capita, The Beacon, 8th Floor, 176 St Vincent Street, Glasgow G2 5SG

	Signed	Date
Originated by	John Redmond	30th July 2014
Completed by	David Ramsay	30th July 2014

CAPITA

**NEW SOUTH GLASGOW HOSPITAL
ADULT AND CHILDREN'S HOSPITAL AND ENERGY CENTRE
NEC 3 SUPERVISORS REPORT NO. 40
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1.0 EXECUTIVE SUMMARY: ADULT & CHILDREN'S HOSPITAL

Our site inspections during August 2014 continue to indicate that the construction and procedures are progressing in a satisfactory manner in accordance with the Employer's Requirements.

Throughout, the standard and quality of the workmanship is generally good and operations are being carried out in an acceptable manner.

Brookfield provided us with their QA documentation including a list of their defects which had been logged on their IDMS system. They also provided us with a list of excluded rooms and list of works and equipment that required to be completed or installed. We reviewed this information prior to undertaking the inspections. The areas inspected were generally to a good industrial standard and the defects captured by Brookfield were generally of a minor nature. We did however identify a number of defects including, tertiary blinds not level, seals missing from door frames, damage to door frames and doors. A partition has not been formed between the concrete column and the external façade. Some wall vinyl had become detached in the en-suites and some doors and windows which still had to be fitted. Brookfield recorded these onto their IDMS system. There was equipment such as drop handrails and mirrors which still had to be fitted.

Quality and compliance back checks were carried out on the following Levels.

- Various rooms on Level 0 and Area 0-515.
- Level 1 Area 1-511 and 1-512..
- Level 2, Area 2-507, 2-509.
- Level 2, Area 2-508 Children's Hospital.
- Level 3, Areas 3-506 and 3-507.
- Level 4 Areas 4-512, 4-513 and 4-514.
- Level 8, Area 8-506, 8-507 and 8-508.
- Level 9, Area 9-509, 9-510, 9-511, 9-512, 9-513 and 9-514.
- Level 10, Areas 10-506, 10-507, 10-508, 10-512, 10-513 and 10-514.
- Level 11, Areas 11-509, 11-510 and 11-511.

We continue to liaise between Brookfield and the NHS Project Team in relation to snagging/defects identified by the NHS Project Team.

Work to the link bridge to the existing Neo-natal facility has continued during this period. Quality of this to date appears satisfactory. At the connection positions into the existing building steelwork final clarification is still awaited from the Contractor on a couple of points.

Zutec entries continue to be under review.

The car park will come into use as the main project site car park from the end of this period. Some minor snagging remains to be addressed and this together with items determined at a final inspection will be addressed towards the end of the project. This snagging will include some ponding issues on the top floor.

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On the roof of the Children's Hospital in Zones A and B the door framing at plant room level, north east corner still awaits a final decision on door arrangement. Steelwork erection to the 1st floor east side podium in the main atrium is completed with overcladding ongoing. Some areas of intumescent paint are in need of remedial action.

Roadway issues on the dual carriageway leading to Renfrew Road remain outstanding. Brookfield is aware of this and will rectify at an appropriate time in line with their programme for this area.

Landscaping areas in courtyards and at 3rd floor roof levels are now well advanced and quality to date appears to be satisfactory. Significant progress to road and footpath bases on the south and east sides of the building has again been made during the period with tarmac to underside of wearing course placed on the south side. Blockwork to footpath areas has also progressed significantly at the south side. On the north side concrete sub-slab work and stone paving placement has commenced. Quality to date appears good in all areas.

The M&E installation quality is being maintained to a good industrial standard and we are generally satisfied that the installation is compliant with exception of the specific items which we have raised with Brookfield.

The M&E installations is continuing with 1st fix installations taking place in specific specialist areas, lift and stair lobbies and "B" programme areas, and in areas where external hoists had been installed. The quality of the work in these areas has been to a good industrial standard.

Commissioning and testing on Levels 0 to 3 is the most advanced. Final proving / commissioning are still to be carried out in operating theatres etc, when the doors, lights and grilles are complete. 2nd fix installation and testing is continuing on all Levels with Level 4 to 11 progressing. On Level 12 the installation work within PR21 is almost complete while testing and commissioning is continuing in plantrooms in PR22, PR31, PR32 & PR33 & PR41(A). The installation of plant and equipment, pipework, ductwork, insulation, smoke extract systems are all in progress. Lift electrical supplies, electrical switch boards, power and control wiring all in progress.

In the Energy Centre the installation of the CHP is continuing with gas and LTHW pipework installed and electrical and control wiring in progress.

During August, in the A&C Hospitals, we witnessed the testing of the lighting control system on level 0 Zone D, fire damper drop tests on Levels 0, 1, 8, 9 & 10, fire alarm witnessing on level 1 zone E, ventilation tests in plantroom 31 AHU's 01, 02, 04, 39, 41, 52 and EF 01 and PR22 AHU 01 which is sited in Plantroom 31. In plantroom 22 we witnessed the balancing of AHU's 07, 13, 16, 06, 17, 15, 23 and 16 EF02.

We also witnessed tests of the LTHW and CW systems in PR22, 121 and 124. Random tests were carried out to fan coil units and chilled beams throughout the building. Fire alarm loop tests were witnessed on level 4 and in the basement.

Of the systems tested, retesting will be required to the lighting control in L0ZD, two fire dampers and the air flow balancing of one AHU.

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The rest were satisfactory.

There are still a number of retests to be taken.

In the Multi Storey Car Park we witnessed the fire alarm system, intruder alarm, disabled alarm, disabled refuge alarm, general and emergency lighting. During the testing of the disabled refuge alarm it was not possible to communicate via the intercom when the fire alarm was activated due to communication break up. It was noted that several emergency light fittings were not as per drawings. BMCE / FES to address issues.

We are continuing to work with Brookfield during our inspections highlighting any items that have raised concern. Items identified in this manner are generally being addressed by the site team in advance of any defect notice being raised.

In general terms we are satisfied that the installations continue to be installed to a compliant standard, and are of a good quality.

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2.0 DESIGN COMPLIANCE CHECK

Currently nothing to report.

3.0 PROCEDURES REVIEW

3.1 Contractor's QA Procedures / Compliance Inspections

Quality and Compliance inspections

Brookfield and their subcontractors have continued with their QA and checking and inspection procedures during this period. We are in discussion and liaise with Brookfield's Quality Manager on QA matters and we undertake regular reviews of their QA documentation.

Quality and compliance inspections were carried out with Brookfield in a number of areas. Brookfield provided us with their quality packs which included a list of their outstanding works, defects recorded on to their IDMS system quality sign off sheets and drawings.

Quality & Compliance inspections were also carried out on Level 3, Areas 3-506 and 3-507. The areas inspected were generally to a good standard and the defects captured by Brookfield were generally of a minor nature.

We carried out a Quality & Compliance Inspection of Level 8, Area 8-506, 8-507 and 8-508 with Brookfield and the quality of the work inspected was generally to a good standard. We did however note a few minor defects which Brookfield recorded on their IDMS.

We carried out a Quality & Compliance Inspection of Level 9, Area 8-512, 8-513 and 9-514 with Brookfield and the quality of the work inspected was generally to a good standard. We did however note a few minor defects which Brookfield recorded on their IDMS.

Quality & Compliance inspections were also carried out on Level 1, Areas 1-511 and 1-512. The areas inspected were generally to a good standard and the defects captured by Brookfield were generally of a minor nature. However we did note that the partition has not been formed between the concrete columns and the external façade. Consequently the partition could not achieve the acoustic design requirements. Brookfield has raised an NCR for this.

Quality & Compliance Inspections were carried on Level 2 Area 2-509 with Brookfield and the quality of the work inspected was to a generally good standard. Brookfield recorded any defects which we identified on their IDMS. A further visit will be required to inspect the walls either side of the windows.

Quality & Compliance inspections were also carried out on Level 9, Area 9-509, 9-510, 9-511, 9-512, 9-513 and 9-514. The quality of the work inspected was to a generally good standard. Brookfield recorded any defects which we identified on their IDMS.

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Quality & Compliance inspections were also carried out on Level 10, Areas 10-512, 10-513 and 10-514. The areas inspected were to a good standard and the defects captured by Brookfield were generally of a minor nature.

Quality & Compliance inspections were also carried out on Level 10, Areas 10-506, 10-507 and 10-508. As a result of our inspections we identified 280 minor defects/snags which Brookfield recorded on the IDMS.

Quality & Compliance Inspections were carried in Area 0-515 however only part of the area was offered up with the remaining rooms to be inspected at a later date. Brookfield had captured the snags/defects which we identified on their IDMS. There was a list of exclusions which included a few doors which still required to be fitted. The quality of the work inspected was to a good standard. We noted only minor defects/snags which Brookfield recorded on their IDMS. Generally the rooms were to a good industrial standard.

Quality & Compliance Inspection were carried out to parts of Areas 4-512, 4-513 and 4-514. Brookfield provided a list of the snags/defects and listed exclusions which included incomplete work. We did however identify 65 minor defects which Brookfield recorded onto their IDMS. The quality of the work was generally to a good industrial standard.

Quality & Compliance Inspections were carried in Area 2-507 with only a few rooms excluded. Brookfield provided a list of the snags/defects and listed incomplete work. As a result of our inspections we identified 104 minor fabric defects/snags which Brookfield recorded on the IDMS. There were some doors and windows which still required to be fitted. Generally the rooms were to a good industrial standard.

Quality & Compliance Inspections were carried to Areas 2-508. with only a few rooms excluded. Brookfield provided a list of the snags/defects and listed incomplete work. As a result of our inspections we identified 68 minor fabric defects/snags and 22 Mechanical and Electrical defects/snags which Brookfield recorded on the IDMS. There were some doors and windows which still required to be fitted. Generally the rooms were to a good industrial standard.

Quality & Compliance Inspections were carried to Areas 11-509, 11-510 and 11-511. with only a few rooms excluded. Brookfield provided a list of the snags/defects and listed incomplete work. As a result of our inspections we identified 132 minor fabric defects/snags and 35 Mechanical and Electrical defects/snags which Brookfield recorded on the IDMS. There were some doors and windows which still required to be fitted. Generally the rooms were to a good industrial standard.



Window to be fitted.



Window to be fitted.



Door ironmongery to be fitted.

Room Back Checks

Back checks were carried out to 15 rooms on Level 0. The quality of the finish was to a good industrial standard. We identified a few minor snags/defects which Brookfield recorded on the IDMS.

It was noted during fire damper tests at various locations on Level 1 that access to testing the operations of each fire damper was difficult due to the size of the access hatch. Brookfield confirmed that access doors have been widened on Level 1 Area 505 and 538. The access hatch in on Level 1 Area 537 has still to be widened. The fire dampers which are not located in the wall on Level 1 Area 505 has still not been addressed to maintain fire barrier. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 206).

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We have raised a Supervisor's Communication No 191 in relation to the Nurse call points not installed in these rooms and asked Brookfield to confirm when these works have been completed. Brookfield has confirmed that the holes cut for the nurse call points were in the wrong location and have subsequently been fitted in their correct location. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 191 is closed out.

The recessed area on the right hand side of the wash hand basin in room OPD1-004 Level 1 Area 1-539 is congested. There is a nurse call, dispenser and grab rail to be fitted. We asked Brookfield to confirm how the fittings can be fitted within the present space or if there are any proposals to reposition fittings. Brookfield has confirmed that the OPD1-005 – nurse call is to be positioned to the correct location as per 400 series drawing and the grab rail may be situated on side panel but this has to be investigated. The OPD1-004 – IPS trespar location to be investigated on potential move to allow space for grab rail. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 194).

Car Park 1.

The ramped floor on levels 2, 3, 4, 5 and 6 leading from the car park to the main stairwell is ramped and part of the ramp has a steep gradient which does not appear to be DDA compliant and is also a trip risk. We asked Brookfield to confirm what remedial work would be undertaken to remove this risk. They have confirmed that they have been in contact with the Architect and Engineer. A handrail will be installed at the door jamb, preventing stepping onto the corner section of ramp. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 208 is closed out.



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The car park floors on levels 3, 4, 5 and 6 have recessed channels which are less than a metre from the stairwell doors on the Hardgate Rd elevation. The channel is a potential trip hazard. We asked Brookfield to confirm what remedial work would be undertaken to remove this risk. They have confirmed that they are in discussion with Architect and will install a grill in the Channel to avoid the potential trip hazard. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 209 is closed out.



The car park floors on levels 1, 2, 3, 4, 5 and 6 have recessed channels which are a potential trip hazard. We asked Brookfield to confirm what remedial work would be undertaken to remove this risk. They have confirmed that they are in discussion with Architect and will install a grill in the Channel to avoid the potential trip hazard. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 11 is closed out.

**Zutec Review**

We are continuing to review the testing information on Zutec on a regular basis as it is entered.

Acoustic Tests

Airborne sound insulation tests were carried out on the following wall partitions during August:

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Test No	Level	Room Number	Room Name	Performance Assessment			
				Source/Receiver	Airborne Performance DnT,w		
					Criteria	Tested	Complies?
2	G	OPD 068	Consultation Examination	S			
		OPD 077	Consultation Examination	R	47 dB	49 dB	YES
3	G	OPD 017	Consultation	S			
		OPD 016	Meeting	R	42 dB	45 dB	YES
6	G	OBW 014	Single Bedroom	S			
		OBW 015	Single Bedroom	R	47 dB	47 dB	YES
9	G	OPD 050	Exercise Test Lab	S			
		OPD 051	Ambulatory ECG Analysis	R	47 dB	48 dB	YES
12	G	OBW 056	W.C.	S			
		OBW 057	W.C.	R	37dB	40 dB	YES
13	1	CCW 111	Meeting	S			
		CCW 112	Library	R	47 dB	39 dB	NO
14	1	CCW 103	Preparation Room	S			
		CCW 101	Relative Interview	R	37 dB	39 dB	YES
22	2	SCH 062	Play Dining	S			
		SCH 063	Treatment	R	47 dB	44 dB	NO
23	2	ARU 062	Meds Manager	S			
		ARU 063	Staff Rest Room	R	37 dB	37 dB	YES
24	2	TCT 002	Contingency Area	S			
		TCT 003	Single Bed	R	47 dB	49 dB	YES

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Above ceiling inspections were carried out on Level 1 Zone A and six areas were identified which had not been complete in accordance with the fire sub-compartment and design drawings. Brookfield raised an NCR with Mercury highlighting the nature of the non-conformances.

We carried out inspections with Brookfield of the above ceiling firestopping on Level 2 Areas 523 and 525.

General Inspections

An inspection with Brookfield was carried out to the walls in Zone J and E Levels 6-12 within the Atrium. The finish was to a good industrial standard with minor defects/snags recorded on the IDMS.

We brought to Brookfield's attention that there are a number of ophthalmology rooms which have both the following SWC026 – switch dimmable and SWC034 – dimmer modulating listed. However the SWC034 – dimmer modulating cannot be seen in the following rooms:

- Consulting room – OPD1-069
- Consulting room – OPD1-069
- Consulting room – OPD1-071
- Consulting room – OPD1-076
- Consulting Room – OPD1-028
- Consulting room OPD1– 029
- Fields Test room – OPD1-031
- Fields testing OPD1-032.

In Visual Acuity Room – OPD1-030 the following room has both SWC025 and SWC026 (switch dimmable) listed but the SWC026 cannot be seen. We have asked Brookfield to clarify this.

3.2 Witness Testing and Commissioning

We witnessed a number of tests during August 2014 which were satisfactory and these were as follows:

- (213) Fire damper drop tests on Level 8, 9 & 10.
- (214) Fire alarm witnessing on Level 1 zone E.
- (215) Fire damper drop testing on Level 1 zone 533.
- (216) Fire damper drop testing on Level 0 zone 537.
- (218) Ventilation tests in PR31
- (219) Part witnessing of LTHW & CW on level 6. (PR31).
- (220) Ventilation tests in PR31.
- (221) Part witnessing of LTHW & CW balancing in PR22 & level 0.
- (222) Fire alarm loop tests in basement and Level 4.
- (223) Car park fire alarm system, Intruder system & Disabled alarm.
- (225) Ventilation tests of PR22 AHU's 07, 13 & 16 and PR22 16 EF02.
- (226) Car park - Witnessing of General Lighting & Smoke vent.

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- (228) Ventilation tests in PR22 & Level 1 of systems PR22 AHU 06, 15, 17 & 23.
- (229) Ventilation tests in PR31 AHU 53, EF12 & PR22 AHU 01.
- (231) Part witnessing of LVT CT balancing. In PR121, PR124, Levels 10 & 11.

We witnessed tests during August 2014 which were unsatisfactory. See below.

- (211) Lighting control on Level 0 Zone D. Failed due to several incomplete bed head lighting control defects.
 - (212) Fire damper drop test on Level 9. (VPI missing from FD 9-511 001)
- (217) Fire damper drop testing on Level 0. (FD 0-537 005 & FD 0-540 002, VPI,s obscured)
- (224) Car Park - Witnessing of Disabled Refuge alarm. Failed due to break up of communications when fire alarm has been activated making conversation inaudible.
- (227) Car park emergency lighting. Lights remaining on mains power when on test and, emergency lights not in correct positions.
- (230) Ventilation test in PR31 AHU 64. Unacceptable readings.
- (232) Fire damper No FD 539 015 failed. VPI loose.

Previously witnessed tests which failed and have been re-tested successfully:

- (87) Smoke damper test verification was tested successfully on level 0 zone G. Zone D still outstanding.
- (180) Fire damper on level 1 zones 508, 519 and 538 were tested successfully. One damper, FD 1-508 005 to be retested.
- (115) FD-1-539-003, Brookfield informed us that this damper has been re-tested. We will review test documentation.

Previously witnessed tests which require to be retaken.

- (124) FD-1-539-002 – The fire damper test lever was fouling adjacent ductwork. The fire damper is to be repositioned and retested.
- (123) FD-1-518-001 - Difficult to access and activate damper link due to type of hatch fitted, and damper status indicator was obscured. A new hatch is to be installed and status indicator to be exposed.
- (115) FD-1-539-003, Unable to access fire damper inspection hatch. A new inspection hatch to be fitted on opposite side of wall.
- (87) Smoke damper test verification was tested successfully on level 0 zone D. Zone G still outstanding.
- (139) Smoke dampers were tested in plantroom 31 and there were some which failed. No power to panel.
- (171) VPI missing from Level 6 Zone H fire damper FD 6 511 001.
- (176) VPI missing from Level 0 Zone H fire damper FD 0 530 013.
- (180) FD 1-505 006 - Access hatch too small and sharp edges on inside of hatch. See table reference 180.
- (181) FD 1-537 005 - Access hatch too small and sharp edges on inside of hatch.

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- (180) FD 1-508 005 - Fire damper closed ok but failed to reset due to size of access hatch.
- (181) FD 1-537 005 - Access hatch too small and sharp edges on inside of hatch. Awaiting re-test of 1-537.
- (181) FD 1-537 004 - Access hatch too small and fire seal or repositioning required.
(Previously cleared in error.) All dampers in area to be retested.
- (180) FD 1-538 008 - Access hatch too small. See table reference 180.

3.3 Board Equipment Installation,

Currently nothing to report.

3.4 Non Conformance Reports

We reviewed Brookfield's NCR Tracker and noted the issues raised by the Package Managers. Brookfield confirmed that the tinting to the blockwork has commenced and pointing on the south and east elevations. Prater has still to offer it up to Brookfield as complete reference NCR 156. NCR 237 was issued to Astins in relation to the lack of insulation at abutments between internal partitions and external walls. This work is complete and an acoustic test is to be carried out.

4.0 CONSTRUCTION REVIEW

4.1 Visits to the Works

The following members of our team undertook site inspections, reviewed documentation, attended meetings and met with relevant Contractors representatives on-site personnel:- John Redmond (Lead NEC3 Supervisor) 4th to 8th, 11th to 15th, 18th to 22nd, and 25th to 29th. Douglas Wilson (M&E NEC3 Supervisor) 4th to 8th, 11th to 15th, 18th to 22nd, and 25th to 29th. Willie Roxburgh (Civils/Structural NEC3 Supervisor) part days on 1st, 12th, 18th, 22nd, and 27th August, plus remote desk top input most days of the month. Capita's NEC3 Supervisor's team visited site a combined 45 person days.

4.2 Elements of the Works available for inspection

Main building – structural areas very limited.

Tunnels between ACH and Labs, and Cores C to F.

Structural steelwork to all roof areas (increasingly limited due to access and partitions).

Neuro bridge (partly limited due to access).

Dual carriageway to Renfrew Road, turning area in front of the main entrance and carriageway from Hardgate Road.

South and east sides external works

Internal courtyards.

Perimeter hard and soft landscaping

Car park area.

Internal partitions.

M&E modular units.

Roofing.

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Cladding.
 Windows.
 Sto system.
 Brickwork Courtyard 8, and 10.
 Brickwork/blockwork: Zone J North, East elevation and Basement Blockwork.
 Rainscreen: Zone F & C.
 Internal fit out.

4.3 Current Observations

The visual inspections of the work carried out to date indicate that the works are generally being carried out to a satisfactory standard. We continue to be assisted by the site teams and the NHS Project Team in resolving various construction, mechanical, electrical, and quality issues. We continue to close out our Supervisor's Notification and Defects when we have received satisfactory responses. Listed below are observations closed out, still to be closed and those raised following site visits to site in August 2014.

4.3.1 Structural

Work to the link bridge to the existing Neo-natal facility has again continued during the period. Quality of this to date appears satisfactory. At the connection positions into the existing building steelwork final clarification is still awaited from the Contractor on a couple of points.

On the roof of the Children's Hospital in Zones A and B the door framing at plant room level, north east corner still awaits a final decision on door arrangement. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 141.

The steel framework in riser on Level 0 ZF Riser M30 has had the legs extended immediately in front of the entrance door. There are other legs which have not been extended yet and we asked Brookfield to confirm when the other legs will be extended. Brookfield informed us that Mercury removed the feet on the framing having it suspended from the soffit of the floor above. Brookfield has consulted with WSP re the allowable load on the slab edge around the risers. The design line load around the riser slab edges is based upon 0.8kN/m height/sq.m plan area. The calculations submitted by Mercury show a load of 0.99kN/m/sq.m which exceeds the design criteria therefore the legs will require extending to provide support from the lower floor. Mercury has been informed to replace/ extend the feet. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 162).

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Extended legs



Leg still to be extended.

Car Park 1

The car park will come into use as the main project site car park from the end of the period. Some minor snagging remains to be addressed and this together with items determined at a final inspection will be addressed towards the end of the project. This snagging will include some ponding issues on the top floor.

We asked Brookfield to advise us on their proposals to ensure that the column fixings to the foundations comply with the design intent. Brookfield advised us that this work is in progress. We also asked them to confirm that grouting to the baseplates is in accordance with the specification. Brookfield confirmed that WSP have approved proposal to reduce depth of grout below baseplates from 25mm to 10mm (see Aconex mail WSP-RTRFI-001414). Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 198 is closed out.

Landscaping areas in courtyards and at 3rd floor roof levels are now well advanced and quality to date appears to be satisfactory. Significant progress to road and footpath bases on the south and east sides of the building has again been made during the period with tarmac to underside of wearing course placed on the south side. Blockwork to footpath areas has also progressed significantly at the south side. On the north side concrete sub-slab work and stone paving placement has commenced. Quality to date appears good in all areas.

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Some areas of intumescent painting to the steelwork on the 1st Floor Podium on the East Side of the Main Atrium appear to be chipped. We asked Brookfield to confirm that this will be addressed as required to ensure overall compatibility with the specification. They have confirmed any areas of the intumescent fire protection on the steelwork that has been damaged will be rectified and that we would be invited to inspect prior to any closing up of the areas. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 210).



4.3.2 Energy Centre

Steelwork snagging appears to have been addressed, but much tidying up remains outstanding in the eastern half of the building.

4.3.3 Above Ground Drainage

Substantially completed with satisfactory quality to date.

4.3.4 Dual Carriageway to Renfrew Road. (A&C)

The defects previously identified will be reviewed nearer to completion when they will be effectively rectified. This will also now include the significantly damaged kerb lines affected by the storage and lifting of the neuro-bridge sections.

4.3.5 Pipework.

Installation of hot, cold, heating & chilled water pipework in the A&C Hospital is well in advance in all plantrooms and in general is being installed to a good standard which we are continuing to monitor. The DHWS and CW are being installed to a good standard with 2nd fix still to be completed. We are aware that water supplied to pipework within the podium.

4.3.6 Ventilation

Witnessing of the ventilation systems is ongoing with only one recent failure to date. The operating theatre areas are to be revisited for final proving once doors, lights and grilles are installed.

4.3.7 Insulation

Insulation is nearing completion in all areas. Minor tidying up works and completion of the Venture clad jacketing is ongoing. Any damage reported during our joint

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inspections of plant rooms with Brookfield is being addressed. We will still continue to monitor the quality of the installation and await an invitation for final inspection.

4.3.8 Pressure testing

There Pressure testing of the modular pipework sections on a zone by zone or area by area basis has been programmed through the commissioning meetings and is complete apart from Plantroom 41 domestic water.

4.3.9 Medical Gases

Medical Gas pipework in being installed in all areas and independent tests are being witnessed by Ian Sandford of Hulley and Kirkwood.

4.3.10 Energy Centre

The installations in the Energy Centre are well advanced with the A-side systems commissioned and handed over. The installation of the CHP's is continuing with the gas and LTHW pipework installed and the electrical installation ongoing.

4.3.11 Trunking

Nearing completion.

4.3.12 Cable Trays

Nearing completion.

4.3.13 Cabling

The main containment routes have all been installed to a good industrial standard with only a few remaining sections to be completed.

4.3.14 Conduit

Nearing completion and is to a good industry standard.

4.3.15 Void Detection

Nothing to report.

4.3.16 Intake Sub Station

Brookfield has informed us that only one cable is to be pulled through to the sub-station and then sealed. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 30 & 45).

4.3.17 Partitions

The partition between the east side of the atrium and plant room 41 has been damaged by water ingress. Brookfield to confirm that they are aware there has been

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some damage, and will replace the boards after they have completed the resin flooring works. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 166).



Water damaged boards.

4.3.18 Roofs

Adult and Children's Roofs are nearing completion and handover of them is expected to commence during September 2014.

4.3.19 Courtyards

Remedial work to be carried out to and Brookfield to carry out handover inspections.

Children's Hospital

The STO is nearing completion.

4.3.20 Windows

Windows are progressing on the external elevations and courtyards in accordance with the specifications.

4.1.21 Equipment

Nothing to report.

4.3.22 Ducting

The ventilation ductwork has been completed in plantroom 22 and 21. Duct now not being installed and is being left as louvre mesh at high level. We have asked Brookfield to provide details in relation to this. Ductwork to several items of plant which have still to be installed within plantrooms 41, 121, 122, 123 & 124 is nearing completion.

4.3.23 Floors

Nothing to report

SUPERVISOR'S REPORT NO. 40**AUGUST 2014****4.3.24 Blockwork**

We have reported since April 2013 that the quality and standard of workmanship of the blockwork on the east elevations was not to a good industrial standard.

Tinting of the dark pointing has commenced and we await Brookfield notifying us when the work is complete to allow us to carry out an inspection.

4.3.25 Security

Car Park intruder alarm has been tested successfully.

4.3.26 Pneumatic Tube

Brookfield has informed us that pre commissioning to commence early September.

4.3.27 Electrical Fittings & Fixtures

Nothing to report.

4.3.28 Sprinklers

The pressure testing of the sprinkler systems is nearing completion in the basement and remaining levels in the tower.

4.3.29 Lighting

The quality of the general and emergency lighting installed to date is of a good standard with the witnessing of the lighting controls ongoing.

4.3.30 Power

The installation of the power outlets is ongoing

4.3.31 Solar Panels

Nothing to report.

4.3.32 Fire Dampers

Mechanical fire damper drop tests and the Quality and Compliance Inspections, are continuing and the damper positional indicators which have been found to be obscured by sealant are continuing to being addressed by Brookfield.

4.3.33 Heating

There are gaps in the thermal insulation in the back box of the remote TRV's mounted on external walls controlling the radiant panel heater in Level 0, ZA ward OBW 009. There is the likelihood that this will cause the TRV to be affected by the lower temperature in the partition void causing the Radiant panel to emit heat unnecessarily wasting energy. This applies to other similar TRV's on outside walls.

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We have asked Brookfield to confirm if this has been considered and if remedial action will be taken to address this. Brookfield has asked Mercury to report on this issue. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 199).

4.4 Current Defects.

Smoke detectors on Level 1 Areas 1-517 and 1-518 have been fitted too close to the walls in rooms CCW-100 Isolation Ward Lobby and CCW-147 Recess. Mercury has reviewed the positioning of the detectors and can advise as follows. In 1-517 the detector holes have been cut in the best location possible with the constraints limiting positioning within the room. The devices will be fitted in the holes as cut. In 1-518 the detector would be better positioned further away from the wall to the full tile adjacent to the light fitting. They will advise when the work is completed in 1-518. See Supervisor's Notification of Defect (CI 42.2) No 70).



CCW-100



CCW-147

We asked Brookfield to confirm when the damaged external blockwork on the curve of Area 2-513 in the Children's will be replaced. They have confirmed that works to the external damaged blockwork on the curve have been completed. See Supervisor's Notification of Defect (CI 42.2) No 80.

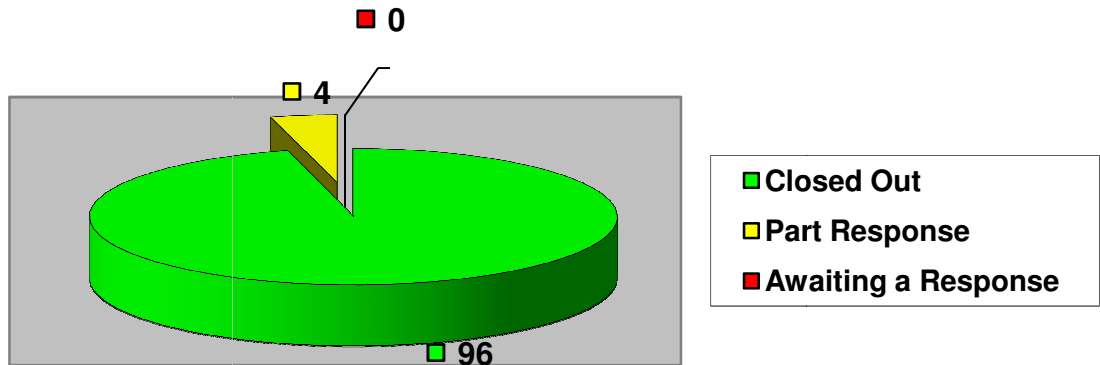


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The blockwork at the right hand side of the Children's A&E entrance on the external wall of room EMC-009 is poor quality workmanship. The mortar beds vary in thickness and blocks have not been laid level. We asked Brookfield when this would be addressed. An inspection of the poorly laid blockwork was carried out with Brookfield and the work carried out was generally satisfactory, however one block still requires to be replaced. See Supervisor's Notification of Defect (CI 42.2) No 79.



5.0 INFORMATION REQUIRED



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Item No.	Description	Date Requested	Comment	
Items 1 to 29 have been closed out				
30	Confirm when cabling is complete, water pumped out and batteries removed.	10.08.12	Response received.	
Items 31 to 44 have been closed out				
45	See Supervisor's Communication No 30.	18.09.12	Response received.	
Items 46 to 140 have been closed out				
141	Please provide technical solutions to various issues to the eelwork to the Children's Roof.	23.07.13	Response received.	
Items 142 to 161 have been closed out				
162	Confirm when the other legs have been extended to the steel framework in riser on Level 0 ZF Riser M30.	16.09.13	Response received.	
163	Provide details of the lead protection to ducts and penetrations passing through walls above the ceilings within Radiology.	16.09.13	Closed out.	
164	Confirm when rodding eye inspection cover has been repositioned to allow access within toilet MDU-011.	17.09.13	Closed out.	
165	Confirm measures to improve the poor quality finish to the blockwork on the east elevation.	20.09.13	Closed out.	
166	Confirm when water damaged boards in Plant Room 41 are replaced.	20.09.13	Response received.	
Items 167 to 190 have been closed out				
191	Confirm that the nurse call points will be fitted in 1-537 Room OPD1-122 and 1-539 Room OPD1-097.	10.02.14	Closed out.	
192	Confirm appropriate specification for the partition between the Medi Cinema and the Snoozelum Room.	12.02.14	Closed out.	
193	Confirm if the mastic sealants which have been applied to junction of the horizontal beadheads and the vertical sections replace the specified preformed gaskets.	13.02.14	Closed out.	
194	Seeking confirmation how the fittings can be fitted within the present space or congested.	17.02.14	Response received.	
195	Confirm when suspended ceiling supports are fitted on Level 0 Area 0-535.	27.02.14	Closed out.	
196	Confirm the procedures for accessing the valves in accordance with SHTM 2035 Section 5 on Level 0 Zone C in corridor OPD 024 adjacent OPD 025.	28.02.14	Closed out.	
197	Provide a copy of the Acoustic Test Report.	06.03.14	Closed out.	
198	Advise on proposals to ensure that the column fixings to the foundations comply with the design intent and that grouting to the baseplates is in accordance with the specification.	06.03.14	Closed out.	
199	There are gaps in the thermal insulation in back box of remote TVR's. Confirm remedial action.	20.03.14	Response received.	
Items 200 to 205 have been closed out				
206	Confirm that the difficult access to various fire dampers on Level 1 Areas 505, 508 and 537 will be addressed.	19.05.14	Response received.	
207	Confirm if both suction and discharge inspection hatches in plant Room 21 require a double seal.	20.06.14	Closed out.	
208	Confirm remedial work to remove ramp which is too steep.	04.07.14	Closed out.	
209	Confirm remedial action to remove the risk of tripping over the recessed Chanel in front of the door to the stairwell.	08.07.14	Closed out.	
210	Confirm that the chipped intumescent paint will be addressed.	11.07.14	Response received.	
211	Confirm remedial action to remove the risk of tripping over the recessed channels in the pedestrian walkways. (Car Park).	05.08.14	Closed out.	

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6.0 SUPERVISORS TESTS AND INSPECTIONS

Tests not required	N/A
Tests required but not tested	Fail
Tests required which has passed tests	Pass

Tests				
Ref	Title	To be Notified by	Status	Test Date
01-86	Various tests undertaken and passed from the 09. 07.2012 To the 30.06 2013.			
87	Smoke damper test verification - Level 0, zones D & G.	Brookfield	Fail To be re-witnessed	24.09.2013
88-114	Tests 28.09.2013 to 12.02.2014			
115	L1 1-539 Fire dampers.	Brookfield	FAIL	22.11.2013
115A-122	Various tests undertaken and passed from the 22.11.2012 to the 29.11. 2013.			
123	FD 1-518 001 Fire damper drop test.	Brookfield	Fail	29.11.2013
124	FD 1-539 002 Fire damper drop test.	Brookfield	Fail	29.11.2013
125-138	Various tests undertaken and passed from 04.12.2013 to the 29.01. 2014.			
139	Smoke damper tests in plantroom 31. Some fails.		FAIL	
140-170	Various tests undertaken and passed from the 03.02.2014 to the 16.04.2014.			
171	Fire damper drop tests in L4ZH, L5ZH and L6ZH. Twelve dampers tested, one failed. (VPI missing).	Brookfield	One damper failed	24.04.2014
172-175	Various tests undertaken and passed from 25.04.2014 to 29.04.2014.			
176	VPI missing from FD 0-530 013.	Brookfield	FAILED	29.04.2014
177	Nurses call system - 1-510, 1-536, 1-508, 1-509, 1-505 & 1-507.	Brookfield	PASSED	08.05.2014
178	Sprinklers Level 3 Zones A, B & C.	Brookfield	PASSED	09.05.2014
179	Sprinklers Level 4 Zone C.	Brookfield	PASSED	09.05.2014
180	Fire dampers on Level 1 Zones 505 (FD 1-505 006, 508 (FD 1-508 005), 519 (All ok) & 538 FD 1-538 008.	Brookfield	FAILED	15.05.2014
181	Fire dampers on Level 1 Zone 537.	Brookfield	FAILED	
182-210	Various tests undertaken and passed from 19.04.2014 to 24.07.2014.			
211	Lighting control test in L0ZD Lights offered for witnessing by Schneider passed, but we were unable to test 13 bedheads due to unfinished works by Static. Retest to be arranged.	Brookfield	FAILED	30.07.2014
212	Fire damper drop test in L9ZH. (VPI missing from FD 9 511 001.)	Brookfield	FAILED	30.07.2014

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213	Fire damper drop tests on Levels 8, 9 & 10.	Brookfield	PASSED	30.07.2014
214	Fire alarm witnessing L1ZE Panel 10.	Brookfield	PASSED	31.07.2014
215	Fire Damper drop tests in Level 1H zone 533.	Brookfield	PASSED	06.08.2014
216	Fire Damper drop tests in Level 0 zones 537, 538, 539, 540 & 506.	Brookfield	PASSED	06.08.2014
217	FD 0-537 005 & FD 0-540 002 VPI hidden, retest required All dampers in 1-537 to be retested. See item 181.	Brookfield	FAILED	06.08.2014
218	Ventilation tests in PR31 AHU 01, 39 & 41	Brookfield	PASSED	13.08.2014
219	LTHW & CW balancing in PR31. (Part witness on level 6)	Brookfield	PASSED	14.08.2014
220	Ventilation tests in PR31 EF 01, 22 AHU 02 & 04.	Brookfield	PASSED	14.08.2014
221	LTHW & CW balancing in PR22 & Level 0-536, 508 & 535. (Part witness)	Brookfield	PASSED	15.08.2014
222	Fire alarm loop tests on Level 4 Panel 7 loop 2 & Basement Panel 70 loop1.	Brookfield	PASSED	15.08.2014
223	Car Park - Witnessing of fire alarm, Intruder system & Disabled alarm.	Brookfield	PASSED	19.08.2014
224	Car Park - Witnessing of Disabled Refuge alarm. Failed due to break up of transmission when fire alarm has been activated	Brookfield	FAILED	19.08.2014
225	Ventilation tests of PR22 AHU's 07, 13 & 16 and PR22 16 EF02.	Brookfield	PASSED	20.08.2014
226	Car park - Witnessing of General Lighting & Smoke vents.	Brookfield	PASSED	21.08.2014
227	Car Park - Witnessing of Emergency lighting. Failed when one row of lights on three floors and on stair 1 remained on full power during test and inconsistency in positions of emergency lights on stair cases and car park floors.	Brookfield	FAILED	21.08.2014
228	Ventilation tests in PR22 & Level 1 of systems PR22 AHU 06, 15, 17 & 23.	Brookfield	PASSED	21.08.2014
229	Ventilation tests in PR31, AHU's 53 EF12 & PR22 AHU 01	Brookfield	PASSED	26.08.2014
230	Ventilation tests in PR31 AHU 64.	Brookfield	FAILED	27.08.2014
231	Part witnessing of LVT CT balancing. In PR121, PR124, Levels 10 & 11.	Brookfield	PASSED	28.08.2014
232	Fire damper No FD 539 015 failed. VPI loose.	Brookfield	FAILED	29.08.2014
212	Fire damper drop test in L9ZH. (VPI missing from FD 9 511 001.)	Brookfield	FAILED	30.07.2014
213	Fire damper drop tests on Levels 8, 9 & 10.	Brookfield	PASSED	30.07.2014
214	Fire alarm witnessing L1ZE Panel 10.	Brookfield	PASSED	31.07.2014
215	Fire Damper drop tests in Level 1H zone 533.	Brookfield	PASSED	06.08.2014

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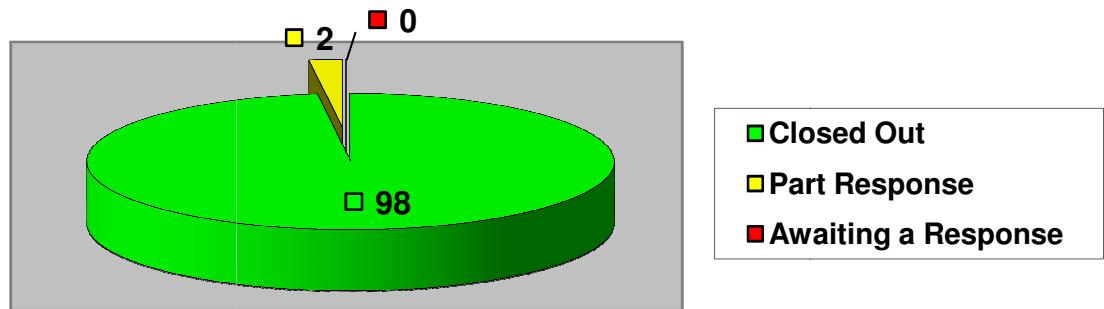
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216	Fire Damper drop tests in Level 0 zones 537, 538, 539, 540 & 506.	Brookfield	PASSED	06.08.2014
217	FD 0-537 005 & FD 0-540 002 VPI hidden, retest required All dampers in 1-537 to be retested. See item 181.	Brookfield	FAILED	06.08.2014
218	Ventilation tests in PR31 AHU 01, 39 & 41	Brookfield	PASSED	13.08.2014
219	LTHW & CW balancing in PR31. (Part witness on level 6)	Brookfield	PASSED	14.08.2014
220	Ventilation tests in PR31 EF 01, 22 AHU 02 & 04.	Brookfield	PASSED	14.08.2014
221	LTHW & CW balancing in PR22 & Level 0-536, 508 & 535. (Part witness)	Brookfield	PASSED	15.08.2014
222	Fire alarm loop tests on Level 4 Panel 7 loop 2 & Basement Panel 70 loop1.	Brookfield	PASSED	15.08.2014
223	Car Park - Witnessing of fire alarm, Intruder system & Disabled alarm.	Brookfield	PASSED	19.08.2014
224	Car Park - Witnessing of Disabled Refuge alarm. Failed due to break up of transmission when fire alarm has been activated	Brookfield	FAILED	19.08.2014
225	Ventilation tests of PR22 AHU's 07, 13 & 16 and PR22 16 EF02.	Brookfield	PASSED	20.08.2014
226	Car park - Witnessing of General Lighting & Smoke vents.	Brookfield	PASSED	21.08.2014
227	Car Park - Witnessing of Emergency lighting. Failed when one row of lights on three floors and on stair 1 remained on full power during test and inconsistency in positions of emergency lights on stair cases and car park floors.	Brookfield	FAILED	21.08.2014
228	Ventilation tests in PR22 & Level 1 of systems PR22 AHU 06, 15, 17 & 23.	Brookfield	PASSED	21.08.2014
229	Ventilation tests in PR31, AHU's 53 EF12 & PR22 AHU 01	Brookfield	PASSED	26.08.2014
230	Ventilation tests in PR31 AHU 64.	Brookfield	FAILED	27.08.2014
231	Part witnessing of LVT CT balancing. In PR121, PR124, Levels 10 & 11.	Brookfield	PASSED	28.08.2014
232	Fire damper No FD 539 015 failed. VPI loose.	Brookfield	FAILED	29.08.2014

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7.0 DEFECTS NOTIFICATIONS ISSUED



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	Description	Date Requested	Comment	
Items 1 to 69 have been closed out.				
70	Confirm when smoke detectors fitted too close to wall have been repositioned	11.03.14	Response received.	
Items 71 to 78 have been closed out.				
79	Confirm when the poor workmanship to the blockwork outside room EMC-009 has been addressed.	01.07.14	Response received.	
80	Confirm when the damaged blockwork to the external curve in area 2-513 has been addressed.	01.07.14	Closed out.	

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John Redmond, Technical Advisory Services

Property and infrastructure
Capita, The Beacon, 8th Floor, 176 St Vincent Street, Glasgow G2 5SG

	Signed	Date
Originated by	John Redmond	4th September 2014
Completed by	Douglas Wilson	4th September 2014

CAPITA

**NEW SOUTH GLASGOW HOSPITAL
ADULT AND CHILDREN'S HOSPITAL AND ENERGY CENTRE
NEC 3 SUPERVISORS REPORT NO. 41
SEPTEMBER 2014**

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND
ENERGY CENTRE**

SUPERVISOR'S REPORT NO. 41

SEPTEMBER 2014

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SUPERVISOR'S REPORT NO. 41

SEPTEMBER 2014

1.0 EXECUTIVE SUMMARY: ADULT & CHILDREN'S HOSPITAL

Our site inspections during September 2014 continue to indicate that the construction and procedures are progressing in a satisfactory manner in accordance with the Employer's Requirements.

Throughout, the standard and quality of the workmanship is generally good and operations are being carried out in an acceptable manner.

Brookfield provided us with their QA documentation including a list of their defects which had been logged on their IDMS system. They also provided us with a list of excluded rooms and list of works and equipment that required to be completed or installed. We reviewed this information prior to undertaking the inspections. The areas inspected were generally to a good industrial standard and the defects captured by Brookfield were generally of a minor nature. We did however identify a number of defects including, tertiary blinds not level, seals missing from door frames, damage to door frames and doors. There were some rooms which had incomplete work including doors and windows still to be fitted. Brookfield recorded these onto their IDMS system. There was equipment such as drop handrails and mirrors which still had to be fitted.

Quality and compliance back checks were carried out on the following Levels.

- Level 0, Area 0-511.
- Level 0, Area 0-541.
- Level 0, Area 0-513 and 509.
- Level 0 back checks to previously excluded rooms.
- Level 1 back checks to previously excluded rooms.
- Level 1 Area 1-509.
- Level 2, Area 2-515.
- Level 4 back checks to previously excluded rooms.
- Level 4, Areas 4-401 and 4-402.
- "B" Rooms Level 4.
- Level 5 back checks to previously excluded rooms.
- "B" Rooms Level 6 Areas 6-503, 6-504 and 6-505.
- Level 9, Area 9-506, 9-507, 9-508.
- Level 11, Areas 11-512, 11-513 and 11-514.
- Level 11, Areas 11-506, 11-507 and 11-508.
- Level 11, Areas 11-509, 11-510 and 11-511.

We continue to liaise between Brookfield and the NHS Project Team in relation to snags/defects identified by the NHS Project Team.

Work to the link bridge to the existing Neo-natal facility has continued during this period. Quality of this to date appears satisfactory. At the connection positions into the existing building steelwork final clarification is still awaited from the Contractor on a couple of points.

Zutec entries continue to be under review.

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Work to the link bridge to the existing Neo-natal facility has continued during this period. Quality of this to date appears satisfactory. Final clarification has now been received from the Contractor with regard to connection issues to the existing building.

The car park is now in use as the main project site car park. Some minor snagging remains to be addressed and this together with items determined at a final inspection will be addressed towards the end of the project. This snagging will include some ponding issues on the top floor.

On the roof of the Children's Hospital in Zones A and B the door framing at plant room level, north east corner still awaits a final decision on door arrangement.

Steelwork erection to the 1st floor east side podium in the main atrium is completed with overcladding ongoing. Some areas of intumescent paint still appear in need of remedial action.

Roadway issues on the dual carriageway leading to Renfrew Road remain outstanding. Brookfield is aware of this and will rectify at an appropriate time in line with their programme for this area.

Landscaping areas in courtyards and at 3rd floor roof levels are now well advanced and quality to date appears to be satisfactory. Significant progress to road and footpath bases on the south and east sides of the building has again been made during the period with further kerbing and sub-base prepared where scaffolding and storage permit. Blockwork to footpath areas has also progressed significantly at the south side, as well as on the north side of the car park. On the north side concrete sub-slab work and stone paving placement has continued. Quality to date appears good in all areas.

The M&E installation quality is being maintained to a good industrial standard and we are generally satisfied that the installation is compliant with exception of the specific items which we have raised with Brookfield.

The M&E installations is continuing with 1st fix installations taking place in specific specialist areas, lift and stair lobbies and "B" programme areas, and in areas where external hoists had been installed. The quality of the work in these areas has been to a good industrial standard.

Commissioning and testing on levels 0 to 3 are the most advanced. Final proving / commissioning is still to be carried out in operating theatres etc, when the doors, lights and grilles are complete. 2nd fix installation and testing is continuing on all Levels. On Level 12 the installation of plant and equipment, pipework, ductwork, insulation, smoke extract systems, lift electrical supplies, electrical switch boards, power and control wiring all in progress. Testing and commissioning is continuing in plantrooms in PR22, PR31, PR32, PR33 & PR41(A) and in the areas the plant serves. It has also commenced on Level 12 Plant Rooms.

In the Energy Centre the installation of the CHP is continuing with gas and LTHW pipework installed and final electrical connections and testing completed in preparation for commissioning.

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During September, in the A&C Hospitals, we witnessed the testing of:

- Fire panels P37, P38, P50, P51, P05, P25, P26, P27, P4, P11, P8, P56, P57, P55, P23 and P24.
- Demonstration of the controls and the simulation dirty filter, high condensate water, fan fail alarms in the main computer room, 4th floor children's computer room, one MRI room, two Machine rooms and one UPS room Airedale close control air conditioning units.
- Pressure testing of the CHP windings and HV cables.
- G59 test was undertaken with the first part involving Scottish Power completed successfully. Mercury to continue with further tests before offering for witnessing of 2nd stage.
- Lighting control system on level 2 zone A, Level 3 zone A and level 3 zone B.
- Temperature checks of the DHW systems in plantrooms 21 & 31 and the areas they serve.
- Ductwork cleaning in plantroom 21 and 31.
- CHW system balancing in plantroom 31.
- Ventilation systems in plantroom 22, AHU's 14, 19, 20 & 11, plantroom 32 AHU 02 and in plantroom 41 AHU's 14, 46 and 24.
- Nurses call systems on Level 4.
- Retesting of failed fire dampers on Levels 0 and 1 ground and basement.
- CCTV in basement.
- Door access in basement.

We are continuing to work with Brookfield during our inspections highlighting any items that have raised concern. Items identified in this manner are generally being addressed by the site team in advance of any defect notice being raised.

In general terms we are satisfied that the installations continue to be installed to a compliant standard, and are of a good quality.

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2.0 DESIGN COMPLIANCE CHECK

Currently nothing to report.

3.0 PROCEDURES REVIEW

3.1 Contractor's QA Procedures / Compliance Inspections

Quality and Compliance inspections

Brookfield and their subcontractors have continued with their QA and checking and inspection procedures during this period. We are in discussion and liaise with Brookfield's Quality Manager on QA matters and we undertake regular reviews of their QA documentation.

Quality and compliance inspections were carried out with Brookfield in a number of areas. Brookfield provided us with their quality packs which included a list of their outstanding works, defects recorded on to their IDMS system quality sign off sheets and drawings.

Quality & Compliance inspections were also carried out on Level 2, Areas 2-5. The areas inspected were generally to a good standard and the defects captured by Brookfield were generally of a minor nature.

We carried out a Quality & Compliance Inspection of Level 9, Area 9-506, 9-507 and 9-508 with Brookfield and the quality of the work inspected was generally to a good standard. We did however note a few minor defects which Brookfield recorded on their IDMS.



Gouge mark in vinyl

We carried out a Quality & Compliance Inspection in previously excluded rooms in the Basement with Brookfield and the quality of the work inspected was generally to a good standard. We did however note a few minor defects which Brookfield recorded on their IDMS. There were a number of temporary cables which required to be removed and the walls repaired and repainted.



Temporary cables to be removed.

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Quality & Compliance inspections were also carried out on Level 0, Area 0-509 with Brookfield and the quality of the work inspected was generally to a good standard. We did however note a few minor defects which Brookfield recorded on their IDMS.

Quality & Compliance Inspections were carried on Level 4 "B" rooms with Brookfield and the quality of the work inspected was to a generally good standard. As a result of our inspections we identified 110 minor defects/snags which Brookfield recorded on the IDMS.

Quality & Compliance inspections were also carried out on Level 4, Area 4-501 and 4-502. The areas inspected were to a good standard and the defects captured by Brookfield were generally of a minor nature. As a result of our inspections we identified 115 minor defects/snags which Brookfield recorded on the IDMS.

Quality & Compliance inspections were also carried out on Level 11, Areas 11-506, 11-507 and 11-508. The areas inspected were to a good standard and the defects captured by Brookfield were generally of a minor nature. As a result of our inspections we identified 102 minor defects/snags which Brookfield recorded on the IDMS.

Quality & Compliance inspections were also carried out on Level 11, Areas 11-509, 11-510 and 11-511. The areas inspected were to a good standard and the defects captured by Brookfield were generally of a minor nature.

Quality & Compliance inspections were also carried out on Level 0, Areas 1-509 and 1-510 with Brookfield and the quality of the work inspected was generally to a good standard.

Quality & Compliance inspections were also carried out on Level 2, Areas 2-515 with Brookfield and the quality of the work inspected was generally to a good standard.

Quality & Compliance inspections were also carried out on Level 0, Areas 0-513 and 0-509 with Brookfield and the quality of the work inspected was generally to a good standard.

Quality & Compliance Inspections were carried to Areas 7-503, 7-504 and 7-505 with Brookfield and the quality of the work inspected was generally to a good standard.

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Quality & Compliance Inspections were carried to the "B" rooms on Level 6 Areas 6-503, 6-504 and 6-505 with Brookfield and the quality of the work inspected was generally to a good standard.

Quality & Compliance inspections were also carried out on Level 0, Areas 0-541 with Brookfield and the quality of the work inspected was generally to a good standard.

Quality & Compliance inspections were also carried out on Level 0, Areas 0-511 with Brookfield and the quality of the work inspected was generally to a good standard.

Quality & Compliance Inspections were carried to Areas 11-512, 11-513 and 11-514 with only a few rooms excluded. Brookfield provided a list of the snags/defects and listed incomplete work. As a result of our inspections we identified 102 minor fabric defects/snags and 35 Mechanical and Electrical defects/snags which Brookfield recorded on the IDMS. There were some doors and windows which still required to be fitted. Generally the rooms were to a good industrial standard.



Window to be fitted.



Window to be fitted.



Door ironmongery to be fitted.

Room Back Checks

Back checks were carried out to rooms on Level 0, 1, 4 and 5. The quality of the finish was to a good industrial standard. We identified a few minor snags/defects which Brookfield recorded on the IDMS.

It was noted during fire damper tests at various locations on Level 1 that access to testing the operations of each fire damper was difficult due to the size of the access hatch. Brookfield confirmed that access doors have been widened on Level 1 Area 1-505 and 1-538. The access hatch on Level 1 Area 537 has still to be widened. The fire dampers which are not located in the walls on Level 1 Area 1-537 have still not been addressed to maintain fire barrier. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 206).

The recessed area on the right hand side of the wash hand basin in room OPD1-004 Level 1 Area 1-539 is congested. There is a nurse call, dispenser and grab rail to be fitted. We asked Brookfield to confirm how the fittings can be fitted within the present space or if there are any proposals to reposition fittings. Brookfield has confirmed that the OPD1-005 – nurse call is to be positioned to the correct location as per 400 series drawing and the grab rail may be situated on side panel but this has to be investigated. The OPD1-004 – IPS trespar location to be investigated on potential move to allow space for grab rail. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 194).

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Zutec Review

We are continuing to review the testing information on Zutec on a regular basis as it is entered.

Acoustic Tests

Airborne sound insulation tests were carried out between the following partitions during September:

MDU-010	DAY SPACE CUBICLES
POA-017	Proposed generic treatment room
CCW-052	BED BAY
CCW-051	Proposed single bed isolation room
POA-004	CONSULT/EXAM
POA-003	CONSULT/EXAM
CCW-092	LOBBY
CCW-157	Proposed room including renal dialysis station and example of media panel
MDU-005	BEVERAGE
MDU-003	Reception Point/ Counter
THE-150	ULTRA CLEAN 4 ORTHOPAEDIC
THE-141	Proposed theatre suite - Ultra clean 5 orthopaedic
RENO-029	8 RECLINER CHAIR BAYS
RENO-028	8 RECLINER CHAIR BAYS

Current non-compliant partitions

NSGH-B1-KIT-005	Office 1
NSGH-B1-KIT-007	Office 1
AAW 386	Office Hospital at Night/Bed Management
AAW 385	Office
CCW 015	Relatives
CCW 014	Relatives
THE-326	RECOVERY BAY / POST

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	ANAESTHETIC
THE-327	RECOVERY BAY / POST ANAESTHETIC
CCW 111	Meeting
CCW 112	Library
ARU 014	Single Bedroom
ARU 015	Single Bedroom
SCH 062	Play Dining
SCH 063	Treatment

Above Ceiling Inspections.

No above ceiling tests were carried out during September.

General Inspections

An inspection of Plant Room 31 was carried out with Brookfield and we raised a number of issues with them which they have recorded for action. These included areas of floor cover in poor condition, incomplete work to doors and painting still to be carried out.



Unprotected pipe at fire escape threshold.



Area of good quality floor cover



Scuffs, scrapes and damaged areas of floor.

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Potential trip hazard.



Gap between the outside at flat room level and the Plant Room.



Work in progress.



Unprotected screws.

We brought to Brookfield's attention that there are a number of ophthalmology rooms which have both the following SWC026 – switch dimmable and SWC034 – dimmer modulating listed. However the SWC034 – dimmer modulating cannot be seen in the following rooms:

- Consulting room – OPD1-069.
- Consulting room – OPD1-069.
- Consulting room – OPD1-071.
- Consulting room – OPD1-076.
- Consulting Room – OPD1-028.
- Consulting room OPD1– 029.
- Fields Test room – OPD1-031.
- Fields testing OPD1-032.

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In Visual Acuity Room – OPD1-030 the following room has both SWC025 and SWC026 (switch dimmable) listed but the SWC026 cannot be seen. We have asked Brookfield to clarify this.

3.2 Witness Testing and Commissioning

We witnessed a number of tests during September 2014 which were satisfactory and these were as follows:

- (233) Pressure testing of the CHP windings.
- (234) Ventilation systems in plantroom 32 AHU 02 and plantroom 41 AHU's 14, 46 and 24.
- (247) Ventilation systems in plantroom 22, AHU's 14, 19, 20 & 11.
- (235 & 239 & Airedale close control air conditioning units - Demonstration of the controls and the simulation of dirty filter, high condensate water, fan fail alarms in the main ground floor computer room, 4th floor children's computer room, one MRI room, two Machine rooms and one UPS room.
- (237) Fire panels P37, P38, P50 and P51.
- (238) Fire panels P05, P25, P26 and P27.
- (244) Fire panels P4 and P11.
- (241) Lighting control system on level 2 zone A, Level 3 zone A and level 3 zone B.
- (243 & 256) Ductwork cleaning in plantroom 21.
- (245) DHW tests - PR21 PU 101 / 102, PR31 PU 105 / 106, PR31 PU 107 / 108 & PR 31 PU 109 / 110.
- (246) CHW system balancing in plantroom 31.
- (248, 249, 250 & 257) Nurses call systems on Level 4.
- (251) Retesting of failed fire dampers on Levels 1 ground and basement.
- (252) CCTV witnessing.
- (253) Door access witnessing.
- (254) Temporary generator supply feeder test.
- (255) Intruder and panic alarm witnessing.
- (260) Sprinkler pressure test.
- (261) LVT & VT heating.
- (236) Fire panel P8.
- (238) Fire panel P5 and P27.
- (124) FD-1-539-002.
- (115) FD-1-539-003.
- (180) Fire damper on level FD 1-508 005, 006 and 008.
- (123) FD-1-518-001.
- (262) Fire panels P57 and P55.
- (123) FD-1-518-001.
- (242) Fire Panels P23.

We witnessed tests during September 2014 which were unsatisfactory. See below.

- (238) P25 - Wall mounted sounder to be changed to sounder / beacon in assisted bathroom. P26 One sounder missing from disabled WC & No devices installed in Adolescent activity room.

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- (236) Fire systems test.P56 - No strobe installed within FM3 046 disabled toilet, although device installed is as per drawing.
- BMCE / Mercury to check design.
- (240) G59 test.
- (258 & 259) Fire damper drop tests.
- (237) Fire Panel P38.
- (238) Fire Panels P25 and P26.
- (242) Fire Panels P24. One optical detector requires to be changed to strobe in room OWD-033.

Previously witnessed tests which failed and have been re-tested successfully:

- (87) Smoke damper test verification was tested successfully on level 0 zone G. Zone D still outstanding.

Previously witnessed tests which require to be retaken.

- (87) Smoke damper test verification was tested successfully on level 0 zone D. Zone G still outstanding.
- (139) Smoke dampers were tested in plantroom 31 and there were some which failed. No power to panel.
- (171) VPI missing from Level 6 Zone H fire damper FD 6 511 001.
- (176) VPI missing from Level 0 Zone H fire damper FD 0 530 013.
- (180) FD 1-538 008 - Access hatch too small.
- (181) FD 1-537 004 - Access hatch too small and fire seal or repositioning required.
19.09.2014 - Area 1-537 revisited, and dampers numbers 001, 005 & 006 tested successfully.
Dampers No's 002, 003 & 004 are not installed within walls and were not tested.
- (211) Lighting control on Level 0 Zone D. Failed due to several incomplete bed head lighting control defects.
 - (212) Fire damper drop test on Level 9. (VPI missing from FD 9-511 001)
- (217) Fire damper drop testing on Level 0. (FD 0-537 005 & FD 0-540 002, VPI,s obscured)
- (224) Car Park - Witnessing of Disabled Refuge alarm. Failed due to break up of communications when fire alarm has been activated making conversation inaudible.
- (227) Car park emergency lighting. Lights remaining on mains power when on test and, emergency lights not in correct positions.
- (230) Ventilation test in PR31 AHU 64. Unacceptable readings.
- (232) Fire damper No FD 539 015 failed. VPI loose.

Below is a sample of the air flow ventilation commissioning test sheet for PR41 AHU 14 extract fan. The readings were taken from the main test holes within the third floor riser and are compared with the previous readings taken during commissioning. A typed up copy of the test sheet will be included in Zutec.

SEPTEMBER 2014

H & V
H & V
H & V

Commissioning Services Ltd

EST. 1979

Kilknowe Office,
16 Barrmill Road,
Gatston,
Ayrshire, KA48RH.
TEL N°. 01563 831991
FAX N°. 01563 832200
E-Mail: sales@hvac.co.uk

CONTRACT: NSGH, ADULT & CHILDRENS HOSPITAL

DUCT VOLUME TEST SHEET

SYSTEM: A1-AMU 14 EXTRACT
1ST FLOOR CRITICAL

VELOCITY PROFILE (taken facing air flow)

TEST HOLE LOCATION: 3rd Floor Riser

Test Hole Ref	Duct Dia (mm)		Duct Size (mm)		Duct Area	Design Air Volume		Design Air Velocity		
	Main x High		Main x High		M2	L/s		m/s		
<u>Blow off</u>			<u>900 x 800</u>		<u>0.72</u>	<u>2976</u>		<u>4.3</u>		
36	36	32	33	32	3.4	40	41	42	39	44
37	43	44	44	44	3.5	38	42	42	42	43
38	43	43	44	44	3.9	42	44	43	43	46
40	43	44	44	46	4.0	41	44	44	44	44
41	43	46	45	46	4.0	41	44	45	4.5	4.3
38	42	42	42	43	4.1	42	44	44	4.5	4.3

Velocity Sum Totals

234	240	255	252	250	249	229	244	259	260	256	263							
Total Velocity	Number of Readings		Average Velocity		Measured Air Volume		% Design		Static Pressure									
149.2	36		4.14		2966		100%		125Pa									
Remarks:	<u>1514</u> MAIN VOLUME <u>3rd Floor Riser</u>																	
Instrument Used: HV	<u>HV</u>																	
Date: 23/11	<u>Engineer: DG / COB</u>																	

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to 19th, 29th and 30th. .Douglas Wilson (M&E NEC3 Supervisor) 1st to 5th, 8th to 12th, 15th to 19th, 22nd to 26th, 29th and 30th. Willie Roxburgh (Civils/Structural NEC3 Supervisor) part days on 1st, 8th, 16th, and 19th September. Capita's NEC3 Supervisor's team visited site a combined 43 person days.

4.2 Elements of the Works available for inspection

Main building – structural areas very limited.

Tunnels between ACH and Labs, and Cores C to F.

Structural steelwork to all roof areas (increasingly limited due to access and partitions).

Neuro bridge (partly limited due to access).

Dual carriageway to Renfrew Road, turning area in front of the main entrance and carriageway from Hardgate Road.

All sides external works.

Internal courtyards.

Perimeter hard and soft landscaping

Car park area.

Internal partitions.

M&E modular units.

Roofing.

Cladding.

Windows.

Sto system.

Brickwork Courtyard 8, and 10.

Brickwork/blockwork: Zone J North, East elevation and Basement Blockwork.

Rainscreen: Zone F & C.

Internal fit out.

4.3 Current Observations

The visual inspections of the work carried out to date indicate that the works are generally being carried out to a satisfactory standard. We continue to be assisted by the site teams and the NHS Project Team in resolving various construction, mechanical, electrical, and quality issues. We continue to close out our Supervisor's Notification and Defects when we have received satisfactory responses. Listed below are observations closed out, still to be closed and those raised following site visits to site in August 2014.

4.3.1 Structural

Work to the link bridge to the existing Neo-natal facility has continued during this period. Quality of this to date appears satisfactory. Final clarification has now been received from the Contractor with regard to connection issues to the existing building.

On the roof of the Children's Hospital in Zones A and B the door framing at plant room level, north east corner still awaits a final decision on door arrangement. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 141.

The steel framework in riser on Level 0 ZF Riser M30 has had the legs extended immediately in front of the entrance door. There are other legs which have not been

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extended yet and we asked Brookfield to confirm when the other legs will be extended. Brookfield informed us that Mercury removed the feet on the framing having it suspended from the soffit of the floor above. Brookfield has consulted with WSP re the allowable load on the slab edge around the risers. The design line load around the riser slab edges is based upon 0.8kN/m height/sq.m plan area. The calculations submitted by Mercury show a load of 0.99kN/m/sq.m which exceeds the design criteria therefore the legs will require extending to provide support from the lower floor. Mercury has been informed to replace/ extend the feet. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 162).



Extended legs



Leg still to be extended.

Car Park 1

The car park is now in use as the main project site car park. Some minor snagging remains to be addressed and this together with items determined at a final inspection will be addressed towards the end of the project. This snagging will include some ponding issues on the top floor.

Landscaping areas in courtyards and at 3rd floor roof levels are now well advanced and quality to date appears to be satisfactory. Significant progress to road and footpath bases on the south and east sides of the building has again been made during the period with further kerbing and sub-base prepared where scaffolding and storage permit. Blockwork to footpath areas has also progressed significantly at the south side, as well as on the north side of the car park. On the north side concrete sub-slab work and stone paving placement has continued. Quality to date appears good in all areas.

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Some areas of intumescent painting to the steelwork on the 1st Floor Podium on the East Side of the Main Atrium appear to be chipped. We asked Brookfield to confirm that this will be addressed as required to ensure overall compatibility with the specification. They have confirmed any areas of the intumescent fire protection on the steelwork that has been damaged will be rectified and that we would be invited to inspect prior to any closing up of the areas. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 210).



4.3.2 Energy Centre

Steelwork snagging appears to have been addressed, but much tidying up remains outstanding in the eastern half of the building.

4.3.3 Above Ground Drainage

Substantially completed with satisfactory quality to date.

4.3.4 Dual Carriageway to Renfrew Road. (A&C)

The defects previously identified will be reviewed nearer to completion when they will be effectively rectified. This will also now include the significantly damaged kerb lines affected by the storage and lifting of the neuro-bridge sections.

4.3.5 Pipework.

Installation of hot, cold, heating & chilled water pipework in the A&C Hospital is well in advance in all plantrooms and in general is being installed to a good standard which we are continuing to monitor. The DHWS and CW are being installed to a good standard with 2nd fix still to be completed. We are aware that water supplied to pipework within the podium.

4.3.6 Ventilation

Witnessing of the ventilation systems is ongoing. The operating theatre areas are to be revisited for final proving once doors, lights and grilles are installed.

4.3.7 Insulation

Insulation is nearing completion in all areas. Minor tidying up works and completion of the Venture clad jacketing is ongoing. Any damage reported during our joint

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inspections of plant rooms with Brookfield is being addressed. We will still continue to monitor the quality of the installation and await an invitation for final inspection.

4.3.8 Pressure testing

Pressure testing of the modular pipework sections on a zone by zone or area by area basis has been programmed through the commissioning meetings and is complete apart from Plantroom 41 domestic water.

4.3.9 Medical Gases

Medical Gas pipework in being installed in all areas and independent tests are being witnessed by Ian Sandford of Hulley and Kirkwood.

4.3.10 Energy Centre

The installations in the Energy Centre are well advanced with the A-side systems commissioned and handed over. The installation of the CHP's is nearing completion and ready for commissioning.

4.3.11 Trunking

Nearing completion.

4.3.12 Cable Trays

Nearing completion.

4.3.13 Cabling

The main containment routes have all been installed to a good industrial standard with only a few remaining sections to be completed.

4.3.14 Conduit

Nearing completion and is to a good industry standard.

4.3.15 Void Detection

Nothing to report.

4.3.16 Intake Sub Station

Brookfield has informed us that only one communications cable is to be pulled through to the sub-station and then sealed. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 30 & 45).

4.3.17 Partitions

The partition between the east side of the atrium and plant room 41 has been damaged by water ingress. Brookfield to confirm that the issue of roof leak with water

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dripping down the wall within plant room 41 has been fixed and plasterboard replacement is ongoing. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 166).



Water damaged boards.

4.3.18 Roofs

Adult and Children's Roofs are nearing completion and handover of them is expected to commence during October 2014.

4.3.19 Courtyards

Remedial work to be carried out to and Brookfield to carry out handover inspections.

Children's Hospital

The STO is nearing completion.

4.3.20 Windows

Windows are progressing on the external elevations and courtyards in accordance with the specifications.

4.1.21 Equipment

Nothing to report.

4.3.22 Ducting

The ventilation ductwork has been completed in plantroom 22 and 21. In plantroom 21 the fresh air duct is now not being installed and is being left as louvre mesh at high level. Brookfield has provided details in relation to this. Ductwork to several items of plant which has still to be installed within plantrooms 41, 121, 122, 123 & 124 which are nearing completion.

4.3.23 Floors

Nothing to report

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4.3.24 Blockwork

We have reported since April 2013 that the quality and standard of workmanship of the blockwork on the east elevations was not to a good industrial standard.

Tinting of the dark pointing has commenced and we await Brookfield notifying us when the work is complete to allow us to carry out an inspection.

4.3.25 Security

Car Park intruder alarm has been tested successfully.

4.3.26 Pneumatic Tube

Brookfield has informed us that pre commissioning is in progress and we await an invitation to witness any tests.

4.3.27 Electrical Fittings & Fixtures

Nothing to report.

4.3.28 Sprinklers

The pressure testing of the sprinkler systems is nearing completion in the basement and remaining levels in the tower.

4.3.29 Lighting

The quality of the general and emergency lighting installed to date is of a good standard with the witnessing of the lighting controls ongoing.

4.3.30 Power

The installation of the power outlets is ongoing.

4.3.31 Solar Panels

Nothing to report.

4.3.32 Fire Dampers

Mechanical fire damper drop tests and the Quality and Compliance Inspections, are continuing and the damper positional indicators which have been found to be obscured by sealant are continuing to being addressed by Brookfield.

4.3.33 Heating

There are gaps in the thermal insulation in the back box of the remote TRV's mounted on external walls controlling the radiant panel heater in Level 0, ZA ward OBW 009. There is the likelihood that this will cause the TRV to be affected by the lower temperature in the partition void causing the Radiant panel to emit heat

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unnecessarily wasting energy. This applies to other similar TRV's on outside walls. We have asked Brookfield to confirm if this has been considered and if remedial action will be taken to address this. Brookfield has asked Mercury to report on this issue. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 199).

4.4 Current Defects.

Smoke detectors on Level 1 Areas 1-517 and 1-518 have been fitted too close to the walls in rooms CCW-100 Isolation Ward Lobby and CCW-147 Recess. Mercury has reviewed the positioning of the detectors and can advise as follows. In 1-517 the detector holes have been cut in the best location possible with the constraints limiting positioning within the room. The devices will be fitted in the holes as cut. In 1-518 the detector would be better positioned further away from the wall to the full tile adjacent to the light fitting. They will advise when the work is completed in 1-518. See Supervisor's Notification of Defect (CI 42.2) No 70).



CCW-100

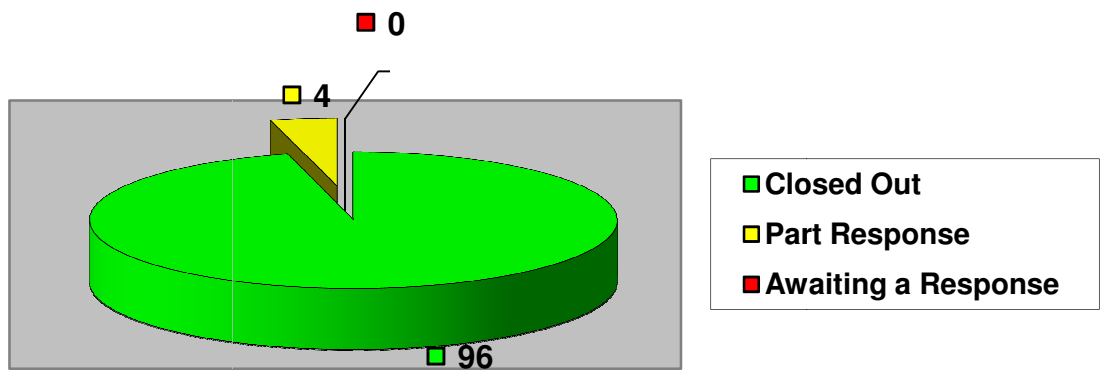


CCW-147

The blockwork at the right hand side of the Children's A&E entrance on the external wall of room EMC-009 is poor quality workmanship. The mortar beds vary in thickness and blocks have not been laid level. We asked Brookfield when this would be addressed. An inspection of the poorly laid blockwork was carried out with Brookfield and the work carried out was generally satisfactory, however one block still requires to be replaced. See Supervisor's Notification of Defect (CI 42.2) No 79.



5.0 INFORMATION REQUIRED



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Item No.	Description	Date Requested	Comment	
Items 1 to 29 have been closed out				
30	Confirm when cabling is complete, water pumped out and batteries removed.	10.08.12	Response received.	
Items 31 to 44 have been closed out				
45	See Supervisor's Communication No 30.	18.09.12	Response received.	
Items 46 to 140 have been closed out				
141	ease provide technical solutions to various issues to the steelwork to the Children's Roof.	23.07.13	Response received.	
Items 142 to 161 have been closed out				
162	Confirm when the other legs have been extended to the steel framework in riser on Level 0 ZF Riser M30.	16.09.13	Response received.	
Items 163 to 165 have been closed out				
166	Confirm when water damaged boards in Plant Room 41 are replaced.	20.09.13	Response received.	
Items 167 to 193 have been closed out				
194	Seeking confirmation how the fittings can be fitted within the present space or congested.	17.02.14	Response received.	
Items 195 to 198 have been closed out				
199	There are gaps in the thermal insulation in back box of remote TVR's. Confirm remedial action.	20.03.14	Response received.	
Items 200 to 205 have been closed out				
206	Confirm that the difficult access to various fire dampers on Level 1 Areas 505, 508 and 537 will be addressed.	19.05.14	Response received.	
Items 207 to 209 have been closed out				
210	Confirm that the chipped intumescent paint will be addressed.	11.07.14	Response received.	
211	Confirm remedial action to remove the risk of tripping over the recessed channels in the pedestrian walkways. (Car Park).	05.08.14	Closed out.	

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6.0 SUPERVISORS TESTS AND INSPECTIONS

Tests not required	N/A
Tests required but not tested	Fail
Tests required which has passed tests	Pass

Tests				
Ref	Title	To be Notified by	Status	Test Date
01-86	Various tests undertaken and passed from the 09. 07.2012 To the 30.06 2013.			
87	Smoke damper test verification - Level 0, zones D & G. Zone G still outstanding.	Brookfield	Failed. Zone G to be re-witnessed	24.09.2013
88-114	Tests 28.09.2013 to 12.02.2014			
115	FD No's 1-539 003 & 004 retested successfully.	Brookfield	CLEARED 19.09.2014	22.11.2013
115A-122	Various tests undertaken and passed from the 22.11.2012 to the 29.11. 2013.			
123	FD 1-518 001 Fire damper drop test.	Brookfield	CLEARED 19.09.2014	29.11.2013
124	FD 1-539 002 Fire damper drop test.	Brookfield	CLEARED 19.09.2014	29.11.2013
125-138	Various tests undertaken and passed from 04.12.2013 to the 29.01. 2014.			
139	Smoke damper tests in plantroom 31. Some fails.		FAILED	
140-170	Various tests undertaken and passed from the 03.02.2014 to the 16.04.2014.			
171	Fire damper drop tests in L4ZH, L5ZH and L6ZH. Twelve dampers tested, one failed. (FD 6-511 001 VPI missing).	Brookfield	One damper failed	24.04.2014
172-175	Various tests undertaken and passed from 25.04.2014 to 29.04.2014.			
176	VPI missing from FD 0-530 012. Not 013 as previously recorded.	Brookfield	FAILED	29.04.2014
171-179	Various tests undertaken and passed from 08.05.2014 to 09.05.2014.			
180	Fire dampers on Level 1 Zones 505 (FD 1-505 006, 508 (FD 1-508 005), 519 (All ok) FD 1-538 008.	Brookfield	PART CLEARED 19.09.2014 FAILED	15.05.2014

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181	Fire dampers on Level 1 Zone 537. FD 1-537 002, FD 1-537 003 & FD 1-537 004 not in wall.	Brookfield	FAILED	15.05.2014
182 - 210	Various tests undertaken and passed from 19.04.2014 to 24.07.2014.			
211	Lighting control test in L0ZD Lights offered for witnessing by Schneider passed, but we were unable to test 13 bedheads due to unfinished works by Static. Retest to be arranged.	Brookfield	FAILED	30.07.2014
212	Fire damper drop test in L9ZH. (VPI missing from FD 9 511 001.)	Brookfield	FAILED	30.07.2014
213 - 216	Various tests undertaken and passed from 30.07.2014 to 06.08.2014.			
217	FD 0-537 005 & FD 0-540 002 VPI hidden, retest required. FD 0-537 005 retested successfully 19.09.2014.	Brookfield	FAILED FD 0-540 002 VPI missing. PART CLEARED 19.09.2014	06.08.2014
218 - 223	Various tests undertaken and passed from 13.08.2014 to 19.08.2014.			
224	Car Park - Witnessing of Disabled Refuge alarm. Failed due to break up of transmission when fire alarm has been activated	Brookfield	FAILED	19.08.2014
225 - 226	Various tests undertaken and passed from 20.08.2014 to 21.08.2014.			
227	Car Park - Witnessing of Emergency lighting. Failed when one row of lights on three floors and on stair 1 remained on full power during test and inconsistency in positions of emergency lights on stair cases and car park floors.	Brookfield	FAILED	21.08.2014
228 - 229	Various tests undertaken and passed from 21.08.2014 to 26.08.2014.			
230	Ventilation tests in PR31 AHU 64.	Brookfield	FAILED	27.08.2014
232	Fire damper No FD 1-539 015 failed. VPI loose.	Brookfield	FAILED	29.08.2014
233	CHP windings pressure test.	Brookfield	PASSED	02.09.2014
234	Ventilation tests, PR32 AHU 02, PR41 AHU 14, PR41 AHU 46 & PR41 AHU 24.	Brookfield	PASSED	04.09.2014
235	Witnessing of Airedale units.	Brookfield	PASSED	05.09.2014
236	Fire panel No tested 8 ok, P56 - No strobe installed within FM3 046 disabled toilet, although device installed is as per drawing. BMCE / Mercury to check design.	Brookfield	FAILED	09.09.2014
237	Fire system tests. Panels 37, 50 & 51 all tested ok. Panel 38 Loop 2 - One ceiling mounted smoke detector described as void detector. To be rectified and retested.	Brookfield	FAILED	09.09.2014
238	Fire system tests. Panels 5 & 27 tested ok. P25 - Wall mounted sounder to be changed to sounder / beacon in	Brookfield	FAILED	11.09.2014

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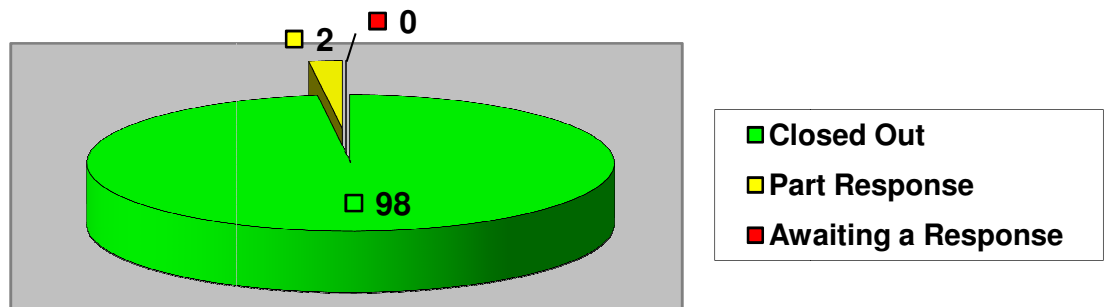
	assisted bathroom. P26 One sounder missing from disabled WC & No devices installed in Adolescent activity room. BMCE / Mercury to check.			
239	Witnessing of Airedale units.	Brookfield	PASSED	11.09.2014
240	G59 test. Unable to complete test as generators did not start up as they were switched for manual control.	Brookfield	FAILED	12.09.2014
241	Lighting control in L2ZA, L3ZA & L3ZB	Brookfield	PASSED	15.09.2014
242	Fire test P23 tested ok. P24 One optical detector requires to be changed to strobe on room OWD 033.	Brookfield	FAILED	15.09.2014
243	Ductwork cleanliness inspection.	Brookfield	PASSED	15.09.2014
244	Fire test Panel 4 & 11 satisfactory.	Brookfield	PASSED	16.09.2014
245	DHW tests - PR21 PU 101 / 102, PR31 PU 105 / 106, PR31 PU 107 / 108 & PR 31 PU 109 / 110.	Brookfield	PASSED	18.09.2014
246	CHW tests PR31 PU 02 / 03 / 04.	Brookfield	PASSED	18.09.2014
247	Ventilation systems PR22 AHU 14, 19, 20 & 11.	Brookfield	PASSED	18.09.2014
248	Nurses call witnessing - Level 4 Zone E & F.	Brookfield	PASSED	19.09.2014
249	Nurses call witnessing - Level 4 Zone J. Note: Follow me lights at additional doors not completed / installed.	Brookfield	PASSED	19.09.2014
250	Nurses call witnessing - Level 4 Zone H. Note: Follow me lights at additional doors not completed / installed.	Brookfield	PASSED	19.09.2014
251	Fire damper drop tests - FD 01 539 001, FD 01 539 002, FD 01 539 003, FD 01 537 001, FD 01 537 006 & FD 01 508 005.	Brookfield	PASSED	19.09.2014
252	CCTV witnessing.	Brookfield	PASSED	23.09.2014
253	Door access.	Brookfield	PASSED	23.09.2014
254	Temporary generator supply cable pressure test.	Brookfield	PASSED	24.09.2014
255	Intruder and panic alarm witnessing.	Brookfield	PASSED	24.09.2014
256	Ductwork cleanliness inspection of Plantroom 21.	Brookfield	PASSED	25.09.2014
257	Part attendance of Nurses call on Level 5.	Brookfield	PASSED	26.09.2014
258	Fire damper drop tests on Level 0-zones 531, 532, 533, 535 & 536. Two dampers inaccessible, FD 536 014 & FD 536 015. Hatch through plasterboard access required to access both.	Brookfield	FAILED	26.09.2014
259	Fire damper drop tests in Basement zones 504, 505 & 506. Unable to access FD B 504 001, + no damper fitted to adjacent duct.	Brookfield	FAILED	26.09.2014
260	Part attendance of sprinkler pipe work pressure test.	Brookfield	PASSED	26.09.2014
261	LVT & VT Heating balancing in PR32 and levels 11, 6, 4, 3 & 0.	Brookfield	PASSED	30.09.2014

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262	Fire alarm tests at P57 & P55.	Brookfield	PASSED	30.09.2014
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7.0 DEFECTS NOTIFICATIONS ISSUED



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	Description	Date Requested	Comment	
Items 1 to 69 have been closed out.				
70	Confirm when smoke detectors fitted too close to wall have been repositioned	11.03.14	Response received.	
Items 71 to 78 have been closed out.				
79	Confirm when the poor workmanship to the blockwork outside room EMC-009 has been addressed.	01.07.14	Response received.	
80	Confirm when the damaged blockwork to the external curve in area 2-513 has been addressed.	01.07.14	Closed out.	

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John Redmond, Technical Advisory Services

Property and infrastructure

Capita, The Beacon, 8th Floor, 176 St Vincent Street, Glasgow G2 5SG

	Signed	Date
Originated by	John Redmond	2nd October 2014
Completed by	Douglas Wilson	2nd October 2014

CAPITA

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ADULT AND CHILDREN'S HOSPITAL AND ENERGY CENTRE
NEC 3 SUPERVISORS REPORT NO. 42
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1.0 EXECUTIVE SUMMARY: ADULT & CHILDREN'S HOSPITAL

Our site inspections during October 2014 continue to indicate that the construction and procedures are progressing in a satisfactory manner in accordance with the Employer's Requirements.

Throughout, the standard and quality of the workmanship is generally good and operations are being carried out in an acceptable manner.

Brookfield provided us with their QA documentation including a list of their defects which had been logged on their IDMS system. They also provided us with a list of excluded rooms and list of works and equipment that required to be completed or installed. We reviewed this information prior to undertaking the inspections. The areas inspected were generally to a good industrial standard and the defects captured by Brookfield were generally of a minor nature. We did however identify a number of defects including, tertiary blinds not level, seals missing from door frames, damage to door frames and doors. There were some rooms which had incomplete work, including doors and windows still to be fitted. Brookfield recorded these onto their IDMS system. There was equipment such as drop handrails and mirrors which still had to be fitted.

Quality and compliance and back checks were carried out on the following Levels.

- Level 0, Area 0-511.
- Link Bridges and rooms on Level 6.
- Level 7 Atrium Bridge and "B" Rooms.
- Level 5 Atrium Link Bridge
- Level 9, Areas 9-503, 9-504 and 9-505.
- Level 10 Areas 0-503, 0-504 and 0-505.
- "B" rooms on Levels 10 and 11.
- Link Bridges and rooms on Level 10 and 11.
- Level 11, Areas 11-503, 11-504 and 11-505.

We continue to liaise between Brookfield and the NHS Project Team in relation to snags/defects identified by the NHS Project Team.

Zutec entries continue to be under review.

The car park is now in use as the main project site car park. Some minor snagging remains to be addressed and this together with items determined at a final inspection will be addressed towards the end of the project. This snagging will include some ponding issues on the top floor.

On the roof of the Children's Hospital in Zones A and B the door framing at plant room level, north east corner still awaits a final decision on door arrangement.

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Steelwork erection to the 1st floor east side podium in the main atrium is completed with overcladding ongoing. Some areas of intumescent paint still appear in need of remedial action.

Installation of M&E equipment has been causing concrete spalling to some columns (e.g. in plant room 22) and column bases (e.g. roof level) where bolt fixing has been attempted. Brookfield are aware of this and will address these items.

During the period resurfacing work has been carried out at Govan Road/Renfrew Road, together with tie ins to the existing hospital entrance and the new dual carriageway entrance. Quality is generally good although there appears to be a little ponding locally on the north side of Govan Road.

Roadway issues on the dual carriageway leading to Renfrew Road remain outstanding. Brookfield is aware of this and will rectify at an appropriate time in line with their programme for this area.

Significant progress to road and footpath bases on the south and east sides of the building has again been made during the period with further kerbing and sub-base prepared where scaffolding and storage permit. Blockwork to footpath areas has also progressed significantly at the south side, as well as on the north side of the car park. On the north side kerbing and stone paving placement has continued. Quality to date appears good in all areas.

Landscaping areas in courtyards and at 3rd floor roof levels are now well advanced and quality to date appears to be satisfactory. Significant progress to road and footpath bases on the south and east sides of the building has again been made during the period with further kerbing and sub-base prepared where scaffolding and storage permit. Blockwork to footpath areas has also progressed significantly at the south side, as well as on the north side of the car park. On the north side concrete sub-slab work and stone paving placement has continued. Quality to date appears good in all areas.

The M&E installation quality is being maintained to a good industrial standard and we are generally satisfied that the installation is compliant with exception of the specific items which we have raised with Brookfield.

The M&E installations is continuing with 1st fix installations taking place in specific specialist areas, lift and stair lobbies and "B" programme areas, and in areas where external hoists had been installed. The quality of the work in these areas has been to a good industrial standard.

Commissioning and testing on levels 0 to 3 are the most advanced. Final proving / commissioning is still to be carried out in operating theatres etc, when the doors, lights and grilles are complete. 2nd fix installation and testing is continuing on all Levels. On Level 12 the installation of plant and equipment, pipework, ductwork, insulation, smoke extract systems, lift electrical supplies, electrical switch boards, power and control wiring all in progress. Testing and commissioning is continuing in plantrooms in PR22, PR31, PR32, PR33 & PR41(A) and in the areas the plant serves. Testing and commissioning has also commenced on Level 12 Plant Rooms.

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In the Energy Centre the installation of the CHP is continuing with gas and LTHW pipework installed and final electrical connections and testing completed in preparation for commissioning.

During October, in the A&C Hospitals, we witnessed the following:

- Ventilation systems PR32 AHU 05, PR121 AHU 04 & 05.
- Smoke damper tests on Level 7 Zones H & K.
- Basement sprinkler pipework pressure tests.
- Smoke damper tests on Level 4 zones J & F.
- Retest of refuge alarm during fire alarm activation in MSCP.
- Sprinkler pipework pressure testing on levels 9, 10 & 12.
- Fibre testing between main computer room and hubs.
- Sprinkler pipework pressure testing on ground, 4th & 5th floors of childrens hospital.
- Basement sump pumps.
- Aseptic suite cold room refrigeration pipework pressure tests.
- Smoke dampers on level 5 zones F, E & H.
- Ventilation system witnessing of 41 EF01, 41 AHU 21 & 22 AHU 12.
- CT Heating circuit, PU 11-14. Contractor completed test satisfactorily but Brookfield not in attendance. BMCE witnessed and signed QA sheet the following day.
- Lighting controls - Zones E, F & J Level 6 E & H. (Zone 6E Room No's GENW4-052 & GENW4-047 Reading light to be investigated, reverse operation.
- Toilet ventilation in MSCP.
- Smoke dampers in Level 7 zones H, K, F & J
- Level 4 fire damper drop tests.
- PR41 PU 11 & 12 CT and PR41 PU 13 & 14 VT flow rates.
- Air flow rates in PR41 and areas served.
- Sprinkler pipework pressure tests in Level 12F & 12J.
- Fire damper drop tests on Level 5, 6 & 7.
- Ductwork cleanliness inspection.
- Air flows in Pr21 & PR41 and areas serves.
- Lighting control on L7ZH.
- LTHW flow rates in PR41 PU 19 & 20 & PU 11 & 12.
- Revisit of fire panels No's 4, 5, 24, 25, 26, 30, 38, 50 & 56. (Aborted).
- Smoke dampers on Level 8.
- Fire alarm cause and effect on Levels 0, 1 & 2 zones D & G.
- Dry riser pressure test at MSCP main stair.
- Ventilation air flow tests of PR123 AHU 04 and areas served.

We are continuing to work with Brookfield during our inspections highlighting any items that have raised concern. Items identified in this manner are generally being addressed by the site team in advance of any defect notice being raised.

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In general terms we are satisfied that the installations continue to be installed to a compliant standard, and are of a good quality. However we have noted that certain items this month have raised concern. These have been raised with the Contractor as follows:-

Supervisor's Communication General Matters / Other Instructions No's 213 to 222 were issued during October.

- Seeking confirmation that the different shaded capping pieces have been recorded in the IDMS as a snag.
- Seeking confirmation how access for maintenance high level smoke extract fans on Level 4 Zone C without cutting into weatherproof membrane.
- Seeking confirmation of action to resolve the east door clashes with one of the fans on Level 4 Core H link corridor.
- Seeking confirmation that the low lintel at the Electrical Cupboard WS4 032 will be lowered.
- Seeking confirmation that sufficient activity space will be created at the front of the wc bowl.
- Seeking confirmation that the patch vinyl in corridor AAW-203 will be replaced.
- Seeking confirmation that the three vinyl panels between the door and the window will be replaced with one length of vinyl in Room CENWC-028 (Room 69).
- Seeking confirmation that the patch at the double doors near Core G Level 4 will be replaced.
- Seeking confirmation that a review of the doors has been carried out on all levels and that door sets match.
- Seeking confirmation that all the plant rooms have been inspected to identify and repair cracks to concrete behind distribution boards.

Supervisor's Notification of Defect No 81 was issued during October.

- External Blockwork on the south and east elevations does not reflect the quality of the pointing on the blockwork benchmark sample.

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2.0 DESIGN COMPLIANCE CHECK

Currently nothing to report.

3.0 PROCEDURES REVIEW

3.1 Contractor's QA Procedures / Compliance Inspections

Quality and Compliance inspections

Brookfield and their subcontractors have continued with their QA and checking and inspection procedures during this period. We are in discussion and liaise with Brookfield's Quality Manager on QA matters and we undertake regular reviews of their QA documentation.

Quality and compliance inspections were carried out with Brookfield in a number of areas. Brookfield provided us with their quality packs which included a list of their outstanding works, defects recorded on to their IDMS system quality sign off sheets and drawings.

Quality & Compliance inspections were also carried out on Level 9, Areas 9-503, 9-504 and 9-505. The areas inspected were generally to a good standard and the defects captured by Brookfield were generally of a minor nature.

We carried out a Quality & Compliance Inspection to the Atrium Bridge on Level 6 with Brookfield and the quality of the work inspected was generally to a good standard. We identified a few minor snags/defects which Brookfield recorded on the IDMS.

We carried out a Quality & Compliance Inspection to Level 5 Atrium Link Bridge with Brookfield and the quality of the work inspected was generally to a good standard. We did however note defects which Brookfield recorded on their IDMS. There were a few walls which required some attention to decoration. Vinyl had been patched at double doors which are a different shade from the vinyl laid previously. The vinyl had sustained damage across the full length of the Atrium Bridge. There was also a cubical door which had a few millimetres



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clearance with the wc bowl.



We note that there was insufficient activity space in front of the WC bowl in the room WS5-020 on Level 5 Atrium Bridge. We asked Brookfield to confirm their action to address this issue. Brookfield has confirmed that the toilet layout has been constructed and the WC installed as the NA 400 Series drawing which has been approved by NHS Board. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 217



Quality & Compliance inspections were also carried out on Level 10 Area 10-503, 10-504 and 10-505 with Brookfield and the quality of the work inspected was generally to a good standard. We did however note 79 minor defects in 105 rooms which Brookfield recorded on their IDMS. There was also a door set which did not match and Brookfield has added this to their IDMS for action.

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Quality & Compliance inspections were also carried out on Level 7, Atrium Bridge and "B" Rooms. The areas inspected were to a good standard and the defects captured by Brookfield were generally of a minor nature.

Quality & Compliance inspections were also carried out to 11 rooms on Level 11, Areas 11-503, 11-504 and 11-505. The areas inspected were to a good standard and the defects captured by Brookfield were generally of a minor nature. However snagging work requires some attention to improve the quality of the decorative finish. As a result of our inspections we identified 70 minor defects/snags from 105 rooms which Brookfield recorded on the IDMS.

We carried out joint inspections of the "B" rooms on Levels 10 and 11. The areas inspected were to a good standard and the defects captured by Brookfield were generally of a minor nature. We only identified a few minor snags/defects which were recorded and added to the IDMS for action.

We carried out quality and compliance inspections to the "B" rooms on Level 8 and 9. The areas inspected were to a good standard and the defects captured by Brookfield were generally of a minor nature.

We brought to Brookfield's attention that there were excessive gaps at the bottom of some fire doors especially in the corridors. They immediately carried out a site wide survey to indentify were work was required to address this issue.

Inspections were carried out to the Link Bridges and rooms on Level 10 and 11. There were a few rooms which were excluded and these will be inspected at a later date. The areas inspected were to a good standard and the defects captured by Brookfield were generally of a minor nature.

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Following recent inspection on site we noted that there were door set which had veneers that did not match. This poor quality of finish occurs in isolated locations throughout the Hospital. We asked Brookfield to confirm that a review of the doors has been carried out on all levels and that door sets are matched where there are dissimilar veneers. Brookfield is currently in discussion with the Sub Contractor TDSL with a view to rectifying this discrepancy. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 221).



We carried out roof inspections to the Roof R4-009, R3-001 and R3-021 and R2-005. Generally Brookfield has captured all the snags/defects. However we did note that some of the capping pieces on Level 3 south elevation are a different shade from the others. Consequently we have raised Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 213 We asked Brookfield if the different shaded capping pieces have been recorded in the IDMS as a snag/defect and that further remedial action will be undertaken. Brookfield advised that regrettably, Prater advises them that the issue raised is not a defect but a consequence of using a metallic paint finish on multiple pieces of metal. The angles of the metallic flecks differ when applied to individual components which sometimes create an apparent difference in appearance depending on the light conditions when viewed from distance.

Prater will supply test samples of the specified RAL colour and demonstrate that the components are the same colour.



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An inspection of the roofs at each finger on Level 12 was carried out with Brookfield and only minor snags / defects were noted by Brookfield. We did note that there were a few areas which required ballast in addition to areas already highlighted by Brookfield.



Room Back Checks

Back checks were carried out to rooms in the Children's Hospital on Level 2. The quality of the finish was to a good industrial standard. We identified a few minor snags/defects which Brookfield recorded on the IDMS.

We carried out back checks to rooms on Level 0. The quality of the finish was to a good industrial standard. We identified a few minor snags/defects which Brookfield recorded on the IDMS.

It was noted during fire damper tests at various locations on Level 1 that access to testing the operations of each fire damper was difficult due to the size of the access hatch. Brookfield confirmed that access doors have been widened on Level 1 Area 1-505 and 1-538. The access hatch on Level 1 Area 537 has still to be widened. The fire dampers which are not located in the walls on Level 1 Area 1-537 have still not been addressed to maintain fire barrier. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 206).

The recessed area on the right hand side of the wash hand basin in room OPD1-004 Level 1 Area 1-539 is congested. There is a nurse call, dispenser and grab rail to be fitted. We asked Brookfield to confirm how the fittings can be fitted within the present space or if there are any proposals to reposition fittings. Brookfield has confirmed that the OPD1-005 – nurse call is to be positioned to the correct location as per 400 series drawing and the grab rail may be situated on side panel but this has to be investigated. The OPD1-004 – IPS trespass location to be investigated on potential move to allow space for grab rail. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 194).

Zutec Review

We are continuing to review the testing information on Zutec on a regular basis as it is entered.

Acoustic Tests

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Acoustic testing was carried out to floors in both the Adult and Children's Hospital during October: No failures were recorded.

There have been seventy two tests completed to the partition walls in the Adult Hospital with four failures. One test remains to be carried out.

There have been twenty seven tests completed to the partition walls in the Adult Hospital with four failures. Eight tests remain to be carried out.

Brookfield are currently addressing the partitions which failed.

Current non-compliant partitions

NSGH-B1-KIT-005	Office 1
NSGH-B1-KIT-007	Office 1
AAW 386	Office Hospital at Night/Bed Management
AAW 385	Office
CCW 015	Relatives
CCW 014	Relatives
THE-326	RECOVERY BAY / POST ANAESTHETIC
THE-327	RECOVERY BAY / POST ANAESTHETIC
CCW-111	Meeting
CCW-112	Library
ARU-014	Single Bedroom
ARU-015	Single Bedroom
SCH-062	Play Dining
SCH-063	Treatment
RENO-017	Treatment
RENO-018	Treatment

Above Ceiling Inspections.

We carried out an inspection with Brookfield of the above ceiling fire stopping on Level Areas 2-510 and 2-511. The fire stopping appeared to be installed throughout with only one location where a small opening required to be fire stopped.

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Above ceiling inspections were carried out on Level 5 Zone H and the majority of the fire stopping had been captured by Brookfield. We did however highlight a few areas which required attention.

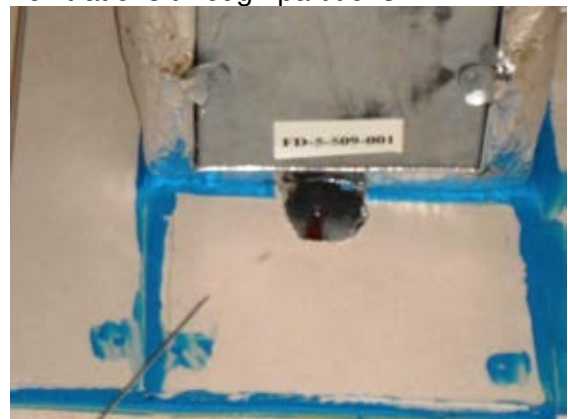
Fire putty missing



Opening between column and partition.



Penitrations through partitions.



Open area around damper bulb.

We carried out above ceiling inspections of fire stopping in the Children's Hospital on Level 3 Areas 3-514 and 3-515. The fire stopping had been carried out satisfactorily to the areas which were available for inspection.

Joint inspections of above ceiling fire stopping was carried on Level 0 Zone E. The areas available for inspection were fire stopped satisfactorily.

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We carried out above ceiling inspections of fire stopping in the Children's Hospital on Level 3 Areas 3-508 3-509 and 3-510. The fire stopping had been carried out satisfactorily to the areas which were available for inspection.

General Inspections

We carried out inspections with Brookfield of vinyl floor covering in some corridor areas on Level 0, 1 and 2. We noted that recently laid vinyl had darker shading than the adjacent vinyl. However we noted another area where the vinyl had been laid later than the surrounding floor but had been down for over two months and had lightened to match the surrounding vinyl.



Shading on newly fitted vinyl.



Vinyl at door laid later than surrounding vinyl becoming lighter in colour.

We noted the vinyl fitted at the double doors in corridor AAW-203 has been laid as a patch repair. We asked Brookfield to confirm that a new piece of vinyl will be laid continuously from the skirting to the existing welded joint. Brookfield has reviewed doors on level 4 yesterday and agreed that some of these require to be changed. This is to ensure line of weld is continuous and taken to coving or 100mm from coving to give an aesthetically pleasing finish. They have been done like this in zone F on level 4. ACF have been advised



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that going forward if patches are being done to doors they have to be done to keep weld continuous and go to the skirting or just off or to ensure symmetry with surrounding vinyl.
Supervisor's Communication General Matters / Other Instructions (CI 13.1)
No 218 is closed out.

Following our inspection with Brookfield of vinyl in Room CENWC-028 (Room 69). We have asked Brookfield to confirm that the three vinyl panels between the door and the window will be replaced with one length of vinyl. This is also to include bubbled areas. Brookfield has replaced the small damage area approximately 10mm circle and ACF have replaced a section approx 2.0m x 1.8m (as is standard practice) to ensure this does not look like a small patch. When the colour matches this would not be noticeable. ACF/Brookfield will monitor and if colour match does not occur we will replace the full length of vinyl.

Brookfield has provided technical literature regarding drying room yellowing of marmoleum products received from Forbo via AC Flooring. Brookfield has also reviewed doors on level 4 and agreed with us that some of these require to be changed, to ensure line of weld is continuous and taken to coving or 100mm from coving to give an aesthetically pleasing finish. They have been done like this in zone F on level 4. ACF have been advised that going forward if patches are being done to doors they have to be done to keep weld continuous and go to the skirting or just off. Supervisor's Communication General Matters / Other Instructions (CI 13.1).



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Following a recent inspection on Level 4 we noted that the vinyl floor beneath the double doors adjacent to Core had been patched at a more recent date than the surrounding vinyl. We asked Brookfield to confirm that this will be removed and a new piece fitted to follow the same formation with no broken welds. Brookfield has reviewed doors on level 4. They agreed that some of these require to be changed, to ensure line of weld is continuous and taken to coving or 100mm from coving to give an aesthetically pleasing finish. They have been done like this in zone F on level 4.



ACF have been advised that going forward if patches are being done to doors they have to be done to keep weld continuous and go to the skirting or just off or to ensure symmetry with surrounding vinyl.

This poor quality of finish occurs on other floors. We have asked them to confirm that these will be addressed to ensure continuity of the floor covering. Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 220 is closed out.

Completion Criteria

We reviewed Brookfield procedures for collating letters, certificates, licences, approvals etc to populate the Completion Criteria. Brookfield has compiled hard copy folders which contains the completion verification information as stated above. The folder has items which relates to contents uploaded to Zutec. We have noted that Brookfield is populating their files satisfactorily.

3.2 Witness Testing and Commissioning

We witnessed a number of tests during October which were satisfactory and these were as follows:

- (263) Ventilation witnessing - PR32 AHU 05, PR121 AHU 04 & 05.
- (264) Smoke dampers - L7 Zones H J & K.
- (265) Sprinkler pipework pressure testing in basement.
- (266) Smoke dampers - L4 Zones J & F.
- (268) Sprinkler testing on level 9 zones 503, 504 & 505.
- (269) Fibre testing between main computer room and Hubs.
- (270) Sprinkler pressure testing on Level 8 zone F 503, 504 & 505.
- (271) Basement sump pump witnessing.
- (272) Aseptic suite cold room refraction pressure tests.
- (273) Smoke dampers on Level 5 zones F, E & H.
- (274) Ventilation system witnessing of 41 EF01, 41 AHU 21 & 22 AHU 12.
- (275) 32 PU11-14 CT Heating Circuit. Contractor completed test satisfactorily but Brookfield were not in attendance to sign the QA sheet.
- (276) Lighting Control Level 5 Zones E, F & J Level 6 E & H. (Zone 6E Room No's GENW4-052 & GENW4-047 Reading light to be investigated reverse operation.
- (277) Toilet ventilation in MSCP.

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- (278) Smoke dampers in Level 7 zones H, K, F & J.
- (279) Fire damper drop tests on Level 4.
- (280) LTHW flow rates in plantroom 41.
- (281) Air flow rates in plantroom 41 and areas served.
- (282) Sprinkler pipework pressure tests on Level 12F & 12 J.
- (283) Fire damper drop tests on Level 5, 6 & 7.
- (284) Ductwork inspection.
- (285) Air flows in PR121, PR41 areas served.
- (286) Lighting control on L7ZH.
- (287) LTHW flow rates, PR41 PU 19 & 20 & PU 11 & 12.
- (289) Smoke dampers on Level 8.
- (290) Fire alarm cause & effect on Levels 0. 1 & 2 zones D & G.
- (291) Dry riser pressure test at main stair case of MSCP.
- (292) Ventilation air flow tests of PR123 AHU 04 and areas served.

We witnessed tests during October 2014 which were unsatisfactory:

- Revisit of fire panels P4, 5, 24, 25, 26, 38, 50 & 56. Aborted as contractor did not have drawings available to identify previously reported defects.

Previously witnessed tests which failed and have been re-tested successfully:

- (240) G59 Test.
- (267) Retest of refuge alarm during fire alarm activation in MSCP.
- (171) VPI missing from Level 6 Zone H fire damper FD 6 511 001.

Previously witnessed tests which require to be retaken:

- (87) Smoke damper test verification was tested successfully on level 0 zone D. Zone G still outstanding.
- (139) Smoke dampers were tested in plantroom 31 and there were some which failed. No power to panel.
- (176) VPI missing from Level 0 Zone H fire damper FD 0 530 013.
- (180) FD 1-538 008 - Access hatch too small.
- (181) FD 1-537 004 - Access hatch too small and fire seal or repositioning required. Dampers No's 002, 003 & 004 are not installed within walls and were not tested.
- (211) Lighting control on Level 0 Zone D. Failed due to several incomplete bed head lighting control defects.
- (212) Fire damper drop test on Level 9. (VPI missing from FD 9-511 001).
- (217) Fire damper drop testing on Level 0. (FD 0-537 005 & FD 0-540 002, VPI,s obscured).
- (227) Car park emergency lighting. Lights remaining on mains power when on test and, emergency lights not in correct positions.
- (230) Ventilation test in PR31 AHU 64. Unacceptable readings.
- (232) Fire damper No FD 539 015 failed. VPI loose.
- (236) Fire systems test.P56 - No strobe installed within FM3 046 disabled toilet, although device installed is as per drawing.
- (237) Fire Panel P38 Loop 2 - One ceiling mounted smoke detector described as void detector. To be rectified and retested.

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- (238) P25 - Wall mounted sounder to be changed to sounder / beacon in assisted bathroom. P26 One sounder missing from disabled WC & No devices installed in Adolescent activity room.
- (242) Fire Panels P24. One optical detector requires to be changed to strobe in room OWD-033.
- (258) Fire damper drop tests on Level 0-zones 531, 532, 533, 535 & 536. Two dampers inaccessible, FD 536 014 & FD 536 015.
- (259) Fire damper drop tests in Basement zones 504, 505 & 506. Unable to access FD B 504 001, + no damper fitted to adjacent duct.

3.3 Board Equipment Installation,

Currently nothing to report.

3.4 Non Conformance Reports

We reviewed Brookfield's NCR Tracker and noted the issues raised by the Package Managers. Brookfield confirmed that the tinting to the blockwork has commenced and pointing on the south and east elevations. Prater has still to offer it up to Brookfield as complete reference NCR 156. NCR 237 was issued to Astins in relation to the lack of insulation at abutments between internal partitions and external walls. This work is complete and an acoustic test is to be carried out.

4.0 CONSTRUCTION REVIEW

4.1 Visits to the Works

The following members of our team undertook site inspections, reviewed documentation, attended meetings and met with relevant Contractors representatives on-site personnel:- John Redmond (Lead NEC3 Supervisor) 1st to 3rd, 6th to 10th, 13th to 17th, 20th to 24th, and 28th to 31st. Douglas Wilson (M&E NEC3 Supervisor) 1st to 3rd, 6th to 10th, 20th to 24th, and 27^h to 31st. William Lang (M&E NEC3 Supervisor) 10th, 13th to 17th and 20th. Willie Roxburgh (Civils/Structural NEC3 Supervisor) part days on 10th, 16th, 22nd, 27th and 29th October. Capita's NEC3 Supervisor's team visited site a combined 57 person days.

4.2 Elements of the Works available for inspection

Main building – structural areas very limited.

Tunnels between ACH and Labs, and Cores C to F.

Structural steelwork to all roof areas (increasingly limited due to access and partitions).

Neuro bridge (partly limited due to access).

Dual carriageway to Renfrew Road, turning area in front of the main entrance and carriageway from Hardgate Road.

All sides external works.

Internal courtyards.

Perimeter hard and soft landscaping

All works fit out works, fabric, and works to roofs and cladding are nearing completion.

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4.3 Current Observations

The visual inspections of the work carried out to date indicate that the works are generally being carried out to a satisfactory standard. We continue to be assisted by the site teams and the NHS Project Team in resolving various construction, mechanical, electrical, and quality issues. We continue to close out our Supervisor's Notification and Defects when we have received satisfactory responses. Listed below are observations closed out, still to be closed and those raised following site visits to site in August 2014.

4.3.1 Structural and Civil Works

On the roof of the Children's Hospital in Zones A and B the door framing at plant room level, north east corner has now been resolved.

Following an inspection between BMCE Manager and Clients Supervisor, Capita it was agreed all works are completed. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 141 is closed out.

The steel framework in riser on Level 0 ZF Riser M30 has had the legs extended immediately in front of the entrance door. There are other legs which have not been extended yet and we asked Brookfield to confirm when the other legs will be extended. Brookfield informed us that Mercury removed the feet on the framing having it suspended from the soffit of the floor above. Brookfield has consulted with WSP re the allowable load on the slab edge around the risers. The design line load around the riser slab edges is based upon 0.8kN/m height/sq.m plan area. The calculations submitted by Mercury show a load of 0.99kN/m/sq.m which exceeds the design criteria therefore the legs will require extending to provide support from the lower floor. Mercury has been informed to replace/ extend the feet. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 162).



Extended legs



Leg still to be extended.

Car Park 1

The car park is now in use as the main project site car park. Some minor snagging remains to be addressed and this together with items determined at a final inspection will be addressed towards the end of the project. This snagging will include some ponding issues on the top floor.

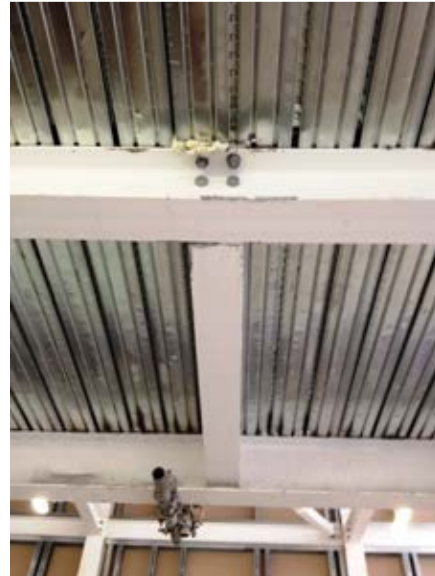
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Landscaping areas in courtyards and at 3rd floor roof levels are now well advanced and quality to date appears to be satisfactory. Significant progress to road and footpath bases on the south and east sides of the building has again been made during the period with further kerbing and sub-base prepared where scaffolding and storage permit. Blockwork to footpath areas has also progressed significantly at the south side, as well as on the north side of the car park. On the north side concrete sub-slab work and stone paving placement has continued. Quality to date appears good in all areas.

Some areas of intumescent painting to the steelwork on the 1st Floor Podium on the East Side of the Main Atrium appear to be chipped. We asked Brookfield to confirm that this will be addressed as required to ensure overall compatibility with the specification. They have confirmed any areas of the intumescent fire protection on the steelwork that has been damaged will be rectified and that we would be invited to inspect prior to any closing up of the areas. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 210).



We noted a distribution board fixing has caused the concrete column to crack on Level 2 Plant Room 22. Following discussions with Brookfield and they intend to carry out a localised repair using high strength, low shrinkage (Cementitious with polymers) R4 repair mortar. We asked Brookfield to confirm that they have inspected all plant rooms to identify and repair similar cracked concrete as shown in the photo. Brookfield confirmed that they will carry out localised repairs using high strength, low shrinkage (Cementitious with polymers) R4 repair mortar. All plant rooms will be checked for similar cracked concrete as shown on Capita photo. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 222).



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We also noted at roof level of the ACH that the support bases to the columns are spalling. Brookfield confirmed that they would use the R4 repair mortar to effect a repair.

**4.3.2 Energy Centre**

Steelwork snagging appears to have been addressed.

4.3.3 Above Ground Drainage

Substantially completed with satisfactory quality to date.

4.3.4 External Works**Building Surround**

Significant progress to road and footpath bases on the south and east sides of the building has again been made during the period with further kerbing and sub-base prepared where scaffolding and storage permit. Blockwork to footpath areas has also progressed significantly at the south side, as well as on the north side of the car park. On the north side kerbing and stone paving placement has continued. Quality to date appears good in all areas.

The defects previously identified will be reviewed nearer to completion when they will be effectively rectified. This will also now include the significantly damaged kerb lines affected by the storage and lifting of the neuro-bridge sections.

Govan Road/Renfrew Road

During the period resurfacing work has been carried out at Govan Road/Renfrew Road, together with tie ins to the existing hospital entrance and the new dual carriageway entrance. Quality is generally good although there appears to be a little ponding locally on the north side of Govan Road.

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4.3.5 Mechanical Services

Installation of hot, cold, heating & chilled water pipework in the A&C Hospital is well in advance in all plantrooms and in general is being installed to a good standard which we are continuing to monitor. The DHWS and CW are being installed to a good standard with 2nd fix still to be completed. We are aware that water is being supplied to pipework within the podium.

Witnessing of the ventilation systems is ongoing. The operating theatre areas are to be revisited for final proving once doors, lights and grilles are installed.

Insulation is nearing completion in all areas. Minor tidying up works and completion of the Venture clad jacketing is ongoing. Any damage reported during our joint inspections of plant rooms with Brookfield is being addressed. We will still continue to monitor the quality of the installation and await an invitation for final inspection.

Pressure testing of the modular pipework sections on a zone by zone or area by area basis has been programmed through the commissioning meetings and is complete apart from Plantroom 41 domestic water.

Brookfield has informed us that pre commissioning is in progress and we await an invitation to witness any tests.

The pressure testing of the sprinkler systems is nearing completion in the basement and remaining levels in the tower.

Mechanical fire damper drop tests and the Quality and Compliance Inspections, are continuing and the damper positional indicators which have been found to be obscured by sealant are continuing to being addressed by Brookfield.

The three high level smoke extract fans on Level 4 Zone C appear to be complete with the fans and actuator totally enclosed with no access for maintenance.

The fan has a local actuator fitted, but there is no local means of isolating the 240 volt actuator. There are four similar fans also on the third floor which are in the process of being similarly installed. We asked Brookfield to confirm how access will be provided to the fan for future maintenance without cutting into the weatherproof membrane.

Brookfield responded by informing us that each fan has an isolator switch which is located adjacent to the ventilator and is shown in the



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photograph. The power to the fans and ventilators is taken from the Atrium Control Panel which is also has its own isolator.

They also intimated that the ventilator has a top removable blade as shown in the photograph which allows access to its actuator. We have asked Brookfield to demonstrate this to us. We are of the view that there is no means to isolate the damper actuator locally to allow safe working.

The weather seal enclosing the electrical box on the 3x smoke extract fans on Level 5 is done by others and not part of Mercury's install. We accept that the weather proofing is not a Mercury issue, but access to the fan motor terminal box is a requirement and requires to be resolved by Brookfield. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 214).

The NHS Technical Manager of the Project Team informed us that together with Brookfield three Air Handling Units were tested. 41AHU10 and 41AHU010 tested satisfactorily but there was an air leak at the damper on leaving the AHU.

4.3.06 Electrical Services

Work in relation to containment is nearing completion.

Work is still ongoing to security, CCTV and intruder alarm.

The quality of the general and emergency lighting installed to date is of a good standard with the witnessing of the lighting controls ongoing.

The installation of the power outlets is ongoing.

There are a number of ophthalmology rooms which have both SWC026 – switch dimmable and SWC034 – dimmer modulating listed on the signed off room location sheet (C sheet). However the SWC034 – dimmer modulating cannot be seen in the following rooms:

- Consulting room – OPD1-069.
- Consulting room – OPD1-069.
- Consulting room – OPD1-071.
- Consulting room – OPD1-076.

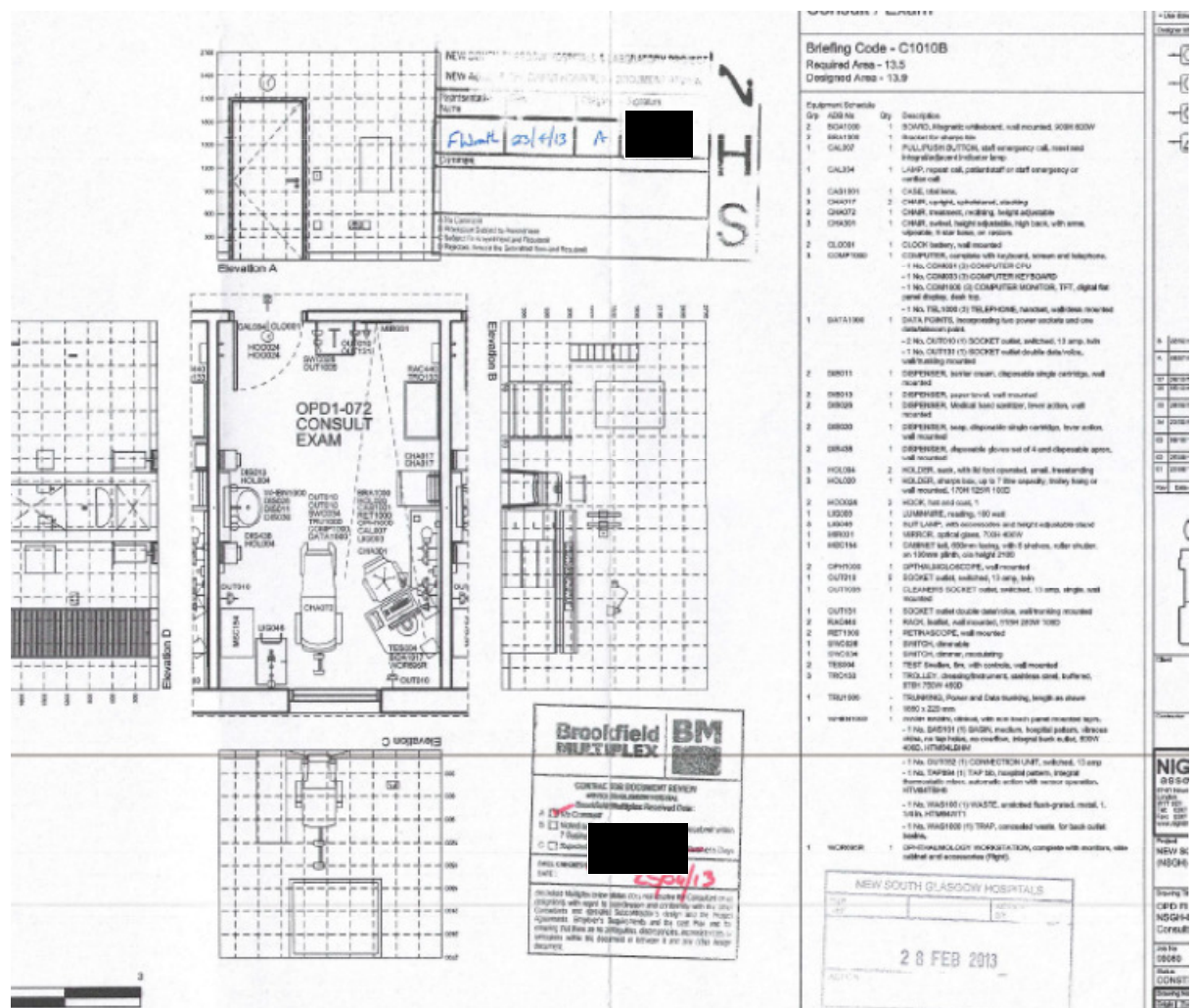
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- Consulting room – OPD1-028.
- Consulting room –OPD1– 029.
- Fields Test room – OPD1-031.
- Fields testing –OPD1-032.

In Visual Acuity Room – OPD1-030 the following room has both SWC025 and SWC026 (switch dimmable) listed but the SWC026 cannot be seen. We have asked Brookfield to clarify this. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 212).



4.3.07 Energy Centre

The installations in the Energy Centre are well advanced with the A-side systems commissioned and handed over. The installation of the CHP's is nearing completion and ready for commissioning.

4.3.08 Intake Sub Station

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Brookfield has informed us that only one communications cable is to be pulled through to the sub-station and then sealed. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 30 & 45).

4.3.09 Partitions

The issue of roof leak with water dripping down the wall within plant room 41 has been fixed and all original works - plasterboard replacement is all complete. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 166 is closed out.

4.3.10 Doors

The east door clashes with one of the fans on Level 3 Core H link corridor. We have asked Brookfield to confirm their action to resolve this clash. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 215).



4.3.11 Windows

Windows are progressing on the external elevations and courtyards in accordance with the specifications.

4.1.12 Equipment

Nothing to report.

4.3.13 Ducting

Ductwork to several items of plant which has still to be installed within plantrooms 41, 121, 122, 123 & 124 which are nearing completion.

4.3.14 Floors

Nothing to report.

4.3.15 Blockwork

We have reported since April 2013 that the quality and standard of workmanship of the blockwork on the east elevations was not to a good industrial standard.

Tinting of the dark pointing has commenced and we await Brookfield notifying us when the work is complete to allow us to carry out an inspection.

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4.3.16 Heating

There are gaps in the thermal insulation in the back box of the remote TRV's mounted on external walls controlling the radiant panel heater in Level 0, ZA ward OBW 009. There is the likelihood that this will cause the TRV to be affected by the lower temperature in the partition void causing the Radiant panel to emit heat unnecessarily wasting energy. This applies to other similar TRV's on outside walls. We have asked Brookfield to confirm if this has been considered and if remedial action will be taken to address this. Brookfield has asked Mercury to report on this issue. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 199).

4.4 Current Defects.

Smoke detectors on Level 1 Areas 1-517 and 1-518 had been fitted too close to the walls in rooms CCW-100 Isolation Ward Lobby and CCW-147 Recess. Brookfield has confirmed this work has now been completed. Consequently Supervisor's Notification of Defect (CI 42.2) No 70 is closed out.

The blockwork at the right hand side of the Children's A&E entrance on the external wall of room EMC-009 is poor quality workmanship. The mortar beds vary in thickness and blocks have not been laid level. We asked Brookfield when this would be addressed. An inspection of the poorly laid blockwork was carried out with Brookfield and the work carried out was generally satisfactory, however one block still requires to be replaced. See Supervisor's Notification of Defect (CI 42.2) No 79.



Although some work has been carried out to improve the quality the pointing on the external blockwork on the south and east elevations. Some of the blockwork does not reflect the quality of the pointing on the blockwork benchmark sample. Consequently we have raised Supervisor's Notification of Defect (CI 42.2) No 81.

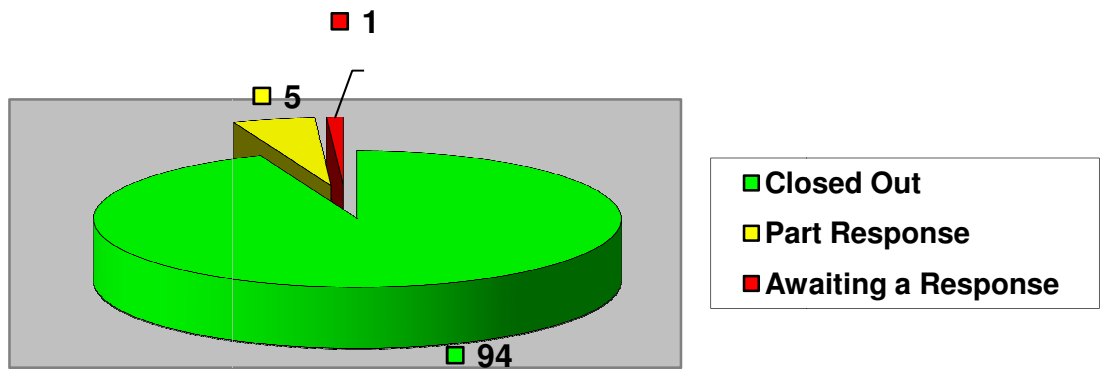
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5.0 INFORMATION REQUIRED



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Item No.	Description	Date Requested	Comment	
Items 1 to 29 have been closed out.				
30	Confirm when cabling is complete, water pumped out and batteries removed.	10.08.12	Response received.	
Items 31 to 44 have been closed out				
45	See Supervisor's Communication No 30.	18.09.12	Response received.	
Items 46 to 140 have been closed out				
141	ease provide technical solutions to various issues to the steelwork to the Children's Roof.	23.07.13	Closed out.	
Items 142 to 161 have been closed out				
162	Confirm when the other legs have been extended to the steel framework in riser on Level 0 ZF Riser M30.	16.09.13	Response received.	
Items 163 to 165 have been closed out				
166	Confirm when water damaged boards in Plant Room 41 are replaced.	20.09.13	Closed out.	
Items 167 to 193 have been closed out				
194	Seeking confirmation how the fittings can be fitted within the present space or congested.	17.02.14	Response received.	
Items 195 to 198 have been closed out				
199	There are gaps in the thermal insulation in back box of remote TVR's. Confirm remedial action.	20.03.14	Response received.	
Items 200 to 205 have been closed out				
206	Confirm that the difficult access to various fire dampers on Level 1 Areas 505, 508 and 537 will be addressed.	19.05.14	Response received.	
Items 207 to 209 have been closed out				
210	Confirm that the chipped intumescent paint will be addressed.	11.07.14	Response received.	
211	Confirm remedial action to remove the risk of tripping over the recessed channels in the pedestrian walkways. (Car Park).	05.08.14	Closed out.	
212	Seeking clarification in relation to dimmers which have not been fitted in the Ophthalmology Rooms on Level 1 in accordance with the signed of drawing (C sheet).	02.10.14	Open.	
213	Seeking confirmation that the different shaded capping pieces have been recorded in the IDMS as a snag/defect and that further remedial action will be undertaken.	09.10.14	Response received.	
214	Seeking confirmation how access for maintenance high level smoke extract fans on Level 4 Zone C without cutting into weatherproof membrane.	09.10.14	Response received.	
215	Seeking confirmation of action to resolve the east door clashes with one of the fans on Level 4 Core H link corridor.	09.10.14	Open.	
216	Seeking confirmation that the low lintel at the Electrical Cupboard WS4 032 will be lowered.	09.10.14	Open.	
217	Seeking confirmation that the sufficient activity space will be created at the front of the wc bowl	14.10.14	Response received.	
218	Seeking confirmation that the patch vinyl in corridor aaw-203 will be replaced.	15.10.14	Closed out	
219	Seeking confirmation that the three vinyl panels between the door and the window will be replaced with one length of vinyl in Room CENWC-028 (Room 69).	20.10.14	Response received.	
220	Seeking confirmation that the patch at the double doors near Core G Level 4 wil be replaced.	21.10.14	Closed out.	

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221	Confirm that a review of the doors has been carried out on all levels and that door sets match.	29.10.14	Response received.	
222	Confirm that all the plant rooms have been inspected to identify and repair cracks to concrete behind distribution boards.	29.10.14	Response received.	

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6.0 SUPERVISORS TESTS AND INSPECTIONS

Tests not required	N/A
Tests required but not tested	Fail
Tests required which has passed tests	Pass

Tests				
Ref	Title	To be Notified by	Status	Test Date
01-86	Various tests undertaken and passed from the 09. 07.2012 To the 30.06 2013.			
87	Smoke damper test verification - Level 0, zones D & G. Zone G still outstanding.	Brookfield	Failed. Zone G to be re-witnessed	24.09.2013
88-138	Tests 28.09.2013 to 29.02.2014			
139	Smoke damper tests in plantroom 31. Some fails.		FAILED	
140-175	Various tests undertaken and passed from the 03.02.2014 to the 29.04.2014.			
176	VPI missing from FD 0-530 012. Not 013 as previously recorded.	Brookfield	FAILED	29.04.2014
177-179	Various tests undertaken and passed from 08.05.2014 to 09.05.2014.			
180	Fire dampers on Level 1 Zones 505 (FD 1-505 006, 508 (FD 1-508 005), 519 (All ok) FD 1-538 008.	Brookfield	PART CLEARED 19.09.2014 FAILED	15.05.2014
181	Fire dampers on Level 1 Zone 537. FD 1-537 002, FD 1-537 003 & FD 1-537 004 not in wall.	Brookfield	FAILED	15.05.2014
182 - 210	Various tests undertaken and passed from 19.04.2014 to 24.07.2014.			
211	Lighting control test in LOZD Lights offered for witnessing by Schneider passed, but we were unable to test 13 bedheads due to unfinished works by Static. Retest to be arranged.	Brookfield	FAILED	30.07.2014
212	Fire damper drop test in L9ZH. (VPI missing from FD 9 511 001.)	Brookfield	FAILED	30.07.2014
213 - 216	Various tests undertaken and passed from 30.07.2014 to 06.08.2014.			
217	FD 0-537 005 & FD 0-540 002 VPI hidden, retest required. FD 0-537 005 retested successfully 19.09.2014.		FAILED FD 0-540 002 VPI missing. PART CLEARED 19.09.2014	
218 -	Various tests undertaken and passed from 13.08.2014 to 11.09.2014.			

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229				
230	Ventilation tests in PR31 AHU 64.	Brookfield	FAILED	27.08.2014
231				
232	Fire damper No FD 1-539 015 failed. VPI loose.	Brookfield	FAILED	29.08.2014
233	CHP windings pressure test.	Brookfield	PASSED	02.09.2014
234	Ventilation tests, PR32 AHU 02, PR41 AHU 14, PR41 AHU 46 & PR41 AHU 24.	Brookfield	PASSED	04.09.2014
235	Witnessing of Airedale units.	Brookfield	PASSED	05.09.2014
236	Fire panel No tested 8 ok, P56 - No strobe installed within FM3 046 disabled toilet, although device installed is as per drawing. BMCE / Mercury to check design.	Brookfield	FAILED	09.09.2014
237	Fire system tests. Panels 37, 50 & 51 all tested ok. Panel 38 Loop 2 - One ceiling mounted smoke detector described as void detector. To be rectified and retested.	Brookfield	FAILED	09.09.2014
238	Fire systems test - Panel 25, Wall mounted sounder to be changed to strobe. Panel 26 One sounder missing from disabled WC & no devices installed in Adolescent activity room. BMCE / Mercury to check.	Brookfield	FAILED	11.09.2014
239	Witnessing of Airedale units.	Brookfield	PASSED	11.09.2014
240	G59 test. Unable to complete test as generators did not start up as they were switched for manual control.	Brookfield	PASSED	12.09.2014 Retested 24.10.2014
241	Lighting control in L2ZA, L3ZA & L3ZB	Brookfield	PASSED	15.09.2014
242	Fire test P23 tested ok. P24 One optical detector requires to be changed to strobe on room OWD 033.	Brookfield	FAILED	15.09.2014
243-257	Various tests undertaken and passed from 15.09.2014 to 26.09.2014.			
258	Fire damper drop tests on Level 0-zones 531, 532, 533, 535 & 536. Two dampers inaccessible, FD 536 014 & FD 536 015. Hatch through plasterboard access required to access both.	Brookfield	FAILED	26.09.2014
259	Fire damper drop tests in Basement zones 504, 505 & 506. Unable to access FD B 504 001, + no damper fitted to adjacent duct.	Brookfield	FAILED	26.09.2014
260-262	Various tests undertaken and passed from 26.09.2014 to 30.09.2014.			
263	Ventilation witnessing - PR32 AHU 05, PR121 AHU 04 & 05.	Brookfield	PASSED	01.10.2014
264	Smoke dampers - L4 Zones H, J & K.	Brookfield	PASSED	01.10.2014
265	Sprinkler pipework pressure testing in basement.	Brookfield	PASSED	02.10.2014
266	Smoke dampers - L4 Zones J & F.	Brookfield	PASSED	02.10.2014
267	Retest of refuge alarm in MSCP during fire alarm activation	Brookfield	PASSED	03.10.2014

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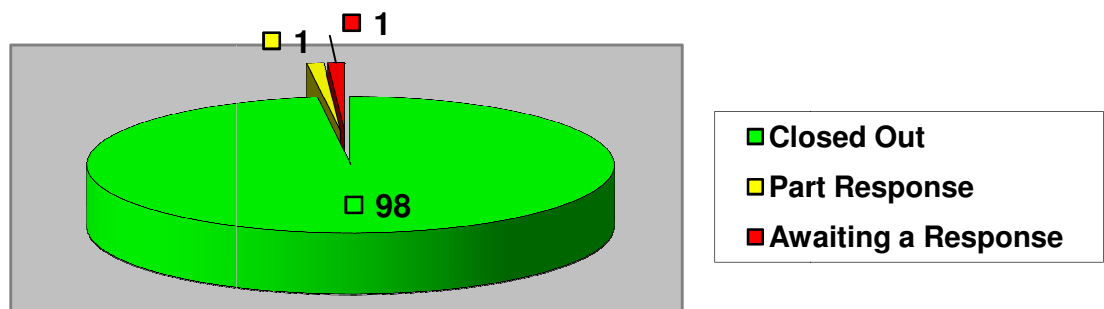
NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND ENERGY CENTRE

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268	Sprinkler testing on level 9 zones 503, 504 & 505.	Brookfield	PASSED	07.10.2014
269	Fibre testing between main computer room and Hubs.	Brookfield	PASSED	07.10.2014
270	Sprinkler pressure testing on Level 8 zone F 503, 504 & 505.	Brookfield	PASSED	07 & 08.10.2014
271	Basement sump pump witnessing.	Brookfield	PASSED	08.10.2014
272	Aseptic suite cold room refraction pressure tests.	Brookfield	PASSED	08.10.2014
273	Smoke dampers on Level 5 zones F, E & H.	Brookfield	PASSED	09.10.2014
274	Ventilation system witnessing of 41 EF01, 41 AHU 21 & 22 AHU 12.	Brookfield	PASSED	09.10.2014
275	32 PU11-14 CT Heating Circuit Testing Contractor completed test satisfactorily but Brookfield were not in attendance to sign the QA sheet.	Brookfield	PASSED	13.10.2014
276	Lighting Control Level 5 Zones E, F & J Level 6 E & H.(Zone 6E Room No's GENW4-052 & GENW4-047 Reading light to be investigated reverse operation.	Brookfield	PASSED	14.10.2014
277	Toilet ventilation in MSCP.	Brookfield	PASSED	22.10.2014
278	Smoke dampers in Level 7 zones H, K, F & J.	Brookfield	PASSED	22.10.2014
279	Fire damper drop tests on Level 4.	Brookfield	PASSED	23.10.2014
280	LTHW flow rates in plantroom 41.	Brookfield	PASSED	23.10.2014
281	Air flow rates in plantroom 41 and areas served.	Brookfield	PASSED	23.10.2014
282	Sprinkler pipework pressure tests on Level 12F & 12 J.			
283	Fire damper drop tests on Level 5, 6 & 7.	Brookfield	PASSED	27.10.2014
284	Ductwork inspection.	Brookfield	PASSED	28.10.2014
285	Air flows in PR121, PR41 areas served.	Brookfield	PASSED	29.10.2014
286	Lighting control on L7ZH.	Brookfield	PASSED	29.10.2014
287	LTHW flow rates, PR41 PU 19 & 20 & PU 11 & 12.	Brookfield	PASSED	29.10.2014
288	Revisit of fire panels P4, 5, 24, 25, 26, 38, 50 & 56. Aborted as contractor did not have drawings available to identify previously reported defects.	Brookfield	FAILED	30.10.2014
289	Smoke dampers on Level 8.	Brookfield	PASSED	31.10.2014
290	Fire alarm cause & effect on Levels 0, 1 & 2 zones D & G.	Brookfield	PASSED	31.10.2014
291	Dry riser pressure test at main stair case of MSCP.	Brookfield	PASSED	31.10.2014
292	Ventilation air flow tests of PR123 AHU 04 and areas served.	Brookfield	PASSED	31.10.2014

7.0 DEFECTS NOTIFICATIONS ISSUED



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	Description	Date Requested	Comment	
Items 1 to 69 have been closed out.				
70	Confirm when smoke detectors fitted too close to wall have been repositioned	11.03.14	Closed out.	
Items 71 to 78 have been closed out.				
79	Confirm when the poor workmanship to the blockwork outside room EMC-009 has been addressed.	01.07.14	Response received.	
80	Confirm when the damaged blockwork to the external curve in area 2-513 has been addressed.	01.07.14	Closed out.	
81	External Blockwork on the south and east elevations does not reflect the quality of the pointing on the blockwork benchmark sample.	31.10.14	Open	

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John Redmond, Technical Advisory Services

Property and infrastructure

Capita, The Beacon, 8th Floor, 176 St Vincent Street, Glasgow G2 5SG

	Signed	Date
Originated by	John Redmond	6th November 2014
Completed by	Douglas Wilson	6th November 2014

CAPITA

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ADULT AND CHILDREN'S HOSPITAL AND ENERGY CENTRE
NEC 3 SUPERVISORS REPORT NO. 43
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1.0 EXECUTIVE SUMMARY: ADULT & CHILDREN'S HOSPITAL

Our site inspections during November 2014 continue to indicate that the construction and procedures are progressing in a satisfactory manner in accordance with the Employer's Requirements.

Throughout, the standard and quality of the workmanship is generally good and operations are being carried out in an acceptable manner.

Brookfield provided us with their QA documentation including a list of their defects which had been logged on their IDMS system. They also provided us with a list of excluded rooms and list of works and equipment that required to be completed or installed. We reviewed this information prior to undertaking the inspections. The areas inspected were generally to a good industrial standard and the defects captured by Brookfield were generally of a minor nature and recorded these onto their IDMS system. We commenced inspections of the areas shown as complete in Brookfield's Final Sweep Programme. We only inspected area 1-528 and identified additional defects/snags.

Quality and compliance and back checks were carried out on the following Levels.

- Level 0 "B" Rooms
- Level 2 "B" Rooms
- Levels 8, 9, 10 and 11 "B" Rooms.
- Level 2 back checks to rooms previously excluded.
- Level 0 back checks to rooms previously excluded in the Children's Hospital.

We continue to liaise between Brookfield and the NHS Project Team in relation to snags/defects identified by the NHS Project Team.

Zutec entries continue to be under review.

The car park is now in use as the main project site car park. Some minor snagging remains outstanding and this together with items determined at a final inspection will be addressed towards the end of the project. This snagging will include some ponding issues on the top floor and trip hazards at stairwell entrances.

Steelwork erection to the 1st floor east side podium in the main atrium is completed with overcladding ongoing. Previously some areas of intumescent paint still were in need of remedial action but Brookfield has indicated these have been addressed.

Installation of M&E equipment has been causing concrete spalling to some columns (e.g. in plant room 22) and column bases (e.g. roof level) where bolt fixing has been attempted. Brookfield is aware of this and will address these items.

Local ponding on the north side of Govan Road remains outstanding, together with roadway issues on the dual carriageway leading to Renfrew Road. Brookfield is aware of this and will rectify at an appropriate time in line with their programme for these areas. Work to the existing internal hospital road has commenced during the period with traffic light control being required. Quality of works to date on this appears satisfactory.

Pavement blockwork has progressed significantly on the west side of the building during the period with quality to date generally good although some local kerbing snagging is required. On the north side kerbing and stone paving placement has again continued. Quality to date appears good in all areas.

The M&E installation quality is being maintained to a good industrial standard and we are generally satisfied that the installation is compliant with exception of the specific items which we have raised with Brookfield.

The M&E installations is continuing with 1st fix installations taking place in specific specialist areas, lift and stair lobbies and "B" programme areas. The quality of the work in these areas has been to a good industrial standard.

Commissioning and testing on levels 0 to 3 are the most advanced. Final proving / commissioning is still to be carried out in operating theatres etc, when the doors, lights and grilles are complete. 2nd fix installation and testing is continuing on all Levels. On Level 12 the installation of plant and equipment, pipework, ductwork, insulation, smoke extract systems, lift electrical supplies, electrical switch boards, power and control wiring all in progress. Testing and commissioning is continuing in all plant rooms, with PR22 significantly complete with only fine tuning of the areas being served on going. Commissioning and testing is continuing in plantrooms in PR22, PR31, PR32, PR33, PR41 (A) on all Level 12 Plant Rooms.

In the Energy Centre the installation of the CHP is continuing with gas and LTHW pipework installed and final electrical connections and testing completed in preparation for commissioning.

During November, in the A&C Hospitals, we witnessed the following:

- Fire damper drop test on Level 8.
- Air flow witnessing in PR124 AHU 01, 04 & part 05.
- Air flow witnessing in PR41 AHU 01, 16, 34 & 01EF01, 02EF01 & 34 EF01.
- DHW systems in PR22 PU 103 / 104.
- Duct cleanliness in PR31 AHU 15, 38, 41 & part PR 22 AHU 14, 15, 1 & 2.
- Fibre cable test between Comp room 102 and selected hubs.
- Air flow witnessing in PR 122 AHU 05.
- Re-witnessing of fire panels.
- Duct cleaning inspection.
- BMS Commissioning in PR31.
- LVT Heating.
- Commissioning of ultra clean theatre canopies.
- Fire damper drop tests on Level 9. One fail, FD 9 506 002.
- Duct cleaning inspection.
- Generator load test.
- Fire damper drop test Levels 10 & 11.
- Ventilation air flow tests in PR22 AHU 09 & 10.
- BMS commissioning / demonstration to NHS in PR31.

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- Chilled water, 41 PU 4 & 5 flow rates.
- BMS commissioning / demonstration to NHS in PR31.
- Lighting commissioning L4ZK, L5ZK, L6ZK, L7ZK, L8ZK & Re-visit L0ZD.
- Fire damper drop tests, level 11.
- Generator load test linking Energy Centre side A and side B.
- Smoke dampers, Level 3.
- Smoke dampers on Level 3. 3 crossed addresses, and 1 mechanically faulty.
- Sprinkler pipe work pressure test. Level 11 Zones F, K & J and Level 4 PR41.
- UPS load test, PR31, UPS room.
- Witnessing of sterilised outlets on levels 0, 1, 2 & 3 and tank inspection in Basement.
- Fire panel tests, fire panel. P3 - One SD N/W and two sounders set for voice activation. P7 - One beacon N/W.
- Fire panel tests, fire panel P41 & P46. Randomly tested SD's and call points tested successfully.
- Air flows in PR122 AHU04, PR22 EF01 & 02, & PR33 AHU 01 & 05.
- LTHW and CW water treatment tests.

We are continuing to work with Brookfield during our inspections highlighting any items that have raised concern. Items identified in this manner are generally being addressed by the site team in advance of any defect notice being raised.

In general terms we are satisfied that the installations continue to be installed to a compliant standard, and are of a good quality. However we have noted that certain items this month have raised concern. These have been raised with the Contractor as follows:-

Supervisor's Communication General Matters / Other Instructions No's 223, 224, 225 and 226 were issued during November.

- Seeking confirm that all vertical blind wands will be fitted throughout and will be fully functional prior to handover.
- Seeking confirmation that trip hazards similar to Communication No 209 will be considered for the installation of grills.
- Seeking confirmation that temporary doors or partition will be fitted to provide 60 minute fire rating between room RCF-024 and the corridor.
- Seeking the waterproofing detail for the smoke extract fan in the Children's Hospital.

Supervisor's Notification of Defect No 82, 83, 84, 85, 86, 87 and 88 was issued during November.

- Seeking confirm that mould on plasterboard will be addressed.
- Seeking confirmation of remedial action to resolve ponding.
- Seeking confirm that the vinyl floor covering will be replaced across the full width of the bridge to match the benchmark floor on Level 4 Link Bridge.
- Level 12 stair core G which is not in accordance with the manufacturer's recommendations.
- Poorly laid edging kerb at the south west corner of the Children's Hospital.

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- Cladding to column damaged on the South Elevation.
- Two discoloured areas on the the capping piece on the north east elevation of the Children's Hospital.

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2.0 DESIGN COMPLIANCE CHECK

Currently nothing to report.

3.0 PROCEDURES REVIEW

3.1 Contractor's QA Procedures / Compliance Inspections

Quality and Compliance inspections

Brookfield and their subcontractors have continued with their QA and checking and inspection procedures during this period. We are in discussion and liaise with Brookfield's Quality Manager on QA matters and we undertake regular reviews of their QA documentation.

Quality and compliance inspections were carried out with Brookfield in a number of areas.

We noted during our room inspections that there were windows which either did not have their vertical blind wands fitted or were defective.

We asked Brookfield to confirm that all vertical blind wands will be fitted throughout the Adult and Children's Hospitals and that all blinds will be fully functional prior to handover. They anticipate that all wands will be fitted to windows and all blinds will be fully functioning prior to project handover. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 223).

Quality & Compliance inspections were also carried out on Level 2 "B" Rooms. The rooms inspected were generally to a good standard and the defects captured by Brookfield were generally of a minor nature. We identified a few minor snags/defects which Brookfield recorded on the IDMS.

Quality & Compliance inspections were also carried out on Levels 8, 9, 10 and 11 "B" Rooms. The rooms inspected were generally to a good standard and the defects captured by Brookfield were generally of a minor nature. We identified a few minor snags/defects which Brookfield recorded on the IDMS.

Quality & Compliance inspections were also carried out on Level 0 "B" Rooms. The rooms inspected were generally to a good standard and the defects captured by Brookfield were generally of a minor nature.

We planned to carry out inspections on Level 1 Zones G, D, A, H, and E following the completion dates given in the Final Sweep Programme. We commenced our inspections in 1-528 and found 29 defects/snags. These included:

- End cap missing from drop down rail.
- One light not working.
- Skirting detached.
- Pull cord is in the wrong position.

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- Lights still to be positioned into the grid system.
- Gap between nurse base and column not filled.



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We note that there was insufficient activity space in front of the WC bowl in the room WS5-020 on Level 5 Atrium Bridge. We asked Brookfield to confirm their action to address this issue. Brookfield confirmed that the toilet layout has been constructed and the WC installed as the NA 400 Series drawing which has been approved by NHS Board. However they carried further investigations in Levels 9 and 5 in the male toilet of the male changing room. The doors have been installed larger than required resulting in the activity space being reduced. These two toilet doors will be reduced to allow the required 450mm activity space for access. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 217



Following recent inspection on site we noted that there were door sets which had veneers that did not match. This poor quality of finish occurs in isolated locations throughout the Hospital. We asked Brookfield to confirm that a review of the doors has been carried out on all levels and that door sets are matched where there are dissimilar veneers. Brookfield is currently in discussion with the Sub Contractor TDSL with a view to rectifying this discrepancy. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 221).



We carried out roof inspections to the Roof R4-009, R3-001 and R3-021 and R2-005. Generally Brookfield has captured all the snags/defects. However we did note that some of the capping pieces on Level 3 south elevation are a different shade from the others. Consequently we have raised Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 213. We asked Brookfield if the different shaded capping pieces have been recorded in the IDMS as a snag/defect and that further remedial action will be undertaken. Brookfield advised that regrettably, Prater advises them that the issue raised is not a defect but a consequence of using a metallic paint

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finish on multiple pieces of metal. The angles of the metallic flecks differ when applied to individual components which sometimes create an apparent difference in appearance depending on the light conditions when viewed from distance.

Prater will supply test samples of the specified RAL colour and demonstrate that the components are the same colour.

Room Back Checks

Back checks were carried out to rooms in the Adult Hospital on Level 2. The quality of the finish was to a good industrial standard. We identified a few minor snags/defects which Brookfield recorded on the IDMS.

We carried out back checks to rooms on Level 0 Children's Hospital. The quality of the finish was generally to a good industrial standard, however a door to be fitted. We identified only a few minor snags/defects which Brookfield recorded on the IDMS.

It was noted during fire damper tests at various locations on Level 1 that access to testing the operations of each fire damper was difficult due to the size of the access hatch. Brookfield confirmed that access doors have been widened on Level 1 Area 1-505 and 1-538. The access hatch on Level 1 Area 537 has still to be widened. The fire dampers which are not located in the walls on Level 1 Area 1-537 have still not been addressed to maintain fire barrier. (See Supervisor's Communication General Matters / Other Instructions (Cal 13.1) No 206).

The recessed area on the right hand side of the wash hand basin in room OPD1-004 Level 1 Area 1-539 is congested. There is a nurse call, dispenser and grab rail to be fitted. We asked Brookfield to confirm how the fittings can be fitted within the present space or if there are any proposals to reposition fittings. Brookfield has confirmed that the OPD1-005 – nurse call is to be positioned to the correct location as per 400 series drawing and the grab rail may be situated on side panel but this has to be investigated. The OPD1-004 – IPS trespass location to be investigated on potential move to allow space for grab rail. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 194).

Zutec Review

We are continuing to review the testing information on Zutec on a regular basis as it is entered.

Acoustic Tests

The partitions which were tested and did not achieve the performance criteria have been inspected, modified and retested successfully. However there remains one partition between rooms THE-326 and THE-327 which require acrosstalk attenuator to be fitted.

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Above Ceiling Inspections.

We carried out an inspection with Brookfield of the above ceiling fire stopping on Level Areas 0-531 0-532 0-533 and 0-534. We identified 10 fire stopping issues which required attention prior to the inspection of Building Control inspection.



Above ceiling inspections were carried out in the Children's Hospital Level 3 Areas 3-506 and 3-507.



No sleeve visible.



No damper indicator bulb visible.



No sleeve visible.

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We carried out above ceiling inspections of fire stopping in the Adult Hospital on Level 2 Areas 2-505 3-506 and 3-507. Generally the fire stopping had been carried out satisfactorily to the areas which were available for inspection. However we did identify a pvc pipe without a sleeve.



We have reviewed Brookfield's procedure for closing out the above ceiling fire stopping and found them to be satisfactory. They are continuing to inspect and close out areas

General Inspections

We asked Brookfield to confirm if they will be fitting temporary doors or a section of partition at the break out area in room RCF-024 to provide a 60 minutes fire rating. The break out area must be in accordance with the fire strategy, the existing partition and satisfy Building Control. They confirmed that this room is to be fitted out by NHS. The current date for fit out is beyond the Project Completion date. They will therefore remove the break out panels and reinstate the 60 minutes fire integrity of the partition at the existing break out area. In addition the service penetrations at high level through fire walls will be fire stopped. Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 225 is closed out.



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Following our inspection with Brookfield of vinyl in Room CENWC-028 (Room 69). We asked Brookfield to confirm that the three vinyl panels between the door and the window will be replaced with one length of vinyl. This is also to include bubbled areas. Brookfield has confirmed that following the NHS use of this room within the 5H section they will replace the damaged vinyl in Room CENWC-028 (Room 69). To allow this replacement vinyl to be installed they require the NHS to remove their equipment from the room. Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 219 is closed out.



We have asked Brookfield to provide the waterproofing detail for the smoke extract fans. Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 226.



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Completion Criteria

We reviewed Brookfield procedures for collating letters, certificates, licences, approvals etc to populate the Completion Criteria. Brookfield has compiled hard copy folders which contains the completion verification information as stated above. The folder has items which relates to contents uploaded to Zutec. We have noted that Brookfield is populating their files satisfactorily. They have recently updated their key components with a list of all Board approved matters.

3.2 Witness Testing and Commissioning

We witnessed a number of tests during November which were satisfactory and these were as follows:

- (293) Fire damper drop test on Level 8.
- (294) Air flow witnessing in PR124 AHU 01, 04 & part 05.
- (295) Air flow witnessing in PR41 AHU 01, 16, 34 & 01EF01, 02EF01 & 34 EF01.
- (296) DHW systems in PR22 PU 103 / 104.
- (297) Duct cleanliness in PR31 AHU 15, 38, 41 & part PR 22 AHU 14, 15, 1 & 2.
- (298) Fibre cable test between Comp room 102 and selected hubs.
- (299) Air flow witnessing in PR 122 AHU 05.
- (300) Re-witnessing of fire panels.
- (301) Duct cleaning inspection.
- (302) BMS Commissioning in PR31.
- (303) LVT Heating.
- (304) Commissioning of ultra clean theatre canopies.
- (307) BMS commissioning, PR31.
- (308) Duct cleaning inspection.
- (309) Generator load test.
- (310) Fire damper drop test Levels 10 & 11.
- (311) Ventilation air flow tests in PR22 AHU 09 & 10.
- (312) BMS commissioning / demonstration to NHS in PR31.
- (313) Chilled water, 41 PU 4 & 5 flow rates.
- (314) BMS commissioning / demonstration to NHS in PR31.
- (315) Lighting commissioning L4ZK, L5ZK, L6ZK, L7ZK, L8ZK & Re-visit LOZD.
- (316) Fire damper drop tests, level 11.
- (317) Generator load test linking Energy Centre side A and side B.
- (318) Smoke dampers, level 3.
- (320) Sprinkler pipework pressure test. Level 11 Zones F, K & J and level 4 PR41.
- (321) UPS load test, PR31, UPS room
- (322) Air flows in PR122 AHU04, PR22 EF01 & 02, & PR33 AHU 01 & 05.
- (323) LTHW and CW water treatment tests.
- (324) Witnessing of sterilised outlets and tank inspection in Basement, and Levels 0, 1 & 2.

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- (326) Fire panel tests, fire panel P41 & P46. Randomly tested SD's and call points tested successfully.

We witnessed tests during November 2014 which were unsatisfactory:

- (305) Fire damper drop tests on level 9. One fail, FD 9 506 002.
- (319) Smoke dampers, level 3, 3 crossed addresses, and 1 mechanically faulty.
- (325) Fire panel tests, P3 - One SD N/W and two sounders set for voice activation, & P7 - One beacon N/W.

Previously witnessed tests which failed and have been re-tested successfully:

- (211) Lighting control on Level 0 Zone D. Failed due to several incomplete bed head lighting control defects.
(236) Fire panel No tested 8 ok, P56 - No strobe installed within FM3 046 disabled toilet, although device installed is as per drawing. BMCE / Mercury to check design. Re-tested successfully 11.11.2014.
- (237) Fire system tests. Panels 37, 50 & 51 all tested ok. Panel 38 Loop 2 - One ceiling mounted smoke detector described as void detector. To be rectified and retested.
Re-tested successfully 11.11.2014.
- (238) Fire systems test - Panel 25, Wall mounted sounder to be changed to strobe. Panel 26 One sounder missing from disabled WC & no devices installed in Adolescent activity room. BMCE / Mercury to check.
Re-tested successfully 11.11.2014.
- (288) Revisit of fire panels P4, 5, 24, 25, 26, 38, 50 & 56.
Panel No 24 not complete. (See item 242).

Previously witnessed tests which require to be retaken:

- (87) Smoke damper test verification was tested successfully on Level 0 zone D. Zone G still outstanding.
- (139) Smoke dampers were tested in plantroom 31 and there were some which failed. No power to panel.
- (176) VPI missing from Level 0 Zone H fire damper FD 0 530 013.
- (180) FD 1-538 008 - Access hatch too small.
- (181) FD 1-537 004 - Access hatch too small and fire seal or repositioning required. Dampers No's 002, 003 & 004 are not installed within walls and were not tested.
- (212) Fire damper drop test on Level 9. (VPI missing from FD 9-511 001).
- (217) Fire damper drop testing on Level 0. (FD 0-537 005 & FD 0-540 002, VPI's obscured).
- (227) Car park emergency lighting. Lights remaining on mains power when on test and, emergency lights not in correct positions.
- (230) Ventilation test in PR31 AHU 64. Unacceptable readings.
- (232) Fire damper No FD 1 539 015 failed. VPI missing.
- (242) Fire Panels P24. One optical detector requires to be changed to strobe in room OWD-033. Damper retested successfully 11.11.2014, Address to be confirmed.
- (258) Fire damper drop tests on Level 0-zones 531, 532, 533, 535 & 536.

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Two dampers inaccessible, FD 0 536 014 & FD 0 536 015.

- (259) Fire damper drop tests in Basement zones 504, 505 & 506. Unable to access FD B 504 001, + no damper fitted to adjacent duct.

WATER TREATMENT SPECIALISTS

WATER TREATMENT Sample Report

Project: *NSGH Adult*
Client: *NSGH Adult*
System: *PR 32, H&V Central*
Engineer: *C. Smith*
Date: *25-11-14*

Remarks:

Sample Results:

Water Quality Test	BSRIA Acceptable Levels	System Sample
Sample Location		<i>PR 32</i>
Iron Level	Less Than 5mg/l	<i>0.5</i>
Total Dissolved Solids	Max 2500 mg/l	<i>1300</i>
Electrical Conductivity	Max 4000 us	<i>1750</i>
Molybdate Inhibitor	270 - 310 ppm	<i>N/A</i>
Nitrate Inhibitor	100 - 350 ppm	<i>1100</i>
Chlorine Content	20% - 30%	<i>N/A</i>
pH Level	7.0 - 10.0	<i>7.81</i>
Water Clarity	Free from particles	<i>Clear & Free from particles</i>

Signed on behalf of H & V: [Redacted] Date: *25-11-14*

Signed on behalf of Client: [Redacted] Name: *70/11/14*

Kilnmore Office
16 Barrmill Road,
Glasgow KA4 8HH

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2014/11/25

The above is a typical example of CHW and LTHW water treatment log book which H&V are leaving at monitoring stations within the plantrooms. The examples shown are from a heating system in PR32, taken on the 25th November 2014 and from previous samples taken in the same location. Should a system need dosing, additional chemicals would be applied and logged on the sample sheet. This would be monitored for improvement at the next test.

3.3 Board Equipment Installation,

Currently nothing to report.

3.4 Non Conformance Reports

We reviewed Brookfield's NCR Tracker and noted the issues raised by the Package Managers. Brookfield confirmed that the tinting to the blockwork will be carried out to the pointing on the south and east elevations. Prater has still to offer it up to Brookfield as complete reference NCR 156.

SUPERVISOR'S REPORT NO. 43**NOVEMBER 2014****4.0 CONSTRUCTION REVIEW****4.1 Visits to the Works**

The following members of our team undertook site inspections, reviewed documentation, attended meetings and met with relevant Contractors representatives on-site personnel:- John Redmond (Lead NEC3 Supervisor) 3rd to 7th, 10th to 14th, 17th to 21st, and 24th to 28th. Douglas Wilson (M&E NEC3 Supervisor) 3rd to 7th, 10th to 14th, 17th to 21st, and 24th to 28th. Willie Roxburgh (Civils/Structural NEC3 Supervisor) part days on the 4th, 12th, 19th and 26th November. Capita's NEC3 Supervisor's team visited site a combined 45 person days.

4.2 Elements of the Works available for inspection

Main building – structural areas very limited.

Structural steelwork to all roof areas (increasingly limited due to access and partitions).

Neuro bridge (partly limited due to access).

Dual carriageway to Renfrew Road, turning area in front of the main entrance and carriageway from Hardgate Road.

All sides external works.

Internal courtyards.

Perimeter hard and soft landscaping

All works fit out works, fabric, and works to roofs and cladding are nearing completion.

4.3 Current Observations

The visual inspections of the work carried out to date indicate that the works are generally being carried out to a satisfactory standard. We continue to be assisted by the site teams and the NHS Project Team in resolving various construction, mechanical, electrical, and quality issues. We continue to close out our Supervisor's Notification and Defects when we have received satisfactory responses.

4.3.1 Structural and Civil Works

The steel framework in riser on Level 0 ZF Riser M30 has had the legs extended immediately in front of the entrance door. There are other legs which have not been extended yet and we asked Brookfield to confirm when the other legs will be extended. Brookfield informed us that Mercury removed the feet on the framing having it suspended from the soffit of the floor above. Brookfield has consulted with WSP re the allowable load on the slab edge around the risers. The design line load around the riser slab edges is based upon 0.8kN/m height/sq.m plan area. The calculations submitted by Mercury show a load of 0.99kN/m/sq.m which exceeds the design criteria therefore the legs will require extending to provide support from the lower floor. Mercury has been informed to replace/ extend the feet. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 162).

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Extended legs



Leg still to be extended.

Car Park 1

The car park is now in use as the main project site car park. Some minor snagging remains outstanding and this together with items determined at a final inspection will be addressed towards the end of the project. This snagging will include some ponding issues on the top floor, and trip hazards at stairwell entrances.

Some areas of intumescent painting to the steelwork on the 1st Floor Podium on the East Side of the Main Atrium appear to be chipped. Brookfield has confirmed that all chips to the intumescent paintwork have been addressed prior to the areas being covered up. Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 210 is closed out.

We noted a distribution board fixing has caused the concrete column to crack on Level 2 Plant Room 22. Following discussions with Brookfield and they intend to carry out a localised repair using high strength, low shrinkage (Cementitious with polymers) R4 repair mortar. We asked Brookfield to confirm that they have inspected all plant rooms to identify and repair similar cracked concrete as shown in the photo. Brookfield confirmed that they will carry out localised repairs using high strength, low shrinkage (Cementitious with polymers) R4 repair mortar. All plant rooms will be checked for similar cracked concrete as shown on Capita photo. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 222).



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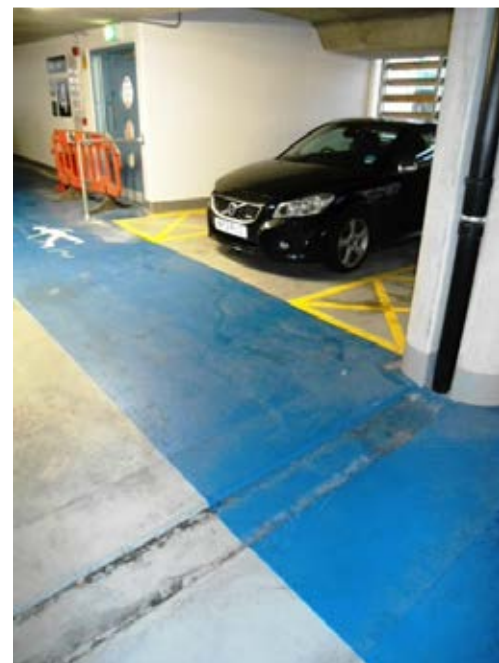
We also noted at roof level of the ACH that the support bases to the columns are spalling. Brookfield confirmed that they would use the R4 repair mortar to effect a repair.



The car park floors on levels 1, 2, 3, 4, and 5 adjacent to the stair on the east elevation have recessed channels which cross the pedestrian walkway similar to the potential trip hazards identified in Communication No 209. Some of the channels are in excess of 30mm. We have asked Brookfield to confirm if the same solution which is being considered to resolve Communication No 209 (installation of grills) will be considered. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 224).



Level 5



Level 4

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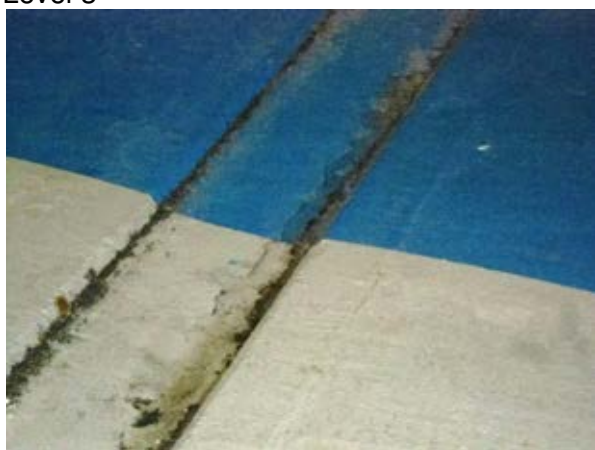
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Level 3



Level 3: Channel exceeds 30mm deep.



4.3.2 Energy Centre

Steelwork snagging appears to have been addressed.

4.3.3 Above Ground Drainage

Substantially completed with satisfactory quality to date.

4.3.4 External Works

Building Surround

Pavement blockwork has progressed significantly on the west side of the building during the period with quality to date generally good although some local kerbing snagging is required. On the north side kerbing and stone paving placement is again continuing to progress. Quality to date appears good in all areas.

Govan Road/Renfrew Road & ACH Entrance Road

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Local ponding on the north side of Govan Road remains outstanding, together with roadway issues on the dual carriageway leading to Renfrew Road. Brookfield is aware of this and will rectify at an appropriate time in line with their programme for these areas.

The defects previously identified on the entrance road will be reviewed nearer to completion when they will be effectively rectified. This will also now include the significantly damaged kerb lines affected by the storage and lifting of the neuro-bridge sections.

Existing Internal Hospital Road

Work to the existing internal hospital road has commenced during the period with traffic light control being required. Quality of works to date on this appears satisfactory.

4.3.5 Mechanical Services

Installation of hot, cold, heating & chilled water pipework in the A&C Hospital is well in advance in all plantrooms and in general is being installed to a good standard which we are continuing to monitor. The DHWS and CW are being installed to a good standard with 2nd fix still to be completed. We are aware that water is now being supplied to pipework within the podium.

Witnessing of the ventilation systems is ongoing. The operating theatre areas are to be revisited for final proving once doors, lights and grilles are installed.

Insulation is nearing completion in all areas. Minor tidying up works and completion of the Venture clad jacketing is ongoing. Any damage reported during our joint inspections of plant rooms with Brookfield is being addressed. We will still continue to monitor the quality of the installation and await an invitation for final inspection. Pressure testing of the modular pipework sections on a zone by zone or area by area basis has been programmed through the commissioning meetings and is complete apart from Plantroom 41 domestic water.

Brookfield has informed us that pre commissioning is in progress and we have been invited to witness tests.

The pressure testing of the sprinkler systems is nearing completion in the basement and remaining levels in the tower.

Mechanical fire damper drop tests and the Quality and Compliance Inspections, are continuing and the damper positional indicators which have been found to be obscured by sealant are continuing to being addressed by Brookfield.

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The three high level smoke extract fans on Level 4 Zone C appear to be complete with the fans and actuator totally enclosed with no access for maintenance.

The fan has a local actuator fitted, but there is no local means of isolating the 240 volt actuator. There are four similar fans also on the third floor which are in the process of being similarly installed. We asked Brookfield to confirm how access will be provided to the fan for future maintenance without cutting into the weatherproof membrane.



Brookfield responded by informing us that each fan has an isolator switch which is located adjacent to the ventilator and is shown in the photograph. The power to the fans and ventilators is taken from the Atrium Control Panel which is also has its own isolator.

They also intimated that the ventilator has a top removable blade as shown in the photograph which allows access to its actuator. We have asked Brookfield to demonstrate how access can be gained to the actuator. We are of the view that there is no means to isolate the damper actuator locally to allow safe work.

The weather seal enclosing the electrical box on the 3x smoke extract fans on Level 5 is done by others and not part of Mercury's install. We accept that the weather proofing is not a Mercury issue, but access to the fan motor terminal box is a requirement and requires to be resolved by Brookfield. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 214).

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The NHS Technical Manager of the Project Team informed us that together with Brookfield three Air Handling Units were tested. 4IAHU10 and 41AHU010 tested satisfactorily but there was an air leak at the damper on leaving the AHU.

4.3.06 Electrical Services

Work in relation to containment is nearing completion.

Work is still ongoing to security, CCTV and intruder alarm.

The quality of the general and emergency lighting installed to date is of a good standard with the witnessing of the lighting controls ongoing.

The installation of the power outlets is ongoing.

There are a number of ophthalmology rooms which have both SWC026 – switch dimmable and SWC034 – dimmer modulating listed on the signed off room location sheet (C sheet). However the SWC034 – dimmer modulating cannot be seen in the following rooms:

- Consulting room – OPD1-069.
- Consulting room – OPD1-069.
- Consulting room – OPD1-071.
- Consulting room – OPD1-076.
- Consulting room – OPD1-028.
- Consulting room –OPD1– 029.
- Fields Test room – OPD1-031.
- Fields testing –OPD1-032.

In Visual Acuity Room – OPD1-030 the room has both SWC025 and SWC026 (switch dimmable) listed but the SWC026 cannot be seen. We asked Brookfield for clarification and they confirmed that all the rooms noted will be altered to accommodate the required dimmer switches. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 212 is closed out.

4.3.07 Energy Centre

We await notification to witness the commissioning of the CHP's.

4.3.08 Intake Sub Station

Brookfield has informed us that all cables have now been pulled through to the sub-station and all water has been removed from the pits. We are awaiting confirmation that the cables have been sealed. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 30 & 45).

4.3.09 Partitions

Nothing to report.

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4.3.10 Doors

Adjustment to floors beneath doors continuing.

The east door clashes with one of the fans on Level 3 Core H link corridor. We have asked Brookfield to confirm their action to resolve this clash. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 215).



4.3.11 Windows

Windows are progressing on the external elevations and courtyards in accordance with the specifications.

4.1.12 Equipment

Nothing to report.

4.3.13 Ducting

Ductwork to several items of plant which has still to be installed within plantrooms 41, 121, 122, 123 & 124 which are nearing completion.

4.3.14 Floors

Nothing to report.

4.3.15 Blockwork

We have reported since April 2013 that the quality and standard of workmanship of the blockwork on the east elevations was not to a good industrial standard.

Tinting of the dark pointing has commenced and we await Brookfield notifying us when the work is complete to allow us to carry out an inspection.

4.3.16 Heating

There are gaps in the thermal insulation in the back box of the remote TRV's mounted on external walls controlling the radiant panel heater in Level 0, ZA ward OBW 009. There is the likelihood that this will cause the TRV to be affected by the lower temperature in the partition void causing the Radiant panel to emit heat unnecessarily wasting energy. This applies to other similar TRV's on outside walls. We have asked Brookfield to confirm if this has been considered and if remedial action will be taken to address this. Brookfield has asked Mercury to report on this

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issue. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 199).

4.4 Current Defects.

Although some work has been carried out to improve the quality the pointing on the external blockwork on the south and east elevations. Some of the blockwork does not reflect the quality of the pointing on the blockwork benchmark sample. Consequently we have raised Supervisor's Notification of Defect (CI 42.2) No 81.



The plasterboard above the ceiling in Room has mould growth. Brookfield has confirmed that all plasterboard in this area affected by mould growth has been brushed, washed and cleaned of any mould in compliance with European Commission for Health & Environmental Alliance protocols. Consequently Supervisor's Notification of Defect (CI 42.2) No 82 is closed out.



Some of the outlets taking the rainwater from the top level of the Car park are too high consequently water is ponding in the recessed channels.

We have asked Brookfield to confirm what remedial work will be undertaken to resolve this issue and confirm when the work is complete. See Supervisor's Notification of Defect (CI 42.2) No 83.

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The vinyl had sustained damaged across the full length of the Atrium Bridge. We have asked to confirm that the vinyl floor covering will be replaced across the full width of the bridge to match the benchmark floor on Level 4 Link Bridge. See Supervisor's Notification of Defect (CI 42.2) No 84.



Cables used in the fire alarm installation have been forced into conduits boxes on Level 12 stair core G which is not in accordance with the manufacturer's recommendations. This was previously raised through Supervisors Defect Notification No 68 regarding the stress caused to FP and was addressed. We have asked Brookfield to confirm when this defect has been addressed. See Supervisor's Notification of Defect (CI 42.2) No 85.



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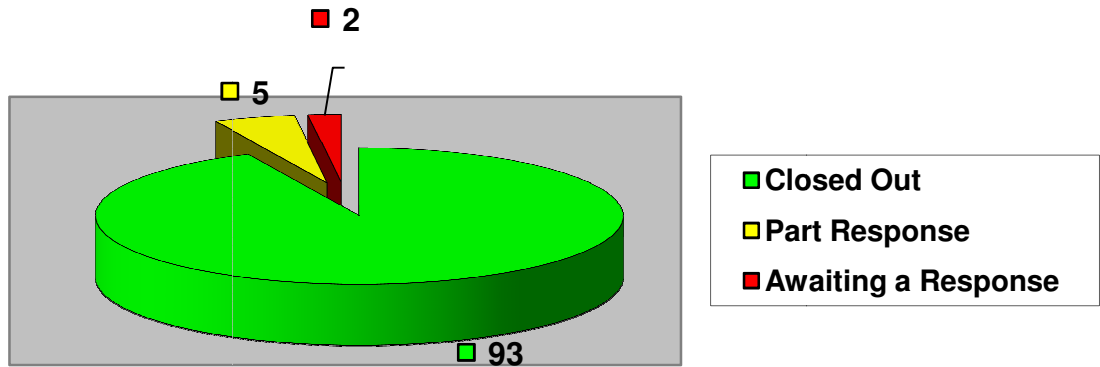
The edging kerb near the south west corner of the Children's Hospital has been poorly laid. We have asked Brookfield to confirm when this has been addressed. See Supervisor's Notification of Defect (CI 42.2) No 86.



The cladding to the column on the South Elevation of the Adult Hospital is damaged. We asked Brookfield to confirm when this has been addressed. They have confirmed that the damage has been noted by their sub contractor and replacement cladding panel has been put on order. This will be replaced when the new section has been received. See Supervisor's Notification of Defect (CI 42.2) No 87.



5.0 INFORMATION REQUIRED



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Item No.	Description	Date Requested	Comment	
Items 1 to 29 have been closed out.				
30	Confirm when cabling is complete, water pumped out and batteries removed.	10.08.12	Response received.	
Items 31 to 44 have been closed out				
45	See Supervisor's Communication No 30.	18.09.12	Response received.	
Items 46 to 161 have been closed out				
162	Confirm when the other legs have been extended to the steel framework in riser on Level 0 ZF Riser M30.	16.09.13	Response received.	
Items 163 to 193 have been closed out				
194	Seeking confirmation how the fittings can be fitted within the present space or congested.	17.02.14	Response received.	
Items 195 to 198 have been closed out				
199	There are gaps in the thermal insulation in back box of remote TVR's. Confirm remedial action.	20.03.14	Response received.	
Items 200 to 205 have been closed out				
206	Confirm that the difficult access to various fire dampers on Level 1 Areas 505, 508 and 537 will be addressed.	19.05.14	Response received.	
Items 207 to 209 have been closed out				
210	Confirm that the chipped intumescent paint will be addressed.	11.07.14	Closed out.	
211	Confirm remedial action to remove the risk of tripping over the recessed channels in the pedestrian walkways. (Car Park).	05.08.14	Closed out.	
212	Seeking clarification in relation to dimmers which have not been fitted in the Ophthalmology Rooms on Level 1 in accordance with the signed of drawing (C sheet).	02.10.14	Closed out.	
213	Seeking confirmation that the different shaded capping pieces have been recorded in the IDMS as a snag/defect and that further remedial action will be undertaken.	09.10.14	Response received.	
214	Seeking confirmation how access for maintenance high level smoke extract fans on Level 4 Zone C without cutting into weatherproof membrane.	09.10.14	Response received.	
215	Seeking confirmation of action to resolve the east door clashes with one of the fans on Level 4 Core H link corridor.	09.10.14	Open.	
216	Seeking confirmation that the low lintel at the Electrical Cupboard WS4 032 will be lowered.	09.10.14	Open.	
217	Seeking confirmation that the sufficient activity space will be created at the front of the wc bowl	14.10.14	Response received.	
218	Seeking confirmation that the patch vinyl in corridor aaw-203 will be replaced.	15.10.14	Closed out	
219	Seeking confirmation that the three vinyl panels between the door and the window will be replaced with one length of vinyl in Room CENWC-028 (Room 69).	20.10.14	Closed out.	
220	Seeking confirmation that the patch at the double doors near Core G Level 4 wil be replaced.	21.10.14	Closed out.	
221	Confirm that a review of the doors has been carried out on all levels and that door sets match.	29.10.14	Response received.	
222	Confirm that all the plant rooms have been inspected to identify and repair cracks to concrete behind distribution boards.	29.10.14	Response received.	
223	Confirm that all vertical blind wands will be fitted throughout and will be fully functional prior to handover.	13.11.14	Response received.	
224	Seeking confirmation that trip hazards similar to Communication No 209 will be considered for the installation of grills.	13.11.14	Open.	

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225	Confirm if you will be fitting temporary doors or a section of partition at the break out area in room RCF-024 to provide a 60 minutes fire rating.	19.11.14	Closed out.	
226	Provide the waterproofing detail for the smoke extract fan.	19.11.14	Open.	

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6.0 SUPERVISORS TESTS AND INSPECTIONS

Tests not required	N/A
Tests required but not tested	Fail
Tests required which has passed tests	Pass

Tests				
Ref	Title	To be Notified by	Status	Test Date
01-86	Various tests undertaken and passed from the 09. 07.2012 To the 30.06 2013.			
87	Smoke damper test verification - Level 0, zones D & G. Zone G still outstanding.	Brookfield	Failed. Zone G to be re-witnessed	24.09.2013
88-138	Tests 28.09.2013 to 29.02.2014			
139	Smoke damper tests in plantroom 31. Some fails.		FAILED	
140-175	Various tests undertaken and passed from the 03.02.2014 to the 29.04.2014.			
176	VPI missing from FD 0-530 012. Not 013 as previously recorded.	Brookfield	FAILED	29.04.2014
177-179	Various tests undertaken and passed from 08.05.2014 to 09.05.2014.			
180	Fire dampers on Level 1 Zones 505 (FD 1-505 006, 508 (FD 1-508 005), 519 (All ok) FD 1-538 008.	Brookfield	PART CLEARED 19.09.2014 FAILED	15.05.2014
181	Fire dampers on Level 1 Zone 537. FD 1-537 002, FD 1-537 003 & FD 1-537 004 not in wall.	Brookfield	FAILED	15.05.2014
182 - 210	Various tests undertaken and passed from 19.04.2014 to 24.07.2014.			
211	Lighting control test in LOZD Lights offered for witnessing by Schneider passed, but we were unable to test 13 bedheads due to unfinished works by Static. Retest to be arranged.	Brookfield	PASSED	30.07.2014 PASSED 20.11.2014
212	Fire damper drop test in L9ZH. (VPI missing from FD 9 511 001.)	Brookfield	FAILED	30.07.2014
213 - 216	Various tests undertaken and passed from 30.07.2014 to 06.08.2014.			
217	FD 0-537 005 & FD 0-540 002 VPI hidden, retest required. FD 0-537 005 retested successfully 19.09.2014.		FAILED FD 0-540 002 VPI missing. PART CLEARED 19.09.2014	
218 - 229	Various tests undertaken and passed from 13.08.2014 to 11.09.2014.			
230	Ventilation tests in PR31 AHU 64.	Brookfield	FAILED	27.08.2014

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231		Brookfield	PASSED	28.08.2014
232	Fire damper No FD 1-539 015 failed. VPI loose.	Brookfield	FAILED	29.08.2014
233-235	Various tests undertaken and passed from 02.09.2014 to 05.09.2014.			
236	Fire panel No tested 8 ok, P56 - No strobe installed within FM3 046 disabled toilet, although device installed is as per drawing. BMCE / Mercury to check design.	Brookfield	PASSED	09.09.2014 11.11.2014
237	Fire system tests. Panels 37, 50 & 51 all tested ok. Panel 38 Loop 2 - One ceiling mounted smoke detector described as void detector. To be rectified and retested.	Brookfield	PASSED	09.09.2014 11.11.2014
238	Fire systems test - Panel 25, Wall mounted sounder to be changed to strobe. Panel 26 One sounder missing from disabled WC & no devices installed in Adolescent activity room. BMCE / Mercury to check.	Brookfield	PASSED	11.09.2014 11.11.2014
239-241	Various tests undertaken and passed from 11.09.2014 to 15.09.2014.			
242	Fire test P23 tested ok. P24 One optical detector requires to be changed to strobe on room OWD 033.	Brookfield	FAILED	15.09.2014
243-257	Various tests undertaken and passed from 15.09.2014 to 26.09.2014.			
258	Fire damper drop tests on Level 0-zones 531, 532, 533, 535 & 536. Two dampers inaccessible, FD 536 014 & FD 536 015. Hatch through plasterboard access required to access both.	Brookfield	FAILED	26.09.2014
259	Fire damper drop tests in Basement zones 504, 505 & 506. Unable to access FD B 504 001, + no damper fitted to adjacent duct.	Brookfield	FAILED	26.09.2014
260-287	Various tests undertaken and passed from 26.09.2014 to 29.10.2014.			
288	Revisit of fire panels P4, 5, 24, 25, 26, 38, 50 & 56 . Aborted as contractor did not have drawings available to identify previously reported defects. Retested 11.11.2014	Brookfield	FAILED PART CLEARED	30.10.2014
289-292	Various tests undertaken and passed from 31.10.2014 to 31.10.2014.			
293	Fire damper drop test on Level 8	Brookfield	PASSED	03.11.2014
294	Air flow witnessing in PR124 AHU 01, 04 & part 05.	Brookfield	PASSED	04.11.2014
295	Air flow witnessing in PR41 AHU 01, 16, 34 & 01EF01, 02EF01 & 34 EF01.	Brookfield	PASSED	05.11.2014
296	DHW systems in PR22 PU 103 / 104.	Brookfield	PASSED	05.11.2014
297	Duct cleanliness in PR31 AHU 15, 38, 41 & part PR 22 AHU 14, 15, 1	Brookfield	PASSED	06.11.2014

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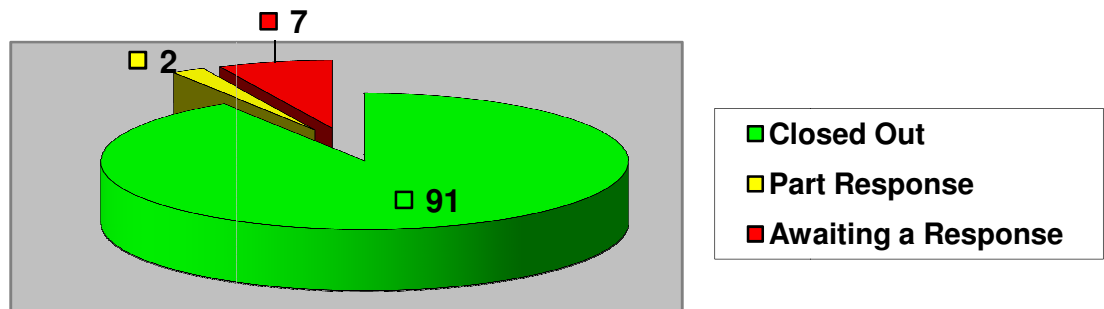
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	& 2.			
298	Fibre cable test between Comp room 102 and selected hubs.	Brookfield	PASSED	07.11.2014
299	Air flow witnessing in PR 122 AHU 05.	Brookfield	PASSED	11.11.2014
300	Re-witnessing of fire panels. (See 288)	Brookfield	FAILED	11.11.2014
301	Duct cleaning inspection.	Brookfield	PASSED	12.11.2014
302	BMS Commissioning in PR31.	Brookfield	PASSED	13.11.2014
303	LVT Heating.	Brookfield	PASSED	13.11.2014
304	Commissioning of ultra clean theatre canopies.	Brookfield	PASSED	13.11.2014
305	Fire damper drop tests on level 9.	Brookfield	FAILED	14.11.2014
306	BMS commissioning, PR31.	Brookfield	PASSED	13.11.2014
307	Duct cleaning inspection.	Brookfield	PASSED	18.11.2014
308	Generator load test.	Brookfield	PASSED	19.11.2014
309	Fire damper drop test Levels 10 & 11.	Brookfield	PASSED	19.11.2014
310	Ventilation air flow tests in PR22 AHU 09 & 10.	Brookfield	PASSED	19.11.2014
311	BMS commissioning / demonstration to NHS in PR31.	Brookfield	PASSED	19.11.2014
312	Chilled water, 41 PU 4 & 5 flow rates.	Brookfield	PASSED	20.11.2014
313	BMS commissioning / demonstration to NHS in PR31.	Brookfield	PASSED	20.11.2014
314	Lighting commissioning L4ZK, L5ZK, L6ZK, L7ZK, L8ZK & Re-visit L0ZD.	Brookfield	PASSED	20.11.2014
315	Fire damper drop tests, level 11.	Brookfield	PASSED	21.11.2014
316	Generator load test linking Energy Centre side A and side B.	Brookfield	PASSED	21.11.2014
317	Smoke dampers, level 3	Brookfield	PASSED	21.11.2014
318	Smoke dampers, level 3. 3 crossed addresses, and 1 mechanically faulty.	Brookfield	FAILED	21.11.2014
319	Sprinkler pipework pressure test. Level 11 Zones F, K & J and level 4 PR41.	Brookfield	PASSED	21.11.2014
320	UPS load test, PR31, UPS room	Brookfield	PASSED	21.11.2014
321	Air flows in PR122 AHU04, PR22 EF01 & 02, & PR33 AHU 01 & 05.	Brookfield	PASSED	24.11.2014
322	LTHW and CW Water treatment tests.	Brookfield	PASSED	25.11.2014
323	In attendance with BMCE during witnessing of sterilised outlets and tank inspection in Basement, and Levels 0, 1 & 2.	Brookfield	PASSED	26.11.2014
324	Fire panel tests, fire panel. P3 - One SD N/W and two sounders set for voice activation. P7 - One beacon N/W	Brookfield	FAILED	28.11.2014
325	Fire panel tests, fire panel P41 & P46. Randomly tested SD's and call points tested successfully.	Brookfield	PASSED	28.11.2014

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7.0 DEFECTS NOTIFICATIONS ISSUED



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Items 1 to 69 have been closed out.				
70	Confirm when smoke detectors fitted too close to wall have been repositioned	11.03.14	Closed out.	
Items 71 to 78 have been closed out.				
79	Confirm when the poor workmanship to the blockwork outside room EMC-009 has been addressed.	01.07.14	Response received.	
80	Confirm when the damaged blockwork to the external curve in area 2-513 has been addressed.	01.07.14	Closed out.	
81	External Blockwork on the south and east elevations does not reflect the quality of the pointing on the blockwork benchmark sample.	31.10.14	Open.	
82	Confirm when plasterboard with mould growth has been replaced.	12.11.14	Closed out.	
83	Seeking confirmation of remedial action to resolve ponding.	13.11.14	Open.	
84	Seeking confirm that the vinyl floor covering will be replaced across the full width of the bridge to match the benchmark floor on Level 4 Link Bridge.	17.11.14	Open.	
85	Level 12 stair core G which is not in accordance with the manufacturer's recommendations.	17.11.14	Open.	
86	Poorly laid edging kerb at the south west corner of the Children's Hospital.	18.11.14	Open.	
87	Cladding to column damaged on the South Elevation	18.11.14	Response received.	
88	Seeking confirmation of remedial measures to address the discolouration of the capping pieces.	20.11.14	Open.	

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NOVEMBER 2014

John Redmond, Technical Advisory Services

Property and infrastructure
Capita, The Beacon, 8th Floor, 176 St Vincent Street, Glasgow G2 5SG

	Signed	Date
Originated by	John Redmond	4th December 2014
Completed by	Douglas Wilson	4th December 2014

CAPITA

**NEW SOUTH GLASGOW HOSPITAL
ADULT AND CHILDREN'S HOSPITAL AND ENERGY CENTRE
NEC 3 SUPERVISORS REPORT NO. 44
DECEMBER 2014**

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND
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1.0 EXECUTIVE SUMMARY: ADULT & CHILDREN'S HOSPITAL

Our site inspections during December 2014 continue to indicate that the construction and procedures are progressing in a satisfactory manner in accordance with the Employer's Requirements.

Throughout, the standard and quality of the workmanship is generally good and operations are being carried out in an acceptable manner.

Brookfield provided us with their QA documentation including a list of their defects which had been logged on their IDMS system. They also provided us with a list of excluded rooms and list of works and equipment that required to be completed or installed. We reviewed this information prior to undertaking the inspections. The areas inspected were generally to a good industrial standard and the defects captured by Brookfield were generally of a minor nature and they were recorded onto their IDMS system. We commenced inspections of the areas shown as complete in Brookfield's Final Sweep Programme. Inspections were carried out in area 1-528 and we identified additional defects/snags. We also inspected Level 2 - Zones G, D, H & E and identified minor snags / defects.

Quality and compliance and back checks were carried out on the following Levels.

- Level 0 part inspection of the Children's Atrium.
- Level 3 "B" Rooms.
- Level 4 and 5 "B" Rooms.
- Levels 4-7 "B" Rooms.
- Levels 8-11 'B' Rooms.
- Levels 6 & 7 'B' Rooms.
- Level 0 part inspect of the Children's Atrium 0-512.
- Façade inspections Courtyards 6, 8 and 11.
- Inspections to roofs R1-003, R2-001, R1-002, R2-009, R3-004, R4-008, R5-005 and R6-002.
- A part inspection of Children's 2-508

Inspections following Brookfield's Final Sweep Programme.

- Inspect Sweep Up Level 2 - Zones GDH&E.

We continue to liaise between Brookfield and the NHS Project Team in relation to snags/defects identified by the NHS Project Team.

Zutec entries continue to be under review.

At the car park some minor snagging remains outstanding and this together with items determined at a final inspection will be addressed towards the end of the project. This snagging will include some ponding issues on the top floor, and trip hazards at stairwell entrances.

Installation of M&E equipment has been causing concrete spalling to some columns (e.g. in plant room 22) and column bases (e.g. at roof level) where bolt fixing has been attempted – repairs to these areas has commenced. Clearing up in plant rooms has revealed some steel column base plate issues in the Children's area – Brookfield are aware of this and are pursuing the matter.

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Local ponding on the north side of Govan Road remains outstanding, together with roadway issues on the dual carriageway leading to Renfrew Road. Brookfield is aware of this and will rectify at an appropriate time in line with their programme for these areas. Work to the existing internal hospital road, Langlands Drive, has continued during the period with traffic light control being required. Quality of works to date on this appears satisfactory. Two footpath issues have arisen during the period. These are ponding at the extended footpath area on the east side of the maternity unit and potential specification non-compliance on sections of the footpath to the dual carriageway just north of the energy centre.

Pavement blockwork has progressed significantly on the west side of the building during the period with quality to date generally good although some local kerbing snagging is required. On the north side kerbing and stone paving placement has again continued together with some initial tarmacadam sub-base. Quality to date appears good in all areas.

The M&E installation quality is being maintained to a good industrial standard and we are generally satisfied that the installation is compliant with exception of the specific items which we have raised with Brookfield.

The M&E installations is continuing with 1st fix installations taking place in specific specialist areas, lift and stair lobbies and "B" programme areas, and in areas where external hoists had been installed. The quality of the work in these areas has been to a good industrial standard.

Commissioning and testing on levels 0 to 3 are the most advanced. Final proving / commissioning is still to be carried out in operating theatres etc, when the doors, lights and grilles are complete. 2nd fix installation and testing is continuing on all Levels. On Level 12 the installation of plant and equipment, pipework, ductwork, insulation, smoke extract systems, lift electrical supplies, electrical switch boards, power and control wiring all in progress. Testing and commissioning is continuing in all plant rooms, with PR22 significantly complete with only fine tuning of the areas being served on going. Commissioning and testing is continuing in plantrooms in PR22, PR31, PR32, PR33, and PR41 (A) on all Level 12 Plant Rooms.

In the Energy Centre the installation of the CHP is continuing with gas and LTHW pipework installed and final electrical connections and testing completed in preparation for commissioning.

During November, in the A&C Hospitals, we witnessed the following:

- WI FI Coverage.
- Chlorination of water on level1 zones D & G.
- Air flows – PR121, AHU's 02 & 03..
- Sprinkler pump tests.
- Air flows – 41 AHU 13, 15, 18, 37, 38, & 39.
- Smoke dampers, Level 2 zones D, E, G & H.
- Fire panels, P42 & P45.
- Pneumatic tube commissioning. Zones 5, 9 & 7.
- Air flow test - PR41 AHU 08, EF06, 25 EF02 & PR124 AHO 02.

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- Renal system pressure test.
- MTW Flow rates - Energy Centre.
- Air flows, PR124 AHU 02.
- Fire panel, P30.
- Air flows, PR41 AHU 03, 33, 40 & 41.
- Air flows, PR 41 AHU 42, 43, 44 & 45.
- Children's Hospital panic alarms.
- Air flows, PR121 AHU's 06, PR41 AHU 03b & PR22 AHU 18
- Air flows, PR41 AHU's 19, 23, 28 & 29.
- Air flows, PR41 AHU's 30, 31 & 32.
- Renal water pressure test.
- Lifts cause and effect test.
- Air flows, PR31 27 EF02, 61 EF02, 63 EF01 & 64 EF 02.
- BMS Commissioning, PR32 & PR 33, AHU's and calorifiers.
- Ventilation, PR31 AHU's 63 & 64 & 31 EF11 + PR124 7 EF02.
- Fire panel P32.
- Water sterilisation.
- Ventilation, PR31 AHU's 63 & 64 & 31 EF11 + PR124 7 EF02.
- Fire panel P54 retest.
- Smoke dampers, Level 2 zones D, E, G & H.
- SD 2 526 009 & SD 2 526 010 - wrongly addressed.
- SD 2 524 028 - locked off.
- SD 2 522 028 - seized.
- SD 2 521 026 - hatch required.
- Fire panels, P40 & P52 & revisit P03.
- CCTV - Not all cameras focussed or positioned correctly
- Security - Several doors failed due to broken glasses at emergency egress points, damaged or disconnected wiring at magnets and magnets not aligned.
- Fire dampers, L0 & Basement.
- Access hatch required through plasterboard at 0 507 FD 005.
- 325) Fire panel tests, P3 - One SD N/W and two sounders set for voice activation, & P7 - One beacon N/W tested successfully.
- (139) Smoke dampers were tested in plantroom 31 and there were some which failed. No power to panel. Tested 04.12.2014.
- (87) Smoke damper test verification was tested successfully on level 0 zone D. Zone G still outstanding. Tested 18.12.2014.

We are continuing to work with Brookfield during our inspections highlighting any items that have raised concern. Items identified in this manner are generally being addressed by the site team in advance of any defect notice being raised.

In general terms we are satisfied that the installations continue to be installed to a compliant standard, and are of a good quality. However we have noted that certain items this month have raised concern. These have been raised with the Contractor as follows:-

Supervisor's Communication General Matters / Other Instructions No's 227, 228, 229, 230, 231, 232, 233 and 234 were issued during December.

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- Seeking confirmation in relation to access to the roof adjacent plantroom 41 A, plant room doors and access door to room above core L.
- Seeking confirmation of how Brookfield will address the high step in plantroom 41A which is a fire route.
- Seeking confirmation when incomplete fire protection and fire stopping in plantroom 41 and 41A.
- Seeking confirmation that bolts to steel cleat connectors have been fitted and loose bolts tightened.
- Seeking confirmation that edge protection to the ramp serving the computer room in plantroom 41 will be provided.
- Seeking confirmation that localised isolation as required as per IEE Regulations 537.3.2.4 will be provided to smoke extract fan damper motor installed on the 5th floor.
- Seeking confirmation if lighting should be controlled in room THE-067 when accessing and egressing between rooms' THE-076 and THE-067.
- Seeking confirmation that the cat ladder providing access and egress to the 5th floor Roof between Plantroom 41A and Core L will be fitted.

Supervisor's Notification of Defect No 88, was issued during December.

- The capping piece on the north facing elevation of the Children's Hospital has two discoloured areas.

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2.0 DESIGN COMPLIANCE CHECK

Currently nothing to report.

3.0 PROCEDURES REVIEW

3.1 Contractor's QA Procedures / Compliance Inspections

Quality and Compliance inspections

Brookfield and their subcontractors have continued with their QA and checking and inspection procedures during this period. We are in discussion and liaise with Brookfield's Quality Manager on QA matters and we undertake regular reviews of their QA documentation.

Quality and compliance inspections were carried out with Brookfield in a number of areas. Brookfield provided us with their quality packs which included a list of their outstanding works, defects recorded on to their IDMS system quality sign off sheets and drawings.

We asked Brookfield to confirm that all vertical blind wands will be fitted throughout the Adult and Children's Hospitals and that all blinds will be fully functional prior to handover. They anticipate that all wands will be fitted to windows and all blinds will be fully functioning prior to project handover. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 223).

Quality & Compliance inspections were also carried out to "B" Rooms on Level 3. The rooms inspected were generally to a good standard and the defects captured by Brookfield were generally of a minor nature. We identified a few snags/defects which Brookfield recorded on the IDMS which included excessive door clearance to the fire doors at the electrical cupboard in corridor FM3-008.

Quality & Compliance inspections were also carried out to "B" Rooms on Level 4-7. The rooms inspected were generally to a good standard and the defects captured by Brookfield were generally of a minor nature. We identified a few minor snags/defects which Brookfield recorded on the IDMS. One particular issue we brought to Brookfield's attention was the grouting between the tiles and the lift doors which in some locations was of poor quality.

Quality & Compliance inspections were also carried out to "B" Rooms on Levels 8-11. The rooms inspected were generally to a good standard and the defects captured by Brookfield were generally of a minor nature. We identified a few minor snags/defects which Brookfield recorded on the IDMS.

Quality & Compliance inspections were also carried out to "B" Rooms on Levels 6 and 7. The rooms inspected were generally to a good standard and the defects captured by Brookfield were generally of a minor nature. We identified a few minor snags/defects which Brookfield recorded on the IDMS. We also noted that a light fitting was missing in Lift Lobby Core C and Brookfield recorded this in their IDMS.

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Quality & Compliance inspections were carried out to part of the Atrium on Level 0. The areas / rooms inspected were generally to a good standard and the defects captured by Brookfield were generally of a minor nature.

Further Quality & Compliance inspections were carried out to part of the Atrium on Level 0 Children's Atrium 0-512. The areas / rooms inspected were generally to a good standard and the defects captured by Brookfield were generally of a minor nature.

A part inspection of Children's 2-508 was carried and rooms inspected were generally to a good standard and the defects captured by Brookfield were generally of a minor nature.

Quality and compliance inspections were carried out to the façade in Courtyards 6, 8 and 11 and the quality was to a good industrial standard.

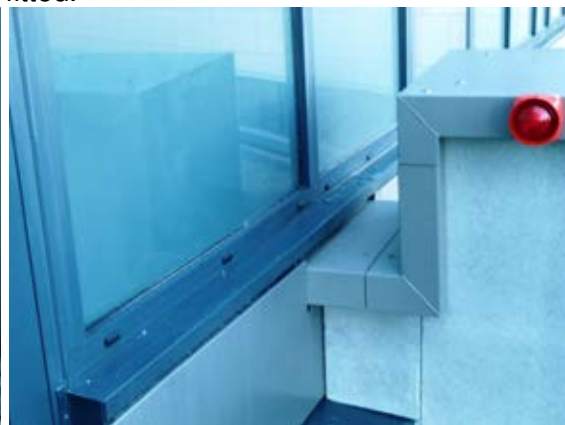
Inspections to roofs R1-003, R2-001, R1-002, R2-009, R3-004, R4-008, R5-005 and R6-002 were carried out and generally the quality was to a good industrial standard. We noted some work that required to be complete and some work which did not satisfy the specification. Some of these were already captured by Brookfield including roofs which had insufficient ballast or the ballast which was not uniformly distributed.



Lightning conductor tape not fitted.



Roof R5-005: Roof lighting lightning still to be wired and conductor tape still to be fitted.



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Roof R3-004: Boundary rail still to be fitted to fill gap.

Roof R3-004: Boundary rail still to be fitted to fill gap.



R1-003: Ballast not to the correct depth of 50mm.



R2-004: Gap between handrail and wall.



R5-005: Lightning conductor tape still to be clipped.



Staining of sto from rainwater from roof.



R5-005: Slab to be lifted and roof outlet created.

We inspected "B" Rooms on Level 4 and 5. The work completed was generally to a good industrial standard and all snags/defects were recorded during the inspection.

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We note that there was insufficient activity space in front of the WC bowl in the room WS5-020 on Level 5 Atrium Bridge. We asked Brookfield to confirm their action to address this issue. Brookfield confirmed that the toilet layout has been constructed and the WC installed as the NA 400 Series drawing which has been approved by NHS Board. However they carried out further investigations in Levels 9 and 5 in the male toilet of the male changing room. The doors have been installed larger than required resulting in the activity space being reduced. These two toilet doors will be reduced to allow the required 450mm activity space for access. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 217.



Following recent inspection on site we noted that there were door sets which had veneers that did not match. This poor quality of finish occurs in isolated locations throughout the Hospital. We asked Brookfield to confirm that a review of the doors has been carried out on all levels and that door sets are matched where there are dissimilar veneers. Brookfield is currently in discussion with the Sub Contractor TDSL with a view to rectifying this discrepancy. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 221).



We carried out roof inspections to the Roof R4-009, R3-001 and R3-021 and R2-005. Generally Brookfield has captured all the snags/defects. However we did note that some of the capping pieces on Level 3 south elevation are a different shade from the others. Consequently we have raised Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 213 We asked Brookfield if the different shaded capping pieces have been recorded in the IDMS as a snag/defect and that further remedial action will be undertaken. Brookfield advised that regrettably, Prater advises them that the issue raised is not a defect but a consequence of using a metallic paint

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finish on multiple pieces of metal. The angles of the metallic flecks differ when applied to individual components which sometimes create an apparent difference in appearance depending on the light conditions when viewed from distance.

Prater will supply test samples of the specified RAL colour and demonstrate that the components are the same colour.

Room Back Checks

Back checks were carried out to rooms in the Adult Hospital on Level 2. The quality of the finish was to a good industrial standard. We identified a few minor snags/defects which Brookfield recorded on the IDMS.

We carried out back checks to rooms on Level 0 Children's Hospital. The quality of the finish was generally to a good industrial standard, however a door to be fitted. We identified only a few minor snags/defects which Brookfield recorded on the IDMS.

It was noted during fire damper tests at various locations on Level 1 that access to testing the operations of each fire damper was difficult due to the size of the access hatch. Brookfield confirmed that access doors have been widened on Level 1 Area 1-505 and 1-538. The access hatch on Level 1 Area 537 has still to be widened. The fire dampers which are not located in the walls on Level 1 Area 1-537 have still not been addressed to maintain fire barrier. (See Supervisor's Communication General Matters / Other Instructions (Cal 13.1) No 206).

The recessed area on the right hand side of the wash hand basin in room OPD1-004 Level 1 Area 1-539 is congested. There is a nurse call, dispenser and grab rail to be fitted. We asked Brookfield to confirm how the fittings can be fitted within the present space or if there are any proposals to reposition fittings. Brookfield has confirmed that the OPD1-005 – nurse call is to be positioned to the correct location as per 400 series drawing and the grab rail may be situated on side panel but this has to be investigated. The OPD1-004 – IPS trespass location to be investigated on potential move to allow space for grab rail. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 194).

Inspections following Brookfield's Final Sweep Programme.

Inspections were carried out in area 1-528 and we identified additional defects/snags. We also inspected Level 2 - Zones G, D, H & E and identified minor snags / defects identified.

Zutec Review

We are continuing to review the testing information on Zutec on a regular basis as it is entered.

Acoustic Tests

The partitions which were tested and did not achieve the performance criteria have been inspected, modified and retested successfully. However there remains one

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partition between rooms' THE-326 and THE-327 which require a crosstalk attenuator to be fitted.

Above Ceiling Inspections.

We reviewed Brookfield's above ceiling documentation in relation to their inspections on Level 0 Zone F Areas 0-508 and 0-534, Level 1 Zone E and F, Level 1 Zone B, Level 1 Zone J, Level 4 Zone E, Level 8 Zone E, Level 10 Zone H and J, and Level 8 Zone H and found these to be satisfactory.

We carried out an inspection with Brookfield of the above ceiling fire stopping on Level 2 Zone K and generally the fire stopping was complete. However there were a couple of fire pillows which had become displaced.

General Inspections

We have asked Brookfield to provide the waterproofing detail for the smoke extract fans. Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 226.



Drawing No NA-XX-05-PL-252-150 for the 5th floor show an access ladder between two roofs on the south elevation adjacent to Plantroom 41A. However this has not been fitted. We have asked Brookfield to confirm when this will be fitted or confirmation that it is an omission. Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 227.



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There are two door thresholds providing access and egress from Plantroom 41A which are too high. These are located on the north and west elevations of the Plantroom. There is an access stairs shown on drawings NA-XX-05-PL-252-150 and NA-XX-05-PL-572-010. We have asked Brookfield to confirm when stairs/steps will be fitted. Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 227.



There is staining, slight erosion and cracking to some parts of the semi circular Sto covered wall above the Atrium at the entrance to the Children's Hospital. Please confirm your measures to address these issues. Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 227.



The glassed door leading into Core L from the roof does not appear to be fire rated consequently does not provide fire integrity of the compartmental wall. There is also an opening between the room at the top of the core and the area above the top landing. Confirm if the existing door and door frame is 60 minutes fire rated or if a new door is required. Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 227.



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There is an excessive drop between the fire doors leading to Core K on Level 5 and the floor in Plantroom 41A. We have asked Brookfield to confirm measures to address this taking into account that this is a fire exit route. Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 228.



The partitions forming fire protection to the fire vent on the roof between the two fire doors in plantroom 41A leading to Core K is incomplete.

There is a gap between the underside of the roof and the top of the partitions and the steelwork has not been painted with intumescent paint. Please confirm when the area is fully fire protected.



Level 5 Plantroom 41A.

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Level 4 Plantroom 41.



Level 4 Plantroom 41.

Bolts are missing or not tightened to steel cleats connecting columns to beams.

We have asked Brookfield to confirm when all bolts have been fitted. Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 230.



The ramp which serves the Computer Room in Plantroom 41 does not have a handrail or protections to the edge of the ramp and platt to prevent a fall. The do not comply with current Building Regulations. Confirm when this has been addressed. Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 231.



We attended a demonstration by Mercury / Colt on how to access and work safely on the 240 volt smoke extract fan damper motor No 6 installed on the 5th floor roof of the Children's Hospital. (This is a typical example of six other similar fans installed in the Children's plus two others in the Adults.)

The method of isolation of the equipment installed was too remote from the supply source (the control panel installed in the fourth floor plantroom) and that localised

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isolation is required as per IEE Regulations 537.3.2.4. We have asked Brookfield to confirm that a safe means of isolation will be provided.

A similar requirement exists in two areas of plantroom 41 and in one plantroom on level 5 where fume fans have been installed. Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 232.

Room's THE-070 and THE-076 both share the same floor space. There is no light switch on the wall next to the pass door leading from room THE-076 into THE-067. We have asked Brookfield to confirm if lighting should be controlled in room THE-067 when accessing and egressing between rooms' THE-076 and THE-067. Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 233.



Room THE-067: Door between THE-076 and THE-067.



Room THE-067: Door between THE-067 and corridor THE-075.

Drawing No NA-XX-05-PL-252-150 for the 5th floor Roof between Plantroom 41A and Core L shows an access cat ladder. However this has not been fitted. We have asked Brookfield to confirm when this will be fitted or if this has been omitted from the contract. Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 234.



Access cat ladder should be fitted to this elevation.

When we walked level 1 on 27/11/14, we highlighted to Brookfield that the intumescent previously noted as damaged together with the additional cleats required fire protection prior to closing up the columns and ceiling. Brookfield attended to this timeously.

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Steel cleats without intumescent paint.



Cleats painted with intumescent paint.

Completion Criteria

We reviewed Brookfield procedures for collating letters, certificates, licences, approvals etc to populate the Completion Criteria. Brookfield has compiled hard copy folders which contains the completion verification information as stated above. The folder has items which relates to contents uploaded to Zutec. We have noted that Brookfield is populating their files satisfactorily.

3.2 Witness Testing and Commissioning

We witnessed a number of tests during December which were satisfactory and these were as follows:

- WI FI Coverage.
- Chlorination.
- Air flows - 121 AHU 02 & 03.
- Sprinkler pump tests.
- Air flows, 41 AHU 13, 15, 18, 37, 38, & 39.
- Smoke dampers, Level 2 zones D, E, G & H.
- Fire panels, P42 & P45.
- Pneumatic tube commissioning. Zones 5, 9 & 7.
- Air flow test - PR41 AHU 08, EF06, 25 EF02 & PR124 AHO 02.
- Renal water pressure test.
- MTW Flow rates - Energy Centre.
- Air flows, PR124 AHU 02.
- Fire panel, P30.
- Air flows, PR41 AHU 03, 33, 40 & 41.

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- Air flows, PR 41 AHU 42, 43, 44 & 45
- Children's Hospital panic alarms.
- Air flows, PR121 AHU 06, PR41 AHU 03b & PR22 AHU 18
- Air flows, PR41 AHU 19, 23, 28 & 29.
- Air flows, PR41 AHU's 30, 31 & 32.
- Renal water pressure test.
- Lifts cause and effect test.
- Air flows, PRE31 27 EF02, 61 EF02, 63 EF01 & 64 EF 02.
- BMS Commissioning, PR32 & PR 33, AHU's and calorifiers.
- Ventilation, PR31 AHU's 63 & 64 & 31 EF11 + PR124 7 EF02.
- Fire panel P32.
- Water sterilisation.

We witnessed tests during December 2014 which were unsatisfactory:

- (305) Fire damper drop tests on level 9. One fail, FD 9 506 002.
- (318) Smoke dampers, level 3, 3 crossed addresses, and 1 mechanically faulty.
- Smoke dampers, Level 2 zones D, E, G & H.
SD 2 526 009 & SD 2 526 010 - wrongly addressed.
SD 2 524 028 - locked off.
SD 2 522 028 - seized.
- SD 2 521 026 - hatch required.
- Fire panels, P40 & P52 & revisit P03.
- CCTV - Not all cameras focussed or positioned correctly
- Security - Several doors failed due to broken glasses at emergency egress points, damaged or disconnected wiring at magnets and magnets not aligned.
- Fire dampers, L0 & Basement.
- Access hatch required through plasterboard at 0 507 FD 005.

Previously witnessed tests which failed and have been re-tested successfully:

- (324) Fire panel tests, P3 - One SD N/W and two sounders set for voice activation, & P7 - One beacon N/W tested successfully.
- Fire panel P54 retested successfully.
- (139) Smoke dampers were tested in plantroom 31 and there were some which failed. No power to panel. Tested 04.12.2014.
- (87) Smoke damper test verification was tested successfully on level 0 zone D. Zone G still outstanding. Tested 18.12.2014.
- (230) Ventilation test in PR31 AHU 64. Unacceptable readings. Retested successfully 18.12.2014.

Previously witnessed tests which require to be retaken:

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- (87) Smoke damper test verification was tested successfully on level 0 zone D. Zone G still outstanding.
- (139) Smoke dampers were tested in plantroom 31 and there were some which failed. No power to panel.
- (176) VPI missing from Level 0 Zone H fire damper FD 0 530 013.
- (180) FD 1-538 008 - Access hatch too small.
- (181) FD 1-537 004 - Access hatch too small and fire seal or repositioning required. Dampers No's 002, 003 & 004 are not installed within walls and were not tested.
- (212) Fire damper drop test on Level 9. (VPI missing from FD 9-511 001).
- (217) Fire damper drop testing on Level 0. (FD 0-537 005 & FD 0-540 002, VPI's obscured).
- (227) Car park emergency lighting. Lights remaining on mains power when on test and, emergency lights not in correct positions.
- (230) Ventilation test in PR31 AHU 64. Unacceptable readings.
- (232) Fire damper No FD 1 539 015 failed. VPI missing.
- (242) Fire Panels P24. One optical detector requires to be changed to strobe in room OWD-033. Damper retested successfully 11.11.2014, Address to be confirmed.
- (258) Fire damper drop tests on Level 0-zones 531, 532, 533, 535 & 536. Two dampers inaccessible, FD 0 536 014 & FD 0 536 015.
- (259) Fire damper drop tests in Basement zones 504, 505 & 506. Unable to access FD B 504 001, + no damper fitted to adjacent duct.
- (176) VPI missing from Level 0 Zone H fire damper FD 0 530 013.
- (180) FD 1-538 008 - Access hatch too small.
- (181) FD 1-537 004 - Access hatch too small and fire seal or repositioning required. Dampers No's 002, 003 & 004 are not installed within walls and were not tested.
- (212) Fire damper drop test on Level 9. (VPI missing from FD 9-511 001).
- (217) Fire damper drop testing on Level 0. (FD 0-537 005 & FD 0-540 002, VPI's obscured).
- (227) Car park emergency lighting. Lights remaining on mains power when on test and, emergency lights not in correct positions.
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- (259) Fire damper drop tests in Basement zones 504, 505 & 506. Unable to access FD B 504 001, + no damper fitted to adjacent duct.
- (305) Fire damper drop tests on level 9. One fail, FD 9 506 002.
- (318) Smoke dampers, level 3, 3 crossed addresses, and 1 mechanically faulty.

3.3 Board Equipment Installation,

Currently nothing to report.

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We reviewed Brookfield's NCR Tracker and noted the issues raised by the Package Managers. Brookfield confirmed that the tinting to the blockwork has commenced and pointing on the south and east elevations. Prater has still to offer it up to Brookfield as complete reference NCR 156. NCR 237 was issued to Astins in relation to the lack of insulation at abutments between internal partitions and external walls. This work is complete and an acoustic test is to be carried out.

4.0 CONSTRUCTION REVIEW**4.1 Visits to the Works**

The following members of our team undertook site inspections, reviewed documentation, attended meetings and met with relevant Contractors representatives on-site personnel:- John Redmond (Lead NEC3 Supervisor) 1st to 5th, 8th to 12th, 15th to 18th, and 23rd to 24th. Douglas Wilson (M&E NEC3 Supervisor) 1st to 5th, 8th to 12th, 15th to 19th, and 22nd to 24th. Willie Roxburgh (Civils/Structural NEC3 Supervisor) part days on the 5th, 11th, and 16th December. Capita's NEC3 Supervisor's team visited site a combined 27 person days.

4.2 Elements of the Works available for inspection

Main building – structural areas very limited.

Structural steelwork to all roof areas (increasingly limited due to access and partitions).

Neuro bridge (partly limited due to access).

Dual carriageway to Renfrew Road, turning area in front of the main entrance and carriageway from Hardgate Road.

All sides external works.

Internal courtyards.

Perimeter hard and soft landscaping

All works fit out works, fabric, and works to roofs and cladding are nearing completion.

4.3 Current Observations

The visual inspections of the work carried out to date indicate that the works are generally being carried out to a satisfactory standard. We continue to be assisted by the site teams and the NHS Project Team in resolving various construction, mechanical, electrical, and quality issues. We continue to close out our Supervisor's Notification and Defects when we have received satisfactory responses.

4.3.1 Structural and Civil Works

The steel framework in riser on Level 0 ZF Riser M30 has had the legs extended immediately in front of the entrance door. There are other legs which have not been extended yet and we asked Brookfield to confirm when the other legs will be extended. Brookfield informed us that Mercury removed the feet on the framing having it suspended from the soffit of the floor above. Brookfield has consulted with WSP re the allowable load on the slab edge around the risers. The design line load

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around the riser slab edges is based upon 0.8kN/m height/sq.m plan area. The calculations submitted by Mercury show a load of 0.99kN/m/sq.m which exceeds the design criteria therefore the legs will require extending to provide support from the lower floor. Mercury has been informed to replace/ extend the feet. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 162).



Extended legs



Leg still to be extended.

Car Park 1

The car park is now in use as the main project site car park. Some minor snagging remains outstanding and this together with items determined at a final inspection will be addressed towards the end of the project. This snagging will include some ponding issues on the top floor, and trip hazards at stairwell entrances.

We noted a distribution board fixing has caused the concrete column to crack on Level 2 Plant Room 22. Following discussions with Brookfield and they intend to carry out a localised repair using high strength, low shrinkage (Cementitious with polymers) R4 repair mortar. We asked Brookfield to confirm that they have inspected all plant rooms to identify and repair similar cracked concrete as shown in the photo. Brookfield confirmed that they will carry out localised repairs using high strength, low shrinkage (Cementitious with polymers) R4 repair mortar. All plant rooms will be checked for similar cracked concrete as shown on Capita photo. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 222).



We also noted at roof level of the ACH that the support bases to the columns

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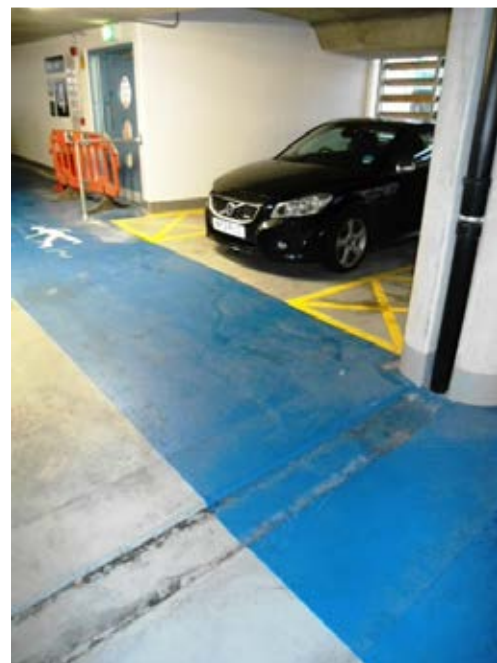
are spalling. Brookfield confirmed that they would use the R4 repair mortar to effect a repair.



The car park floors on levels 1, 2, 3, 4, and 5 adjacent to the stair on the east elevation have recessed channels which cross the pedestrian walkway similar to the potential trip hazards identified in Communication No 209. Some of the channels are in excess of 30mm. We have asked Brookfield to confirm if the same solution which is being considered to resolve Communication No 209 (installation of grills) will be considered. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 224).



Level 5



Level 4

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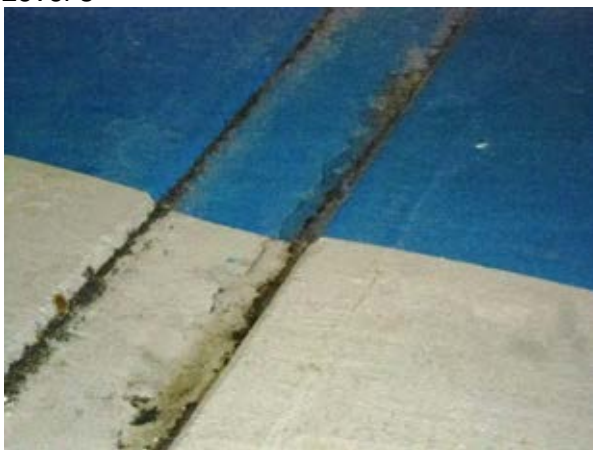
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Level 3



Level 3: Channel exceeds 30mm deep.



4.3.2 Children's Area

Clearing up in plant rooms has revealed some steel column base plate issues in the Children's area 4th floor – Brookfield are aware of this and are pursuing the matter.

4.3.3 External Works

Building Surround

Pavement blockwork has progressed significantly on the west side of the building during the period with quality to date generally good although some local kerbing snagging is required. On the north side kerbing and stone paving placement has

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again continued together with some initial tarmacadam sub-base. Quality to date appears good in all areas.

Govan Road/Renfrew Road & ACH Entrance Road

Local ponding on the north side of Govan Road remains outstanding, together with roadway issues on the dual carriageway leading to Renfrew Road. Brookfield is aware of this and will rectify at an appropriate time in line with their programme for these areas. Two footpath issues have arisen during the period. Ponding at the extended footpath area on the east side of the maternity unit, and potential specification non-compliance on sections of the footpath to the dual carriageway just north of the energy centre.

Existing Internal Hospital Road, Landlands Drive

Work to the existing internal hospital road, Landlands Drive, has continued during the period with traffic light control being required. Quality of works to date on this appears satisfactory.

4.3.5 Mechanical Services

Installation of hot, cold, heating & chilled water pipework in the A&C Hospital is well in advance in all plantrooms and in general is being installed to a good standard which we are continuing to monitor. The DHWS and CW are being installed to a good standard with 2nd fix still to be completed. We are aware that water is being supplied to pipework within the podium.

Witnessing of the ventilation systems is ongoing. The operating theatre areas are to be revisited for final proving once doors, lights and grilles are installed.

Insulation is nearing completion in all areas. Minor tidying up works and completion of the Venture clad jacketing is ongoing. Any damage reported during our joint inspections of plant rooms with Brookfield is being addressed. We will still continue to monitor the quality of the installation and await an invitation for final inspection.

Pressure testing of the modular pipework sections on a zone by zone or area by area basis has been programmed through the commissioning meetings and is complete apart from Plantroom 41 domestic water.

Brookfield has informed us that pre commissioning is in progress and we await an invitation to witness any tests.

The pressure testing of the sprinkler systems is nearing completion in the basement and remaining levels in the tower.

Mechanical fire damper drop tests and the Quality and Compliance Inspections, are continuing and the damper positional indicators which have been found to be obscured by sealant are continuing to being addressed by Brookfield.

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The three high level smoke extract fans on Level 4 Zone C appear to be complete with the fans and actuator totally enclosed with no access for maintenance.

The fan has a local actuator fitted, but there is no local means of isolating the 240 volt actuator. There are four similar fans also on the third floor which are in the process of being similarly installed. We asked Brookfield to confirm how access will be provided to the fan for future maintenance without cutting into the weatherproof membrane.



Brookfield responded by informing us that each fan has an isolator switch which is located adjacent to the ventilator and is shown in the photograph. The power to the fans and ventilators is taken from the Atrium Control Panel which is also has its own isolator.

They also intimated that the ventilator has a top removable blade as shown in the photograph which allows access to its actuator. We have asked Brookfield to demonstrate this to us. We are of the view that there is no means to isolate the damper actuator locally to allow safe work.

The weather seal enclosing the electrical box on the 3x smoke extract fans on Level 5 is done by others and not part of Mercury's install. We accept that the weather proofing is not a Mercury issue, but access to the fan motor terminal box is a requirement and requires to be resolved by Brookfield. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 214).

The NHS Technical Manager of the Project Team informed us that together with Brookfield three Air Handling Units were tested. 41AHU10 and 41AHU010 tested satisfactorily but there was an air leak at the damper on leaving the AHU.

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We attended a demonstration by Mercury / Colt on how to access and work safely on the 240 volt smoke extract fan damper motor No 6 installed on the 5th floor roof of the Children's Hospital. (This is a typical of example of six other similar fans installed in the Children's plus two others in the Adults.)

The method of isolation of the equipment installed was too remote from the supply source (the control panel installed in the fourth floor plantroom) and that localised isolation is required as per IEE Regulations 537.3.2.4. (See attachment). We have asked Brookfield to confirm that a safe means of isolation will be provided.

A similar requirement exists in two areas of plantroom 41 and in one plantroom on level 5 where fume fans have been installed.

4.3.06 Electrical Services

Work in relation to containment is nearing completion.

Work is still ongoing to security, CCTV and intruder alarm.

The quality of the general and emergency lighting installed to date is of a good standard with the witnessing of the lighting controls ongoing.

The installation of the power outlets is ongoing.

There are a number of ophthalmology rooms which have both SWC026 – switch dimmable and SWC034 – dimmer modulating listed on the signed off room location sheet (C sheet). However the SWC034 – dimmer modulating cannot be seen in the following rooms:

- Consulting room – OPD1-069.
- Consulting room – OPD1-069.
- Consulting room – OPD1-071.
- Consulting room – OPD1-076.
- Consulting room – OPD1-028.
- Consulting room –OPD1– 029.
- Fields Test room – OPD1-031.
- Fields testing –OPD1-032.

In Visual Acuity Room – OPD1-030 the room has both SWC025 and SWC026 (switch dimmable) listed but the SWC026 cannot be seen. We asked Brookfield for clarification and they confirmed that all the rooms noted will be altered to accommodate the required dimmer switches. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 212 is closed out.

4.3.07 Energy Centre

We await notification to witness the commissioning of the CHP's.

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4.3.08 Intake Sub Station

Brookfield has informed us that all cables have now been pulled through to the sub-station and all water has been removed from the pits. We are awaiting confirmation that the cables have been sealed. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 30 & 45).

4.3.09 Partitions

Nothing to report.

4.3.10 Doors

Adjustment to floors beneath doors continuing.

The east door clashes with one of the fans on Level 3 Core H link corridor. We have asked Brookfield to confirm their action to resolve this clash. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 215).



4.3.11 Windows

Windows are progressing on the external elevations and courtyards in accordance with the specifications.

4.1.12 Equipment

Nothing to report.

4.3.13 Ducting

Ductwork to several items of plant which has still to be installed within plantrooms 41, 121, 122, 123 & 124 which are nearing completion.

4.3.14 Floors

Nothing to report.

4.3.15 Blockwork

We have reported since April 2013 that the quality and standard of workmanship of the blockwork on the east elevations was not to a good industrial standard.

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Tinting of the dark pointing has commenced and we await Brookfield notifying us when the work is complete to allow us to carry out an inspection.

4.3.16 Heating

There are gaps in the thermal insulation in the back box of the remote TRV's mounted on external walls controlling the radiant panel heater in Level 0, ZA ward OBW 009. There is the likelihood that this will cause the TRV to be affected by the lower temperature in the partition void causing the Radiant panel to emit heat unnecessarily wasting energy. This applies to other similar TRV's on outside walls. We have asked Brookfield to confirm if this has been considered and if remedial action will be taken to address this. Brookfield has asked Mercury to report on this issue. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 199).

4.4 Current Defects.

Although some work has been carried out to improve the quality the pointing on the external blockwork on the south and east elevations. Some of the blockwork does not reflect the quality of the pointing on the blockwork benchmark sample. Consequently we have raised Supervisor's Notification of Defect (CI 42.2) No 81.

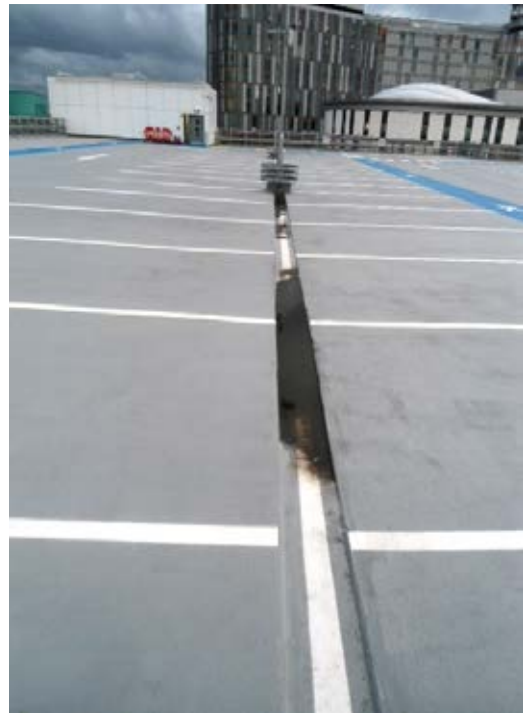
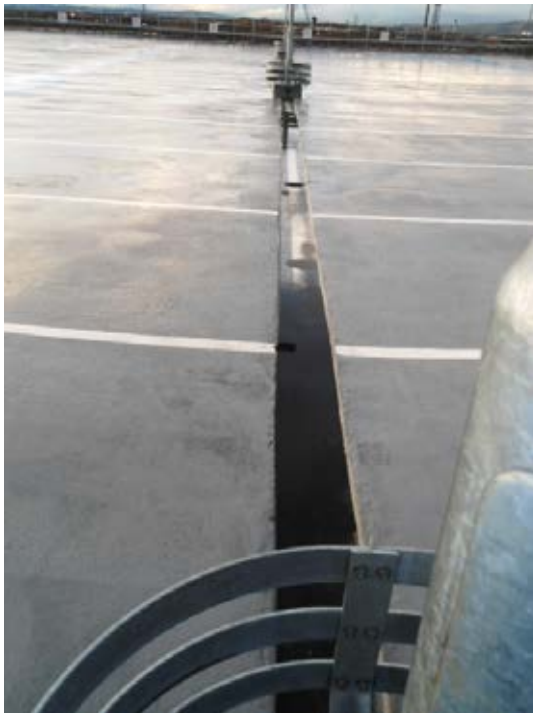


Some of the outlets taking the rainwater from the top level of the Car park are too high consequently water is ponding in the recessed channels.

We have asked Brookfield to confirm what remedial work will be undertaken to resolve this issue and confirm when the work is complete. See Supervisor's Notification of Defect (CI 42.2) No 83.

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The vinyl across the full length of the Atrium Bridge had sustained damaged. We asked Brookfield to confirm that the vinyl floor covering will be replaced across the full width of the bridge to match the benchmark floor on Level 4 Link Bridge. Following an inspection with Peter Moir a solution to replace the vinyl was agreed. See Supervisor's Notification of Defect (CI 42.2) No 84.



Cables used in the fire alarm installation have been forced into conduits boxes on Level 12 stair core G which is not in accordance with the manufacturer's recommendations. This was previously raised through Supervisors Defect Notification No 68 regarding the stress caused to FP and was addressed. We have asked Brookfield to confirm when this defect has been addressed. See Supervisor's Notification of Defect (CI 42.2) No 85.



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The edging kerb near the south west corner of the Children's Hospital has been poorly laid. We have asked Brookfield to confirm when this has been addressed. See Supervisor's Notification of Defect (CI 42.2) No 86.

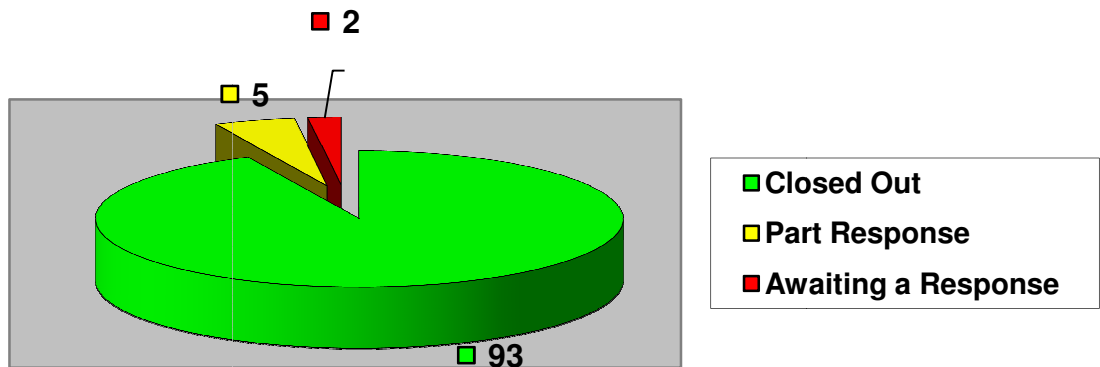


The cladding to the column on the South Elevation of the Adult Hospital is damaged. We asked Brookfield to confirm when this has been addressed. They have confirmed that the damage has been noted by their sub contractor and replacement cladding panel has been put on order. This will be replaced when the new section has been received. See Supervisor's Notification of Defect (CI 42.2) No 87.



The capping piece on the north facing elevation of the Children's Hospital has two discoloured areas. We have asked Brookfield to confirm their remedial action to address this and confirm when complete. See Supervisor's Notification of Defect (CI 42.2) No 88.

5.0 INFORMATION REQUIRED



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Item No.	Description	Date Requested	Comment	
Items 1 to 29 have been closed out.				
30	Confirm when cabling is complete, water pumped out and batteries removed.	10.08.12	Response received.	
Items 31 to 44 have been closed out				
45	See Supervisor's Communication No 30.	18.09.12	Response received.	
Items 46 to 161 have been closed out				
162	Confirm when the other legs have been extended to the steel framework in riser on Level 0 ZF Riser M30.	16.09.13	Response received.	
Items 163 to 193 have been closed out				
194	Seeking confirmation how the fittings can be fitted within the present space or congested.	17.02.14	Response received.	
Items 195 to 198 have been closed out				
199	There are gaps in the thermal insulation in back box of remote TVR's. Confirm remedial action.	20.03.14	Response received.	
Items 200 to 205 have been closed out				
206	Confirm that the difficult access to various fire dampers on Level 1 Areas 505, 508 and 537 will be addressed.	19.05.14	Response received.	
Items 207 to 212 have been closed out				
213	Seeking confirmation that the different shaded capping pieces have been recorded in the IDMS as a snag/defect and that further remedial action will be undertaken.	09.10.14	Response received.	
214	Seeking confirmation how access for maintenance high level smoke extract fans on Level 4 Zone C without cutting into weatherproof membrane.	09.10.14	Response received.	
215	Seeking confirmation of action to resolve the east door clashes with one of the fans on Level 4 Core H link corridor.	09.10.14	Open.	
216	Seeking confirmation that the low lintel at the Electrical Cupboard WS4 032 will be lowered.	09.10.14	Open.	
217	Seeking confirmation that the sufficient activity space will be created at the front of the wc bowl	14.10.14	Response received.	
Items 218 to 220 have been closed out				
221	Confirm that a review of the doors has been carried out on all levels and that door sets match.	29.10.14	Response received.	
222	Confirm that all the plant rooms have been inspected to identify and repair cracks to concrete behind distribution boards.	29.10.14	Response received.	
223	Confirm that all vertical blind wands will be fitted throughout and will be fully functional prior to handover.	13.11.14	Response received.	
224	Seeking confirmation that trip hazards similar to Communication No 209 will be considered for the installation of grills.	13.11.14	Open.	
225	Confirm if you will be fitting temporary doors or a section of partition at the break out area in room RCF-024 to provide a 60 minutes fire rating.	19.11.14	Closed out.	
226	Provide the waterproofing detail for the smoke extract fan.	19.11.14	Open.	
227	Seeking confirmation in relation to access to the roof adjacent plantroom 41 A, plant room doors, access door to room above core L.	04.12.14	Open.	
228	Seeking confirmation of measures at high step in plantroom 41A.	04.12.14	Open.	
229	Seeking confirmation that the gap between the roof vent and partitions will be filled.	04.12.14	Open.	
230	Seeking confirmation that bolts to steel cleat connectors have been fitted and loose bolts tightened.	04.12.14	Open.	
231	Seeking confirmation that edge protection to the ramp serving the computer room in plantroom 41 will provide.	04.12.14	Open.	

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232	Seeking confirmation that localised isolation as required as per IEE Regulations 537.3.2.4 will be provided to smoke extract fan damper motor installed on the 5 th floor.	10.12.14	Open.	
233	Seeking confirmation if lighting should be controlled in room THE-067 when accessing and egressing between rooms THE-076 and THE-067.	12.12.14	Open.	
234	Seeking confirmation that the cat ladder providing access and egress to the 5 th floor Roof between Plantroom 41A and Core L will be fitted.	12.12.14	Open.	

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6.0 SUPERVISORS TESTS AND INSPECTIONS

Tests not required	N/A
Tests required but not tested	Fail
Tests required which has passed tests	Pass

Tests				
Ref	Title	To be Notified by	Status	Test Date
01-86	Various tests undertaken and passed from the 09. 07.2012 To the 30.06 2013.			
87	Smoke damper test verification - Level 0, zones D & G. Zone G still outstanding.	Brookfield	Pass	24.09.2013 Retested 18.12.2014
88-138	Tests 28.09.2013 to 29.02.2014			
139	Smoke damper tests in plantroom 31. Some fails.		FAILED	
140-175	Various tests undertaken and passed from the 03.02.2014 to the 29.04.2014.			
176	VPI missing from FD 0-530 012. Not 013 as previously recorded.	Brookfield	FAILED	29.04.2014
177-179	Various tests undertaken and passed from 08.05.2014 to 09.05.2014.			
180	Fire dampers on Level 1 Zones 505 (FD 1-505 006, 508 (FD 1-508 005), 519 (All ok) FD 1-538 008.	Brookfield	PART CLEARED 19.09.2014 FAILED	15.05.2014
181	Fire dampers on Level 1 Zone 537. FD 1-537 002, FD 1-537 003 & FD 1-537 004 not in wall.	Brookfield	FAILED	15.05.2014
181 - 216	Various tests undertaken and passed from 19.04.2014 to 06.08.2014.			
217	FD 0-537 005 & FD 0-540 002 VPI hidden, retest required. FD 0-537 005 retested successfully 19.09.2014.		FAILED FD 0-540 002 VPI missing. PART CLEARED	06.08.2014 19.09.2014
218 - 231	Various tests undertaken and passed from 13.08.2014 to 28.08.2014			
232	Fire damper No FD 1-539 015 failed. VPI loose.	Brookfield	FAILED	29.08.2014
233-238	Various tests undertaken and passed from 02.09.2014 to 11.11.2014			
239-241	Various tests undertaken and passed from 11.09.2014 to 15.09.2014.			
242	Fire test P23 tested ok. P24 One optical detector requires	Brookfield	FAILED	15.09.2014

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	to be changed to strobe on room OWD 033.			
243-257	Various tests undertaken and passed from 15.09.2014to 26.09.2014.			
258	Fire damper drop tests on Level 0-zones 531, 532, 533, 535 & 536. Two dampers inaccessible, FD 536 014 & FD 536 015. Hatch through plasterboard access required to access both.	Brookfield	FAILED	26.09.2014
259	Fire damper drop tests in Basement zones 504, 505 & 506. Unable to access FD B 504 001, + no damper fitted to adjacent duct.	Brookfield	FAILED	26.09.2014
260-287	Various tests undertaken and passed from 26.09.2014 to 29.10.2014.			
288	Revisit of fire panels P4, 5, 24, 25, 26, 38, 50 & 56 . Aborted as contractor did not have drawings available to identify previously reported defects. Retested 11.11.2014	Brookfield	PASSED	30.10.2014
			PASSED	11.11.2014
289-299	Various tests undertaken and passed from 31.10.2014 to 11.11.2014			
300	Re-witnessing of fire panels. (See 288)	Brookfield	FAILED	11.11.2014
301-304	Various tests undertaken and passed from 12.11.2014 to 13.11.2014			
305	Fire damper drop tests on level 9.	Brookfield	FAILED	14.11.2014
306-317	Various tests undertaken and passed from 13.11.2014 to 21.11.2014			
318	Smoke dampers, level 3. 3 crossed addresses, and 1 mechanically faulty.	Brookfield	FAILED	21.11.2014
319-323	Various tests undertaken and passed from 21.11.2014 to 26.11.2014			
324	Fire panel tests, fire panel. P3 - One SD N/W and two sounders set for voice activation. P7 - One beacon N/W	Brookfield	FAILED	28.11.2014
325	Fire panel tests, fire panel P41 & P46. Randomly tested SD's and call points tested successfully.	Brookfield	PASSED	28.11.2014
326	WI FI Coverage.	Brookfield	PASSED	03.12.2014
327	Chlorination of water on level1 zones D & G.	Brookfield	PASSED	03.12.2014
328	Air flows - 121 AHU 02 & 03.	Brookfield	PASSED	03.12.2014
329	Sprinkler pump tests.	Brookfield	PASSED	03.12.2014
330	Air flows, 41 AHU 13, 15, 18, 37, 38, & 39.	Brookfield	PASSED	04.12.2014
331	Smoke dampers, Level 2 zones D, E, G & H. 1. SD 2 526 009 & SD 2 526 010 wrongly addressed. 2. SD 2 524 028 locked off. 3. SD 2 522 028 seized. 4. SD 2 521 026 hatch required.	Brookfield	FAILED	04.12.2014
332	Fire panel, P42 & 45.	Brookfield	PASSED	04.12.2014
333	Fire panels, P40 & P52 & revisit P03. P03 failed	Brookfield	FAILED	05.12.2014

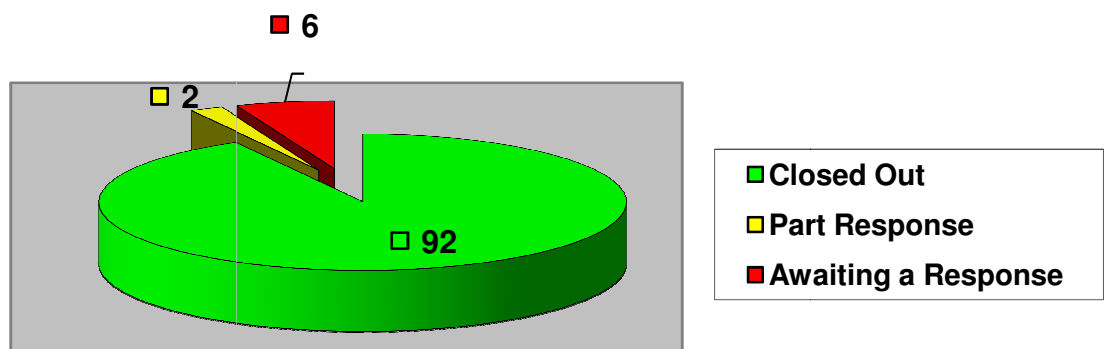
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334	Pneumatic tube commissioning. Zones 5, 9 & 7.	Brookfield	PASSED	09.12.2014
335	Air flow test - PR41 AHU 08, EF06, 25 EF02 & PR124 AHO 02.	Brookfield	PASSED	11.12.2014
336	Renal system pressure test	Brookfield	PASSED	11.12.2014
337	MTW Flow rates - Energy Centre.	Brookfield	PASSED	12.12.2014
338	Air flows, PR124 AHU 02.	Brookfield	PASSED	12.12.2014
339	Fire panel, P30.	Brookfield	PASSED	12.12.2014
340	Air flows, PR41 AHU 03, 33, 40 & 41.	Brookfield	PASSED	12.12.2014
341	Air flows, PR 41 AHU 42, 43, 44 & 45	Brookfield	PASSED	15.12.2014
342	CCTV - Not all cameras focussed or positioned correctly	Brookfield	FAILED	16.12.2014
343	Security - Several doors failed due to broken glasses at emergency egress points, damaged or disconnected wiring at magnets and magnets not aligned.	Brookfield	FAILED	16.12.2014
344	Children's Hospital panic alarms.	Brookfield	PASSED	16.12.2014
345	Air flows, PR121 AHU 06, PR41 AHU 03b & PR22 AHU 18	Brookfield	PASSED	17.12.2014
346	Air flows, PR41 AHU 19, 23, 28 & 29.	Brookfield	PASSED	17.12.2014
347	Air flows, PR41 AHU's 30, 31 & 32.	Brookfield	PASSED	18.12.2014
348	Fire dampers, L0 & Basement. Access hatch required through plasterboard at 0 507 FD 005.	Brookfield	FAILED	18.12.2014
349	Renal water pressure test.	Brookfield	PASSED	18.12.2014
350	Lifts cause and effect test.	Brookfield	PASSED	18.12.2014
351	Fire panel P3 revisit.	Brookfield	PASSED	19.12.2014
352	Air flows, PRE31 27 EF02, 61 EF02, 63 EF01 & 64 EF 02.	Brookfield	PASSED	19.12.2014
353	BMS Commissioning, PR32 & PR 33, AHU's and calorifiers.	Brookfield	PASSED	19.12.2014
354	Water sterilisation.	Brookfield	PASSED	22.12.2014
355	Ventilation, PR31 AHU's 63 & 64 & 31 EF11 + PR124 7 EF02.	Brookfield	PASSED	22.12.2014
356	Fire panel P54 retest.	Brookfield	PASSED	22.12.2014

7.0 DEFECTS NOTIFICATIONS ISSUED



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	Description	Date Requested	Comment	
Items 1 to 78 have been closed out.				
79	Confirm when the poor workmanship to the blockwork outside room EMC-009 has been addressed.	01.07.14	Response received.	Yellow
80	Confirm when the damaged blockwork to the external curve in area 2-513 has been addressed.	01.07.14	Closed out.	Green
81	External Blockwork on the south and east elevations does not reflect the quality of the pointing on the blockwork benchmark sample.	31.10.14	Open	Red
82	Confirm when plasterboard with mould growth has been replaced.	12.11.14	Closed out.	Green
83	Seeking confirmation of remedial action to resolve ponding.	13.11.14	Open	Red
84	Seeking confirm that the vinyl floor covering will be replaced across the full width of the bridge to match the benchmark floor on Level 4 Link Bridge.	17.11.14	Open	Red
85	Level 12 stair core G which is not in accordance with the manufacturer's recommendations.	17.11.14	Open	Red
86	Poorly laid edging kerb at the south west corner of the Children's Hospital.	18.11.14	Open	Red
87	Cladding to column damaged on the South Elevation	18.11.14	Response received.	Yellow
88	Seeking confirmation of remedial measures to address the discolouration of the capping pieces.	20.11.14	Open	Red

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John Redmond, Technical Advisory Services

Property and infrastructure

Capita, The Beacon, 8th Floor, 176 St Vincent Street, Glasgow G2 5SG

	Signed	Date
Originated by	John Redmond	6th January 2015
Completed by	Douglas Wilson	6th January 2015

CAPITA

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1.0 EXECUTIVE SUMMARY: ADULT & CHILDREN'S HOSPITAL

In accordance with our NEC3 Contract, this is the monthly report for February on the activities carried out and responsibilities undertaken by the NEC3 Supervisors. We undertook post completion inspections and inspections of the incomplete work at Stage 3 completion.

We received Brookfield's Ultimate Final Sweep Programme replacing the previous Final Sweep programme with the first joint inspections planned to commence on the 9th March 2015.

We carried out post completion inspections to Cores Electrical Cupboards Plantrooms and Node Rooms not previously offered up for inspection.

Post completion inspections were carried out in the following areas and the defects recorded on the IDMS.

Stair Cores A, B, E, F, G, H, K, and L.
 Level 11 Node Rooms, Risers and Electrical Cupboards.
 Energy Centre B Side.
 Main Streets in the Adult and Children's Hospital.
 Mechanical and Electrical inspections in the Node Rooms.
 Mechanical and Electrical inspections in Sub-stations.

We continue to monitor Brookfield's list of defects at completion recorded on their IDMS and review their tracker weekly.

Zutec entries continue to be under review.

At the car park some minor snagging remains outstanding and this together with items determined at a final inspection will be addressed towards the end of the project. This snagging will include some ponding issues on the top floor, and trip hazards at stairwell entrances.

Road surfacing work has been ongoing during the period on the dual carriageway leading to Govan Road. Quality to date appears satisfactory. Local ponding on the north side of Govan Road remains outstanding. The two footpath issues which arose previously remain outstanding i.e. ponding at the extended footpath area on the east side of the maternity unit and potential specification non-compliance on sections of the footpath to the dual carriageway just north of the energy centre.

Pavement blockwork on west, east and south sides together with granite blockwork to the north is almost complete with good quality in all areas.

During February, in the A&C Hospitals, we witnessed the following:

- Smoke dampers on Level 0 Zones 519, 520, 521, 523, 524, 525, 528 & 529.

We are continuing to liaise with Brookfield and the NHS Project Team highlighting any items that have raised concern during our post completion inspections. We have raised the following concerns with the Contractor as follows:-

Supervisor's Communication General Matters / Other Instructions No's, No 241, 242, 243 and 244 were issued during February 2015.

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- Seeking confirmation for the finish below the glazed frame to prevent water penetrating adjacent to the door into corridor CC4-054.
- Seeking confirmation that drainage pipes from AHU's will extended to the drainage outlet and step overs will be fitted.
- Seeking confirmation if there should be a door in Core D plantroom adjacent to the FM lift.

Supervisor's Notification of Defect No's, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101 and 102 were issued during February 2015.

- Seeking confirmation that the insufficient power points in rooms END-033 and END-035 will be addressed.
- Seeking confirmation when the air sampling unit within General Theatre One and Theatre 4 are paint free and the unit in the Atrium has been fitted properly.
- Seeking confirmation when the lock will be fitted in the NSGH Theatres Admission on Day of Surgery – Level 2.
- Seeking confirmation if the stained fabric in the main reception area is to be replaced or the stain removed.
- Seeking confirmation when the fire exit door adjacent to the Disposal Hold OBW-082 which is not operational will be complete and functional.
- Seeking confirmation that the lack of fire wall above the door opening will be completed and the cupboard is totally enclosed.
- Seeking confirmation that the incomplete fire stopping in the Electrical Riser CCW-126 and lack of intumescent paint to the steelworks will be addressed.
- Seeking confirmation when the fire door which is sticking will be fully operational.
- Seeking confirmation to the solution in relation to water trapped within the ETFE roof.
- Seeking confirmation when the fire stopping around the fire door on Level 12, Plantroom 121 Door M25-A will be complete.
- Seeking confirmation when the fire stopping will be complete to the fire proofed enclosure at Core C above Level 12.

2.0 DESIGN COMPLIANCE CHECK

Currently nothing to report.

3.0 PROCEDURES REVIEW

3.1 Contractor's QA Procedures / Compliance Inspections

Brookfield and their subcontractors have continued with their QA and checking and inspection procedures during this period. We are in discussion and liaise with Brookfield's Quality Manager on QA matters and we undertake regular reviews of their QA documentation.

We asked Brookfield to confirm that all vertical blind wands will be fitted throughout the Adult and Children's Hospitals and that all blinds will be fully functional prior to handover. They have confirmed that all wands have been fitted to windows and all blinds will be fully functioning prior to project handover. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 223 is closed out.

Inspections following Brookfield's Ultimate Final Sweep Programme.

We have received Brookfield's Ultimate Final Sweep Programme replacing the previous Final Sweep programme with the first inspections planned to commence on the 9th March 2015.

Zutec Review

We are continuing to review the testing information on Zutec on a regular basis as it is entered.

Acoustic Tests

There remains one partition between rooms' THE-326 and THE-327 which requires a crosstalk attenuator to be fitted.

General Inspections

We noted that the drawing allows for a light above each lift door on Level 2 Core C Bed Patient Lift Lobby. Only two have been fitted on one side and not above the lift doors. We asked Brookfield to confirm if this change has been agreed. They have confirmed that the lights are fitted as per the Nightingale's drawings. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 238 is closed out.

During inspections of Risers, Electrical Cupboards and IT Hub Rooms on the Level 11 we noted incomplete work. We raised a Communication with Brookfield listing the incomplete works and asked them to confirm when these are completed prior to the

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26th January. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 239.

During an inspection of the Children's Roof adjacent to Plantroom 41A we noted that there were no bulkhead lights fitted above the doors. There were also no lights fitted in the room on the roof providing access and egress via the cat ladder in Core L. These were not taken in the approved drawings, however Brookfield intend to fit lighting in these areas.

Post Completion Inspections.

We continue to undertake inspections with Brookfield of Cores Electrical Cupboards Plantrooms and Noderooms.

We asked Brookfield to confirm the finish below the glazed frame to prevent water penetrating adjacent to the door into corridor CC4-054. They have issued this to their Package manager who will liaise with the sub contractor to resolve and complete this detail.

See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 240.



The drainage pipes from AHU's do not extended to the drainage outlet. We have asked Brookfield to confirm when the pipes have been extended towards the drain. If left as is, there is a risk that the falls in the floor will direct the water away from the drain. We asked Brookfield to confirm that step over's will be provided. They initially confirmed that repair and stepovers will be provided. However Brookfield has informed us that Mercury will not be bringing the end section of the condensate pipe to the drain in the middle of the floor. They intimated that this is for two reasons. Firstly since it runs into the middle of a walkway it will get damaged again. They cannot put a stepover protection over it since it is in the middle of a walkway between the steel supporting legs and this will impede access and any plant/equipment/replacement routes. They have confirmed that any water from the condensate drain will run to the floor drain. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 241.

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There is temporary scaffolding providing perimeter protection at concrete floor beams above the cores accessed from Level 12. We have asked Brookfield to confirm if permanent perimeter protection is to be fitted. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 242.



Temporary scaffolding providing perimeter protection.



Temporary scaffolding providing perimeter protection.

The opening at Core D plantroom adjacent to the FM lift does not have a door and the adjacent fire door shown on drawing NA-XX-12-252-150 has been moved closer to the double doors at the FM lift. We have asked Brookfield if the plantroom shown on the drawing below should have a fire door. Brookfield has confirmed that in accordance with the Fire strategy drawings, NA-XX-12-PL-572-100 and NA-XX-12-PL-572-101. The wall has been built in the correct position. No door (or partition) is shown as being required. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 243 is closed out.



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There is ponding of water at various area locations between the Adult and children's Hospitals. We have asked Brookfield to demonstrate that the levels of paving are within the permissible deviation of $\pm 6\text{mm}$ in accordance with the specification. They have provided us with as-built levels. It shows that paving is within specified tolerances as taken from WSP level and contour drawings. However we have requested the specified levels to compare the onsite levels. General Matters / Other Instructions (CI 13.1) No 244.

There is a roof leak in the children Atrium and Brookfield are in the process of addressing this problem.

During February we inspected areas not previously offered up for inspection.

There was some incomplete work in Core A & B on Level 12 and snagging works from Level 11 to Level 0. There was also some incomplete work from ground to Basement including the stair Lobbies.



Level 12 Core A incomplete work.



Hatch required to Cat ladder in room

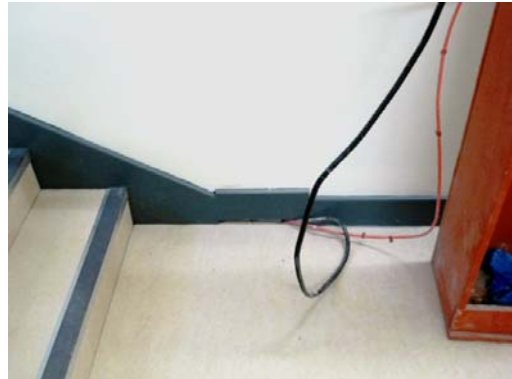
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CA12-015.



Some snagging work, painterwork and hatches required.



Site alarm system requires to be removed from some floors and skirting fitted.



Cores A & B Level 1 to Level 0 incomplete work and snagging.

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Our inspection of stair Core G was similar to Core A & B with some incomplete work and general touch up of paintwork and cleaning still to be done. Filling and removal of surplus mortar prior to the application of a dust proof coating. A few lights were not working and one was not fitted. There were a couple of levels where ceiling tiles require to be fitted.



Edge of slab too high.

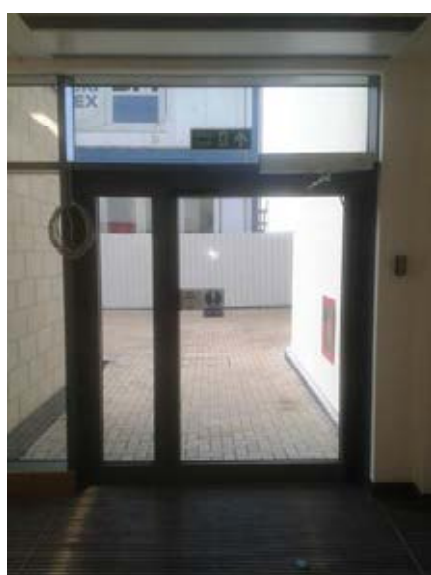


Incomplete ceilings



Damaged tread. There were other treads requiring repairs to lifting eyes.

There was some incomplete work and snagging works in Core L & K on all levels.



Push button not installed.



Nuts still to be cropped and fitted

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to steel stringer.



Redundant sockets.



Holes to be filled in metal stringer.

Inspections were carried out to Electrical cupboards, risers and Node Rooms on Level 11. There were a number of general issues common to all rooms such as rooms needing cleaned, incomplete painting and touching required to walls and door frames. Below are a number of issues which were identified during our inspection and recorded as a defect on the IDMS.



Plasterboard damaged in room GEN21-086



Gap in the fire bat in room GEN21-054

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The concrete top of the lift enclosure in Core D is visible.



Pigeon droppings on cladding of Core B



Exposed concrete visible from Level 11 corridor.

We carried out an inspection of the Energy Centre and there were only a few minor defects which were recorded on the IDMS for action.

The Main Streets on levels 0 to 3 were inspected and defects were recorded and placed on the IDMS.

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Below



Remote LED to be completed



Damaged corner bead

There is temporary scaffolding providing perimeter protection at concrete floor beams above the cores accessed from Level 12. We have asked Brookfield to confirm if permanent perimeter protection is to be fitted. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 242.

Project Manager's Schedule of Incomplete Works at Completion

Brookfield has a tracker in place which will be reviewed weekly. Six of the works from the schedule are complete. We have noted below the works which are not on programme to completion.

- No 5 Separation Tank: Tank will be delivered week commencing 9th March and they expect the work to be complete by 23rd March.

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- No 8 Cores A&B & Main Entrance - meet and greet panels glass cabinets: Approved by NHS and awaiting delivery.
- No 9 Lead lined Units and Associated Works - Approved by NHS and awaiting delivery.
- No 11 Additional Divider screens and Fabric Boards-Awaiting delivery.
- No 16 Decontamination Room: Approval from NHS and Consultants. Later start date than anticipated.
- No 18 New VIE Turning Circle: Due to be completed 31st March 2015.
- No 24 AGV Performance Tests and Trials: Awaiting linen carts to complete the performance tests.
- No 27 Sanctuary-stained glass installed: Drawings approved glass being manufactured.
- No 30 Telecom 600 pair lines install plus additional 600 lines required by Board: New route agreed but further costing from Brookfield.
- No 34 External Façade: Commencing 14th March 2015.
- No 42 Theatres - Complete Starkstrom install including DVI/SDI sockets and accessories on arms: Will now be completed 6th March 2015.
- No 51 Medical Gas System: behind Programme.

Defects at completion

Brookfield has a tracker in place which is reviewed weekly. We carried out a percentage audit of their agreed closed out defects for TDSL and Mercury. Six defects were inspected and all but one was satisfactory. On closer inspection Brookfield has reopened the defect for the damaged door to ENT-025. We also carried out an audit of defects claimed by Mercury and Brookfield as being closed out. Of the 72 inspected 11 were unsatisfactory. This information was conveyed to Brookfield.

Incident Report Summary Schedule

This will be monitored with Brookfield weekly. Currently there have been 232 incidents reported. 100 are open/ongoing and 132 have been closed out.

3.2 Witness Testing and Commissioning

We witnessed a number of tests during February 2015 which were satisfactory and these were as follows:

- Smoke dampers on level 0 zones 519, 520, 521, 523, 524, 525, 528 & 529.

We witnessed tests during February 2015 which were unsatisfactory:

No test carried out.

Previously witnessed tests which failed and have been re-tested successfully:

None

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Previously witnessed tests which require to be retaken:

- (378) Fire shut down tests of AHU's in PR21 AHU 19, 21 & 29. During fire activation simulation. (PR21 AHU 19 did not shut down.)
- (381) Operation of Aseptic suite and kitchen server roller shutter doors during fire condition: 1. Aseptic roller shutter, part required. 2 Server roller shutter, external warning panel not working and key switch operation reversed.

3.3 Board Equipment Installation,

Currently nothing to report.

3.4 Non Conformance Reports

We reviewed Brookfield's NCR Tracker and noted the issues raised by the Package Managers. Brookfield confirmed that the tinting to the blockwork is complete to the pointing on the south and east elevations.

4.0 CONSTRUCTION REVIEW

4.1 Visits to the Works

The following members of our team undertook site inspections, reviewed documentation, attended meetings and met with relevant Contractors representatives on-site personnel:- John Redmond (Lead NEC3 Supervisor) 2nd to 6th, 9th to 13th, and 16th to 20th and 23rd to 27th. Douglas Wilson (M&E NEC3 Supervisor) 2nd to 6th, 9th to 13th, and 16th to 20th and 23rd to 27th. Willie Roxburgh (Civils/Structural NEC3 Supervisor) part days on the 3rd, 17th and 26th February. Capita's NEC3 Supervisor's team visited site a combined 43 person days.

4.2 Elements of the Works available for inspection

Main building – structural areas very limited.

Neuro bridge (partly limited due to access).

Dual carriageway to Renfrew Road, turning area in front of the main entrance and carriageway from Hardgate Road.

All sides external works.

Perimeter hard and soft landscaping

4.3 Current Observations

The visual inspections of the work carried out to date indicate that the works are generally being carried out to a satisfactory standard. We continue to be assisted by the site teams and the NHS Project Team in resolving various construction, mechanical, electrical, and quality issues. We continue to close out our Supervisor's Notification and Defects when we have received satisfactory responses.

4.3.1 Structural and Civil Works

Car Park 1.

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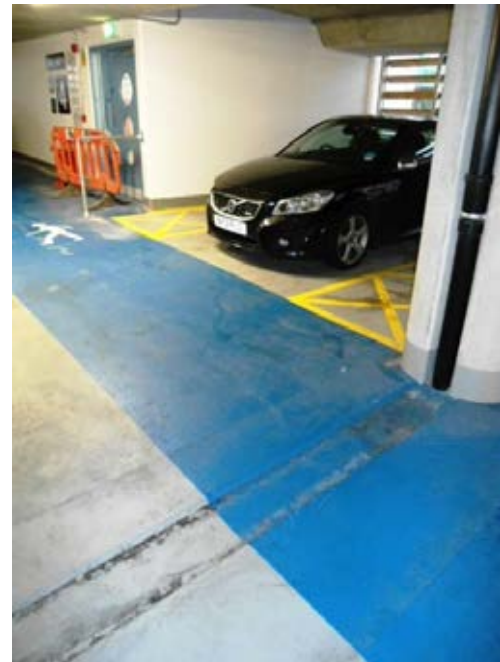
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The car park is now in use as the main project site car park. Some minor snagging remains outstanding and this together with items determined at a final inspection will be addressed towards the end of the project. This snagging will include some ponding issues on the top floor, and trip hazards at stairwell entrances.

The car park floors on levels 1, 2, 3, 4, and 5 adjacent to the stair on the east elevation have recessed channels which cross the pedestrian walkway similar to the potential trip hazards identified in Communication No 209. Brookfield has confirmed that IFT is to infill the channels with coloured screed on the walkways. They have intimated that these locations do not interfere with the water flow as they are the opposite end to the outlet gulley. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 224).



Level 5



Level 4



Level 3



Level 3: Channel exceeds 30mm deep.



4.3.2 Children's Area

Clearing up in plant rooms has revealed some steel column base plate issues in the Children's area 4th floor – Brookfield are aware of this and are pursuing the matter.

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We have asked Brookfield to confirm that the existing base detail as shown on the attached photographs in the Children's 4th floor plant room area is capable of safely resisting the loads which may be applied to it and that it conforms to the design intent. Brookfield confirmed that the steelwork installed by JD Pierce is adequate and capable of safely resisting the loads that have been applied to it and JD Pierce have issued a letter of conformity for all works. Consequently, Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 235 is closed out.



4.3.3 External Works

Building Surround

Pavement blockwork on west, east and south sides together with granite blockwork to the north is almost complete with good quality in all areas.
Govan Road/Renfrew Road & ACH Entrance Road

Road surfacing work has been ongoing during the period on the dual carriageway leading to Govan Road, and that leading to Hardgate Road as well as in areas north and south of the ACH. Quality to date appears satisfactory. Local ponding on the north side of Govan Road remains outstanding. The two footpath issues which arose during the last period remain outstanding ie ponding at the extended footpath area on the east side of the maternity unit. Secondly potential specification non-compliance on sections of the footpath to the dual carriageway just north of the energy centre, as noted below.

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Footpath to the east side of the maternity unit.

We advised the Brookfield team on 16th December that ponding on the new extended footpath to the east side of the maternity unit has the potential to be a significant slip hazard in cold weather. We asked them to confirm their action to address this hazard. Brookfield has confirmed that Land Engineering have been instructed to lift the full width of tar and re-lay with a fall from the ramp to the new road kerb.

Brookfield is waiting on confirmation of when their tar squad is returning/available to carry out the works. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 237).



Ponding at the extended footpath area on the east side of the maternity unit, and potential specification non-compliance on sections of the footpath to the dual carriageway just north of the energy centre.

We asked Brookfield to confirm that the footpath make up to the dual carriageway just north of the energy centre complies with the specification (See photos below) Brookfield has confirmed that Land Engineering are to remove section of non complying asphalt and replace with specified material and layers. Land Engineering are to provide photo commentary showing removal and replacement in correct layers alongside delivery tickets evidencing material installed. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 236 is closed out.

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4.3.5 Mechanical Services

Nothing to report.

4.3.06 Electrical Services

We noted that the drawing for Level 2 Core C bed Patient Lift Lobby allows for a light above each lift door. Only two have been fitted on one side and not above the lift doors. We have asked Brookfield to confirm if this change has been agreed. If this is not an agreed change we have asked them to confirm when the lights will be fitted in the correct positions.

4.3.10 Doors

Adjustment to floors beneath doors is continuing.

4.3.11 Windows

Nothing to report.

4.3.13 Ducting

Nothing to report.

4.3.14 Floors

Nothing to report.

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4.3.15 Blockwork

Nothing to report.

4.3.16 Heating

There are gaps in the thermal insulation in the back box of the remote TRV's mounted on external walls controlling the radiant panel heater in Level 0, ZA ward OBW 009. There is the likelihood that this will cause the TRV to be affected by the lower temperature in the partition void causing the Radiant panel to emit heat unnecessarily wasting energy. This applies to other similar TRV's on outside walls. We have asked Brookfield to confirm if this has been considered and if remedial action will be taken to address this. Brookfield has asked Mercury to report on this issue. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 199).

4.4 Current Defects.

Although some work has been carried out to improve the quality the pointing on the external blockwork on the south and east elevations. Some of the blockwork does not reflect the quality of the pointing on the blockwork benchmark sample. Brookfield has informed us that all mortar tinting is now complete. Brookfield Manager F Shaw is to review the pointing with NHS (P Moir). See Supervisor's Notification of Defect (CI 42.2) No 81.



Some of the outlets taking the rainwater from the top level of the Car park are too high consequently water is ponding in the recessed channels.

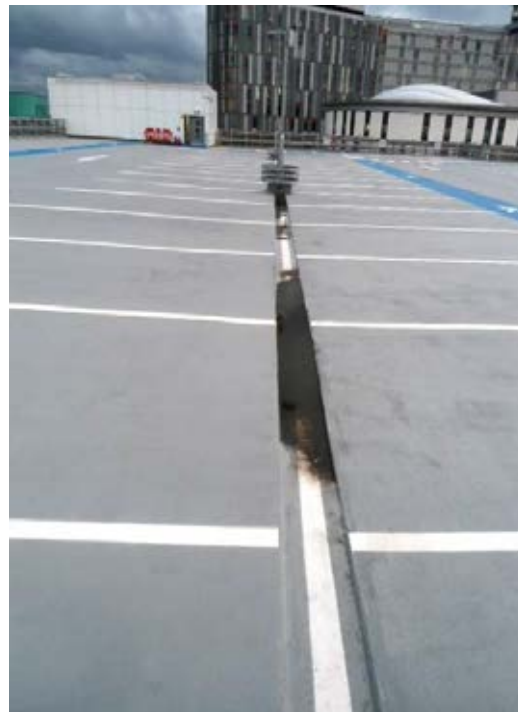
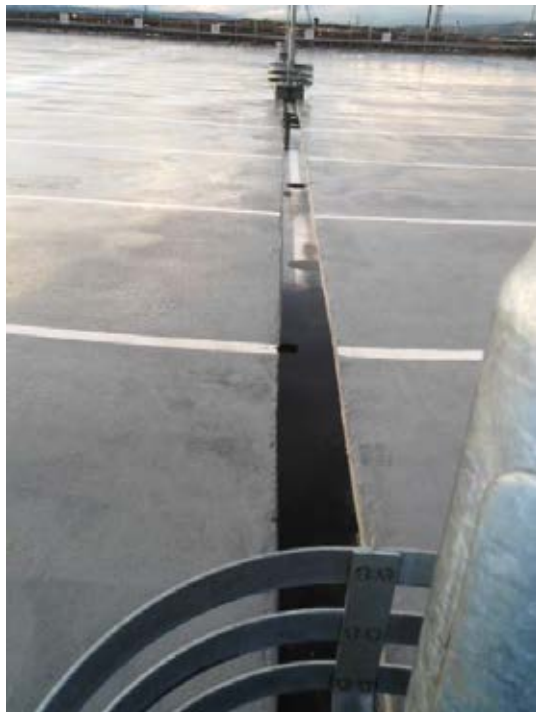
We asked Brookfield to confirm what remedial work will be undertaken to resolve this issue and confirm when the work is complete. They have intimated that the recessed

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channels will be revised to give a fall to the outlets. See Supervisor's Notification of Defect (CI 42.2) No 83.



The cladding to the column on the South Elevation of the Adult Hospital is damaged. Brookfield has confirmed that this has been repaired. Consequently Supervisor's Notification of Defect (Cal 42.2) No 87 is closed out.



The capping piece on the north facing elevation of the Children's Hospital has two discoloured areas. We asked Brookfield to confirm their remedial action to address

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this and confirm when complete. They have confirmed that if the marks can't be cleaned off, Prater will paint repair or replace panels if required. See outstanding works list. See Supervisor's Notification of Defect (CI 42.2) No 88.

The text on the drawing for Level 2, Rooms END-033 and END-035 indicates a DATA1000 at each desk, which should be 2 x OUT010 & 1 x OUT131. The drawing however indicates 1 x OUT010 and 2 x OUT131. This is wrong; consequently there are too many data points and not enough power. This requires to be rectified as soon as possible. This is to be auctioned and we await confirmation when this is complete. See Supervisor's Notification of Defect (CI 42.2) No 92.

The NHS Fire Risk Assessor has been on site and noted that the air sampling unit within General Theatre One on the second floor has been painted over. We also noted that another unit in Theatre 4 has been partially painted over. These should be paint free. There is also an air sampling unit in the main Atrium north facing wall which we have asked Brookfield to confirm when these are addressed. See Supervisor's Notification of Defect (CI 42.2) No 93.

We noted that the entrance door from the atrium into the AoDoS waiting area had no lock fitted and therefore could not be secured out of hours. On checking the as built drawing (NA-XX-02-PL-322-508) we note that it should be fitted with a deadlock (Key). We provided Brookfield with a drawing and asked them to given this high priority. They have confirmed that this has now been addressed, consequently Supervisor's Notification of Defect (CI 42.2) No 94 is closed out.

There is a water stain on the fabric ceiling. We asked Brookfield to confirm when they have located the source of the water ingress and when they have carried out the appropriate remedial action. We have also asked them to confirm if the fabric is to be replaced or the stain removed. Brookfield that this has was immediately issued to Mercury, who are currently investigating and a response is awaited See Supervisor's Notification of Defect (CI 42.2) No 96



The fire exit door on the West Elevation of the Children's Hospital adjacent to the Disposal Hold OBW-082 is not operational and the works are incomplete.

We asked Brookfield to confirm when the works to the fire exit door are complete and the door is functional as a fire exit. They have confirmed that this has been issued to both Mercury for electrical and BMCE managers to complete the door jambs etc. We \\dal-fp-01\shared\$\COMMISSIONING\Child Health\Files\New South Glasgow Project\NSGP - Files\Project Supervisor\Monthly progress reports\February 2015 - Capita Report.docx
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had been previously made aware that the keys had been issued to NHS who left it on 'locked' position for security.

See Supervisor's Notification of Defect (CI 42.2) No 95.



The partitions forming the Electrical Cupboard EMC-082 are incomplete. The partition above the door opening does not continue up to the underside of the concrete soffit and one partition is not formed against a concrete column. We asked Brookfield to confirm when this work is to be completed and the cupboard is totally enclosed. They confirmed that the cupboard was fully enclosed on the 20th February 2015. As the wall could not be formed due services above, a fire rated soffit has been formed. The installation of an additional smoke detector has commenced which is planned to be commissioned by Friday 27th February. Supervisor's Notification of Defect (CI 42.2) No 97 is closed out.



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The fire rated partitions between the corridor and the Electrical Riser CCW-126 has incomplete fire stopping. The steelwork does not have intumescent paint. We asked Brookfield to confirm when this work has been completed. They have confirmed intumescent batt/firestopping was completed around the steelwork 26th Feb 2015. They are awaiting confirmation from the designers regarding requirements for intumescent paint. See Supervisor's Notification of Defect (CI 42.2) No 98.



The joints at window cills are opening up. We asked Brookfield to confirm their remedial action to resolve this problem. They have confirmed that this defect is being investigated by their Package Managers and a further response to follow, when actions are completed. MSee Supervisor's Notification of Defect (CI 42.2) No 99.



The fire door is sticking on the floor preventing the door to open and close in the corridor between CC1-032 and CC1-054. We asked Brookfield to confirm when this door is fully operational. They have confirmed that this defect has been issued to both TDSL (doors) and AC (Flooring) for them to resolve. See Supervisor's Notification of Defect (CI 42.2) No 100.



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There is water trapped within the ETFE roof. We asked Brookfield to confirm the cause and solution to this problem and confirm when resolved. They have investigated this defect and reported that this was resolved during w/c 23/02/15. There was a hole in the top cushion which was patched and water removed. See Supervisor's Notification of Defect (CI 42.2) No 101.



Water ponding on inner skin.

There is no fire stopping around the fire door on Level 12, Plantroom 121, Door M25-A. We asked Brookfield to confirm when the fire stopping has been completed. They have confirmed that this defect has been issued to TDSL to complete the fire stopping. They will confirm when completed. See Supervisor's Notification of Defect (CI 42.2) No 102.

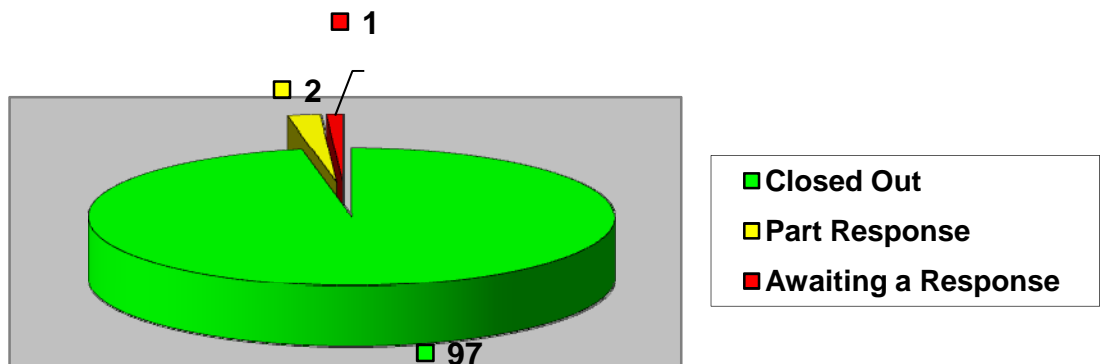


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The fire stopping is incomplete to the Fire Enclosure in Core C above Level 12. We have asked Brookfield to confirm when this is complete. They intimated that this defect is being investigated by their Package Managers and a further response to follow. See Supervisor's Notification of Defect (CI 42.2) No 103.



5.0 INFORMATION REQUIRED



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Item No.	Description	Date Requested	Comment	
Items 1 to 198 have been closed out				
199	There are gaps in the thermal insulation in back box of remote TVR's. Confirm remedial action.	20.03.14	Response received.	
Items 200 to 222 have been closed out				
223	Confirm that all vertical blind wands will be fitted throughout and will be fully functional prior to handover.	13.11.14	Closed out.	
224	Seeking confirmation that trip hazards similar to Communication No 209 will be considered for the installation of grills.	13.11.14	Response received.	
Items 225 to 234 have been closed out				
235	Confirm that the existing base details are capable of safely resisting the loads which may be applied to it and that it conforms to the design intent. Children's 4 th floor.	06.01.15	Closed out.	
236	Confirm that the footpath make up to the dual carriageway just north of the energy centre complies with the specification	07.01.15	Closed out.	
237	Seeking confirmation on Brookfield's action to address the ponding to the footpath to the east side of the maternity unit.	08.01.15	Response received.	
238	Three lights taken on the drawing only two fitted. Seeking confirmation that this is an agreed change.	09.01.15	Closed out.	
Items 239 have been closed out				
240	Seeking confirmation for the finish below the glazed frame to prevent water penetrating adjacent to the door into corridor CC4-054.	30.01.15	Response received.	
241	Seeking confirmation that drainage pipes from AHU's will be extended to the drainage outlet and step over's will be fitted.	02.02.15	Response received.	
242	Seeking confirmation if permanent perimeter protection will be fitted above cores accessed from Level 12.	25.02.15	Open.	
243	Seeking confirmation if there should be a door in Core D plantroom adjacent to the FM lift.	26.02.15	Closed out.	
244	Requesting Brookfield to demonstrate that the levels of paving are within the permissible deviation of ± 6 mm in accordance	27.02.15	Open.	

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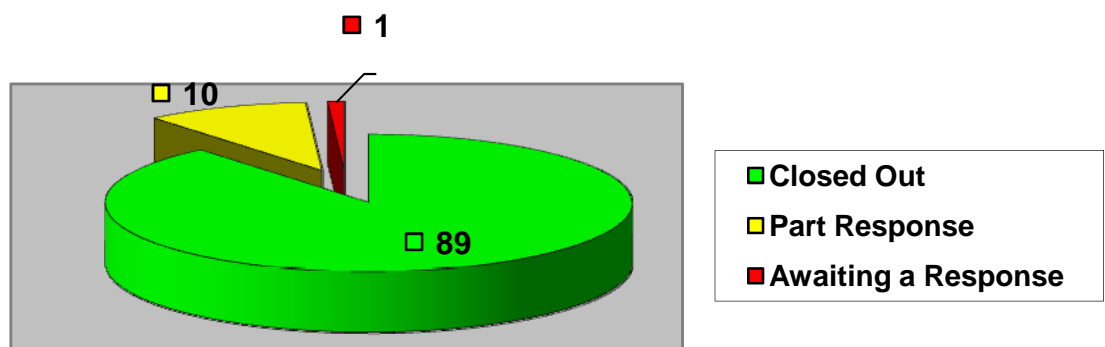
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6.0 SUPERVISORS TESTS AND INSPECTIONS

Tests not required	N/A
Tests required but not tested	Fail
Tests required which has passed tests	Pass

Tests				
Ref	Title	To be Notified by	Status	Test Date
01-342	Various tests undertaken and passed from the 09. 07.2012 To the 22.01 2015.			
343	Security - Several doors failed due to broken glasses at emergency egress points, damaged or disconnected wiring at magnets and magnets not aligned. Re-witnessed as part of test (369)	Brookfield	PASS	16.12.2014 17.01.2015
344-377	Various tests undertaken and passed from the 16. 12.2014 To the 25.01 2015.			
378	Fire shut down test of AHU's during fire activity. PR21 AHU 19 did not shut down.	Brookfield	FAIL	23.01.2015
379-380	Various tests undertaken and passed from the 23. 01.2015 To the 25.01 2015.			
381	Operation of Aseptic suite and kitchen server roller shutter doors during fire condition.	Brookfield	PASS	26.02.2015
			FAIL	25.01.2015

7.0 DEFECTS NOTIFICATIONS ISSUED



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	Description	Date Requested	Comment	
Items 1 to 80 have been closed out.				
81	External Blockwork on the south and east elevations does not reflect the quality of the pointing on the blockwork benchmark sample.	31.10.14	Response received.	
82	Confirm when plasterboard with mould growth has been replaced.	12.11.14	Closed out.	
83	Seeking confirmation of remedial action to resolve ponding.	13.11.14	Response received.	
Items 84 to 87 have been closed out.				
88	Seeking confirmation of remedial measures to address the discolouration of the capping pieces.	20.11.14	Response received.	
Items 89 to 91 have been closed out.				
92	There are insufficient power points in rooms END-033 and END-035. Seeking confirmation when addressed.	30.01.15	Response received.	
93	Confirm when the air sampling unit within General Theatre One and Theatre 4 are paint free and the unit in the Atrium has been fitted properly.	05.02.15	Open	
94	No lock fitted NSGH Theatres Admission on Day of Surgery – Level 2	06.02.15	Closed out.	
95	Entrance door from the atrium into the AoDoS waiting area has no lock fitted.	19.02.15	Response received.	
96	Confirm action to repair roof leak and remove stain from the fabric ceiling.	19.02.15	Response received.	
97	Partition in Electrical Cupboard EMC-082 is incomplete.	19.02.15	Closed out.	
98	Confirm when fire stopping missing in room CCW-126 is complete.	24.02.15	Response received.	
99	Confirm to open window cill joints.	24.02.15	Response received.	
100	Confirm when fire doors between CC1-032 and CC1-054 will be fully functional.	25.02.15	Response received.	

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101	Please confirm cause and solution to trapped water in ETFE roof and confirm when resolved.	25.02.15	Closed out.	
102	Confirm when fire stopping is complete to door M25-A	25.02.15	Response received.	
103	Confirm when fire stopping is complete to fire enclosure above Core C.	25.02.15	Response received.	

John Redmond, Technical Advisory Services

Property and infrastructure

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Capita, The Beacon, 8th Floor, 176 St Vincent Street, Glasgow G2 5SG

	Signed	Date
Originated by	John Redmond	27th February 2015
Completed by	Douglas Wilson	27th February 2015

CAPITA

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ADULT AND CHILDREN'S HOSPITAL AND ENERGY CENTRE
NEC 3 SUPERVISORS REPORT NO. 47
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1.0 EXECUTIVE SUMMARY: ADULT & CHILDREN'S HOSPITAL

In accordance with our NEC3 Contract, this is the monthly report for March on the activities carried out and responsibilities undertaken by the NEC3 Supervisors. We undertook post completion inspections and inspections of the incomplete work at Stage 3 completion.

We undertook inspections of areas identified in Brookfield's Ultimate Final Sweep Programme.

Post completion inspections in relation to Brookfield's Ultimate Final Sweep Programme were carried out in the following areas.

Stair Cores A, B and L.
Level 1, 2, 4, 5, 6, and 7.

We continue to monitor Brookfield's list of defects at completion recorded on their IDMS and review their tracker weekly.

At the car park some minor snagging remains outstanding and this together with items determined at a final inspection will be addressed towards the end of the project. This snagging will include some ponding issues on the top floor, and trip hazards at stairwell entrances.

Road surfacing work remains to be completed on the dual carriageway leading to Govan Road, and at the south of the main building. Local ponding on the north side of Govan Road remains outstanding. The two footpath issues which arose previously remain outstanding i.e. ponding at the extended footpath area on the east side of the maternity unit and potential specification non-compliance on sections of the footpath to the dual carriageway just north of the energy centre.

Landlands Drive works are ongoing and the intention is to complete the remaining section as per the areas on either side i.e. removal of existing surface layer and reinstatement with a new 40mm layer with any 'soft spots' discovered appropriately addressed. A couple of MH covers in a completed surfacing section require remedial action and Brookfield are aware of this.

During March, in the A&C Hospitals, we witnessed the following:

- Operation of Aseptic suite and kitchen server roller shutter doors during fire condition.
- Operation of server roller shutter doors during fire condition.

We are continuing to liaise with Brookfield and the NHS Project Team highlighting any items that have raised concern during our post completion inspections. We have raised the following concerns with the Contractor as follows:-

Supervisor's Communication General Matters / Other Instructions No's, No 245, was issued during March 2015.

- Seeking confirmation that 'CAUTION-VERY HOT WATER' notices will be fitted to all hot water outlets provided for food hygiene and decontamination.

Supervisor's Notification of Defect No's, 103, 104, 105, 106 107, 108, 109, 110 and 111 were issued during March 2015.

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- Seeking confirmation when fire stopping is complete to fire enclosure above Core C.
- Seeking confirmation when the vertical steel column supporting services is bolted to the horizontal member and to the floor.
- Seeking confirmation of the measures to be put in place to address the incorrectly sized and positioned patresses for the proposed patient entertainment systems
- Various defects on Level 1, 4 and 5.
- Various defects Level 1, 6 and 7.
- Various defects Stair Cores A, B and L.
- Various defects on Level 2 cracks in the walls of theaters and adjoining rooms.
- Cracks in the walls in rooms THE-124 and THE-232.
- Seeking confirmation when the fire stopping in hub Room FMC2-006 is addressed.

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2.0 DESIGN COMPLIANCE CHECK

Currently nothing to report.

3.0 PROCEDURES REVIEW

3.1 Contractor's QA Procedures / Compliance Inspections

Inspections following Brookfield's Ultimate Final Sweep Programme.

We received Brookfield's Ultimate Final Sweep Programme replacing the previous Final Sweep programme. We carried out inspections on Levels 1, 2, 4, 5, 6 and 7. We also inspected stair cores A, B and L.

Acoustic Tests

There remains one partition between rooms' THE-326 and THE-327 which requires a crosstalk attenuator to be fitted. Brookfield confirmed that this will be completed in advance of the 24th April.

General Inspections

During inspections of Risers, Electrical Cupboards and IT Hub Rooms on the Level 11 we noted incomplete work. We raised a Communication with Brookfield listing the incomplete works and asked them to confirm when these are completed prior to the 26th January. These works are being actioned through the Ultimate Final Sweep Programme. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 239 is closed out.

During an inspection of the Children's Roof adjacent to Plantroom 41A we noted that there were no bulkhead lights fitted above the doors. There were also no lights fitted in the room on the roof providing access and egress via the cat ladder in Core L. These were not taken in the approved drawings. Brookfield has issued a communication to BMCE M&E Managers for action / response. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 246

Post Completion Inspections.

We asked Brookfield to confirm the finish below the glazed frame to prevent water penetrating adjacent to the door into corridor CC4-054. They have issued this to their Package manager who will liaise with the sub contractor to resolve and complete this detail.

See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 240.



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The drainage pipes from AHU's do not extended to the drainage outlet. We asked Brookfield to confirm when the pipes have been extended towards the drain. If left as, is there is a risk that the falls in the floor will direct the water away from the drain. We asked Brookfield to confirm that step over's will be provided. They informed us that as this is the main access for any plant/equipment/replacement routes. They have confirmed that any water from the condensate drain will run to the floor drain in its present position. This has been discussed with the client and in this instance is acceptable. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 241 is closed out.

There is temporary scaffolding providing perimeter protection at concrete floor beams above the cores accessed from Level 12. We have asked Brookfield to confirm if permanent perimeter protection is to be fitted. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 242.



Temporary scaffolding providing perimeter protection.



Temporary scaffolding providing perimeter protection.

There is ponding of water at various area locations between the Adult and children's Hospitals. We asked Brookfield to demonstrate that the levels of paving are within the permissible deviation of $\pm 6\text{mm}$ in accordance with the specification. They have provided us with as built level drawing overmarked with the WSP intended levels. In addition the grid is based on a 5M grid. It shows that paving is within designed tolerance of $\pm 6\text{mm}$ as taken from WSP level and contour drawings. Consequently General Matters / Other Instructions (CI 13.1) No 244 is closed out.

There is a roof leak in the children Atrium and Brookfield are in the process of addressing this problem.

SHTM 04-01 Pt A recommends that all hot water outlets provided for food hygiene and decontamination should be provided with a notice 'CAUTION-VERY HOT WATER'. We asked Brookfield to confirm that these will be fitted to all locations where this occurs. They have confirmed that the Communication has been

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issued to Mercury and BMCE M&E Managers to confirm when the required signage will be fitted. See General Matters / Other Instructions (CI 13.1) No 245.

Project Manager's Schedule of Incomplete Works at Completion

Brookfield has a tracker in place which will be reviewed weekly. Six of the works from the schedule are complete. We have noted below the works which are not on programme to completion.

- No 5 Separation Tank: Original tank not holding air test. Replacement tank due 1st April. Road surfacing due w/c 13th April
- No 8 Cores A&B & Main Entrance - meet and greet panels glass cabinets: Approved by NHS 25/02/15, awaiting delivery date from JTC
- No 9 Lead lined Units and Associated Works - Approved by NHS 23/02/15, Awaiting delivery date from JTC
- No 18 New VIE Turning Circle: To be completed along with Langlands Drive works – w/c 13th April.
- No 24 AGV Performance Tests and Trials: We still await linen carts from NHS to complete performance testing – w/c TBC.
- No 27 Sanctuary-stained glass installed: Drawings approved glass being manufactured.
- No 30 Telecom 600 pair lines install plus additional 600 lines required by Board: Instructed to proceed - starting w/c 23/03/15 – completed by 01/04/15
- No 34 External Façade: Commencing 14/03/15 as agreed with Ian Powrie / David Hall - NHS to carry out remedial works in Labs Completion date to be agreed.
- No 42 Theatres - Sockets complete – 20/02/15 with a further 2 weeks to install additional ancillaries ongoing.
- No 51 Medical Gas System: Testing and witnessing complete with the exception of snagging items – to be complete by 10/04/15.

Defects at completion

Currently there are 606 outstanding defects reported at completion to be addressed. There are also 462 additional defects identified following our joint inspections after completion. Many of these are of a minor nature.

Incident Report Summary Schedule

This is being monitored by Brookfield and they are having weekly meetings with the NHS Project Team. Currently there have been 328 incidents reported. 74 are open/ongoing and 254 have been closed out.

3.2 Witness Testing and Commissioning

We witnessed tests during March 2015 which were unsatisfactory:

- Operation of Aseptic suite and kitchen server roller shutter doors during fire condition.
- Operation of server roller shutter doors during fire condition.

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Previously witnessed tests which require to be retaken:

- (378) Fire shut down tests of PR21 AHU 19. We await confirmation relating to the testing or current status of this AHU.

3.3 Board Equipment Installation,

Currently nothing to report.

3.4 Non Conformance Reports

We reviewed Brookfield's NCR Tracker and noted the issues raised by the Package Managers. Brookfield confirmed that the tinting to the blockwork is complete to the pointing on the south and east elevations. An NCR has also been raised in relation to manholes which are below the level of the surrounding tar. (See photo opposite.)



4.0 CONSTRUCTION REVIEW

4.1 Visits to the Works

The following members of our team undertook site inspections, reviewed documentation, attended meetings and met with relevant Contractors representatives on-site personnel:- John Redmond (Lead NEC3 Supervisor) 2nd to 6th, 9th to 13th, 16th to 20th and 23rd to 27th, 30th and 31st. Willie Roxburgh (Civils/Structural NEC3 Supervisor) part days on the 9th and 24th March. Capita's NEC3 Supervisor's team visited site a combined 24 person days.

4.2 Elements of the Works available for inspection

Main building – structural areas very limited.

Neuro bridge (partly limited due to access).

Dual carriageway to Renfrew Road, turning area in front of the main entrance and carriageway from Hardgate Road.

All sides external works.

Perimeter hard and soft landscaping

4.3 Current Observations

The visual inspections of the work carried out to date indicate that the works are generally being carried out to a satisfactory standard. We continue to be assisted by the site teams and the NHS Project Team in resolving various construction, mechanical, electrical, and quality issues. We continue to close out our Supervisor's Notification and Defects when we have received satisfactory responses.

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4.3.1 Structural and Civil Works

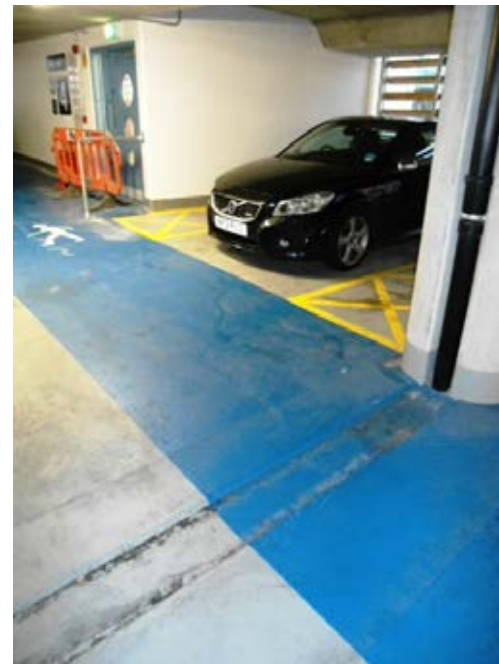
Car Park 1.

The car park is now in use as the main project site car park. Some minor snagging remains outstanding and this together with items determined at a final inspection will be addressed towards the end of the project. This snagging will include some ponding issues on the top floor, and trip hazards at stairwell entrances.

The car park floors on levels 1, 2, 3, 4, and 5 adjacent to the stair on the east elevation have recessed channels which cross the pedestrian walkway similar to the potential trip hazards identified in Communication No 209. Brookfield has confirmed that IFT is to infill the channels with coloured screed on the walkways. They have intimated that these locations do not interfere with the water flow as they are the opposite end to the outlet gully. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 224).



Level 5



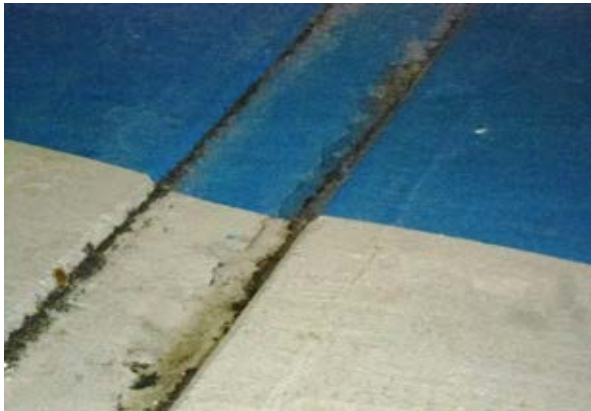
Level 4



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Level 3



Level 3: Channel exceeds 30mm deep.



4.3.2 Children's Area

Clearing up in plant rooms has revealed some steel column base plate issues in the Children's area 4th floor – Brookfield are aware of this and are pursuing the matter.

4.3.3 External Works

Building Surround.

Pavement blockwork on west, east and south sides together with granite blockwork to the north is almost complete with good quality in all areas. Checks are ongoing regarding slope criteria in areas of ponding as noted above.

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Govan Road/Renfrew Road & ACH Entrance Road.

Road surfacing work has still to be completed on parts of the dual carriageway leading to Govan Road/Renfrew Road and to the south side of the main building. Local ponding on the north side of Govan Road remains outstanding. The two footpath issues which arose previously remain outstanding i.e. ponding at the extended footpath area on the east side of the maternity unit, and secondly potential specification non-compliance on sections of the footpath to the dual carriageway just north of the energy centre, as noted below.

Langlands Drive.

Langlands Drive works are ongoing and the intention is to complete the remaining section as per the areas on either side i.e. removal of existing surface layer and reinstatement with a new 40mm layer with any 'soft spots' discovered appropriately addressed. A couple of MH covers in a completed surfacing section require remedial action and Brookfield are aware of this.

We advised the Brookfield team on 16th December that ponding on the new extended footpath to the east side of the maternity unit has the potential to be a significant slip hazard in cold weather. We asked them to confirm their action to address this hazard. Brookfield has confirmed that Land Engineering have been instructed to lift the full width of tar and re-lay with a fall from the ramp to the new road kerb.

Brookfield has confirmed that work will commence week beginning 13th April (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 237).



Footpath to the east side of the maternity unit.

Ponding at the extended footpath area on the east side of the maternity unit, and potential specification non-compliance on sections of the footpath to the dual carriageway just north of the energy centre.

4.3.5 Mechanical Services

Nothing to report.

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We noted that the drawing for Level 2 Core C bed Patient Lift Lobby allows for a light above each lift door. Only two have been fitted on one side and not above the lift doors. We have asked Brookfield to confirm if this change has been agreed. If this is not an agreed change we have asked them to confirm when the lights will be fitted in the correct positions.

4.3.10 Doors

Adjustment to floors beneath doors is continuing.

4.3.11 Windows

Nothing to report.

4.3.13 Ducting

Nothing to report.

4.3.14 Floors

Nothing to report.

4.3.15 Blockwork

Nothing to report.

4.3.16 Heating

There are gaps in the thermal insulation in the back box of the remote TRV's mounted on external walls controlling the radiant panel heater in Level 0, ZA ward OBW 009. There is the likelihood that this will cause the TRV to be affected by the lower temperature in the partition void causing the Radiant panel to emit heat unnecessarily wasting energy. This applies to other similar TRV's on outside walls. We have asked Brookfield to confirm if this has been considered and if remedial action will be taken to address this. Brookfield has asked Mercury to report on this issue. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 199).

4.4 Current Defects.

Although some work has been carried out to improve the quality the pointing on the external blockwork on the south and east elevations. Some of the blockwork does not reflect the quality of the pointing on the blockwork benchmark sample. Brookfield has informed us that all mortar tinting is now complete. Brookfield Manager F Shaw is to review the pointing with NHS (P Moir). See Supervisor's Notification of Defect (CI 42.2) No 81.

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Some of the outlets taking the rainwater from the top level of the Car park are too high consequently water is ponding in the recessed channels.

We asked Brookfield to confirm what remedial work will be undertaken to resolve this issue and confirm when the work is complete. They have intimated that the recessed channels will be revised to give a fall to the outlets. See Supervisor's Notification of Defect (CI 42.2) No 83.



The capping piece on the north facing elevation of the Children's Hospital has two discoloured areas. We asked Brookfield to confirm their remedial action to address

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this and confirm when complete. They have confirmed that if the marks can't be cleaned off, Prater will paint repair or replace panels if required. See outstanding works list. See Supervisor's Notification of Defect (CI 42.2) No 88.

The text on the drawing for Level 2, Rooms END-033 and END-035 indicates a DATA1000 at each desk, which should be 2 x OUT010 & 1 x OUT131. The drawing however indicates 1 x OUT010 and 2 x OUT131. This is wrong; consequently there are too many data points and not enough power. This requires to be rectified as soon as possible. This is to be auctioned and we await confirmation when this is complete. See Supervisor's Notification of Defect (CI 42.2) No 92.

The NHS Fire Risk Assessor has been on site and noted that the air sampling unit within General Theatre One on the second floor has been painted over. We also noted that another unit in Theatre 4 has been partially painted over. These should be paint free. There is also an air sampling unit in the main Atrium north facing wall which we have asked Brookfield to confirm when these are addressed. See Supervisor's Notification of Defect (CI 42.2) No 93.

There is a water stain on the fabric ceiling. We asked Brookfield to confirm when they have located the source of the water ingress and when they have carried out the appropriate remedial action. We have also asked them to confirm if the fabric is to be replaced or the stain removed. Brookfield confirmed that this defect was immediately issued to Mercury, who are currently investigating and a response is awaited See Supervisor's Notification of Defect (CI 42.2) No 95



The fire exit door on the West Elevation of the Children's Hospital adjacent to the Disposal Hold OBW-082 is not operational and the works are incomplete.

We asked Brookfield to confirm when the works to the fire exit door are complete and the door is functional as a fire exit. They have confirmed that this has been issued to both Mercury for electrical and BMCE managers to complete the door jambs etc. We had been previously made aware that the keys had been issued to NHS who left it on 'locked' position for security.

See Supervisor's Notification of Defect (CI 42.2) No 96.

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The fire rated partitions between the corridor and the Electrical Riser CCW-126 has incomplete fire stopping. The steelwork does not have intumescent paint. We asked Brookfield to confirm when this work has been completed. They have confirmed intumescent batt/firestopping was completed around the steelwork 26th Feb 2015. They are awaiting confirmation from the designers regarding requirements for intumescent paint. See Supervisor's Notification of Defect (CI 42.2) No 98.



The joints at window cills are opening up. We asked Brookfield to confirm their remedial action to resolve this problem. They have confirmed that this defect is being investigated by their Package Managers and a further response to follow, when actions are completed. MSee Supervisor's Notification of Defect (CI 42.2) No 99.



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The fire door is sticking on the floor preventing the door to open and close in the corridor between CC1-032 and CC1-054. We asked Brookfield to confirm when this door is fully operational. They have confirmed that this defect has been issued to both TDSL (doors) and AC (Flooring) for them to resolve.

See Supervisor's Notification of Defect (CI 42.2) No 100.



There is no fire stopping around the fire door on Level 12, Plantroom 121, Door M25-A. We asked Brookfield to confirm when the fire stopping has been completed. They have confirmed that this defect has been issued to TDSL to complete the fire stopping. They will confirm when completed. See Supervisor's Notification of Defect (CI 42.2) No 102.



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The fire stopping was incomplete to the Fire Enclosure in Core C above Level 12. We have inspected this with Brookfield and confirm that it is complete. Consequently Supervisor's Notification of Defect (CI 42.2) No 103 is closed out.



Vertical steel column to supporting services is not bolted to the horizontal member and not bolted to the floor. Confirm when this has been addressed. See Supervisor's Notification of Defect (CI 42.2) No 104.



It has been established that in some areas, patressing has not been installed as per the agreed general arrangement drawing through the main contract. Consequently this has caused disruption to the installation of the patient entertainment systems. We are aware that a survey is to be carried out to determine the position of the existing patresses to determine if they can be used in their existing positions. Brookfield is undertaking a survey to identify the location of the existing patresses. We have asked them to confirm that they are taking the appropriate remedial action to ensure that all works are carried out without disruption for the Board's direct sub contractor. We have also asked them to confirm if the proposed survey will include providing a marked up drawing in the room to identify stud / patress positions to assist the installer of the patient entertainment systems. See Supervisor's Notification of Defect (CI 42.2) No 105.

Following inspections of Levels 1, 4 and 5 we issued Defect No 106 covering all the defects found. Brookfield they immediately issued instructions to their sub-contractors

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to address the defects. Generally the defects were of a minor nature. Below are the few that require some attention. See Supervisor's Notification of Defect (CI 42.2) No 106.



Smoke detector too close to air supply vent.



Gap between the metal deck and the wall with the floor comprising fire bats.



Poor vinyl detail at recess.



Incomplete work to surface shower unit

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Peeling vinyl.

Following inspections of Levels 1, 6 and 7 we issued Defect No 107 covering all the defects found. Following our inspections with Brookfield they have issued the list attached to the Notification of Defect to all BMCE Managers to have the defects rectified. Generally the defects were of a minor nature. Below are the few that require some attention. See Supervisor's Notification of Defect (CI 42.2) No 107.



Following a joint inspection of the Stair Cores A, B and L with Brookfield we identified various defects. We have asked Brookfield to confirm when these have been addressed. See Supervisor's Notification of Defect (CI 42.2) No 108.

Following a joint inspection of the theatres and adjoining rooms on Level 2 we identified a number of walls with horizontal, vertical and diagonal cracks. We forwarded a list of the locations to Brookfield and asked them to confirm when these are addressed. See Supervisor's Notification of Defect (CI 42.2) No 109.

Following a joint inspection of the theatres and adjoining rooms on Level 2 we identified cracks in the following rooms:

- THE-124 General Theatre 6 ENT: Crack below the window.

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- THE-232 Interventional 1 Vasco/Urology: Horizontal crack right hand side of the touch screen.

Brookfield has confirmed the list attached to the Notification of Defect has been issued to all BMCE Managers to have the defects rectified. See Supervisor's Notification of Defect (CI 42.2) No 110.

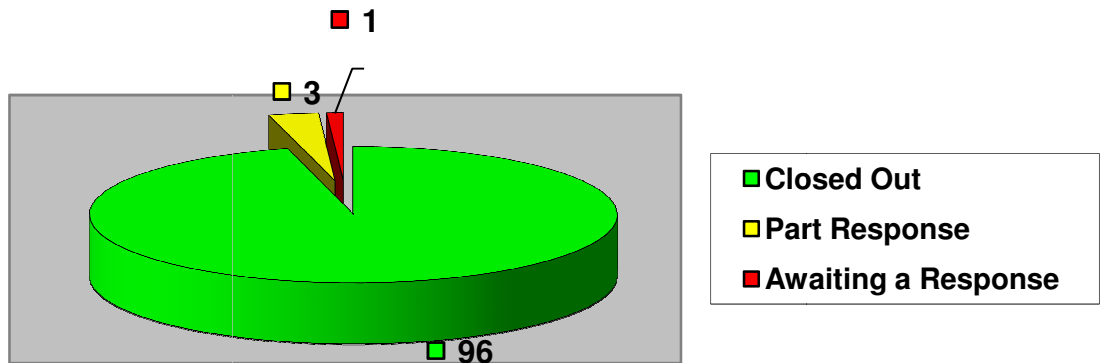
No fire stopping has been fitted around penetrations passing through the fire rated partition in the IT Hub Room FMC2-406 on Level 2. We asked Brookfield to confirm when these are addressed. Brookfield has provided us with further information which confirms that the room forms part of a cluster consequently no fire stopping is required. Supervisor's Notification of Defect (CI 42.2) No 111 is closed out.



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5.0 INFORMATION REQUIRED



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Item No.	Description	Date Requested	Comment	
Items 1 to 198 have been closed out				
199	There are gaps in the thermal insulation in back box of remote TVR's. Confirm remedial action.	20.03.14	Response received.	
Items 200 to 222 have been closed out				
223	Confirm that all vertical blind wands will be fitted throughout and will be fully functional prior to handover.	13.11.14	Closed out.	
224	Seeking confirmation that trip hazards similar to Communication No 209 will be considered for the installation of grills.	13.11.14	Response received.	
Items 225 to 234 have been closed out				
235	Confirm that the existing base details are capable of safely resisting the loads which may be applied to it and that it conforms to the design intent. Children's 4 th floor.	06.01.15	Closed out.	
236	Confirm that the footpath make up to the dual carriageway just north of the energy centre complies with the specification	07.01.15	Closed out.	
237	Seeking confirmation on Brookfield's action to address the ponding to the footpath to the east side of the maternity unit.	08.01.15	Response received.	
238	Three lights taken on the drawing only two fitted. Seeking confirmation that this is an agreed change.	09.01.15	Closed out.	
Items 239 have been closed out				
240	Seeking confirmation for the finish below the glazed frame to prevent water penetrating adjacent to the door into corridor CC4-054.	30.01.15	Response received.	
241	Seeking confirmation that drainage pipes from AHU's will be extended to the drainage outlet and step over's will be fitted.	02.02.15	Closed out.	
242	Seeking confirmation if permanent perimeter protection will be fitted above cores accessed from Level 12.	25.02.15	Open.	
243	Seeking confirmation if there should be a door in Core D plantroom adjacent to the FM lift.	26.02.15	Closed out.	
244	Requesting Brookfield to demonstrate that the levels of paving are within the permissible deviation of ± 6 mm in accordance	27.02.15	Closed out.	
245	Confirm that 'CAUTION-VERY HOT WATER' notices will be fitted to all hot water outlets provided for food hygiene and decontamination.	19.03.15	Response received.	
246	No lights fitted to above the doors leading from the room to plantroom 41A	30.03.15	Response received.	

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6.0 SUPERVISORS TESTS AND INSPECTIONS

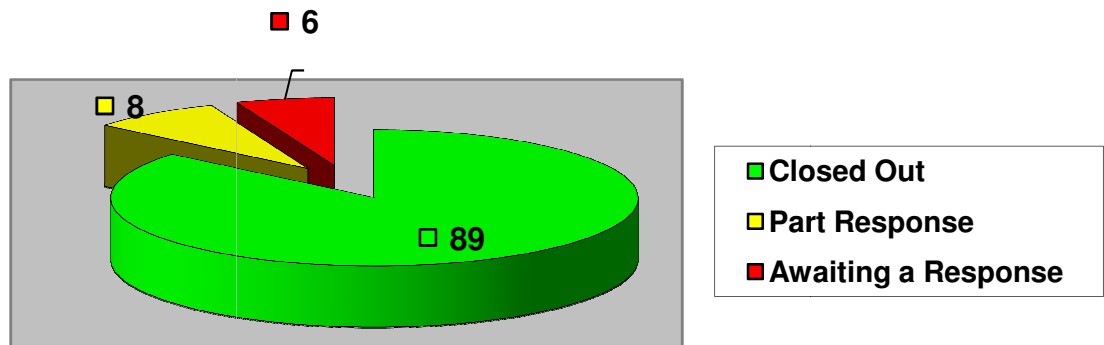
Tests not required	N/A
Tests required but not tested	Fail
Tests required which has passed tests	Pass

Tests				
Ref	Title	To be Notified by	Status	Test Date
01-377	Various tests undertaken and passed from the 09. 07.2012 To the 22.01 2015.			
378	Fire shut down test of AHU's during fire activity. PR21 AHU 19 did not shut down.	Brookfield	FAIL	23.01.2015
379-380	Various tests undertaken and passed from the 23. 01.2015 to the 25.01 2015.			
381	Operation of aseptic suite and kitchen server roller shutter doors during fire condition.	Brookfield	PASS	26.02.2015 25.01.2015 02.04.2015

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7.0 DEFECTS NOTIFICATIONS ISSUED



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	Description	Date Requested	Comment	
Items 1 to 80 have been closed out.				
81	External Blockwork on the south and east elevations does not reflect the quality of the pointing on the blockwork benchmark sample.	31.10.14	Response received.	
82	Confirm when plasterboard with mould growth has been replaced.	12.11.14	Closed out.	
83	Seeking confirmation of remedial action to resolve ponding.	13.11.14	Response received.	
Items 84 to 87 have been closed out.				
88	Seeking confirmation of remedial measures to address the discolouration of the capping pieces.	20.11.14	Response received.	
Items 89 to 91 have been closed out.				
92	There are insufficient power points in rooms END-033 and END-035. Seeking confirmation when addressed.	30.01.15	Response received.	
93	Confirm when the air sampling unit within General Theatre One and Theatre 4 are paint free and the unit in the Atrium has been fitted properly.	05.02.15	Open	
94	No lock fitted NSGH Theatres Admission on Day of Surgery – Level 2	06.02.15	Closed out.	
95	Entrance door from the atrium into the AoDoS waiting area has no lock fitted.	19.02.15	Response received.	
96	Confirm action to repair roof leak and remove stain from the fabric ceiling.	19.02.15	Response received.	
97	Partition in Electrical Cupboard EMC-082 is incomplete.	19.02.15	Closed out.	
98	Confirm when fire stopping missing in room CCW-126 is complete.	24.02.15	Response received.	
99	Confirm to open window cill joints.	24.02.15	Response received.	
100	Confirm when fire doors between CC1-032 and CC1-054 will be fully functional.	25.02.15	Response received.	
101	Please confirm cause and solution to trapped water in ETFE roof and confirm when resolved.	25.02.15	Closed out.	
102	Confirm when fire stopping is complete to door M25-A	25.02.15	Response received.	
103	Confirm when fire stopping is complete to fire enclosure above Core C.	25.02.15	Closed out.	
104	Vertical steel column to supporting services is not bolted to the horizontal member and not bolted to the floor. Confirm when addressed.	03.03.15	Open	
105	Seeking confirmation from Brookfield that measures will be put in place to address the incorrectly sized and positioned patresses for proposed patient entertainment systems	10.03.15	Open	
106	Various defects Level 1, 4 and 5.	16.03.15	Open	
107	Various defects Level 1, 6 and 7.	19.03.15	Open	
107	Various defects Stair Cores A, B and L	23.03.15	Open	
108	Various defects in Stair Cores A, B and L	23.03.15	Open	
110	Various cracks in the walls of theaters and adjoining rooms.	23.03.15	Response received.	
111	Cracks in the walls in rooms THE-124 and THE-232.	25.03.15	Closed out.	

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John Redmond, Technical Advisory Services

Property and infrastructure
Capita, 7 West Nile St, Glasgow, G1 2PR

	Signed	Date
Originated by	John Redmond	10 th April 2015
Completed by	David Ramsay	10 th April 2015

CAPITA

**NEW SOUTH GLASGOW HOSPITAL
ADULT AND CHILDREN'S HOSPITAL AND ENERGY CENTRE
NEC 3 SUPERVISORS REPORT NO. 48
APRIL 2015**

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND
ENERGY CENTRE****SUPERVISOR'S REPORT NO. 48****APRIL 2015****CONTENTS****NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND
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1.0 EXECUTIVE SUMMARY: ADULT & CHILDREN'S HOSPITAL

In accordance with our NEC3 Contract, this is the monthly report for April on the activities carried out and responsibilities undertaken by the NEC3 Supervisors. We undertook post completion inspections and inspections of the incomplete work at Stage 3 completion.

We undertook inspections of areas identified in Brookfield's Ultimate Final Sweep Programme.

Post completion inspections in relation to Brookfield's Ultimate Final Sweep Programme were carried out in the following areas.

Stair Cores K, H and G.
Level 0, 2, 3, 8, and 9.

We continue to monitor Brookfield's list of defects at completion recorded on their IDMS and review their tracker weekly.

The car park has now been handed over to the Client. Some minor snagging has been addressed including trip hazards at stairwell entrances, but the Client has accepted the drainage channel intermittent ponding at roof level. A defect notification has been issued to Brookfield listing the defects at handover.

Road surfacing work has been completed on the dual carriageway leading to Govan Road, and at the south of the main building, with a generally good quality finish. Local ponding on the north side of Govan Road remains outstanding. The footpath ponding at the extended footpath area on the east side of the maternity unit remains outstanding.

Landlands Drive resurfacing works have been finished with the completed areas appearing satisfactory. Removal of the existing surface layer revealed only a few places where additional attention was required and reinstatement with a new 40mm layer was applied throughout.

During March, in the A&C Hospitals, we witnessed the following:

- Operation of Aseptic suite and kitchen server roller shutter doors during fire condition.
- Operation of server roller shutter doors during fire condition.

We are continuing to liaise with Brookfield and the NHS Project Team highlighting any items that have raised concern during our post completion inspections. We have raised the following concerns with the Contractor as follows:-

Supervisor's Communication General Matters / Other Instructions No's, No 247, 248, 249, 250 and 251 was issued during April 2015.

- Seeking confirmation that 'various issues identified in the NHS Fire Safety Risk Assessment which relate to Brookfield have been recorded on the IDMS system.
- Seeking confirmation of action to address the ponding as shown on attached drawing.
- Seeking design proposals to prevent bird and insect from entering the atrium at high level.

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- Seeking Brookfield's proposal to seal open joints between the granite and the building around the perimeter of the building.
- Seeking confirm what type intumescent putty pads which will be used in the data point in relation to PMI No 328.

Supervisor's Notification of Defect No's, 112, 113, 114, 115 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126 and 127 were issued during April 2015.

- Various defects on Level 2.
- Various defects Level 3.
- Various defects Stair Cores K, H and G.
- Various defects Level 3 Link Bridge.
- Car Park 1 various defects.
- Various defects on Level 8.
- Various defects on Level 9.
- Displaced intumescent pillow GENW20-031.
- Car Park 1 Staircore 1: door damaged and rusting.
- Various defects on Level 10.
- Various defects on Level 10: Fire stopping incomplete or not present.
- Fire stopping damaged in room CA0-038.
- Defects in relation to the Zurich Engineers inspection.
- Request for video surveys with reject to drain repairs.
- Various defects on Level 11.
- Car Park 1 Main Staircore from loft lobby: door doesn't close over.

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2.0 DESIGN COMPLIANCE CHECK

Currently nothing to report.

3.0 PROCEDURES REVIEW

3.1 Contractor's QA Procedures / Compliance Inspections

Inspections following Brookfield's Ultimate Final Sweep Programme.

We received Brookfield's Ultimate Final Sweep Programme replacing the previous Final Sweep programme. We carried out inspections on Levels 1, 2, 4, 5, 6 and 7. We also inspected stair cores A, B and L.

Acoustic Tests

There remains one partition between rooms' THE-326 and THE-327 which requires a crosstalk attenuator to be fitted. Brookfield confirmed that this will be completed in advance of the 24th April.

General Inspections

During an inspection of the Children's Roof adjacent to Plantroom 41A we noted that there were no bulkhead lights fitted above the doors. There were also no lights fitted in the room on the roof providing access and egress via the cat ladder in Core L. These were not taken in the approved drawings. Brookfield has issued a communication to BMCE M&E Managers for action / response. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 246

Post Completion Inspections / Issues

Senior Estates Manager for the NHS forwarded the Fire Risk Assessors Reports for Cores B, C, D and F Street and Circulation (Basement), Core B Stairs and Lift Lobbies, Cores A, G, H and K. These were dated 26th February 2015 the 11th March 2015 and from the 9th April 2015 and indicate a number of Defects. We asked Brookfield to confirm if the defects recorded in the Fire Risk Assessors Reports are on the IDMS system. We also asked them to confirm which of the defects recorded either on the IDMS System or in the report have still to be addressed. We had discussions with Brookfield and noted that some items on the list did not relate to actions by the NHS. Brookfield agreed that they will carry out remedial works to the items on the various lists that are applicable to their contract works. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 247.

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We asked Brookfield to confirm the finish below the glazed frame to prevent water penetrating adjacent to the door into corridor CC4-054. They have issued this to their Package manager who will liaise with the sub contractor to resolve and complete this detail. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 240.



There is temporary scaffolding providing perimeter protection at concrete floor beams above the cores accessed from Level 12. We have asked Brookfield to confirm if permanent perimeter protection is to be fitted. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 242.



Temporary scaffolding providing perimeter protection.



Temporary scaffolding providing perimeter protection.

There is a roof leak in the children Atrium and Brookfield are in the process of addressing this problem.

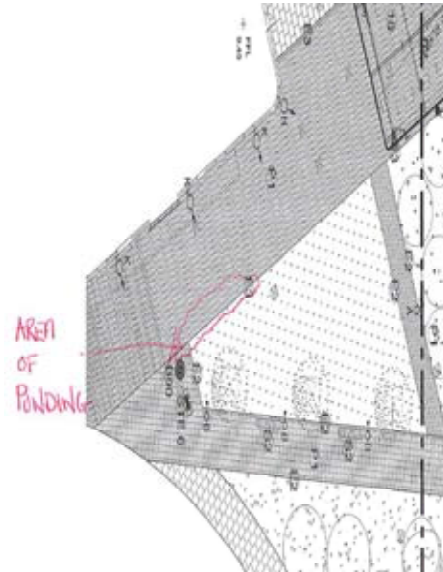
SHTM 04-01 Pt A recommends that all hot water outlets provided for food hygiene and decontamination should be provided with a notice 'CAUTION-VERY HOT WATER'. We asked Brookfield to confirm that these will be fitted to all locations where this occurs. They have confirmed that the Communication has been issued to Mercury and BMCE M&E Managers to confirm when the required signage will be fitted. See General Matters / Other Instructions (CI 13.1) No 245.

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We noted water is ponding between the pavers and grassed area shown in the drawing opposite. We have asked Brookfield to confirm their remedial action to address this problem and confirm when the works are complete. See General Matters / Other Instructions (CI 13.1) No 248.



We have asked Brookfield to confirm their design proposals to install mesh screens to prevent bird and insects from entering the atrium at high level. We asked them to provide planned installation timetable. They confirmed that a proprietary bird mesh is being fitted to the Louvers' to prevent birds from entering the atrium at high level. This work is proposed to be actioned on Friday 17th April. See General Matters / Other Instructions (CI 13.1) No 249.

There are open joints between the granite and the building around the perimeter of the building. We have asked Brookfield to confirm their proposals to fill the gap to stop debris falling down. See General Matters / Other Instructions (CI 13.1) No 250.



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While undertaking inspections on Level 10 we note that a double socket was installed in a fire rated wall with a propriator putty pad, however the data point next to the socket did not have a putty pad placed in the back box. We asked Brookfield to confirm what type intumescent putty pads which will be used in the data point in this type of location and provide your marked up drawing or QA checks showing the location of sockets with intumescent putty pads installed in fire rated walls. Brookfield is investigating. See General Matters / Other Instructions (CI 13.1) No 251.

Project Manager's Schedule of Incomplete Works at Completion

Brookfield has a tracker in place which will be reviewed weekly. Six of the works from the schedule are complete. We have noted below the works which are not on programme to completion.

- New Tank Installed. Road Surfacing Completed. Power Supply Panel to be fitted
- No 8 Cores A&B & Main Entrance - meet and greet panels glass cabinets: Approved by NHS 25/02/15, awaiting delivery date from JTC
- No 9 Lead lined Units and Associated Works - Approved by NHS 23/02/15, Awaiting delivery date from JTC – Due Wed 06/05/15.
- No 18 New VIE Turning Circle: Fencing to be completed as part of Exceptions drawing.
- No 24 AGV Performance Tests and Trials: Brookfield still await linen carts from NHS to complete performance testing – w/c TBC.
- No 27 Sanctuary-stained glass installed: complete.
- No 30 Telecom 600 pair lines install plus additional 600 lines required by Board: Instructed to proceed - starting w/c 23/03/15 – completed by 01/04/15.
- No 34 External Façade: Commencing 14/03/15 as agreed with Ian Powrie / David Hall - NHS to carry out remedial works in Labs Completion date to be agreed.
- No 42 Theatres - Sockets complete
- No 51 Medical Gas System: Complete.

Defects at completion

Currently there are 184 outstanding defects reported at completion to be addressed. There are also 430 additional defects identified following our joint inspections after completion. Many of these are of a minor nature.

3.2 Witness Testing and Commissioning

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We witnessed tests during March 2015 which were unsatisfactory:

- Operation of Aseptic suite and kitchen server roller shutter doors during fire condition.
- Operation of server roller shutter doors during fire condition.

Previously witnessed tests which require to be retaken:

- (378) Fire shut down tests of PR21 AHU 19. We await confirmation relating to the testing or current status of this AHU.

3.3 Board Equipment Installation,

Currently nothing to report.

3.4 Non Conformance Reports

We reviewed Brookfield's NCR Tracker and noted the issues raised by the Package Managers. Brookfield confirmed that the tinting to the blockwork is complete to the pointing on the south and east elevations. An NCR has also been raised in relation to manholes which are below the level of the surrounding tar. (See photo opposite.)



4.0 CONSTRUCTION REVIEW

4.1 Visits to the Works

The following members of our team undertook site inspections, reviewed documentation, attended meetings and met with relevant Contractors representatives on-site personnel:- John Redmond (Lead NEC3 Supervisor) 1st to 3rd, 6th to 10th, 13th to 17th and 20th to 24th. Willie Roxburgh (Civils/Structural NEC3 Supervisor) part days on the 13th and 15th April. Capita's NEC3 Supervisor's team visited site a combined 20 person days.

4.2 Elements of the Works available for inspection

Main building – structural areas very limited.

Neuro bridge (partly limited due to access).

Dual carriageway to Renfrew Road, turning area in front of the main entrance and carriageway from Hardgate Road.

All sides external works.

Perimeter hard and soft landscaping.

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4.3 Current Observations

The visual inspections of the work carried out to date indicate that the works are generally being carried out to a satisfactory standard. We continue to be assisted by the site teams and the NHS Project Team in resolving various construction, mechanical, electrical, and quality issues. We continue to close out our Supervisor's Notification and Defects when we have received satisfactory responses.

4.3.1 Structural and Civil Works

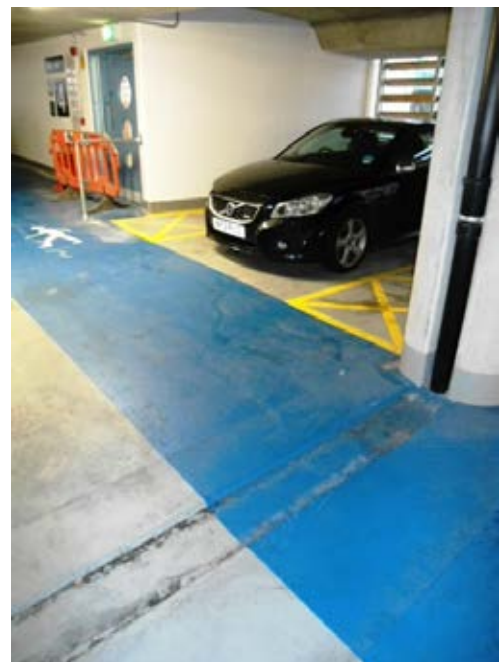
Car Park 1.

The car park has now been handed over to the Client. Some minor snagging has been addressed including trip hazards at stairwell entrances, but the Client has accepted the drainage channel intermittent ponding at roof level. A defect notification has been issued to Brookfield listing the defects at handover.

The car park floors on levels 1, 2, 3, 4, and 5 adjacent to the stair on the east elevation have recessed channels which cross the pedestrian walkway similar to the potential trip hazards identified in Communication No 209. Brookfield has confirmed that IFT is to infill the channels with coloured screed on the walkways. This work is complete and we await a formal response. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 224).



Level 5



Level 4

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Level 3



Level 3: Channel exceeds 30mm deep.



4.3.2 Children's Area

Clearing up in plant rooms has revealed some steel column base plate issues in the Children's area 4th floor – Brookfield are aware of this and are pursuing the matter.

4.3.3 External Works

Building Surround.

Pavement blockwork on west, east and south sides together with granite blockwork to the north is almost entirely complete with good quality in all areas. Checks are ongoing regarding slope criteria in areas of ponding as noted above.

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Govan Road/Renfrew Road & ACH Entrance Road.

Road surfacing work has been completed on the dual carriageway leading to Govan Road, and at the south of the main building, with a generally good quality finish. Local ponding on the north side of Govan Road remains outstanding. The footpath ponding at the extended footpath area on the east side of the maternity unit remains outstanding.

Langlands Drive.

Langlands Drive resurfacing works have been finished with the completed areas appearing satisfactory. Removal of the existing surface layer revealed only a few places where additional attention was required and reinstatement with a new 40mm layer was applied throughout

We advised the Brookfield team on 16th December that ponding on the new extended footpath to the east side of the maternity unit has the potential to be a significant slip hazard in cold weather. We asked them to confirm their action to address this hazard. Brookfield has confirmed that Land Engineering have been instructed to lift the full width of tar and re-lay with a fall from the ramp to the new road kerb.

Brookfield had confirmed that work would commence week beginning 13th April. However they are awaiting an asphalt squad. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 237).



Footpath to the east side of the maternity unit.

Ponding at the extended footpath area on the east side of the maternity unit, and potential specification non-compliance on sections of the footpath to the dual carriageway just north of the energy centre.

4.3.5 Mechanical Services

Nothing to report.

4.3.06 Electrical Services

We noted that the drawing for Level 2 Core C bed Patient Lift Lobby allows for a light above each lift door. Only two have been fitted on one side and not above the lift doors. We have asked Brookfield to confirm if this change has been agreed. If this is

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not an agreed change we have asked them to confirm when the lights will be fitted in the correct positions.

4.3.10 Doors

Adjustment to floors beneath doors is continuing.

4.3.11 Windows

Nothing to report.

4.3.13 Ducting

Nothing to report.

4.3.14 Floors

Nothing to report.

4.3.15 Blockwork

Nothing to report.

4.3.16 Heating

There are gaps in the thermal insulation in the back box of the remote TRV's mounted on external walls controlling the radiant panel heater in Level 0, ZA ward OBW 009. There is the likelihood that this will cause the TRV to be affected by the lower temperature in the partition void causing the Radiant panel to emit heat unnecessarily wasting energy. This applies to other similar TRV's on outside walls. We have asked Brookfield to confirm if this has been considered and if remedial action will be taken to address this. Brookfield has asked Mercury to report on this issue. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 199).

4.4 Current Defects.

Although some work has been carried out to improve the quality the pointing on the external blockwork on the south and east elevations. Some of the blockwork does not reflect the quality of the pointing on the blockwork benchmark sample. Brookfield has informed us that all mortar tinting is now complete. Brookfield Manager F Shaw is to review the pointing with NHS (P Moir). See Supervisor's Notification of Defect (CI 42.2) No 81.

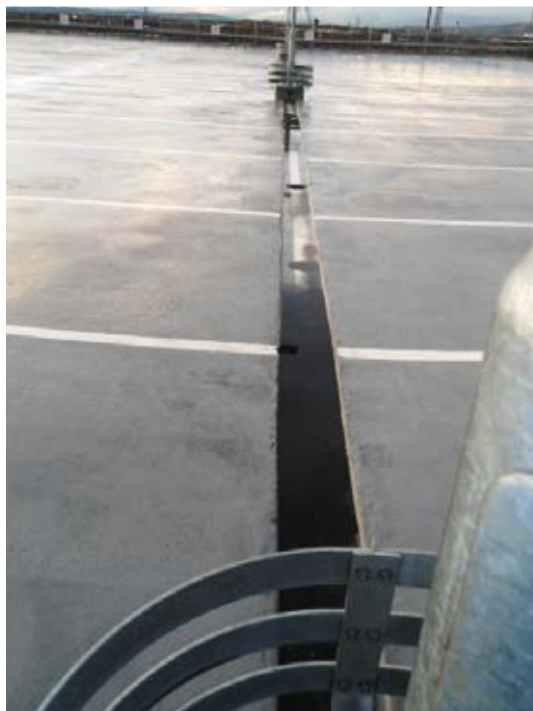
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Some of the outlets taking the rainwater from the top level of the Car park are too high consequently water is ponding in the recessed channels.

We asked Brookfield to confirm what remedial work will be undertaken to resolve this issue and confirm when the work is complete. A further inspection was carried out with the client and it was agreed that due to the levels filling the channels would only cause the water to spread over a larger area. Consequently Supervisor's Notification of Defect (CI 42.2) No 83 is closed out.



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The capping piece on the north facing elevation of the Children's Hospital has two discoloured areas. We asked Brookfield to confirm their remedial action to address this and confirm when complete. They have confirmed that if the marks can't be cleaned off, Prater will paint repair or replace panels if required. See outstanding works list. See Supervisor's Notification of Defect (CI 42.2) No 88.

The text on the drawing for Level 2, Rooms END-033 and END-035 indicates a DATA1000 at each desk, which should be 2 x OUT010 & 1 x OUT131. The drawing however indicates 1 x OUT010 and 2 x OUT131. This is wrong; consequently there are too many data points and not enough power. This requires to be rectified as soon as possible. This is to be actioned and we await confirmation when this is complete. See Supervisor's Notification of Defect (CI 42.2) No 92.

The NHS Fire Risk Assessor has been on site and noted that the air sampling unit within General Theatre One on the second floor has been painted over. We also noted that another unit in Theatre 4 has been partially painted over. These should be paint free. There is also an air sampling unit in the main Atrium north facing wall which we asked Brookfield to confirm when these are addressed. They have confirmed that painted over sampling point has been rectified. Brookfield intimated that the point on the North wall has been pulled back on Level 5 but would need to look specifically. Gary Kimmins from Mercury was aware of it but requires rope access. See Supervisor's Notification of Defect (CI 42.2) No 93.

We asked Brookfield to confirm when they have located the source of the water ingress which caused a water stain on the fabric ceiling. We have also asked them to confirm their remedial action. They have confirmed that the issue has been resolved and we await a formal response. A response is awaited. See Supervisor's Notification of Defect (CI 42.2) No 95



The fire exit door on the West Elevation of the Children's Hospital adjacent to the Disposal Hold OBW-082 which was not operational is now functioning. We await a formal response from Brookfield. See Supervisor's Notification of Defect (CI 42.2) No 96.

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The fire rated partitions between the corridor and the Electrical Riser CCW-126 has incomplete fire stopping. The steelwork does not have intumescent paint. We asked Brookfield to confirm when this work has been completed. They have confirmed intumescent batt/firestopping was completed around the steelwork 26th Feb 2015. They are awaiting confirmation from the designers regarding requirements for intumescent paint. See Supervisor's Notification of Defect (CI 42.2) No 98.



The joints at window cills are opening up. We asked Brookfield to confirm their remedial action to resolve this problem. They have confirmed that this defect is being investigated by their Package Managers and a further response to follow, when actions are completed. MSee Supervisor's Notification of Defect (CI 42.2) No 99.



Brookfield has confirmed that the fire door which was sticking on the floor preventing the door to open and close in the corridor between CC1-032 and CC1-054 has been rectified. We await a formal response from Brookfield. See Supervisor's Notification of Defect (CI 42.2) No 100.



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There was no fire stopping around the fire door on Level 12, Plantroom 121, Door M25-A. Brookfield has confirmed that the fire stopping has been completed. We await a formal response from Brookfield. See Supervisor's Notification of Defect (CI 42.2) No 102.



Vertical steel column to supporting services is not bolted to the horizontal member and not bolted to the floor. Brookfield confirmed that floor bolts have been fitted to horizontal members but the floors are not yet complete. Mercury will advise when completed. See Supervisor's Notification of Defect (CI 42.2) No 104.



It has been established that in some areas, patressing has not been installed as per the agreed general arrangement drawing through the main contract. Consequently this has caused disruption to the installation of the patient entertainment systems. A survey was carried out to determine the position of the existing patresses to determine if they can be used in their existing positions. Brookfield has undertaken a survey to identify the location of the existing patresses. We also asked them to confirm that they are taking the appropriate remedial action to ensure that all works are carried out without disruption for the Board's direct sub contractor. We asked them to confirm if the proposed survey will include providing a marked up drawing in the room to identify stud / patress positions to assist the installer of the patient entertainment systems. Brookfield has confirmed that this work is now complete and we await a formal response. See Supervisor's Notification of Defect (CI 42.2) No 105.

Following inspections of Levels 1, 4 and 5 we issued Defect No 106 covering all the defects found. Brookfield immediately issued instructions to their sub-contractors to
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address the defects. Generally the defects were of a minor nature. Below are the few that require some attention. See Supervisor's Notification of Defect (CI 42.2) No 106.



Smoke detector too close to air supply vent.



Gap between the metal deck and the wall with the floor comprising fire bats.



Poor vinyl detail at recess.



Incomplete work to surface shower unit

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Peeling vinyl.

Following inspections of Levels 1, 6 and 7 we issued Defect No 107 covering all the defects found. Following our inspections with Brookfield they have issued the list attached to the Notification of Defect to all BMCE Managers to have the defects rectified. Generally the defects were of a minor nature. Below are the few that require some attention. See Supervisor's Notification of Defect (CI 42.2) No 107.



Following a joint inspection of the Stair Cores A, B and L with Brookfield we identified various defects. We have asked Brookfield to confirm when these have been addressed. See Supervisor's Notification of Defect (CI 42.2) No 108.

Following a joint inspection of the theatres and adjoining rooms on Level 2 we identified a number of walls with horizontal, vertical and diagonal cracks. We forwarded a list of the locations to Brookfield and asked them to confirm when these are addressed. They have confirmed that this has been passed to their Managers and we await a formal response. See Supervisor's Notification of Defect (CI 42.2) No 109.

Following a joint inspection of the theatres and adjoining rooms on Level 2 we identified cracks in the following rooms:

- THE-124 General Theatre 6 ENT: Crack below the window.

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- THE-232 Interventional 1 Vasco/Urology: Horizontal crack right hand side of the touch screen.

Brookfield has confirmed the list attached to the Notification of Defect has been issued to all BMCE Managers to have the defects rectified. See Supervisor's Notification of Defect (CI 42.2) No 110.

Following joint inspections of Level 2 we identified various defects. These have been issued to Brookfield and we have asked them to confirm when these have been addressed. See Supervisor's Notification of Defect (CI 42.2) No 112.

Following a joint inspections of Level 3 we identified various defects. These have been issued to Brookfield and they have confirmed the list attached to the Notification of Defect has been issued to all BMCE Managers to have the defects rectified. See Supervisor's Notification of Defect (CI 42.2) No 113.

Following a joint inspection of Stair Cores K, H and G with Brookfield we identified various defects. These have been issued to Brookfield. They have confirmed that floor bolts have been fitted to horizontal members but the floors are not yet complete. Mercury will advise when completed. See Supervisor's Notification of Defect (CI 42.2) No 114.

Following a joint inspection of the Level 3 Link Bridge with Brookfield we identified various defects. These have been issued to Brookfield and they have confirmed the list attached to the Notification of Defect has been issued to all BMCE Managers to have the defects rectified. See Supervisor's Notification of Defect (CI 42.2) No 115.

Following a joint inspection of Car Park 1 we identified various defects / snags. (See attached list). These have been issued to Brookfield and we have asked them to confirm when these have been addressed. See Supervisor's Notification of Defect (CI 42.2) No 116.

Following a joint inspection of Level 8 we identified various defects. These have been issued to Brookfield and they have confirmed the list attached to the Notification of Defect has been issued to all BMCE Managers to have the defects rectified. See Supervisor's Notification of Defect (CI 42.2) No 117.

Following a joint inspection of Level 8 we identified various defects. These have been issued to Brookfield and they have confirmed the list attached to the Notification of Defect has been issued to all BMCE Managers to have the defects rectified. See Supervisor's Notification of Defect (CI 42.2) No 118.

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The intumescent pillows above the double doors between rooms GENW20-031 and GENW20-028 on Level 10 have been displaced. Brookfield has confirmed that this has now been addressed. Consequently Supervisor's Notification of Defect (CI 42.2) No 119 is closed out.



The ground floor entrance door to Staircore 1 is damaged and the exposed metal at the bottom of both doors are rusting. Brookfield has confirmed the Notification of Defect has been issued to all BMCE Managers to have the defects rectified. Supervisor's Notification of Defect (CI 42.2) No 120

Following a joint inspection of Level 10 we identified various defects. These have been issued to Brookfield and we have asked them to confirm when these have been addressed. Brookfield has confirmed that they passed this to their Managers and we await a formal response. See Supervisor's Notification of Defect (CI 42.2) No 121.

WB Solutions who are currently carrying out work for the client and they have identified locations where fire stopping is incomplete or not present. Brookfield has confirmed that they passed this to their Managers and we await a formal response. See Supervisor's Notification of Defect (CI 42.2) No 122.

The fire door is damaged in room CA0-038. Brookfield has confirmed that they passed this to their Managers and we await a formal response. See Supervisor's Notification of Defect (CI 42.2) No 123.

The Board have employed Competent Body Zurich Engineering to undertake an inspection of the pressure systems associated with the new buildings and systems handed over on 26th January 2015, to produce the statutory written scheme required under the Pressure Systems Safety Regulations (PSSR) 2000 for the safe operation and inspection of relevant systems.

During their review, a number of defects have been found within the installed plant, the key points are;

- 1) Configuration of boiler safety valves.
- 2) A safe method of discharge of medium pressure/temperature water and steam blow off from boilers (120 degC / 5.7bar).
- 3) Certificate of Conformity for boilers.
- 4) Certificate of Conformity for economisers.
- 5) Certificate of conformity for all pressure systems pipework.
- 6) CE marking of pressure vessels and heat exchangers.

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- 7) Pressurisation Units – safety valves rating and fixing requirements.
- 8) Boiler drain points.

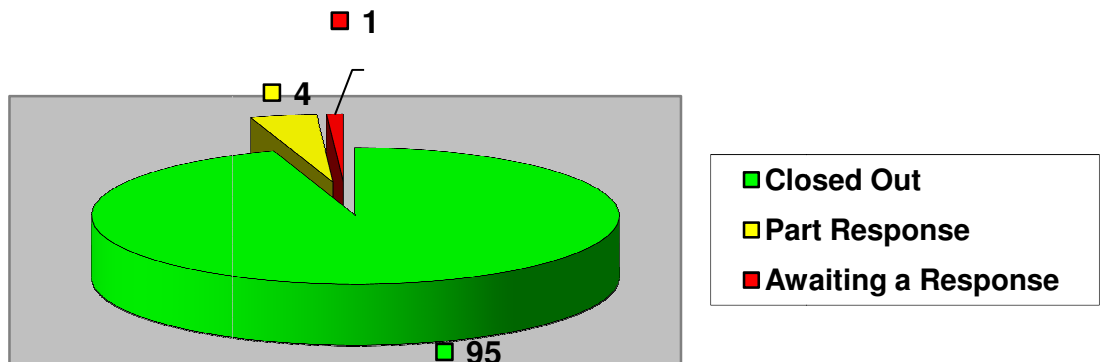
We asked Brookfield to confirm their plans to rectify the above points and any interim operational solutions that may have to be employed to enable the Board to bring the facilities into full operation on 24th April 2015. We also asked them to confirm when all items will be fully rectified. Brookfield has confirmed that they passed this to their Managers and we await a formal response. See Supervisor's Notification of Defect (CI 42.2) No 124.

Following recent excavations around the buildings to expose and repair collapsed main drains, the Board request video surveys to be undertaken and reports provided of the repaired drain runs and also other neighbouring runs that may have been affected by proximity to the 200t crane. Brookfield has confirmed that they passed this to their Managers and we await a formal response. See Supervisor's Notification of Defect (CI 42.2) No 125.

Following a joint inspection of Level 11 we identified various defects. These have been issued to Brookfield and we have asked them to confirm when these have been addressed. See Supervisor's Notification of Defect (CI 42.2) No 126.

The main Staircore leading from the lobby does not close over. We have asked Brookfield to confirm when these areas have been addressed. See Supervisor's Notification of Defect (CI 42.2) No 127.

5.0 INFORMATION REQUIRED



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Item No.	Description	Date Requested	Comment	
Items 1 to 198 have been closed out				
199	There are gaps in the thermal insulation in back box of remote TVR's. Confirm remedial action.	20.03.14	Response received.	
Items 200 to 223 have been closed out				
224	Seeking confirmation that trip hazards similar to Communication No 209 will be considered for the installation of grills.	13.11.14	Response received.	
Items 225 to 237 have been closed out				
237	Seeking confirmation on Brookfield's action to address the ponding to the footpath to the east side of the maternity unit.	08.01.15	Response received.	
Items 238 have been closed out				
240	Seeking confirmation for the finish below the glazed frame to prevent water penetrating adjacent to the door into corridor CC4-054.	30.01.15	Response received.	
241	Seeking confirmation that drainage pipes from AHU's will be extended to the drainage outlet and step over's will be fitted.	02.02.15	Closed out.	
242	Seeking confirmation if permanent perimeter protection will be fitted above cores accessed from Level 12.	25.02.15	Response received.	
243	Seeking confirmation if there should be a door in Core D plantroom adjacent to the FM lift.	26.02.15	Closed out.	
244	Requesting Brookfield to demonstrate that the levels of paving are within the permissible deviation of ± 6 mm in accordance	27.02.15	Closed out.	
245	Confirm that 'CAUTION-VERY HOT WATER' notices will be fitted to all hot water outlets provided for food hygiene and decontamination.	19.03.15	Response received.	
246	No lights fitted to above the doors leading from the room to plantroom 41A	30.03.15	Response received.	
247	Defects in relation to the Fire Safety Risk Assessments for Cores B, C, D and F Street and Circulation (Basement), Core B Stairs and Lift Lobbies, Cores A, G, H and K.	13.04.15	Response received.	
248	Confirm remedial action to address ponding at the north east corner of the building.	14.04.15	Open.	
249	Confirm design proposals to install mesh screens to prevent bird and insects from entering the atrium at high level. Also proposed timetable.	14.04.15	Response received.	
250	Confirm proposals to fill the gaps between the granite and the building.	15.04.15	Open.	
251	Confirm what type intumescent putty pads which will be used in the data point in relation to PMI No 328.	16.04.15	Response received.	

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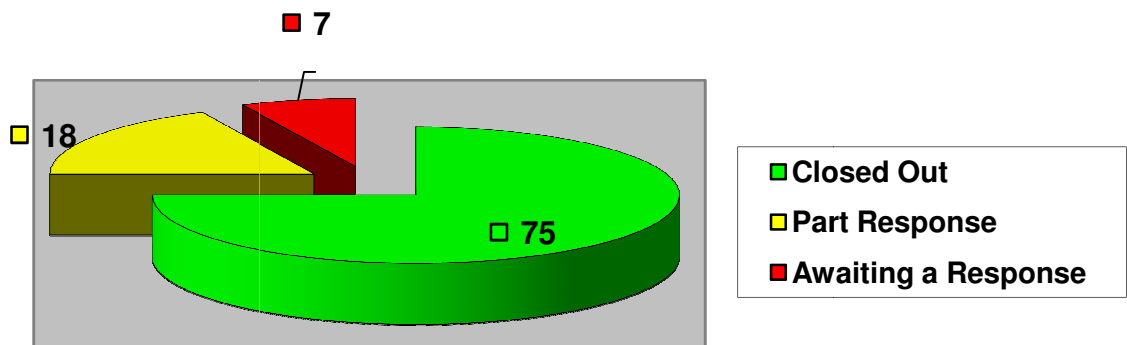
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6.0 SUPERVISORS TESTS AND INSPECTIONS

Tests not required	N/A
Tests required but not tested	Fail
Tests required which has passed tests	Pass

Tests				
Ref	Title	To be Notified by	Status	Test Date
01-377	Various tests undertaken and passed from the 09. 07.2012 To the 22.01 2015.			
378	Fire shut down test of AHU's during fire activity. PR21 AHU 19 did not shut down.	Brookfield	FAIL	23.01.2015
379-380	Various tests undertaken and passed from the 23. 01.2015 to the 25.01 2015.			
381	Operation of aseptic suite and kitchen server roller shutter doors during fire condition.	Brookfield	PASS	26.02.2015 25.01.2015 02.04.2015

7.0 DEFECTS NOTIFICATIONS ISSUED



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	Description	Date Requested	Comment	
Items 1 to 80 have been closed out.				
81	External Blockwork on the south and east elevations does not reflect the quality of the pointing on the blockwork benchmark sample.	31.10.14	Response received.	
82	Confirm when plasterboard with mould growth has been replaced.	12.11.14	Closed out.	
83	Seeking confirmation of remedial action to resolve ponding.	13.11.14	Response received.	
Items 84 to 87 have been closed out.				
88	Seeking confirmation of remedial measures to address the discolouration of the capping pieces.	20.11.14	Response received.	
Items 89 to 91 have been closed out.				
92	There are insufficient power points in rooms END-033 and END-035. Seeking confirmation when addressed.	30.01.15	Response received.	
93	Confirm when the air sampling unit within General Theatre One and Theatre 4 are paint free and the unit in the Atrium has been fitted properly.	05.02.15	Open	
94	No lock fitted NSGH Theatres Admission on Day of Surgery – Level 2	06.02.15	Closed out.	
95	Entrance door from the atrium into the AoDoS waiting area has no lock fitted.	19.02.15	Response received.	
96	Confirm action to repair roof leak and remove stain from the fabric ceiling.	19.02.15	Response received.	
97	Partition in Electrical Cupboard EMC-082 is incomplete.	19.02.15	Closed out.	
98	Confirm when fire stopping missing in room CCW-126 is complete.	24.02.15	Response received.	
99	Confirm to open window cill joints.	24.02.15	Response received.	
100	Confirm when fire doors between CC1-032 and CC1-054 will be fully functional.	25.02.15	Response received.	
101	Please confirm cause and solution to trapped water in ETFE roof and confirm when resolved.	25.02.15	Closed out.	
102	Confirm when fire stopping is complete to door M25-A	25.02.15	Response received.	
103	Confirm when fire stopping is complete to fire enclosure above Core C.	25.02.15	Closed out.	
104	Vertical steel column to supporting services is not bolted to the horizontal member and not bolted to the floor. Confirm when addressed.	03.03.15	Response received.	
105	Seeking confirmation from Brookfield that measures will be put in place to address the incorrectly sized and positioned patresses for proposed patient entertainment systems	10.03.15	Open	
106	Various defects Level 1, 4 and 5.	16.03.15	Response received.	
107	Various defects Level 1, 6 and 7.	19.03.15	Response received.	

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108	Various defects in Stair Cores A, B and L	23.03.15	Response received.	
109	Horizontal, vertical and diagonal cracks on Level 2 theatres and adjoining rooms.	25.03.15	Response received.	
110	Various cracks in the walls of theaters and adjoining rooms.	23.03.15	Response received.	
111	Cracks in the walls in rooms THE-124 and THE-232.	25.03.15	Closed out.	
112	Various defects Level 2.	07.04.15	Response received.	
113	Various defects Level 3.	07.04.15	Response received.	
114	Various defects Stair Core K, H and G.	07.04.15	Response received.	
115	Various defects Level 3 Link Bridge.	08.04.15	Response received.	
116	Various defects car Park 1.	08.04.15	Response received.	
117	Various defects Level 8.	08.04.15	Response received.	
118	Various defects Level 9.	08.04.15	Response received.	
119	The intumescent pillows above the double doors between rooms GENW20-031 and GENW20-028 on Level 10 have been displaced.	14.04.15	Closed out.	
120	Ground floor entrance door to Staircore 1 is damaged	14.04.15	Response received.	
121	Various defects Level 10.	16.04.15	Open	
122	Fire stopping Incomplete or not present on the 10th floor.	16.04.15	Open	
123	Fire stopping damaged in room CA0-038 riser M25.	16.04.15	Open	
124	Defects in relation to the Zurich Engineers inspection.	16.04.15	Open	
125	Seeking video surveys with reject to drain repairs.	16.04.15	Open	
126	Various defects Level 11.	17.04.15	Open	
127	Ground floor entrance door to Main Staircore does not close over.	17.04.15	Open	

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John Redmond, Technical Advisory Services

Property and infrastructure
Capita, 7 West Nile St, Glasgow, G1 2PR

	Signed	Date
Originated by	John Redmond	15 th April 2015
Completed by	David Ramsay	15 th April 2015

CAPITA

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1.0 EXECUTIVE SUMMARY: ADULT & CHILDREN'S HOSPITAL

In accordance with our NEC3 Contract, this is the monthly report for May on the activities carried out and responsibilities undertaken by the NEC3 Supervisors. We undertook post completion inspections and inspections of the incomplete work at Stage 3 completion.

Post completion inspections in relation to Brookfield's Ultimate Final Sweep Programme were carried out in the following areas.

External Fabric.
Level 0.

Brookfield are working through the list of defects identified prior to the car park being handed over to the Client. We await confirmation when these will be complete to carry out a further inspection.

Road surfacing work has been completed on the dual carriageway leading to Govan Road, and at the south of the main building, with a generally good quality finish. Local ponding on the north side of Govan Road remains outstanding. The footpath ponding at the extended footpath area on the east side of the maternity unit remains outstanding.

Landlands Drive resurfacing works have been finished with the completed areas appearing satisfactory. Removal of the existing surface layer revealed only a few places where additional attention was required and reinstatement with a new 40mm layer was applied throughout.

Previously witnessed tests which require to be retaken:

- (378) Fire shut down tests of PR21 AHU 19. We await confirmation relating to the testing or current status of this AHU.

We are continuing to liaise with Brookfield and the NHS Project Team highlighting any items that have raised concern during our post completion inspections. We have raised the following concerns with the Contractor as follows:-

There were no Supervisor's Communication General Matters / Other Instructions No issued during May 2015.

Supervisor's Notification of Defect No's, 128, 129, 130, 131, 132 and 133 were issued during May 2015.

- Various defects Level 0.
- Ponding to Bicycle Shelter.
- Various external fabric defects.
- PIR in room STW-041 not functioning.
- Concrete joint on the 6th floor at ramp breaking up.
- Ponding at main pedestrian entrance to Car Park 1 .

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Currently nothing to report.

3.0 PROCEDURES REVIEW**3.1 Contractor's QA Procedures / Compliance Inspections**Inspections following Brookfield's Ultimate Final Sweep Programme.

We received Brookfield's Ultimate Final Sweep Programme replacing the previous Final Sweep programme. We carried out inspections of the External Fabric.

Acoustic Tests

There remained one partition between rooms' THE-326 and THE-327 which required a a crosstalk attenuator to be fitted. Brookfield confirmed that this is has now been completed.

General Inspections

During an inspection of the Children's Roof adjacent to Plantroom 41A we noted that there were no bulkhead lights fitted above the doors. There were also no lights fitted in the room on the roof providing access and egress via the cat ladder in Core L. These were not taken in the approved drawings. Brookfield has issued a communication to BMCE M&E Managers for action / response. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 246

Post Completion Inspections / Issues

Senior Estates Manager for the NHS forwarded the Fire Risk Assessors Reports for Cores B, C, D and F Street and Circulation (Basement), Core B Stairs and Lift Lobbies, Cores A, G, H and K. These were dated 26th February 2015 and the 11th March 2015 from the on the 9th April 2015 and indicate a number of Defects. We asked Brookfield to confirm if the defects recorded in the Fire Risk Assessors Reports are on the IDMS system. We also asked them to confirm which of the defects recorded either on the IDMS System or in the report have still to be addressed. We had discussions with Brookfield and noted that some items on the list did not relate to actions by the NHS. Brookfield confirmed that they are carrying out remedial works to the items on the various lists that are applicable to their contract works. Brookfield confirmed that Astins have completed all of their fire protection and Mercury is replacing intumescent bags. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 247.

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We asked Brookfield to confirm the finish below the glazed frame to prevent water penetrating adjacent to the door into corridor CC4-054. They have confirmed that the remedial action to fill the base of the frame has been completed. Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 240 is closed out.



There is temporary scaffolding providing perimeter protection at concrete floor beams above the cores accessed from Level 12. We have asked Brookfield to confirm if permanent perimeter protection is to be fitted. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 242.



Temporary scaffolding providing perimeter protection.



Temporary scaffolding providing perimeter protection.

There is a roof leak in the children Atrium and Brookfield are in the process of addressing this problem.

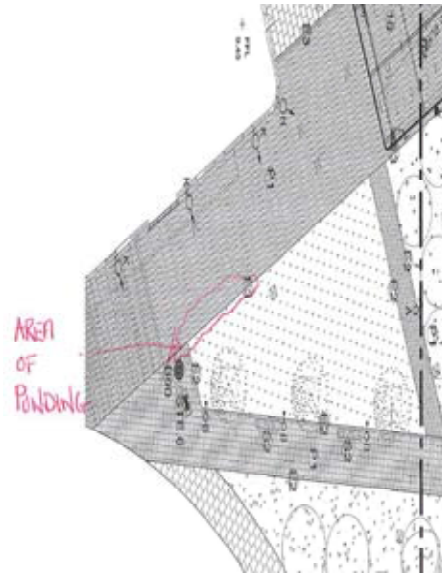
SHTM 04-01 Pt A recommends that all hot water outlets provided for food hygiene and decontamination should be provided with a notice 'CAUTION-VERY HOT WATER'. We asked Brookfield to confirm that these will be fitted to all locations where this occurs. They have confirmed that the Communication has been issued to Mercury and BMCE M&E Managers to confirm when the required signage will be fitted. See General Matters / Other Instructions (CI 13.1) No 245.

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We noted water is ponding between the pavers and grassed area shown in the drawing opposite. We have asked Brookfield to confirm their remedial action to address this problem and confirm when the works are complete. They have intimated that this will be rectified in conjunction with the other area identified on Notification of Defect 133. General Matters / Other Instructions (CI 13.1) No 248.



We have asked Brookfield to confirm their design proposals to install mesh screens to prevent bird and insects from entering the atrium at high level. We asked them to provide planned installation timetable. They confirmed that a proprietary bird mesh has been fitted to the Louvers' to prevent birds from entering the atrium at high level. General Matters / Other Instructions (CI 13.1) No 249 is closed out.

There are open joints between the granite and the building around the perimeter of the building. We asked Brookfield to confirm their proposals to fill the gap to stop debris falling down. The open joints around the perimeter of the building have been filled. General Matters / Other Instructions (CI 13.1) No 250 is closed out.



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While undertaking inspections on Level 10 we note that a double socket was installed in a fire rated wall with a propriator putty pad, however the data point next to the socket did not have a putty pad placed in the back box. We asked Brookfield to confirm what type intumescent putty pads which will be used in the data point in this type of location and provide your marked up drawing or QA checks showing the location of sockets with intumescent putty pads installed in fire rated walls. Brookfield is investigating. See General Matters / Other Instructions (CI 13.1) No 251.



We carried out an inspection with Brookfield of part of the link corridor which will provide access between the Adult and Children's Hospital and Neurosurgery and the xxxxxx. We noted that there were two areas of incomplete intumescent coating to two columns. Brookfield confirmed that they would address this and provide photographic proof prior to enclosing the columns.



Project Manager's Schedule of Incomplete Works at Completion

Brookfield has a tracker in place which will be reviewed weekly. Six of the works from the schedule are complete. We have noted below the works which are not on programme to completion.

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- New Tank Installed. Road Surfacing Completed. Switch to power Supply Panel to be fitted.
- No 8 Cores A&B & Main Entrance - meet and greet panels glass cabinets: Approved by NHS 25/02/15, Permanetdoors will be fitted 2nd June 2015.
- No 9 Lead lined Units and Associated Works - Approved by NHS 23/02/15, Complete.
- No 18 New VIE Turning Circle: Fencing to be completed as part of Exceptions drawing.
- No 24 AGV Performance Tests and Trials: Brookfield still await linen carts from NHS to complete performance testing – w/c TBC.
- No 27 Sanctuary-stained glass installed: complete.
- No 30 Telecom 600 pair lines install plus additional 600 lines required by Board. Complete.
- No 34 External Façade: Commencing 14/03/15 as agreed with Ian Powrie / David Hall –Brookfield has completed their works. NHS to carry out remedial works in Labs Completion No 42 Theatres - Sockets complete
- No 51 Medical Gas System: Complete.

Defects at completion

Currently there are 112 outstanding defects reported at completion to be addressed. There are also 171 additional defects identified following our joint inspections after completion. Many of these are of a minor nature.

The client has introduced a new recording procedure for recording and managing repairs/defects called FM First Summary. Any defects relating to Brookfield are identified as such in this schedule.

3.2 Witness Testing and Commissioning

We witnessed tests during March 2015 which were satisfactory:

- Operation of Aseptic suite and kitchen server roller shutter doors during fire condition.
- Operation of server roller shutter doors during fire condition.

Previously witnessed tests which require to be retaken:

- (378) Fire shut down tests of PR21 AHU 19. We await confirmation relating to the testing or current status of this AHU.

3.3 Board Equipment Installation,

Currently nothing to report.

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3.4 Non Conformance Reports

We reviewed Brookfield's NCR Tracker and noted the issues raised by the Package Managers. Brookfield confirmed that the tinting to the blockwork is complete to the pointing on the south and east elevations. An NCR has also been raised in relation to manholes which are below the level of the surrounding tar. (See photo opposite.)



4.0 CONSTRUCTION REVIEW

4.1 Visits to the Works

The following members of our team undertook site inspections, reviewed documentation, attended meetings and met with relevant Contractors representatives on-site personnel:- John Redmond (Lead NEC3 Supervisor) 1st to 3rd, 6th to 10th, 13th to 17th and 20th to 24th. Willie Roxburgh (Civils/Structural NEC3 Supervisor) part days on the 13th and 15th April. Capita's NEC3 Supervisor's team visited site a combined 20 person days.

4.2 Elements of the Works available for inspection

Main building – structural areas very limited.

Neuro bridge (partly limited due to access).

Dual carriageway to Renfrew Road, turning area in front of the main entrance and carriageway from Hardgate Road.

All sides external works.

Perimeter hard and soft landscaping.

4.3 Current Observations

The visual inspections of the work carried out to date indicate that the works are generally being carried out to a satisfactory standard. We continue to be assisted by the site teams and the NHS Project Team in resolving various construction, mechanical, electrical, and quality issues. We continue to close out our Supervisor's Notification and Defects when we have received satisfactory responses.

4.3.1 Structural and Civil Works

Car Park 1.

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Brookfield is working through the list of defects identified prior to the car park being handed over to the Client. We have asked Brookfield to inform us when the defects are completed.

The car park floors on levels 1, 2, 3, 4, and 5 adjacent to the stair on the east elevation have recessed channels which cross the pedestrian walkway similar to the potential trip hazards identified in Communication No 209. Brookfield has confirmed that all trip hazards have been infilled and coloured to match adjacent areas. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 224) is closed out.



Level 4

Level 3: Channel exceeds 30mm deep.



4.3.2 Children's Area

Clearing up in plant rooms has revealed some steel column base plate issues in the Children's area 4th floor – Brookfield confirmed that this is complete.

4.3.3 External Works

Building Surround.

Pavement blockwork on west, east and south sides together with granite blockwork to the north is almost entirely complete with good quality in all areas. Checks are ongoing regarding slope criteria in areas of ponding as noted above.

Govan Road/Renfrew Road & ACH Entrance Road.

Road surfacing work has been completed on the dual carriageway leading to Govan Road, and at the south of the main building, with a generally good quality finish. Local ponding on the north side of Govan Road remains outstanding. The footpath ponding

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at the extended footpath area on the east side of the maternity unit remains outstanding.

Langlands Drive.

Landlands Drive resurfacing works have been finished with the completed areas appearing satisfactory. Removal of the existing surface layer revealed only a few places where additional attention was required and reinstatement with a new 40mm layer was applied throughout

We advised the Brookfield team on 16th December that ponding on the new extended footpath to the east side of the maternity unit has the potential to be a significant slip hazard in cold weather. We asked them to confirm their action to address this hazard. Brookfield has confirmed that Land Engineering have been instructed to lift the full width of tar and re-lay with a fall from the ramp to the new road kerb.

Brookfield had confirmed that work would commence week beginning 13th April. However they are awaiting an asphalt squad. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 237).



Footpath to the east side of the maternity unit.

Ponding at the extended footpath area on the east side of the maternity unit, and potential specification non-compliance on sections of the footpath to the dual carriageway just north of the energy centre.

4.3.5 Mechanical Services

Nothing to report.

4.3.6 Electrical Services

We noted that the drawing for Level 2 Core C bed Patient Lift Lobby allows for a light above each lift door. Only two have been fitted on one side and not above the lift doors. All lights are as the approved drawings.

4.3.10 Doors

Adjustment to floors beneath doors is continuing.

4.3.11 Windows

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Nothing to report.

4.3.13 Ducting

Nothing to report.

4.3.14 Floors

Nothing to report.

4.3.15 Blockwork

Nothing to report.

4.3.16 Heating

There are gaps in the thermal insulation in the back box of the remote TRV's mounted on external walls controlling the radiant panel heater in Level 0, ZA ward OBW 009. There is the likelihood that this will cause the TRV to be affected by the lower temperature in the partition void causing the Radiant panel to emit heat unnecessarily wasting energy. This applies to other similar TRV's on outside walls. We have asked Brookfield to confirm if this has been considered and if remedial action will be taken to address this. Brookfield has asked Mercury to report on this issue. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 199).

4.4 Current Defects.

Although some work has been carried out to improve the quality the pointing on the external blockwork on the south and east elevations. Some of the blockwork does not reflect the quality of the pointing on the blockwork benchmark sample. Brookfield has informed us that all mortar tinting is now complete. Brookfield Manager F Shaw is to review the pointing with NHS (P Moir). See Supervisor's Notification of Defect (CI 42.2) No 81.

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Some of the outlets taking the rainwater from the top level of the Car park are too high consequently water is ponding in the recessed channels.

The capping piece on the north facing elevation of the Children's Hospital has two discoloured areas. We asked Brookfield to confirm their remedial action to address this and confirm when complete. They have confirmed that if the marks can't be cleaned off, Prater will paint repair or replace panels if required. See outstanding works list. See Supervisor's Notification of Defect (CI 42.2) No 88.

The text on the drawing for Level 2, Rooms END-033 and END-035 indicates a DATA1000 at each desk, which should be 2 x OUT010 & 1 x OUT131. The drawing however indicates 1 x OUT010 and 2 x OUT131. This is wrong; consequently there are too many data points and not enough power. This requires to be rectified as soon as possible. This is to be auctioned and we await confirmation when this is complete. See Supervisor's Notification of Defect (CI 42.2) No 92.

The NHS Fire Risk Assessor has been on site and noted that the air sampling unit within General Theatre One on the second floor has been painted over. We also noted that another unit in Theatre 4 has been partially painted over. These should be paint free. There is also an air sampling unit in the main Atrium north facing wall which we asked Brookfield to confirm when these are addressed. They have confirmed that painted over sampling point has been rectified. Brookfield intimated that the point on the North wall has been pulled back on Level 5 but would need to look specifically. Gary Kimmins from Mercury was aware of it but requires rope access. We await confirmation when this will be dealt with. See Supervisor's Notification of Defect (CI 42.2) No 93.

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All works have been completed to rectify the leak and the strain to the fabric ceiling has been removed. Consequently Supervisor's Notification of Defect (CI 42.2) No 95 is closed out.



The fire exit door on the West Elevation of the Children's Hospital adjacent to the Disposal Hold OBW-082 which was not operational is now operational. Consequently Supervisor's Notification of Defect (CI 42.2) No 96 is closed out.

The fire rated partitions between the corridor and the Electrical Riser CCW-126 has incomplete fire stopping. The steelwork does not have intumescent paint. We asked Brookfield to confirm when this work has been completed. They have confirmed intumescent batt/firestopping was completed around the steelwork 26th Feb 2015. They are awaiting confirmation from the designers regarding requirements for intumescent paint. See Supervisor's Notification of Defect (CI 42.2) No 98.



The joints at window cills are opening up. We asked Brookfield to confirm their remedial action to resolve this problem. They have confirmed that all joints have been filled and made good. Consequently Supervisor's Notification of Defect (CI 42.2) No 99 is complete.



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Brookfield has confirmed that the fire door which was sticking on the floor preventing the door to open and close in the corridor between CC1-032 and CC1-054 has been rectified. Consequently Supervisor's Notification of Defect (CI 42.2) No 100 is closed out.



There was no fire stopping around the fire door on Level 12, Plantroom 121, Door M25-A. Brookfield has confirmed that the fire stopping has been completed. We await a formal response from Brookfield. See Supervisor's Notification of Defect (CI 42.2) No 102.



Vertical steel column to supporting services is not bolted to the horizontal member and not bolted to the floor. Brookfield confirmed that floor bolts have been fitted to horizontal members and the floor. Consequently Supervisor's Notification of Defect (CI 42.2) No 104 is closed out

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It has been established that in some areas, patressing has not been installed as per the agreed general arrangement drawing through the main contract. Consequently this has caused disruption to the installation of the patient entertainment systems. A survey was carried out to determine the position of the existing patresses to determine if they can be used in their existing positions. Brookfield has undertaken a survey to identify the location of the existing patresses. We also asked them to confirm that they are taking the appropriate remedial action to ensure that all works are carried out without disruption for the Board's direct sub contractor. We asked them to confirm if the proposed survey will include providing a marked up drawing in the room to identify stud / patress positions to assist the installer of the patient entertainment systems. Brookfield has confirmed that this work is now complete and all patient entertainment systems can be fully installed. Supervisor's Notification of Defect (CI 42.2) No 105 is now closed out.

Following inspections of Levels 1, 4 and 5 we issued Defect No 106 covering all the defects found. These were issued to Brookfield and they have closed out the majority of the defects with only thirteen remaining. Supervisor's Notification of Defect (CI 42.2) No 106 is closed out with the thirteen outstanding defects being amalgamated under one Notification of Defect No 134 which includes the residual defects from post completion inspections.

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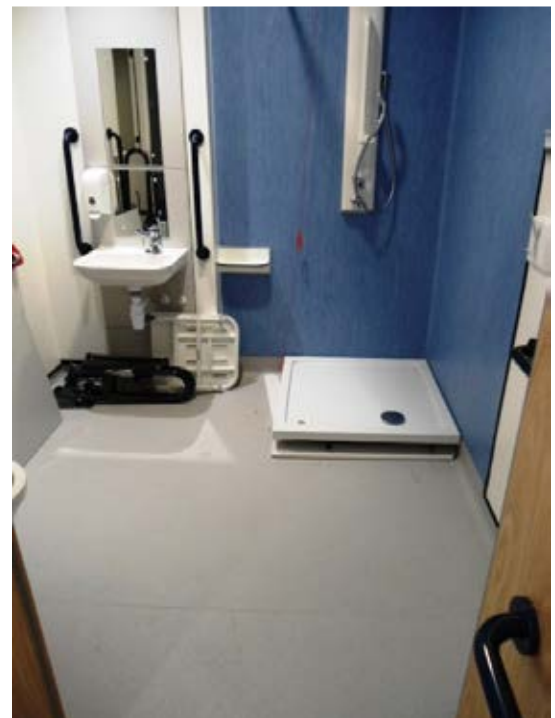
Smoke detector too close to air supply vent.



Gap between the metal deck and the wall with the floor comprising fire bats.



Poor vinyl detail at recess.



Incomplete work to surface shower unit

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Peeling vinyl.

Following inspections of Levels 2, 6 and 7 we issued Defect No 107 covering all the defects found. Following our inspections with Brookfield they have issued the list attached to the Notification of Defect to all BMCE Managers to have the defects rectified. These were issued to Brookfield and they have closed out the majority of the defects with the 39 remaining on Level 2 being raised under Notification of Defect No 134. Consequently Supervisor's Notification of Defect (CI 42.2) No 107 is closed out.



Following a joint inspection of the Stair Cores A, B and L with Brookfield we identified various defects. These were issued to Brookfield and they have closed out the majority of the defects with only xxx remaining. Supervisor's Notification of Defect (CI 42.2) No 108 is closed out with the three outstanding defects being amalgamated under one Notification of Defect No xxx.

Following a joint inspection of the theatres and adjoining rooms on Level 2 we identified a number of walls with horizontal, vertical and diagonal cracks. We forwarded a list of the locations to Brookfield and asked them to confirm when these are addressed. **These were issued to Brookfield and they have closed out the majority of the defects with only thirty nine remaining. Supervisor's Notification of Defect (CI 42.2) No 109 is closed out with the thirty nine outstanding defects being amalgamated under one Notification of Defect No xxx.**

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Following a joint inspection of the theatres and adjoining rooms on Level 2 we identified cracks in the following rooms:

THE-124 General Theatre 6 ENT: Crack below the window.

THE-232 Interventional 1 Vasco/Urology: Horizontal crack right hand side of the touch screen.

Brookfield has confirmed the list attached to the Notification of Defect has been issued to all BMCE Managers to have the defects rectified. See Supervisor's Notification of Defect (CI 42.2) No 110.

Following joint inspections of Level 2 we identified various defects. These were issued to Brookfield and they have closed out the majority of the defects with only thirty nine remaining. Supervisor's Notification of Defect (CI 42.2) No 112 is closed out with the outstanding defects being amalgamated under one Notification of Defect No 134.

Following a joint inspections of Level 3 we identified various defects. These were issued to Brookfield and they have closed out the majority of the defects with only one remaining. Supervisor's Notification of Defect (CI 42.2) No 113 is closed out with the three outstanding defects being amalgamated under one Notification of Defect No 134.

Following a joint inspection of Stair Cores K, H and G with Brookfield we identified various defects. These were issued to Brookfield and they have closed out the majority of the defects with only three remaining. Supervisor's Notification of Defect (CI 42.2) No 114 is closed out with the three outstanding defects being amalgamated under one Notification of Defect No xxx which includes the residual defects from post completion inspections.

Following a joint inspection of the Level 8 Link Bridge with Brookfield we identified various defects. These were issued to Brookfield and they have closed out the majority of the defects with only three remaining. Supervisor's Notification of Defect (CI 42.2) No 115 is closed out with the outstanding defects being amalgamated under one Notification of Defect No 134.

Following a joint inspection of Car Park 1 we identified various defects / snags. (See attached list). These have been issued to Brookfield and we have asked them to confirm when these have been addressed. See Supervisor's Notification of Defect (CI 42.2) No 116.

Following a joint inspection of Level 8 we identified various defects. These were issued to Brookfield and they have closed out the majority of the defects with only three remaining. Supervisor's Notification of Defect (CI 42.2) No 117 is closed out with the outstanding defects being amalgamated under one Notification of Defect No 134.

Following a joint inspection of Level 9 we identified various defects. These were issued to Brookfield and they have closed out the majority of the defects with only one remaining. Supervisor's Notification of Defect (CI 42.2) No 118 is closed out with

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the outstanding defects being amalgamated under one Notification of Defect No xxx which includes the residual defects from post completion inspections.

The ground floor entrance door to Staircore 1 is damaged and the exposed metal at the bottom of both doors are rusting. Brookfield has confirmed the Notification of Defect has been issued to all BMCE Managers to have the defects rectified and will confirm when the work will be carried out. Supervisor's Notification of Defect (CI 42.2) No 120

Following a joint inspection of Level 10 we identified various defects. These were issued to Brookfield and they have closed out the majority of the defects with only nine remaining. Supervisor's Notification of Defect (CI 42.2) No 121 is closed out with the nine outstanding defects being amalgamated under one Notification of Defect No 134.

WB Solutions who are currently carrying out work for the client and they have identified locations where fire stopping is incomplete or not present. Brookfield has confirmed that they passed this to their Managers and the work will be undertaken in conjunction with other fire stopping works. See Supervisor's Notification of Defect (CI 42.2) No 122.

The fire door is damaged in room CA0-038. This work will be carried out as part of fire stopping works being varied out in other areas.. See Supervisor's Notification of Defect (CI 42.2) No 123.

The Board have employed Competent Body Zurich Engineering to undertake an inspection of the pressure systems associated with the new buildings and systems handed over on 26th January 2015, in order produce the statutory written scheme required under the Pressure Systems Safety Regulations (PSSR) 2000 for the safe operation and inspection of relevant systems.

During their review, a number of defects have been found within the installed plant, the key points are. Brookfield has responded as follows.

- 1) Configuration of boiler safety valves.
Brookfield response: Design drawings being discussed with NHS and Zurich 02/06/15.
- 2) A safe method of discharge of medium pressure/temperature water and steam blow off from boilers (120 degC / 5.7bar).
Brookfield response: Design drawings being discussed with NHS and Zurich 02/06/15.
- 3) Certificate of Conformity for boilers.
Brookfield response: Issued to NHS Zurich.
- 4) Certificate of Conformity for economisers.
Brookfield response: Issued to NHS Zurich.
- 5) Certificate of conformity for all pressure systems pipework.
Brookfield response: Issued to NHS Zurich.
- 6) CE marking of pressure vessels and heat exchangers.
Brookfield response: Complete.
- 7) Pressurisation Units – safety valves rating and fixing requirements.
Brookfield response: Complete.

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8) Boiler drain points.

Brookfield response: Complete.

We asked Brookfield to confirm their plans to rectify the above points and any interim operational solutions that may have to be employed to enable the Board to bring the facilities into full operation on 24th April 2015. We also asked them to confirm when all items will be fully rectified. See the responses above. Supervisor's Notification of Defect (CI 42.2) No 124.

Following recent excavations around the buildings to expose and repair collapsed main drains, the Board request video surveys to be undertaken and reports provided of the repaired drain runs and also other neighbouring runs that may have been affected by proximity to the 200t crane. Brookfield has confirmed that they passed this to their Managers and we await their response. See Supervisor's Notification of Defect (CI 42.2) No 125.

Following a joint inspection of Level 11 we identified various defects. These were issued to Brookfield and they have closed out the majority of the defects with only six remaining. Supervisor's Notification of Defect (CI 42.2) No 126 is closed out with the nine outstanding defects being amalgamated under one Notification of Defect No 134.

The main Staircore leading from the lobby does not close over. We asked Brookfield to confirm when these areas have been addressed. Remedial work has been carried out and the door is now closing over. Consequently Supervisor's Notification of Defect (CI 42.2) No 127 is closed out.

Following a joint inspection of Level 0 we identified various defects. These were issued to Brookfield and they have closed out the majority of the defects with only sixty remaining. Supervisor's Notification of Defect (CI 42.2) No 128 is closed out with the nine outstanding defects being amalgamated under one Notification of Defect No 134.

The Bicycle Shelter roof does not drain rainwater to the two corner outlets, consequently the rainwater is ponding. We asked Brookfield to confirm their proposed remedial action to resolve this defect. They have confirmed that following a meeting with the designer a level survey is required. The plan is to introduce a further outlet. See Supervisor's Notification of Defect (CI 42.2) No 129.



Following an inspection of Level 8 we identified various defects. (See attached list). We have asked Brookfield to confirm when these have been addressed. Below are a few examples of the defects identified. Remedial work is being carried out and they will report on the actions carried out. See Supervisor's Notification of Defect (CI 42.2) No 130.

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Gap between cladding and blockwork interface.



Nuts not fitted to glazed fixings to ramp.



Timber wedges inappropriately used to support glazed panels.



Excessive gap at the bottom of the door frame.

While undertaking an inspection with Brookfield we noted that the PIR in room STW-041 was not functioning. Brookfield reported this to Mercury and we have asked

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them when this will be addressed. They will confirm when this will be rectified. See Supervisor's Notification of Defect (CI 42.2) No 131.

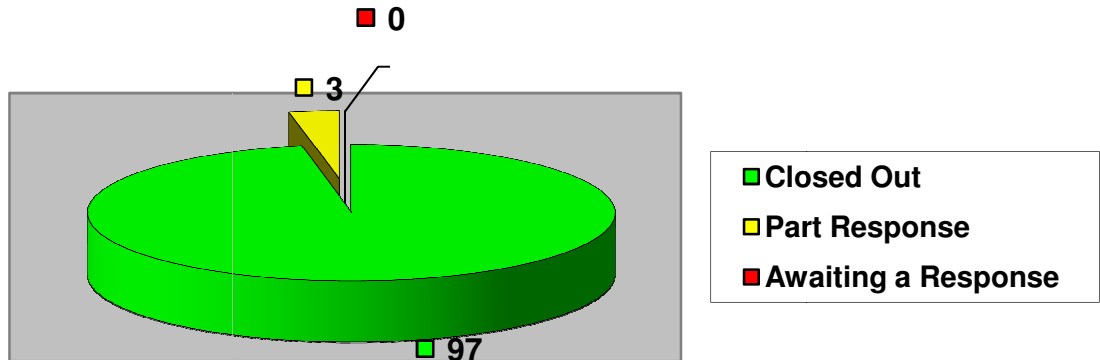
The concrete joint between the 6th floor and the down ramp is break up. We asked Brookfield to confirm the remedial measures to address this defect. They have instructed Dunne to carry out remedial works. See Supervisor's Notification of Defect (CI 42.2) No 132.



Water is ponding between the pavers and grassed areas at the main pedestrian access to the Car Park 1 opposite the hospital. We asked Brookfield to confirm their remedial action to address this problem and to confirm when the works are complete. They have intimated that the grass area was originally designed for soft landscaping but was later changed to turf. Their solution is to lift the turf and create a soakaway and re-lay the turf. See Supervisor's Notification of Defect (CI 42.2) No 133.



5.0 INFORMATION REQUIRED



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Item No.	Description	Date Requested	Comment	
Items 1 to 198 have been closed out				
199	There are gaps in the thermal insulation in back box of remote TVR's. Confirm remedial action.	20.03.14	Response received.	
Items 200 to 223 have been closed out				
224	Seeking confirmation that trip hazards similar to Communication No 209 will be considered for the installation of grills.	13.11.14	Closed out.	
Items 225 to 237 have been closed out				
237	Seeking confirmation on Brookfield's action to address the ponding to the footpath to the east side of the maternity unit.	08.01.15	Response received.	
Items 238 have been closed out				
240	Seeking confirmation for the finish below the glazed frame to prevent water penetrating adjacent to the door into corridor CC4-054.	30.01.15	Closed out.	
241	Seeking confirmation that drainage pipes from AHU's will be extended to the drainage outlet and step over's will be fitted.	02.02.15	Closed out.	
242	Seeking confirmation if permanent perimeter protection will be fitted above cores accessed from Level 12.	25.02.15	Response received.	
243	Seeking confirmation if there should be a door in Core D plantroom adjacent to the FM lift.	26.02.15	Closed out.	
244	Requesting Brookfield to demonstrate that the levels of paving are within the permissible deviation of ± 6 mm in accordance	27.02.15	Closed out.	
245	Confirm that 'CAUTION-VERY HOT WATER' notices will be fitted to all hot water outlets provided for food hygiene and decontamination.	19.03.15	Response received.	
246	No lights fitted to above the doors leading from the room to plantroom 41A	30.03.15	Response received.	
247	Defects in relation to the Fire Safety Risk Assessments for Cores B, C, D and F Street and Circulation (Basement), Core B Stairs and Lift Lobbies, Cores A, G, H and K.	13.04.15	Response received.	
248	Confirm remedial action to address ponding at the north east corner of the building.	14.04.15	Response received.	
249	Confirm design proposals to install mesh screens to prevent bird and insects from entering the atrium at high level. Also proposed timetable.	14.04.15	Closed out.	
250	Confirm proposals to fill the gaps between the granite and the building.	15.04.15	Closed out.	
251	Confirm what type intumescent putty pads which will be used in the data point in relation to PMI No 328.	16.04.15	Response received.	

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6.0 SUPERVISORS TESTS AND INSPECTIONS

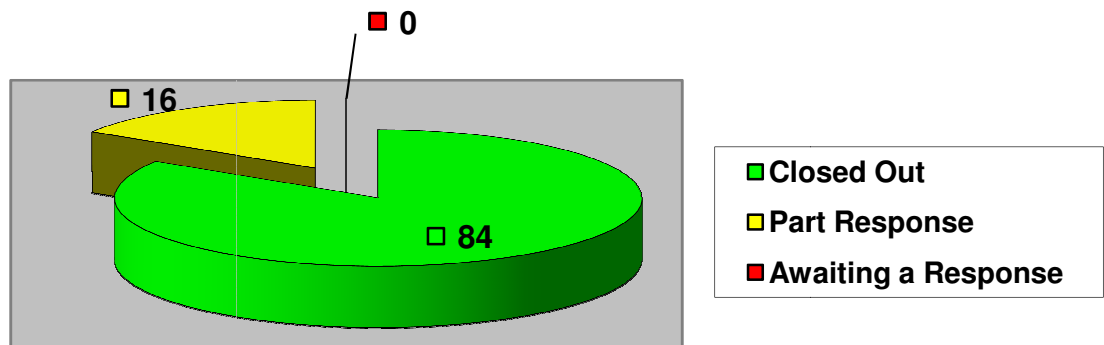
Tests not required	N/A
Tests required but not tested	Fail
Tests required which has passed tests	Pass

Tests				
Ref	Title	To be Notified by	Status	Test Date
01-377	Various tests undertaken and passed from the 09. 07.2012 To the 22.01 2015.			
378	Fire shut down test of AHU's during fire activity. PR21 AHU 19 did not shut down.	Brookfield	FAIL	23.01.2015
379-380	Various tests undertaken and passed from the 23. 01.2015 to the 25.01 2015.			
381	Operation of aseptic suite and kitchen server roller shutter doors during fire condition.	Brookfield	PASS	26.02.2015 25.01.2015 02.04.2015

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7.0 DEFECTS NOTIFICATIONS ISSUED



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	Description	Date Requested	Comment	
Items 1 to 80 have been closed out.				
81	External Blockwork on the south and east elevations does not reflect the quality of the pointing on the blockwork benchmark sample.	31.10.14	Response received.	
82	Confirm when plasterboard with mould growth has been replaced.	12.11.14	Closed out.	
83	Seeking confirmation of remedial action to resolve ponding.	13.11.14	Response received.	
Items 84 to 87 have been closed out.				
88	Seeking confirmation of remedial measures to address the discolouration of the capping pieces.	20.11.14	Response received.	
Items 89 to 91 have been closed out.				
92	There are insufficient power points in rooms END-033 and END-035. Seeking confirmation when addressed.	30.01.15	Response received.	
93	Confirm when the air sampling unit within General Theatre One and Theatre 4 are paint free and the unit in the Atrium has been fitted properly.	05.02.15	Response received.	
94	No lock fitted NSGH Theatres Admission on Day of Surgery – Level 2	06.02.15	Closed out.	
95	Confirm action to repair roof leak and remove stain from the fabric ceiling.	19.02.15	Closed out.	
96	Entrance door from the atrium into the AoDoS waiting area has no lock fitted.	19.02.15	Closed out.	
97	Partition in Electrical Cupboard EMC-082 is incomplete.	19.02.15	Closed out.	
98	Confirm when fire stopping missing in room CCW-126 is complete.	24.02.15	Response received.	
99	Confirm to open window cill joints.	24.02.15	Closed out.	
100	Confirm when fire doors between CC1-032 and CC1-054 will be fully functional.	25.02.15	Closed out.	
101	Please confirm cause and solution to trapped water in ETFE roof and confirm when resolved.	25.02.15	Closed out.	
102	Confirm when fire stopping is complete to door M25-A	25.02.15	Response received.	
103	Confirm when fire stopping is complete to fire enclosure above Core C.	25.02.15	Closed out.	
104	Vertical steel column to supporting services is not bolted to the horizontal member and not bolted to the floor. Confirm when addressed.	03.03.15	Closed out.	
105	Seeking confirmation from Brookfield that measures will be put in place to address the incorrectly sized and positioned patresses for proposed patient entertainment systems	10.03.15	Closed out.	
106	Various defects Level 1, 4 and 5.	16.03.15	Closed out.	
107	Various defects Level 2, 6 and 7.	19.03.15	Closed out.	
108	Various defects in Stair Cores A, B and L	23.03.15	Response received.	

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109	Horizontal, vertical and diagonal cracks on Level 2 theatres and adjoining rooms.	25.03.15	Response received.	
110	Various cracks in the walls of theaters and adjoining rooms.	23.03.15	Response received.	
111	Cracks in the walls in rooms THE-124 and THE-232.	25.03.15	Closed out.	
112	Various defects Level 2.	07.04.15	Closed out.	
113	Various defects Level 3.	07.04.15	Closed out.	
114	Various defects Stair Core K, H and G.	07.04.15	Closed out.	
115	Various defects Level 8 Link Bridge.	08.04.15	Closed out.	
116	Various defects car Park 1.	08.04.15	Response received.	
117	Various defects Level 8.	08.04.15	Closed out.	
118	Various defects Level 9.	08.04.15	Closed out.	
119	The intumescent pillows above the double doors between rooms GENW20-031 and GENW20-028 on Level 10 have been displaced.	14.04.15	Closed out.	
120	Ground floor entrance door to Staircore 1 is damaged	14.04.15	Response received.	
121	Various defects Level 10.	16.04.15	Closed out.	
122	Fire stopping Incomplete or not present on the 10th floor.	16.04.15	Response received.	
123	Fire stopping damaged in room CA0-038 riser M25.	16.04.15	Response received.	
124	Defects in relation to the Zurich Engineers inspection.	16.04.15	Response received.	
125	Seeking video surveys with reject to drain repairs.	16.04.15	Response received.	
126	Various defects Level 11.	17.04.15	Closed out.	
127	Ground floor entrance door to Main Staircore does not close over.	17.04.15	Closed out.	
128	Various defects Level 0.	11.05.15	Closed out.	
129	Ponding to Bicycle Shelter.	11.05.15	Response received.	
130	Various external fabric defects.	11.05.15	Response received.	
131	PIR not functioning in room STW-041.	11.05.15	Response received.	
132	6th floor down ramp is break up.	13.05.15	Response received.	
133	Ponding to main pedestrian entrance to Car Park 1.	13.05.15	Response received.	

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John Redmond, Technical Advisory Services

Property and infrastructure

Capita, The Beacon, 8th Floor, 176 St Vincent Street, Glasgow G2 5SG

	Signed	Date
Originated by	John Redmond	11 th April 2015
Completed by	David Ramsay	11 th April 2015

CAPITA

**NEW SOUTH GLASGOW HOSPITAL
ADULT AND CHILDREN'S HOSPITAL AND ENERGY CENTRE
NEC 3 SUPERVISORS REPORT NO. 50
JUNE 2015**

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1.0 EXECUTIVE SUMMARY: ADULT & CHILDREN'S HOSPITAL

In accordance with our NEC3 Contract, this is the monthly report for June on the activities carried out and responsibilities undertaken by the NEC3 Supervisors. We undertook post completion inspections and inspections of the incomplete work at Stage 3 completion.

We have inspected the remaining works in the Neuro Link Bridge and the quality of the works is satisfactory.

Brookfield is working through the list of defects identified prior to the car park being handed over to the Client. We await confirmation when these will be complete to carry out a further inspection.

Road surfacing work has been completed on the dual carriageway leading to Govan Road, and at the south of the main building, with a generally good quality finish. Local ponding on the north side of Govan Road remains outstanding. The footpath ponding at the extended footpath area on the east side of the maternity unit remains outstanding.

Previously witnessed tests which require to be retaken:

(378) Fire shut down tests of PR21 AHU 19. Brookfield has reported that when they initially tested 21 AHU 19 in PR 21 it shut down on activation of a smoke detector or break glass within the fire zone of the plant room. This they report was not correct. This was rectified so that the AHU only shut down on activation of the smoke probe within the duct. On the second attempt the Fire Alarm interface was faulty resulting in it being constantly in fire activation mode. This was rectified and the test carried out again by activating the duct smoke detector which resulted in the AH shutting down as required. We were not present at the re-test.

We are continuing to liaise with Brookfield and the NHS Project Team highlighting any items that have raised concern during our post completion inspections.

There were no Supervisor's Communication General Matters / Other Instructions No issued during June 2015.

Supervisor's Notification of Defect No's, 134, 135 and 136

- 171 remaining defects on various levels relating to Defects 106, 107, 112, 113, 115, 117, 118, 121, 126 and 128 have been amalgamated under Defect 134.
- The door selector to the entrances adjacent to Hardgate Road does not allow the doors to close over properly. The primary opening door at the entrance to the main stair intermittently does not close over and remains in the open position.
- Incomplete decoration and marks on walls.

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2.0 DESIGN COMPLIANCE CHECK

Currently nothing to report.

3.0 PROCEDURES REVIEW

3.1 Contractor's QA Procedures / Compliance Inspections

General Inspections

During an inspection of the Children's Roof adjacent to Plantroom 41A we noted that there were no bulkhead lights fitted above the doors. There were also no lights fitted in the room on the roof providing access and egress via the cat ladder in Core L. These were not taken in the approved drawings. Brookfield has issued a communication to BMCE M&E Managers for action / response. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 246

Post Completion Inspections / Issues

Senior Estates Manager for the NHS forwarded the Fire Risk Assessors Reports for Cores B, C, D and F Street and Circulation (Basement), Core B Stairs and Lift Lobbies, Cores A, G, H and K. These were dated 26th February 2015, 11th March 2015 and the 9th April 2015 and indicate a number of Defects. We asked Brookfield to confirm if the defects recorded in the Fire Risk Assessors Reports are on the IDMS system. We also asked them to confirm which of the defects recorded either on the IDMS System or in the report have still to be addressed. We had discussions with Brookfield and noted that some items on the list did not relate to actions by the NHS. Brookfield confirmed that they have carried out remedial works to the items on the various lists that are applicable to their contract works. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 247 is closed out.

There is temporary scaffolding providing perimeter protection at concrete floor beams above the cores accessed from Level 12. The client intimated that protection is required. We have asked Brookfield to confirm when this will be undertaken. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 242.

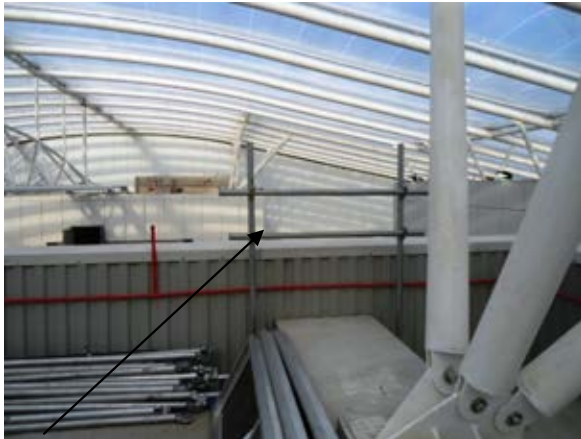


Temporary scaffolding providing perimeter protection.

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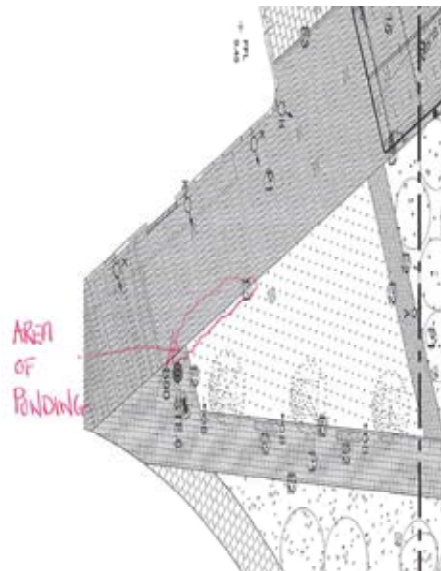


Temporary scaffolding providing perimeter protection.

There is a roof leak in the children Atrium and Brookfield are in the process of addressing this problem.

SHTM 04-01 Pt A recommends that all hot water outlets provided for food hygiene and decontamination should be provided with a notice 'CAUTION-VERY HOT WATER'. We asked Brookfield to confirm that these will be fitted to all locations where this occurs. They have confirmed that the Communication has been issued to Mercury and BMCE M&E Managers to confirm when the required signage will be fitted. See General Matters / Other Instructions (CI 13.1) No 245.

We noted water is ponding between the pavers and grassed area shown in the drawing opposite. Brookfield removed a section of turf and an additional section of gravel maintenance strip drain was laid. Consequently Communication General Matters / Other Instructions (CI 13.1) No 248 is closed out.



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While undertaking inspections on Level 10 we noted that a double socket was installed in a fire rated wall with a proprietor putty pad, however the data point next to the socket did not have a putty pad placed in the back box. Brookfield confirmed that the putty pads missing from the data points have been inserted. We carried out a spot check with Brookfield and putty pads were present. Consequently General Matters / Other Instructions (CI 13.1) No 251 is closed out. However spot checks will be undertaken.



We carried out an inspection with Brookfield of part of the link corridor which will provide access between the Adult and Children's Hospital and Neurosurgery and the Teaching and Learning Centre. We noted that there was one area of incomplete intumescent coating to one columns and not two as previously reported. Brookfield confirmed that they have addressed the problem and provide photographic evidence of the completed work.



Project Manager's Schedule of Incomplete Works at Completion

Brookfield has a tracker in place which will be reviewed weekly. Six of the works from the schedule are complete. We have noted below the works which are not on programme to completion.

- New Tank Installed. Road Surfacing Completed. Switch to power Supply Panel to be fitted.
- No 8 Cores A&B & Main Entrance - meet and greet panels glass cabinets: Approved by NHS 25/02/15, Complete.
- No 18 New VIE Turning Circle: Fencing is complete.
- No 24 AGV Performance Tests and Trials: Brookfield still await linen carts from NHS to complete performance testing – w/c TBC.

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Defects at completion

Currently there are 102 outstanding defects reported at completion to be addressed. There are also 63 additional defects identified following our joint inspections after completion. Many of these are of a minor nature.

3.2 Witness Testing and Commissioning.

Previously witnessed tests which require to be retaken:

(378) Fire shut down tests of PR21 AHU 19. We await confirmation relating to the testing or current status of this AHU. (378) Fire shut down tests of PR21 AHU 19. Brookfield has reported that when they initially tested 21 AHU 19 in PR 21 it shut down on activation of a smoke detector or break glass within the fire zone of the plant room. This they report was not correct. This was rectified so that the AHU only shut down on activation of the smoke probe within the duct. On the second attempt the Fire Alarm interface was faulty resulting in it being constantly in fire activation mode. This was rectified and the test carried out again by activating the duct smoke detector which resulted in the AH shutting down as required. We were not present at the re-test.

3.3 Board Equipment Installation,

Currently nothing to report.

3.4 Non Conformance Reports

We reviewed Brookfield's NCR Tracker and noted the issues raised by the Package Managers. Brookfield confirmed that the tinting to the blockwork is complete to the pointing on the south and east elevations. An NCR has also been raised in relation to manholes which are below the level of the surrounding tar. (See photo opposite.)



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4.0 CONSTRUCTION REVIEW

4.1 Visits to the Works

The following members of our team undertook site inspections, reviewed documentation, attended meetings and met with relevant Contractors representatives on-site personnel:- John Redmond (Lead NEC3 Supervisor) 1st to 5th, 8th to 12th, 15th 16th, 18th and 24th to 26th and 29th and 30th. Capita's NEC3 Supervisor's visited the site 14 days.

4.2 Elements of the Works available for inspection

Neuro bridge (partly limited due to access).

All external roads.

All site external works.

Perimeter hard and soft landscaping.

4.3 Current Observations

The visual inspections of the work carried out to date indicate that the works are generally being carried out to a satisfactory standard. We continue to be assisted by the site teams and the NHS Project Team in resolving various construction, mechanical, electrical, and quality issues. We continue to close out our Supervisor's Notification and Defects when we have received satisfactory responses.

4.3.1 Structural and Civil Works

Car Park 1.

Brookfield is working through the list of defects identified prior to the car park being handed over to the Client. We have asked Brookfield to inform us when the defects are completed.

4.3.2 Children's Area

Nothing to report

4.3.3 External Works

Govan Road/Renfrew Road & ACH Entrance Road.

Road surfacing work has been completed on the dual carriageway leading to Govan Road, and at the south of the main building, with a generally good quality finish. Local ponding on the north side of Govan Road remains outstanding. The footpath ponding at the extended footpath area on the east side of the maternity unit remains outstanding.

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We advised the Brookfield team on 16th December that ponding on the new extended footpath to the east side of the maternity unit has the potential to be a significant slip hazard in cold weather. We asked them to confirm their action to address this hazard. Brookfield has confirmed that Land Engineering have been instructed to lift the full width of tar and re-lay with a fall from the ramp to the new road kerb.

Brookfield had confirmed that work would commence week beginning 13th April. However they are awaiting an asphalt squad. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 237).



Footpath to the east side of the maternity unit.

Ponding at the extended footpath area on the east side of the maternity unit, and potential specification non-compliance on sections of the footpath to the dual carriageway just north of the energy centre.

4.3.4 Mechanical Services

Nothing to report.

4.3.5 Electrical Services

Nothing to report.

4.3.6 Doors

Nothing to report.

4.3.7 Windows

Nothing to report.

4.3.8 Ducting

Nothing to report.

4.3.9 Floors

Nothing to report.

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4.3.10 Blockwork

Nothing to report.

4.3.11 Heating

There are gaps in the thermal insulation in the back box of the remote TRV's mounted on external walls controlling the radiant panel heater in Level 0, ZA ward OBW 009. There is the likelihood that this will cause the TRV to be affected by the lower temperature in the partition void causing the Radiant panel to emit heat unnecessarily wasting energy. This applies to other similar TRV's on outside walls. We have asked Brookfield to confirm if this has been considered and if remedial action will be taken to address this. Brookfield has asked Mercury to report on this issue. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 199).

4.3.12 Neuro Link bridge

We have received a revised programme showing our inspection before handover on the 21st July 2015 and the completion of the works on the 23 July 2015. Work is progressing and the quality of the work is satisfactory.



4.4 Current Defects.

Work has been carried out to improve the quality of the pointing on the external blockwork on the south and east elevations. These areas have been viewed on various occasions and most recently by P Moir – NHS and F Shaw BMCE, whereby it was agreed to leave as acceptable. Consequently Supervisor's Notification of Defect (CI 42.2) No 81 is closed.

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Some of the outlets taking the rainwater from the top level of the Car park are too high consequently water is ponding in the recessed channels. The client has agreed that any remedial work would exacerbate the problem.

The capping piece on the north facing elevation of the Children's Hospital has two discoloured areas. We asked Brookfield to confirm their remedial action to address this and confirm when complete. They have confirmed that if the marks can't be cleaned off, Prater will paint repair or replace panels if required. See outstanding works list. See Supervisor's Notification of Defect (CI 42.2) No 88.

The text on the drawing for Level 2, Rooms END-033 and END-035 indicates a DATA1000 at each desk, which should be 2 x OUT010 & 1 x OUT131. The drawing however indicates 1 x OUT010 and 2 x OUT131. This is wrong; consequently there are too many data points and not enough power. This requires to be rectified as soon as possible. This is to be auctioned and we await confirmation when this is complete. See Supervisor's Notification of Defect (CI 42.2) No 92.

The NHS Fire Risk Assessor has been on site and noted that the air sampling unit within General Theatre One on the second floor has been painted over. We also noted that another unit in Theatre 4 has been partially painted over. These should be paint free. There is also an air sampling unit in the main Atrium north facing wall which we asked Brookfield to confirm when these are addressed. They have confirmed that the painted over sampling point has been rectified. Brookfield intimated that the point on the North wall has been pulled back on Level 5 but would need to look specifically. Gary Kimmins from Mercury is aware of it but requires rope access. We await confirmation when this will be dealt with. See Supervisor's Notification of Defect (CI 42.2) No 93.

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The fire rated partitions between the corridor and the Electrical Riser CCW-126 has incomplete fire stopping. The steelwork does not have intumescent paint. Brookfield has confirmed that this work has been completed. Consequently Supervisor's Notification of Defect (CI 42.2) No 98 is closed out.



The joints at window cills are opening up. We asked Brookfield to confirm their remedial action to resolve this problem. We await their response. See Supervisor's Notification of Defect (CI 42.2) No 99



There was no fire stopping around the fire door on Level 12, Plantroom 121, Door M25-A. Brookfield has confirmed that the fire stopping has been completed. Consequently Supervisor's Notification of Defect (CI 42.2) No 102 is closed out.



Following a joint inspection of the theatres and adjoining rooms on Level 2 we identified a number of walls with horizontal, vertical and diagonal cracks. We forwarded a list of the locations to Brookfield and asked them to confirm when these were addressed. Brookfield has confirmed that the remedial works have been completed. Consequently Supervisor's Notification of Defect (CI 42.2) No 109 is closed out.

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Following a joint inspection of the theatres and adjoining rooms on Level 2 we identified cracks in the following rooms:

THE-124 General Theatre 6 ENT: Crack below the window.

THE-232 Interventional 1 Vasco/Urology: Horizontal crack right hand side of the touch screen.

Brookfield has confirmed that the identified cracks in rooms THE-124 and THE-232 have been rectified. Consequently Supervisor's Notification of Defect (CI 42.2) No 110 is closed out.

Following a joint inspection of Car Park 1 we identified various defects / snags. (See attached list). These have been issued to Brookfield and we have asked them to confirm when these have been addressed. See Supervisor's Notification of Defect (CI 42.2) No 116.

The ground floor entrance door to Staircore 1 was damaged and the exposed metal at the bottom of both doors was rusting. We carried out an inspection and this work has been carried out. Consequently Supervisor's Notification of Defect (CI 42.2) No 120 is closed out.

WB Solutions where carrying out work for the client identified locations where fire stopping was incomplete or not present. Brookfield has confirmed that all fire stopping on the 10th floor have been rectified. Consequently Supervisor's Notification of Defect (CI 42.2) No 122 is closed out.

The fire door is damaged in room CA0-038. Brookfield has confirmed that all fire stopping relating to this defect has been completed. Consequently Supervisor's Notification of Defect (CI 42.2) No 123 is closed out.

The Board have employed Competent Body Zurich Engineering to undertake an inspection of the pressure systems associated with the new buildings and systems handed over on 26th January 2015. This was done in order produce the statutory written scheme required under the Pressure Systems Safety Regulations (PSSR) 2000 for the safe operation and inspection of relevant systems.

During their review, a number of defects have been found within the installed plant. Brookfield has responded as follows.

- 1) Configuration of boiler safety valves.
Brookfield response: Design drawings being discussed with NHS and Zurich 02/06/15.
- 2) A safe method of discharge of medium pressure/temperature water and steam blow off from boilers (120 degC / 5.7bar).
Brookfield response: Design drawings being discussed with NHS and Zurich 02/06/15.
- 3) Certificate of Conformity for boilers.
Brookfield response: Issued to NHS Zurich.
- 4) Certificate of Conformity for economisers.
Brookfield response: Issued to NHS Zurich.
- 5) Certificate of conformity for all pressure systems pipework.

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Brookfield response: Issued to NHS Zurich.

- 6) CE marking of pressure vessels and heat exchangers.

Brookfield response: Complete.

- 7) Pressurisation Units – safety vales rating and fixing requirements.

Brookfield response: Complete.

- 8) Boiler drain points.

Brookfield response: Complete.

We asked Brookfield to confirm their plans to rectify the above points and any interim operational solutions that may have to be employed to enable the Board to bring the facilities into full operation on 24th April 2015. We also asked them to confirm when all items will be fully rectified. See the responses above. Supervisor's Notification of Defect (CI 42.2) No 124.

Following recent excavations around the buildings to expose and repair collapsed main drains, the Board request video surveys to be undertaken and reports provided of the repaired drain runs and also other neighbouring runs that may have been affected by proximity to the 200t crane. Brookfield has confirmed that they passed this to their Managers and we await their response. See Supervisor's Notification of Defect (CI 42.2) No 125.

The Bicycle Shelter roof does not drain rainwater to the two corner outlets, consequently the rainwater is ponding. We asked Brookfield to confirm their proposed remedial action to resolve this defect. They have confirmed that following a meeting with the designer a level survey is required. The plan is to introduce a further outlet. See Supervisor's Notification of Defect (CI 42.2) No 129.



Following an inspection of Level 8 we identified various defects. (See attached list). We have asked Brookfield to confirm when these have been addressed. Below are a few examples of the defects identified. Remedial work is being carried out and they will report on the actions carried out. See Supervisor's Notification of Defect (CI 42.2) No 130.

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Gap between cladding and blockwork interface.



Nuts not fitted to glazed fixings to ramp.



Timber wedges inappropriately used to support glazed panels.



Excessive gap at the bottom of the door frame.

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While undertaking an inspection with Brookfield we noted that the PIR in room STW-041 was not functioning. Brookfield reported this to Mercury and we have asked them when this will be addressed. They will confirm when this will be rectified. See Supervisor's Notification of Defect (CI 42.2) No 131.

The concrete joint between the 6th floor and the down ramp is break up. We asked Brookfield to confirm the remedial measures to address this defect. They have instructed Dunne to carry out remedial works. See Supervisor's Notification of Defect (CI 42.2) No 132.



Water is ponding between the pavers and grassed areas at the main pedestrian access to the Car Park 1 opposite the hospital. Brookfield removed a section of turf and an additional section of gravel maintenance strip drain was laid. Consequently Supervisor's Notification of Defect (CI 42.2) No 133 is closed out.



The defects identified in Supervisor's Notifications of Defects No 106, 107, 112, 113, 115, 117, 118, 121, 126 and 128 have been either competed or substantially completed. Consequently these have been closed out.

The remaining defects as listed below have been amalgamated under Defect Notification 134. We have asked Brookfield to confirm when these are completed.

Level 00 – 60, Level 01 – 12, Level 02 – 39, Level 03 – 1, Level 05 – 1, Level 08 – 3, Level 09 – 1, Level 10 – 9 and Level 11 – 6.

NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND ENERGY CENTRE

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JUNE 2015

The door selector to the entrances adjacent to Hardgate Road did not allow the doors to close over properly. A joint inspection was carried out with Brookfield and the problem was rectified and the door closer operates properly. The doors are fitted as per the specification consequently Supervisor's Notification of Defect (CI 42.2) No 135 is closed out. However we observed that there is a design issue which allows the secondary doors to close before the primary door.



Entrance adjacent to Hardgate Road.

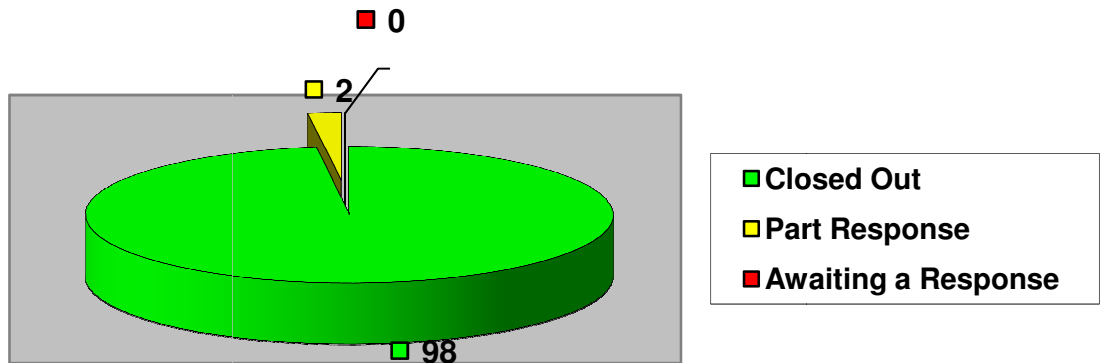
Following an inspection of the Lightwell adjacent to Hospital Street CC0-015 we identified incomplete decoration and grubby marks on walls within the Lightwell. There was also a damaged corner bead. Brookfield have arranged for their painting sub-contractor to return to site and rectify this defect until rectification. Supervisor's Notification of Defect (CI 42.2) No 136.



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5.0 INFORMATION REQUIRED



SUPERVISOR'S REPORT NO. 50

JUNE 2015

Item No.	Description	Date Requested	Comment	
Items 1 to 198 have been closed out				
199	There are gaps in the thermal insulation in back box of remote TVR's. Confirm remedial action.	20.03.14	Response received.	
Items 200 to 236 have been closed out				
237	Seeking confirmation on Brookfield's action to address the ponding to the footpath to the east side of the maternity unit.	08.01.15	Response received.	
Items 240 to 241 have been closed out				
242	Seeking confirmation if permanent perimeter protection will be fitted above cores accessed from Level 12.	25.02.15	Response received.	
Items 243 to 244 have been closed out				
245	Confirm that 'CAUTION-VERY HOT WATER' notices will be fitted to all hot water outlets provided for food hygiene and decontamination.	19.03.15	Response received.	
246	No lights fitted to above the doors leading from the room to plantroom 41A	30.03.15	Response received.	
247	Defects in relation to the Fire Safety Risk Assessments for Cores B, C, D and F Street and Circulation (Basement), Core B Stairs and Lift Lobbies, Cores A, G, H and K.	13.04.15	Closed out.	
248	Confirm remedial action to address ponding at the north east corner of the building.	14.04.15	Closed out.	
Items 249 to 250 have been closed out				
251	Confirm what type intumescent putty pads which will be used in the data point in relation to PMI No 328.	16.04.15	Closed out.	

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SUPERVISOR'S REPORT NO. 50

JUNE 2015

6.0 SUPERVISORS TESTS AND INSPECTIONS

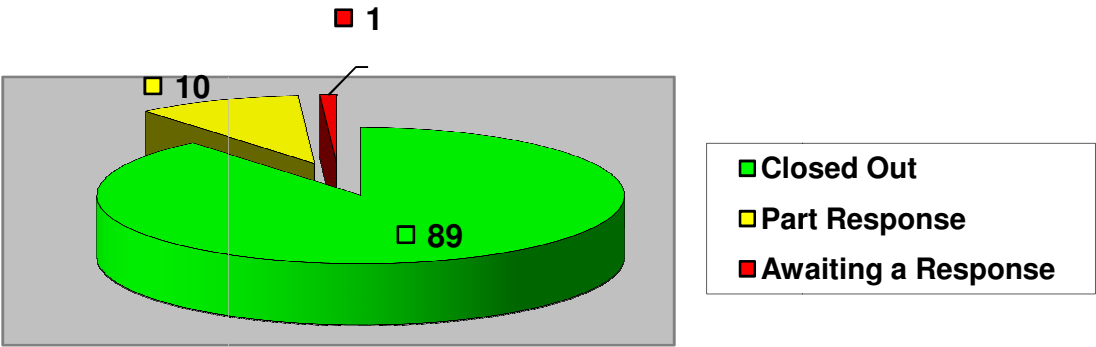
Tests not required	N/A
Tests required but not tested	Fail
Tests required which has passed tests	Pass

Tests				
Ref	Title	To be Notified by	Status	Test Date
01-377	Various tests undertaken and passed from the 09. 07.2012 To the 22.01 2015.			
378	Fire shut down test of AHU's during fire activity. PR21 AHU 19 did not shut down.	Brookfield	FAIL	23.01.2015
379-381	Various tests undertaken and passed from the 23. 01.2015 to the 02.04 2015.			

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7.0 DEFECTS NOTIFICATIONS ISSUED



NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND ENERGY CENTRE

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	Description	Date Requested	Comment	
Items 1 to 80 have been closed out.				
81	External Blockwork on the south and east elevations does not reflect the quality of the pointing on the blockwork benchmark sample.	31.10.14	Closed out.	
82	Confirm when plasterboard with mould growth has been replaced.	12.11.14	Closed out.	
83	Seeking confirmation of remedial action to resolve ponding.	13.11.14	Response received.	
Items 84 to 87 have been closed out.				
88	Seeking confirmation of remedial measures to address the discolouration of the capping pieces.	20.11.14	Response received.	
Items 89 to 91 have been closed out.				
92	There are insufficient power points in rooms END-033 and END-035. Seeking confirmation when addressed.	30.01.15	Response received.	
93	Confirm when the air sampling unit within General Theatre One and Theatre 4 are paint free and the unit in the Atrium has been fitted properly.	05.02.15	Response received.	
Items 94 to 97 have been closed out.				
98	Confirm when fire stopping missing in room CCW-126 is complete.	24.02.15	Closed out.	
99	Confirm to open window cill joints.	24.02.15	Response received.	
Items 100 to 101 have been closed out.				
102	Confirm when fire stopping is complete to door M25-A	25.02.15	Closed out.	
Items 103 to 108 have been closed out.				
109	Horizontal, vertical and diagonal cracks on Level 2 theatres and adjoining rooms.	25.03.15	Closed out.	
110	Various cracks in the walls of theaters and adjoining rooms.	23.03.15	Closed out.	
Items 111 to 115 have been closed out.				
116	Various defects car Park 1.	08.04.15	Response received.	
Items 117 to 119 have been closed out.				
120	Ground floor entrance door to Staircore 1 is damaged	14.04.15	Closed out.	
121	Various defects Level 10.	16.04.15	Closed out.	
122	Fire stopping Incomplete or not present on the 10th floor.	16.04.15	Closed out.	
123	Fire stopping damaged in room CA0-038 riser M25.	16.04.15	Closed out.	
124	Defects in relation to the Zurich Engineers inspection.	16.04.15	Response received.	
125	Seeking video surveys with reject to drain repairs.	16.04.15	Response received.	
Items 126 to 128 have been closed out.				
129	Ponding to Bicycle Shelter.	11.05.15	Response received.	
130	Various external fabric defects.	11.05.15	Response received.	
131	PIR not functioning in room STW-041.	11.05.15	Response received.	
132	6th floor down ramp is break up.	13.05.15	Response received.	
133	Ponding to main pedestrian entrance to Car Park 1.	13.05.15	Closed out.	

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134	The defects identified in Supervisor's Notifications of Defects No 106, 107, 112, 113, 115, 117, 118, 121, 126 and 128 have been either completed or substantially completed. These have been closed out and the remaining defects amalgamated under this Defect Notification.	03.06.15	Open	
135	The door selector to the entrances adjacent to Hardgate Road does not allow the doors to close over properly. The primary opening door at the entrance to the main stair intermittently does not close over and remains in the open position.	16.06.15	Closed out.	
136	Incomplete decoration and marks on walls.	18.06.15	Response received.	

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND
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JUNE 2015

John Redmond, Technical Advisory Services

Property and infrastructure

Capita, The Beacon, 8th Floor, 176 St Vincent Street, Glasgow G2 5SG

	Signed	Date
Originated by	John Redmond	6 th June 2015
Completed by	David Ramsay	6 th June 2015

CAPITA

**NEW SOUTH GLASGOW HOSPITAL
ADULT AND CHILDREN'S HOSPITAL AND ENERGY CENTRE
NEC 3 SUPERVISORS REPORT NO. 51
JULY 2015**

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**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND
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1.0 EXECUTIVE SUMMARY: ADULT & CHILDREN'S HOSPITAL

In accordance with our NEC3 Contract, this is the monthly report for July on the activities carried out and responsibilities undertaken by the NEC3 Supervisors. We undertook post completion inspections and inspections of the incomplete work at Stage 3 completion.

We have inspected the remaining works in the Neuro Link Bridge and the quality of the works is satisfactory. We also received copies of the water test results and these were satisfactory.

Brookfield is working through the list of defects identified prior to the car park being handed over to the Client. We await confirmation when these will be complete to carry out a further inspection.

Road surfacing work has been completed on the dual carriageway leading to Govan Road, and at the south of the main building, with a generally good quality finish. Local ponding on the north side of Govan Road remains outstanding. The footpath ponding at the extended footpath area on the east side of the maternity unit remains outstanding.

There were no Supervisor's Communication General Matters / Other Instructions No issued during July 2015.

Supervisor's Notification of Defect No's, 137

- Seeking confirmation when the damaged cladding has been rectified.

NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND ENERGY CENTRE

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2.0 DESIGN COMPLIANCE CHECK

Currently nothing to report.

3.0 PROCEDURES REVIEW

3.1 Contractor's QA Procedures / Compliance Inspections

General Inspections

We carried out inspections with Brookfield to the section of the Neuro Link Bridge providing access to the Neurosurgery Building prior to the completion. Only minor snagging items were identified.

During an inspection of the Children's Roof adjacent to Plantroom 41A we noted that there were no bulkhead lights fitted above the doors. There were also no lights fitted in the room on the roof providing access and egress via the cat ladder in Core L. These were not taken in the approved drawings. Brookfield has issued a communication to BMCE M&E Managers for action / response. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 246

Post Completion Inspections / Issues

There is temporary scaffolding providing perimeter protection at concrete floor beams above the cores accessed from Level 12. The client intimated that protection is required. We have asked Brookfield to confirm when this will be undertaken. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 242.



Temporary scaffolding providing perimeter protection.



Temporary scaffolding providing perimeter protection.

There is a roof leak in the children Atrium and Brookfield are in the process of addressing this problem.

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SHTM 04-01 Pt A recommends that all hot water outlets provided for food hygiene and decontamination should be provided with a notice 'CAUTION-VERY HOT WATER'. We asked Brookfield to confirm that these will be fitted to all locations where this occurs. They have confirmed that all the signs have been fitted. Consequently General Matters / Other Instructions (CI 13.1) No 245 is closed out.

We carried out an inspection with Brookfield of part of the link corridor which will provide access between the Adult and Children's Hospital and Neurosurgery and the Teaching and Learning Centre. We noted that there was one area of incomplete intumescent coating to one column and not two as previously reported. Brookfield confirmed that they have addressed the problem and provide photographic evidence of the completed work.



Project Manager's Schedule of Incomplete Works at Completion

Brookfield has a tracker in place which will be reviewed weekly. Six of the works from the schedule are complete. We have noted below the works which are not on programme to completion.

- New Tank Installed. Road Surfacing Completed. Switch to power Supply Panel to be fitted.
- No 8 Cores A&B & Main Entrance - meet and greet panels glass cabinets: Approved by NHS 25/02/15, Complete.
- No 18 New VIE Turning Circle: Fencing is complete.
- No 24 AGV Performance Tests and Trials: Brookfield still await linen carts from NHS to complete performance testing – w/c TBC.

Defects at completion

Currently there are 102 outstanding defects reported at completion to be addressed. There are also 63 additional defects identified following our joint inspections after completion. Many of these are of a minor nature.

Post Completion Defects

The defects post completion are being consolidated into one schedule by Brookfield and are being closed out.

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND
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Below is the current status with Defects.

Final Sweep IDMS – 41 (18 Structural)

Incident Reports – 45

FM First – 259 Open, 315 In Progress, 437 Closed

3.2 Witness Testing and Commissioning.

Currently nothing to report.

3.3 Board Equipment Installation,

Currently nothing to report.

3.4 Non Conformance Reports

We reviewed Brookfield's NCR Tracker and noted the issues raised by the Package Managers. Brookfield confirmed that the tinting to the blockwork is complete to the pointing on the south and east elevations. An NCR has also been raised in relation to manholes which are below the level of the surrounding tar. (See photo opposite.)



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4.0 CONSTRUCTION REVIEW

4.1 Visits to the Works

The following members of our team undertook site inspections, reviewed documentation, attended meetings and met with relevant Contractors representatives on-site personnel:- John Redmond (Lead NEC3 Supervisor) 1st to 3^h, 6th, 7th, 9th, 13th, 16th, 18th, 28th, 29th and 30th Willie Roxburgh on the 3rd, 16th, 27th and 31st. Capita's NEC3 Supervisor's visited the site 16 days.

4.2 Elements of the Works available for inspection

Neuro bridge (partly limited due to access).

All external roads.

All site external works.

Perimeter hard and soft landscaping.

4.3 Current Observations

The visual inspections of the work carried out to date indicate that the works are generally being carried out to a satisfactory standard. We continue to be assisted by the site teams and the NHS Project Team in resolving various construction, mechanical, electrical, and quality issues. We continue to close out our Supervisor's Notification and Defects when we have received satisfactory responses.

4.3.1 Structural and Civil Works

Car Park 1.

Brookfield is working through the list of defects identified prior to the car park being handed over to the Client. We have asked Brookfield to inform us when the defects are completed.

4.3.2 Children's Area

Nothing to report

4.3.3 External Works

Govan Road/Renfrew Road & ACH Entrance Road.

Road surfacing work has been completed on the dual carriageway leading to Govan Road, and at the south of the main building, with a generally good quality finish. Local ponding on the north side of Govan Road remains outstanding. The footpath ponding at the extended footpath area on the east side of the maternity unit remains outstanding.

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We advised the Brookfield team on 16th December that ponding on the new extended footpath to the east side of the maternity unit has the potential to be a significant slip hazard in cold weather. We asked them to confirm their action to address this hazard. Brookfield has confirmed that Land Engineering have been instructed to lift the full width of tar and re-lay with a fall from the ramp to the new road kerb.

Brookfield had confirmed that work would commence week beginning 13th April. However they are awaiting an asphalt squad. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 237).



Footpath to the east side of the maternity unit.

Ponding at the extended footpath area on the east side of the maternity unit, and potential specification non-compliance on sections of the footpath to the dual carriageway just north of the energy centre.

Ponding is also apparent locally on the granite hardstanding in places around the main Children's entrance canopy. Wind-blown surface water on the canopy is not being collected at canopy level in many places. Brookfield are aware of this and are in liaison with their subcontractor to try to resolve.

Significant local ponding has also become apparent on the route from the Children's main entrance to the covered bicycle stand near the Hardgate Road multi storey car park, just west of the children's hospital main entrance. Brookfield are aware of this and are working with their subcontractor, Land Engineering to come up with an acceptable solution.

4.3.4 Mechanical Services

We received copies of the water test results and these were satisfactory.

4.3.5 Electrical Services

Nothing to report.

4.3.6 Doors

Nothing to report.

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND
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4.3.7 Windows

Nothing to report.

4.3.8 Ducting

Nothing to report.

4.3.9 Floors

Nothing to report.

4.3.10 Blockwork

Nothing to report.

4.3.11 Heating

There are gaps in the thermal insulation in the back box of the remote TRV's mounted on external walls controlling the radiant panel heater in Level 0, ZA ward OBW 009. There is the likelihood that this will cause the TRV to be affected by the lower temperature in the partition void causing the Radiant panel to emit heat unnecessarily wasting energy. This applies to other similar TRV's on outside walls. We asked Brookfield to confirm if this has been considered and if remedial action will be taken to address this. Brookfield has confirmed that all remedial action has been carried out and other similar TRV's on outside walls have been checked and rectified where required. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 199 is closed out.

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4.4 Current Defects.

Some of the outlets taking the rainwater from the top level of the Car park are too high consequently water is ponding in the recessed channels. The client has agreed that any remedial work would exacerbate the problem.

The capping piece on the north facing elevation of the Children's Hospital has two discoloured areas. We asked Brookfield to confirm their remedial action to address this and confirm when complete. They have confirmed that if the marks can't be cleaned off, Prater will paint repair or replace panels if required. See outstanding works list. See Supervisor's Notification of Defect (CI 42.2) No 88.

The text on the drawing for Level 2, Rooms END-033 and END-035 indicates a DATA1000 at each desk, which should be 2 x OUT010 & 1 x OUT131. The drawing however indicates 1 x OUT010 and 2 x OUT131. This is wrong; consequently there are too many data points and not enough power. Brookfield confirmed that the additional power etc has been installed and the correct amount of sockets etc has been installed. Consequently Supervisor's Notification of Defect (CI 42.2) No 92 is closed out.

The NHS Fire Risk Assessor has been on site and noted that the air sampling unit within General Theatre One on the second floor has been painted over. We also noted that another unit in Theatre 4 has been partially painted over. These should be paint free. There is also an air sampling unit in the main Atrium north facing wall which we asked Brookfield to confirm when these are addressed. They have confirmed that the painted over sampling point has been rectified. Brookfield intimated that the point on the North wall has been pulled back on Level 5 but would need to look specifically. Gary Kimmins from Mercury is aware of it but requires rope access. We await confirmation when this will be dealt with. See Supervisor's Notification of Defect (CI 42.2) No 93.

The joints at window cills are opening up. We asked Brookfield to confirm their remedial action to resolve this problem. They have filled and painted the joints but they have opened up again. They are sealing a joint with sealant to determine if this is a better solution. We await their response. See Supervisor's Notification of Defect (CI 42.2) No 99



Following a joint inspection of the theatres and adjoining rooms on Level 2 we identified cracks in the following rooms:

THE-124 General Theatre 6 ENT: Crack below the window.

THE-232 Interventional 1 Vasco/Urology: Horizontal crack right hand side of the touch screen.

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Following a joint inspection of Car Park 1 we identified various defects / snags which were issued to Brookfield. We asked them to confirm when these have been addressed. We have recently undertaken a joint inspection with Brookfield and noted that some of the Defects have been rectified. They are attending to the remaining outstanding Defect. See Supervisor's Notification of Defect (CI 42.2) No 116.

The Board have employed Competent Body Zurich Engineering to undertake an inspection of the pressure systems associated with the new buildings and systems handed over on 26th January 2015. This was done in order produce the statutory written scheme required under the Pressure Systems Safety Regulations (PSSR) 2000 for the safe operation and inspection of relevant systems.

During their review, a number of defects have been found within the installed plant. Brookfield has responded as follows.

- 1) Configuration of boiler safety valves.
Brookfield response: Design drawings being discussed with NHS and Zurich 02/06/15.
- 2) A safe method of discharge of medium pressure/temperature water and steam blow off from boilers (120 degC / 5.7bar).
Brookfield response: Design drawings being discussed with NHS and Zurich 02/06/15.
- 3) Certificate of Conformity for boilers.
Brookfield response: Issued to NHS Zurich.
- 4) Certificate of Conformity for economisers.
Brookfield response: Issued to NHS Zurich.
- 5) Certificate of conformity for all pressure systems pipework.
Brookfield response: Issued to NHS Zurich.
- 6) CE marking of pressure vessels and heat exchangers.
Brookfield response: Complete.
- 7) Pressurisation Units – safety vales rating and fixing requirements.
Brookfield response: Complete.
- 8) Boiler drain points.
Brookfield response: Complete.

We asked Brookfield to confirm their plans to rectify the above points and any interim operational solutions that may have to be employed to enable the Board to bring the facilities into full operation on 24th April 2015. We also asked them to confirm when all items will be fully rectified. Brookfield has responded as above and have stated that a further inspection will be required by Zurich following the Mercury remedial works. Supervisor's Notification of Defect (CI 42.2) No 124.

Following recent excavations around the buildings to expose and repair collapsed main drains, the Board request video surveys to be undertaken and reports provided of the repaired drain runs and also other neighbouring runs that may have been affected by proximity to the 200t crane. Brookfield has confirmed that they passed this to their Managers and we await their response. See Supervisor's Notification of Defect (CI 42.2) No 125.

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The Bicycle Shelter roof does not drain rainwater to the two corner outlets, consequently the rainwater is ponding. We asked Brookfield to confirm their proposed remedial action to resolve this defect. They have confirmed that following a meeting with the designer a level survey is required. The plan is to introduce a further outlet. See Supervisor's Notification of Defect (CI 42.2) No 129.



Following an inspection of external parts of the hospital we identified various defects. (See attached marked up drawing. We have inspected the progress of rectification with Brookfield and will undertake a further inspections when the remaining works are completed. See Supervisor's Notification of Defect (CI 42.2) No 130.



Gap between cladding and blockwork interface.



Nuts not fitted to glazed fixings to ramp.

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Timber wedges inappropriately used to support glazed panels.



Excessive gap at the bottom of the door frame.

While undertaking an inspection with Brookfield we noted that the PIR in room STW-041 was not functioning. Brookfield reported this to Mercury and has now confirmed that this has been addressed. Consequently Supervisor's Notification of Defect (CI 42.2) No 131 is closed out.

The concrete joint between the 6th floor and the down ramp is break up. We asked Brookfield to confirm the remedial measures to address this defect. They have instructed Dunne to carry out remedial works. See Supervisor's Notification of Defect (CI 42.2) No 132.



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The defects identified in Supervisor's Notifications of Defects No 106, 107, 112, 113, 115, 117, 118, 121, 126 and 128 have been either completed or substantially completed. Consequently these have been closed out.

The remaining defects as listed below have been amalgamated under Supervisor's Notification of Defect (CI 42.2) No 134.

Below is the current status of the outstanding Defects.

Level 00 –	60	Level 00 –	10
Level 01 –	12	Level 01 –	03
Level 02 –	39	Level 02 –	08
Level 03 –	01	Level 03 –	01
Level 05 –	01	Level 05 –	
Level 08 –	03	Level 08 –	
Level 09 –	01	Level 09 –	01
Level 10 –	09	Level 10 –	
Level 11 –	06	Level 11 –	
Total Defects at inspection 132		Total Defects remaining to be complete 23	

Entrance adjacent to Hardgate Road.

Following an inspection of the Lightwell adjacent to Hospital Street CC0-015 we identified incomplete decoration and grubby marks on walls within the Lightwell. There was also a damaged corner bead. Brookfield arranged for their painting sub-contractor to return to site and rectify the defects. We carried out an inspection with Brookfield and the work was satisfactorily completed. Consequently Supervisor's Notification of Defect (CI 42.2) No 136 is closed out.

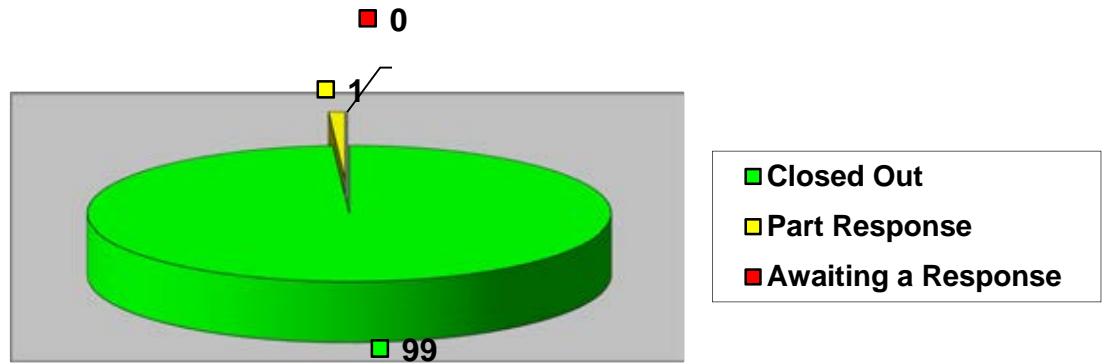
It appears that the cladding on the west facing elevation has been damaged and an unsuccessful attempt has been made to repair the damage. We asked Brookfield to confirm when this defect has been rectified. They have confirmed that this has been passed onto the sub-contractor Prater to rectify the unsuccessful attempt at the repair. See Supervisor's Notification of Defect (CI 42.2) No 137.



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5.0 INFORMATION REQUIRED



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Item No.	Description	Date Requested	Comment	
Items 1 to 198 have been closed out				
199	There are gaps in the thermal insulation in back box of remote TVR's. Confirm remedial action.	20.03.14	Closed out.	
Items 200 to 236 have been closed out				
237	Seeking confirmation on Brookfield's action to address the ponding to the footpath to the east side of the maternity unit.	08.01.15	Response received.	
Items 240 to 241 have been closed out				
242	Seeking confirmation if permanent perimeter protection will be fitted above cores accessed from Level 12.	25.02.15	Response received.	
Items 243 to 244 have been closed out				
245	Confirm that 'CAUTION-VERY HOT WATER' notices will be fitted to all hot water outlets provided for food hygiene and decontamination.	19.03.15	Closed out.	
246	No lights fitted to above the doors leading from the room to plantroom 41A	30.03.15	Response received.	
Items 247 to 251 have been closed out				

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6.0 SUPERVISORS TESTS AND INSPECTIONS

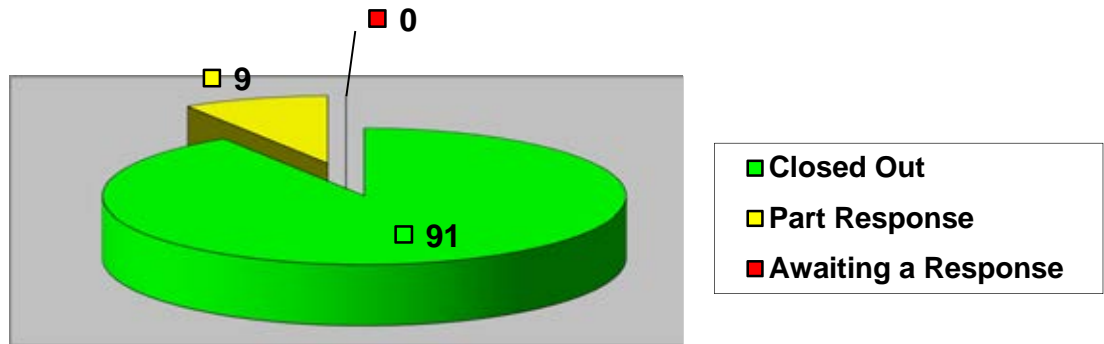
Tests not required	N/A
Tests required but not tested	Fail
Tests required which has passed tests	Pass

Tests				
Ref	Title	To be Notified by	Status	Test Date
01-377	Various tests undertaken and passed from the 09. 07.2012 To the 22.01 2015.			
378	Fire shut down test of AHU's during fire activity. PR21 AHU 19 did not shut down.	Brookfield	Retested successfully but not present. See Supervisor's Report No 50	23.01.2015
379-381	Various tests undertaken and passed from the 23. 01.2015 to the 02.04 2015.			

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7.0 DEFECTS NOTIFICATIONS ISSUED



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	Description	Date Requested	Comment	
Items 1 to 82 have been closed out.				
83	Seeking confirmation of remedial action to resolve ponding.	13.11.14	Response received.	
Items 84 to 87 have been closed out.				
88	Seeking confirmation of remedial measures to address the discolouration of the capping pieces.	20.11.14	Response received.	
Items 89 to 91 have been closed out.				
92	There are insufficient power points in rooms END-033 and END-035. Seeking confirmation when addressed.	30.01.15	Closed out.	
93	Confirm when the air sampling unit within General Theatre One and Theatre 4 are paint free and the unit in the Atrium has been fitted properly.	05.02.15	Response received.	
Items 94 to 98 have been closed out.				
99	Confirm to open window cill joints.	24.02.15	Response received.	
Items 100 to 115 have been closed out.				
116	Various defects car Park 1.	08.04.15	Response received.	
Items 117 to 123 have been closed out.				
124	Defects in relation to the Zurich Engineers inspection.	16.04.15	Response received.	
125	Seeking video surveys with reject to drain repairs.	16.04.15	Response received.	
Items 126 to 128 have been closed out.				
129	Ponding to Bicycle Shelter.	11.05.15	Response received.	
130	Various external fabric defects.	11.05.15	Response received.	
131	PIR not functioning in room STW-041.	11.05.15	Closed out.	
132	6th floor down ramp is break up.	13.05.15	Response received.	
133	Ponding to main pedestrian entrance to Car Park 1.	13.05.15	Closed out.	
134	The defects identified in Supervisor's Notifications of Defects No 106, 107, 112, 113, 115, 117, 118, 121, 126 and 128 have been either completed or substantially completed. These have been closed out and the remaining defects amalgamated under this Defect Notification.	03.06.15	Response received.	
135	The door selector to the entrances adjacent to Hardgate Road does not allow the doors to close over properly. The primary opening door at the entrance to the main stair intermittently does not close over and remains in the open position.	16.06.15	Closed out.	
136	Incomplete decoration and marks on walls.	18.06.15	Closed out.	
137	Seeking confirmation when the damaged cladding has been rectified.	01.07.15	Response received.	

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND
ENERGY CENTRE****SUPERVISOR'S REPORT NO. 51****JULY 2015**

John Redmond, Technical Advisory Services

Property and infrastructure
Capita, 4th Floor, 7 West Nile Street, Glasgow G1 2PR

	Signed	Date
Originated by	John Redmond	10 th August 2015
Completed by	David Ramsay	10 th August 2015

CAPITA

**NEW SOUTH GLASGOW HOSPITAL
ADULT AND CHILDREN'S HOSPITAL AND ENERGY CENTRE
NEC 3 SUPERVISORS REPORT NO. 52
AUGUST 2015**

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AUGUST 2015

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1.0 EXECUTIVE SUMMARY: ADULT & CHILDREN'S HOSPITAL

In accordance with our NEC3 Contract, this is the monthly report for August on the activities carried out and responsibilities undertaken by the NEC3 Supervisors. We continue to review the progress to remedy the defects outstanding at Stage 3 completion. We have also been reviewing the post completion defects reported in the FM Summary

We have inspected the works in relation to the air permeability testing to 36 isolation rooms and were present during testing.

Brookfield is working through the list of defects identified prior to the car park being handed over to the Client. We await confirmation when these will be complete to carry out a further inspection.

External snagging works are continuing but with some ponding areas still to be addressed, notably on the footpath near the 24 hour maternity entrance and in the walkway to the northwest of the Children's hospital entrance.

Supervisor's Notification of Defect No's, 138 and 139 were issued during August 2015.

- Seeking confirmation when the 4th Floor door in Car Park 1 has had remedial work carried out to ensure it closed properly.
- Seeking test results from Air Permeability Tests to isolation rooms.

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2.0 DESIGN COMPLIANCE CHECK

Currently nothing to report.

3.0 PROCEDURES REVIEW

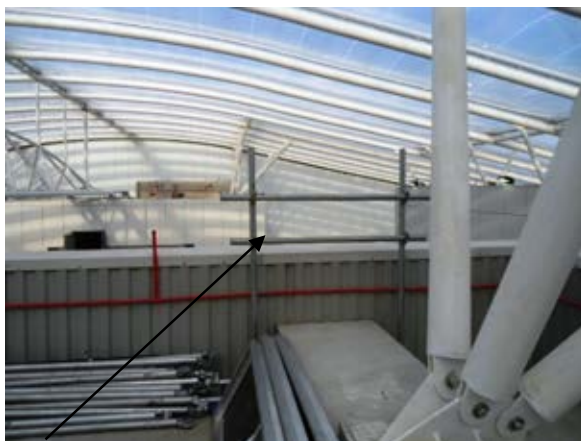
3.1 Contractor's QA Procedures / Compliance Inspections

General Inspections

During an inspection of the Children's Roof adjacent to Plantroom 41A we noted that there were no bulkhead lights fitted above the doors. There were also no lights fitted in the room on the roof providing access and egress via the cat ladder in Core L. These were not taken in the approved drawings. Brookfield has issued a communication to BMCE M&E Managers for action / response. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 246

Post Completion Inspections / Issues

There is temporary scaffolding providing perimeter protection at concrete floor beams above the cores accessed from Level 12. The client intimated that protection is required. We have asked Brookfield to confirm when this will be undertaken. They are currently arranging for this work to be carried out. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 242.



Temporary scaffolding providing perimeter protection.



Temporary scaffolding providing perimeter protection.

There is a roof leak in the children Atrium and Brookfield are in the process of addressing this problem.

We inspected damaged floor tiles in the ground floor Atrium with Brookfield. The majority of the damaged tiles are opposite the two retail outlets at the entrance and

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continue towards the third retail outlets in the main atrium. All of the damaged tiles were covered with protective tape. There were a few damaged tiles which had sustained impact damaged and these are shown below. Some of the damaged tiles which were inspected did not have a hollow sound when taped. Brookfield intend to carry out replacement to damaged tiles.



Damaged tiles at main entrance.



Damaged tiles leading from main entrance toward the retail outlet in the main atrium.



Two of the tiles has impact damage caused by what appears to be from an external source.



Tile in the Children's Hospital located opposite room CCO-047 has impact damage caused by what appears to be from an external source.

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Tile in the Children's Hospital located in the waiting area in the atrium has impact damage caused by what appears to be from an external source.

Project Manager's Schedule of Incomplete Works at Completion

Brookfield has a tracker in place which will be reviewed weekly. Six of the works from the schedule are complete. We have noted below the works which are not on programme to completion.

- New Tank Installed. Road Surfacing Completed. Switch to power Supply Panel is fitted and commissioned.
- No 24 AGV Performance Tests and Trials. Tests complete.

Post Completion Defects

Below is the current status with Defects.

Final Sweep IDMS – 41 (18 Structural)

Incident Reports – 45

FM First – 259 Open, 315 In Progress, 437 Closed.

There are numerous report of defectives in relation to the operation of the blinds. Brookfield confirmed that their sub-contractor TDSL is currently carrying out remedial works to broken blinds and is repairing not only those reported through the FM Schedule but also other defects that they discover.

ETFE Roof: Brookfield confirmed that the Roof leak was repaired on the 11th August.

3.2 Witness Testing and Commissioning.

Nothing to report.

Following the discovery that Air Permeability Tests were not carried out within 36 isolation rooms in accordance with the Employer's Requirements NHS Guidance
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Documentations, document HBN 04-01. Brookfield is undertaken tests and remedial work to ensure the rooms are compliant.

During our inspection in the Children's Hospital Ward 2A Bed 18 (SCH-068) and Bed 19 (SCH 072) air permeability testing was being carried out by RSK They are a member of the Air Tightness Testing and Measurement Association (ATTMA) which is a requirement of HBN 04 Supp to carry out the test. The tests was successfully carried out on Wednesday 26th August 2015. Work has been ongoing for a month with 36 isolation rooms to be tested. To date 10 have been tested with 5 compliant. Further Test results and data issued on Friday 4th September;-

- Schedule of Isolation rooms data.
- Drawings highlighting individual rooms, noted accordingly with actions and test data.
- Air Permeability Testing from RSK.
- Isolation Room Schiehallion Ward L2- Hepa filter integrity Test report of 6th +7th June '15.
- Copy of RDS's for Schiehallion ward
- Work to the other 5 rooms are required. We noted that there were cracks appearing in plasterboard joints in the soffit at the window. Brookfield confirmed that these would be sealed and painted.

Brookfield has responded from the Defect Notice that they are in the process of carrying out test to these rooms and any necessary work to ensure that they comply. They have provided the test results and confirm works are ongoing to complete.

We have asked Brookfield to provide us with the test results for all room and confirm when the works are complete.



See Supervisor's Notification of Defect (C 42.2) No 139.

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SUPERVISOR'S REPORT NO. 52**AUGUST 2015****3.2 Witness Testing and Commissioning,**

Currently nothing to report.

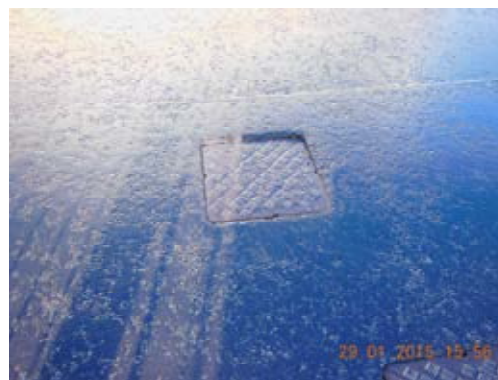
3.3 Board Equipment Installation,

Currently nothing to report.

3.4 Non Conformance Reports

Currently nothing to report.

An NCR has also been raised in relation to manholes which are below the level of the surrounding tar. (See photo opposite.)

**4.0 CONSTRUCTION REVIEW****4.1 Visits to the Works**

Site inspections were carried out by the NEC3 Supervisor's on the 6th, 10th, 14th, 18th 19th 26th and 31st August 2015.

4.2 Elements of the Works available for inspection

Snagging work to externals

4.3 Current Observations

The visual inspections of the work carried out to date indicate that the works are generally being carried out to a satisfactory standard. We continue to be assisted by the site teams and the NHS Project Team in resolving various construction, mechanical, electrical, and quality issues. We continue to close out our Supervisor's Notification and Defects when we have received satisfactory responses.

4.3.1 Structural and Civil Works

Car Park 1.

Brookfield is still working through the list of defects identified prior to the car park being handed over to the Client. They have informed us that CLAD UK are no longer trading

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consequently there is unfinished work. Brookfield is awaiting Dunnes getting back to them about the outstanding items.
Maternity VIE.

We have received drawings from Brookfield showing the piles, slab and walls. We will continue to monitor this work.

4.3.2 Children's Area

Nothing to report

4.3.3 External Works

Local ponding on the north side of Govan Road, previously reported, is seemingly a Glasgow City Council issue. The footpath ponding at the extended footpath area on the east side of the maternity unit remains outstanding and in the hardstanding to the northwest of the children's hospital, all as reported in more detail below.

Govan Road/Renfrew Road & ACH Entrance Road.

Road surfacing work has been completed on the dual carriageway leading to Govan Road, and at the south of the main building, with a generally good quality finish. Local ponding on the north side of Govan Road remains outstanding. The footpath ponding at the extended footpath area on the east side of the maternity unit remains outstanding.

We advised the Brookfield team on 16th December that ponding on the new extended footpath to the east side of the maternity unit has the potential to be a significant slip hazard in cold weather. We asked them to confirm their action to address this hazard. Brookfield has confirmed that Land Engineering have been instructed to lift the full width of tar and re-lay with a fall from the ramp to the new road kerb.

Brookfield had confirmed that work would commence week beginning 13th April. However they are awaiting an asphalt squad. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 237).



Footpath to the east side of the maternity unit.

Ponding is also apparent locally on the granite hardstanding in places around the main Children's entrance canopy. Wind-blown surface water on the canopy is not being

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collected at canopy level in many places. Brookfield are aware of this and are in liaison with their subcontractor to try to resolve.

Significant local ponding has also become apparent on the route from the Children's main entrance to the covered bicycle stand near the Hardgate Road multi storey car park, just west of the children's hospital main entrance. Brookfield are aware of this and are working with their subcontractor, Land Engineering to come up with an acceptable solution.

4.3.4 Mechanical Services

Nothing to report.

4.3.5 Electrical Services

Nothing to report.

4.3.6 Doors

Nothing to report.

4.3.7 Windows

Nothing to report.

4.3.8 Ducting

Nothing to report.

4.3.9 Floors

Nothing to report.

4.3.10 Blockwork

Nothing to report.

4.3.11 Heating

4.4 Current Defects.

Some of the outlets taking the rainwater from the top level of the Car park are too high consequently water is ponding in the recessed channels. The client has agreed that any remedial work would exacerbate the problem.

The capping piece on the north facing elevation of the Children's Hospital has two discoloured areas. We asked Brookfield to confirm their remedial action to address this and confirm when complete. They have confirmed that if the marks can't be cleaned off, Prater will paint repair or replace panels if required. See outstanding works list. See Supervisor's Notification of Defect (CI 42.2) No 88.

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The NHS Fire Risk Assessor has been on site and noted that the air sampling unit within General Theatre One on the second floor has been painted over. We also noted that another unit in Theatre 4 has been partially painted over. These should be paint free. There is also an air sampling unit in the main Atrium north facing wall which we asked Brookfield to confirm when these are addressed. They have confirmed that the painted over sampling point has been rectified. Brookfield intimated that the point on the North wall has been pulled back on Level 5 but would need to look specifically. Gary Kimmins from Mercury is aware of it but requires rope access. We await confirmation when this will be dealt with. See Supervisor's Notification of Defect (CI 42.2) No 93.

The joints at window cills are opening up. We asked Brookfield to confirm their remedial action to resolve this problem. They have filled and painted the joints but they have opened up again. They are sealing a joint with sealant to determine if this is a better solution. We await their response. See Supervisor's Notification of Defect (CI 42.2) No 99



Following a joint inspection of the theatres and adjoining rooms on Level 2 we identified cracks in the following rooms:

THE-124 General Theatre 6 ENT: Crack below the window.

THE-232 Interventional 1 Vasco/Urology: Horizontal crack right hand side of the touch screen.

Following a joint inspection of Car Park 1 we identified various defects / snags which were issued to Brookfield. We asked them to confirm when these have been addressed. We have recently undertaken a joint inspection with Brookfield and noted that some of the Defects have been rectified. They are attending to the remaining outstanding Defect. See Supervisor's Notification of Defect (CI 42.2) No 116.

The Board have employed Competent Body Zurich Engineering to undertake an inspection of the pressure systems associated with the new buildings and systems handed over on 26th January 2015. This was done in order produce the statutory written scheme required under the Pressure Systems Safety Regulations (PSSR) 2000 for the safe operation and inspection of relevant systems.

During their review, a number of defects have been found within the installed plant. Brookfield has responded as follows.

- 1) Configuration of boiler safety valves.

Brookfield response: Design drawings being discussed with NHS and Zurich 02/06/15.

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- 2) A safe method of discharge of medium pressure/temperature water and steam blow off from boilers (120 degC / 5.7bar).
Brookfield response: Design drawings being discussed with NHS and Zurich 02/06/15.
- 3) Certificate of Conformity for boilers.
Brookfield response: Issued to NHS Zurich.
- 4) Certificate of Conformity for economisers.
Brookfield response: Issued to NHS Zurich.
- 5) Certificate of conformity for all pressure systems pipework.
Brookfield response: Issued to NHS Zurich.
- 6) CE marking of pressure vessels and heat exchangers.
Brookfield response: Complete.
- 7) Pressurisation Units – safety vales rating and fixing requirements.
Brookfield response: Complete.
- 8) Boiler drain points.
Brookfield response: Complete.

We asked Brookfield to confirm their plans to rectify the above points and any interim operational solutions that may have to be employed to enable the Board to bring the facilities into full operation on 24th April 2015. We also asked them to confirm when all items will be fully rectified. Brookfield has responded as above and have stated that a further inspection will be required by Zurich following the Mercury remedial works. Supervisor's Notification of Defect (CI 42.2) No 124.

Following recent excavations around the buildings to expose and repair collapsed main drains, the Board request video surveys to be undertaken and reports provided of the repaired drain runs and also other neighbouring runs that may have been affected by proximity to the 200t crane. Brookfield has confirmed that they passed this to their Managers and we await their response. See Supervisor's Notification of Defect (CI 42.2) No 125.

The Bicycle Shelter roof does not drain rainwater to the two corner outlets, consequently the rainwater is ponding. We asked Brookfield to confirm their proposed remedial action to resolve this defect. They have confirmed that following a meeting with the designer a level survey is required. The plan is to introduce a further outlet. See Supervisor's Notification of Defect (CI 42.2) No 129.



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The concrete joint between the 6th floor and the down ramp is break up. We asked Brookfield to confirm the remedial measures to address this defect. They have instructed Dunne to carry out remedial works. See Supervisor's Notification of Defect (CI 42.2) No 132.



The remaining defects as listed below have been amalgamated under Supervisor's Notification of Defect (CI 42.2) No 134.

Below is the current status of the outstanding Defects.

Level 00 –	60	Level 00 –	10
Level 01 –	12	Level 01 –	03
Level 02 –	39	Level 02 –	08
Level 03 –	01	Level 03 –	01
Level 05 –	01	Level 05 –	
Level 08 –	03	Level 08 –	
Level 09 –	01	Level 09 –	01
Level 10 –	09	Level 10 –	
Level 11 –	06	Level 11 –	
Total Defects at inspection 132		Total Defects remaining to be complete 23	

It appears that the cladding on the west facing elevation has been damaged and an unsuccessful attempt has been made to repair the damage. We asked Brookfield to confirm when this defect has been rectified. They have confirmed that this has been passed onto the sub-contractor Prater to rectify the unsuccessful attempt at the repair. See Supervisor's Notification of Defect (CI 42.2) No 137.



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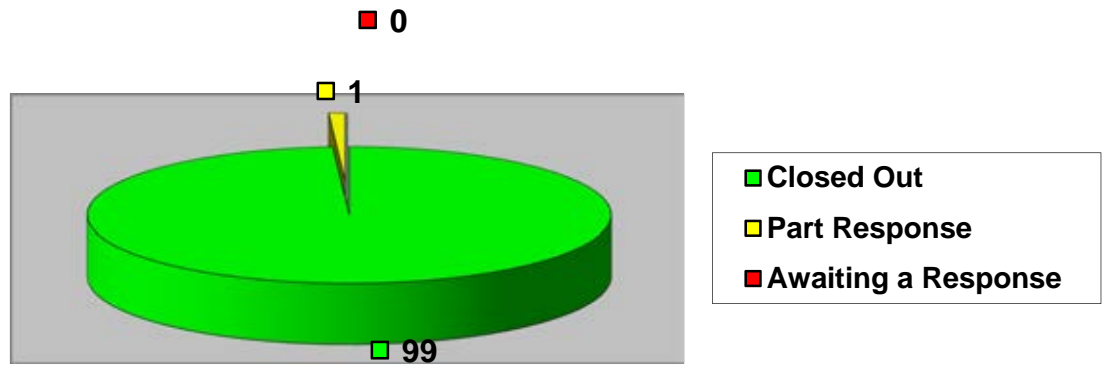
AUGUST 2015

The fire door providing access into the Car Park on the 4th Floor is not closing over properly. We raised this with Brookfield and the defect was remedied. See Supervisor's Notification of Defect (CI 42.2) No 138.

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5.0 INFORMATION REQUIRED



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Item No.	Description	Date Requested	Comment	
Items 1 to 198 have been closed out				
199	There are gaps in the thermal insulation in back box of remote TVR's. Confirm remedial action.	20.03.14	Closed out.	
Items 200 to 236 have been closed out				
237	Seeking confirmation on Brookfield's action to address the ponding to the footpath to the east side of the maternity unit.	08.01.15	Response received.	
Items 240 to 241 have been closed out				
242	Seeking confirmation if permanent perimeter protection will be fitted above cores accessed from Level 12.	25.02.15	Response received.	
Items 243 to 244 have been closed out				
245	Confirm that 'CAUTION-VERY HOT WATER' notices will be fitted to all hot water outlets provided for food hygiene and decontamination.	19.03.15	Closed out.	
246	No lights fitted to above the doors leading from the room to plantroom 41A	30.03.15	Response received.	
Items 247 to 251 have been closed out				

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6.0 SUPERVISORS TESTS AND INSPECTIONS

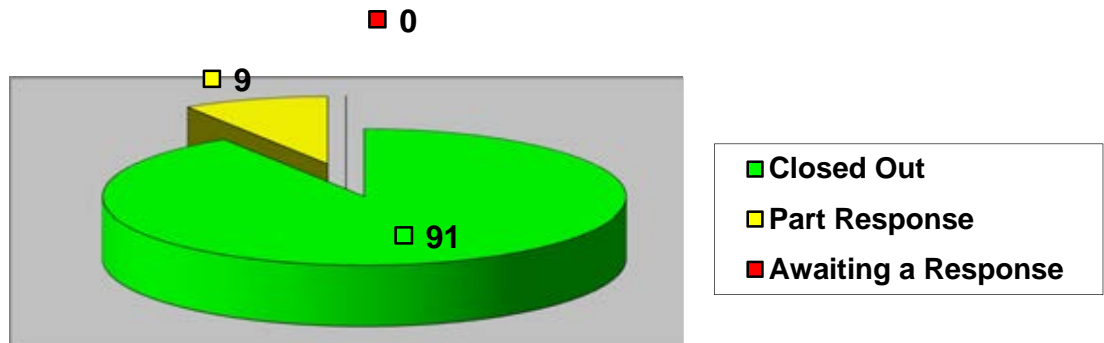
Tests not required	N/A
Tests required but not tested	Fail
Tests required which has passed tests	Pass

Tests				
Ref	Title	To be Notified by	Status	Test Date
01-377	Various tests undertaken and passed from the 09. 07.2012 To the 22.01 2015.			
378	Fire shut down test of AHU's during fire activity. PR21 AHU 19 did not shut down.	Brookfield	Retested successfully but not present. See Supervisor's Report No 50	23.01.2015
379-381	Various tests undertaken and passed from the 23. 01.2015 to the 02.04 2015.			

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7.0 DEFECTS NOTIFICATIONS ISSUED



NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND ENERGY CENTRE

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	Description	Date Requested	Comment	
Items 1 to 82 have been closed out.				
83	Seeking confirmation of remedial action to resolve ponding.	13.11.14	Response received.	
Items 84 to 87 have been closed out.				
88	Seeking confirmation of remedial measures to address the discolouration of the capping pieces.	20.11.14	Response received.	
Items 89 to 91 have been closed out.				
92	There are insufficient power points in rooms END-033 and END-035. Seeking confirmation when addressed.	30.01.15	Closed out.	
93	Confirm when the air sampling unit within General Theatre One and Theatre 4 are paint free and the unit in the Atrium has been fitted properly.	05.02.15	Response received.	
Items 94 to 98 have been closed out.				
99	Confirm to open window cill joints.	24.02.15	Response received.	
Items 100 to 115 have been closed out.				
116	Various defects car Park 1.	08.04.15	Response received.	
Items 117 to 123 have been closed out.				
124	Defects in relation to the Zurich Engineers inspection.	16.04.15	Response received.	
125	Seeking video surveys with reject to drain repairs.	16.04.15	Response received.	
Items 126 to 128 have been closed out.				
129	Ponding to Bicycle Shelter.	11.05.15	Response received.	
130	Various external fabric defects.	11.05.15	Response received.	
131	PIR not functioning in room STW-041.	11.05.15	Closed out.	
132	6th floor down ramp is break up.	13.05.15	Response received.	
133	Ponding to main pedestrian entrance to Car Park 1.	13.05.15	Closed out.	
134	The defects identified in Supervisor's Notifications of Defects No 106, 107, 112, 113, 115, 117, 118, 121, 126 and 128 have been either completed or substantially completed. These have been closed out and the remaining defects amalgamated under this Defect Notification.	03.06.15	Response received.	
135	The door selector to the entrances adjacent to Hardgate Road does not allow the doors to close over properly. The primary opening door at the entrance to the main stair intermittently does not close over and remains in the open position.	16.06.15	Closed out.	
136	Incomplete decoration and marks on walls.	18.06.15	Closed out.	
137	Seeking confirmation when the damaged cladding has been rectified.	01.07.15	Response received.	
138	4th floor door in the Car Park does not close over properly.	18.08.15	Closed out.	
139	Confirm when Air Permeability Tests and associated remedial works are complete and provide test results.	02.09.15	Response received.	

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND
ENERGY CENTRE****SUPERVISOR'S REPORT NO. 52****AUGUST 2015**

John Redmond, Technical Advisory Services

Property and infrastructure

Capita, The Beacon, 8th Floor, 176 St Vincent Street, Glasgow G2 5SG

	Signed	Date
Originated by	John Redmond	9 th September 2015
Completed by	John Kilbane	9 th September 2015

CAPITA

**NEW SOUTH GLASGOW HOSPITAL
ADULT AND CHILDREN'S HOSPITAL AND ENERGY CENTRE
NEC 3 SUPERVISORS REPORT NO. 53
SEPTEMBER 2015**

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1.0 EXECUTIVE SUMMARY: ADULT & CHILDREN'S HOSPITAL

In accordance with our NEC3 Contract, this is the monthly report for September on the activities carried out and responsibilities undertaken by the NEC3 Supervisors. We continue to review the progress to remedy the defects outstanding at Stage 3 completion. We have also been reviewing the post completion defects reported in the FM Summary

We have inspected the works in relation to the air permeability testing to 36 isolation rooms.

Brookfield is working through the list of defects identified prior to the car park being handed over to the Client. We await confirmation when these will be complete to carry out a further inspection.

External snagging works are continuing but with some ponding areas still to be addressed, notably on the footpath near the 24 hour maternity entrance and in the walkway to the northwest of the Children's hospital entrance.

Supervisor's Notification of Defect No 139, and 140 were issued during September.

- Seeking confirmation when Air Permeability Tests and associated remedial works are complete and provide test results.
- Seeking confirmation when the defective spindles to privacy visicom panels to timber doors and screens have been addressed.

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2.0 DESIGN COMPLIANCE CHECK

Currently nothing to report.

3.0 PROCEDURES REVIEW

3.1 Contractor's QA Procedures / Compliance Inspections

General Inspections

During an inspection of the Children's Roof adjacent to Plantroom 41A we noted that there were no bulkhead lights fitted above the doors. There were also no lights fitted in the room on the roof providing access and egress via the cat ladder in Core L. These were not taken in the approved drawings. Brookfield has issued a communication to BMCE M&E Managers for action / response. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 246

Post Completion Inspections / Issues

There is temporary scaffolding providing perimeter protection at concrete floor beams above the cores accessed from Level 12. The client intimated that protection is required. We have asked Brookfield to confirm when this will be undertaken. They are currently arranging for this work to be carried out. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 242.



Temporary scaffolding providing perimeter protection.



Temporary scaffolding providing perimeter protection.

SUPERVISOR'S REPORT NO. 53**SEPTEMBER 2015**Post Completion Defects

Below is the current status with Defects.

Final Sweep – 8 (18 Structural)

FM First Summary – 157 Open, 215 In Progress, 1270 Closed of these 13 were not defects.

There are numerous report of defects in relation to the operation of the blinds. Brookfield confirmed that their sub-contractor TDSL is currently carrying out remedial works to broken blinds and is repairing not only those reported through the FM Schedule but also other defects that they discover.

3.2 Witness Testing and Commissioning.

Nothing to report.

Following the discovery that Air Permeability Tests were not carried out within 36 isolation rooms in accordance with the Employer's Requirements NHS Guidance Documentations, document HBN 04-01. Brookfield is undertaken tests and remedial work to ensure the rooms are compliant.



During our inspection in the Hospital in September we were present during air permeability testing of room CCW-077 Bed 31. Additional work had to be carried out to the window beads by refitting them and fixing the screw heads with caps. Brookfield has been providing us with the test results for all rooms. There are currently 6 rooms requiring to be tested, 2 in Renal and 4 in Schiehallion. See Supervisor's Notification of Defect (C 42.2) No 138.

3.2 Witness Testing and Commissioning,

Currently nothing to report.

3.3 Board Equipment Installation,

Currently nothing to report.

3.4 Non Conformance Reports

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SEPTEMBER 2015

Currently nothing to report.

An NCR has also been raised in relation to manholes which are below the level of the surrounding tar. (See photo opposite.)



4.0 CONSTRUCTION REVIEW

4.1 Visits to the Works

Site inspections were carried out by the NEC3 Supervisor's on the 2nd, 9th, 16th, 23rd and 30th September 2015.

4.2 Elements of the Works available for inspection

Snagging work to externals

4.3 Current Observations

The visual inspections of the work carried out to date indicate that the works are generally being carried out to a satisfactory standard. We continue to be assisted by the site teams and the NHS Project Team in resolving various construction, mechanical, electrical, and quality issues. We continue to close out our Supervisor's Notification and Defects when we have received satisfactory responses.

4.3.1 Structural and Civil Works

Car Park 1.

Brookfield is still working through the list of defects identified prior to the car park being handed over to the Client. They have informed us that CLAD UK are no longer trading consequently there is unfinished work. Brookfield is awaiting Dunnes getting back to them about the outstanding items.

Maternity VIE.

We have received drawings from Brookfield showing the piles, slab and walls. We will continue to monitor this work.

4.3.2 Children's Area

Nothing to report

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NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND ENERGY CENTRE

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4.3.3 External Works

Local ponding on the north side of Govan Road, previously reported, is seemingly a Glasgow City Council issue. The footpath ponding at the extended footpath area on the east side of the maternity unit remains outstanding and in the hardstanding to the northwest of the children's hospital, all as reported in more detail below.

Govan Road/Renfrew Road & ACH Entrance Road.

Road surfacing work has been completed on the dual carriageway leading to Govan Road, and at the south of the main building, with a generally good quality finish. Local ponding on the north side of Govan Road remains outstanding. The footpath ponding at the extended footpath area on the east side of the maternity unit remains outstanding.

We advised the Brookfield team on 16th December that ponding on the new extended footpath to the east side of the maternity unit has the potential to be a significant slip hazard in cold weather. We asked them to confirm their action to address this hazard. Brookfield has confirmed that Land Engineering have been instructed to lift the full width of tar and re-lay with a fall from the ramp to the new road kerb.

Brookfield had confirmed that work would commence week beginning 13th April. However they are awaiting an asphalt squad. (See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 237).



Footpath to the east side of the maternity unit.

Ponding is also apparent locally on the granite hardstanding in places around the main Children's entrance canopy. Wind-blown surface water on the canopy is not being collected at canopy level in many places. Brookfield are aware of this and are in liaison with their subcontractor to try to resolve.

Significant local ponding has also become apparent on the route from the Children's main entrance to the covered bicycle stand near the Hardgate Road multi storey car park, just west of the children's hospital main entrance. Brookfield are aware of this and are working with their subcontractor, Land Engineering to come up with an acceptable solution.

NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND ENERGY CENTRE

SUPERVISOR'S REPORT NO. 53

SEPTEMBER 2015

4.3.4 Mechanical Services

We received copies of the water test results and these were satisfactory.

4.3.5 Electrical Services

Nothing to report.

4.3.6 Doors

Nothing to report.

4.3.7 Windows

Nothing to report.

4.3.8 Ducting

Nothing to report.

4.3.9 Floors

Nothing to report.

4.3.10 Blockwork

Nothing to report.

4.3.11 Heating

4.4 Current Defects.

Some of the outlets taking the rainwater from the top level of the Car park are too high consequently water is ponding in the recessed channels. The client has agreed that any remedial work would exacerbate the problem.

The capping piece on the north facing elevation of the Children's Hospital has two discoloured areas. We asked Brookfield to confirm their remedial action to address this and confirm when complete. They have confirmed that if the marks can't be cleaned off, Prater will paint repair or replace panels if required. See outstanding works list. See Supervisor's Notification of Defect (CI 42.2) No 88.

The NHS Fire Risk Assessor has been on site and noted that the air sampling unit within General Theatre One on the second floor has been painted over. We also noted that another unit in Theatre 4 has been partially painted over. These should be paint free. There is also an air sampling unit in the main Atrium north facing wall which we asked Brookfield to confirm when these are addressed. They have confirmed that the painted over sampling point has been rectified. Brookfield intimated that the point on the North wall has been pulled back on Level 5 but would need to look specifically. Gary Kimmins from Mercury is aware of it but requires rope access. We await

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confirmation when this will be dealt with. See Supervisor's Notification of Defect (CI 42.2) No 93.

The joints at window cills are opening up. We asked Brookfield to confirm their remedial action to resolve this problem. They have filled and painted the joints but they have opened up again. They are sealing a joint with sealant to determine if this is a better solution. We await their response. See Supervisor's Notification of Defect (CI 42.2) No 99



Following a joint inspection of the theatres and adjoining rooms on Level 2 we identified cracks in the following rooms:

THE-124 General Theatre 6 ENT: Crack below the window.

THE-232 Interventional 1 Vasco/Urology: Horizontal crack right hand side of the touch screen.

Following a joint inspection of Car Park 1 we identified various defects / snags which were issued to Brookfield. We asked them to confirm when these have been addressed. We have recently undertaken a joint inspection with Brookfield and noted that some of the Defects have been rectified. They are attending to the remaining outstanding Defect. See Supervisor's Notification of Defect (CI 42.2) No 116.

The Board have employed Competent Body Zurich Engineering to undertake an inspection of the pressure systems associated with the new buildings and systems handed over on 26th January 2015. This was done in order produce the statutory written scheme required under the Pressure Systems Safety Regulations (PSSR) 2000 for the safe operation and inspection of relevant systems.

During their review, a number of defects have been found within the installed plant. Brookfield responded as follows. All of the relevant documentation is with Zurich and Brookfield await the Assembly Declaration of Conformity.

- 1) Configuration of boiler safety valves.
Brookfield response: Design drawings were discussed with NHS and Zurich and this is now complete.
- 2) A safe method of discharge of medium pressure/temperature water and steam blow off from boilers (120 degC / 5.7bar).
Brookfield response Design drawings were discussed with NHS and Zurich and this is now complete.
- 3) Certificate of Conformity for boilers.
Brookfield response: Issued to NHS Zurich.
- 4) Certificate of Conformity for economisers.
Brookfield response: Issued to NHS Zurich.
- 5) Certificate of conformity for all pressure systems pipework.

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Brookfield response: Issued to NHS Zurich.

- 6) CE marking of pressure vessels and heat exchangers.

Brookfield response: Complete.

- 7) Pressurisation Units – safety valves rating and fixing requirements.

Brookfield response: Complete.

- 8) Boiler drain points.

Brookfield response: Complete.

All of the relevant documentation is with Zurich and Brookfield await the Assembly Declaration of Conformity. Supervisor's Notification of Defect (CI 42.2) No 124.

Following recent excavations around the buildings to expose and repair collapsed main drains, the Board request video surveys to be undertaken and reports provided of the repaired drain runs and also other neighbouring runs that may have been affected by proximity to the 200t crane. Brookfield has confirmed that they passed this to their Managers and we await their response. See Supervisor's Notification of Defect (CI 42.2) No 125.

The Bicycle Shelter roof does not drain rainwater to the two corner outlets, consequently the rainwater is ponding. We asked Brookfield to confirm their proposed remedial action to resolve this defect. They have confirmed that following a meeting with the designer a level survey is required. The plan is to introduce a further outlet. See Supervisor's Notification of Defect (CI 42.2) No 129.



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The concrete joint between the 6th floor and the down ramp is breaking up. We asked Brookfield to confirm the remedial measures to address this defect. They have instructed Dunne to carry out remedial works. See Supervisor's Notification of Defect (CI 42.2) No 132.



The remaining defects as listed below have been amalgamated under Supervisor's Notification of Defect (CI 42.2) No 134.

Below is the current status of the outstanding Defects.

Level 00 –	60	Level 00 –	04
Level 01 –	12	Level 01 –	01
Level 02 –	39	Level 02 –	03
Level 03 –	01	Level 03 –	
Level 05 –	01	Level 05 –	
Level 08 –	03	Level 08 –	
Level 09 –	01	Level 09 –	
Level 10 –	09	Level 10 –	
Level 11 –	06	Level 11 –	
Total Defects at inspection 132		Total Defects remaining to be complete 08	

It appears that the cladding on the west facing elevation has been damaged and an unsuccessful attempt has been made to repair the damage. We asked Brookfield to confirm when this defect has been rectified. They have confirmed that this has been passed onto the sub-contractor Prater to rectify the unsuccessful attempt at the repair. See Supervisor's Notification of Defect (CI 42.2) No 137.



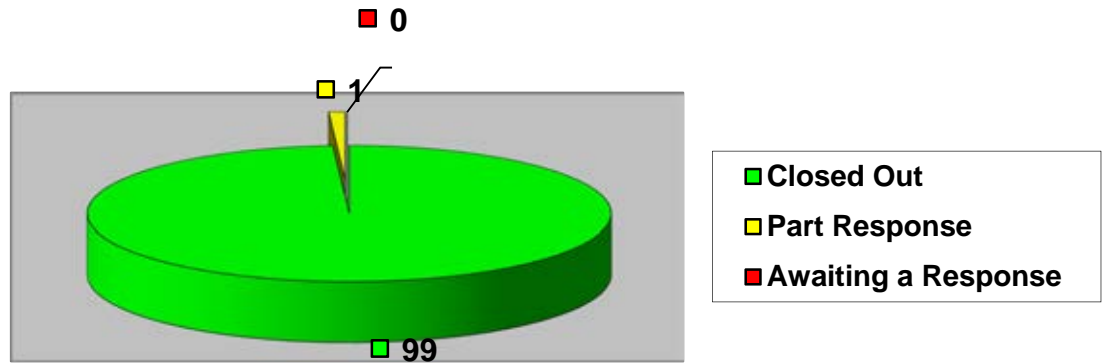
SUPERVISOR'S REPORT NO. 53**SEPTEMBER 2015**

There are Defective spindles to privacy visicom panels within timber doors and screens throughout the hospital. This is due to the nylon washer being reshaped by the spindle under the weight of the glass. This has led to the spindle being unable to move the washer as their shapes are incompatible. We have asked Brookfield to confirm when this defect will be addressed throughout the hospital. See Supervisor's Notification of Defect (CI 42.2) No 140.

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5.0 INFORMATION REQUIRED



NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND ENERGY CENTRE

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SEPTEMBER 2015

Item No.	Description	Date Requested	Comment	
Items 1 to 198 have been closed out				
199	There are gaps in the thermal insulation in back box of remote TVR's. Confirm remedial action.	20.03.14	Closed out.	
Items 200 to 236 have been closed out				
237	Seeking confirmation on Brookfield's action to address the ponding to the footpath to the east side of the maternity unit.	08.01.15	Response received.	
Items 240 to 241 have been closed out				
242	Seeking confirmation if permanent perimeter protection will be fitted above cores accessed from Level 12.	25.02.15	Response received.	
Items 243 to 244 have been closed out				
245	Confirm that 'CAUTION-VERY HOT WATER' notices will be fitted to all hot water outlets provided for food hygiene and decontamination.	19.03.15	Closed out.	
246	No lights fitted to above the doors leading from the room to plantroom 41A	30.03.15	Response received.	
Items 247 to 251 have been closed out				

NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND ENERGY CENTRE

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6.0 SUPERVISORS TESTS AND INSPECTIONS

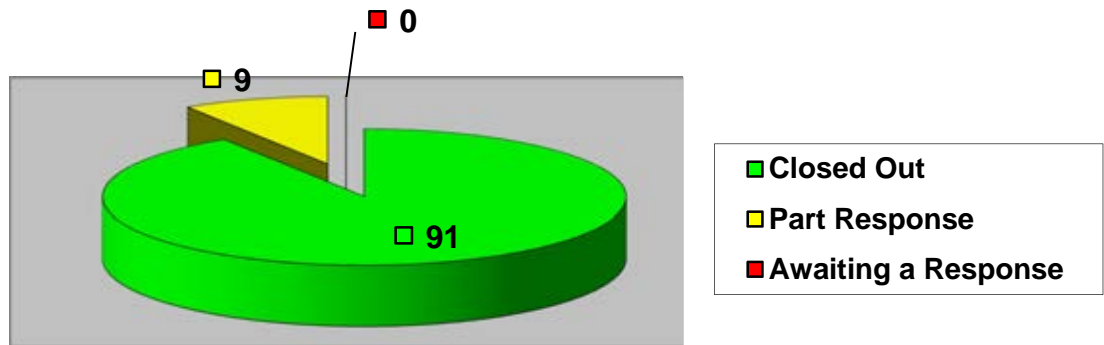
Tests not required	N/A
Tests required but not tested	Fail
Tests required which has passed tests	Pass

Tests				
Ref	Title	To be Notified by	Status	Test Date
01-377	Various tests undertaken and passed from the 09. 07.2012 To the 22.01 2015.			
378	Fire shut down test of AHU's during fire activity. PR21 AHU 19 did not shut down.	Brookfield	Retested successfully but not present. See Supervisor's Report No 50	23.01.2015
379-381	Various tests undertaken and passed from the 23. 01.2015 to the 02.04 2015.			

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SEPTEMBER 2015

7.0 DEFECTS NOTIFICATIONS ISSUED



NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND ENERGY CENTRE

SUPERVISOR'S REPORT NO. 53

SEPTEMBER 2015

	Description	Date Requested	Comment	
Items 1 to 82 have been closed out.				
83	Seeking confirmation of remedial action to resolve ponding.	13.11.14	Response received.	
Items 84 to 87 have been closed out.				
88	Seeking confirmation of remedial measures to address the discolouration of the capping pieces.	20.11.14	Response received.	
Items 89 to 91 have been closed out.				
92	There are insufficient power points in rooms END-033 and END-035. Seeking confirmation when addressed.	30.01.15	Closed out.	
93	Confirm when the air sampling unit within General Theatre One and Theatre 4 are paint free and the unit in the Atrium has been fitted properly.	05.02.15	Response received.	
Items 94 to 98 have been closed out.				
99	Confirm to open window cill joints.	24.02.15	Response received.	
Items 100 to 115 have been closed out.				
116	Various defects car Park 1.	08.04.15	Response received.	
Items 117 to 123 have been closed out.				
124	Defects in relation to the Zurich Engineers inspection.	16.04.15	Response received.	
125	Seeking video surveys with reject to drain repairs.	16.04.15	Response received.	
Items 126 to 128 have been closed out.				
129	Ponding to Bicycle Shelter.	11.05.15	Response received.	
130	Various external fabric defects.	11.05.15	Response received.	
131	PIR not functioning in room STW-041.	11.05.15	Closed out.	
132	6th floor down ramp is break up.	13.05.15	Response received.	
133	Ponding to main pedestrian entrance to Car Park 1.	13.05.15	Closed out.	
134	The defects identified in Supervisor's Notifications of Defects No 106, 107, 112, 113, 115, 117, 118, 121, 126 and 128 have been either completed or substantially completed. These have been closed out and the remaining defects amalgamated under this Defect Notification.	03.06.15	Response received.	
135	The door selector to the entrances adjacent to Hardgate Road does not allow the doors to close over properly. The primary opening door at the entrance to the main stair intermittently does not close over and remains in the open position.	16.06.15	Closed out.	
136	Incomplete decoration and marks on walls.	18.06.15	Closed out.	
137	Seeking confirmation when the damaged cladding has been rectified.	01.07.15	Response received.	
138	4th floor door in the Car Park does not close over properly.	18.08.15	Closed out.	
139	Confirm when Air Permeability Tests and associated remedial works are complete and provide test results.	02.09.15	Response received.	
140	Defective spindles to privacy visicom panels to timber doors and screens.	29.09.15	Awaiting a response	

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**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND
ENERGY CENTRE****SUPERVISOR'S REPORT NO. 53****SEPTEMBER 2015**

John Redmond, Technical Advisory Services

Property and infrastructure

Capita, 4th Floor, 7 West Nile Street, Glasgow G1 2PR

	Signed	Date
Originated by	John Redmond	13 th October 2015
Completed by	David Ramsay	13 ^h October 2015

CAPITA

**NEW SOUTH GLASGOW HOSPITAL
ADULT AND CHILDREN'S HOSPITAL AND ENERGY CENTRE
NEC 3 SUPERVISORS REPORT NO. 54
OCTOBER 2015**

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND
ENERGY CENTRE**

SUPERVISOR'S REPORT NO. 54

OCTOBER 2015

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**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND
ENERGY CENTRE**

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1.0 EXECUTIVE SUMMARY: ADULT & CHILDREN'S HOSPITAL

In accordance with our NEC3 Contract, this is the monthly report for October on the activities carried out and responsibilities undertaken by the NEC3 Supervisors. We continue to review the progress to remedy the defects outstanding at Stage 3 completion. We have also been reviewing the post completion defects reported in the FM Summary

We have inspected the works in relation to the air permeability testing to 36 isolation rooms.

Brookfield is working through the list of defects identified prior to the car park being handed over to the Client. We await confirmation when these will be complete to carry out a further inspection.

External snagging works are continuing but with some ponding areas still to be addressed, notably on the footpath near the 24 hour maternity entrance and in the walkway to the northwest of the Children's hospital entrance.

This month we attended a General Progress and Catch up Meeting with the Board and the Brookfield. We reported that Brookfield were dealing effectively with the post completion defects reported by the Board and residual defects which we raised.

We carried out an inspection of the Ward 4B with the Board and Brookfield following the works to ensure the rooms had an air flow between 5 and 10 pascals. Brookfield presented the Board with a handover file which contained all the test certificates in relation to the works.

During October we were in attendance during the successful air permeability test carried out in rooms A4 RENW-043 and A4 RENW-044

Supervisor's Notification of Defect No 141 was issued during October.

- Seeking the cards/key numbers for the Bristol maid drugs cupboards.

SUPERVISOR'S REPORT NO. 54**OCTOBER 2015****2.0 DESIGN COMPLIANCE CHECK**

Currently nothing to report.

3.0 PROCEDURES REVIEW**3.1 Contractor's QA Procedures / Compliance Inspections**

This month we attended a General Progress and Catch up Meeting with the Board and the Brookfield. We reported that Brookfield were dealing effectively with the post completion defects reported by the Board and the residual defects which we raised.

General Inspections

We inspected Level 4 Ward 4B and noted a variation to the paint colour in areas which have been touched up. Brookfield has confirmed that they will be painting out entire walls where this occurs. Brookfield intend to refit ceiling tiles when the work is complete.

A further inspection was carried out in Ward 4B with the Board and Brookfield following the works. This was to ensure that the rooms had an air flow between 5 and 10 pascals. Brookfield presented the Board with a handover file which contained all the test certificates in relation to the works.

During an inspection of the Children's Roof adjacent to Plantroom 41A we noted that there were no bulkhead lights fitted above the doors. There were also no lights fitted in the room on the roof providing access and egress via the cat ladder in Core L. These were not taken in the approved drawings. Brookfield has issued a communication to BMCE M&E Managers for action / response. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 246

Post Completion Inspections / Issues

There is temporary scaffolding providing perimeter protection at concrete floor beams above the cores accessed from Level 12. The client intimated that protection is required. Brookfield has confirmed that M&S Engineering has taken site measurements and we await a date when the work will commence. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 242.



Temporary scaffolding providing perimeter protection.

SUPERVISOR'S REPORT NO. 54

OCTOBER 2015



Temporary scaffolding providing perimeter protection.

Post Completion Defects

Below is the current status with Defects.

Final Sweep – 8 (18 Structural)

FM First Summary – 196 Open, 196 In Progress, 1517 Closed.

There are numerous report of defects in relation to the operation of the blinds. Brookfield confirmed that their sub-contractor TDSL is currently carrying out remedial works to broken blinds and is repairing not only those reported through the FM Schedule but also other defects that they discover.

3.2 Witness Testing and Commissioning.

Following the discovery that Air Permeability Tests were not carried out within 36 isolation rooms in accordance with the Employer's Requirements NHS Guidance Documentations, document HBN 04-01. Brookfield is undertaken tests and remedial work to ensure the rooms are compliant.

During October we were in attendance during the successful air permeability test carried out in rooms A4 RENW-043 and A4 RENW-044. There are currently 2 in Schiehallion still to be tested. See Supervisor's Notification of Defect (C 42.2) No 139.



NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND ENERGY CENTRE

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OCTOBER 2015

3.2 Witness Testing and Commissioning,

Currently nothing to report.

3.3 Board Equipment Installation,

Currently nothing to report.

3.4 Non Conformance Reports

Currently nothing to report.

An NCR has also been raised in relation to manholes which are below the level of the surrounding tar. (See photo opposite.)



4.0 CONSTRUCTION REVIEW

4.1 Visits to the Works

Site inspections were carried out by the NEC3 Supervisor's on the 7th, 15th, 20th, and 28th October 2015.

4.2 Elements of the Works available for inspection

Snagging work to externals

4.3 Current Observations

The visual inspections of the work carried out to date indicate that the works are generally being carried out to a satisfactory standard. We continue to be assisted by the site teams and the NHS Project Team in resolving various construction, mechanical, electrical, and quality issues. We continue to close out our Supervisor's Notification and Defects when we have received satisfactory responses.

4.3.1 Structural and Civil Works

Car Park 1.

Brookfield is still working through the list of defects. They have informed us that CLAD UK are no longer trading consequently there is unfinished work. Brookfield is awaiting Dunnes getting back to them about the outstanding items.

SUPERVISOR'S REPORT NO. 54

OCTOBER 2015

Maternity VIE.

We have received drawings from Brookfield showing the piles, slab and walls. We will continue to monitor this work.

4.3.2 Children's Area

Nothing to report.

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Govan Road/Renfrew Road & ACH Entrance Road.

Road surfacing work has been completed on the dual carriageway leading to Govan Road, and at the south of the main building, with a generally good quality finish. Local ponding on the north side of Govan Road remains outstanding. The footpath ponding at the extended footpath area on the east side of the maternity unit remains outstanding.

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4.3.4 Mechanical Services

We received copies of the water test results and these were satisfactory.

SUPERVISOR'S REPORT NO. 54**OCTOBER 2015****4.3.5 Electrical Services**

Nothing to report.

4.3.6 Doors

Nothing to report.

4.3.7 Windows

Nothing to report.

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Nothing to report.

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Nothing to report.

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Brookfield response Design drawings were discussed with NHS and Zurich and this is now complete.
- 3) Certificate of Conformity for boilers.
Brookfield response: Issued to NHS Zurich.
- 4) Certificate of Conformity for economisers.
Brookfield response: Issued to NHS Zurich.
- 5) Certificate of conformity for all pressure systems pipework.
Brookfield response: Issued to NHS Zurich.
- 6) CE marking of pressure vessels and heat exchangers.
Brookfield response: Complete.
- 7) Pressurisation Units – safety vales rating and fixing requirements.
Brookfield response: Complete.

NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND ENERGY CENTRE

SUPERVISOR'S REPORT NO. 54

OCTOBER 2015

- 8) Boiler drain points.
Brookfield response: Complete.

All of the relevant documentation is with Zurich and Brookfield await the Assembly Declaration of Conformity. Supervisor's Notification of Defect (CI 42.2) No 124.

Following recent excavations around the buildings to expose and repair collapsed main drains, the Board request video surveys to be undertaken and reports provided of the repaired drain runs and also other neighbouring runs that may have been affected by proximity to the 200t crane. Brookfield has confirmed that the survey is complete and will issue to the Board. See Supervisor's Notification of Defect (CI 42.2) No 125.

The Bicycle Shelter roof does not drain rainwater to the two corner outlets, consequently the rainwater is ponding. We asked Brookfield to confirm their proposed remedial action to resolve this defect. They have confirmed that following a meeting with the designer a level survey is required. The plan is to introduce a further outlet. See Supervisor's Notification of Defect (CI 42.2) No 129.



The concrete joint between the 6th floor and the down ramp is breaking up. We asked Brookfield to confirm the remedial measures to address this defect. They have instructed Dunne to carry out remedial works but await details from WSP. See Supervisor's Notification of Defect (CI 42.2) No 132.



The remaining defects as listed below have been amalgamated under Supervisor's Notification of Defect (CI 42.2) No 134.

Below is the current status of the outstanding Defects.

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NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND ENERGY CENTRE

SUPERVISOR'S REPORT NO. 54

OCTOBER 2015

Level 00 –	60		Level 00 –	04
Level 01 –	12		Level 01 –	01
Level 02 –	39		Level 02 –	03
Level 03 –	01		Level 03 –	
Level 05 –	01		Level 05 –	
Level 08 –	03		Level 08 –	
Level 09 –	01		Level 09 –	
Level 10 –	09		Level 10 –	
Level 11 –	06		Level 11 –	
Total Defects at inspection 132			Total Defects remaining to be complete 08	

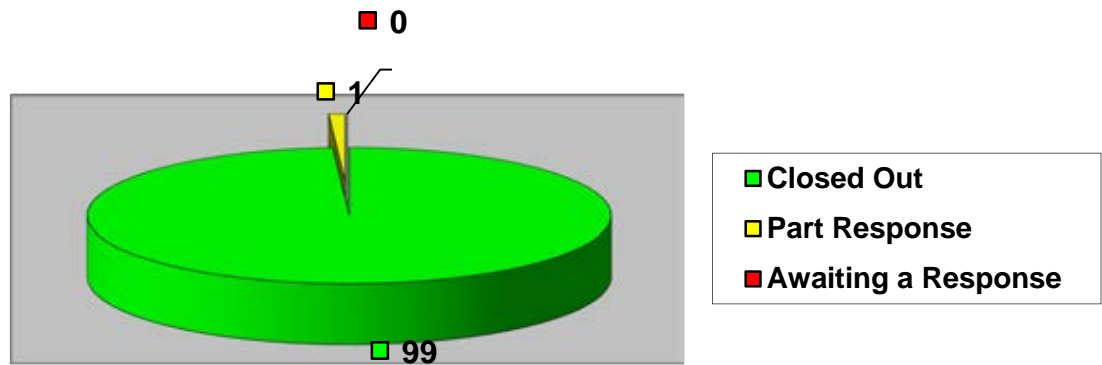
It appears that the cladding on the west facing elevation has been damaged and an unsuccessful attempt has been made to repair the damage. We asked Brookfield to confirm when this defect has been rectified. They have confirmed that this has been passed onto the sub-contractor Prater to rectify the unsuccessful attempt at the repair. See Supervisor's Notification of Defect (CI 42.2) No 137.



There are Defective spindles to privacy visicom panels within timber doors and screens throughout the hospital. This is due to the nylon washer being reshaped by the spindle under the weight of the glass. This has led to the spindle being unable to move the washer as their shapes are incompatible. We asked Brookfield to confirm when this defect will be addressed throughout the hospital. They have confirmed that the defect has been issued to their sub-contractor for action. All units will have new modified lifter installed; this is being reviewed by their sub-contractor. Once they have all relevant details from their sub-contractor they will issue us with a programme for rectification. See Supervisor's Notification of Defect (CI 42.2) No 140.

The Board did not receive the cards/key numbers for the Bristol maid drugs cupboards at completion. We asked Brookfield to provide these without delay. Brookfield confirmed that they are aware of the current situation and an Early Warning Notice has been issued to JTC the sub-contractor who supplied the keys. They will update us once they have a response from JTC. See Supervisor's Notification of Defect (CI 42.2) No 141.

5.0 INFORMATION REQUIRED



**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND
ENERGY CENTRE**

SUPERVISOR'S REPORT NO. 54

OCTOBER 2015

Item No.	Description	Date Requested	Comment	
Items 1 to 236 have been closed out				
237	Seeking confirmation on Brookfield's action to address the ponding to the footpath to the east side of the maternity unit.	08.01.15	Response received.	
Items 240 to 241 have been closed out				
242	Seeking confirmation if permanent perimeter protection will be fitted above cores accessed from Level 12.	25.02.15	Response received.	
Items 243 to 245 have been closed out				
246	No lights fitted to above the doors leading from the room to plantroom 41A	30.03.15	Response received.	
Items 247 to 251 have been closed out				

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND
ENERGY CENTRE**

SUPERVISOR'S REPORT NO. 54

OCTOBER 2015

6.0 SUPERVISORS TESTS AND INSPECTIONS

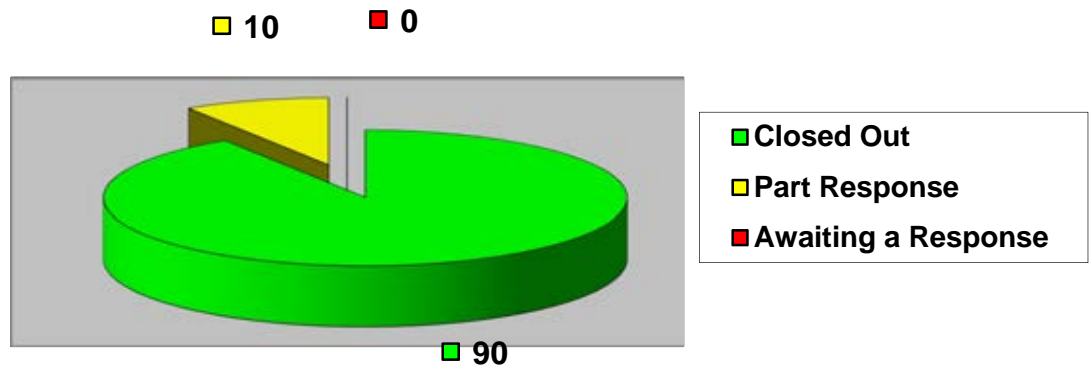
Tests not required	N/A
Tests required but not tested	Fail
Tests required which has passed tests	Pass

Tests				
Ref	Title	To be Notified by	Status	Test Date
01-377	Various tests undertaken and passed from the 09. 07.2012 To the 22.01 2015.			
378	Fire shut down test of AHU's during fire activity. PR21 AHU 19 did not shut down.	Brookfield	Retested successfully but not present. See Supervisor's Report No 50	23.01.2015
379-381	Various tests undertaken and passed from the 23. 01.2015 to the 02.04 2015.			

SUPERVISOR'S REPORT NO. 54

OCTOBER 2015

7.0 DEFECTS NOTIFICATIONS ISSUED



NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND ENERGY CENTRE

SUPERVISOR'S REPORT NO. 54

OCTOBER 2015

	Description	Date Requested	Comment	
Items 1 to 82 have been closed out.				
83	Seeking confirmation of remedial action to resolve ponding.	13.11.14	Response received.	
Items 84 to 87 have been closed out.				
88	Seeking confirmation of remedial measures to address the discolouration of the capping pieces.	20.11.14	Response received.	
Items 89 to 92 have been closed out.				
93	Confirm when the air sampling unit within General Theatre One and Theatre 4 are paint free and the unit in the Atrium has been fitted properly.	05.02.15	Response received.	
Items 94 to 98 have been closed out.				
99	Confirm to open window cill joints.	24.02.15	Response received.	
Items 100 to 115 have been closed out.				
116	Various defects car Park 1.	08.04.15	Response received.	
Items 117 to 123 have been closed out.				
124	Defects in relation to the Zurich Engineers inspection.	16.04.15	Response received.	
125	Seeking video surveys with reject to drain repairs.	16.04.15	Response received.	
Items 126 to 128 have been closed out.				
129	Ponding to Bicycle Shelter.	11.05.15	Response received.	
130	Various external fabric defects.	11.05.15	Response received.	
131	PIR not functioning in room STW-041.	11.05.15	Closed out.	
132	6th floor down ramp is break up.	13.05.15	Response received.	
133	Ponding to main pedestrian entrance to Car Park 1.	13.05.15	Closed out.	
134	The defects identified in Supervisor's Notifications of Defects No 106, 107, 112, 113, 115, 117, 118, 121, 126 and 128 have been either competed or substantially completed. These have been closed out and the remaining defects amalgamated under this Defect Notification.	03.06.15	Response received.	
135	The door selector to the entrances adjacent to Hardgate Road does not allow the doors to close over properly. The primary opening door at the entrance to the main stair intermittently does not close over and remains in the open position.	16.06.15	Closed out.	
136	Incomplete decoration and marks on walls.	18.06.15	Closed out.	
137	Seeking confirmation when the damaged cladding has been rectified.	01.07.15	Response received.	
138	4th floor door in the Car Park does not close over properly.	18.08.15	Closed out.	
139	Confirm when Air Permeability Tests and associated remedial works are complete and provide test results.	02.09.15	Response received.	
140	Defective spindles to privacy visicom panels to timber doors and screens.	29.09.15	Awaiting a response	
141	The Board did not receive the cards/key numbers for the Bristol maid drugs cupboards at completion. Please provide these without delay.	13.10.2015	Response received.	

**NEW SOUTH GLASGOW HOSPITAL ADULT AND CHILDREN'S HOSPITAL AND
ENERGY CENTRE****SUPERVISOR'S REPORT NO. 54****OCTOBER 2015**

John Redmond, Technical Advisory Services

Property and infrastructure
Capita, 4th Floor, 7 West Nile Street, Glasgow G1 2PR

	Signed	Date
Originated by	John Redmond	5 th November 2015
Completed by	David Ramsay	5 th November 2015



New South Glasgow Hospital Adult and Children's Hospital and Energy Centre

NEC 3 Supervisors Report No. 55

November 2015

CAPITA

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3.0	PROCEDURES REVIEW
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6.0	SUPERVISOR's TESTS and INSPECTIONS
7.0	DEFECT NOTIFICATIONS ISSUED

	Signed	Date
Originated by	Dave Ramsay	3 rd December 2015
Checked by	John Kilbane	3 rd December 2015

1.0 EXECUTIVE SUMMARY

In accordance with our NEC3 Contract, this is the monthly report for November 2015 on the activities carried out and responsibilities undertaken by the NEC3 Supervisors.

We continue to review the progress to remedy the defects outstanding at Stage 3 completion. Brookfield is dealing effectively with the post completion defects reported by the Board and residual defects which we raised. We have also been reviewing the post completion defects reported in the FM Summary.

We have inspected the works and witnessed the final tests to two rooms in relation to the air permeability testing. Brookfield has provided a summary report detailing the works that was carried out to 36 rooms along with the test certification (refer item 3.2).

Brookfield is working through the list of defects identified prior to the car park being handed over to the Client. We await confirmation when these will be complete to carry out a further inspection (refer item 4.3.1).

We carried out an inspection of the assisted changing rooms with the Board and Brookfield and confirmed that all the incomplete works had been addressed.

Supervisor's Notification of Defect No 142 was issued during November.

- Seeking confirmation when the incomplete cladding on the underside of the Link Bridge between Royal Hospital for Children and the Neonatal Unit will be carried out.

Brookfield has confirmed that this has been inspected and passed to their Sub-contractor who will rectify this defect early December 2015 (refer item 4.4.13).

Supervisor's Communication General Matters / Other Instructions No 252 was issued during November.

- Seeking confirmation as to the cause of the damage to the sandstone rain screen wall at the corner of the Royal Hospital for Children adjacent to the Children's Park and proposed remedial measures.

Brookfield consequently investigated the damage and do not believe that this was caused by their works at the Children's play area (refer item 3.1.1)

2.0 DESIGN COMPLIANCE CHECK

Currently nothing to report

3.0 PROCEDURES REVIEW**3.1 CONTRACTOR'S QA PROCEDURES and COMPLIANCE INSPECTIONS**

Brookfield is dealing effectively with the post completion defects reported by the Board and the residual defects which we have raised.

3.1.1 General Inspections

Following a joint inspection of the theatres and adjoining rooms on Level 2 we identified cracks in the following rooms:

THE-124 General Theatre 6 ENT: Crack below the window.

THE-232 Interventional 1 Vasco/Urology: Horizontal crack right hand side of the touch screen. Brookfield confirmed that this is complete.

A further inspection was carried out in Ward 4B with the Board and Brookfield following the works. This was to ensure that the rooms had an air flow between 5 and 10 pascals. Brookfield presented the Board with a handover file which contained all the test certificates in relation to the works.

During an inspection of the Children's Roof adjacent to Plantroom 41A we noted that there were no bulkhead lights fitted above the doors. There were also no lights fitted in the room on the roof providing access and egress via the cat ladder in Core L. These were not taken in the approved drawings. Brookfield has issued a communication to BMCE M&E Managers for action / response. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 246.

As this is a potential health and safety issue we presumed that this would have been either addressed or raised at another forum but it has not been addressed. Brookfield has advised that lights were never a consideration and are not part of the signed drawings.

We noted that there is damage to the rain screen wall at the corner of the Royal Hospital for Children adjacent to the Children's Park. The rain screen sandstone cladding has sustained impact damage at ground floor level just below the windows. This may have been as a result of the adjacent works. We requested Brookfield to investigate the cause of the damage and advise on the proposed remedial action. We also asked them to confirm their proposals to prevent further incidents. Brookfield consequently investigated the damage and do not believe that this was caused by their works at the Children's play area. The type of plant that is working at that corner would have caused damage at a different height / location if it had come into contact with the building.



The only other activity within the area is the erection of the 20ft Christmas tree at the entrance of the Children's hospital. It is mounted in a concrete base which seems to have been sat in position by a forklift / Hiab, with the only access being round that corner. Following Brookfield's response, Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 252 is now closed out.

3.1.2 Post Completion Inspections / Issues

There is temporary scaffolding providing perimeter protection at concrete floor beams above the cores accessed from Level 12. The client intimated that protection is required. Brookfield has confirmed that M&S Engineering has taken site measurements and we await a date when the work will commence. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 242.



3.1.3 Post Completion Defects

Below is the current status with Defects.

Final Sweep – 8 (18 Structural)

FM First Summary – 212 Open, 205 In Progress, 1660 Closed.

There are numerous reports of defects in relation to the operation of the blinds. Brookfield confirmed that their sub-contractor TDSL is currently carrying out remedial works to broken blinds and is repairing not only those reported through the FM Schedule but also other defects that they discover.

3.2 WITNESS TESTING AND COMMISSIONING

Following the discovery that Air Permeability Tests were not carried out within 36 isolation rooms in accordance with the Employer's Requirements NHS Guidance Documentations, document HBN 04-01. Brookfield has completed tests and remedial work to ensure the rooms are compliant.

During November we were in attendance during the successful air permeability test of the two remaining rooms to be tested in the Schiehallion Ward A2 Rooms 20 and 23. Brookfield has provided a summary report detailing the works that was carried out to 36 rooms along with the test certification. Consequently Supervisor's Notification of Defect (C 42.2) No 139 is closed out.

3.3 BOARD EQUIPMENT INSTALLATION

Currently nothing to report

3.4 NON CONFORMANCE REPORTS

Brookfield has carried out the remedial measures in relation to manholes which are below the level of the surrounding roads. Brookfield has closed out their NCR

4.0 CONSTRUCTION REVIEW**4.1 VISITS TO THE WORKS**

Site inspections were carried out by the NEC3 Supervisor's on the 4th, 11th, 18th, and 25th November 2015.

4.2 ELEMENTS OF THE WORKS AVAILABLE FOR INSPECTION

Snagging works to externals

4.3 CURRENT OBSERVATIONS**4.3.1 Structural and Civil Works**

Reference Car Park 1, Brookfield is still working through the list of defects. They have informed us that CLAD UK are no longer trading consequently there is unfinished work. Brookfield is awaiting Dunnes getting back to them about the outstanding items.

Maternity VIE

We have received drawings from Brookfield showing the piles, slab and walls. We will continue to monitor this work.

4.3.2 Children's Area

Nothing to report

4.3.3 External Works

Govan Road/Renfrew Road & ACH Entrance Road.

Road surfacing work has been completed on the dual carriageway leading to Govan Road, and at the south of the main building, with a generally good quality finish. Local ponding on the north side of Govan Road remains outstanding. The footpath ponding at the extended footpath area on the east side of the maternity unit remains outstanding.

We inspected the remedial work to the address the ponding on the new extended footpath to the east side of the maternity unit. We can confirm that this has been carried out satisfactorily. Consequently Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 237 is closed out.

Levels were taken to determine if the ponding to the granite hardstanding around the main Children's entrance canopy were compliant. The levels were within the required tolerances. Adjustments were made to the canopy Children's entrance to resolve windblown water.

4.3.4 Mechanical Services

We received copies of the water test results and these were satisfactory.

4.3.5 Electrical Services

Nothing to report

4.3.6 Doors

Nothing to report

4.3.7 Windows

Nothing to report

4.3.8 Ducting

Nothing to report

4.3.9 Floors

Nothing to report

4.3.10 Blockwork

Nothing to report

4.3.11 Heating

Nothing to report

4.4 CURRENT DEFECTS**4.4.1 Supervisor's Notification of Defect (CI 42.2) No 88.**

The capping piece on the north facing elevation of the Children's Hospital has two discoloured areas. We asked Brookfield to confirm their remedial action to address this and confirm when complete. They have confirmed that work is being planned to be carried out. See outstanding works list.

4.4.2 Supervisor's Notification of Defect (CI 42.2) No 93

The NHS Fire Risk Assessor has been on site and noted that the air sampling unit within General Theatre One on the second floor has been painted over. We also noted that another unit in Theatre 4 has been partially painted over. These should be paint free. Brookfield has confirmed that the air sampling unit in the main Atrium north facing wall has been rectified and confirmed by J Miller. Consequently Supervisor's Notification of Defect (CI 42.2) No 93 is closed out.

4.4.3 Supervisor's Notification of Defect (CI 42.2) No 99

The joints at window cills are opening up. We asked Brookfield to confirm their remedial action to resolve this problem. They have filled and painted the joints but they have opened up again. They have sealed a joint with sealant to determine if this is a better solution. They intend to fill these cracks at the end of the defect liability period.

**4.4.4 Supervisor's Notification of Defect (CI 42.2) No 116**

Following a joint inspection of Car Park 1 we identified various defects / snags which were issued to Brookfield. We asked them to confirm when these have been addressed. We have recently undertaken a joint inspection with Brookfield and noted that some of the Defects have been rectified. They are attending to the remaining outstanding Defects and anticipate that these will be completed by the 9th December.

4.4.5 Supervisor's Notification of Defect (CI 42.2) No 124

The Board have employed Competent Body Zurich Engineering to undertake an inspection of the pressure systems associated with the new buildings and systems handed over on 26th January 2015. This was done in order produce the statutory written scheme required under the Pressure Systems Safety Regulations (PSSR) 2000 for the safe operation and inspection of relevant systems.

During their review, a number of defects have been found within the installed plant. Brookfield responded as follows. All of the relevant documentation is with Zurich and Brookfield awaits the Assembly Declaration of Conformity.

- 1) Configuration of boiler safety valves.
Brookfield response: Design drawings were discussed with NHS and Zurich and this is now complete.
- 2) A safe method of discharge of medium pressure/temperature water and steam blow off from boilers (120 degC / 5.7bar).
Brookfield response Design drawings were discussed with NHS and Zurich and this is now complete.
- 3) Certificate of Conformity for boilers.
Brookfield response: Issued to NHS Zurich.
- 4) Certificate of Conformity for economisers.
Brookfield response: Issued to NHS Zurich.
- 5) Certificate of conformity for all pressure systems pipework.
Brookfield response: Issued to NHS Zurich.
- 6) CE marking of pressure vessels and heat exchangers.
Brookfield response: Complete.
- 7) Pressurisation Units – safety vales rating and fixing requirements.
Brookfield response: Complete.
- 8) Boiler drain points.
Brookfield response: Complete.

All of the relevant documentation is with Zurich and Brookfield awaits the Assembly Declaration of Conformity.

4.4.6 Supervisor's Notification of Defect (CI 42.2) No 125.

Following recent excavations around the buildings to expose and repair collapsed main drains, the Board request video surveys to be undertaken and reports provided of the repaired drain runs and also other neighbouring runs that may have been affected by proximity to the 200t crane. Brookfield has confirmed that the survey is complete and will issue to the Board. Dunnes are uploading information onto Zutec.

4.4.7 Supervisor's Notification of Defect (CI 42.2) No 129.

The Bicycle Shelter roof does not drain rainwater to the two corner outlets, consequently the rainwater is ponding. We asked Brookfield to confirm their proposed remedial action to resolve this defect. They have confirmed that following a meeting with the designer a level survey is required. The plan is to introduce a further outlet and be complete by the end of December.

**4.4.8 Supervisor's Notification of Defect (CI 42.2) No 132**

The concrete joint between the 6th floor and the down ramp is breaking up. We asked Brookfield to confirm the remedial measures to address this defect. They have instructed Dunne to carry out remedial works but await details from WSP.



4.4.9 Supervisor's Notification of Defect (CI 42.2) No 134

The remaining defects as listed below have been amalgamated under Supervisor's Notification of Defect (CI 42.2) No 134 and Brookfield is currently reviewing the status of the items.
Below is the current status of the outstanding Defects.

Level 00 –	60	Level 00 –	04
Level 01 –	12	Level 01 –	01
Level 02 –	39	Level 02 –	03
Level 03 –	01	Level 03 –	
Level 05 –	01	Level 05 –	
Level 08 –	03	Level 08 –	
Level 09 –	01	Level 09 –	
Level 10 –	09	Level 10 –	
Level 11 –	06	Level 11 –	
Total Defects at inspection 132		Total Defects remaining to be complete 08	

4.4.10 Supervisor's Notification of Defect (CI 42.2) No 137.

It appears that the cladding on the west facing elevation has been damaged and an unsuccessful attempt has been made to repair the damage. We asked Brookfield to confirm when this defect has been rectified. They have confirmed that this has been passed onto the sub-contractor Prater to rectify the unsuccessful attempt at the repair.

**4.4.11 Supervisor's Notification of Defect (CI 42.2) No 140.**

There are Defective spindles to privacy visicom panels within timber doors and screens throughout the hospital. This is due to the nylon washer being reshaped by the spindle under the weight of the glass. This has led to the spindle being unable to move the washer as their shapes are incompatible. We asked Brookfield to confirm when this defect will be addressed throughout the hospital. They have confirmed that the defect has been issued to their sub-contractor for action. All units will have new modified lifter installed; this is being reviewed by their sub-contractor. Once they have all relevant details from their sub-contractor they will issue us with a programme for rectification.

4.4.12 Supervisor's Notification of Defect (CI 42.2) No 141

The Board did not receive the cards/key numbers for the Bristol maid drugs cupboards at completion. We asked Brookfield to provide these without delay. Brookfield confirmed that 3No cards have been provided to the client with one still to be provided.

4.4.13 Supervisor's Notification of Defect (CI 42.2) No 142

There is incomplete cladding on the underside of the Link Bridge between Royal Hospital for Children and the Neonatal Unit. As a result of the opening Pigeons are now nesting. We asked Brookfield to confirm when this will be covered over with a metal panel to match the cladding. They have confirmed that this has been inspected and passed to their Sub-contractor Townhill who will rectify this defect early December 2015.

5.0 INFORMATION REQUIRED**(Supervisor's Communication General Matters / Other Instructions - Clause 13.1)**

Shading indicates item closed, clear indicates current item.

Item	Description	Date Requested	Comment
The following items are not closed out.			
237	Seeking confirmation on Brookfield's action to address the ponding to the footpath to the east side of the maternity unit.	08.01.15	Closed out
242	Seeking confirmation if permanent perimeter protection will be fitted above cores accessed from Level 12.	25.02.15	Response received.
246	No lights fitted to above the doors leading from the room to plantroom 41A	30.03.15	Response received.
252	Seeking confirmation as to the cause of the damage to the sandstone rain screen wall at the corner of the Royal Hospital for Children adjacent to the Children's Park and proposed remedial measures.	25.11.15	Closed out
The following items have previously been closed out.			
Item No's 1 to 236; 240; 241; 243 to 245; 247 to 251 have been closed-out but are not listed.			

6.0 SUPERVISOR'S TESTS and INSPECTIONS

Shading indicates item closed, clear indicates current item.

Ref	Title	Notified by	Status	Test Date
The following items are not closed out.				
01-377	Various tests undertaken and passed from the 09. 07.2012 To the 22.01 2015.			
378	Fire shut down test of AHU's during fire activity. PR21 AHU 19 did not shut down.	Brookfield	Retested successfully but not present. Refer Supervisor's Report No 50	23.01.2015
379-381	Various tests undertaken and passed from 23. 01.2015 to 02.04 2015.			

7.0 DEFECTS NOTIFICATIONS ISSUED

Shading indicates item closed, clear indicates current item.

Item	Description	Date Requested	Comment
The following items are not closed out.			
83	Seeking confirmation of remedial action to resolve ponding.	13.11.14	Response received.
88	Seeking confirmation of remedial measures to address the discolouration of the capping pieces.	20.11.14	Response received.
93	Confirm when the air sampling unit within General Theatre One and Theatre 4 are paint free and the unit in the Atrium has been fitted properly.	05.02.15	Closed out
99	Confirm to open window cill joints.	24.02.15	Response received.
116	Various defects car Park 1.	08.04.15	Response received.
124	Defects in relation to the Zurich Engineers inspection.	16.04.15	Response received.
125	Seeking video surveys with reject to drain repairs.	16.04.15	Response received.
129	Ponding to Bicycle Shelter.	11.05.15	Response received.
130	Various external fabric defects.	11.05.15	Response received.
131	PIR not functioning in room STW-041.	11.05.15	Closed out.
132	6th floor down ramp is break up.	13.05.15	Response received.
133	Ponding to main pedestrian entrance to Car Park 1.	13.05.15	Closed out.
134	The defects identified in Supervisor's Notifications of Defects No 106, 107, 112, 113, 115, 117, 118, 121, 126 and 128 have been either completed or substantially completed. These have been closed out and the remaining defects amalgamated under this Defect Notification.	03.06.15	Response received.
135	The door selector to the entrances adjacent to Hardgate Road does not allow the doors to close over properly. The primary opening door at the entrance to the main stair intermittently does not close over and remains in the open position.	16.06.15	Closed out.
136	Incomplete decoration and marks on walls.	18.06.15	Closed out.
137	Seeking confirmation when the damaged cladding has been rectified.	01.07.15	Response received.
138	4th floor door in the Car Park does not close over properly.	18.08.15	Closed out.
139	Confirm when Air Permeability Tests and associated remedial works are complete and provide test results.	02.09.15	Closed out.
140	Defective spindles to privacy visicom panels to timber doors and screens.	29.09.15	Awaiting a response
141	The Board did not receive the cards/key numbers for the Bristol maid drugs cupboards at completion. Please provide these without delay.	13.10.15	Response received.
142	Seeking confirmation when the incomplete cladding on the underside of the Link Bridge between Royal Hospital for Children and the Neonatal Unit will be carried out.	09.11.15	Response received.
All other Defects raised have been closed out.			



New South Glasgow Hospital Adult and Children's Hospital and Energy Centre

NEC 3 Supervisors Report No. 57

January 2016

CAPITA

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	Signed	Date
Originated by	Dave Ramsay	9 th February 2016
Checked by	John Kilbane	9 th February 2016

1.0 EXECUTIVE SUMMARY

In accordance with our NEC3 Contract, this is the monthly report for January 2016 on the activities carried out and responsibilities undertaken by the NEC3 Supervisor Team in connection with New South Glasgow Hospital Adult and Children's Hospital and Energy Centre.

In addition to this report, we also provide project specific monthly Supervisor Reports for NSGH Stage 3A (Phase 3 - Demolitions, Landscaping works including Children's Play Park, Car Park) and INS Entrance (including Overcladding Works).

Site visits were carried out by the NEC3 Supervisor Team as follows: - Dave Ramsay (Lead and Architect Supervisor) on 8th, 14th, 20th and 27th January and Willie Roxburgh (Civil/Structural Engineer Supervisor) on 8th, 20th, 22nd, and 28th January 2016.

During January 2016, we maintained our regular weekly meetings on site with Brookfield and information regarding drawings, quality issues and other technical matters has been supplied when requested.

Over the reporting period, we continued to access "Sypro" to monitor notifications raised and acknowledge that PMI No 461 and CE No 162 were raised during January 2016 (refer Section 2.1). CE 162 authorised Brookfield to proceed with the construction of the surface car park works as set out in PMI 320. PMI 461 concerned HV Infrastructure Works on the QEUH Campus, with a section of the cable route running through the current Phase 3A Demolition Site and accordingly instructed Brookfield to undertake relevant works.

There were two Early Warnings notified on Sypro over the period namely: - EW ID 28291 (Stage 3A - Discovery of unidentified asbestos materials) and EW ID 28292 (INS Entrance - Delay in asbestos removal and service isolation / disconnection).

Regarding Programme notifications over the period these comprised Superseded Contract Programmes for INS Entrance (PROG ID's 2229, 2230, and 2231).

We continue to access "Aconex" to review construction approved drawings and specifications with notifications during January 2016 mainly comprising INS entrance RDD documents with NHS comments.

We continue to review the progress to remedy the defects outstanding at Stage 3 completion. Brookfield is dealing effectively with the post completion defects reported by the Board and those residual defects which we raised. We have also been reviewing the post completion defects reported in the FM Summary (refer Section 3.1).

Regarding the current status of the FM First Defects Schedule there are currently: - 353 open defect items; 61 defect items in progress and 2028 defect items closed. In the Open Defects category, it is acknowledged that there are numerous defect items in relation to the operation of the blinds.

Brookfield is working through the list of defects identified prior to the car park being handed over to the Client. We await confirmation when these will be complete to carry out a further inspection (refer item 4.3.1).

Over the reporting period, we have not raised any formal Supervisor's Communication General Matters / Other Instructions - Clause 13.1

We raised Supervisor's Notification of Defect - Clause 42.2 No's 143 and 144 concerning RHC Hydrotherapy pool. Section 4.4 of the report lists those Supervisor's Notification of Defects still to be closed out.

There are currently no outstanding matters in connection with Supervisor's Tests and Inspections. The Supervisor's Tests and Inspections listed in Section 6 have all been cleared and closed and as a formality we await confirmation from Brookfield's Commissioning Manager.

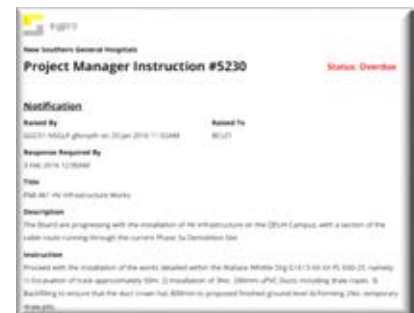
At NHSGGC request, we attended a meeting on 21st January 2016 at JB Russell House regarding Infection Control Issues – Critical Clinical Areas.

2.0 DESIGN COMPLIANCE CHECK**2.1 SYPRO**

We continue to access "Sypro" to monitor notifications and this section records the notifications received during the reporting period. Certain notifications may be relevant to NSGH Stage 3A (Phase 3 -Demolitions, Landscaping works including Children's Play Park, Car Park) and INS Entrance (including Overcladding Works) and these will be detailed in the respective project specific reports.

2.1.1 Project Manager Instructions (PMI's)**PMI 461 - HV Infrastructure Works**

This refers to HV Infrastructure Works on the QEUH Campus, with a section of the cable route running through the current Phase 3a Demolition Site and accordingly instructed Brookfield to undertake relevant works.

**2.1.2 Compensation Events (CE's)****CE 162**

This authorised Brookfield to proceed with the construction of the surface car park works as set out in PMI 320.

2.1.3 Early Warnings (EW's)**EW ID 28291 - Stage 3A - Discovery of unidentified asbestos materials.**

Progress to the demolition works within stage 3A have been affected due to the discovery of unidentified asbestos materials. The affect this will have on cost and / or programme will be calculated once the full impact of this discovery is understood and works are able to fully recommence.

EW ID 28292 - INS Entrance - Delay in asbestos removal and service isolation / disconnection

Potential delays to programme due to late asbestos removal, service isolation and disconnection within the existing portion of the INS building due to be reconfigured as part of the new entrance works. Preparation works to allow demolition to commence are now overdue. Demolition works are due to commence on Monday 18th Jan. This element of the programme will be rescheduled following the removal of asbestos and disconnection of services.

**2.1.4 Programme Submissions (PROG IDS's)**

PROG ID's 2229, 2230, and 2231 - Programme notifications for INS Entrance Superseded Contract Programmes .

2.2 ACONE

We continue to access "Aconex" to review construction approved drawings and specifications with notifications during January 2016 comprising INS entrance RDD documents with NHS comments.

2.3 ZUTEC

Over the reporting period, we requested and obtained access to ZUTEC.

3.0 PROCEDURES REVIEW**3.1 POST COMPLETION DEFECTS****FM First Defects Summary (File ref. 20160205 FM First Summary.xlsx)**

Open Defects – 353; Defects in progress – 61; Closed - 2028

In the Open Defects category, it is acknowledged that there are numerous defect items in relation to the operation of the blinds and that there is also a number of defect items requiring further information.

We have been invited to attend the first of a regular monthly Defects Review Meeting (other invitees are NHS Project Team, NHS Estates, and Brookfield) for New South Glasgow Hospital Adult and Children's Hospital on 22nd February 2016. In our opinion this is a proactive arrangement in that it will provide a forum to ensure that ALL defects are clarified, discussed and agreed on the respective resolution.

3.2 CONTRACTOR'S QA PROCEDURES

Brookfield is dealing effectively with the post completion defects reported by the Board and the residual defects which we have raised.

4.0 CONSTRUCTION REVIEW**4.1 VISITS TO THE WORKS**

Site inspections were carried out by the NEC3 Supervisor Team as follows: - Dave Ramsay (Lead and Architect Supervisor) on 8th, 14th, 20th and 27th January and Willie Roxburgh (Civil/Structural Engineer Supervisor) on 8th, 20th, 22nd, and 28th January 2016.

4.2 POST COMPLETION INSPECTIONS / ISSUES

During an inspection of the Children's Roof adjacent to Plantroom 41A we noted that there were no bulkhead lights fitted above the doors. There were also no lights fitted in the room on the roof providing access and egress via the cat ladder in Core L. These were not taken in the approved drawings. Brookfield has issued a communication to BMCE M&E Managers for action / response. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 246.

As this is a potential health and safety issue we presumed that this would have been either addressed or raised at another forum but it has not been addressed. Brookfield has advised that lights were never a consideration and are not part of the signed-off drawings.

There is temporary scaffolding providing perimeter protection at concrete floor beams above the cores accessed from Level 12. The client intimated that protection is required. Brookfield has confirmed that M&S Engineering has taken site measurements and we await a date when the work will commence. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 242.

**4.3 CURRENT OBSERVATIONS****4.3.1 Structural and Civil Works**

Reference Car Park 1, Brookfield is still working through the list of defects and informed us that CLAD UK are no longer trading consequently there exists unfinished work. Brookfield is awaiting Dunnes getting back to them about the outstanding items.

Maternity VIE

We have received drawings from Brookfield showing the piles, slab and walls. We will continue to monitor this work.

4.3.2 External Works**Govan Road/Renfrew Road & ACH Entrance Road.**

Road surfacing work has been completed on the dual carriageway leading to Govan Road, and at the south of the main building, with a generally good quality finish. Local ponding on the north side of Govan Road remains outstanding. The footpath ponding at the extended footpath area on the east side of the maternity unit remains outstanding.

4.4 OPEN SUPERVISOR'S NOTIFICATION OF DEFECTS - ACH**4.4.1 Supervisor's Notification of Defect (CI 42.2) No 88.**

The capping piece on the north facing elevation of the Children's Hospital has two discoloured areas. We requested Brookfield to confirm the remedial action to address this and advise when complete. Brookfield has advised that work is being planned to be carried out and we await confirmation.

4.4.2 Supervisor's Notification of Defect (CI 42.2) No 99

The joints at window cills are opening up. We requested Brookfield to confirm the remedial action to resolve this problem. Brookfield has filled and painted the joints but they have opened up again. Thereafter Brookfield sealed a joint with sealant to determine if this resolved the defect. Accordingly, Brookfield intends to fill these cracks at the end of the defect liability period. We shall therefore retain this defect notification open.

**4.4.3 Supervisor's Notification of Defect (CI 42.2) No 116**

Following a joint inspection of Car Park 1 we identified various defects / snags which we issued to Brookfield and requested confirmation when these have been made good. We have recently undertaken a joint inspection with Brookfield and noted that some of the Defects have been rectified. Brookfield is attending to the remaining outstanding defects and anticipate that these will be completed by December 2015. We await confirmation.

4.4.4 Supervisor's Notification of Defect (CI 42.2) No 124

The Board has employed Competent Body Zurich Engineering to undertake an inspection of the pressure systems associated with the new buildings and systems handed over on 26th January 2015. This was done in order to produce the statutory written scheme required under the Pressure Systems Safety Regulations (PSSR) 2000 for the safe operation and inspection of relevant systems.

During their review, a number of defects have been found within the installed plant. Brookfield responded as follows. All of the relevant documentation is with Zurich and Brookfield awaits the Assembly Declaration of Conformity.

- 1) Configuration of boiler safety valves.
Brookfield response: Design drawings were discussed with NHS and Zurich and this is now complete.
- 2) A safe method of discharge of medium pressure/temperature water and steam blow off from boilers (120 degC / 5.7bar).
Brookfield response Design drawings were discussed with NHS and Zurich and this is now complete.
- 3) Certificate of Conformity for boilers.
Brookfield response: Issued to NHS Zurich.
- 4) Certificate of Conformity for economisers.
Brookfield response: Issued to NHS Zurich.
- 5) Certificate of conformity for all pressure systems pipework.
Brookfield response: Issued to NHS Zurich.
- 6) CE marking of pressure vessels and heat exchangers.
Brookfield response: Complete.
- 7) Pressurisation Units – safety valves rating and fixing requirements.
Brookfield response: Complete.
- 8) Boiler drain points.
Brookfield response: Complete.

All of the relevant documentation is with Zurich and Brookfield awaits the Assembly Declaration of Conformity.

4.4.5 Supervisor's Notification of Defect (CI 42.2) No 125.

Following recent excavations around the buildings to expose and repair collapsed main drains, the Board request video surveys to be undertaken and reports provided of the repaired drain runs and also other neighbouring runs that may have been affected by proximity to the 200t crane. Brookfield has confirmed that the survey is complete and will issue to the Board. Dunnes are uploading information onto Zutec. We request confirmation from Brookfield that this has been uploaded.

4.4.6 Supervisor's Notification of Defect (CI 42.2) No 129.

The Bicycle Shelter roof does not drain rainwater to the two corner outlets, consequently the rainwater is ponding. We requested Brookfield to confirm their proposed remedial action to resolve this defect. They have confirmed that following a meeting with the designer a level survey is required. The plan is to introduce a further outlet and be complete by the end of December. We request current status of resolution of this defect from Brookfield.

**4.4.7 Supervisor's Notification of Defect (CI 42.2) No 132**

The concrete joint between the 6th floor and the down ramp is breaking up. We asked Brookfield to confirm the remedial measures to address this defect. They have instructed Dunne to carry out remedial works but await details from WSP.

**4.4.8 Supervisor's Notification of Defect (CI 42.2) No 134**

The remaining defects as listed below have been amalgamated under Supervisor's Notification of Defect (CI 42.2) No 134 and Brookfield is currently reviewing the status of the items. Below is the current status of the outstanding Defects.

Level 00 –	60	Level 00 –	04
Level 01 –	12	Level 01 –	01
Level 02 –	39	Level 02 –	03
Level 03 –	01	Level 03 –	
Level 05 –	01	Level 05 –	
Level 08 –	03	Level 08 –	
Level 09 –	01	Level 09 –	
Level 10 –	09	Level 10 –	
Level 11 –	06	Level 11 –	
Total Defects at inspection 132		Total Defects remaining to be complete 08	

4.4.9 Supervisor's Notification of Defect (CI 42.2) No 137.

The cladding on the west facing elevation has been damaged and an unsuccessful attempt has been made to repair the damage. We requested Brookfield to advise when this defect is to be rectified. Brookfield has confirmed that this has been passed onto the relevant sub-contractor Prater to rectify the unsuccessful attempt at the repair.



4.4.10 Supervisor's Notification of Defect (CI 42.2) No 140.

There are defective spindles to privacy viscom panels within timber doors and screens throughout the hospital. This is due to the nylon washer being reshaped by the spindle under the weight of the glass. This has led to the spindle being unable to move the washer as their shapes are incompatible. We requested Brookfield to advise when this defect will be addressed throughout the hospital and they have confirmed that the defect has been issued to their sub-contractor for action. All units will have new modified lifter installed; this is being reviewed by their sub-contractor. Once Brookfield has all relevant details from their sub-contractor they will issue us with a programme for rectification.

4.4.12 Supervisor's Notification of Defect (CI 42.2) No 141

The Board did not receive the cards/key numbers for the Bristol maid drugs cupboards at completion. We asked Brookfield to provide these without delay. Brookfield confirmed that 3 no. cards have been provided to the Client with one still to be provided.

4.4.13 Supervisor's Notification of Defect (CI 42.2) No 142

There is incomplete cladding on the underside of the Link Bridge between Royal Hospital for Children and the Neonatal Unit. As a result of the opening Pigeons are now nesting. We requested Brookfield to advise when this will be covered over with a metal panel to match the cladding. Brookfield has advised that this has been inspected and passed to their Sub-contractor Townhill who will rectify this defect early December 2015. We request current status of resolution of this defect from Brookfield.

4.4.15 Supervisor's Notification of Defect (CI 42.2) No 143

There is rust around the RHC Hydrotherapy pool surround, and on the handrails. The Department had a visit from Infection Control on 27th January 2016 and the rust was identified as sufficient a problem that the pool maybe put out of commission if the problem is not addressed. Brookfield to investigate this Defect and advise when this will be remedied.

4.4.16 Supervisor's Notification of Defect (CI 42.2) No 144

Reference Supervisor's Notification of Defect (Stage 3 A&C) No 143 and consequent visit by Dave Ramsay (Supervisor) and Gillon Armstrong (Brookfield) to RHC Hydrotherapy on 3rd Feb 2016 to meet Elinor Johnson and colleague (NHSGGC) with World Leisure (installers of pool) also in attendance.

Brookfield is requested to investigate and advise on remedial action for:-

1. Gaps between sections of the white plastic grating
2. Power of flow of incoming water
3. "Bender" panel for temperature monitoring has been installed but not functioning.

In addition Brookfield to confirm the following:-

4. Pool installers recommended cleaning regime for the pool is contained in "Zutec"
5. NHSGGH staff have received training on the operation and maintenance of the pool (now received from Brookfield)

**4.5 OPEN SUPERVISOR'S NOTIFICATION OF DEFECTS - LABORATORY****4.5.1 Supervisor's Notification of Defect (CI 42.2) No 501**

The actuator for Laboratory Medicine Reception Disabled Door has a ground mounted drive unit which the manufacturer (Record Ltd) has advised that their installation drawings and instructions require that the ground mounted actuator housing drain spigot is connected to the drainage system to ensure that the actuator is not submerged in rain water.

At the time of installation Brookfield did not install underground drainage to support this and instructed the Record installation team to drill a sink hole from the actuator housing as an alternative. This arrangement was queried at the time under one of the original failures covered during the warranty as a defect however Brookfield advised that this was Brookfield's call, as the Contractor and that in their opinion this solution was suitable for this installation.


This disabled access door has been out of service for over a year as the integrity of the actuator housing cannot be maintained and therefore it is evident that the Brookfield solution is not suitable.

It is understood that the Board has installed 3 new actuators with unsuccessful attempts to protect against flooding, the last of which failed within 2 days of installation.

The Board has decided to take an alternative approach and install an overhead actuator solution which will be installed in early January 2015.


Although the warranty has expired, the Board is seeking to recover costs from Brookfield as a latent defect. Brookfield has responded by requesting details of NHS costs to rectify the defect.

5.0 INFORMATION REQUIRED**(Supervisor's Communication General Matters / Other Instructions - Clause 13.1)**

 Shading indicates item closed, clear indicates current item.


Item	Description	Date Requested	Comment
The following items are not closed out.			
242	Seeking confirmation if permanent perimeter protection will be fitted above cores accessed from Level 12.	25.02.15	Response received.
246	No lights fitted to above the doors leading from the room to plantroom 41A	30.03.15	Response received.
All other Supervisor's Communication General Matters / Other Instructions raised have been closed out. A total of 252 Supervisor's Communication General Matters / Other Instructions have been issued to date.			

6.0 SUPERVISOR'S TESTS and INSPECTIONS

 Shading indicates item closed, clear indicates current item.

Ref	Title	Notified by	Status	Test Date
The following items are not closed out.				
01-377	Various tests undertaken and passed from the 09. 07.2012 To the 22.01 2015.			
378	Fire shut down test of AHU's during fire activity. PR21 AHU 19 did not shut down.	Brookfield	Retested successfully but not present. Refer Supervisor's Report No 50	23.01.2015
379-381	Various tests undertaken and passed from 23. 01.2015 to 02.04 2015.			

7.0 DEFECTS NOTIFICATIONS ISSUED

 Shading indicates item closed, clear indicates current item.

* 143 and 144 are issued early February but included to keep schedule up to date

Item	Description	Date Requested	Comment
The following items are not closed out.			
83	Seeking confirmation of remedial action to resolve ponding.	13.11.14	Response received.
88	Seeking confirmation of remedial measures to address the discolouration of the capping pieces.	20.11.14	Response received.
99	Confirm to open window cill joints.	24.02.15	Response received.
116	Various defects car Park 1.	08.04.15	Response received.
124	Defects in relation to the Zurich Engineers inspection.	16.04.15	Response received.
125	Seeking video surveys with reject to drain repairs.	16.04.15	Response received.
129	Ponding to Bicycle Shelter.	11.05.15	Response received.
130	Various external fabric defects.	11.05.15	Response received.
132	6th floor down ramp is break up.	13.05.15	Response received.
134	The defects identified in Supervisor's Notifications of Defects No 106, 107, 112, 113, 115, 117, 118, 121, 126 and 128 have been either completed or substantially completed. These have been closed out and the remaining defects amalgamated under this Defect Notification.	03.06.15	Response received.
137	Seeking confirmation when the damaged cladding has been rectified.	01.07.15	Response received.
140	Defective spindles to privacy visicom panels to timber doors and screens.	29.09.15	Awaiting a rectification programme
141	The Board did not receive the cards/key numbers for the Bristol maid drugs cupboards at completion. Please provide these without delay.	13.10.15	Response received.
142	Seeking confirmation when the incomplete cladding on the underside of the Link Bridge between Royal Hospital for Children and the Neonatal Unit will be carried out.	09.11.15	Response received.
143*	Rust around the RHC Hydrotherapy pool surround, and on the handrails	01.02.16	Response awaited
144*	RHC Hydrotherapy pool;- gaps between sections of the white plastic grating; power of flow of incoming water; "Bender" panel for temperature monitoring has been installed but not functioning.	09.02.16	Response awaited
All other Defects Notifications raised have been closed out. A total of 144 defects notices have been issued to date.			



New South Glasgow Hospital Adult and Children's Hospital and Energy Centre

NEC 3 Supervisors Report No. 58

February 2016

CAPITA

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	Signed	Date
Originated by	Dave Ramsay	8 th March 2016
Checked by	John Kilbane	8 th March 2016

1.0 EXECUTIVE SUMMARY

In accordance with our NEC3 Contract, this is the monthly report for February 2016 on the activities carried out and responsibilities undertaken by the NEC3 Supervisor Team in connection with New South Glasgow Hospital Adult and Children's Hospital and Energy Centre.

In addition to this report, we also provide project specific monthly Supervisor Reports for NSGH Stage 3A (Phase 3 - Demolitions, Landscaping works including Children's Play Park and Car Park) and INS Entrance (including Overcladding Works).

Site visits were carried out by the NEC3 Supervisor Team as follows: - Dave Ramsay (Lead and Architect Supervisor) on 1st, 3rd, 9th, 11th, 17th, 22nd and 26th February and Willie Roxburgh (Civil/Structural Engineer Supervisor) on 3rd, 10th, 18th, and 26th February 2016.

During February 2016, we maintained our regular weekly meetings on site with Brookfield and information regarding drawings, quality issues and other technical matters has been supplied when requested.

Over the reporting period, we continued to access "Sypro" to monitor and review notifications and acknowledge that New PMI's No's 462 to 467 inclusive were raised during February 2016 (refer Section 2.1). The following PMI's were accepted by Brookfield: - 451 on 16/02/16; 452 on 25/02/16; 454 on 16/02/16; 455 on 16/02/16. The following Compensation Event No's 163 to 166 were notified during the period.

Regarding programme notifications over the period this comprised PROG ID 2301 NSGH Phase 3A Contract Programme REV F.pdf which was notified on 09/02/16 and accepted on 17/02/16.

We continue to access "Aconex" to review drawings and specifications with 9 notifications during February 2016 comprising INS entrance documents: - RDD with NHS comments and review status; wall protection; revised doors & ironmongery; specifications.

We continue to review the progress to remedy the defects outstanding at Stage 3 completion. Brookfield is dealing effectively with the post completion defects reported by the Board and those residual defects which we raised. We have also been reviewing the post completion defects reported in the FM Summary (refer Section 3.1).

Regarding the current status of the FM First Defects Schedule there are currently: - 265 open defect items; 20 defect items in progress and 2175 defect items closed. In the Open Defects category, it is acknowledged that there are numerous defect items in relation to the operation of the blinds.

We attended the first of regular monthly Defects Review Meeting for the New South Glasgow Hospital Adult and Children's Hospital on 22nd February 2016. This was chaired by Ian Powrie (NHS GGC Estates) with attendees comprising: - NHS Project Team, NHS Estates, Brookfield, and Supervisor. In our opinion this is a proactive arrangement in that it will provide a forum to ensure that ALL defects are clarified, discussed and agreed on their respective resolution and more significantly will facilitate the closure of defects leading up to the end of the 24 months defects period in January 2017.

Where relevant we refer to this meeting in the report. Brookfield issued to Estates a copy of the current FM First list with a tab labeled 25/1/16 - 21/2/16 to show the items closed out in that period. Going forward Brookfield will issue this on a monthly basis ahead of the Defects Meeting.

Brookfield is working through the list of defects identified prior to the car park being handed over to the Client. We await confirmation when these will be complete to carry out a further inspection (refer item 4.3.1).

Over the reporting period, we have not raised any formal Supervisor's Communication General Matters / Other Instructions - Clause 13.1

There are currently no outstanding matters in connection with Supervisor's Tests and Inspections. The Supervisor's Tests and Inspections listed in Section 6 have all been cleared and closed and as a formality we await confirmation from Brookfield's Commissioning Manager.

2.0 DESIGN COMPLIANCE CHECK**2.1 SYPRO**

We continue to access "Sypro" to monitor and review notifications and this section records the notifications received during the reporting period. Certain notifications may be relevant to NSGH Stage 3A (Phase 3 -Demolitions, Landscaping works including Children's Play Park, Car Park) and INS Entrance (including Overcladding Works) and these will be detailed in the respective project specific reports.

2.1.1 Project Manager Instructions (PMI's)

Over the reporting period, we reviewed the following PMI notifications during February 2016

PMI 462 - Neurosurgery / Neurology Linkbridge

Notified 10/02/16

The Board are reviewing the potential options to resolve access restrictions beyond the Linkbridge between the Neurosurgery / Neurology buildings.

Instruction - Provide a quotation for the development of outline feasibility study and costs associated with the forming a new Linkbridge between the existing Neurosurgery stair core and the rooms on level 1 & 2 to the east of the existing break through point within the Neurology building. Also include the statutory approval fees within quotation.

PMI 463 - VIE 2 Medical Gas Alterations

Notified 10/02/16

Alterations to Medical Gas system to allow construction of the VIE 2 Slab Base

Instruction - Provide quotation to carry out alteration to medical gas network adjacent to the proposed VIE 2 Slab Base. Refer to Hulley Kirkwood Schematic Drawings and outline works sequence document.

PMI 464 - Destructive Testing of Neurosurgery Overcladding Windows

Notified 10/02/16

The Board has concerns regarding the robustness of the internal window restrictor and external "Jackloc"

Instruction - Provide quotation for the destructive testing of new window frame to establish force required to break the internal restrictor and the Jacloc.

PMI 465 Neurosurgery Overcladding Curtain Rail Modifications

Notified 10/02/16

Alterations to curtain tracks abutting new windows

Instruction - Carryout the removal, modification to track length and refixing of curtain rail in areas where the ends of the rail abut the new / existing windows

PMI 466 RHC LEVEL 4 DCFP - Antiligature Thumb Turn To Visicom Screens

Notified 16/02/16

Please provide a price to supply and install anti-ligature thumb turn control knobs to the corridor side of the Visicom screens to single and double bedrooms.

Instruction - Please provide a price to supply and install anti-ligature thumb turn control knobs to the corridor side of the Visicom screens to single and double bedrooms. Note anti-ligature thumb turns fitted to room side already.

Rooms concerned are DCFP-022, 031, 032, 034, 035 &

PMI 467 QEUH - CITY BIKE STANDS AT MAIN ENTRANCE - SIGN POLL

Notified 17/02/16

Take delivery of 3.5mm long, 76mm dia stainless steel sign pole supplied to your Neuro site cabins. Install into the 200mm dia cored hole at west end of west bike racks, excavate hole to a depth of 600mm, insert and grout in pole to achieve a height of 2.9m from surrounding granite.

Instruction - Take delivery of 3.5mm long, 76mm dia sign pole supplied to your Neuro site cabins. To 200mm dia cored hole at west end of west bike racks excavate hole to a depth of 600mm, insert and grout in pole to achieve a height of 2.9m from surrounding granite. (Delivery to be arranged through Graham Forsyth). For information only – others will supply and fit a 500mm cube onto of the post leaving a clear height below the base of the cube of 2.4m.

Over the reporting period, the following PMI's were accepted by Brookfield: - 451 on 16/02/16; 452 on 25/02/16; 454 on 16/02/16; 455 on 16/02/16.

2.1.2 Compensation Events (CE's)

Over the reporting period, we reviewed the following CE notifications during February 2016

CE 162 PHASE 3A - SURFACE CAR PARK 4 - CONSTRUCTION PHASE

Notified – 26/01/16 Closed – 05/02/16

Description - Brookfield Multiplex are to proceed with the construction of the surface car park works as set out in PMI 320 and as detailed in the approved planning submission from Glasgow City Council. Target completion date is 30 June 2016, with a revised programme to be submitted within one week of this CE issue.

Linked to PMI 3239 - PMI 320 PHASE 3A - ADDITIONAL DEMOLITION WORKS & TEMPORARY CAR PARK

CE 163 RHC REHABILITATION DEPARTMENT - ROOM REH 049 TREATMENT ROOM

Notified - 03/02/16 Closed – 24/02/16

Description - Works as set out in PMI 457. In Room REH-049 shorten track and re-commission Arjo Huntleigh Maxi Sky Lift. Make adjustments to ceiling grid and tiles as required.

Linked to PMI 5067 - PMI 457 - RHC REHABILITATION DEPARTMENT - REH 036 & 049

CE 164 PHASE 3A DEMOLITION OF SURGICAL BLOCK - CAPPING LAYER

Notified - 16/02/16 Closed – 24/02/16

Description - Supply and install foamed concrete capping layer to contaminated (Asbestos particulate) ground in under-croft as set out in PMI 451.

Linked to PMI 4906 - PMI 451 - Capping instructions for soil area below Block AL with ACM content of 0.004%

CE 165 QEUH IMMEDIATE ASSESSMENT UNIT - ROOMS AAW 172 & 178

Notified - 16/02/16 Closed – 24/02/16

Description - Please proceed with detailed design to establish feasibility and cost to make layout changes in the above rooms as set out in PMI 454.

Linked to PMI 5060 - PMI 454 QEUH IMMEDIATE ASSESSMENT UNIT - ROOMS AAW 172 & 178

CE 166 - RHC BUILDING SYSTEMS - ADDITIONAL TRAINING

Notified - 16/02/16 Closed – 24/02/16

Description - Provide additional staff training on nurse call, audio loop and Tannoy systems as per PMI 455.

Linked to PMI 5063 - PMI 455 RHC BUILDING SYSTEMS IN MAIN ENTRANCE

2.1.3 Early Warnings (EW's)

Nothing to report.

2.1.4 Programme Submissions (PROG IDS's)

PROG ID 2301

NSGH Phase 3A Contract programme REV F.pdf

Notified 09/02/16 Accepted 17/02/16

2.2 ACONEX

We continue to access "Aconex" to review drawings and specifications with 9 notifications during February 2016 comprising INS entrance documents: - RDD with NHS comments and review status; wall protection; revised doors & ironmongery; specifications.

2.3 ZUTEC

We have been given access to ZUTEC.

3.0 PROCEDURES REVIEW**3.1 POST COMPLETION DEFECTS****FM First Defects Summary (File ref. 20160226 FM First Summary.xlsx)**

Open Defects – 265; Defects in progress – 20; Closed - 2175

In the Open Defects category, it is acknowledged that there are numerous defect items in relation to the operation of the blinds and that there is also a number of defect items requiring further information.

We attended the first of regular monthly Defects Review Meeting for the New South Glasgow Hospital Adult and Children's Hospital on 22nd February 2016. This was chaired by Ian Powrie (NHS GGC Estates) with attendees comprising: - NHS Project Team, NHS Estates, Brookfield, and Supervisor. In our opinion this is a proactive arrangement in that it will provide a forum to ensure that ALL defects are clarified, discussed and agreed on their respective resolution and more significantly will facilitate the closure of defects leading up to the end of the 24 months defects period in January 2017.

Brookfield issued to Estates a copy of the current FM First list with a tab labeled 25/1/16 - 21/2/16 to show the items closed out in that period. Going forward Brookfield will issue this on a monthly basis ahead of the Defects Meeting.

3.2 CONTRACTOR'S QA PROCEDURES

Brookfield is dealing effectively with the post completion defects reported by the Board and the residual defects which we have raised.

4.0 CONSTRUCTION REVIEW**4.1 VISITS TO THE WORKS**

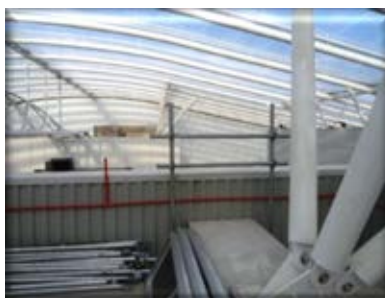
Site visits were carried out by the NEC3 Supervisor Team as follows: - Dave Ramsay (Lead and Architect Supervisor) on 1st, 3rd, 9th, 11th, 17th, 22nd and 26th February and Willie Roxburgh (Civil/Structural Engineer Supervisor) on 3rd, 10th, 18th, and 26th February 2016.

4.2 POST COMPLETION INSPECTIONS / ISSUES

During an inspection of the Children's Roof adjacent to Plantroom 41A we noted that there were no bulkhead lights fitted above the doors. There were also no lights fitted in the room on the roof providing access and egress via the cat ladder in Core L. These were not taken in the approved drawings. Brookfield has issued a communication to BMCE M&E Managers for action / response. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 246.

As this is a potential health and safety issue we presumed that this would have been either addressed or raised at another forum but it has not been addressed. Brookfield has advised that lights were never a consideration and are not part of the signed-off drawings.

There is temporary scaffolding providing perimeter protection at concrete floor beams above the cores accessed from Level 12. The client intimated that protection is required. Brookfield has confirmed that M&S Engineering has taken site measurements and we await a date when the work will commence. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 242.

**4.3 CURRENT OBSERVATIONS****4.3.1 Structural and Civil Works**

Reference Car Park 1, Brookfield is still working through the list of defects and informed us that CLAD UK are no longer trading consequently there exists unfinished work. Brookfield is awaiting Dunnes getting back to them about the outstanding items. Re the Maternity VIE we have received drawings from Brookfield showing the piles, slab and walls. We will continue to monitor this work.

4.4 OPEN SUPERVISOR'S NOTIFICATION OF DEFECTS - ACH**4.4.1 Supervisor's Notification of Defect (CI 42.2) No 88.**

The capping piece on the north facing elevation of the Children's Hospital has two discoloured areas. We requested Brookfield to confirm the remedial action to address this and advise when complete. Brookfield has advised that work is being planned to be carried out and we await confirmation.

4.4.2 Supervisor's Notification of Defect (CI 42.2) No 99

The joints at window cills are opening up. We requested Brookfield to confirm the remedial action to resolve this problem. Brookfield has filled and painted the joints but they have opened up again. Thereafter Brookfield sealed a joint with sealant to determine if this resolved the defect.

Brookfield has advised that in general excessive shrinkage cracking in building elements of completed work will be addressed immediately prior to the end of defects period and that this defect falls into this category.

We shall therefore retain this defect notification open.

**4.4.3 Supervisor's Notification of Defect (CI 42.2) No 116**

Following a joint inspection of Car Park 1 we identified various defects / snags which we issued to Brookfield and requested confirmation when these have been made good. We have recently undertaken a joint inspection with Brookfield and noted that some of the Defects have been rectified. Brookfield is attending to the remaining outstanding defects and anticipate that these will be completed by December 2015. We await confirmation.

4.4.4 Supervisor's Notification of Defect (CI 42.2) No 124

The Board has employed Competent Body Zurich Engineering to undertake an inspection of the pressure systems associated with the new buildings and systems handed over on 26th January 2015. This was done in order to produce the statutory written scheme required under the Pressure Systems Safety Regulations (PSSR) 2000 for the safe operation and inspection of relevant systems.

During their review, a number of defects have been found within the installed plant. Brookfield responded as follows. All of the relevant documentation is with Zurich and Brookfield awaits the Assembly Declaration of Conformity.

- 1) Configuration of boiler safety valves.
Brookfield response: Design drawings were discussed with NHS and Zurich and this is now complete.
- 2) A safe method of discharge of medium pressure/temperature water and steam blow off from boilers (120 degC / 5.7bar).
Brookfield response: Design drawings were discussed with NHS and Zurich and this is now complete.
- 3) Certificate of Conformity for boilers.
Brookfield response: Issued to NHS Zurich.
- 4) Certificate of Conformity for economisers.
Brookfield response: Issued to NHS Zurich.
- 5) Certificate of conformity for all pressure systems pipework.
Brookfield response: Issued to NHS Zurich.
- 6) CE marking of pressure vessels and heat exchangers.
Brookfield response: Complete.
- 7) Pressurisation Units – safety valves rating and fixing requirements.
Brookfield response: Complete.
- 8) Boiler drain points.
Brookfield response: Complete.

All of the relevant documentation is with Zurich and Brookfield awaits the Assembly Declaration of Conformity.

4.4.5 Supervisor's Notification of Defect (CI 42.2) No 125.

Following recent excavations around the buildings to expose and repair collapsed main drains, the Board request video surveys to be undertaken and reports provided of the repaired drain runs and also other neighbouring runs that may have been affected by proximity to the 200t crane. Brookfield has confirmed that the survey is complete and will issue to the Board. Dunnes are uploading information onto Zutec. We request confirmation from Brookfield that this has been uploaded.

4.4.6 Supervisor's Notification of Defect (CI 42.2) No 129.

The Bicycle Shelter roof does not drain rainwater to the two corner outlets, consequently the rainwater is ponding. We requested Brookfield to confirm their proposed remedial action to resolve this defect. They have confirmed that following a meeting with the designer a level survey is required. The plan is to introduce a further outlet and be complete by the end of December. Brookfield has advised that remedial works will be undertaken during March 2016.

**4.4.7 Supervisor's Notification of Defect (CI 42.2) No 132**

The concrete joint between the 6th floor and the down ramp is breaking up. We asked Brookfield to confirm the remedial measures to address this defect. They have instructed Dunne to carry out remedial works but await details from WSP.

**4.4.8 Supervisor's Notification of Defect (CI 42.2) No 134**

The remaining defects as listed below have been amalgamated under Supervisor's Notification of Defect (CI 42.2) No 134 and Brookfield is currently reviewing the status of the items. Below is the current status of the outstanding Defects.

Level 00 –	60	Level 00 –	04
Level 01 –	12	Level 01 –	01
Level 02 –	39	Level 02 –	03
Level 03 –	01	Level 03 –	
Level 05 –	01	Level 05 –	
Level 08 –	03	Level 08 –	
Level 09 –	01	Level 09 –	
Level 10 –	09	Level 10 –	
Level 11 –	06	Level 11 –	
Total Defects at inspection 132		Total Defects remaining to be complete 08	

4.4.9 Supervisor's Notification of Defect (CI 42.2) No 137.

The cladding on the west facing elevation has been damaged and an unsuccessful attempt has been made to repair the damage. We requested Brookfield to advise when this defect is to be rectified. Brookfield has confirmed that this has been passed onto the relevant sub-contractor Prater to rectify the unsuccessful attempt at the repair.



4.4.10 Supervisor's Notification of Defect (CI 42.2) No 140.

There are defective spindles to privacy visicom panels within timber doors and screens throughout the hospital. This is due to the nylon washer being reshaped by the spindle under the weight of the glass. This has led to the spindle being unable to move the washer as their shapes are incompatible. We requested Brookfield to advise when this defect will be addressed throughout the hospital and they have confirmed that the defect has been issued to their sub-contractor for action. All units will have new modified lifter installed; this is being reviewed by their sub-contractor. Once Brookfield has all relevant details from their sub-contractor they will issue us with a programme for rectification.

We attended a joint inspection of the sample retrofit glazing bead to the "plasform" doors at Room 20 in the Schiehallion ward (NCH – 2A) on Friday 26th February 2016. Represented were NHS Project Manager, NHS Estates and Brookfield. From a construction point of view, Ian Powrie from Estates accepted the sample, but would like to get Infection Control sign-off prior to Brookfield ordering materials.

All in attendance agreed that this was an acceptable remedial solution and Infection Control is to be consulted for their acceptance.

Photos below left show the retrofitted glazing bead to the outside face of the door (also facilitates maintenance future removal of the glazed unit) with photos below right showing the retention of the original detail on the internal face.



During the same visit, Brookfield exhibited the new spindle solution fixed in position which is a longer and more securely fixed spindle. All agreed that this was an acceptable remedial solution. Brookfield issued us with the proposed "Visicom Highline blind programme" the installation of which is progressing.


4.4.12 Supervisor's Notification of Defect (CI 42.2) No 141

The Board did not receive the cards/key numbers for the Bristol maid drugs cupboards at completion. We asked Brookfield to provide these without delay. Brookfield confirmed that 3 no. cards have been provided to the Client with one still to be provided. Brookfield has advised that the majority have now been provided with the remaining 12 to be handed over during March 2016.

4.4.13 Supervisor's Notification of Defect (CI 42.2) No 142

There is incomplete cladding on the underside of the Link Bridge between Royal Hospital for Children and the Neonatal Unit. As a result of the opening Pigeons are now nesting. We requested Brookfield to advise when this will be covered over with a metal panel to match the cladding. Brookfield has advised that this has been inspected and passed to their Sub-contractor Townhill who will rectify this defect early December 2015. Brookfield has completed the cladding and we have closed out this Defect.

4.4.15 Supervisor's Notification of Defect (CI 42.2) No 143

There is rust around the RHC Hydrotherapy pool surround, and on the handrails. The Department had a visit from Infection Control on 27th January 2016 and the rust was identified as sufficient a problem that the pool maybe put out of commission if the problem is not addressed. Brookfield to investigate this Defect and advise when this will be remedied.

4.4.16 Supervisor's Notification of Defect (CI 42.2) No 144

Reference Supervisor's Notification of Defect (Stage 3 A&C) No 143 and consequent visit by Dave Ramsay (Supervisor) and Gillon Armstrong (Brookfield) to RHC Hydrotherapy on 3rd Feb 2016 to meet Elinor Johnson and colleague (NHSGGC) with World Leisure (installers of pool) also in attendance.

Brookfield is requested to investigate and advise on remedial action for:-

1. Gaps between sections of the white plastic grating
2. Power of flow of incoming water
3. "Bender" panel for temperature monitoring has been installed but not functioning. Brookfield has advised us that the panel was made functional during February 2016.

In addition Brookfield to confirm the following:-

4. Pool installers recommended cleaning regime for the pool is contained in "Zutec"
5. NHSGGH staff have received training on the operation and maintenance of the pool (now received from Brookfield)

**4.5 OPEN SUPERVISOR'S NOTIFICATION OF DEFECTS - LABORATORY****4.5.1 Supervisor's Notification of Defect (CI 42.2) No 501**

The actuator for Laboratory Medicine Reception Disabled Door has a ground mounted drive unit which the manufacturer (Record Ltd) has advised that their installation drawings and instructions require that the ground mounted actuator housing drain spigot is connected to the drainage system to ensure that the actuator is not submerged in rain water.

At the time of installation Brookfield did not install underground drainage to support this and instructed the Record installation team to drill a sink hole from the actuator housing as an alternative. This arrangement was queried at the time under one of the original failures covered during the warranty as a defect however Brookfield advised that this was Brookfield's call, as the Contractor and that in their opinion this solution was suitable for this installation.

This disabled access door has been out of service for over a year as the integrity of the actuator housing cannot be maintained and therefore it is evident that the Brookfield solution is not suitable.

It is understood that the Board has installed 3 new actuators with unsuccessful attempts to protect against flooding, the last of which failed within 2 days of installation.

The Board has decided to take an alternative approach and install an overhead actuator solution which will be installed in early January 2015.

Although the warranty has expired, the Board is seeking to recover costs from Brookfield as a latent defect.

Brookfield has responded by requesting details of NHS costs to rectify the defect.

5.0 INFORMATION REQUIRED**(Supervisor's Communication General Matters / Other Instructions - Clause 13.1)**

☐ Shading indicates item closed, clear indicates current item.

Item	Description	Date Requested	Comment
The following items are not closed out.			
242	Seeking confirmation if permanent perimeter protection will be fitted above cores accessed from Level 12.	25.02.15	Response received.
246	No lights fitted to above the doors leading from the room to plantroom 41A	30.03.15	Response received.
All other Supervisor's Communication General Matters / Other Instructions raised have been closed out. A total of 252 Supervisor's Communication General Matters / Other Instructions have been issued to date.			

6.0 SUPERVISOR'S TESTS and INSPECTIONS

☐ Shading indicates item closed, clear indicates current item.

Ref	Title	Notified by	Status	Test Date
The following items are not closed out.				
01-377	Various tests undertaken and passed from the 09. 07.2012 To the 22.01 2015.			
378	Fire shut down test of AHU's during fire activity. PR21 AHU 19 did not shut down.	Brookfield	Retested successfully but not present. Refer Supervisor's Report No 50	23.01.2015
379-381	Various tests undertaken and passed from 23. 01.2015 to 02.04 2015.			

7.0 DEFECTS NOTIFICATIONS ISSUED

 Shading indicates item closed, clear indicates current item.

Item	Description	Date Requested	Comment
The following items are not closed out.			
88	Seeking confirmation of remedial measures to address the discolouration of the capping pieces.	20.11.14	Response received.
99	Confirm to open window cill joints.	24.02.15	Response received.
116	Various defects car Park 1.	08.04.15	Response received.
124	Defects in relation to the Zurich Engineers inspection.	16.04.15	Response received.
125	Seeking video surveys with reject to drain repairs.	16.04.15	Response received.
129	Ponding to Bicycle Shelter.	11.05.15	Response received.
130	Various external fabric defects.	11.05.15	Response received.
132	6th floor down ramp is break up.	13.05.15	Response received.
134	The defects identified in Supervisor's Notifications of Defects No 106, 107, 112, 113, 115, 117, 118, 121, 126 and 128 have been either completed or substantially completed. These have been closed out and the remaining defects amalgamated under this Defect Notification.	03.06.15	Response received.
137	Seeking confirmation when the damaged cladding has been rectified.	01.07.15	Response received.
140	Defective spindles to privacy visicom panels to timber doors and screens.	29.09.15	Awaiting a rectification programme
141	The Board did not receive the cards/key numbers for the Bristol maid drugs cupboards at completion. Please provide these without delay.	13.10.15	Response received.
142	Seeking confirmation when the incomplete cladding on the underside of the Link Bridge between Royal Hospital for Children and the Neonatal Unit will be carried out.	09.11.15	Response received. Cladding complete. Item closed
143	Rust around the RHC Hydrotherapy pool surround, and on the handrails	01.02.16	Response awaited
144	RHC Hydrotherapy pool;- gaps between sections of the white plastic grating; power of flow of incoming water; "Bender" panel for temperature monitoring has been installed but not functioning.	09.02.16	Response awaited
All other Defects Notifications raised have been closed out. A total of 144 defects notices have been issued to date.			



New South Glasgow Hospital Adult and Children's Hospital and Energy Centre

NEC 3 Supervisors Report No. 59

March 2016

CAPITA

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4.0	CONSTRUCTION REVIEW
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6.0	SUPERVISOR's TESTS and INSPECTIONS
7.0	DEFECT NOTIFICATIONS ISSUED

	Signed	Date
Originated by	Dave Ramsay	11 April 2016
Checked by	John Kilbane	11 April 2016

1.0 EXECUTIVE SUMMARY

In accordance with our NEC3 Contract, this is the monthly report for March 2016 on the activities carried out and responsibilities undertaken by the NEC3 Supervisor Team in connection with New South Glasgow Hospital Adult and Children's Hospital and Energy Centre.

In addition to this report, we also provide project specific monthly Supervisor Reports for NSGH Stage 3A (Phase 3 - Demolitions, Landscaping works including Children's Play Park and Car Park) and INS Entrance (including Overcladding Works).

Site visits were carried out by the NEC3 Supervisor Team as follows: - Dave Ramsay (Lead & Architect Supervisor) on 4th, 9th, 24th, 30th March and Willie Roxburgh (Civil/Structural Engineer Supervisor) on 3rd, 11th, 18th, and 24th March 2016.

During March 2016, we maintained our regular weekly meetings on site with Brookfield and information regarding drawings, quality issues and other technical matters has been supplied when requested.

Over the reporting period, we continued to access "Sypro" to monitor and review notifications and acknowledge that New PMI's No's 468 to 476 inclusive were raised during March 2016 (refer Section 2.1). The following PMI's were accepted by Brookfield: - 460 and 461 on 11/03/16; 466, 467 and 468 on 04/04/16.

Compensation Event No's 167 to 171 were notified during the period.

The following Early Warnings were notified during march:- EW ID 29125 - NHS EW 066 - Phase 3a HV Cable Fault and EW ID 23685 - BMCE-EWN-000150 - VIE 2 Slab and foundation increase

There were no programme notifications over the period.

We continue to access "Aconex" to view drawings and specifications with 7 notifications during March 2016 comprising INS entrance documents: - RDS update; drawings issued for review; drawings and specifications with comments and review status.

We continue to review the progress to remedy the defects outstanding at Stage 3 completion. Brookfield is dealing effectively with the post completion defects reported by the Board and those residual defects which we raised. We have also been reviewing the post completion defects reported in the FM Summary (refer Section 3.1).

Regarding the status of the FM First Defects Schedule at 4th April there are currently: - 278 open defect items; 7 defect items in progress and 2327 defect items closed. In the Open Defects category, it is acknowledged that there are numerous defect items in relation to the operation of the blinds (refer Section 4.4.10).

We attended the first of regular monthly Defects Review Meeting for the New South Glasgow Hospital Adult and Children's Hospital on 22nd February 2016. This was chaired by Ian Powrie (NHS GGC Estates) with attendees comprising: - NHS Project Team, NHS Estates, Brookfield, and Supervisor. In our opinion this is a proactive arrangement in that it will provide a forum to ensure that ALL defects are clarified, discussed and agreed on their respective resolution and more significantly will facilitate the closure of defects leading up to the end of the 24 months defects period in January 2017.

The second monthly meeting scheduled for 21st March 2016 was postponed.

Over the period we raised Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 253 regarding IPS Panels equipped with dispensers (refer Section 4.2.3). This was consequent to an inspection of several in-situ IPS examples undertaken in Ward 5B on Tuesday 5th April 2015 with Project Team, Estates, Supervisor and Brookfield in attendance. NHS preference for resolution of this matter is to screw the IPS panels to the frame. Brookfield has rejected that this matter is a Defect but has offered to provide a proposal for NHS consideration for screwing the IPS panels to the frame.

2.0 DESIGN COMPLIANCE CHECK**2.1 SYPRO**

We continue to access "Sypro" to monitor and review notifications and this section records the notifications received during the reporting period. Certain notifications may be relevant to NSGH Stage 3A (Phase 3 -Demolitions, Landscaping works including Children's Play Park, Car Park) and INS Entrance (including Overcladding Works) and these will be detailed in the respective project specific reports.

2.1.1 Project Manager Instructions (PMI's)

Over the reporting period, we reviewed the following PMI notifications during March 2016

PMI 468 - Asbestos Awareness Training for BMCL Site Staff

Notified 07/03/16

Instruction - The Board request BMCL provide the cost incurred for the additional training undertaken by BMCL Site Staff and Operatives in order to comply and adhere to the Board's Asbestos Management Policy. This was out with the contractual requirements of the NSGH project. Cross reference BMCL/EW/168.

PMI 469 - INS Entrance - BMS System

Notified 07/03/16

The Board request that BMCL provide the cost for the supply, install and commissioning of the BMS FOR THE Neurosurgery Entrance Project. (Provisional sum allowance included within overall scheme budget but excluded from CE). Cross ref BMCL-EWN- 172.

PMI 470 - NCH Rehab department (REH049) - Vestibular Hook

Notified 07/03/16

The Board request that BMCL provide the cost for the supply and install of goalpost frame subject to completion of ongoing design. Cross reference PMI 443 for further details. The Board confirm that PMI 443 will now only relate to the design works associated with the goal post frame.

PMI 471 - ADULT HOSPITAL - WARD 4B/HAEMATO-ONCOLOGY WARD - ALTERATION TO BOARD REQUIREMENTS

Notified 09/03/16

The Board requests that BMCL establish the feasibility, estimated costs and programme of works in order to achieve the revised specification as listed below Corridor to be HEPA filtered Bathrooms to be fully sealed Room pressures to be 2.5 -8 PA ACH 6/hr Air Change in prep room 6/hr Entrance to ward to be air locked using double door at front entrance. Exit door (beside room 76) to be sealed and only used as fire exit. BMCL is also requested to confirm the timescale to complete the feasibility study.

PMI 472 - Scaffold Alterations - Level 2 South Tower

Notified 21/03/16

The Board request that BMCL carry out alterations to the level 2 south tower scaffolds to allow replacement of faulty UPS Equipment. Scaffold transoms to be raised with standard on AHU support beam removed. Anticipated delivery date w/c 4th April 2016, date will be confirmed under separate correspondence.

PMI 473 - Children's Play Park - Weed Suppression

Notified 21/03/16

As per discussions on site (between Paul McGuinness and Graham Forsyth) this PMI confirms the verbal agreement that BMCL should not install bark mulch within the planted areas of the children's play park due to issues for immunosuppressed patients.

Instruction - Further direction will be provided whether it may be an alternative or for the weed suppression to be omitted.

PMI 474 - Children's Play Park - Weed Suppression

Notified 04/04/16

Further to PMI 473 (Children's Play Park - Weed Suppression) the Board request a cost to substitute the bark mulch which has now been omitted for a layer of anti weed membrane layered on all bare soil areas with a synthetic chip material (soft plastic).

PMI 475 ADULT HOSPITAL - WARD 4B/HAEMATO-ONCOLOGY WARD - ALTERATION TO BOARD REQUIREMENTS

Notified 04/04/16

The Board confirm acceptance of the design fees as identified for PMI 475 and request that BMCL progress PMI 471 (i.e. establish the feasibility, estimated costs and programme of works to achieve the revised spec as agreed by DWL)

PMI 476 - Neurosurgery Overcladding Windows

Notified 04/04/16

The Board request that BMCL supply and fit Jaclocs to all new windows. Cross reference PMI 464.

Over the reporting period, the following PMI's were accepted by Brookfield: - 460 and 461 on 11/03/16; 466, 467 and 468 on 04/04/16.

2.1.2 Compensation Events (CE's)

Over the reporting period, we reviewed the following CE notifications during March 2016

CE 167 - RHC LEVEL 4 / WARD 4 DCFP ADAPTATIONS

Notified – 07/03/16 Closed – 21/03/16

Description - The Board confirm that BMCL should proceed with the works as identified in PMI 460 i.e. Item1 - Provide a cost to supply and install additional video entry controls at DCFP L0 entrance to DCFP-005 and DCFP-033, and also extent main entrance door entry system to DCFP-033. Item 2 - DCFP-015 Provide cost to fabricate and install a demountable raised floor in the room, in 3 sections, as per attached drawing, to include balustrade, vinyl flooring finish and hi-viz nosings to stair treads. Item 3 - Signage - provide two new signs as per drawing, replace sign that incorrectly refers to Level 3 wards.

Linked to PMI 5160 - PMI 460 RHC LEVEL 4 / WARD 4 DCFP ADAPTATIONS

CE 168 - HV Infrastructure Works

Notified – 07/03/16 Closed – 21/03/16

Description - The Board confirm that BMCL should proceed with the works as identified in PMI 461 i.e. the installation of the works detailed within the Wallace Whittle Drg G1613-XX-XX-PL-E60-25, namely; 1) Excavation of track approximately 50m. 2) Installation of 3No. 200mm uPVC Ducts including draw ropes. 3) Backfilling to ensure that the duct crown has 800mm to proposed finished ground level 4) Forming 2No. temporary draw pits.

Linked to PMI 5230 - PMI 461 HV Infrastructure Works

CE 169 - Asbestos Awareness Training for BMCL site staff

Notified – 04/04/16

Description - The Board confirms acceptance of the costs incurred by BMCL (under BMCL EW 172 and PMI 469) to provide additional training in order to comply the Board's Asbestos Management Policy.

Linked to PMI 5443 - PMI 468 - Asbestos Awareness Training for BMCL Site Staff

CE 170 - City Bike Stands at QEUH Main Entrance - Sign Pole

Notified – 04/04/16

Description - The Board confirm that BMCL should proceed with PMI 467 regarding the installation of the sign pole for City Bike at the main entrance to the QEUH.

Linked to PMI 5368 - PMI 467 QEUH - CITY BIKE STANDS AT MAIN ENTRANCE - SIGN POLL

CE 171 - DCFP - Anti-ligature Thumb Turn to Visicom screens

Notified – 04/04/16

Description - The Board confirm that BMCL should proceed with PMI 466 regarding the installation of Anti-ligature Thumb Turn to Visicom screens to rooms DCFP 022, 031, 032, 035, 037 within RHC level 4.

Linked to PMI 5358 - CE 466 RHC LEVEL DCFP ANTI-LIGATURE THUMB TURN TO VISICOM SCREENS

2.1.3 Early Warnings (EW's)**EW ID 29125 - NHS EW 066 - Phase 3a HV Cable Fault**

Notified 09/03/16

The Boards Estates team have advised that a fault has been identified on the HV cable that crosses the Phase 3a landscaping site. The suggestion from the Estates team is that the Demolition site trafficking over the cable has caused the fault. Allow the Boards HV Contractor access to site to carryout investigations and repairs.

EW ID 23685 - BMCE-EWN-000150 - VIE 2 Slab and foundation increase

Notified 24/03/16

Due to late amendments to the requirements from Air Products, the Boards specialist gases supplier, from those provided to BMCE by Air Products have resulted in the requirement to pile and increase slab depth, width and length from that previously required. This will result in additional cost and a delay to this requirement being completed by the stage 3 completion date.

2.1.4 Programme Submissions (PROG IDS's)

Nothing to report.

2.2 ACONE

We continue to access "Aconex" to view drawings and specifications with 7 notifications during March 2016 comprising INS entrance documents: - RDS update; drawings issued for review; drawings and specifications with comments and review status.

2.3 ZUTEC

We have access to ZUTEC.

3.0 PROCEDURES REVIEW**3.1 POST COMPLETION DEFECTS****FM First Defects Summary (File ref. 20160404 FM First Summary.xlsx)**

Open Defects – 278; Defects in progress –7; Closed - 2327

In the Open Defects category, it is acknowledged that there are numerous defect items in relation to the operation of the blinds and that there is also a number of defect items requiring further information.

We attended the first of regular monthly Defects Review Meeting for the New South Glasgow Hospital Adult and Children's Hospital on 22nd February 2016. This was chaired by Ian Powrie (NHS GGC Estates) with attendees comprising: - NHS Project Team, NHS Estates, Brookfield, and Supervisor. In our opinion this is a proactive arrangement in that it will provide a forum to ensure that ALL defects are clarified, discussed and agreed on their respective resolution and more significantly will facilitate the closure of defects leading up to the end of the 24 months defects period in January 2017.

The second monthly meeting scheduled for 21st March 2016 was postponed.

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Brookfield is dealing effectively with the post completion defects reported by the Board and the residual defects which we have raised.

4.0 CONSTRUCTION REVIEW**4.1 VISITS TO THE WORKS**

Site visits were carried out by the NEC3 Supervisor Team as follows: - Dave Ramsay (Lead & Architect Supervisor) on 4th, 9th, 24th, 30th March and Willie Roxburgh (Civil/Structural Engineer Supervisor) on 3rd, 11th, 18th, and 24th March 2016.

4.2 POST COMPLETION INSPECTIONS / ISSUES**4.2.1 Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 246.**

During an inspection of the Children's Roof adjacent to Plantroom 41A we noted that there were no bulkhead lights fitted above the doors. There were also no lights fitted in the room on the roof providing access and egress via the cat ladder in Core L. These were not taken in the approved drawings. Brookfield has issued a communication to BMCE M&E Managers for action / response. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 246.

As this is a potential health and safety issue we presumed that this would have been either addressed or raised at another forum but it has not been addressed. Brookfield has advised that lights were never a consideration and are not part of the signed-off drawings.

4.2.2 Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 242.

There is temporary scaffolding providing perimeter protection at concrete floor beams above the cores accessed from Level 12. The client intimated that protection is required. Brookfield has confirmed that M&S Engineering has taken site measurements and we await a date when the work will commence. See Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 242.



4.2.3 Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 253.

Over the period we raised Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 253 regarding IPS Panels equipped with dispensers. This was consequent to the inspection of several in-situ IPS examples undertaken in Ward 5B on Tuesday 5th April 2015 with Project Team, Estates, Supervisor and Brookfield in attendance. NHS preference for resolution of this matter is to screw the IPS panels to the frame. Notwithstanding Brookfield's response to Communication No 253, Brookfield will provide a proposal for NHS consideration for screwing the IPS panels to the frame.

Brookfield replied to Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 253 as follows:-

"Brookfield Multiplex cannot be held responsible for the misuse of group 3 equipment, in this case soap and towel dispensers.

These IPS units were signed off by the NHS in July 2012, refer RDD document. Since this period over 5800 IPS units have been reviewed as part of the inspection process with no defects being raised regarding the fixing or security of these panels.

We reject this as a defect and would ask that this communication be closed out."

For transparency the following is some background to this matter:-

NHS GGC Estates (Ian Powrie) stated the following in e-mail (1st April 2016) correspondence to the Project Team:-

"We have experience a sizable number of incident where IPS panels are being dislodged and fallen onto the user, in some cases causing injury. This is due to the low centre of gravity for the top fixing employed on these panels where any pressure applied to the dispensers\equipment mounted on the IPS cause the top fixings to release very easily. The design of the IPS fixings should have taken into account that dispenser\Equipment was to be mounted on them as this detail is included in the RDS.

This issue was raised with Peter Moir to address as a design defect under the contract, however I understand that Brookfield have rejected this as the NHS fitted the dispensers\equipment to the IPS panels, as stated above this was in line with the RDS specification. There is a high liability risk to the Board from this is a known issue as we have not taken appropriate action to address the matter in line with our duty of care. Due to the scale of this issue running into the thousands I am reluctant to implement remedial actions until we have a definitive contractual position. I would therefore be grateful if you could bring this matter to a conclusion with Brookfield? To allow the board to make suitable decisions to effectively manage the situation

There was a further such incident reported at this morning's Adults Huddle"

In response to a similar IPS incident on 25th June 2015, Brookfield investigated and responded (Fergus Shaw) as follows:-

"Karen, I attended with Jordan and reinstated the panel. (The attached video demonstrates how the dispensers should be opened – by pressing the release button - without pulling on the carcass.)

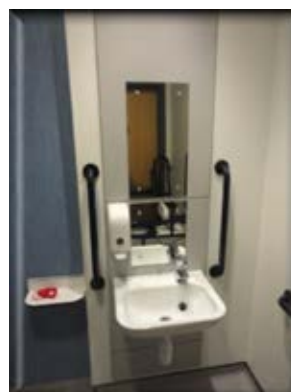
The video is a one off, but the staff in the room will vouch for my releasing the dispensers repeatedly without the panel becoming detached from the receiving clips.

We then removed the panel, checked the receiving clips and found the works to be in order. We replaced one clip which was more "stiff" than the others but would not affect performance.

The dispensers on the IPS panels have been selected by NHS to prevent any touching of the panel to assist removal. To prevent any future injuries there are three possible options:-

- A. Training for domestic staff.
- B. Signage on how to remove on all IPS mounted dispensers.
- C. Screw the IPS panel to the frame"

On Tuesday 5th April 2015 an inspection of several in-situ IPS examples was undertaken in Ward 5B with Project Team, Estates, Supervisor and Brookfield in attendance. NHS preference is to screw IPS panels (fitted with dispensers as photos below left) to the frame (Option 1.2C above) and Brookfield (caveated by their response to Communication 253) has offered to prepare proposals for NHS consideration to include provide: - fixing options; approximate quantity of rooms affected; approximate timescale for implementing proposals; approximate budget costs.



4.3 CURRENT OBSERVATIONS**4.3.1 Structural and Civil Works**

Reference Car Park 1, Brookfield is still working through the list of defects and informed us that CLAD UK are no longer trading consequently there exists unfinished work. Brookfield is awaiting Dunnes getting back to them about the outstanding items. Re the Maternity VIE we have received drawings from Brookfield showing the piles, slab and walls. We will continue to monitor this work.

4.4 OPEN SUPERVISOR'S NOTIFICATION OF DEFECTS - ACH**4.4.1 Supervisor's Notification of Defect (CI 42.2) No 88.**

The capping piece on the north facing elevation of the Children's Hospital has two discoloured areas. We requested Brookfield to confirm the remedial action to address this and advise when complete. Brookfield has advised that work is being planned to be carried out and we await confirmation.

4.4.2 Supervisor's Notification of Defect (CI 42.2) No 99

The joints at window cills are opening up. We requested Brookfield to confirm the remedial action to resolve this problem. Brookfield has filled and painted the joints but they have opened up again. Thereafter Brookfield sealed a joint with sealant to determine if this resolved the defect. Brookfield has advised that in general excessive shrinkage cracking in building elements of completed work will be addressed immediately prior to the end of defects period and that this defect falls into this category. We shall therefore retain this defect notification open.

**4.4.3 Supervisor's Notification of Defect (CI 42.2) No 116**

This relates to Car Park 1 defects/snags. Brookfield has confirmed that there is only one Defect remaining outstanding and that this has been rectified. Early April, we inspected and closed this item out.

4.4.4 Supervisor's Notification of Defect (CI 42.2) No 124

The Board has employed Competent Body Zurich Engineering to undertake an inspection of the pressure systems associated with the new buildings and systems handed over on 26th January 2015. This was done in order to produce the statutory written scheme required under the Pressure Systems Safety Regulations (PSSR) 2000 for the safe operation and inspection of relevant systems.

During their review, a number of defects have been found within the installed plant. Brookfield responded as follows. All of the relevant documentation is with Zurich and Brookfield awaits the Assembly Declaration of Conformity.

- 1) Configuration of boiler safety valves.
Brookfield response: Design drawings were discussed with NHS and Zurich and this is now complete.
- 2) A safe method of discharge of medium pressure/temperature water and steam blow off from boilers (120 degC / 5.7bar).
Brookfield response Design drawings were discussed with NHS and Zurich and this is now complete.
- 3) Certificate of Conformity for boilers.
Brookfield response: Issued to NHS Zurich.
- 4) Certificate of Conformity for economisers.
Brookfield response: Issued to NHS Zurich.
- 5) Certificate of conformity for all pressure systems pipework.
Brookfield response: Issued to NHS Zurich.
- 6) CE marking of pressure vessels and heat exchangers.
Brookfield response: Complete.
- 7) Pressurisation Units – safety vales rating and fixing requirements.
Brookfield response: Complete.
- 8) Boiler drain points.
Brookfield response: Complete.

All of the relevant documentation is with Zurich and Brookfield awaits the Assembly Declaration of Conformity and once received we shall close out this Defect.

4.4.5 Supervisor's Notification of Defect (CI 42.2) No 125.

Following recent excavations around the buildings to expose and repair collapsed main drains, the Board request video surveys to be undertaken and reports provided of the repaired drain runs and also other neighbouring runs that may have been affected by proximity to the 200t crane. Brookfield has confirmed that the survey is complete and will issue to the Board. Dunnes are uploading information onto Zutec. We request confirmation from Brookfield that this has been uploaded and once received, we shall close out this Defect.

4.4.6 Supervisor's Notification of Defect (CI 42.2) No 129.

The Bicycle Shelter roof does not drain rainwater to the two corner outlets, consequently the rainwater is ponding. We requested Brookfield to confirm their proposed remedial action to resolve this defect. They have confirmed that following a meeting with the designer a level survey is required. The plan is to introduce a further outlet. Brookfield has advised that remedial works will be undertaken during April 2016.

**4.4.7 Supervisor's Notification of Defect (CI 42.2) No 132**

The concrete joint between the 6th floor and the down ramp is breaking up. We asked Brookfield to confirm the remedial measures to address this defect. They have instructed Dunne to carry out remedial works but await details from WSP.

**4.4.8 Supervisor's Notification of Defect (CI 42.2) No 134**

The remaining defects were amalgamated under Supervisor's Notification of Defect (CI 42.2) No 134. Brookfield continues to address these and we await confirmation when these have been completed.

4.4.9 Supervisor's Notification of Defect (CI 42.2) No 137.

The cladding on the west facing elevation has been damaged and an unsuccessful attempt has been made to repair the damage. We requested Brookfield to advise when this defect is to be rectified. Brookfield has confirmed that this has been passed onto the relevant sub-contractor Prater to rectify the unsuccessful attempt at the repair.

**4.4.10 Supervisor's Notification of Defect (CI 42.2) No 140.**

Brookfield is reporting that around 600 spindles have been changed out of around 1250 in total. Reference the following background information that was included in Supervisor Report No 58.

There are defective spindles to privacy visicom panels within timber doors and screens throughout the hospital. This is due to the nylon washer being reshaped by the spindle under the weight of the glass. This has led to the spindle being unable to move the washer as their shapes are incompatible. We requested Brookfield to advise when this defect will be addressed throughout the hospital and they have confirmed that the defect has been issued to their sub-contractor for action. All units will have new modified lifter installed; this is being reviewed by their sub-contractor. Once Brookfield has all relevant details from their sub-contractor they will issue us with a programme for rectification.

We attended a joint inspection of the sample retrofit glazing bead to the "plasform" doors at Room 20 in the Schiehallion ward (NCH – 2A) on Friday 26th February 2016. Represented were NHS Project Manager, NHS Estates and Brookfield. From a construction point of view, Ian Powrie from Estates accepted the sample, but would like to get Infection Control sign-off prior to Brookfield ordering materials. We believe that Infection Control has approved and we request confirmation of this. All in attendance agreed that this was an acceptable remedial solution and Infection Control is to be consulted for their acceptance.

Photos below left show the retrofitted glazing bead to the outside face of the door (also facilitates maintenance future removal of the glazed unit) with photos below right showing the retention of the original detail on the internal face.



During the same visit, Brookfield exhibited the new spindle solution fixed in position which is a longer and more securely fixed spindle. All agreed that this was an acceptable remedial solution. Brookfield issued us with the proposed "Visicom Highline blind programme" the installation of which is progressing.



4.4.11 **Supervisor's Notification of Defect (CI 42.2) No 141**

The Board did not receive the cards/key numbers for the Bristol maid drugs cupboards at completion. We asked Brookfield to provide these without delay. Brookfield confirmed that 3 no. cards have been provided to the Client with one still to be provided. Brookfield has advised that the majority have now been provided with the remainder to be handed over during April 2016.

4.4.12 **Supervisor's Notification of Defect (CI 42.2) No 143**

There is rust around the RHC Hydrotherapy pool surround, and on the handrails. The Department had a visit from Infection Control on 27th January 2016 and the rust was identified as sufficient a problem that the pool maybe put out of commission if the problem is not addressed. Brookfield does not accept that the "rust" issue highlighted in defect notification no 143 is a defect. The following is an explanation from World Leisure:-

"The findings show that dirt is forming on the outside edge of the Channel (see picture). When wiped, this cleared. Our recommendation would be to introduce weekly cleaning procedures to the Pool Edge to prevent the dirt from forming. No chemical recommendation would be required at this stage as when wiped with a non-abrasive cloth, the dirt lifted and cleared."



World Leisure's recommended cleaning instructions for the pool surround are contained in pages 67 and 68 (extract right) of their document uploaded to Zutec. It would appear that the cleaning regime for the pool surrounds (pool surrounds should be cleaned at the start and end of each shift as a minimum) is not being carried out in accordance with these cleaning instructions and consequently the stainless steel is being coated in a residue. Once NHS Estates advises us that they have implemented the recommended cleaning regime and is satisfied that this resolves the problem, we will then close out this Defect.



4.4.13 Supervisor's Notification of Defect (CI 42.2) No 144

Reference Supervisor's Notification of Defect (Stage 3 A&C) No 143 and consequent visit by Dave Ramsay (Supervisor) and Gillon Armstrong (Brookfield) to RHC Hydrotherapy on 3rd Feb 2016 to meet Elinor Johnson and colleague (NHSGGC) with World Leisure (installers of pool) also in attendance.

Brookfield is requested to investigate and advise on remedial action for:-

1. Gaps between sections of the white plastic grating
2. Power of flow of incoming water
3. "Bender" panel for temperature monitoring has been installed but not functioning. Brookfield has advised us that the panel was made functional during February 2016.

In addition Brookfield to confirm the following:-

4. Pool installers recommended cleaning regime for the pool is contained in "Zutec" (refer above)

NHSGGH staff have received training on the operation and maintenance of the pool (now received from Brookfield)

Brookfield has responded to points 1 to 3 inclusive as follows:-

Please see below an update on the outstanding issues with the hydrotherapy pool.

1. *Gaps in plastic grating – this has now been rectified.*
2. *Reduce the power of the flow in the shallow end of the pool – World Leisure will be installing additional valve sets to reduce this, we are currently awaiting RAMS to be issued for this then we will liaise with NHS to agree installation date.*
3. *Incorrect temps being shown on 'Bender' panel – the sensors have now been recalibrated and the panel is now reading correct temps.*

4.5 OPEN SUPERVISOR'S NOTIFICATION OF DEFECTS - LABORATORY**4.5.1 Supervisor's Notification of Defect (CI 42.2) No 501**

The actuator for Laboratory Medicine Reception Disabled Door has a ground mounted drive unit which the manufacturer (Record Ltd) has advised that their installation drawings and instructions require that the ground mounted actuator housing drain spigot is connected to the drainage system to ensure that the actuator is not submerged in rain water.

At the time of installation Brookfield did not install underground drainage to support this and instructed the Record installation team to drill a sink hole from the actuator housing as an alternative. This arrangement was queried at the time under one of the original failures covered during the warranty as a defect however Brookfield advised that this was Brookfield's call, as the Contractor and that in their opinion this solution was suitable for this installation.

This disabled access door has been out of service for over a year as the integrity of the actuator housing cannot be maintained and therefore it is evident that the Brookfield solution is not suitable.

It is understood that the Board has installed 3 new actuators with unsuccessful attempts to protect against flooding, the last of which failed within 2 days of installation.

The Board has decided to take an alternative approach and install an overhead actuator solution which will be installed in early January 2015.


Although the warranty has expired, the Board is seeking to recover costs from Brookfield as a latent defect.

Brookfield has responded on 25th January 2016 and requested details of NHS costs to rectify the defect as follows:-

The issue raised is understood however we require details of the costs associated with:-


"To date the Board have committed approximately [REDACTED] in unsuccessful repair/replacement parts via the installer/manufacture of this equipment."

5.0 INFORMATION REQUIRED**(Supervisor's Communication General Matters / Other Instructions - Clause 13.1)**

 Shading indicates item closed, clear indicates current item.


Item	Description	Date Requested	Comment
The following items are not closed out.			
242	Seeking confirmation if permanent perimeter protection will be fitted above cores accessed from Level 12.	25.02.15	Response received.
246	No lights fitted to above the doors leading from the room to plantroom 41A	30.03.15	Response received.
253	IPS Panels equipped with Dispensers.	11.04.16	Response received 11.04.16
All other Supervisor's Communication General Matters / Other Instructions raised have been closed out. A total of 253 Supervisor's Communication General Matters / Other Instructions have been issued to date.			

6.0 SUPERVISOR'S TESTS and INSPECTIONS

 Shading indicates item closed, clear indicates current item.


Ref	Title	Notified by	Status	Test Date
The following items are not closed out.				
01-377	Various tests undertaken and passed from the 09. 07.2012 To the 22.01 2015.			
378	Fire shut down test of AHU's during fire activity. PR21 AHU 19 did not shut down.	Brookfield	Retested successfully but not present. Refer Supervisor's Report No 50	23.01.2015
379-381	Various tests undertaken and passed from 23. 01.2015 to 02.04 2015.			

7.0 DEFECTS NOTIFICATIONS ISSUED

 Shading indicates item closed, clear indicates current item.

Item	Description	Date Requested	Comment
The following items are not closed out.			
88	Seeking confirmation of remedial measures to address the discolouration of the capping pieces.	20.11.14	Response received. Brookfield advised will be towards the end of Defects Period.
99	Confirm to open window cill joints.	24.02.15	Response received.
116	Various defects car Park 1.	08.04.15	Response received. Items closed.
124	Defects in relation to the Zurich Engineers inspection.	16.04.15	Response received. Await confirmation that final certification has been issued.
125	Seeking video surveys with reject to drain repairs.	16.04.15	Response received. Await confirmation that CCTV survey uploaded to Zutec
129	Ponding to Bicycle Shelter.	11.05.15	Response received. To be corrected April 2016
132	6th floor down ramp is break up.	13.05.15	Response received. Await details from Brookfield.
134	The defects identified in Supervisor's Notifications of Defects No 106, 107, 112, 113, 115, 117, 118, 121, 126 and 128 have been either completed or substantially completed. These have been closed out and the remaining defects amalgamated under this Defect Notification.	03.06.15	Response received. Brookfield continues to address these and we await confirmation when these have been completed.
137	Seeking confirmation when the damaged cladding has been rectified.	01.07.15	Response received.
140	Defective spindles to privacy visicom panels to timber doors and screens.	29.09.15	Rectification programme rec'd. Brookfield reports approx. 600 spindles changed out of circa 1250 in total.
141	The Board did not receive the cards/key numbers for the Bristol maid drugs cupboards at completion. Please provide these without delay.	13.10.15	Response received. Majority provided with the remainder to be handed over during April 2016.
143	Rust around the RHC Hydrotherapy pool surround, and on the handrails	01.02.16	Response received. To be closed out when NHS Estates confirms that the recommended cleaning regime has been implemented and that this resolves the problem.
144	RHC Hydrotherapy pool;- gaps between sections of the white plastic grating; power of flow of incoming water; "Bender" panel for temperature monitoring has been installed but not functioning.	09.02.16	Response received. Items resolved except water flow. Additional valve sets to be provided.
All other Defects Notifications raised have been closed out. A total of 144 defects notices have been issued to date.			

LATENT DEFECTS NOTIFICATIONS ISSUED - LABORATORY

 Shading indicates item closed, clear indicates current item.

Item	Description	Date Requested	Comment
The following items are not closed out.			
501	Drain system for Laboratory Medicine Reception Disabled Door actuator.	20.11.14	Response received. NHS to provide Brookfield with details of costs incurred.



New South Glasgow Hospital Adult and Children's Hospital and Energy Centre

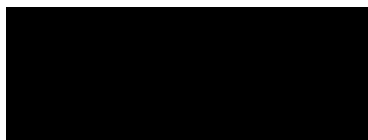
NEC 3 Supervisors Report No. 60

April 2016

CAPITA

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Dave Ramsay BSc (Hons), BArch, RIBA, RIAS
Technical Director

CAPITA

Capita, 7 West Nile St, Glasgow, G1 2PR

	Signed	Date
Originated by	Dave Ramsay	10 th May 2016
Checked by	John Kilbane	10 th May 2016

1.0 EXECUTIVE SUMMARY

In accordance with our NEC3 Contract, this is the monthly report for April 2016 on the activities carried out and responsibilities undertaken by the NEC3 Supervisor Team in connection with New South Glasgow Hospital Adult and Children's Hospital and Energy Centre. As this Report is issued on 10th May 2016, and in order to maintain reporting as current as possible, it contains information issued early May.

In addition to this report, we also provide project specific monthly Supervisor Reports for NSGH Stage 3A (Phase 3 - Demolitions, Landscaping works including Children's Play Park and Car Park) and INS Entrance (including Overcladding Works).

Site visits were carried out by the NEC3 Supervisor Team as follows: - Dave Ramsay (Lead & Architect Supervisor) on 5th, 13th, 18th and 25th April and Willie Roxburgh (Civil/Structural Engineer Supervisor) on 14th, 21st and 28th April 2016.

During April 2016, we maintained our regular weekly meetings on site with Brookfield and information regarding drawings, quality issues and other technical matters has been supplied when requested.

We now have 13 open Supervisor's Notification of Defects (CI 42.2) as referenced in Section 7. We received satisfactory responses from Brookfield to enable closure of Defects 134 (Amalgamated Defects from Stage 3 Completion) and 141 (Drugs Cupboards). Corrective work to Defect 140 (Defective Spindles) is ongoing. Defect 124 (Zurich Engineers) is linked to current ongoing Energy Centre meetings. Defect 143 (Rust in Radiotherapy Pool) is deemed a maintenance issue and Brookfield has now corrected Defect 144 (Various in Radiotherapy Pool). Brookfield advised that Defects 88, 99, 137 (Cladding matters) will be corrected towards the latter part of the Defects Period. Brookfield advise that Defects 129 (Ponding to Bicycle Shelter) and 132 (Car Park ramp break-up) will be corrected within the next few months. We issued Supervisor's Notification of Defect (CI 42.2) No 145 on 25th April 2016 regarding the Water Leak – Mild Steel Tail In Domestic Cold Water Pipe and await formal response on Aconex.

Regarding the status of the post completion defects in the FM First Defects Schedule at 6th May 2016 there are currently: - 260 open defect items; 9 defect items in progress and 2472 defect items closed. In the Open Defects category, it is acknowledged that there are numerous defect items in relation to the operation of the blinds (refer Section 4.3.5).

We attended the second of regular monthly Defects Review Meeting for the New South Glasgow Hospital Adult and Children's Hospital on 18th April 2016 attended by representatives from: - NHS Project Team, NHS Estates, Brookfield, and Supervisor. In our opinion this is a proactive arrangement in that it will provide a forum to ensure that ALL defects are clarified, discussed and agreed on their respective resolution and more significantly will facilitate the closure of defects leading up to the end of the 24 months defects period in January 2017.

Over the reporting period, we continued to access "Sypro" to monitor and review notifications and acknowledge that New PMI's No's 474 to 479 inclusive were raised during April 2016 (refer Section 2.1). The following PMI's were accepted by Brookfield: - 466, 467, 468 on 04/04/16 and 443, 453, 469, 471, 472 on 29/04/16.

Compensation Event No's 169 to 176 were notified during the period.

The following Early Warnings were notified during April:- EW ID 29718 - Redesign of Blue Light Route and EW ID 29719 - INS Entrance - Delay to commencing demolition works EW Risk Score has gone above 75

PROG ID 2607 - "INS Overcladding" Programme No: BM-GS4-TN02-0021 Rev B dated 10/05/2016" was notified on 10th May 2016.

We continue to access "Aconex" to view drawings and specifications with 2 notifications during April 2016 comprising INS entrance documents: - RDD issue status A.

We previously raised Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 253 regarding IPS Panels equipped with dispensers (refer Section 4.2.1). PMI 479 refers.

We attended an Energy Centre meeting at Brookfield's Govan Office on 6th May 2016 with representatives from NHS Project Team, Brookfield, Zurich, Mercury and Supervisor.

2.0 DESIGN COMPLIANCE CHECK**2.1 SYPRO**

We continue to access "Sypro" to monitor and review notifications and this section records the notifications received during the reporting period. Certain notifications may be relevant to NSGH Stage 3A (Phase 3 -Demolitions, Landscaping works including Children's Play Park, Car Park) and INS Entrance (including Overcladding Works) and these will be detailed in the respective project specific reports.

2.1.1 Project Manager Instructions (PMI's)

Over the reporting period, we reviewed the following PMI notifications during April 2016

PMI 479 - QEUH - IPS Remedial works

Notified 22/04/16

The Board requests that BMCL provide a cost for the secure fixing of IPS Panels which have dispensers fitted by the Board. The Board anticipate that circa 4000 IPS Panels will require to be securely fixed.

PMI 478 - Alterations to Childrens Roof Gardens

Notified 22/04/16

In accordance with Clause 61.1 progress with the alterations to the Children's Roof Garden 1) Increase height of fence to a height of 2.4m above finished level with an inward spay of 400mm (see sketch detail) 2) Remove wire trellis and eye bolts as indicated on sketch. 3) Remove 2No. mounds and replace with astro turf to same level as surrounding. 4) Remove planters and replace with astro turf to same level as surrounding. Works to be complete on or before 1st June.

PMI 477 - Ground Level Children's Play Park Fence

Notified 22/04/16

The Board requests the provision of a quotation for the installation of fencing within the ground level children's play park as follows; 1) Form double gate at east end of fire track and extend fence to NW corner of Neonatal unit, include provision of pedestrian fire exit gate with push pad exit. (All 1.8m high) 2) Install pedestrian fence (looped top or similar) from CP1 to Neonatal unit as per route designated on the marked up sketch drawing. Make allowance for double gate on fire track and single gate at the main access point.

PMI 476 - Neurosurgery Overcladding Windows

Notified 04/04/16

The Board request that BMCL supply and fit Jaclocs to all new windows. Cross reference PMI 464.

PMI 475 ADULT HOSPITAL - WARD 4B/HAEMATO-ONCOLOGY WARD - ALTERATION TO BOARD REQUIREMENTS

Notified 04/04/16

The Board confirm acceptance of the design fees as identified for PMI 475 and request that BMCL progress PMI 471 (i.e. establish the feasibility, estimated costs and programme of works to achieve the revised spec as agreed by DWL)

PMI 474 - Children's Play Park - Weed Suppression

Notified 04/04/16

Further to PMI 473 (Children's Play Park - Weed Suppression) the Board request a cost to substitute the bark mulch which has now been omitted for a layer of anti-weed membrane layered on all bare soil areas with a synthetic chip material (soft plastic).

Over the reporting period, the following PMI's were accepted by Brookfield: - 466, 467, 468 on 04/04/16 and 443, 453, 469, 471, 472 on 29/04/16.

The following PMI's are still active with works progressing.

PMI 470 - NCH REHAB DEPARTMENT (REH049) - VESTIBULAR HOOK

PMI 469 - INS ENTRANCE - BMS SYSTEM

PMI 465 NEUROSURGERY OVERCLADDING CURTAIN RAIL MODIFICATIONS

PMI 463 VIE 2 MEDICAL GAS ALTERATIONS

PMI 462 - NEUROSURGERY / NEUROLOGY LINKBRIDGE

PMI 460 RHC LEVEL 4 / WARD 4 DCFP ADAPTATIONS (raised access floor ongoing)

PMI 454 QEUH IMMEDIATE ASSESSMENT UNIT - ROOMS AAW 172 7 178

PMI 453 QEUH & RHC ATRIUM FLOORS - REPAIRS TO CERAMIC FLOOR TILES

2.1.2 Compensation Events (CE's)

Over the reporting period, we reviewed the following CE notifications during April 2016

CE 176 - Alterations to Children's Roof Gardens

Notified – 29/04/16 Open

Description - The Board confirm that BMCL should proceed with the alterations to the Children's Roof Garden as detailed in PMI 478 i.e. 1) Increase height of fence to a height of 2.4m above finished level with an inward spay of 400mm (see sketch detail) 2) Remove wire trellis and eye bolts as indicated on sketch. 3) Remove 2No. mounds and replace with astro turf to same level as surrounding. 4) Remove planters and replace with astro turf to same level as surrounding. Works to be complete on or before 1st June.

Linked to PMI 5647 - PMI 478 - Alterations to Children's Roof Gardens

CE 175 - QEUH & RHC Atrium Floor Tiles - Repairs to ceramic floor tiles

Notified – 29/04/16 Closed – 29/04/16

Description - The Board confirms acceptance of the quotation for the repairs to the ceramic floor tiles in both the QEUH and RHC atrium areas as per BM site survey 10/12/2015 and as detailed in PMI 453.

Linked to PMI 5059 - PMI 453 QEUH & RHC ATRIUM FLOORS - REPAIRS TO CERAMIC FLOOR TILES

CE 174 - Scaffold Alterations - Level 2 South Tower

Notified – 29/04/16 Closed – 29/04/16

Description - The Board confirms acceptance of the costs associated with the Scaffold Alterations - Level 2 South Tower as instructed by PMI 472.

Linked to PMI 5509 - PMI 472 - Scaffold Alterations - Level 2 South Tower

CE 173 - ADULT HOSPITAL - WARD 4B/HAEMATO-ONCOLOGY WARD - ALTERATION TO BOARD

Notified – 29/04/16 Closed – 29/04/16

Description - The Board confirm acceptance of the design fees and request that BMCL progress PMI 471 (i.e. establish the feasibility, estimated costs and programme of works to achieve the revised spec as agreed by DWL).

Linked to PMI 5453 - PMI 471 ADULT HOSPITAL - WARD 4B/HAEMATO-ONCOLOGY WARD - ALTERATION TO BOARD

CE 172 - INS Entrance - BMS System

Notified – 29/04/16 Closed – 05/04/16

Description - The Board confirms that BMCL should proceed with the supply and install of the BMS System to the INS Entrance as per PMI 469.

Linked to PMI 5444 - PMI 469 - INS Entrance - BMS System

Linked to Early Warning 28099 - INS Entrance - BMS System

CE 171 - DCFP - Anti-ligature Thumb Turn to Visicom screens

Notified – 04/04/16 Closed – 05/04/16

Description - The Board confirm that BMCL should proceed with PMI 466 regarding the installation of Anti-ligature Thumb Turn to Visicom screens to rooms DCFP 022, 031, 032, 035, 037 within RHC level 4.

Linked to PMI 5358 - CE 466 RHC LEVEL DCFP ANTI-LIGATURE THUMB TURN TO VISICOM SCREENS

CE 170 - City Bike Stands at QEUH Main Entrance - Sign Pole

Notified – 04/04/16 Closed – 05/04/16

Description - The Board confirm that BMCL should proceed with PMI 467 regarding the installation of the sign pole for City Bike at the main entrance to the QEUH.

Linked to PMI 5368 - PMI 467 QEUH - CITY BIKE STANDS AT MAIN ENTRANCE - SIGN POLL

CE 169 - Asbestos Awareness Training for BMCL site staff

Notified – 04/04/16 Closed – 05/04/16

Description - The Board confirms acceptance of the costs incurred by BMCL (under BMCL EW 172 and PMI 469) to provide additional training in order to comply the Board's Asbestos Management Policy.

Linked to PMI 5443 - PMI 468 - Asbestos Awareness Training for BMCL Site Staff

2.1.3 Early Warnings (EW's)**EW ID 29718 - Redesign of Blue Light Route**

Notified 26/04/16

Please accept this EWN as notification of potential additional costs and delays to the completion of the phase 3A contract works due to the requirement to redesign the layout and detailing of the blue light route running between Langlands Drive and Govan Road.

EW ID 29719 - INS Entrance - Delay to commencing demolition works EW Risk Score has gone above 75

Notified 26/04/16

Probability Very High Risk Score 85

Further to BMCL-EWN-174, please confirm when the demolition works to the INS Entrance will be able to commence to allow the contract programme to be rescheduled. Prior to these works commencing they require the ACM's to be removed and redundant services to be isolated and disconnected within the area to be reconfigured.

2.1.4 Programme Submissions (PROG IDS's)

PROG ID 2607 - "INS Overcladding" Programme No: BM-GS4-TN02-0021 Rev B dated 10/05/2016."

2.2 ACONEX

We continue to access "Aconex" to view drawings and specifications with 2 notifications during April 2016 comprising INS entrance documents: - RDD issue status A.

2.3 ZUTEC

We have access to ZUTEC.

3.0 PROCEDURES REVIEW**3.1 POST COMPLETION DEFECTS****FM First Defects Summary (File ref. 20160506 FM First Summary.xlsx)**

Open Defects – 260; Defects in progress –9; Closed - 2472

In the Open Defects category, it is acknowledged that there are numerous defect items in relation to the operation of the blinds and that there is also a number of defect items requiring further information.

We attended the second of regular monthly Defects Review Meeting for the New South Glasgow Hospital Adult and Children's Hospital on 18th April 2016 attended by representatives from: - NHS Project Team, NHS Estates, Brookfield, and Supervisor. In our opinion this is a proactive arrangement in that it will provide a forum to ensure that ALL defects are clarified, discussed and agreed on their respective resolution and more significantly will facilitate the closure of defects leading up to the end of the 24 months defects period in January 2017.

3.2 CONTRACTOR'S QA PROCEDURES

Brookfield is dealing effectively with the post completion defects reported by the Board and the residual defects which we have raised.

4.0 CONSTRUCTION REVIEW**4.1 VISITS TO THE WORKS**

Site visits were carried out by the NEC3 Supervisor Team as follows: - Dave Ramsay (Lead & Architect Supervisor) on 5th, 13th, 18th and 25th April and Willie Roxburgh (Civil/Structural Engineer Supervisor) on 14th, 21st and 28th April 2016.

4.2 POST COMPLETION INSPECTIONS / ISSUES**4.2.1 Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 253.**

Refer Section 2.1.1 and PMI 479 notified 22/04/16 for IPS Remedial works which states:-

"The Board requests that BMCL provide a cost for the secure fixing of IPS Panels which have dispensers fitted by the Board. The Board anticipate that circa 4000 IPS Panels will require to be securely fixed."

We raised Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 253 on 11th April 2016 regarding IPS Panels equipped with dispensers consequent to an inspection of several in-situ IPS examples undertaken in Ward 5B on Tuesday 5th April 2015 with Project Team, Estates, Supervisor and Brookfield in attendance. NHS preference for resolution of this matter is to screw fix the IPS panels to the frame

Brookfield replied to Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 253 as follows:-

"Brookfield Multiplex cannot be held responsible for the misuse of group 3 equipment, in this case soap and towel dispensers.

These IPS units were signed off by the NHS in July 2012, refer RDD document. Since this period over 5800 IPS units have been reviewed as part of the inspection process with no defects being raised regarding the fixing or security of these panels.

We reject this as a defect and would ask that this communication be closed out."

For transparency we recorded the background to this matter in our Supervisor Report No 59 Section 4.2.3.

4.2.2 Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 246.

During an inspection of the Children's Roof adjacent to Plantroom 41A we noted that there were no bulkhead lights fitted above the doors. There were also no lights fitted in the room on the roof providing access and egress via the cat ladder in Core L. These were not taken in the approved drawings. Brookfield has issued a communication to BMCE M&E Managers for action / response.

As this is a potential health and safety issue we presumed that this would have been either addressed or raised at another forum but it has not been addressed. Brookfield has advised that lights were never a consideration and are not part of the signed-off drawings.

4.2.3 Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 242.

There is temporary scaffolding providing perimeter protection at concrete floor beams above the cores accessed from Level 12. The client intimated that protection is required. Brookfield has confirmed that M&S Engineering has taken site measurements and we await a date when the work will commence. Brookfield has advised works will be undertaken late April 2016.



4.3 OPEN SUPERVISOR'S NOTIFICATION OF DEFECTS - ACH

4.3.1 Supervisor's Notification of Defect (CI 42.2) No 145

We issued No 145 on 25th April 2016 Water Leak – Mild Steel Tail In Domestic Cold Water Pipe

NHS GGC Estates (Ian Powrie) stated in the following e-mail (22nd April 2016) to Brookfield (David Wilson):-

"This morning we experienced a water leak in ARU2 in the corridor at room 47 above the nurses' station AO AAW/354, on investigation this was found to be from a domestic cold water pipe which was isolated to make safe until repairs could be carried out. Once the failed section of pipe was removed for inspection it was found that a mild steel tail had been connected to the stainless steel pipe work and that this has corroded causing pin holes in the mild steel pipe resulting in the water leak. Unfortunately in order to restore quickly, to minimise impact on clinical services we have not been able to remove this material completely at this stage without causing wider spread disruption.

I have attached photographs of the section removed and have this in my office for further examination if required.

My concern over and above the water leak is that mild steel presents a source of nutrient for Legionella and should not be found anywhere in this installation!

Can you advise why this material would be found in our distribution system? And how do we establish that there are no other instances of this material across the domestic hot and cold water distribution systems?

Finally can you please advise on suitable proposals to have this material completely removed from this part of the system as well as a thorough inspection to ensure that there are no other instances of this material being used? Followed up by carrying out re-commissioning of this system including: flushing, disinfection and water quality testing (Legionella)."

Brookfield to investigate and report on the reasons for mild steel pipework having been provided in the domestic cold water distribution system.

Brookfield to provide proposals for removing the identified mild steel pipework and on acceptance of the proposal, Brookfield is required to remove and replace with compliant material.

Brookfield to provide a proposal for undertaking a search to establish whether mild steel pipework is present in the domestic hot and cold water services distribution systems. Once the proposal is accepted Brookfield to undertake a search.

4.3.2 Supervisor's Notification of Defect (CI 42.2) No 144

Reference Supervisor's Notification of Defect (Stage 3 A&C) No 143 and consequent visit by Dave Ramsay (Supervisor) and Gillon Armstrong (Brookfield) to RHC Hydrotherapy on 3rd Feb 2016 to meet Elinor Johnson and colleague (NHSGGC) with World Leisure (installers of pool) also in attendance.

Brookfield is requested to investigate and advise on remedial action for:-

1. Gaps between sections of the white plastic grating
2. Power of flow of incoming water
3. "Bender" panel for temperature monitoring has been installed but not functioning. *Brookfield has advised us that the panel was made functional during February 2016.*

In addition Brookfield to confirm the following:-

4. Pool installers recommended cleaning regime for the pool is contained in "Zutec" (refer above) NHSGGH staff have received training on the operation and maintenance of the pool (now received from Brookfield) We received a response from Brookfield on 26th April 2016 which stated:-
Please see below an update on the 4 items contained within defect notification 144;

1. 'Rust' around the pool surround - *This has been responded to separately and has not been accepted as a defect.*
2. Gaps in white plastic grating - *This has now been resolved.*
3. Power of flow of incoming water - *The inlet jets have been altered and the flow of water is now not as powerful.*
4. Incorrect temperature reading on the Bender panel - *This has now been resolved.*

We would now ask that this defect be closed out as all works are complete. Once NHS advises us that they are satisfied that defects have been resolved, we will then close-out this Defect.

4.3.3 Supervisor's Notification of Defect (CI 42.2) No 143

There is rust around the RHC Hydrotherapy pool surround, and on the handrails. The Department had a visit from Infection Control on 27th January 2016 and the rust was identified as sufficient a problem that the pool maybe put out of commission if the problem is not addressed. Brookfield does not accept that the "rust" issue highlighted in defect notification no 143 is a defect. The following is an explanation from World Leisure:-

"The findings show that dirt is forming on the outside edge of the Channel (see picture). When wiped, this cleared. Our recommendation would be to introduce weekly cleaning procedures to the Pool Edge to prevent the dirt from forming. No chemical recommendation would be required at this stage as when wiped with a non-abrasive cloth, the dirt lifted and cleared."



World Leisure's recommended cleaning instructions for the pool surround are contained in pages 67 and 68 (extract right) of their document uploaded to Zutec. It would appear that the cleaning regime for the pool surrounds (pool surrounds should be cleaned at the start and end of each shift as a minimum) is not being carried out in accordance with these cleaning instructions and consequently the stainless steel is being coated in a residue. Once NHS Estates advises us that they have implemented the recommended cleaning regime and is satisfied that this resolves the problem, we will then close-out this Defect.

**4.3.4 Supervisor's Notification of Defect (CI 42.2) No 141**

The Board did not receive the cards/key numbers for the Bristol maid drugs cupboards at completion. We asked Brookfield to provide these without delay. Brookfield has confirmed that they have handed over a full set of security cards for the CDC's to the NHS Estates team. Consequently we shall close out this defect.

4.3.5 Supervisor's Notification of Defect (CI 42.2) No 140.

Brookfield is reporting that 960 spindles have been changed out of around 1250 in total. These replace the defective spindles to privacy visicom panels within timber doors and screens throughout the hospital. This is due to the nylon washer being reshaped by the spindle under the weight of the glass. This has led to the spindle being unable to move the washer as their shapes are incompatible. Refer to Supervisor Report No 59 for background to this matter. Brookfield issued us with the proposed "Visicom Highline blind programme" the installation of which is progressing.



4.3.6 Supervisor's Notification of Defect (CI 42.2) No 137.

The cladding on the west facing elevation has been damaged and an unsuccessful attempt has been made to repair the damage. We requested Brookfield to advise when this defect is to be rectified. Brookfield has confirmed that this has been passed onto the relevant sub-contractor Prater to rectify the unsuccessful attempt at the repair.

**4.3.7 Supervisor's Notification of Defect (CI 42.2) No 134**

The remaining defects were amalgamated under Supervisor's Notification of Defect (CI 42.2) No 134. Over the period, Brookfield confirmed that the outstanding internal door defects have been corrected and issued us with the signed off QA records. Consequently we have close out this defect.

4.3.8 Supervisor's Notification of Defect (CI 42.2) No 132

The concrete joint between the 6th floor and the down ramp is breaking up. We asked Brookfield to confirm the remedial measures to address this defect. They have instructed Dunne to carry out remedial works but await details from WSP. Brookfield confirmed that Details have now been received from WSP.

**4.3.9 Supervisor's Notification of Defect (CI 42.2) No 129.**

The Bicycle Shelter roof does not drain rainwater to the two corner outlets, consequently the rainwater is ponding. We requested Brookfield to confirm their proposed remedial action to resolve this defect. They have confirmed that following a meeting with the designer a level survey is required. The plan is to introduce a further outlet. Brookfield has advised that remedial works will be undertaken during May 2016.

**4.3.10 Supervisor's Notification of Defect (CI 42.2) No 125.**

Following recent excavations around the buildings to expose and repair collapsed main drains, the Board request video surveys to be undertaken and reports provided of the repaired drain runs and also other neighbouring runs that may have been affected by proximity to the 200t crane. Brookfield has confirmed that the survey is complete and will issue to the Board. Dunnes are uploading information onto Zutec. We request confirmation from Brookfield that this has been uploaded and once received, we shall close out this Defect.

4.3.11 Supervisor's Notification of Defect (CI 42.2) No 124

The Board has employed Competent Body Zurich Engineering to undertake an inspection of the pressure systems associated with the new buildings and systems handed over on 26th January 2015. This was done in order to produce the statutory written scheme required under the Pressure Systems Safety Regulations (PSSR) 2000 for the safe operation and inspection of relevant systems.

During their review, a number of defects have been found within the installed plant. Brookfield responded as follows. All of the relevant documentation is with Zurich and Brookfield awaits the Assembly Declaration of Conformity.

- 1) Configuration of boiler safety valves.
Brookfield response: Design drawings were discussed with NHS and Zurich and this is now complete.
- 2) A safe method of discharge of medium pressure/temperature water and steam blow off from boilers (120 degC / 5.7bar).
Brookfield response Design drawings were discussed with NHS and Zurich and this is now complete.
- 3) Certificate of Conformity for boilers.
Brookfield response: Issued to NHS Zurich.
- 4) Certificate of Conformity for economisers.
Brookfield response: Issued to NHS Zurich.
- 5) Certificate of conformity for all pressure systems pipework.
Brookfield response: Issued to NHS Zurich.
- 6) CE marking of pressure vessels and heat exchangers.
Brookfield response: Complete.
- 7) Pressurisation Units – safety vales rating and fixing requirements.
Brookfield response: Complete.
- 8) Boiler drain points.
Brookfield response: Complete.

All of the relevant documentation is with Zurich and Brookfield awaits the Assembly Declaration of Conformity and once received we shall close out this Defect.

4.3.12 **Supervisor's Notification of Defect (CI 42.2) No 99**

The joints at window cills are opening up. We requested Brookfield to confirm the remedial action to resolve this problem. Brookfield has filled and painted the joints but they have opened up again. Thereafter Brookfield sealed a joint with sealant to determine if this resolved the defect.

Brookfield has advised that in general excessive shrinkage cracking in building elements of completed work will be addressed immediately prior to the end of defects period and that this defect falls into this category.

We shall therefore retain this defect notification open.



4.3.13 **Supervisor's Notification of Defect (CI 42.2) No 88.**

The capping piece on the north facing elevation of the Children's Hospital has two discoloured areas. We requested Brookfield to confirm the remedial action to address this and advise when complete. Brookfield has advised that work is being planned to be carried out and we await confirmation.

4.5 **OPEN SUPERVISOR'S NOTIFICATION OF DEFECTS - LABORATORY**

4.5.1 **Supervisor's Notification of Defect (CI 42.2) No 501**

The actuator for Laboratory Medicine Reception Disabled Door has a ground mounted drive unit which the manufacturer (Record Ltd) has advised that their installation drawings and instructions require that the ground mounted actuator housing drain spigot is connected to the drainage system to ensure that the actuator is not submerged in rain water.

At the time of installation Brookfield did not install underground drainage to support this and instructed the Record installation team to drill a sink hole from the actuator housing as an alternative. This arrangement was queried at the time under one of the original failures covered during the warranty as a defect however Brookfield advised that this was Brookfield's call, as the Contractor and that in their opinion this solution was suitable for this installation.

This disabled access door has been out of service for over a year as the integrity of the actuator housing cannot be maintained and therefore it is evident that the Brookfield solution is not suitable.

It is understood that the Board has installed 3 new actuators with unsuccessful attempts to protect against flooding, the last of which failed within 2 days of installation.

The Board has decided to take an alternative approach and install an overhead actuator solution which will be installed in early January 2015.

Although the warranty has expired, the Board is seeking to recover costs from Brookfield as a latent defect.

Brookfield has responded on 25th January 2016 and requested details of NHS costs to rectify the defect as follows:-

The issue raised is understood however we require details of the costs associated with:-

"To date the Board have committed approximately [REDACTED] in unsuccessful repair/replacement parts via the installer/manufacturer of this equipment."

5.0 INFORMATION REQUIRED**(Supervisor's Communication General Matters / Other Instructions - Clause 13.1)**

Shading indicates item closed, clear indicates current item.

Item	Description	Date Requested	Comment
The following items are not closed out.			
242	Seeking confirmation if permanent perimeter protection will be fitted above cores accessed from Level 12.	25.02.15	Response received.
246	No lights fitted to above the doors leading from the room to plantroom 41A	30.03.15	Response received.
253	IPS Panels equipped with Dispensers.	11.04.16	Response received 11.04.16
All other Supervisor's Communication General Matters / Other Instructions raised have been closed out. A total of 253 Supervisor's Communication General Matters / Other Instructions have been issued to date.			

6.0 SUPERVISOR'S TESTS and INSPECTIONS


Shading indicates item closed, clear indicates current item.

Ref	Title	Notified by	Status	Test Date
The following items are not closed out.				
01-377	Various tests undertaken and passed from the 09. 07.2012 To the 22.01 2015.			
378	Fire shut down test of AHU's during fire activity. PR21 AHU 19 did not shut down.	Brookfield	Retested successfully but not present. Refer Supervisor's Report No 50	23.01.2015
379-381	Various tests undertaken and passed from 23. 01.2015 to 02.04 2015.			

7.0 DEFECTS NOTIFICATIONS ISSUED

Shading indicates item closed, clear indicates current item.

Item	Description	Date Requested	Comment
The following items are not closed out.			
88	Seeking confirmation of remedial measures to address the discolouration of the capping pieces.	20.11.14	Response received. Brookfield advised will be towards the end of Defects Period.
99	Confirm to open window cill joints.	24.02.15	Response received.
124	Defects in relation to the Zurich Engineers inspection.	16.04.15	Response received. Await confirmation that final certification has been issued.
125	Seeking video surveys with reject to drain repairs.	16.04.15	Response received. Await confirmation that CCTV survey uploaded to Zutec
129	Ponding to Bicycle Shelter.	11.05.15	Response received. To be corrected April 2016
132	6th floor down ramp is break up.	13.05.15	Response received. Await details from Brookfield.
134	The defects identified in Supervisor's Notifications of Defects No 106, 107, 112, 113, 115, 117, 118, 121, 126 and 128 have been either completed or substantially completed. These have been closed out and the remaining defects amalgamated under this Defect Notification.	03.06.15	Response received. Brookfield continues to address these and we await confirmation when these have been completed. Outstanding internal door defects have now been corrected. Item closed out.
137	Seeking confirmation when the damaged cladding has been rectified.	01.07.15	Response received.
140	Defective spindles to privacy visicom panels to timber doors and screens.	29.09.15	Rectification programme rec'd. Corrective work ongoing. Brookfield reports approx. 950 spindles changed out of circa 1250 in total.
141	The Board did not receive the cards/key numbers for the Bristol maid drugs cupboards at completion. Please provide these without delay.	13.10.15	Response received. Majority provided with the remainder to be handed over during April 2016. Brookfield has confirmed that they have handed over a full set of security cards for the CDC's to the NHS Estates team. Item closed out.
143	Rust around the RHC Hydrotherapy pool surround, and on the handrails	01.02.16	Response received. NHS to confirm that the recommended cleaning regime has been implemented and that this resolves the problem.
144	RHC Hydrotherapy pool;- gaps between sections of the white plastic grating; power of flow of incoming water; "Bender" panel for temperature monitoring has been installed but not functioning.	09.02.16	Response received. Items corrected. NHS to confirm no adverse feedback from user before closure of Defect.
145	Water Leak – Mild Steel Tail In Domestic Cold Water Pipe	25.04.16	Awaiting a response via Aconex.
All other Defects Notifications raised have been closed out. A total of 145 defects notices have been issued to date.			

LATENT DEFECTS NOTIFICATIONS ISSUED - LABORATORY Shading indicates item closed, clear indicates current item.

Item	Description	Date Requested	Comment
The following items are not closed out.			
501	Drain system for Laboratory Medicine Reception Disabled Door actuator.	20.11.14	Response received. NHS to provide Brookfield with details of costs incurred.



New South Glasgow Hospital Stage 3 Adult and Children's Hospitals

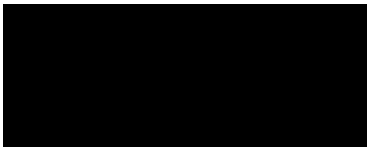
NEC 3 Supervisors Report No. 61

May 2016

CAPITA

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Dave Ramsay BSc (Hons), BArch, RIBA, RIAS
Technical Director

CAPITA

Capita, 7 West Nile St, Glasgow, G1 2PR

	Signed	Date
Originated by	Dave Ramsay	8 th June 2016
Checked by	John Kilbane	8 th June 2016

1.0 EXECUTIVE SUMMARY

In accordance with our NEC3 Contract, this is the monthly report for May 2016 on the activities carried out and responsibilities undertaken by the NEC3 Supervisor Team in connection with the Queen Elizabeth University Hospital Campus - Queen Elizabeth University Hospital (QEUH) and Royal Hospital for Children (RHC). For continuity of reporting purposes we are retaining the terminology of "New South Glasgow Hospital Stage 3 Adult and Children's Hospital". As this Report is issued on 8th June 2016, and in order to maintain reporting as current as possible, it contains information issued early June.

In addition to this report, we also provide project specific monthly Supervisor Reports for the New South Glasgow Hospital Stage 3A (Phase 3 -Demolitions, Landscaping works including Children's Play Park and Car Park) and INS Entrance (including Overcladding Works). It is noted that the Children's Play Park was originally part of Stage 3.

Site visits were carried out by the NEC3 Supervisor Team as follows: - Dave Ramsay (Lead & Architect Supervisor) on 4th, 11th, 16th, 18th, 23rd, 31st May; Willie Roxburgh (Civil/Structural Engineer Supervisor) on 5th, 10th, 17th and 23rd May; John McEwan (M&E Supervisor) on 18th, 25th, 31st May 2016. During May 2016, we maintained our regular weekly meetings on site with Brookfield and information regarding drawings, quality issues and other technical matters has been supplied when requested. We continue to access "Aconex" to view drawings and specifications with one notifications during May 2016 comprising response to Defect Notification 146.

We now have 11 open Supervisor's Notification of Defects (CI 42.2) as referenced in Section 7. During May, we issued Supervisor's Notification of Defects (CI 42.2) No's 147 (Oil Delivery point and filling process) and No 146 (Bellows Tie Rod Failures) with response to the latter received from Brookfield. We await formal response on Aconex for Defect No 145 regarding the Water Leak – Mild Steel Tail In Domestic Cold Water Pipe. Corrective work to Defect 140 (Defective Spindles) is ongoing. For Defect 125, we await confirmation that CCTV drainage surveys have been uploaded to Zutec. Defect 124 (Zurich Engineers) is linked to current ongoing Energy Centre meetings. Brookfield advised that Defects 88, 99, 137 (Cladding matters) will be corrected towards the latter part of the Defects Period. Brookfield advise that Defects 129 (Ponding to Bicycle Shelter) and 132 (Car Park ramp break-up) will be corrected within the next few months. Defects No's 143 and 144 (Re Radiotherapy Pool) are now closed out.

Regarding the status of the post completion defects in the FM First Defects Schedule at 3rd June 2016 there are currently: - 121 Open Defects; 13 Defects in progress; 2,644 Closed.

We attended the regular monthly Post Completion Works Meeting for the Queen Elizabeth University Hospital Campus QEUH and RHC on 16th May April 2016 attended by representatives from: - NHS Project Team, NHS Estates, Brookfield, and Supervisor. In our opinion this is a proactive arrangement in that it will provide a forum to ensure that ALL defects are clarified, discussed and agreed on their respective resolution and more significantly will facilitate the closure of defects leading up to the end of the 24 months defects period in January 2017.

We anticipate that the agreed strategy for correcting defects by the end of the defects correction period on 26th January 2017 will entail the following:-

- Review and ensure the completion of the Project Managers Schedule of Incomplete Works dated 26th January 2015 which is attached to the Sectional Completion Certificate for the New South Glasgow Hospital Stage 3 Adult and Children's Hospital leading up to the end of the 24 months defects period in January 2017 (refer Appendix 2).
- Review and ensure the completion of ALL defects contained in the FM First Summary Schedule leading up to the end of the 24 months defects period in January 2017.
- Ensure completion of Supervisor's Notifications of Defects under Clause 42.4 and that Supervisor's Communication General Matters / Other Instructions under Clause 13.1 are closed out.

Going forward it is also important that any new Defects identified between now and the end of the Defects Correction Period are logged, tracked and corrected before 26th January 2017.

We (Dave Ramsay & John McEwan) attended a follow-up Energy Centre meeting at Brookfield's Office on 6th June 2016 at which relevant Energy Centre FM issues were discussed, resolved and actions going forward agreed.

Dave Ramsay & John McEwan also attended a meeting on Isolation Rooms on 31st May 2016, the minutes of which are located in Appendix 1 with the intention to discuss and track the ongoing actions at the next Post Completion Meeting scheduled for Monday 13th June 2016.

Over the reporting period, we continued to access "Sypro" to monitor and review notifications (refer Section 2.1) and acknowledge that there were no new PMI's issued but that the following PMI's were accepted by Brookfield: - 479, 478, 476, 470, 463, 459. Compensation Event No's 176 to 180 were notified during the period and Early Warning EW ID 30164 (Unchartered underground services within Phase 3A works) was notified during May. PROG ID 2693 - "INS Entrance - Revised Contract Programme Rev C dated 2nd June 2016" was issued and we note that this now indicates a Completion Date of 17th March 2017 and a Handover Date of 20th March 2017.

2.0 DESIGN COMPLIANCE CHECK**2.1 SYPRO**

We continue to access "Sypro" to monitor and review notifications and this section records the notifications received during the reporting period. Certain notifications may be relevant to NSGH Stage 3A (Phase 3 -Demolitions, Landscaping works including Children's Play Park, Car Park) and INS Entrance (including Overcladding Works) and these will be detailed in the respective project specific reports.

2.1.1 Project Manager Instructions (PMI's)

There were no new PMI's raised during May 2016.

Over the reporting period, the following PMI's were accepted by Brookfield:-

PMI 479 - QEUH - IPS REMEDIAL WORKS on 11/05/16
 PMI 478 - ALTERATIONS TO CHILDRENS ROOF GARDENS on 23/05/16
 PMI 476 - NEUROSURGERY OVERCLADDING WINDOWS on 26/05/16
 PMI 470 - NCH REHAB DEPARTMENT (REH049) - VESTIBULAR HOOK on 26/05/16
 PMI 463 - VIE 2 MEDICAL GAS ALTERATIONS on 26/05/16
 PMI 459 - OFFICE BLOCK EXTERNAL WORKS on 26/05/16

The following PMI's are still active:-

PMI 469 - INS ENTRANCE - BMS SYSTEM
 PMI 465 NEUROSURGERY OVERCLADDING CURTAIN RAIL MODIFICATIONS
 PMI 462 - NEUROSURGERY / NEUROLOGY LINKBRIDGE
 PMI 460 RHC LEVEL 4 / WARD 4 DCFP ADAPTATIONS (raised access floor ongoing)
 PMI 454 QEUH IMMEDIATE ASSESSMENT UNIT - ROOMS AAW 172 7 178
 PMI 453 QEUH & RHC ATRIUM FLOORS - REPAIRS TO CERAMIC FLOOR TILES

2.1.2 Compensation Events (CE's)

Over the reporting period, we monitored the following CE notifications during May 2016

CE 180 - NCH Rehab department (REH049) - Vestibular Hook

Notified – 26/05/16 Closed – 26/05/16

Description - The Board confirms acceptance of the quotation for the supply and install of goalpost frame. Cross reference PMI 443 and PMI 470.

Linked to PMI 5445 - PMI 470 - NCH Rehab department (REH049) - Vestibular Hook

CE 179 - Neurosurgery Overcladding Windows

Notified – 26/05/16 Closed – 26/05/16

Description -The Board confirm acceptance of the quotation provided to install jaclocs to all new windows. Cross reference PMI 464 and PMI 476.

Linked to PMI 5575 - PMI 476 - Neurosurgery Overcladding Windows

CE 178 - VIE 2 Medical Gas Alterations

Notified – 26/05/16 Closed – 26/05/16

Description - The Board confirm acceptance of the quotation provided for the works outlined in PMI 463 VIE 2 Medical Gas Alterations and confirm that BMCL should proceed with these works.

Linked to PMI 5341 - PMI 463 VIE 2 Medical Gas Alterations

CE 177 - Office Block External Works

Notified – 26/05/16 Closed – 26/05/16

Description - The Board confirm acceptance of the quotation supplied for PMI 459 Office Block External Works and confirm that BMCL should proceed with the works as detailed in PMI 459.

Linked to PMI 5144 - PMI 459 - Office Block External Works

CE 176 - Alterations to Children's Roof Gardens

Notified – 29/04/16 Closed – 26/05/16

Description - The Board confirm that BMCL should proceed with the alterations to the Children's Roof Garden as detailed in PMI 478 i.e. 1) Increase height of fence to a height of 2.4m above finished level with an inward spay of 400mm (see sketch detail) 2) Remove wire trellis and eye bolts as indicated on sketch. 3) Remove 2No. mounds and replace with astro turf to same level as surrounding. 4) Remove planters and replace with astro turf to same level as surrounding. Works to be complete on or before 1st June.

Linked to PMI 5647 - PMI 478 - Alterations to Children's Roof Gardens

2.1.3 Early Warnings (EW's)**EW ID 30164 - Uncharted underground services within Phase 3A works**

Notified 31/05/16

Land Engineering have discovered 3 No. potentially live, uncharted, electrical cables within the Central Park area whilst carrying out CAT scans prior to excavating the SUDS pond. The NHS were notified of these on 10th April and it was confirmed to them on 11th May that these were within either the SUDS pond excavation or the Orchard area and therefore need to be diverted/isolated. (The NHS and Burgoynes have both been out to see the cables but no other action has yet taken place). These services are now having an impact on progress on site

2.1.4 Programme Submissions (PROG IDS's)

PROG ID 2693 - "INS Entrance - Revised Contract Programme Rev C dated 2nd June 2016". We note that this programme indicates a Completion Date of 17th March 2017 and a Handover date of 20th March 2017.

2.2 ACONEX

We continue to access "Aconex" to view drawings and specifications with one notifications during May 2016 comprising response to Defect notification 146.

2.3 ZUTEC

We have access to ZUTEC.

3.0 PROCEDURES REVIEW**3.1 POST COMPLETION DEFECTS****3.1.1 Post Completion Works Meetings**

We attended the regular monthly Post Completion Works Meeting for the New South Glasgow Hospital Stage 3 Adult and Children's Hospitals on 16th May April 2016 attended by representatives from: - NHS Project Team, NHS Estates, Brookfield, and Supervisor. In our opinion this is a proactive arrangement in that provides a forum to ensure that ALL defects are clarified, discussed and agreed on their respective resolution and more significantly will facilitate the closure of the correction of defects leading up to the end of the 24 months defects period in January 2017.

3.1.2 FM First Defects Summary (File ref. 201606063FM First Summary.xlsx)

Open Defects – 121; Defects in progress –13; Closed - 2644

3.2 CORRECTING DEFECTS WITHIN THE DEFECTS CORRECTION PERIOD ENDING 26TH JANUARY 2017.

We anticipate that the agreed strategy for correcting defects by the end of the defects correction period on 26th January 2017 will entail the following:-

- 3.2.1** Review and ensure the completion of the Project Managers Schedule of Incomplete Works dated 26th January 2015 which is attached to the Sectional Completion Certificate for the New South Glasgow Hospital Stage 3 Adult and Children's Hospital leading up to the end of the 24 months defects period in January 2017 (refer Appendix 2)
- 3.2.2** Review and ensure the completion of ALL defects contained in the FM First Summary Schedule leading up to the end of the 24 months defects period in January 2017.
- 3.2.3** Ensure completion of Supervisor's Notifications of Defects under Clause 42.4 and that Supervisor's Communication General Matters / Other Instructions under Clause 13.1 are closed out.

Going forward it is also important that any new Defects identified between now and the end of the defects correction period are logged, tracked and corrected before 26th January 2017.

3.3 ENERGY CENTRE MEETING

Dave Ramsay and John McEwan attended a follow-up Energy Centre meeting at Brookfield's Office on 6th June 2016 with representatives from NHS Project Team, NHS Estates, Brookfield, Mercury and Supervisor in attendance with the ongoing purpose to discuss and track relevant Energy Centre FM issues to a conclusion.

4.0 CONSTRUCTION REVIEW**4.1 VISITS TO THE WORKS**

Site visits were carried out by the NEC3 Supervisor Team as follows: - Dave Ramsay (Lead & Architect Supervisor) on 4th, 11th, 16th, 18th, 23rd, 31st May; Willie Roxburgh (Civil/Structural Engineer Supervisor) on 5th, 10th, 17th and 23rd May; John McEwan (M&E Supervisor) on 18th, 25th, 31st May 2016.

4.2 POST COMPLETION INSPECTIONS / ISSUES**4.2.1 Isolation Rooms**

Dave Ramsay & John McEwan attended a meeting on Isolation Rooms on 31st May 2016, the minutes of which are located in Appendix 1 with the intention to discuss and track the ongoing actions at the next Post Completion Meeting scheduled for Monday 13th June 2016. Purpose and background to meeting is as follows:-

Due to recent formal concerns raised by ID Physicians & ICD colleagues at QEUH, NHSGGC wish to seek confirmation from Health Facilities Scotland (HFS) on certain matters relevant to SHPN 04 Supplement 1.

These are contained in Questions 1 and 2 of "HFS Isolation Room Status" document with Question 1 having been submitted to HFS. In advance of Question 2 submission, DL requested Supervisor to comment on Question 2 which highlights variations to SHPN 04 Supplement 1. The Team therefore requires to be unified in support of the submission and supporting information. Question 2 forms Part 1 of the agenda. IP and JMcE met on site on 25th May 2016 to view Isolation Rooms and Supervisor's (JMcE) Notes from that inspection forms Parts 2 and 3 of the agenda which includes relevant design and technical matters pertaining to the proposed submission.

4.2.2 Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 253.

Refer Section 2.1.1 and PMI 479 notified 22/04/16 for IPS Remedial works which states:-

"The Board requests that BMCL provide a cost for the secure fixing of IPS Panels which have dispensers fitted by the Board. The Board anticipate that circa 4000 IPS Panels will require to be securely fixed."

We raised Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 253 on 11th April 2016 regarding IPS Panels equipped with dispensers consequent to an inspection of several in-situ IPS examples undertaken in Ward 5B on Tuesday 5th April 2015 with Project Team, Estates, Supervisor and Brookfield in attendance. NHS preference for resolution of this matter is to screw fix the IPS panels to the frame

Brookfield replied to Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 253 as follows:-

"Brookfield Multiplex cannot be held responsible for the misuse of group 3 equipment, in this case soap and towel dispensers. These IPS units were signed off by the NHS in July 2012, refer RDD document. Since this period over 5800 IPS units have been reviewed as part of the inspection process with no defects being raised regarding the fixing or security of these panels. We reject this as a defect and would ask that this communication be closed out."

For transparency we recorded the background to this matter in our Supervisor Report No 59 Section 4.2.3.

4.2.3 Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 246.

During an inspection of the Children's Roof adjacent to Plantroom 41A we noted that there were no bulkhead lights fitted above the doors. There were also no lights fitted in the room on the roof providing access and egress via the cat ladder in Core L. These were not taken in the approved drawings. Brookfield has issued a communication to BMCE M&E Managers for action / response.

As this is a potential health and safety issue we presumed that this would have been either addressed or raised at another forum but it has not been addressed. Brookfield has advised that lights were never a consideration and are not part of the signed-off drawings.

4.2.4 Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 242.

There is temporary scaffolding providing perimeter protection at concrete floor beams above the cores accessed from Level 12. The client intimated that protection is required. Brookfield has confirmed that M&S Engineering has taken site measurements and we await a date when the work will commence. Brookfield has advised works will be undertaken late April 2016.

**4.2.5 Visual Shrinkage Cracks**

We propose discussions with Brookfield on their interpretation of the appearance of shrinkage cracking to completed building elements in general and in particular in connection with finished internal partitions in a clinical environment.

4.3 OPEN SUPERVISOR'S NOTIFICATION OF DEFECTS - ACH**4.3.1 Supervisor's Notification of Defect (CI 42.2) No 147**

We issued No 147 on 12th May 2016. Confirm that the Oil Delivery point and filling process is compliant and if not advise corrective action to be undertaken. Although discussed at Energy Centre meetings, we await formal response.

4.3.2 Supervisor's Notification of Defect (CI 42.2) No 146

We issued No 146 on 12th May 2016 Bellows Tie Rod Failures. Confirm the corrective procedures, actions, relevant parties and timescales required to resolve the bellows tie rod failures.

Brookfield (D Wilson) responded on Aconex on 13th May 2016 and corrective action is being tracked at the Energy Centre Meetings (refer Section 3.3).

4.3.3 Supervisor's Notification of Defect (CI 42.2) No 145

We issued No 145 on 25th April 2016 Water Leak – Mild Steel Tail In Domestic Cold Water Pipe. Although discussed at Energy Centre meetings, and although tracked in separate e-mail correspondence, we await formal response.

NHS GGC Estates (Ian Powrie) stated in the following e-mail (22nd April 2016) to Brookfield (David Wilson):-

"This morning we experienced a water leak in ARU2 in the corridor at room 47 above the nurses' station AO AAW/354, on investigation this was found to be from a domestic cold water pipe which was isolated to make safe until repairs could be carried out. Once the failed section of pipe was removed for inspection it was found that a mild steel tail had been connected to the stainless steel pipe work and that this has corroded causing pin holes in the mild steel pipe resulting in the water leak. Unfortunately in order to restore quickly, to minimise impact on clinical services we have not been able to remove this material completely at this stage without causing wider spread disruption. I have attached photographs of the section removed and have this in my office for further examination if required.

I have attached photographs of the section removed and have this in my office for further examination if required.

My concern over and above the water leak is that mild steel presents a source of nutrient for Legionella and should not be found anywhere in this installation!

Can you advise why this material would be found in our distribution system? And how do we establish that there are no other instances of this material across the domestic hot and cold water distribution systems?

Finally can you please advise on suitable proposals to have this material completely removed from this part of the system as well as a thorough inspection to ensure that there are no other instances of this material being used? Followed up by carrying out re-commissioning of this system including: flushing, disinfection and water quality testing (Legionella)."

Brookfield to investigate and report on the reasons for mild steel pipework having been provided in the domestic cold water distribution system.

Brookfield to provide proposals for removing the identified mild steel pipework and on acceptance of the proposal, Brookfield is required to remove and replace with compliant material.

Brookfield to provide a proposal for undertaking a search to establish whether mild steel pipework is present in the domestic hot and cold water services distribution systems. Once the proposal is accepted Brookfield to undertake a search.

4.3.4 Supervisor's Notification of Defect (CI 42.2) No 144

RHC Hydrotherapy pool;- gaps between sections of the white plastic grating; power of flow of incoming water; "Bender" panel for temperature monitoring has been installed but not functioning.

Response received. Items corrected. NHS has confirmed no adverse feedback from user hence defect closed out.

4.3.5 Supervisor's Notification of Defect (CI 42.2) No 143

"Rust" around the RHC Hydrotherapy pool surround, and on the handrails

Response received. Recommended maintenance cleaning regime to be implemented. Defect closed out

4.3.6 Supervisor's Notification of Defect (CI 42.2) No 140.

Corrective work to 1250 spindles nearly complete. Refer to Supervisor Report No 59 for background to this matter. Brookfield issued us with the proposed "Visicom Highline blind programme".



4.3.7 Supervisor's Notification of Defect (CI 42.2) No 137.

The cladding on the west facing elevation has been damaged and an unsuccessful attempt has been made to repair the damage. We requested Brookfield to advise when this defect is to be rectified. Brookfield has confirmed that this has been passed onto the relevant sub-contractor Prater to rectify the unsuccessful attempt at the repair.

**4.3.8 Supervisor's Notification of Defect (CI 42.2) No 132**

The concrete joint between the 6th floor and the down ramp is breaking up (photo above right). We asked Brookfield to confirm the remedial measures to address this defect. They have instructed Dunne to carry out remedial works but await details from WSP. Brookfield confirmed that details have now been received from WSP.

4.3.9 Supervisor's Notification of Defect (CI 42.2) No 129.

The Bicycle Shelter roof does not drain rainwater to the two corner outlets, consequently the rainwater is ponding. We requested Brookfield to confirm their proposed remedial action to resolve this defect. They have confirmed that following a meeting with the designer a level survey is required. The plan is to introduce a further outlet. Brookfield has advised that remedial works will be undertaken during May 2016.

**4.3.10 Supervisor's Notification of Defect (CI 42.2) No 125.**

Following recent excavations around the buildings to expose and repair collapsed main drains, the Board request video surveys to be undertaken and reports provided of the repaired drain runs and also other neighbouring runs that may have been affected by proximity to the 200t crane. Brookfield has confirmed that the survey is complete and will issue to the Board. Dunnes are uploading information onto Zutec. We request confirmation from Brookfield that this has been uploaded and once received, we shall close out this Defect.

4.3.11 Supervisor's Notification of Defect (CI 42.2) No 124

This matter is being discussed and tracked to resolution at Energy Centre meetings (refer Section 3.3). background as follows:-

The Board has employed Competent Body Zurich Engineering to undertake an inspection of the pressure systems associated with the new buildings and systems handed over on 26th January 2015. This was done in order to produce the statutory written scheme required under the Pressure Systems Safety Regulations (PSSR) 2000 for the safe operation and inspection of relevant systems.

During their review, a number of defects have been found within the installed plant. Brookfield responded as follows. All of the relevant documentation is with Zurich and Brookfield awaits the Assembly Declaration of Conformity.

- 1) Configuration of boiler safety valves.
Brookfield response: Design drawings were discussed with NHS and Zurich and this is now complete.
- 2) A safe method of discharge of medium pressure/temperature water and steam blow off from boilers (120 degC / 5.7bar).
Brookfield response Design drawings were discussed with NHS and Zurich and this is now complete.
- 3) Certificate of Conformity for boilers.
Brookfield response: Issued to NHS Zurich.
- 4) Certificate of Conformity for economisers.
Brookfield response: Issued to NHS Zurich.
- 5) Certificate of conformity for all pressure systems pipework.
Brookfield response: Issued to NHS Zurich.
- 6) CE marking of pressure vessels and heat exchangers.
Brookfield response: Complete.
- 7) Pressurisation Units – safety vales rating and fixing requirements.
Brookfield response: Complete.
- 8) Boiler drain points.
Brookfield response: Complete

All of the relevant documentation is with Zurich and Brookfield awaits the Assembly Declaration of Conformity and once received we shall close out this Defect.

4.3.12 Supervisor's Notification of Defect (CI 42.2) No 99

The joints at window cills are opening up. We requested Brookfield to confirm the remedial action to resolve this problem. Brookfield has filled and painted the joints but they have opened up again. Thereafter Brookfield sealed a joint with sealant to determine if this resolved the defect.

Brookfield has advised that in general excessive shrinkage cracking in building elements of completed work will be addressed immediately prior to the end of defects period and that this defect falls into this category.

We shall therefore retain this defect notification open.

**4.3.13 Supervisor's Notification of Defect (CI 42.2) No 88.**

The capping piece on the north facing elevation of the Children's Hospital has two discoloured areas. We requested Brookfield to confirm the remedial action to address this and advise when complete. Brookfield has advised that work is being planned to be carried out and we await confirmation.

4.4 OPEN SUPERVISOR'S NOTIFICATION OF DEFECTS - LABORATORY**4.4.1 Supervisor's Notification of Defect (CI 42.2) No 501**

The actuator for Laboratory Medicine Reception Disabled Door has a ground mounted drive unit which the manufacturer (Record Ltd) has advised that their installation drawings and instructions require that the ground mounted actuator housing drain spigot is connected to the drainage system to ensure that the actuator is not submerged in rain water.

At the time of installation Brookfield did not install underground drainage to support this and instructed the Record installation team to drill a sink hole from the actuator housing as an alternative. This arrangement was queried at the time under one of the original failures covered during the warranty as a defect however Brookfield advised that this was Brookfield's call, as the Contractor and that in their opinion this solution was suitable for this installation.

This disabled access door has been out of service for over a year as the integrity of the actuator housing cannot be maintained and therefore it is evident that the Brookfield solution is not suitable.

It is understood that the Board has installed 3 new actuators with unsuccessful attempts to protect against flooding, the last of which failed within 2 days of installation.

The Board has decided to take an alternative approach and install an overhead actuator solution which will be installed in early January 2015.

Although the warranty has expired, the Board is seeking to recover costs from Brookfield as a latent defect.

Brookfield has responded on 25th January 2016 and requested details of NHS costs to rectify the defect as follows:-

The issue raised is understood however we require details of the costs associated with;-

"To date the Board have committed approximately [REDACTED] in unsuccessful repair/replacement parts via the installer/manufacture of this equipment."

5.0 INFORMATION REQUIRED**(Supervisor's Communication General Matters / Other Instructions - Clause 13.1)**

Shading indicates item closed, clear indicates current item.

Item	Description	Date Requested	Comment
The following items are not closed out.			
242	Seeking confirmation if permanent perimeter protection will be fitted above cores accessed from Level 12.	25.02.15	Response received.
246	No lights fitted to above the doors leading from the room to plantroom 41A	30.03.15	Response received.
253	IPS Panels equipped with Dispensers.	11.04.16	Response received 11.04.16
All other Supervisor's Communication General Matters / Other Instructions raised have been closed out. A total of 253 Supervisor's Communication General Matters / Other Instructions have been issued to date.			

6.0 SUPERVISOR'S TESTS and INSPECTIONS

Shading indicates item closed, clear indicates current item.

Ref	Title	Notified by	Status	Test Date
The following items are not closed out.				

7.0 DEFECTS NOTIFICATIONS ISSUED

Shading indicates item closed, clear indicates current item.

Item	Description	Date Requested	Comment
The following items are not closed out.			
147	Confirm that the Oil Delivery point and filling process is compliant and if not advise corrective action to be undertaken.	12.05.19	Awaiting a response via Aconex.
146	Confirm the corrective procedures, actions, relevant parties and timescales required to resolve the bellows tie rod failures.	12.05.19	Response rec'd 13.05.16.
145	Water Leak – Mild Steel Tail In Domestic Cold Water Pipe	25.04.16	Awaiting a response via Aconex.
144	RHC Hydrotherapy pool;- gaps between sections of the white plastic grating; power of flow of incoming water; "Bender" panel for temperature monitoring has been installed but not functioning.	09.02.16	Response received. Items corrected. NHS has confirmed no adverse feedback from user hence defect closed out.
143	Rust around the RHC Hydrotherapy pool surround, and on the handrails	01.02.16	Response received. Recommended maintenance cleaning regime to be implemented. Defect closed out
140	Defective spindles to privacy visicom panels to timber doors and screens.	29.09.15	Rectification programme rec'd. Corrective work ongoing. Brookfield reports approx. 950 spindles changed out of circa 1250 in total.
137	Seeking confirmation when the damaged cladding has been rectified.	01.07.15	Response received.
132	6th floor down ramp is break up.	13.05.15	Response received. Await details from Brookfield.
129	Ponding to Bicycle Shelter.	11.05.15	Response received. To be corrected April 2016
125	Seeking video surveys with reject to drain repairs.	16.04.15	Response received. Await confirmation that CCTV survey uploaded to Zutec
124	Defects in relation to the Zurich Engineers inspection.	16.04.15	Response received. Await confirmation that final certification has been issued.
99	Confirm to open window cill joints.	24.02.15	Response received.
88	Seeking confirmation of remedial measures to address the discolouration of the capping pieces.	20.11.14	Response received. Brookfield advised will be towards the end of Defects Period.
All other Defects Notifications raised have been closed out. A total of 147 defects notices have been issued to date.			

8.0 LATENT DEFECTS NOTIFICATIONS ISSUED - LABORATORY

Shading indicates item closed, clear indicates current item.

Item	Description	Date Requested	Comment
The following items are not closed out.			
501	Drain system for Laboratory Medicine Reception Disabled Door actuator.	20.11.14	Response received. NHS to provide Brookfield with details of costs incurred.

APPENDIX 1 – MINUTES of ISOLATION ROOM MEETING**Minutes****QEUH – Isolation Rooms****Project:****QEHF & RHC****Date & Time:**Tuesday 31st May 2016 at 2:00pm**Venue:**

Meeting Room 5, New FM & Lab Medicine Building, QEUH

Invitees:

Ian Powrie (IP)	NHSGGC Sector Estates Manager
Douglas Ross (DRo)	Currie & Brown
David Wilson (DW)	Brookfield Multiplex
John McEwan (JMcE)	Hulley Sfm
Stewart McKechnie (SM)	TUV-SUD
Dave Ramsay (DRa)	Capita

Apologies:**David Loudon (DL)** NHSGGC Director of Facilities and Capital Planning**Purpose Of Meeting:**

Due to recent formal concerns raised by ID Physicians & ICD colleagues at QEUH, NHSGGC wish to seek confirmation from Health Facilities Scotland (HFS) on certain matters relevant to SHPN 04 Supplement 1. These are contained in Questions 1 and 2 of "HFS Isolation Room Status" document with Question 1 having been submitted to HFS. In advance of Question 2 submission, DL requested Supervisor to comment on Question 2 which highlights variations to SHPN 04 Supplement 1. The Team therefore requires to be unified in support of the submission and supporting information. Question 2 forms Part 1 of the agenda. IP and JMcE met on site on 25th May 2016 to view Isolation Rooms and Supervisor's (JMcE) Notes from that inspection forms Parts 2 and 3 of the agenda which includes relevant design and technical matters pertaining to the proposed submission.

Item	Minute	Action
1.0	PROPOSED SUBMISSION PACK TO HFS	
1.1	<p>HFS Isolation Room Status</p> <p>In this document NHSGGC has prepared 2 Questions to be raised with HFS for confirmation. IP confirmed that the following Question 1 has now been forwarded to HFS. IP advised that HFS at this stage does not require detailed information of what has been provided in the Isolation Rooms at QEUH, but the likelihood is that HFS will be aware of Isolation Room layout.</p> <p>Question 1: <i>Is the ventilation design criteria set out in SHPN 04 supplement 1: Isolation Facilities in Acute Settings As detailed in Table 1: Isolation Suite – Ventilation Parameters and Sheet 2: New build single room with en-suite facilities and bed-access lobby (isolation suite), suitable for safe nursing of patients with the one of the following conditions?</i></p> <ol style="list-style-type: none"> 1. Multi Drug Resistant TB (MDRTB)? 2. MERS? 3. H1N1? <p>In advance of NHSGGC issuing the following Question 2 to HFS, the Team requires to be unified in support of the submission of Question 2 and the supporting information for the main variations from SHPN 04 supplement 1.</p> <p>Question 2: <i>If the above design criterion is suitable for safe nursing of patients with any one of these conditions please advise if the following design variant is equally suitable?</i> <i>See attached schematic ref: ZBP-XX-XX-SC-524-871, along with a set of commissioning documents for a representative Critical Care Ward (CCW), isolation room ventilation arrangement within the QEUH.</i> <i>The following variations should be noted:</i></p> <ol style="list-style-type: none"> 1. The main extract is located in the isolation room. 2. The alarm system to the nurse's base was deleted, including: <ul style="list-style-type: none"> • Room Lobby pressure gauge alarm. • The extract air flow switch; alarm to the nurses' base. • The supply air flow switch; alarm to the nurses' base. 3. The transfer grille between the isolation room and the en-suite was deleted. <p>Discussion centred on the design development process for the isolation room layout and ventilation design. DW explained that the original ventilation schematic design Drawing No ZBP-XX-XX-SC-524-707 dated 2010 for the Isolation Room Suite showed the extract located only in the En-Suite ceiling. In 2012 the ventilation schematic design submitted by Brookfield (Dwg No ZBP-XX-XX-SC-524-871) showed extract located in both the Isolation Room ceiling and the En-Suite ceiling. SM pointed out that there would have been several iterations of the drawing schematic during that period indicating that there presumably would have been discussions among the parties and reasons for developing the design. DW agreed that Brookfield would research into the process of the design development of the schematic design for the ventilation of the isolation Room Suites (Refer Action 4.1).</p> <p>Brookfield to track the Design Development of the Isolation Room Layouts to inform how the following were decided: - extract grille located within Isolation Room ceiling and En-Suite ceiling; no transfer grill on the En-Suite door; the location of the bed.</p>	DW

3.4	Door from lobby opens into room and in instance not closing properly leaving a greater leakage path and closing direction not as per exemplar within SHPN 04: Supplement 1. Sheet 2 Brookfield to investigate and advise Supervisor. The inconsistency of lobby/room door handle provision was discussed with handles on some doors and pushplates on other doors.	DW
3.5	Extract grille located within room ceiling and toilet. All air should be extracted via the toilet with low level transfer grille within door (4.12) SHPN 04 Supplement 1 Section 4.12 states: - <i>An extract terminal should be fitted at high level in the en-suite room. An additional terminal may be fitted in certain circumstances at low level adjacent to the bedhead in the bedroom. The clinical requirement for this should be verified and such requirements would probably relate to highly infectious patients.</i> Refer Actions in 1.1 and 4.2.	Note
3.6	Bed location not as per exemplar within SHPN 04: Supplement 1. Sheet 2 JMcE identified that the location of the bed was not in the position shown in SHPN 04: Supplement 1. Sheet 2. DRo advised that this would have been a clinical decision.	Note
3.7	Supply AHU (We used AHU 16 as example) is not identified with what room it serves and neither is the ductwork. (4.19 & SHTM03-01) DW advised that this matter is tracked as a Defect in FM First Summary Schedule and will be corrected.	Ongoing
3.8	Air Permeability (Leakage): We were advised this was carried out using the room volumes and not the envelope volumes. This will be checked on receipt of information noted within 2.2 above. Brookfield to issue Air Permeability results to JMcE for Supervisor review.	DW/JMcE
4.0	Agreed Actions	
4.1	As-Built and Commissioned Information Pack for Isolation Room Suite CCW-163 Bed 50 With reference to Minute Item 2.1, Brookfield to pull together a pack of information for Isolation Room Suite CCW-163 Bed 50 comprising: - CCW -163 (Lobby); CCW-164 (En- Suite); CCW-165 (Single Isolation). This should comprise the as-built layouts and the ventilation strategy together with "all" available validation documentation.	DW
4.2	Specialist Ventilation Advice With NHSGGC consent JMcE offered to obtain an initial independent view on the extract grille located in the Isolation Room ceiling.	DL/JMcE
5.0	Next Meeting A follow-up meeting to track the actions TBA.	ALL

APPENDIX 2 – STAGE 3 SECTIONAL COMPLETION CERTIFICATE**NEW SOUTH GLASGOW HOSPITALS AND LABORATORY PROJECT****STAGE THREE – ADULT & CHILDREN'S HOSPITALS
SECTIONAL COMPLETION CERTIFICATE**

Project Details:	
Section of the Works	Stage 3
Description	Adult & Children's Hospitals
Contract Award	18 th December 2009
Start on Site	28 th March 2011



Contractor	Employer
Mr Alasdair Fernie Project Director Brookfield Multiplex Construction Ltd 90 Bishopsgate London EC2M 3XD	Mr David Loudon Project Director NHS Greater Glasgow & Clyde Project Office - Top Floor Site Office Southern General Hospital Construction Site Hardgate Road Glasgow G51 4SX

	Date
The Sectional Completion Date is	28 th February 2015
Sectional Completion was achieved on	26 th January 2015
Date of this Certificate	29 th January 2015
The Defects Date is	26 th January 2015
The defects listed on the attached schedule are to be corrected within the defects correction period which ends on 26 th January 2017.	Exceptions: Refer attached schedule of incomplete works dated 26 th January 2015, note dates for completion of works contained in this schedule.
The Employer took possession of the building on	26 th January 2015.

Works checked by Supervisor - Notification of Defects at Completion issued by the Supervisor (Cl 43.2)

	John Redmond	29 th January 2015
	for Capita Symonds	
Signature	Name	Date
Certified by the Project Manager		
	Peter Moir	29 th January 2015
	for NHS Greater Glasgow & Clyde	
Signature	Name	Date

Attachments: Supervisor's Notification of Defects at Completion – 26th January 2015.
Project Manager's Schedule of Incomplete Works – 26th January 2015.

Nr(2)		NEC3										
<div style="display: flex; justify-content: space-between; align-items: center;"> <div> SUPERVISOR'S NOTIFICATION OF DEFECTS AT COMPLETION (CI 43.2) </div> <div style="text-align: center;">  </div> </div>												
Short Description Adult and Children's Hospital and Energy Centre		Date: 26th January 2015										
Notification Nr: ANC001												
To: Contractor's Agent <u>Please select from dropdown</u> Contractor - (Name) <u>BROOKFIELD MULTIPLEX EUROPE</u> Project Office Address <u>PROJECT OFFICE, HARDGATE</u> <u>GOVAN, GLASGOW</u> <u>G51 4SX</u>												
1. Dear Sir SUPERVISOR'S NOTIFICATION OF DEFECTS AT COMPLETION Following an inspection of the works on (Date) <u>26th Jan 2015</u> <div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <input type="checkbox"/> (a) The following Defects were found but these will not prevent the Employer from using the works <input checked="" type="checkbox"/> (b) * The following Defects were found but these will not prevent the Employer from using the works </div> <div style="width: 65%;"> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;">Location of Defect</th> <th style="width: 60%;">Description of Defect</th> </tr> </thead> <tbody> <tr> <td>VARIOUS LOCATIONS</td> <td>SEE ATTACHED ARCH OUTSTANDING WORKS & MARKED UP DRAWINGS REF BMCE-GC-048709</td> </tr> <tr> <td>VARIOUS LOCATIONS</td> <td>SEE ATTACHED NSGH-MEP, OUTSTANDING WORKS REF BMCE-GC-048710</td> </tr> <tr> <td>VARIOUS LOCATIONS</td> <td>SEE ATTACHED ENVELOPE OUTSTANDING WORKS & MARKED UP DRAWING BMCE-GC-048711</td> </tr> <tr> <td> </td> <td> </td> </tr> </tbody> </table> </div> </div> <div style="margin-top: 10px;"> <input type="checkbox"/> (c) The following Defects were found but these will not prevent the Employer from using the works (Delete as appropriate by unclicking box <input type="checkbox"/>) _____ _____ _____ _____ _____ </div> <div style="margin-top: 10px;"> The defects period commences on (Date) <u>26th Jan 2015</u> for the period of <u>104</u> Weeks until (Date) <u>26th Jan 2017</u> </div>			Location of Defect	Description of Defect	VARIOUS LOCATIONS	SEE ATTACHED ARCH OUTSTANDING WORKS & MARKED UP DRAWINGS REF BMCE-GC-048709	VARIOUS LOCATIONS	SEE ATTACHED NSGH-MEP, OUTSTANDING WORKS REF BMCE-GC-048710	VARIOUS LOCATIONS	SEE ATTACHED ENVELOPE OUTSTANDING WORKS & MARKED UP DRAWING BMCE-GC-048711		
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Signed:  Supervisor (NHS) or delegate		Date: <u>26th January 2015</u>										
<div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <input type="checkbox"/> I am the Supervisor (NHS) or delegate <input type="checkbox"/> I am the Employer <input type="checkbox"/> I am the Contractor </div> <div style="width: 65%;"> <p style="color: red; font-weight: bold;">Please select one option only!</p> </div> </div>												
<div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> Correction of Defect Signed: _____ Supervisor (NHS) or delegate </div> <div style="width: 65%;"> Date: _____ </div> </div>												
Distribution: <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">The Employer</td> <td style="width: 50%;">Other</td> </tr> <tr> <td>Project Manager (NHS)</td> <td> </td> </tr> </table>			The Employer	Other	Project Manager (NHS)							
The Employer	Other											
Project Manager (NHS)												

(* Delete as appropriate by unclicking box ☐)

NEW SOUTH GLASGOW HOSPITALS - STAGE 3 ADULT & CHILDRENS HOSPITALS
PROJECT MANAGER'S SCHEDULE OF INCOMPLETE WORKS - 26th January 2015

No	Description of Defect	Location	Defects Completion Date
1	VIE Slab and associated works	Maternity Unit	30.06.2015
2	Neuro Link Bridge - connection to T&LC	Adult / INS	17.04.2015
3	Neuro Link Bridge - oxygen connection	Adult / INS	31.03.2015
4	Neuro Link Bridge - connection to INS	Adult / INS	30.06.2015
5	Separation Tank	Adult ED Dept.	13.03.2015
6	Art Strategy installation - complete	All areas	28.02.2015
7	Land Eng: incomplete landscape works	All areas	31.03.2015
8	Cores A&B & Main Entrance - meet and greet panels glass cabinets	Adult Hospital	28.02.2015
9	Lead lined units and associated worktops - ADB codes STF1021, 1024 & 1025.	Adult Hospital / Nuclear Medicine	28.02.2015
10	DCFP Room 024 - ROMPA wall padding by BM	DCFP	31.03.2015
11	Additional divider screens and fabric boards	MIL009, RAG082, DOPD022	28.02.2015
12	Group 5 areas - where Board subs are working	Both	15.04.2015
13	Adult sanctuary - roof access hatch	Adult Hospital	28.02.2015
14	Interventional theatre - PMI works	Adult L2	03.02.2015
15	Adult sanctuary - install Gustav's panels	Adult Hospital	28.02.2015
16	Decontamination Room - complete	ED Department	28.02.2015
17	MRI Rooms - knock out panels	Various	28.02.2015
18	New VIE turning circle	Adult	28.02.2015
19	New VIE - pavement works south of road (bus stop not required).	Adult	11.02.2015
20	Main entrance walls and signage	Campus	15.04.2015
21	Neuro steel bridge works	INS	15.04.2015
22	Street lights to boulevard, complete landscaping to boulevard	Campus	15.04.2015
23	BREEAM Report application	Both	31.03.2015
24	AGV - performance tests and trials	Adult's Hospital	28.02.2015
25	Structural - replacement of panels, complete install and review BMU protection	Adult's Hospital	31.03.2015
26	Sanctuary - sun pipes	Children's Hospital	28.02.2015
27	Sanctuary - stained glass install	Children's Hospital	28.02.2015
28	Schiehallion radio nuclide room doors	Children's Hospital	13.03.2015
29	DCFP anti-ligature works	Children's Hospital	27.03.2015
30	Telecoms 600 pair lines install plus additional 600 lines req. by Board	Both	28.02.2015
31	External LED lighting	Adult Hospital	31.03.2015
32	Patient entertainment - screens	Children's Hospital	30.04.2015
33	External facade - BM drawings	Both	31.03.2015
34	LTHW - PMI works	Laboratory	28.02.2015
35	Isolation Rooms - HEPA filters		
36	Internal signage, wayfinding, door signage	Both	23.02.2015

No	Description of Defect	Location	Defects Completion Date
37	Neo-natal link bridge - internals and ext. Cladding panels	Children's Hospital	31.03.2015
38	Neo-natal link bridge - knock out panel replacement	Children's Hospital	31.07.2015
39	Lifts - works to beneficial lifts	Both	31.03.2015
40	Pneumatic tube gantry - removal	Laboratory	10.04.2015
41	Core G L13 - complete helipad ramp, install bird sounder and clean area	Adult Hospital	28.02.2015
42	Theatres - complete Starkstrom install incl. DVI/SDI sockets and accessories on arms	Both	21.02.2015
43	Hardgate Road - white lining		15.04.2015
44	Energy model - evidence of compliance with energy target	Both	28.02.2017
45	NEC Supervisors Communication No.236		06.02.2015
46	NEC Supervisors Communication No.237		06.02.2015
47	NEC Supervisors Communication No.238		06.02.2015
48	NEC Supervisors Defect No.081		13.02.2015
49	NEC Supervisors Defect No.088		13.02.2015
50	Completion of sweep up programme and inspections with Supervisor	Both	17.04.2015.
51	Medical Gas System - testing & witnessing of med gas system by CSO.	Both	28.02.2015
52	Completion of Children's Park SUDS	Children's Hospital	30.06.2015
53	Completion of Children's Park	Children's Hospital	30.08.2015
54	Completion of Car Park 1		10.04.2015



New South Glasgow Hospital Stage 3 Adult and Children's Hospitals

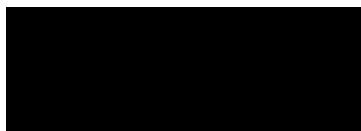
NEC 3 Supervisors Report No. 62

June/July 2016

CAPITA

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3.0	PROCEDURES REVIEW
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6.0	SUPERVISOR's TESTS and INSPECTIONS
7.0	DEFECT NOTIFICATIONS ISSUED
Appendix 1	Stage 3 Sectional Completion Certificate



Dave Ramsay BSc (Hons), BArch, RIBA, RIAS
Technical Director

CAPITA

Capita, 7 West Nile St, Glasgow, G1 2PR

	Signed	Date
Originated by	Dave Ramsay	12 th August 2016
Checked by	John Kilbane	12 th August 2016

1.0 EXECUTIVE SUMMARY

In accordance with our NEC3 Contract, this is the monthly report for June/July 2016 on the activities carried out and responsibilities undertaken by the NEC3 Supervisor Team in connection with the Queen Elizabeth University Hospital Campus - Queen Elizabeth University Hospital (QEUP) and Royal Hospital for Children (RHC). For continuity of reporting purposes we are retaining the terminology of "New South Glasgow Hospital Stage 3 Adult and Children's Hospital". As this Report is issued on 12th August 2016, and in order to maintain reporting as current as possible, it contains some information issued early August.

In addition to this report, we also provide project specific monthly Supervisor Reports for the New South Glasgow Hospital Stage 3A (Phase 3 -Demolitions, Landscaping works including Children's Play Park and Car Park) and INS Entrance (including Overcladding Works). It is noted that the Children's Play Park was originally part of Stage 3.

Site visits were carried out by the NEC3 Supervisor Team: - Dave Ramsay (Lead & Architect Supervisor); Willie Roxburgh (Civil/Structural Engineer Supervisor); John McEwan (M&E Supervisor). During June/July 2016, we maintained our regular weekly meetings on site with Brookfield and information regarding drawings, quality issues and other technical matters has been supplied when requested. We continue to access "Aconex" to view drawings and specifications although no notifications were received over the period.

We have closed out Supervisor's Communication General Matters / Other Instructions (CI 13.1) No's 242, 246 and 253 (refer Section 4.2)

We now have 11 open Supervisor's Notification of Defects (CI 42.2) as referenced in Section 7. Regarding Supervisor's Notification of Defects (CI 42.2) No's 147 (Oil Delivery point and filling process) and No 146 (Bellows Tie Rod Failures), we await formal response from Brookfield to facilitate closure. We also await formal response on Defect No 145 regarding the Water Leak – Mild Steel Tail In Domestic Cold Water Pipe. Corrective work to Defect 140 (Defective Spindles) is ongoing and once complete will be closed out. For Defect 125, we await confirmation that CCTV drainage surveys have been uploaded to Zutec. Defect 124 (Zurich Engineers) is linked to the declaration of conformity which has not yet been received. Brookfield advised that Defects 88, 99, 137 (Cladding matters) will be corrected towards the latter part of the Defects Period. Brookfield advise that Defects 129 (Ponding to Bicycle Shelter) and 132 (Car Park ramp break-up) will be corrected within the next few months.

Regarding the status of the post completion defects in the FM First Defects Schedule at 5th August 2016 there were: - 84 Open Defects; 6 Defects in progress; 2,830 Closed.

We attended the regular monthly Post Completion Works Meeting for the Queen Elizabeth University Hospital Campus QEUP and RHC on 8th August 2016 with representatives from: - NHS Project Team, NHS Estates, Brookfield, and Supervisor. In our opinion this is a proactive arrangement in that it will provide a forum to ensure that ALL defects are clarified, discussed and agreed on their respective resolution and more significantly will facilitate the closure of defects leading up to the end of the 24 months defects period in January 2017.

We anticipate that the agreed strategy for correcting defects by the end of the defects correction period on 26th January 2017 will entail the following:-

- Review and ensure the completion of the Project Managers Schedule of Incomplete Works dated 26th January 2015 which is attached to the Sectional Completion Certificate for the New South Glasgow Hospital Stage 3 Adult and Children's Hospital leading up to the end of the 24 months defects period in January 2017 (refer Appendix 1).
- Review and ensure the completion of ALL defects contained in the FM First Summary Schedule leading up to the end of the 24 months defects period in January 2017.
- Ensure completion of Supervisor's Notifications of Defects under Clause 42.4 and that Supervisor's Communication General Matters / Other Instructions under Clause 13.1 are closed out.

Going forward it is also important that any new Defects identified between now and the end of the Defects Correction Period are logged, tracked and corrected before 26th January 2017. We recommend that any potentially contentious matters such as visual shrinkage cracks, fire doors are discussed and courses of action agreed between the parties.

Over the reporting period, we continued to access "Sypro" to monitor and review notifications (refer Section 2.1) and acknowledge that there PMI's 480, 481, 482 1nd 483 were raised over the period. Compensation Event No's 181, 182 and 183 were notified during the period and Early Warning EW ID 30393 (Existing screed to INS entrance, levels for floor finishes) was notified. We received notification that PROG ID 2693 - "INS Entrance - Revised Contract Programme Rev C dated 2nd June 2016" was issued and we note that this now indicates a Completion Date of 17th March 2017 and a Handover Date of 20th March 2017.

We have received several Outlook invitations (and cancellations) to attend a Defects Meeting between NHS and Brookfield and have requested clarification of the date and time of the meeting.

2.0 DESIGN COMPLIANCE CHECK**2.1 SYPRO**

We continue to access "Sypro" to monitor and review notifications and this section records the notifications received during the reporting period. Certain notifications may be relevant to NSGH Stage 3A (Phase 3 -Demolitions, Landscaping works including Children's Play Park, Car Park) and INS Entrance (including Overcladding Works) and these will be detailed in the respective project specific reports.

2.1.1 Project Manager Instructions (PMI's)

Over the reporting period, the following PMI's were raised.

PMI 483 Neurosurgery Overcladding - External Lights

Notified 27/07/16

Supply only 4No Bulkhead light fittings to fire exits and FM entrance of the Neurosurgery Building. These will match those installed on main NSGH project. Installation costs already included within the Target Cost.

PMI 482 - High-level blinds - Instruction stickers

Notified 06/07/16

The Board request that BMCL provide a cost for the supply and installation of instruction stickers for the high level blinds as discussed at the Early Warning meetings.

PMI 481 - Uplift Existing Floor Screed within the Existing Entrance Area

Notified 28/06/16

In accordance with Clause 61.1 proceed with the uplift of the existing screed within the Entrance Area of the Neurosurgery Building. Refer to attached marked up sketch for locations. Reissued to correct PMI Reference Number.

**PMI 480 - Alterations to QEUH Acute Assessment Ward**

Notified 28/06/16

The Board requests that Brookfield provide a cost for alterations within the QEUH Acute Assessment Ward as detailed on the attached sketch. Reissued to correct the PMI Ref No

Over the reporting period, the following PMI's were accepted by Brookfield:-

PMI 477 - Ground Level Children's Play Park Fence on 08/07/16

PMI 465 - Neurosurgery Overcladding Curtain Rail Modifications on 08/07/16

2.1.2 Compensation Events (CE's)

Over the reporting period, we monitored the following CE notifications.

CE 183 - QEUH - IPS Remedial works

Notified – 06/07/16 Closed – 11/07/16

Description -The Board requests that BMCL provide a cost for the secure fixing of IPS Panels which have dispensers fitted by the Board. The Board anticipate that circa 4000 IPS Panels will require to be securely fixed.

Linked to PMI 5681 - PMI 479 - QEUH - IPS Remedial works

CE 182 - Neurosurgery Overcladding Curtain Rail Modifications

Notified – 06/07/16 Closed – 11/07/16

Description - Carryout the removal, modification to track length and re-fixing of curtain rail in areas where the ends of the rail abut the new / existing windows as discussed at the Early Warning meetings.

Linked to PMI 5343 - PMI 465 Neurosurgery Overcladding Curtain Rail Modifications

CE 181 - Ground Level Children's Play Park Fence

Notified – 06/07/16 Closed – 11/07/16

Description - The Board confirm the Brookfield should progress with the installation of the ground level Children's play park fence. Cross reference PMI 477

Linked to PMI 5645 - PMI 477 - Ground Level Children's Play Park Fence

2.1.3 Early Warnings (EW's)**EWN ID 30393 - Existing screed to INS entrance, levels for floor finishes**

Notified 15/06/16

Existing screed within INS requires to be removed, this has been excluded within the cost plan for the INS and should be instructed.

2.1.4 Programme Submissions (PROG IDS's)PROG ID 2693 - "INS Entrance - Revised Contract Programme Rev C dated 2nd June 2016". We note that this programme indicates a Completion Date of 17th March 2017 and a Handover date of 20th March 2017.**2.2 ACONEX**

We continue to access "Aconex" to view drawings and specifications with no notifications during June/July 2016

2.3 ZUTEC

We have access to ZUTEC.

3.0 PROCEDURES REVIEW**3.1 POST COMPLETION DEFECTS****3.1.1 Post Completion Works Meetings**

We attended the regular monthly Post Completion Works Meeting for the New South Glasgow Hospital Stage 3 Adult and Children's Hospitals on 8th August 2016 attended by representatives from: - NHS Project Team, NHS Estates, Brookfield, and Supervisor. In our opinion this is a proactive arrangement in that provides a forum to ensure that ALL defects are clarified, discussed and agreed on their respective resolution and more significantly will facilitate the closure of the correction of defects leading up to the end of the 24 months defects period in January 2017.

3.1.2 FM First Defects Summary (File ref. 20160805 FM First Summary.xlsx)

Open Defects – 84; Defects in progress –6; Closed – 2,830

3.2 CORRECTING DEFECTS WITHIN THE DEFECTS CORRECTION PERIOD ENDING 26TH JANUARY 2017.We anticipate that the agreed strategy for correcting defects by the end of the defects correction period on 26th January 2017 will entail the following:-

3.2.1 Review and ensure the completion of the Project Managers Schedule of Incomplete Works dated 26th January 2015 which is attached to the Sectional Completion Certificate for the New South Glasgow Hospital Stage 3 Adult and Children's Hospital leading up to the end of the 24 months defects period in January 2017 (refer Appendix 1)

3.2.2 Review and ensure the completion of ALL defects contained in the FM First Summary Schedule leading up to the end of the 24 months defects period in January 2017.

3.2.3 Ensure completion of Supervisor's Notifications of Defects under Clause 42.4 and that Supervisor's Communication General Matters / Other Instructions under Clause 13.1 are closed out.

Going forward it is also important that any new Defects identified between now and the end of the defects correction period are logged, tracked and corrected before 26th January 2017.

4.0 CONSTRUCTION REVIEW**4.1 VISITS TO THE WORKS**

Site visits were carried out by the NEC3 Supervisor Team: - Dave Ramsay (Lead & Architect Supervisor); Willie Roxburgh (Civil/Structural Engineer Supervisor); John McEwan (M&E Supervisor).

4.2 SUPERVISOR POST COMPLETION INSPECTIONS / ISSUES**4.2.2 Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 253.**

For transparency we recorded the background to this matter in our Supervisor Report No 59 Section 4.2.3.

We raised Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 253 on 11th April 2016 regarding IPS Panels equipped with dispensers consequent to an inspection of several in-situ IPS examples undertaken in Ward 5B on Tuesday 5th April 2015 with Project Team, Estates, Supervisor and Brookfield in attendance. NHS preference for resolution of this matter is to screw fix the IPS panels to the frame. Refer PMI 479. The progress and closure of this matter will be tracked at the Post Completion Works Meetings. **Communication closed out.**

4.2.3 Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 246.

During an inspection of the Children's Roof adjacent to Plantroom 41A we noted that there were no bulkhead lights fitted above the doors. There were also no lights fitted in the room on the roof providing access and egress via the cat ladder in Core L. These were not taken in the approved drawings.

Brookfield has advised that lights were never a consideration and are not part of the signed-off drawings. **Consequently we have closed out this communication.**

4.2.4 Supervisor's Communication General Matters / Other Instructions (CI 13.1) No 242.

There is temporary scaffolding providing perimeter protection at concrete floor beams above the cores accessed from Level 12. The client intimated that protection is required. We received notification with photographs from Brookfield on 15th June 2016 confirming that perimeter protection has been provided. **Consequently this communication is closed out.**

**4.2.5 Visual Shrinkage Cracks**

We propose discussions with Brookfield on their interpretation of the appearance of shrinkage cracking to completed building elements in general and in particular in connection with finished internal partitions in a clinical environment.

4.2.5 Fire Doors

We acknowledge the issue with Fire Doors and that this matter will be tracked at Post Completion Works Meetings.

4.3 SUPERVISOR'S NOTIFICATION OF DEFECTS - ACH**4.3.1 Supervisor's Notification of Defect (CI 42.2) No 147**

We issued No 147 on 12th May 2016. Confirm that the Oil Delivery point and filling process is compliant and if not advise corrective action to be undertaken. We await formal response from Brookfield.

4.3.2 Supervisor's Notification of Defect (CI 42.2) No 146

We issued No 146 on 12th May 2016 Bellows Tie Rod Failures. Confirm the corrective procedures, actions, relevant parties and timescales required to resolve the bellows tie rod failures.

Brookfield (D Wilson) responded on Aconex on 13th May 2016 and corrective action is being tracked at the Energy Centre Meetings. We will retain this defect open until formally closed out.

4.3.3 Supervisor's Notification of Defect (CI 42.2) No 145

We issued No 145 on 25th April 2016 Water Leak – Mild Steel Tail In Domestic Cold Water Pipe. Although discussed at Energy Centre meetings, and although tracked in separate e-mail correspondence, we await formal response. We will retain this defect open until formally closed out.

4.3.6 Supervisor's Notification of Defect (CI 42.2) No 140.

Corrective work to spindles nearly complete. Refer to Supervisor Report No 59 for background to this matter. Brookfield issued us with the proposed "Visicom Highline blind programme". The closure of this is being tracked at the Post Completion Works Meetings and once completed we shall close out this defect.

4.3.7 Supervisor's Notification of Defect (CI 42.2) No 137.

The cladding on the west facing elevation has been damaged and an unsuccessful attempt has been made to repair the damage. We requested Brookfield to advise when this defect is to be rectified. Brookfield has confirmed that this has been passed onto the relevant sub-contractor Prater to rectify the unsuccessful attempt at the repair.

**4.3.8 Supervisor's Notification of Defect (CI 42.2) No 132**

The concrete joint between the 6th floor and the down ramp is breaking up (photo above right). We asked Brookfield to confirm the remedial measures to address this defect. They have instructed Dunne to carry out remedial works but await details from WSP. Brookfield confirmed that details have now been received from WSP.

4.3.9 Supervisor's Notification of Defect (CI 42.2) No 129.

The Bicycle Shelter roof does not drain rainwater to the two corner outlets, consequently the rainwater is ponding. We requested Brookfield to confirm their proposed remedial action to resolve this defect. They have confirmed that following a meeting with the designer a level survey is required. The plan is to introduce a further outlet. Brookfield to advise when remedial works will be undertaken.

**4.3.10 Supervisor's Notification of Defect (CI 42.2) No 125.**

Following recent excavations around the buildings to expose and repair collapsed main drains, the Board request video surveys to be undertaken and reports provided of the repaired drain runs and also other neighbouring runs that may have been affected by proximity to the 200t crane. Brookfield has confirmed that the survey is complete and will issue to the Board. Dunnes are uploading information onto Zutec. We request confirmation from Brookfield that this has been uploaded and once received, we shall close out this Defect.

4.3.11 Supervisor's Notification of Defect (CI 42.2) No 124

This matter is being discussed and tracked to resolution at Energy Centre meetings background as follows:-

MTHW Global Conformity Assessment - Zurich assessment. This matter has been discussed at Energy Centre meetings. Await declaration of conformity which has not yet been received. The closure of this is being tracked at the Post Completion Works Meetings and once completed we shall close out this defect.

4.3.12 Supervisor's Notification of Defect (CI 42.2) No 99

The joints at window cills are opening up. We requested Brookfield to confirm the remedial action to resolve this problem. Brookfield has filled and painted the joints but they have opened up again. Thereafter Brookfield sealed a joint with sealant to determine if this resolved the defect.

Brookfield has advised that in general excessive shrinkage cracking in building elements of completed work will be addressed immediately prior to the end of defects period and that this defect falls into this category.

We shall therefore retain this defect notification open.



4.3.13 Supervisor's Notification of Defect (CI 42.2) No 88.

The capping piece on the north facing elevation of the Children's Hospital has two discoloured areas. We requested Brookfield to confirm the remedial action to address this and advise when complete. Brookfield has advised that work is being planned to be carried out and we await confirmation.

4.4 OPEN SUPERVISOR'S NOTIFICATION OF DEFECTS - LABORATORY**4.4.1 Supervisor's Notification of Defect (CI 42.2) No 501 - Laboratory Medicine Reception Disabled Door**

The actuator for Laboratory Medicine Reception Disabled Door has a ground mounted drive unit which the manufacturer (Record Ltd) has advised that their installation drawings and instructions require that the ground mounted actuator housing drain spigot is connected to the drainage system to ensure that the actuator is not submerged in rain water.

At the time of installation Brookfield did not install underground drainage to support this and instructed the Record installation team to drill a sink hole from the actuator housing as an alternative. This arrangement was queried at the time under one of the original failures covered during the warranty as a defect however Brookfield advised that this was Brookfield's call, as the Contractor and that in their opinion this solution was suitable for this installation.

This disabled access door has been out of service for over a year as the integrity of the actuator housing cannot be maintained and therefore it is evident that the Brookfield solution is not suitable.

It is understood that the Board has installed 3 new actuators with unsuccessful attempts to protect against flooding, the last of which failed within 2 days of installation.

The Board has decided to take an alternative approach and install an overhead actuator solution which will be installed in early January 2015.

Although the warranty has expired, the Board is seeking to recover costs from Brookfield as a latent defect.

Brookfield has responded on 25th January 2016 and requested details of NHS costs to rectify the defect as follows:-

The issue raised is understood however we require details of the costs associated with:-

"To date the Board have committed approximately [REDACTED] in unsuccessful repair/replacement parts via the installer/manufacturer of this equipment."

4.4.1 Supervisor's Notification of Defect (CI 42.2) No 502 - Partially Collapsed Manhole

Matter raised by Ian Powrie (NHS Estates) on 9th June 2016 as follows:-


"Recently discovered a broken\partially collapsed manhole just before the traffic lights on the east side of the laboratory medicine.

On seeking support from Brookfield on this matter we were advised by Paul McGuinness that this is no longer covered under warranty as this road was handed over with the Labs building (circa 4 years ago). The full dual carriage way was not handed over until Jan 2015, up until this point there was little traffic using this road. This issue has only now materialised since full traffic volumes have been introduced, suggesting that this and possible the other man holes are not suitable for the heavy traffic flow experience on this road.

I would like have this issued repaired urgently to avoid risk of incident as a result of the failure."


Although the partial collapse of the manhole has occurred after the issue of the Final Defects Certificate (9th April 2014), Brookfield to correct the defect as a latent defect. Please investigate and advise remedial work/timescales for correction.

5.0 INFORMATION REQUIRED**(Supervisor's Communication General Matters / Other Instructions - Clause 13.1)**

 Shading indicates item closed, clear indicates current item.


Item	Description	Date Requested	Comment
The following items are not closed out.			
242	Seeking confirmation if permanent perimeter protection will be fitted above cores accessed from Level 12.	25.02.15	Response received. Further response received 15/06/16. Closed out.
246	No lights fitted to above the doors leading from the room to plantroom 41A	30.03.15	Response received. Closed out.
253	IPS Panels equipped with Dispensers.	11.04.16	Response received 11.04.16. PMI issued. Closed out.
All other Supervisor's Communication General Matters / Other Instructions raised have been closed out. A total of 253 Supervisor's Communication General Matters / Other Instructions have been issued to date.			

6.0 SUPERVISOR'S TESTS and INSPECTIONS

 Shading indicates item closed, clear indicates current item.


Ref	Title	Notified by	Status	Test Date
The following items are not closed out.				

7.0 DEFECTS NOTIFICATIONS ISSUED

 Shading indicates item closed, clear indicates current item.

Item	Description	Date Requested	Comment
The following items are not closed out.			
147	Confirm that the Oil Delivery point and filling process is compliant and if not advise corrective action to be undertaken.	12.05.19	Await formal response.
146	Confirm the corrective procedures, actions, relevant parties and timescales required to resolve the bellows tie rod failures.	12.05.19	Initial response rec'd 13.05.16 Await formal response.
145	Water Leak – Mild Steel Tail In Domestic Cold Water Pipe	25.04.16	Await formal response.
140	Defective spindles to privacy visicom panels to timber doors and screens.	29.09.15	Rectification programme rec'd. Corrective work ongoing. Once resolved we shall close out this defect.
137	Seeking confirmation when the damaged cladding has been rectified.	01.07.15	Initial response received.
132	6th floor down ramp is break up.	13.05.15	Response received. Await details from Brookfield.
129	Ponding to Bicycle Shelter.	11.05.15	Response received.
125	Seeking video surveys with reject to drain repairs.	16.04.15	Response received. Await confirmation that CCTV survey uploaded to Zutec
124	Defects in relation to the Zurich Engineers inspection.	16.04.15	Closure is being tracked at the Post Completion Works Meetings. Once resolved we shall close out this defect.
99	Confirm to open window cill joints.	24.02.15	Response received.
88	Seeking confirmation of remedial measures to address the discolouration of the capping pieces.	20.11.14	Response received. Brookfield advised will be towards the end of Defects Period.
All other Defects Notifications raised have been closed out. A total of 147 defects notices have been issued to date.			

8.0 LATENT DEFECTS NOTIFICATIONS ISSUED - LABORATORY

 Shading indicates item closed, clear indicates current item.

Item	Description	Date Requested	Comment
The following items are not closed out.			
501	Drain system for Laboratory Medicine Reception Disabled Door actuator.	20.11.14	Response received. NHS to provide Brookfield with details of costs incurred.
502	Partially Collapsed Manhole		

APPENDIX 1 – STAGE 3 SECTIONAL COMPLETION CERTIFICATE**NEW SOUTH GLASGOW HOSPITALS AND LABORATORY PROJECT****STAGE THREE – ADULT & CHILDREN'S HOSPITALS
SECTIONAL COMPLETION CERTIFICATE**

Project Details:	
Section of the Works	Stage 3
Description	Adult & Children's Hospitals
Contract Award	18 th December 2009
Start on Site	28 th March 2011

Contractor	Employer
Mr Alasdair Fernie Project Director Brookfield Multiplex Construction Ltd 90 Bishopsgate London EC2M 3XD	Mr David Loudon Project Director NHS Greater Glasgow & Clyde Project Office - Top Floor Site Office Southern General Hospital Construction Site Hardgate Road Glasgow G51 4SX

	Date
The Sectional Completion Date is	28 th February 2015
Sectional Completion was achieved on	26 th January 2015
Date of this Certificate	29 th January 2015
The Defects Date is	26 th January 2015
The defects listed on the attached schedule are to be corrected within the defects correction period which ends on 26 th January 2017.	Exceptions: Refer attached schedule of incomplete works dated 26 th January 2015, note dates for completion of works contained in this schedule.
The Employer took possession of the building on	26 th January 2015.

Works checked by Supervisor - Notification of Defects at Completion issued by the Supervisor (CI 43.2)

	John Redmond	29 th January 2015
	for Capita Symonds	
Signature	Name	Date
Certified by the Project Manager		
	Peter Moir	29 th January 2015
	for NHS Greater Glasgow & Clyde	
Signature	Name	Date

Attachments: Supervisor's Notification of Defects at Completion – 26th January 2015.
Project Manager's Schedule of Incomplete Works – 26th January 2015.

Nr(2) NEC3

SUPERVISOR'S NOTIFICATION OF DEFECTS AT COMPLETION (CI 43.2) CAPITA FRAMEWORKS SCOTLAND
ENERGISE BARNETMAN CONTRACTORS

Short Description Adult and Children's Hospital and Energy Centre Date: 26th January 2015

Notification Nr: A/CN001

To: Contractor's Agent Please select from dropdown
 Contractor - (Name) BROOKFIELD MULTIPLEX EUROPE
 Project Office Address PROJECT OFFICE, HARDGATE
GOVAN, GLASGOW
G51 4SX

1. Dear Sir
SUPERVISOR'S NOTIFICATION OF DEFECTS AT COMPLETION
 Following an inspection of the works on (Date) 26th Jan 2015

(a) ☐ The following Defects were found but these will not prevent the Employer from using the works

(b) ☒ * The following Defects were found but these will not prevent the Employer from using the works

Location of Defect	Description of Defect
VARIOUS LOCATIONS	SEE ATTACHED ARCH OUTSTANDING WORKS & MARKED UP DRAWINGS REF BMCE-GC-048709
VARIOUS LOCATIONS	SEE ATTACHED NSGH-MEP, OUTSTANDING WORKS REF BMCE-GC-048710
VARIOUS LOCATIONS	SEE ATTACHED ENVELOPE OUTSTANDING WORKS & MARKED UP DRAWING BMCE-GC-048711

(c) ☐ The following Defects were found but these will not prevent the Employer from using the works

The defects period commences on (Date) 26th Jan 2015 for the period of 104 Weeks
 until (Date) 26th Jan 2017

Sign: [Redacted Signature] Supervisor (NHS) or delegate Date: 26th January 2015

☐ I am the Supervisor (NHS) or delegate
☐ I am the Employer
☐ I am the Contractor
☐ I am the Architect

Please select one option only!

Correction of Defect
 Signed: Supervisor (NHS) or delegate Date:

Distribution: The Employer Other
Project Manager (NHS)

(* Delete as appropriate by unclicking box ☐)

NEW SOUTH GLASGOW HOSPITALS - STAGE 3 ADULT & CHILDRENS HOSPITALS
PROJECT MANAGER'S SCHEDULE OF INCOMPLETE WORKS - 26th January 2015

No	Description of Defect	Location	Defects Completion Date
1	VIE Slab and associated works	Maternity Unit	30.06.2015
2	Neuro Link Bridge - connection to T&LC	Adult / INS	17.04.2015
3	Neuro Link Bridge - oxygen connection	Adult / INS	31.03.2015
4	Neuro Link Bridge - connection to INS	Adult / INS	30.06.2015
5	Separation Tank	Adult ED Dept.	13.03.2015
6	Art Strategy installation - complete	All areas	28.02.2015
7	Land Eng: incomplete landscape works	All areas	31.03.2015
8	Cores A&B & Main Entrance - meet and greet panels glass cabinets	Adult Hospital	28.02.2015
9	Lead lined units and associated worktops - ADB codes STF1021, 1024 & 1025.	Adult Hospital / Nuclear Medicine	28.02.2015
10	DCFP Room 024 - ROMPA wall padding by BM	DCFP	31.03.2015
11	Additional divider screens and fabric boards	MIL009, RAG082, DOPD022	28.02.2015
12	Group 5 areas - where Board subs are working	Both	15.04.2015
13	Adult sanctuary - roof access hatch	Adult Hospital	28.02.2015
14	Interventional theatre - PMI works	Adult L2	03.02.2015
15	Adult sanctuary - install Gustav's panels	Adult Hospital	28.02.2015
16	Decontamination Room - complete	ED Department	28.02.2015
17	MRI Rooms - knock out panels	Various	28.02.2015
18	New VIE turning circle	Adult	28.02.2015
19	New VIE - pavement works south of road (bus stop not required).	Adult	11.02.2015
20	Main entrance walls and signage	Campus	15.04.2015
21	Neuro steel bridge works	INS	15.04.2015
22	Street lights to boulevard, complete landscaping to boulevard	Campus	15.04.2015
23	BREEAM Report application	Both	31.03.2015
24	AGV - performance tests and trials	Adult's Hospital	28.02.2015
25	Structural - replacement of panels, complete install and review BMU protection	Adult's Hospital	31.03.2015
26	Sanctuary - sun pipes	Children's Hospital	28.02.2015
27	Sanctuary - stained glass install	Children's Hospital	28.02.2015
28	Schiehallion radio nuclide room doors	Children's Hospital	13.03.2015
29	DCFP anti-ligature works	Children's Hospital	27.03.2015
30	Telecoms 600 pair lines install plus additional 600 lines req. by Board	Both	28.02.2015
31	External LED lighting	Adult Hospital	31.03.2015
32	Patient entertainment - screens	Children's Hospital	30.04.2015
33	External facade - BM drawings	Both	31.03.2015
34	LTHW - PMI works	Laboratory	28.02.2015
35	Isolation Rooms - HEPA filters		
36	Internal signage, wayfinding, door signage	Both	23.02.2015

No	Description of Defect	Location	Defects Completion Date
37	Neo-natal link bridge - internals and ext. Cladding panels	Children's Hospital	31.03.2015
38	Neo-natal link bridge - knock out panel replacement	Children's Hospital	31.07.2015
39	Lifts - works to beneficial lifts	Both	31.03.2015
40	Pneumatic tube gantry - removal	Laboratory	10.04.2015
41	Core G L13 - complete helipad ramp, install bird sounder and clean area	Adult Hospital	28.02.2015
42	Theatres - complete Starkstrom install incl. DVI/SDI sockets and accessories on arms	Both	21.02.2015
43	Hardgate Road - white lining		15.04.2015
44	Energy model - evidence of compliance with energy target	Both	28.02.2017
45	NEC Supervisors Communication No.236		06.02.2015
46	NEC Supervisors Communication No.237		06.02.2015
47	NEC Supervisors Communication No.238		06.02.2015
48	NEC Supervisors Defect No.081		13.02.2015
49	NEC Supervisors Defect No.088		13.02.2015
50	Completion of sweep up programme and inspections with Supervisor	Both	17.04.2015.
51	Medical Gas System - testing & witnessing of med gas system by CSO.	Both	28.02.2015
52	Completion of Children's Park SUDS	Children's Hospital	30.06.2015
53	Completion of Children's Park	Children's Hospital	30.08.2015
54	Completion of Car Park 1		10.04.2015



New South Glasgow Hospital Stage 3 Adult and Children's Hospitals

NEC 3 Supervisors Report No. 63

1st August to 21st October 2016

CAPITA

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8.0	LATENT DEFECTS NOTIFICATIONS ISSUED - LABORATORY
Appendix 1	Stage 3 Sectional Completion Certificate



Dave Ramsay BSc (Hons), BArch, RIBA, RIAS
Technical Director

CAPITA

Capita, 7 West Nile St, Glasgow, G1 2PR

	Signed	Date
Originated by	Dave Ramsay	21 st October 2016
Checked by	John Kilbane	21 st October 2016

1.0 EXECUTIVE SUMMARY

In accordance with our NEC3 Contract, this is the Supervisor report on the activities carried out and responsibilities undertaken by the NEC3 Supervisor Team in connection with the Queen Elizabeth University Hospital Campus - Queen Elizabeth University Hospital (QEUH) and Royal Hospital for Children (RHC) during the period 1st August to 21st October 2016. For continuity of reporting purposes we are retaining the terminology of "New South Glasgow Hospital Stage 3 Adult and Children's Hospital".

In addition to this report, we also provide a project specific monthly Supervisor Report for the New South Glasgow INS Entrance (including Overcladding Works). This also includes remaining Stage 3A works (Phase 3 -Demolitions, Landscaping works including Children's Play Park and Car Park).

Site visits were carried out by the NEC3 Supervisor Team: - Dave Ramsay (Lead & Architect Supervisor); Willie Roxburgh (Civil/Structural Engineer Supervisor); John McEwan (M&E Supervisor). Over the reporting period, we maintained our regular weekly meetings on site with Multiplex and information regarding drawings, quality issues and other technical matters has been supplied when requested. We continue to access "Aconex" to view drawings and specifications although no notifications were received over the period.

We now have 10 open Supervisor's Notification of Defects (CI 42.2) as detailed in Section 4.3 and tracked in Section 7. Regarding Supervisor's Notification of Defects (CI 42.2) No 147 (Oil Delivery point and filling process) and No 146 (Bellows Tie Rod Failures), we await formal response from Multiplex to facilitate closure. We also await formal response on Defect No 145 regarding the Water Leak – Mild Steel Tail In Domestic Cold Water Pipe. Corrective work to Defect 140 (Defective Spindles) is ongoing and once complete will be closed out. For Defect 125, we await confirmation that CCTV drainage surveys have been uploaded to Zutec. Defect 124 (Zurich Engineers) is linked to the declaration of conformity which has not yet been received. Multiplex advised that Defects 88, 99, 137 (Cladding matters) will be corrected towards the latter part of the Defects Period. Multiplex advise that Defect 129 (Ponding to Bicycle Shelter) will be corrected within the coming months.

We attended a meeting at JB Russell House on 18th August 2016 (Section 3.1) to discuss the strategy for identifying and correcting Stage 3 Works defects by the Defects Date of 26th January 2017. It was agreed that the strategy for identifying and correcting Stage 3 Works defects would comprise the following:-

- Review and ensure the completion of the Project Managers Schedule of Incomplete Works dated 26th January 2015 which is attached to the Sectional Completion Certificate for the New South Glasgow Hospital Stage 3 Adult and Children's Hospital leading up to the Defects Date (24 months after completion) of 26th January 2017 (refer Appendix 1).
- Review and ensure the completion of ALL defects contained in the FM First Summary Schedule leading up to the Defects Date. The FM First Summary Schedule is to be the consolidated list to include ALL defect matters raised by NHSGGC FM and Estates inclusive of any defects matters consequent to Planned Preventative Maintenance (PPM) inspections.
- Ensure completion of Supervisor's Notifications of Defects under Clause 42.4 and that Supervisor's Communication General Matters / Other Instructions under Clause 13.1 are closed out by the Defects Date.

We have no outstanding Supervisor's Communication General Matters / Other Instructions.

John McEwan and Dave Ramsay met with Ian Powrie and the FM/Estates Team on 11th October 2016 to discuss the FM First Summary Schedule as the consolidated list for defect matters raised by NHS GGC FM and Estates inclusive of any defects matters consequent to PPM. This meeting was consequent to NHS GGC liaison with Estates on Defects Close Out and the issue by NHS GGC PM of the Defects Close Out programme.

The regular monthly Defects Meeting (Post Completion Works Meeting) for the New South Glasgow Hospital Stage 3 Adult and Children's Hospitals scheduled for 5th September 2016 was cancelled. We attended the next scheduled Defects Meeting on 14th October 2016 at which the FM First Summary Schedule File Ref: "20161014 FM First Summary.xlsx" was agreed by the parties as the Consolidated Defects List.

Regarding the status of the post completion defects in the FM First Summary Schedule at 14th October 2016 there were: Open Defects – 90; Defects in progress – 2; Closed – 2,911

It was agreed going forward until the Defects Date for Stage 3 of 26th January 2017 that the Supervisor would only issue formal Supervisor's Notifications of Defect (CI 42.2) "Stage 3 A&C Energy Centre" as and when instructed to do so by the NHSGGC Project Team.

Over the reporting period, we continued to access "Sypro" to monitor and review notifications (refer Section 2.1) and acknowledge that PMI's No's 483 to 491 inclusive were raised over the period. Compensation Event No 184 was notified during the period although there were no EW's and no Programme Notifications raised.

2.0 DESIGN COMPLIANCE CHECK**2.1 SYPRO**

We continue to access "Sypro" to monitor and review notifications and this section records the notifications received during the reporting period. Certain notifications may be relevant to NSGH Stage 3A (Phase 3 - Demolitions, Landscaping works including Children's Play Park, Car Park) and INS Entrance (including Overcladding Works) and these will also be listed in the relevant project specific report.

2.1.1 Project Manager Instructions (PMI's)

Over the reporting period, the following PMI's were raised.

PMI 491 - Perimeter Fence to SUDs Pond

Notified 03/10/16. Please provide quotations for the supply and installation of 1.1m high post and wire fence around the SUDs Pond at the top of the slope. (Allow 3 wires @400mm cts vertically). The attached drawing shows approximate line).

PMI - 490 Removal of Existing Window Sections within Stairs

Notified 29/08/16. Omit from the INS Overcladding works the removal of the existing windows within the stair cores. South Fire Escape Stair West (Imaging) Escape Stair West Access Stair Windows removed by others due to the potential asbestos content within the putty. Refer to attached overmarked sketch for specific locations

PMI 489 - Surgeons Lounge Omission of Window Works

Notified 29/08/16. Omit from the Overcladding works consisting of the removal of the existing window and installing new window facing surround within the Surgeons Lounge and Ground floor offices (2no Windows). Restricted access and working procedures to site area prevents completion of works. [Works to be carried out by other as part of the Theatre Refurbishment]

PMI - 488 Alterations to Kerblin on Blue Light Route

Notified 29/08/16. Refer to sketch

PMI - 487 Drainage Works to Blue Light Route

Notified 29/08/16. Install drainage pipework as per overmark photograph. Drainage to run from Kerbside Drainage to north of CP2 access to the manhole opposite bus stop / drop off area. These works were omitted as part of the Dunne Car Park interface works under PMI 449

PMI - 486 QEUH / RHC Door Survey (Main)

Notified 25/08/16. As per joint site inspection (BMCE/Capita/NHS) complete door survey to levels 0, 2-10 to establish condition of doors, intumescent strips, protection etc. On completion of survey complete costing exercise to ascertain repairs costs. Also provide copy of report for Estates to review and comment.

PMI - 485 QEUH / RHC Door Surveys

Notified 25/08/16. As per joint site inspection (BMCE/Capita/NHS) complete door surveys to levels 1 & 11 to establish condition of doors, intumescent strips, protection etc. On completion of survey complete costing exercise to ascertain repair costs. Also provide copy of report for Estates to review and comment.

PMI 484 - QEUH & RHC Door Remedials and Alterations

Notified 16/08/16. Please provide quotation to carryout door remedial and alterations to the doors within both the QEUH and the RHC. The enclosed drawings and schedule illustrate the requirements identified by Estates.

PMI 483 Neurosurgery Overcladding - Intumescent Painting

Notified 16/08/16. As per discussions Marshall / Forsyth please provide quotations for the 2 No option in relationship to the existing 19 No exposed steel columns on Level 6 of the Neurosurgery Building; Option 1) Make local spot repairs to existing fire proof coatings to allow completion of Contract Over painting. Include for removal, preparation and application of 1Hr rated intumescent paint. Option 2) Remove all of the existing paint, prepare and apply 1Hr rated intumescent paint all in accordance with manufacturer's recommendations.

2.1.2 Compensation Events (CE's)

Over the reporting period, we monitored the following CE notifications.

CE 184 - Alterations to QEUH Acute Assessment Ward

Notified – 10/08/16 Closed –

The Board confirm acceptance of the design fees identified for PMI 480 - Alterations to QEUH Acute Assessment Ward and request BMCL to provide a cost and programme for the alterations as detailed on the sketch.

Linked to PMI 5951 - PMI 480 - Alterations to QEUH Acute Assessment Ward

2.1.3 Early Warnings (EW's)

No early warnings raised over the period

2.1.4 Programme Submissions (PROG IDS's)

PROG ID 2693 - "INS Entrance - Revised Contract Programme Rev C dated 2nd June 2016". We note that this programme indicates a Completion Date of 17th March 2017 and a Handover date of 20th March 2017.

2.2 ACONEX

We continue to access "Aconex" to view drawings/specifications with no notifications received over the reporting period.

2.3 ZUTEC

We have access to ZUTEC and have now received access to the INS folders.

3.0 PROCEDURES REVIEW**3.1 CORRECTING DEFECTS WITHIN THE DEFECTS CORRECTION PERIOD ENDING 26TH JANUARY 2017.**

We attended a meeting at JB Russell House on 18th August 2016 to discuss the strategy for identifying and correcting Stage 3 Works defects by the Defects Date of 26th January 2017. The following were represented at the meeting: - NHSGGC (David Loudon, Hazel McIntyre, Graham Forsyth); Multiplex (Fergus Shaw, Grant Wallace, Alasdair Fernie by telephone); Capita (Dave Ramsay). It was agreed that the strategy for identifying and correcting Stage 3 Works defects would comprise the following items 3.1.1, 3.1.2 and 3.1.3.

3.1.1 Project Managers Schedule of Incomplete Works dated 26th January 2015

The parties to review and ensure the completion of the Project Managers Schedule of Incomplete Works dated 26th January 2015 which is attached to the Sectional Completion Certificate for the New South Glasgow Hospital Stage 3 Adult and Children's Hospital leading up to the Defects Date (24 months after completion) of 26th January 2017. This is contained in Appendix 1.

3.1.2 FM First Summary Defects Schedule

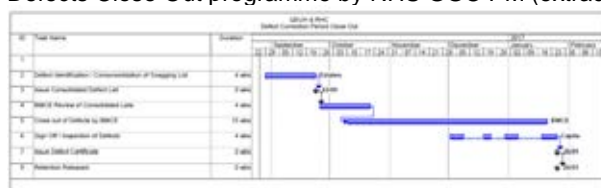
The parties to review and ensure the completion of ALL defects contained in the FM First Summary Schedule leading up to 26th January 2017. The FM First Summary Schedule is to be the consolidated list to include ALL defect matters raised by NHS GGC FM and Estates inclusive of any defects matters consequent to Planned Preventative Maintenance (PPM) inspections. It was agreed that the consolidated list should be available by end September/ early October 2016 to allow Multiplex to correct the defects over the period October 2016 to early January 2017 and obtain agreement that rectified defects are closed out.

3.1.3 Supervisor's Notifications of Defects under Clause 42.2

The parties to ensure correction of defects raised by Supervisor's Notifications of Defects under Clause 42.2 prior to 26th January 2017.

3.2 SUPERVISOR MEETINGS WITH ESTATES

John McEwan and Dave Ramsay met with Ian Powrie and the FM/Estates Team (Cyril Dowson, Bob Geddes, David Bratney, Mark McKaig) on 11th October 2016 to discuss the FM First Summary Schedule (extract below right) as the consolidated list for defect matters raised by NHS GGC FM and Estates inclusive of any defects matters consequent to PPM. This meeting was consequent to NHS GGC liaison with Estates on Defects Close Out and the issue of the Defects Close Out programme by NHS GGC PM (extract below left).



Form ID	Location	Room	Issue	Reviewed	S/C	W/C
1000012100	14-03-PMU-001	PM Support	Plant Room 23-APU-04 supply and extract duct work going down through the concrete floor does not have any fire stopping. This is a critical defect. Urgent fire stopping needs to be done.	13-09-16	NBS	NBS
1000012000	11-00-000-002	Entrance	We have water leaking from hatch in ceiling in the new corridor just in ambulance entrance to the children's hospital nearest tag is 0100002 - in between stage and clinic. I will not enter also. Home added by house. We have also identified a leak in the old location that was not in the last stage.	13-09-16	NBS	NBS
1000011101	14-00-000-000	Entrance	Water leakage in entrance at stage 3 clinic	13-09-16	NBS	NBS
1000012100	11-00-000-001	Entrance	Roof in new patient building - near Clinic 4 (Emergency Function) with extensive leak	13-09-16	NBS	NBS
1000011400	11-00-000-000	Entrance	10 units of air conditioning units at stage 3 clinic	13-09-16	NBS	NBS
1000012101	11-00-000-000	Entrance	Obstruction in the air duct for the new unit at stage 3 clinic	13-09-16	NBS	NBS
1000012102	11-00-000-000	Entrance	at location 1000012101, a unit has not been installed yet	13-09-16	NBS	NBS
1000012103	11-00-000-000	Entrance	10 units of air conditioning units at stage 3 clinic	13-09-16	NBS	NBS

3.3 DEFECTS MEETINGS (POST COMPLETION WORKS MEETINGS)

The regular monthly Defects Meeting (Post Completion Works Meeting) for the New South Glasgow Hospital Stage 3 Adult and Children's Hospitals scheduled for 5th September 2016 was cancelled. We attended the next scheduled Defects Meeting on 14th October 2016 at which the FM First Summary Schedule File Ref: "20161014 FM First Summary.xlsx" was agreed as the Consolidated Defects List by the parties.

It was also agreed going forward until the Defects Date for Stage 3 of 26th January 2017 that the Supervisor would only issue formal Supervisor's Notifications of Defect (CI 42.2) "Stage 3 A&C Energy Centre" as and when instructed to do so by the NHS GGC Project Team.

3.4 FM FIRST DEFECTS SUMMARY (File Ref: 20161014 FM First Summary.xlsx)

Open Defects – 90; Defects in progress – 2; Closed – 2,911

4.0 CONSTRUCTION REVIEW**4.1 VISITS TO THE WORKS**

Site visits were carried out by the NEC3 Supervisor Team: - Dave Ramsay (Lead & Architect Supervisor); Willie Roxburgh (Civil/Structural Engineer Supervisor); John McEwan (M&E Supervisor).

4.2 POST COMPLETION ISSUES**4.2.1 Visual Shrinkage Cracks**

We propose discussions with Multiplex on their interpretation of the appearance of shrinkage cracking to completed building elements in general and in particular in connection with finished internal partitions in a clinical environment.

4.2.2 Fire Doors

We attended an initial site inspection on 22nd August 2016 of fire doors in the QEUH & the RHC to agree grading standards for the proposed survey of doors by BMCE. PMI 486 refers.

4.3 SUPERVISOR'S NOTIFICATION OF DEFECTS - ACH**4.3.1 Supervisor's Notification of Defect (CI 42.2) No 147**

We issued No 147 on 12th May 2016. Confirm that the Oil Delivery point and filling process is compliant and if not advise corrective action to be undertaken. We await formal response from Multiplex.

4.3.2 Supervisor's Notification of Defect (CI 42.2) No 146

We issued No 146 on 12th May 2016 Bellows Tie Rod Failures. Confirm the corrective procedures, actions, relevant parties and timescales required to resolve the bellows tie rod failures.

Multiplex (D Wilson) responded on Aconex on 13th May 2016 and corrective action is being tracked at the Energy Centre Meetings. We will retain this defect open until formally closed out.

4.3.3 Supervisor's Notification of Defect (CI 42.2) No 145

We issued No 145 on 25th April 2016 Water Leak – Mild Steel Tail In Domestic Cold Water Pipe. Although discussed at Energy Centre meetings, and although tracked in separate e-mail correspondence, we await formal response. We will retain this defect open until formally closed out.

4.3.4 Supervisor's Notification of Defect (CI 42.2) No 140.

Corrective work to spindles nearly complete. Refer to Supervisor Report No 59 for background to this matter. Multiplex issued us with the proposed "Visicom Highline blind programme". The closure of this is being tracked at the Post Completion Works Meetings and once completed we shall close out this defect.

4.3.5 Supervisor's Notification of Defect (CI 42.2) No 137.

The cladding on the west facing elevation has been damaged and an unsuccessful attempt has been made to repair the damage. We requested Multiplex to advise when this defect is to be rectified. Multiplex has confirmed that this has been passed onto the relevant sub-contractor Prater to rectify the unsuccessful attempt at the repair.



4.3.6 Supervisor's Notification of Defect (CI 42.2) No 132

The concrete joint between the 6th floor and the down ramp is breaking up (photo above right). We asked Multiplex to confirm the remedial measures to address this defect. They have instructed Dunne to carry out remedial works but await details from WSP. Multiplex confirmed that details have now been received from WSP. Remedials undertaken and Defect closed out.

4.3.7 Supervisor's Notification of Defect (CI 42.2) No 129.

The Bicycle Shelter roof does not drain rainwater to the two corner outlets, consequently the rainwater is ponding. We requested Multiplex to confirm their proposed remedial action to resolve this defect. They have confirmed that following a meeting with the designer a level survey is required. The plan is to introduce a further outlet. Multiplex to advise when remedial works will be undertaken.

**4.3.8 Supervisor's Notification of Defect (CI 42.2) No 125.**

Following recent excavations around the buildings to expose and repair collapsed main drains, the Board request video surveys to be undertaken and reports provided of the repaired drain runs and also other neighbouring runs that may have been affected by proximity to the 200t crane. Multiplex has confirmed that the survey is complete and will issue to the Board. Dunnes are uploading information onto Zutec. We request confirmation from Multiplex that this has been uploaded and once received, we shall close out this Defect.

4.3.9 Supervisor's Notification of Defect (CI 42.2) No 124

This matter is being discussed and tracked to resolution at Energy Centre meetings background as follows:-

MTHW Global Conformity Assessment - Zurich assessment. This matter has been discussed at Energy Centre meetings. Await declaration of conformity which has not yet been received. The closure of this is being tracked at the Post Completion Works Meetings and once completed we shall close out this defect.

4.3.10 Supervisor's Notification of Defect (CI 42.2) No 99

The joints at window cills are opening up. We requested Multiplex to confirm the remedial action to resolve this problem. Multiplex has filled and painted the joints but they have opened up again. Thereafter Multiplex sealed a joint with sealant to determine if this resolved the defect.

Multiplex has advised that in general excessive shrinkage cracking in building elements of completed work will be addressed immediately prior to the end of defects period and that this defect falls into this category.

We shall therefore retain this defect notification open.

**4.3.11 Supervisor's Notification of Defect (CI 42.2) No 88.**

The capping piece on the north facing elevation of the Children's Hospital has two discoloured areas. We requested Multiplex to confirm the remedial action to address this and advise when complete. Multiplex has advised that work is being planned to be carried out and we await confirmation.

4.4 OPEN SUPERVISOR'S NOTIFICATION OF DEFECTS - LABORATORY**4.4.1 Supervisor's Notification of Defect (CI 42.2) No 501 - Laboratory Medicine Reception Disabled Door**

The actuator for Laboratory Medicine Reception Disabled Door has a ground mounted drive unit which the manufacturer (Record Ltd) has advised that their installation drawings and instructions require that the ground mounted actuator housing drain spigot is connected to the drainage system to ensure that the actuator is not submerged in rain water.

At the time of installation Multiplex did not install underground drainage to support this and instructed the Record installation team to drill a sink hole from the actuator housing as an alternative. This arrangement was queried at the time under one of the original failures covered during the warranty as a defect however Multiplex advised that this was Multiplex's call, as the Contractor and that in their opinion this solution was suitable for this installation.

This disabled access door has been out of service for over a year as the integrity of the actuator housing cannot be maintained and therefore it is evident that the Multiplex solution is not suitable.

It is understood that the Board has installed 3 new actuators with unsuccessful attempts to protect against flooding, the last of which failed within 2 days of installation.

The Board has decided to take an alternative approach and install an overhead actuator solution which will be installed in early January 2015.

Although the warranty has expired, the Board is seeking to recover costs from Multiplex as a latent defect.

Multiplex has responded on 25th January 2016 and requested details of NHS costs to rectify the defect as follows:-

The issue raised is understood however we require details of the costs associated with:-

"To date the Board have committed approximately [REDACTED] in unsuccessful repair/replacement parts via the installer/manufacture of this equipment."

4.4.1 **Supervisor's Notification of Defect (CI 42.2) No 502 - Partially Collapsed Manhole**

Matter raised by Ian Powrie (NHS Estates) on 9th June 2016 as follows:-

"Recently discovered a broken/partially collapsed manhole just before the traffic lights on the east side of the laboratory medicine."


On seeking support from Multiplex on this matter we were advised by Paul McGuinness that this is no longer covered under warranty as this road was handed over with the Labs building (circa 4 years ago). The full dual carriage way was not handed over until Jan 2015, up until this point there was little traffic using this road. This issue has only now materialised since full traffic volumes have been introduced, suggesting that this and possible the other man holes are not suitable for the heavy traffic flow experience on this road.

I would like have this issued repaired urgently to avoid risk of incident as a result of the failure."

Although the partial collapse of the manhole has occurred after the issue of the Final Defects Certificate (9th April 2014), Multiplex to correct the defect as a latent defect. Multiplex to investigate and advise remedial work/timescales for correction.


5.0 INFORMATION REQUIRED

(Supervisor's Communication General Matters / Other Instructions - Clause 13.1)

 Shading indicates item closed, clear indicates current item.


Item	Description	Date Requested	Comment
The following items are not closed out.			
All other Supervisor's Communication General Matters / Other Instructions raised have been closed out. A total of 253 Supervisor's Communication General Matters / Other Instructions have been issued to date.			

6.0 SUPERVISOR'S TESTS and INSPECTIONS

 Shading indicates item closed, clear indicates current item.


Ref	Title	Notified by	Status	Test Date
The following items are not closed out.				

7.0 DEFECTS NOTIFICATIONS ISSUED

 Shading indicates item closed, clear indicates current item.

Item	Description	Date Requested	Comment
The following items are not closed out.			
147	Confirm that the Oil Delivery point and filling process is compliant and if not advise corrective action to be undertaken.	12.05.19	Await formal response.
146	Confirm the corrective procedures, actions, relevant parties and timescales required to resolve the bellows tie rod failures.	12.05.19	Initial response rec'd 13.05.16 Await formal response.
145	Water Leak – Mild Steel Tail In Domestic Cold Water Pipe	25.04.16	Await formal response.
140	Defective spindles to privacy visicom panels to timber doors and screens.	29.09.15	Rectification programme rec'd. Corrective work ongoing. Once resolved we shall close out this defect.
137	Seeking confirmation when the damaged cladding has been rectified.	01.07.15	Initial response received.
132	6th floor down ramp is break up.	13.05.15	Response received. Remedial works complete Item closed out.
129	Ponding to Bicycle Shelter.	11.05.15	Response received.
125	Seeking video surveys with reject to drain repairs.	16.04.15	Response received. Await confirmation that CCTV survey uploaded to Zutec
124	Defects in relation to the Zurich Engineers inspection.	16.04.15	Closure is being tracked at the Post Completion Works Meetings. Once resolved we shall close out this defect.
99	Confirm to open window cill joints.	24.02.15	Response received.
88	Seeking confirmation of remedial measures to address the discolouration of the capping pieces.	20.11.14	Response received. Multiplex advised will be towards the end of Defects Period.
All other Defects Notifications raised have been closed out. A total of 147 defects notices have been issued to date.			

8.0 LATENT DEFECTS NOTIFICATIONS ISSUED - LABORATORY

 Shading indicates item closed, clear indicates current item.

Item	Description	Date Requested	Comment
The following items are not closed out.			
501	Drain system for Laboratory Medicine Reception Disabled Door actuator.	20.11.14	Response received. NHS to provide Multiplex with details of costs incurred.
502	Partially Collapsed Manhole	09.06.16	Await formal response from Multiplex to enable closure

APPENDIX 1 – STAGE 3 SECTIONAL COMPLETION CERTIFICATE**NEW SOUTH GLASGOW HOSPITALS AND LABORATORY PROJECT****STAGE THREE – ADULT & CHILDREN'S HOSPITALS
SECTIONAL COMPLETION CERTIFICATE**

Project Details:	
Section of the Works	Stage 3
Description	Adult & Children's Hospitals
Contract Award	18 th December 2009
Start on Site	28 th March 2011

Contractor	Employer
Mr Alasdair Fernie Project Director Brookfield Multiplex Construction Ltd 90 Bishopsgate London EC2M 3XD	Mr David Loudon Project Director NHS Greater Glasgow & Clyde Project Office - Top Floor Site Office Southern General Hospital Construction Site Hardgate Road Glasgow G51 4SX

	Date
The Sectional Completion Date is	28 th February 2015
Sectional Completion was achieved on	26 th January 2015
Date of this Certificate	29 th January 2015
The Defects Date is	26 th January 2015
The defects listed on the attached schedule are to be corrected within the defects correction period which ends on 26 th January 2017.	Exceptions: Refer attached schedule of incomplete works dated 26 th January 2015, note dates for completion of works contained in this schedule.
The Employer took possession of the building on	26 th January 2015.

Works checked by Supervisor - Notification of Defects at Completion issued by the Supervisor (CI 43.2)

	John Redmond	29 th January 2015
	for Capita Symonds	
Signature	Name	Date
Certified by the Project Manager		
	Peter Moir	29 th January 2015
	for NHS Greater Glasgow & Clyde	
Signature	Name	Date

Attachments: Supervisor's Notification of Defects at Completion – 26th January 2015.
Project Manager's Schedule of Incomplete Works – 26th January 2015.

NECS

Nr(2)

SUPERVISOR'S NOTIFICATION OF DEFECTS AT COMPLETION (CI 43.2)

CAPITA

FRAMEWORKS SCOTLAND
INFRASTRUCTURE MAINTENANCE CONTRACTORS

Short Description Adult and Children's Hospital and Energy Centre **Date:** 26th January 2015

Notification Nr: A/C/001

To: Contractor's Agent Please select from dropdown
Contractor - (Name) BROOKFIELD MULTIPLEX EUROPE
Project Office Address PROJECT OFFICE, HARDGATE
GOVAN, GLASGOW
G51 4SX

1. Dear Sir

SUPERVISOR'S NOTIFICATION OF DEFECTS AT COMPLETION

Following an inspection of the works on (Date) 26th Jan 2015

(a) ☐ The following Defects were found but these will not prevent the Employer from using the works

(b) ☒ * The following Defects were found but these will not prevent the Employer from using the works

Location of Defect

Description of Defect

VARIOUS LOCATIONS

SEE ATTACHED ARCH OUTSTANDING WORKS & MARKED UP DRAWINGS REF BMCE-GC-048709

VARIOUS LOCATIONS

SEE ATTACHED NGH-MEP, OUTSTANDING WORKS REF BMCE-GC-048710

VARIOUS LOCATIONS

SEE ATTACHED ENVELOPE OUTSTANDING WORKS & MARKED UP DRAWING BMCE-GC-048711

(c) ☐ The following Defects were found but these will not prevent the Employer from using the works

The defects period commences on (Date) 26th Jan 2015 for the period of 104 Weeks
until (Date) 26th Jan 2017

Sign:

**Supervisor (NHS)
or delegate**

Date:

26th January 2015

☐

☐

☐

Please select one option only!

☐

☐

Correction of Defect

Signed:

**Supervisor (NHS)
or delegate**

Date:

Distribution:

The Employer

Project Manager (NHS)

Other

(* Delete as appropriate by unclicking box)

NEW SOUTH GLASGOW HOSPITALS - STAGE 3 ADULT & CHILDRENS HOSPITALS
PROJECT MANAGER'S SCHEDULE OF INCOMPLETE WORKS - 26th January 2015

No	Description of Defect	Location	Defects Completion Date
1	VIE Slab and associated works	Maternity Unit	30.06.2015
2	Neuro Link Bridge - connection to T&LC	Adult / INS	17.04.2015
3	Neuro Link Bridge - oxygen connection	Adult / INS	31.03.2015
4	Neuro Link Bridge - connection to INS	Adult / INS	30.06.2015
5	Separation Tank	Adult ED Dept.	13.03.2015
6	Art Strategy installation - complete	All areas	28.02.2015
7	Land Eng: incomplete landscape works	All areas	31.03.2015
8	Cores A&B & Main Entrance - meet and greet panels glass cabinets	Adult Hospital	28.02.2015
9	Lead lined units and associated worktops - ADB codes STF1021, 1024 & 1025.	Adult Hospital / Nuclear Medicine	28.02.2015
10	DCFP Room 024 - ROMPA wall padding by BM	DCFP	31.03.2015
11	Additional divider screens and fabric boards	MIL009, RAG082, DOPD022	28.02.2015
12	Group 5 areas - where Board subs are working	Both	15.04.2015
13	Adult sanctuary - roof access hatch	Adult Hospital	28.02.2015
14	Interventional theatre - PMI works	Adult L2	03.02.2015
15	Adult sanctuary - install Gustav's panels	Adult Hospital	28.02.2015
16	Decontamination Room - complete	ED Department	28.02.2015
17	MRI Rooms - knock out panels	Various	28.02.2015
18	New VIE turning circle	Adult	28.02.2015
19	New VIE - pavement works south of road (bus stop not required).	Adult	11.02.2015
20	Main entrance walls and signage	Campus	15.04.2015
21	Neuro steel bridge works	INS	15.04.2015
22	Street lights to boulevard, complete landscaping to boulevard	Campus	15.04.2015
23	BREEAM Report application	Both	31.03.2015
24	AGV - performance tests and trials	Adult's Hospital	28.02.2015
25	Structural - replacement of panels, complete install and review BMU protection	Adult's Hospital	31.03.2015
26	Sanctuary - sun pipes	Children's Hospital	28.02.2015
27	Sanctuary - stained glass install	Children's Hospital	28.02.2015
28	Schiehallion radio nuclide room doors	Children's Hospital	13.03.2015
29	DCFP anti-ligature works	Children's Hospital	27.03.2015
30	Telecoms 600 pair lines install plus additional 600 lines req. by Board	Both	28.02.2015
31	External LED lighting	Adult Hospital	31.03.2015
32	Patient entertainment - screens	Children's Hospital	30.04.2015
33	External facade - BM drawings	Both	31.03.2015
34	LTHW - PMI works	Laboratory	28.02.2015
35	Isolation Rooms - HEPA filters		
36	Internal signage, wayfinding, door signage	Both	23.02.2015

No	Description of Defect	Location	Defects Completion Date
37	Neo-natal link bridge - internals and ext. Cladding panels	Children's Hospital	31.03.2015
38	Neo-natal link bridge - knock out panel replacement	Children's Hospital	31.07.2015
39	Lifts - works to beneficial lifts	Both	31.03.2015
40	Pneumatic tube gantry - removal	Laboratory	10.04.2015
41	Core G L13 - complete helipad ramp, install bird sounder and clean area	Adult Hospital	28.02.2015
42	Theatres - complete Starkstrom install incl. DVI/SDI sockets and accessories on arms	Both	21.02.2015
43	Hardgate Road - white lining		15.04.2015
44	Energy model - evidence of compliance with energy target	Both	28.02.2017
45	NEC Supervisors Communication No.236		06.02.2015
46	NEC Supervisors Communication No.237		06.02.2015
47	NEC Supervisors Communication No.238		06.02.2015
48	NEC Supervisors Defect No.081		13.02.2015
49	NEC Supervisors Defect No.088		13.02.2015
50	Completion of sweep up programme and inspections with Supervisor	Both	17.04.2015.
51	Medical Gas System - testing & witnessing of med gas system by CSO.	Both	28.02.2015
52	Completion of Children's Park SUDS	Children's Hospital	30.06.2015
53	Completion of Children's Park	Children's Hospital	30.08.2015
54	Completion of Car Park 1		10.04.2015



New South Glasgow Hospital Stage 3 Adult and Children's Hospitals

NEC 3 Supervisors Report No. 64

24th October to 23rd December 2016

CAPITA

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1.0	EXECUTIVE SUMMARY
2.0	DESIGN COMPLIANCE CHECK
3.0	PROCEDURES REVIEW
4.0	CONSTRUCTION REVIEW
5.0	INFORMATION REQUIRED
6.0	SUPERVISOR's TESTS and INSPECTIONS
7.0	DEFECT NOTIFICATIONS ISSUED
8.0	LATENT DEFECTS NOTIFICATIONS ISSUED - LABORATORY
Appendix 1	Stage 3 Sectional Completion Certificate



Dave Ramsay BSc (Hons), BArch, RIBA, RIAS
Technical Director

CAPITA

Capita, 7 West Nile St, Glasgow, G1 2PR

	Signed	Date
Originated by	Dave Ramsay	9 th January 2017
Checked by	John Kilbane	9 th January 2017

1.0 EXECUTIVE SUMMARY

In accordance with our NEC3 Contract, this is the Supervisor report on the activities carried out and responsibilities undertaken by the NEC3 Supervisor Team in connection with the Queen Elizabeth University Hospital Campus - Queen Elizabeth University Hospital (QEUH) and Royal Hospital for Children (RHC) during the period 1st August to 21st October 2016. For continuity of reporting purposes we are retaining the terminology of "New South Glasgow Hospital Stage 3 Adult and Children's Hospital".

In addition to this report, we also provide a project specific monthly Supervisor Report for the New South Glasgow INS Entrance (including Overcladding Works). This also includes remaining Stage 3A works (Phase 3 -Demolitions, Landscaping works including Children's Play Park and Car Park).

Site visits were carried out by the NEC3 Supervisor Team: - Dave Ramsay (Lead & Architect Supervisor); Willie Roxburgh (Civil/Structural Engineer Supervisor); John McEwan (M&E Supervisor). Over the reporting period, we maintained our regular weekly meetings on site with Multiplex and information regarding drawings, quality issues and other technical matters has been supplied when requested.

As recorded in Supervisor Report No 63, we attended a meeting at JB Russell House on 18th August 2016 (Section 3.1) to discuss the strategy for identifying and correcting Stage 3 Works defects by the Defects Date of 26th January 2017. It was agreed that the strategy for identifying and correcting Stage 3 Works defects would comprise the following:-

- Review and ensure the completion of the Project Managers Schedule of Incomplete Works dated 26th January 2015 which is attached to the Sectional Completion Certificate for the New South Glasgow Hospital Stage 3 Adult and Children's Hospital leading up to the Defects Date (24 months after completion) of 26th January 2017 (refer Appendix 1).
- Review and ensure the completion of ALL defects contained in the FM First Summary Schedule leading up to the Defects Date. The FM First Summary Schedule is to be the consolidated list to include ALL defect matters raised by NHSGGC FM and Estates inclusive of any defects matters consequent to Planned Preventative Maintenance (PPM) inspections.
- Ensure completion of Supervisor's Notifications of Defects under Clause 42.4 and that Supervisor's Communication General Matters / Other Instructions under Clause 13.1 are closed out by the Defects Date.

Also from Supervisor Report No 63 we reiterate that John McEwan and Dave Ramsay met with Ian Powrie and the FM/Estates Team on 11th October 2016 to discuss the FM First Summary Schedule as the consolidated list for defect matters raised by NHS GGC FM and Estates inclusive of any defects matters consequent to PPM. This meeting was consequent to NHS GGC liaison with Estates on Defects Close Out and the issue by NHS GGC PM of the Defects Close Out programme.

We attended regular monthly Defects Meeting (Post Completion Works Meeting) for the New South Glasgow Hospital Stage 3 Adult and Children's Hospitals on 28th November and 12th December 2016 at which the relevant FM First Summary Schedules (Consolidated Defects List) were discussed and tracked.

Regarding the status of the post completion defects in the FM First Summary Schedule at 6th January 2017 there were: Open Defects – 167; Defects in progress – 12; Closed – 3,063

We have 10 open Supervisor's Notification of Defects (CI 42.2) as detailed in Section 4.3 and tracked in Section 7. Regarding Supervisor's Notification of Defects (CI 42.2) No 147 (Oil Delivery point and filling process) and No 146 (Bellows Tie Rod Failures), we await formal response from Multiplex to facilitate closure. We also await formal response on Defect No 145 regarding the Water Leak – Mild Steel Tail In Domestic Cold Water Pipe. Corrective work to Defect 140 (Defective Spindles) is ongoing and once complete will be closed out. For Defect 125, we await confirmation that CCTV drainage surveys have been uploaded to Zutec. Defect 124 (Zurich Engineers) is linked to the declaration of conformity which has not yet been received. Multiplex advised that Defects 88, 99, 137 (Cladding matters) and Defect 129 (Ponding to Bicycle Shelter) will be corrected towards the latter part of the Defects Period.

We have no outstanding Supervisor's Communication General Matters / Other Instructions.

We visually inspected the External Areas adjacent to Multiplex Multi Storey Car Park on 29th November 2016 and consequently issued our Observation Sheet A01 also dated 29th November 2016. We acknowledge that some of the observations may be as a result of damage, however these are worth recording to bring to the attention of the parties.

Going forward until the Defects Date for Stage 3 of 26th January 2017, NHSGGC Project Team has directed that the Supervisor will only issue formal Supervisor's Notifications of Defect (CI 42.2) "Stage 3 A&C Energy Centre" as and when instructed to do so by the NHSGGC Project Team.

Over the reporting period, we continued to access "Sypro" to monitor and review notifications and we have listed these in Section 2.1).

2.0 DESIGN COMPLIANCE CHECK**2.1 SYPRO**

We continue to access "Sypro" to monitor and review notifications and this section records the notifications received during the reporting period. Certain notifications may be relevant to NSGH Stage 3A (Phase 3 - Demolitions, Landscaping works including Children's Play Park, Car Park) and INS Entrance (including Overcladding Works) and these will also be listed in the relevant project specific report.

2.1.1 Project Manager Instructions (PMI's)

Over the reporting period, the following PMI's were raised.

PMI 496 - Link Road Ambulance Bay

Notified 13/12/16. Mark out the layby on the Link Road to form ambulance bay. Bay to be cross hatched with text "Ambulances Only". Install 2 No signs within landscaped area with the text "Ambulances Only" Refer to overmarked masterplan drawing

PMI 495 - Road Markings to Blue Light Route

Notified 13/12/16. Progress with road markings to create hatch junctions as illustrated on the over marked masterplan drawing, namely the following locations; 1) Exit from CP2 2) Intersection of Langland's, link road and entry to CP2 3) Exit from CP 4 and access road to Ronald McDonald house.

PMI 494 - INS Attenuation Tank Reposition

Notified 03/11/16. To prevent any further delay to excavation of the attenuation tank reposition modules clashing with unknown buried services (HV Cables & Gas Pipe). See drawing ref INS Ent_Option 2 combined for details

PMI 493 - Asset Labels

Notified 02/11/16. Provide quotation for the supply of enhancement in specification for the asset tagging labels. Current contract provision allows for 20,000No standard laminated labels. New requirement is for 20,000No Veneered Ultra-Destructible asset labels. Those labels not installed as part of the Asset labelling works will be handed over to NHS GGC Estates.

PMI 492 - Landscaping to Former A&E Building & Hardstandings

Notified 02/11/16. Provide quotation for the Landscaping works identified on the attached sketch in the area of the former A&E Building, namely: 1) Preparing and seeding area previously grubbed out during demolition works. 2) Grubbing out existing hard standing, prepare and seed area. 3) Extend access footpath over road bell mouth 4) Install timber knee height fence between car park kerb edge and landscaped area.

2.1.2 Compensation Events (CE's)

Over the reporting period, we monitored the following CE notifications.

CE 192 - QEUH & RHC Door Remedials and Alterations (PMI 484)

Notified – 05/12/16 Closed – 05/12/16

The Board confirm that BMCL should proceed with the door remedial works to the QEUH and RHC as detailed on PMI 484.

Linked to PMI 484 - QEUH & RHC Door Remedials and Alterations

CE 191 - Neurosurgery / Neurology Linkbridge

Notified – 02/12/16 Closed – 05/12/16

The Board confirm that BMCL should proceed with PMI 462 - Neurosurgery / Neurology Linkbridge

Linked to PMI 462 - Neurosurgery / Neurology Linkbridge

CE 190 - INS Completion Date

Notified – 02/12/16

The Board agree to extend the INS Completion date set out in Rev C programme dated 2nd June 2016.

CE 189 - Perimeter Fence to SUDs Pond

Notified – 02/12/16 Closed – 05/12/16

The Board confirm the BMCL should proceed with PMI 491 - Perimeter Fence to SUDs Pond

Linked to PMI 491 - Perimeter Fence to SUDs Pond

CE 188 - QEUH / RHC Door Survey (Main)

Notified – 02/12/16 Closed – 05/12/16

The Board confirm that BMCL should proceed with QEUH / RHC Door Survey (Main) as detailed in PMI 486.

Linked to PMI - 486 QEUH / RHC Door Survey (Main)

CE 187 QEUH / RHC Door Surveys

Notified – 02/12/16 Closed – 05/12/16

The Board confirm that BCML should proceed with PMI 485 QEUH / RHC Door Surveys

Linked to PMI 6288 - PMI - 485 QEUH / RHC Door Surveys

CE 186 - RHC OUTPATIENT DEPARTMENT (Curtains/Blinds)

Notified – 02/12/16 Closed – 05/12/16

The Board confirm that BMCL should proceed with the changes to the Curtains/Blinds within the RHC Outpatient Dept as detailed in PMI 456.

Linked to PMI 5066 - PMI 456 - RHC OUTPATIENT DEPARTMENT (Curtains/Blinds)

CE 185 - Adult Hospital - Levels 1 and 2 - Bedhead Fitment

Notified – 02/12/16 Closed – 05/12/16

The Board confirm that BMCL should proceed with the alterations to the bedhead light fitments in the Adult Hospital Levels 1 and 2 as set out in PMI 359.

Linked to PMI 359 ADULT HOSPITAL - LEVELS 1 & 2 BEDHEAD LIGHT FITMENT

2.1.3 Early Warnings (EW's)

EWN from Multiplex issued Thursday 15 December 2016 on Aconex. Multiplex still awaiting services tie-ins which is now affecting their works and particularly M&E services commissioning.

2.1.4 Programme Submissions (PROG IDS's)PROG ID 2693 - "INS Entrance - Revised Contract Programme Rev C dated 2nd June 2016". We note that this programme indicates a Completion Date of 17th March 2017 and a Handover date of 20th March 2017.The Board agree to extend the INS Completion date set out in Rev C programme dated 2nd June 2016 (refer CE 190).**2.2 ACONEX**

We continue to access "Aconex" to view drawings/specifications with only one notification received (refer 2.1.3) over the reporting period – EWN regarding services tie ins.

2.3 ZUTEC

We have access to ZUTEC and have now received access to the INS folders.

3.0 PROCEDURES REVIEW**3.1 CORRECTING DEFECTS WITHIN THE DEFECTS CORRECTION PERIOD ENDING 26TH JANUARY 2017.**

The following in italics is retained from Supervisor Report No 63

We attended a meeting at JB Russell House on 18th August 2016 to discuss the strategy for identifying and correcting Stage 3 Works defects by the Defects Date of 26th January 2017. The following were represented at the meeting: - NHSGGC (David Loudon, Hazel McIntyre, Graham Forsyth); Multiplex (Fergus Shaw, Grant Wallace, Alasdair Fernie by telephone); Capita (Dave Ramsay). It was agreed that the strategy for identifying and correcting Stage 3 Works defects would comprise the following items 3.1.1, 3.1.2 and 3.1.3.

3.1.1 Project Managers Schedule of Incomplete Works dated 26th January 2015

The parties to review and ensure the completion of the Project Managers Schedule of Incomplete Works dated 26th January 2015 which is attached to the Sectional Completion Certificate for the New South Glasgow Hospital Stage 3 Adult and Children's Hospital leading up to the Defects Date (24 months after completion) of 26th January 2017. This is contained in Appendix 1.

3.1.2 FM First Summary Defects Schedule

The parties to review and ensure the completion of ALL defects contained in the FM First Summary Schedule leading up to 26th January 2017. The FM First Summary Schedule is to be the consolidated list to include ALL defect matters raised by NHS GGC FM and Estates inclusive of any defects matters consequent to Planned Preventative Maintenance (PPM) inspections. It was agreed that the consolidated list should be available by end September/ early October 2016 to allow Multiplex to correct the defects over the period October 2016 to early January 2017 and obtain agreement that rectified defects are closed out. (Refer Section 3.4 for current FM First Summary Schedule).

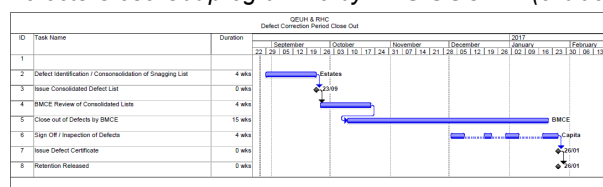
3.1.3 Supervisor's Notifications of Defects under Clause 42.2

The parties to ensure correction of defects raised by Supervisor's Notifications of Defects under Clause 42.2 prior to 26th January 2017.

3.2 SUPERVISOR MEETINGS WITH ESTATES

The following in italics is retained from Supervisor Report No 63

John McEwan and Dave Ramsay met with Ian Powrie and the FM/Estates Team (Cyril Dowson, Bob Geddes, David Bratney, Mark McKaig) on 11th October 2016 to discuss the FM First Summary Schedule (extract below right) as the consolidated list for defect matters raised by NHS GGC FM and Estates inclusive of any defects matters consequent to PPM. This meeting was consequent to NHS GGC liaison with Estates on Defects Close Out and the issue of the Defects Close Out programme by NHS GGC PM (extract below left).



First FM	Location	Room	Issue	Received	S/C	BMCE
160952580	A-03-FM3-051	FM Support	Plant Room 22-AHU-14 supply and extract duct work going down through the concrete floor does not have any fire stopping. This is a critical defect, Jordan has already seen this	13-Oct-16	MER	NH
160952608	C-00-OBW-002	Entrance	We have water leaking from hatch in ceiling in the resus corridor just at ambulance entrance to the children's hospital nearest tag is OBW002 - in between stage and C00. I will call estates also. Note added by MARK MCKAIG (07/09/2016 11:59:39) LOCATION EMC-066 NEXT TO LOBBY EMC-066	13-Oct-16	MER	NH
160952781	A-00-ENT-006	Concourse	ROOF LEAKING IN ATRIUM AT SOUP & JUICE	13-Oct-16	VEC	JM
160952786	C-00-OPD-037	Sub-reception	Roof in out-patient waiting - near Clinic 9 (Respiratory Function Lab) entrance door	13-Oct-16	VEC	JM
160952749			21-AHU-20 LEAKING ON SUPPLY AT JOINT BEFORE DROPPING TO LEVEL 2	13-Oct-16	MER	NH
160952835	Energy Centre		Aboriginal Centre & side shed for max heat 100°C this requires rectified	13-Oct-16	MER	NH
160952830	Energy Centre		all flexible fittings within a side shed CE marked requires to be rectified	13-Oct-16	MER	NH
160952835	Energy Centre		2 off lab block plate heat exchangers 115°C maximum rating and no CE marking	13-Oct-16	MER	NH

3.3 DEFECTS MEETINGS (POST COMPLETION WORKS MEETINGS)

We attended regular monthly Defects Meeting (Post Completion Works Meeting) for the New South Glasgow Hospital Stage 3 Adult and Children's Hospitals on 28th November and 12th December 2016 at which the relevant FM First Summary Schedules (Consolidated Defects List) were discussed and tracked.

It has been previously agreed with the parties that going forward until the Defects Date for Stage 3 of 26th January 2017 that the Supervisor would only issue formal Supervisor's Notifications of Defect (CI 42.2) "Stage 3 A&C Energy Centre" as and when instructed to do so by the NHS GGC Project Team.

3.4 FM FIRST DEFECTS SUMMARY (File Ref: 20161223 FM First Summary.xlsx)

The FM First Summary spreadsheet with File Ref: 20161223 FM First Summary.xlsx lists information received to 21/12/16 which was the final issue of FM First Summary from Multiplex until w/c 09/01/17.

Green – Advised Complete or Duplicate

Amber – Returned to NHS Estates due to Insufficient Detail

Red – Outstanding

Open Defects – 126; Defects in progress – 11; Closed – 3,051

The FM First Summary spreadsheet with File Ref: 20170106 FM First Summary.xlsx lists information received up to 6th January 2017.

Open Defects – 167; Defects in progress – 12; Closed – 3,063

4.0 CONSTRUCTION REVIEW**4.1 VISITS TO THE WORKS**

Site visits were carried out by the NEC3 Supervisor Team: - Dave Ramsay (Lead & Architect Supervisor); Willie Roxburgh (Civil/Structural Engineer Supervisor); John McEwan (M&E Supervisor).

4.2 POST COMPLETION ISSUES**4.2.1 Visual Shrinkage Cracks**

The interpretation of the appearance of shrinkage cracking to completed building elements in general and in particular in connection with finished internal partitions in a clinical environment requires to be agreed between the parties.

4.2.2 Fire Doors

We attended an initial site inspection on 22nd August 2016 of fire doors in the QUEUH & the RHC to agree grading standards for the proposed survey of doors by Multiplex. PMI 486 refers.

4.3 SUPERVISOR'S NOTIFICATION OF DEFECTS - ACH**4.3.1 Supervisor's Notification of Defect (CI 42.2) No 147**

We issued No 147 on 12th May 2016. Confirm that the Oil Delivery point and filling process is compliant and if not advise corrective action to be undertaken. We await formal response from Multiplex.

4.3.2 Supervisor's Notification of Defect (CI 42.2) No 146

We issued No 146 on 12th May 2016 Bellows Tie Rod Failures. Confirm the corrective procedures, actions, relevant parties and timescales required to resolve the bellows tie rod failures. Multiplex (D Wilson) responded on Aconex on 13th May 2016 and corrective action is being tracked at the Energy Centre Meetings. We will retain this defect open until formally closed out.

4.3.3 Supervisor's Notification of Defect (CI 42.2) No 145

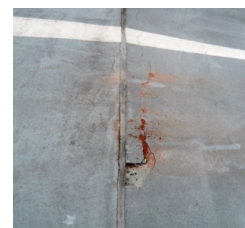
We issued No 145 on 25th April 2016 Water Leak – Mild Steel Tail In Domestic Cold Water Pipe. Although discussed at Energy Centre meetings, and although tracked in separate e-mail correspondence, we await formal response. We will retain this defect open until formally closed out.

4.3.4 Supervisor's Notification of Defect (CI 42.2) No 140.

Corrective work to spindles nearly complete. Refer to Supervisor Report No 59 for background to this matter. Multiplex issued us with the proposed "Visicom Highline blind programme". The closure of this is being tracked at the Post Completion Works Meetings and once completed we shall close out this defect.

4.3.5 Supervisor's Notification of Defect (CI 42.2) No 137.

The cladding on the west facing elevation has been damaged and an unsuccessful attempt has been made to repair the damage. We requested Multiplex to advise when this defect is to be rectified. Multiplex has confirmed that this has been passed onto the relevant sub-contractor Prater to rectify the unsuccessful attempt at the repair.

**4.3.6 Supervisor's Notification of Defect (CI 42.2) No 129.**

The Bicycle Shelter roof does not drain rainwater to the two corner outlets, consequently the rainwater is ponding. We requested Multiplex to confirm their proposed remedial action to resolve this defect. They have confirmed that following a meeting with the designer a level survey is required. The plan is to introduce a further outlet. Multiplex to advise when remedial works will be undertaken.

**4.3.7 Supervisor's Notification of Defect (CI 42.2) No 125.**

Following recent excavations around the buildings to expose and repair collapsed main drains, the Board request video surveys to be undertaken and reports provided of the repaired drain runs and also other neighbouring runs that may have been affected by proximity to the 200t crane. Multiplex has confirmed that the survey is complete and will issue to the Board. Dunnes are uploading information onto Zutec. We request confirmation from Multiplex that this has been uploaded and once received, we shall close out this Defect.

4.3.8 Supervisor's Notification of Defect (CI 42.2) No 124

This matter is being discussed and tracked to resolution at Energy Centre meetings background as follows:-

MTHW Global Conformity Assessment - Zurich assessment. This matter has been discussed at Energy Centre meetings. Await declaration of conformity which has not yet been received. The closure of this is being tracked at the Post Completion Works Meetings and once completed we shall close out this defect.

4.3.9 Supervisor's Notification of Defect (CI 42.2) No 99

The joints at window cills are opening up. We requested Multiplex to confirm the remedial action to resolve this problem. Multiplex has filled and painted the joints but they have opened up again. Thereafter Multiplex sealed a joint with sealant to determine if this resolved the defect.

Multiplex has advised that in general excessive shrinkage cracking in building elements of completed work will be addressed immediately prior to the end of defects period and that this defect falls into this category.

We shall therefore retain this defect notification open.

**4.3.10 Supervisor's Notification of Defect (CI 42.2) No 88.**

The capping piece on the north facing elevation of the Children's Hospital has two discoloured areas. We requested Multiplex to confirm the remedial action to address this and advise when complete. Multiplex has advised that work is being planned to be carried out and we await confirmation.

4.4 OPEN SUPERVISOR'S NOTIFICATION OF DEFECTS - LABORATORY**4.4.1 Supervisor's Notification of Defect (CI 42.2) No 501 - Laboratory Medicine Reception Disabled Door**

The actuator for Laboratory Medicine Reception Disabled Door has a ground mounted drive unit which the manufacturer (Record Ltd) has advised that their installation drawings and instructions require that the ground mounted actuator housing drain spigot is connected to the drainage system to ensure that the actuator is not submerged in rain water.

At the time of installation Multiplex did not install underground drainage to support this and instructed the Record installation team to drill a sink hole from the actuator housing as an alternative. This arrangement was queried at the time under one of the original failures covered during the warranty as a defect however Multiplex advised that this was Multiplex's call, as the Contractor and that in their opinion this solution was suitable for this installation.

This disabled access door has been out of service for over a year as the integrity of the actuator housing cannot be maintained and therefore it is evident that the Multiplex solution is not suitable.

It is understood that the Board has installed 3 new actuators with unsuccessful attempts to protect against flooding, the last of which failed within 2 days of installation.

The Board has decided to take an alternative approach and install an overhead actuator solution which will be installed in early January 2015.

Although the warranty has expired, the Board is seeking to recover costs from Multiplex as a latent defect.

Multiplex has responded on 25th January 2016 and requested details of NHS costs to rectify the defect as follows:-

The issue raised is understood however we require details of the costs associated with:-

"To date the Board have committed approximately [REDACTED] in unsuccessful repair/replacement parts via the installer/manufacture of this equipment."

4.4.1 Supervisor's Notification of Defect (CI 42.2) No 502 - Partially Collapsed Manhole

Matter raised by Ian Powrie (NHS Estates) on 9th June 2016 as follows:-

"Recently discovered a broken/partially collapsed manhole just before the traffic lights on the east side of the laboratory medicine."

On seeking support from Multiplex on this matter we were advised by Paul McGuinness that this is no longer covered under warranty as this road was handed over with the Labs building (circa 4 years ago). The full dual carriage way was not handed over until Jan 2015, up until this point there was little traffic using this road. This issue has only now materialised since full traffic volumes have been introduced, suggesting that this and possible the other man holes are not suitable for the heavy traffic flow experience on this road.

I would like have this issued repaired urgently to avoid risk of incident as a result of the failure."

Although the partial collapse of the manhole has occurred after the issue of the Final Defects Certificate (9th April 2014), Multiplex to correct the defect as a latent defect. Multiplex to investigate and advise remedial work/timescales for correction.

4.5 INSPECTION OF EXTERNAL AREAS ADJACENT TO MULTIPLEX MULTI STOREY CAR PARK

We visually inspected the External Areas adjacent to Multiplex Multi Storey Car Park on 29th November 2016 and consequently issued our Observation Sheet A01 also dated 29th November 2016. We acknowledge that some of the observations may be as a result of damage, however these are worth recording to bring to the attention of the parties.

5.0 INFORMATION REQUIRED**(Supervisor's Communication General Matters / Other Instructions - Clause 13.1)**

[REDACTED] Shading indicates item closed, clear indicates current item.


Item	Description	Date Requested	Comment
The following items are not closed out.			
All other Supervisor's Communication General Matters / Other Instructions raised have been closed out. A total of 253 Supervisor's Communication General Matters / Other Instructions have been issued to date.			

6.0 SUPERVISOR'S TESTS and INSPECTIONS

[REDACTED] Shading indicates item closed, clear indicates current item.


Ref	Title	Notified by	Status	Test Date
The following items are not closed out.				

7.0 DEFECTS NOTIFICATIONS ISSUED

 Shading indicates item closed, clear indicates current item.

Item	Description	Date Requested	Comment
The following items are not closed out.			
147	Confirm that the Oil Delivery point and filling process is compliant and if not advise corrective action to be undertaken.	12.05.19	Await formal response.
146	Confirm the corrective procedures, actions, relevant parties and timescales required to resolve the bellows tie rod failures.	12.05.19	Initial response rec'd 13.05.16 Await formal response.
145	Water Leak – Mild Steel Tail In Domestic Cold Water Pipe	25.04.16	Await formal response.
140	Defective spindles to privacy visicom panels to timber doors and screens.	29.09.15	Rectification programme rec'd. Corrective work ongoing. Once resolved we shall close out this defect.
137	Seeking confirmation when the damaged cladding has been rectified.	01.07.15	Initial response received.
129	Ponding to Bicycle Shelter.	11.05.15	Response received.
125	Seeking video surveys with reject to drain repairs.	16.04.15	Response received. Await confirmation that CCTV survey uploaded to Zutec
124	Defects in relation to the Zurich Engineers inspection.	16.04.15	Closure is being tracked at the Post Completion Works Meetings. Once resolved we shall close out this defect.
99	Confirm to open window cill joints.	24.02.15	Response received.
88	Seeking confirmation of remedial measures to address the discolouration of the capping pieces.	20.11.14	Response received. Multiplex advised will be towards the end of Defects Period.
All other Defects Notifications raised have been closed out. A total of 147 defects notices have been issued to date.			

8.0 LATENT DEFECTS NOTIFICATIONS ISSUED - LABORATORY

 Shading indicates item closed, clear indicates current item.

Item	Description	Date Requested	Comment
The following items are not closed out.			
501	Drain system for Laboratory Medicine Reception Disabled Door actuator.	20.11.14	Response received. NHS to provide Multiplex with details of costs incurred.
502	Partially Collapsed Manhole	09.06.16	Await formal response from Multiplex to enable closure

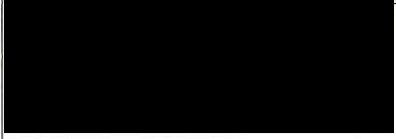

APPENDIX 1 – STAGE 3 SECTIONAL COMPLETION CERTIFICATE**NEW SOUTH GLASGOW HOSPITALS AND LABORATORY PROJECT****STAGE THREE – ADULT & CHILDREN'S HOSPITALS
SECTIONAL COMPLETION CERTIFICATE**

Project Details:	
Section of the Works	Stage 3
Description	Adult & Children's Hospitals
Contract Award	18 th December 2009
Start on Site	28 th March 2011

Contractor	Employer
Mr Alasdair Fernie Project Director Brookfield Multiplex Construction Ltd 90 Bishopsgate London EC2M 3XD	Mr David Loudon Project Director NHS Greater Glasgow & Clyde Project Office - Top Floor Site Office Southern General Hospital Construction Site Hardgate Road Glasgow G51 4SX

	Date
The Sectional Completion Date is	28 th February 2015
Sectional Completion was achieved on	26 th January 2015
Date of this Certificate	29 th January 2015
The Defects Date is	26 th January 2015
The defects listed on the attached schedule are to be corrected within the defects correction period which ends on 26 th January 2017.	Exceptions: Refer attached schedule of incomplete works dated 26 th January 2015, note dates for completion of works contained in this schedule.
The Employer took possession of the building on	26 th January 2015.

Works checked by Supervisor - Notification of Defects at Completion issued by the Supervisor (CI 43.2)

	John Redmond for Capita Symonds	29 th January 2015
Signature	Name	Date
Certified by the Project Manager		
	Peter Moir for NHS Greater Glasgow & Clyde	29 th January 2015
Signature	Name	Date

Attachments: Supervisor's Notification of Defects at Completion – 26th January 2015.
Project Manager's Schedule of Incomplete Works – 26th January 2015.

Nr(2)

NEC3

SUPERVISOR'S NOTIFICATION OF DEFECTS AT COMPLETION (CI 43.2)																							
Short Description <u>Adult and Children's Hospital and Energy Centre</u>		Date: <u>26th January 2015</u>																					
Notification Nr: <u>A/C001</u>																							
To: Contractor's Agent <u>Please select from dropdown</u>		Contractor -- (Name) <u>BROOKFIELD MULTIPLEX EUROPE</u>																					
Project Office Address <u>PROJECT OFFICE, HARDGATE</u>		<u>GOVAN, GLASGOW</u>																					
<u>G51 4SX</u>																							
1. Dear Sir SUPERVISOR'S NOTIFICATION OF DEFECTS AT COMPLETION Following an inspection of the works on (Date) <u>26th Jan 2015</u>																							
<div style="display: flex; justify-content: space-between;"> <div style="width: 40%;"> <p>(a) <input type="checkbox"/> * No Defects were found</p> <p>(b) <input checked="" type="checkbox"/> * The following Defects were found but these will not prevent the Employer from using the works</p> </div> <div style="width: 55%;"> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;">Location of Defect</th> <th style="width: 60%;">Description of Defect</th> </tr> </thead> <tbody> <tr> <td style="background-color: yellow;">VARIOUS LOCATIONS</td> <td style="background-color: yellow;">SEE ATTACHED ARCH OUTSTANDING WORKS & MARKED UP DRAWINGS REF BMCE-GC-048709</td> </tr> <tr> <td style="background-color: yellow;">VARIOUS LOCATIONS</td> <td style="background-color: yellow;">SEE ATTACHED NSGH-MEP, OUTSTANDING WORKS REF BMCE-GC-048710</td> </tr> <tr> <td style="background-color: yellow;">VARIOUS LOCATIONS</td> <td style="background-color: yellow;">SEE ATTACHED ENVELOPE OUTSTANDING WORKS & MARKED UP DRAWING BMCE-GC-048711</td> </tr> <tr> <td style="background-color: yellow;"> </td> <td style="background-color: yellow;"> </td> </tr> </tbody> </table> </div> </div> <p>(c) <input type="checkbox"/> * The following Defects were found and these will prevent the Employer from using the works. They shall remain to be completed before completion can be certified.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;">Location of Defect</th> <th style="width: 60%;">Description of Defect</th> </tr> </thead> <tbody> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </tbody> </table>				Location of Defect	Description of Defect	VARIOUS LOCATIONS	SEE ATTACHED ARCH OUTSTANDING WORKS & MARKED UP DRAWINGS REF BMCE-GC-048709	VARIOUS LOCATIONS	SEE ATTACHED NSGH-MEP, OUTSTANDING WORKS REF BMCE-GC-048710	VARIOUS LOCATIONS	SEE ATTACHED ENVELOPE OUTSTANDING WORKS & MARKED UP DRAWING BMCE-GC-048711			Location of Defect	Description of Defect								
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VARIOUS LOCATIONS	SEE ATTACHED ENVELOPE OUTSTANDING WORKS & MARKED UP DRAWING BMCE-GC-048711																						
Location of Defect	Description of Defect																						
The defects period commences on (Date) <u>26th Jan 2015</u> for the period of <u>104</u> Weeks until (Date) <u>26th Jan 2017</u>																							
Signed: [Redacted Signature]		Supervisor (NHS) or delegate																					
Date: <u>26th January 2015</u>																							
<div style="display: flex; justify-content: space-between;"> <div style="width: 40%;"> <p><input type="checkbox"/> * The following Defects were found but these will not prevent the Employer from using the works.</p> <p><input type="checkbox"/> * The following Defects were found but these will not prevent the Employer from using the works.</p> <p><input type="checkbox"/> * The following Defects were found but these will not prevent the Employer from using the works.</p> </div> <div style="width: 55%;"> <p style="color: red; font-weight: bold;">Please select one option only!!</p> </div> </div>																							
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Correction of Defect Signed: [Redacted Signature]		Supervisor (NHS) or delegate																					
Date: [Redacted Date]																							
Distribution:																							
<u>The Employer</u>		<u>Other</u>																					
<u>Project Manager (NHS)</u>																							

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(* Delete as appropriate by unclicking box ☐)

NEW SOUTH GLASGOW HOSPITALS - STAGE 3 ADULT & CHILDRENS HOSPITALS
PROJECT MANAGER'S SCHEDULE OF INCOMPLETE WORKS - 26th January 2015

No	Description of Defect	Location	Defects Completion Date
1	VIE Slab and associated works	Maternity Unit	30.06.2015
2	Neuro Link Bridge - connection to T&LC	Adult / INS	17.04.2015
3	Neuro Link Bridge - oxygen connection	Adult / INS	31.03.2015
4	Neuro Link Bridge - connection to INS	Adult / INS	30.06.2015
5	Separation Tank	Adult ED Dept.	13.03.2015
6	Art Strategy installation - complete	All areas	28.02.2015
7	Land Eng: incomplete landscape works	All areas	31.03.2015
8	Cores A&B & Main Entrance - meet and greet panels glass cabinets	Adult Hospital	28.02.2015
9	Lead lined units and associated worktops - ADB codes STF1021, 1024 & 1025.	Adult Hospital / Nuclear Medicine	28.02.2015
10	DCFP Room 024 - ROMPA wall padding by BM	DCFP	31.03.2015
11	Additional divider screens and fabric boards	MIL009, RAG082, DOPD022	28.02.2015
12	Group 5 areas - where Board subs are working	Both	15.04.2015
13	Adult sanctuary - roof access hatch	Adult Hospital	28.02.2015
14	Interventional theatre - PMI works	Adult L2	03.02.2015
15	Adult sanctuary - install Gustav's panels	Adult Hospital	28.02.2015
16	Decontamination Room - complete	ED Department	28.02.2015
17	MRI Rooms - knock out panels	Various	28.02.2015
18	New VIE turning circle	Adult	28.02.2015
19	New VIE - pavement works south of road (bus stop not required).	Adult	11.02.2015
20	Main entrance walls and signage	Campus	15.04.2015
21	Neuro steel bridge works	INS	15.04.2015
22	Street lights to boulevard, complete landscaping to boulevard	Campus	15.04.2015
23	BREEAM Report application	Both	31.03.2015
24	AGV - performance tests and trials	Adult's Hospital	28.02.2015
25	Structal - replacement of panels, complete install and review BMU protection	Adult's Hospital	31.03.2015
26	Sanctuary - sun pipes	Children's Hospital	28.02.2015
27	Sanctuary - stained glass install	Children's Hospital	28.02.2015
28	Schiehallion radio nuclide room doors	Children's Hospital	13.03.2015
29	DCFP anti-ligature works	Children's Hospital	27.03.2015
30	Telecoms 600 pair lines install plus additional 600 lines req. by Board	Both	28.02.2015
31	External LED lighting	Adult Hospital	31.03.2015
32	Patient entertainment - screens	Children's Hospital	30.04.2015
33	External facade - BM drawings	Both	31.03.2015
34	LTHW - PMI works	Laboratory	28.02.2015
35	Isolation Rooms - HEPA filters		
36	Internal signage, wayfinding, door signage	Both	23.02.2015

No	Description of Defect	Location	Defects Completion Date
37	Neo-natal link bridge - internals and ext. Cladding panels	Children's Hospital	31.03.2015
38	Neo-natal link bridge - knock out panel replacement	Children's Hospital	31.07.2015
39	Lifts - works to beneficial lifts	Both	31.03.2015
40	Pneumatic tube gantry - removal	Laboratory	10.04.2015
41	Core G L13 - complete helipad ramp, install bird sounder and clean area	Adult Hospital	28.02.2015
42	Theatres - complete Starkstrom install incl. DVI/SDI sockets and accessories on arms	Both	21.02.2015
43	Hardgate Road - white lining		15.04.2015
44	Energy model - evidence of compliance with energy target	Both	28.02.2017
45	NEC Supervisors Communication No.236		06.02.2015
46	NEC Supervisors Communication No.237		06.02.2015
47	NEC Supervisors Communication No.238		06.02.2015
48	NEC Supervisors Defect No.081		13.02.2015
49	NEC Supervisors Defect No.088		13.02.2015
50	Completion of sweep up programme and inspections with Supervisor	Both	17.04.2015.
51	Medical Gas System - testing & witnessing of med gas system by CSO.	Both	28.02.2015
52	Completion of Children's Park SUDS	Children's Hospital	30.06.2015
53	Completion of Children's Park	Children's Hospital	30.08.2015
54	Completion of Car Park 1		10.04.2015

ACTION NOTE

Present: Peter Moir (PM) David Hall (DH) Liane McGrath (LM)
John Redmond (JR) Graeme Bruce (GB) William Roxburgh (WR)

Apologies: NA

Item No	Item	Discussion/Information	Action	Action by Whom
1.	Introductions	Introductions were made. PM advised that the offices were ready for Capita Symonds (CS) to use, wireless connection is now working.	-	
2.	Activity to date	<p>WR noted he has been on site at least once per week and noted that the site seems well controlled and methodically organised. Good from H&S perspective. Workmanship seems good and overall WR is impressed with progress. WR will continue to visit at least once per week and following access to relevant information may visit more regularly.</p> <p>PM advised that an introductory meeting with key BCL staff would be arranged for next week.</p> <p>DH noted that the Board completed large scale SI work prior to the procurement process and BCL carried out supplementary works subsequently. There are some areas of outstanding SI work on the Scottish Ambulance Service site, the Scottish Water site and below buildings to be demolished in August/September 2010. DH further noted that QA information is set out within Employer Requirements, all risk is with the contractor except 'unforeseen ground'.</p> <p>PM confirmed that the NHS Board is content for CS to contact BCL directly with their knowledge.</p>	<p>-</p> <p>BCL and Capita Symonds meeting to be arranged.</p> <p>-</p> <p>-</p>	LM
3.	Sypro and Aconex	<p>PM confirmed that training on Aconex is being organised. Shiona Frew is organising Sypro log in and password details. User manuals for Aconex and Sypro were distributed.</p> <p>DH explained that BCL have contract with Aconex which is why this package is in use, however, after review it was decided that in order to manage the contract effectively another package was required. Sypro is now being used for contract management.</p> <p>DH advised that the current Aconex set up only allows access to information that the user has been 'invited' to view. Therefore, all previously uploaded information set up for NHS viewing only will not be accessible to CS at present. (Shiona Frew confirmed that all relevant documents uploaded to Aconex so far have been sent via email to JR, GB and WR and all further uploads will now be available for Capita Symonds to view)</p> <p>PM advised that a Notification Module is currently being developed for Sypro, however, in the meantime CAT forms should be used for CS notifications. Notifications should be uploaded to Aconex and will be transferred to Sypro retrospectively when the module is available.</p>	<p>Sypro log in and password set up to be chased.</p> <p>-</p> <p>-</p> <p>-</p>	PM

4.	Outstanding Information	<p>WR provided a list of outstanding information that is required, detailed below:</p> <ul style="list-style-type: none"> - Copy of contractor's work procedure/project execution plan or similar - SI, Contamination interpretative reports - C&S construction drawings (some Stage E available) - Access to Aconex and Sypro re QA records and test results for piling, concrete, drainage, BW data, BC correspondence etc - Specifications and any design statements - Testing regime for materials (where not included in specifications) - Appropriate MS and RA - Note of key meeting dates - Site personnel chart <p>PM noted that CS should have been given copies of the contract and Vol 2/1 and 2/2 Specifications.</p>	<p>Information to be distributed.</p> <p>Check and ensure CS have copies of docs.</p>	<p>LM</p> <p>LM</p>
5.	Monthly Report	<p>PM advised that the Monthly Progress Report is collated and produced by BCL. The format is still developing. CS will be required to produce a Supervisors Report on a monthly basis and it is foreseen that the executive summary from this report will be included in the monthly progress report.</p> <p>JR circulated a copy of the proposed Supervisors Report structure, the forms have been taken straight from the proformas, with an additional statement added in: 'Defect will prevent the Employer making use of the work – Yes/No'. PM noted that the Board requires zero defects at practical completion.</p> <p>LM is currently putting together a schedule of meetings/reports for the Laboratories Project, once complete this will be circulated to CS.</p>	<p>-</p> <p>-</p> <p>Schedule of meetings/reports to be circulated.</p>	<p>LM</p>
6.	Site Progress Meeting	The dates for the Site Progress meetings are still to be confirmed; these will be scheduled asap and will commence July 2010. PM has circulated a proposed agenda and has not received any comments back to date.	-	
7.	Framework Agreement	<p>CS agreed to proceed on general principles; PM will discuss the framework agreement further out with this meeting.</p> <p>PM has emailed Health Facilities Scotland and requested that the framework agreement be sent in Microsoft Word format.</p>	<p>-</p> <p>-</p>	
8.	<p>AOCB</p> <p><i>Meeting Schedule</i></p> <p><i>Design Meeting</i></p> <p><i>BREEAM</i></p>	<p>DH noted that there is a wide range of meetings currently scheduled, CS will not be required to attend all meetings but input may be needed.</p> <p>PM noted that it would be useful for WR to attend a few initial design meetings. The next meeting is scheduled for Wed 7th July at 10am in the site offices.</p> <p>DH noted that the project is challenged to achieve an 'excellent' rating; the energy centre includes many features that will go towards achieving this target. As only the Laboratories construction is underway value engineering works</p>	<p>-</p> <p>-</p> <p>-</p>	<p>WR</p>

		have been carried out. PM confirmed that the BREEAM advisor/assessor for the Laboratories Project is Susan Logan, who is also the BREEAM advisor for the Adult & Children's Hospitals. Susan Logan also has a remit with the Carbon Trust.	Page 1727	
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21st January 2011, at 1.30pm in the Hot Desk Room, Project Offices

ACTION NOTE

Present: David Hall (DH) William Roxburgh (WR) John Redmond (JR) Liane McGrath (LM)
 Alan Seabourne (AS) David Young (DY) Peter Moir (PM)

Apologies: Graeme Bruce (GB) Dave Ramsay (DR) Alastair Smith (AS)

Item No	Item	Discussion/Information	Action	Action by Whom
1.	Notes from previous meeting	Accepted as a true record, subject to the following change: Item 3 Site procedures, paragraph 4 "WR noted that a method statement..." should read "DY noted that a method statement..."	Update notes	LM
2.	Matters Arising <i>Notification of Defects Procedure</i> <i>Construction drawings</i>	DH advised that he will confirm the notification of defects procedure and use of Sypro with BCL so all parties are fully aware of the process. Project Supervisors confirmed that most drawings have now been received. Some Prater drawings are outstanding. DY noted that the Project Supervisors require a full set of sub-contractor drawings for M&E, Shiona Frew is organising access to these. AS noted that the Project Supervisors can contact BCL direct if any other information is required.	Clarify process with BCL -	DH -
3.	Site Procedures	JR advised that the site is generally being run well and there are no major concerns at present. BCL have been asked for a QA plan, however this is still awaited as it has not been signed off internally yet. The Project Supervisors need this document as it is within their brief to audit against this.	-	-
4.	Monthly Reporting	Project Supervisors Report No 7 has been issued detailing a full update up to the end of December 2010. As part of General Communications for February JR has requested the QA for concrete upstand and copper cladding, this has not yet been supplied by BCL. The Project Supervisors will be checking what procedures BCL have in place to do this. WR advised that BCL have not yet released the Caltite warranty as some areas are still being competed. Once complete the warranty will be issued. DH enquired if a sample warranty has been provided, giving examples of wording, timescales etc. WR advised that this has not been issued and agreed to contact BCL to request this. The Project Supervisors reported that they are satisfied with the tracker that is being used to monitor their communications.	- - - Request BCL issue a sample warranty -	- - - WR -

Item No	Item	Discussion/Information	Action by Whom
5.	Notification of Defects	No defects have been reported by BCL in this reporting period.	-
6.	Inspection and Testing	<p>A request has been given to BCL to provide full test results for the robustness of partitions.</p> <p>DY advised that a technical review of the proposed changes to the chillers has been carried out to check if they satisfy the ERs. Following review it seems that the proposals do not meet the ERs. AS noted that some questions re robustness and performance have been raised previously. DY explained the potential issues with the new proposals and the potential for this resulting in a limited amount of cooling to some areas of the Labs. AS noted that if the changes reduce the specification detailed in the ERs then this needs to be shared with the wider NHS team, including Facilities. DY advised that there are other options that could be explored to reach an agreement that satisfies both parties.</p> <p>JR advised that he has reviewed the Permaquick application and it is going well. PM noted concern that the formal package has not yet been issued by BCL. JR noted that a company rep is visiting on Tuesday to discuss the waterproof membrane and questions can be asked then.</p>	<p>-</p> <p>Further discussions to take place re Chillers specification</p> <p>-</p> <p>AS</p> <p>-</p>
7.	Information Requirements	JR advised that these are all captured in the general communications.	-
8.	<p>AOCB</p> <p><i>Site walk around</i></p> <p><i>BCL Report – Cracks</i></p> <p><i>A&C – Structural Design Philosophy</i></p> <p><i>Site Gates</i></p>	<p>PM noted that the site is now a lot tidier. A lot of ice and water is visible on the roof and some pipes to expel this water were noted as being disconnected, PM has informed David Jordan of this.</p> <p>WR advised that the report on cracks in the Mortuary and other areas had not yet been received. It is anticipated that this will be issued before the next Monthly Labs Progress Meeting.</p> <p>WR advised that he has made comments on the Structural Design Philosophy document and passed them to Darren Smith. BCL should have received this through the Appendix K process but it is sensible to reinforce this issue. WR will advise if BCL do not close this out.</p> <p>It was previously agreed that the Govan Road gate would be used for the majority of the lorry deliveries to site, however, David Jordan has indicated that BCL are considering using a one way system through the site for Stage 3. PM noted that his needs to be discussed further.</p>	<p>-</p> <p>-</p> <p>-</p> <p>Update as available</p> <p>-</p> <p>PM</p>
9.	Date and Time of next meeting	Friday 18 th February 2011 at 9.30pm in the Boardroom, Project Offices.	

18th February 2011, at 1.30pm in the Hot Desk Room, Project Offices

ACTION NOTE

Present: Peter Moir (PM) Graeme Thomson (GT) John Redmond (JR) Liane McGrath (LM)
David Young (DY)

Apologies: William Roxburgh (WR) David Hall (DH) Alan Seabourne (AS)

Item No	Item	Discussion/Information	Action	Action by Whom
1.	Notes from previous meeting	Accepted as a true record.	-	-
2.	Matters Arising			
	<i>Notification of Defects</i>	JR advised that no defects had been noted as yet and therefore the system for notification had not been tested. The module will be used on Aconex once required. PM queried if Sypro could be used to also note any defects. PM agreed to contact Simon Hunt from Sypro to find out if there is a potential for the system to provide this function or if any of the other modules could be used for this purpose.	Contact Simon Hunt from Sypro re module for recording defects	PM
	<i>Sample Warranty</i>	JR advised that WR has issued an Aconex request for BCL to provide a sample warranty.	Update on sample warranty at next meeting	WR
	<i>Chillers</i>	A meeting on chillers was held on Friday and agreement on how to proceed was reached. PM advised that he will issue a PMI to confirm the proposal; the specification will be attached to the PMI. Revised drawings will then be issued for Project Supervisor review.	Issue PMI on Lab chillers	PM
	<i>Site Gates</i>	PM will discuss the use of gates to the site with BCL, including their proposal to implement a one way system within the site during Stage 3.	Discuss use of site gates with BCL	PM
3.	Site Procedures	JR advised that the site continues to be well run and work is progressing in accordance with the ERs. Some cube test results have been received; however, others are still awaited. JR confirmed that BCL are taking action against water ingress to the Labs building, the inside is now drying out. GT also noted that there is a visible effort on being made on site to control water ingress.	- -	- -
4.	Monthly Reporting	Project Supervisor Report No.08 was issued to the Board prior to the meeting. 12 general communications have been raised to date. Of these a few are concerns, including the partitions on the west	-	-

Item No	Item	Discussion/Information	Action by Whom
		<p>elevation, however BCL are fully aware of these issues. JR also noted that WR has been monitoring steelwork and has asked JR to raise a communication on this. The Project Supervisor communication schedule is shared with BCL on a monthly basis and is used to monitor feedback on communications. PM noted that if no action is taken by BCL within a reasonable time then this should be highlighted to the Board. PM noted that the Labs contract is for zero defects and tight control needs to be kept on this throughout construction</p> <p>The group discussed the effectiveness of the Labs Site Progress Meeting and its current format. It was agreed that improvements could be made and a meeting with PM, JR and GT will be organised to discuss further.</p> <p>JR advised that as discussed at the Labs Site Progress meeting on Wednesday 16th Feb, the ERs do not seem to contain anything to state that the Labs (excluding Mortuary) are exempt from certain elements of testing. JR agreed to discuss this further with BCL and report back.</p> <p>The BCL Quality Plan has now been received and JR is scheduled to meet with BCL on 2nd March to review this.</p> <p>DY advised that in relation to M&E work on site progress is going well and the standards are good. Ongoing monitoring continues to check for any damage. Some issues with the fire damper access have been noted, BCL are dealing with this. Pre-testing of some pipework is being carried out at present and will be shared with the Project Supervisors. Work has begun on the installation of CAT cables.</p> <p>DY noted that a more detailed look at the access to some services is required. The Project Supervisors will monitor this to ensure adequate access is provided to valves etc once the building is complete. PM has expressed the importance of access to services to BCL so maintenance etc can be carried out in future. PM requested that the Project Supervisors continue to closely monitor this so any issues can be addressed early. DY has raised the point of air handling units within the main hospital plan room and how they will be maintained, especially the high level kit. These queries were noted on drawings; however updated drawings have not been issued yet.</p> <p>DY noted that the Project Supervisors are unaware of who will be carrying out the commissioning of the new Labs for BCL. PM advised that this was discussed at the Design Team Meeting on Wednesday. BCL are working on a draft commissioning plan at present which should be finalised in March. PM has advised BCL that the PDA system used on previous projects worked well and has asked them to use an equivalent. Further discussions are due to take place late March/early April, PM will seek further information on commissioning.</p>	<p>-</p> <p>Organise meeting to discuss Labs Site Progress Group</p> <p>LM</p> <p>Further discussions with BCL on Lab standards</p> <p>JR</p> <p>-</p> <p>-</p> <p>-</p> <p>Further information on commissioning to be sought from BCL</p> <p>PM</p>
5.	Notification of Defects	As detailed above no defects have been noted to date.	-
6.	Inspection and Testing	<p>DY has requested that BCL give a minimum of one week's notice of each test if possible. No testing schedule has been provided as yet. DY has requested a number of tests and their duration and will report back on this on information has been received.</p> <p>PM advised that the Board is in the final stages of signing off the liquid nitrogen and lab gases specification. The Lab Technical Service Managers have reviewed the specifications and drawings. Some changes have been made to the original provision including the movement of the liquid nitrogen store. Hazardous chemicals will now be kept outside within a cage and the bottle</p>	<p>-</p> <p>-</p>

Item No	Item	Discussion/Information	Action by Whom
		gas store will now house the CO2 supply which will be piped up to supply the building. PM also noted that the Board have been asked to sign off the Swisslog track. Mortuary equipment samples have been viewed and queries from Lab users have been sent back to BCL.	- -
7.	Information Requirements	Captured within the Project Supervisors general communications.	-
8.	AOCB	No other business was noted.	-
9.	Date and Time of next meeting	Friday 18 th March 2011 at 2pm in the Boardroom, Project Offices.	

18th March 2011, at 1.30pm in the Hot Desk Room, Project Offices

ACTION NOTE

Present: Peter Moir (PM) David Hall (DH) John Redmond (JR) Liane McGrath (LM)
 David Young (DY) William Roxburgh (WR)

Apologies: Alan Seabourne (AS) Graeme Thomson (GT)

Item No	Item	Discussion/Information	Action	Action by Whom
1.	Notes from previous meeting	Accepted as a true record.	-	-
2.	Matters Arising			
	<i>Notification of Defects</i>	PM advised that Simon Hunt from Sypro is currently looking into the possibility of using a Sypro module to record defects. SH will feedback to PM	Update on feedback from Simon Hunt	PM
	<i>Sample Warranty</i>	WR advised that BM had not provided a sample warranty yet, WR agreed to chase this via Aconex.	Advise when sample warranty received	WR
	<i>Chillers</i>	PM noted that a PMI has been issued indicating acceptance of the BM proposal for 6 chillers. Drawings from BM are awaited.	-	-
	<i>Labs Service Yard Gates</i>	PM advised that he met with Karen Connelly re gates, the proposals have been sent to Alex McIntyre for comment. Once a response is received from A McIntyre a PMI will be issued to BM to request a cost.	-	-
	<i>Labs Site Progress Meetings</i>	PM noted that the meetings were now set to be more productive. BM have requested to change the new dates that were proposed so more time is available to issue information. It is now proposed to have the Labs Site Progress meetings on Mondays, with the Project Supervisor meetings changing to the Friday beforehand. LM will issue updated meeting invites to all group members.	Issue new dates for Labs Site Progress and Project Sup meetings	LM
	<i>Commissioning</i>	PM advised that commissioning was discussed at the PMG and BM are currently looking into using 'Priority' or a similar product.	Update on commissioning when available.	PM
3.	Site Procedures	JR advised that the Project Supervisors are generally satisfied with construction procedures on site. All drawing specifications that have been requested have been supplied by BM. The quality of work on site is also noted as generally good.	-	-
		Mechanical DY advised that the installation is noted as generally good. Some issues with access to various dampers/valves were noted and have been communicated to BM through the general communications process. Some beams were noted as damaged and will require repair before handover.	-	-

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Item No	Item	Discussion/Information	Action by Whom	
		<p>Work on site is generally progressing well and mechanical work seems to be ahead of programme.</p> <p>Monitoring of water ingress needs to continue with regard to installation works.</p> <p>DY also noted that quality monitoring needs to be maintained as the pace of work on site accelerates to mitigate against the delay to overall programme.</p> <p>PM noted that a VE proposal re installation of duct work was issued. DH asked if there was any evidence of any un-insulated areas of duct work, DY advised some areas had been viewed. DH noted that a verbal arrangement with BM was agreed where by they would supply drawings of any heated area with specific velocity. As this has not been formalised DH will chase.</p> <p>DY noted that the Project Supervisors now have a full set of A3 drawings so the extent of insulated duct work can be checked against the drawings.</p> <p>Civil/Structural</p> <p>WR advised that he majority of the works are now complete. Some actions/observations from the Project Supervisor list are still to be closed.</p> <p>Information on the cracks in the basement has been received. The issue of cube results is ongoing.</p> <p>Regarding the main works on the Hospitals, Energy Centre and Substation monitoring continues.</p> <p>One H&S issue was noted where heavy materials were seen to be lifted by a crane above an operative's head. WR agreed to verbally advise the BM H&S Manager of this. WR will also mention that plywood sheets above voids between floors in the Labs building are the same colour as the concrete with no barriers around them, these areas need to be better defined.</p> <p>BM will be using rotary piling on the A&C Hospitals build. A meeting with John Currie and Tim Bailey will be arranged to discuss the process, a method statement has not yet been received.</p> <p>JR noted that re Acoustic testing there is no separation between the Labs building and the A&C Hospitals. JR has requested the testing of 8 partitions of each type. This is awaited and JR will follow up with BM.</p>	<p>-</p> <p>Chase BM for drawings of heated areas with specific velocity.</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>Meet J Currie & T Bailey to discuss piling and method statement</p> <p>Acoustic testing of partitions, JR to follow up with BM</p>	<p>-</p> <p>DH</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>Project Sups</p> <p>JR</p>
4.	Monthly Reporting	<p>Project Supervisor Report No.09 was issued to the Board prior to the meeting.</p> <p>JR noted that BM are responding to communications on a regular basis. The Project Supervisors also have a regular meeting with BM prior to the monthly Labs Site Progress meeting.</p>	<p>-</p>	<p>-</p>
5.	Notification of Defects	<p>No defects have been noted to date.</p> <p>BM are issuing their own NCRs to subcontractors, the Project Supervisors receive a copy of these notifications. The first one</p>	<p>-</p>	<p>-</p>

Item No	Item	Discussion/Information	Action by Whom
		was issued last week re drainage in the west wing.	
6.	Inspection and Testing	<p>JR noted that inspection and testing is ongoing as site visits progress. A full inspection timetable is included at the end of the monthly Project Supervisors report.</p> <p>DH queried a date for Building Control to visit the site, WR advised that Building Control have been visiting the site and reviewing tests results rather than actually witnessing the tests happen.</p> <p>In general BM have been proactive in picking up defects with their subcontractors.</p>	
7.	Information Requirements	JR advised that there are none noted, all requirements are being responded to by BM.	-
8.	AOCB	No other business was noted.	-
9.	Date and Time of next meeting	To be confirmed.	

Action Note

Present: Alan Seabourne (AS) John Redmond (JR) David Young (DY) Graeme Thomson (GT)
Peter Moir (PM) Willie Roxburgh (WR) Liane McGrath (LMc)
Apologies: David Campbell (DC) Alistair Smith (ASm) David Hall (DH)

Item No	Item	Discussion/Information	Action	Action by whom
1.	Notes from previous meeting	Accepted as a true record.	-	-
2.	Matters Arising			
	<i>Sypro</i>	PM advised no further information had been received from Simon Hunt at Sypro. The process for Supervisor Communications and Notification of Defects to be maintained at present.	PM to advise of Sypro response once received	PM
	<i>Sample Warranty re Caltite</i>	JR advised that the sample warranty had been received. A lifetime of 12 years had been noted; however this was expected to be longer. JR agreed to write a query re this for PM to send to BM.	JR to draft query re lifetime of Caltite warranty for PM	JR
	<i>Acoustic Testing</i>	PM advised that a discussion with David Jordan had taken place re acoustic testing; PM had noted the ERs contain a requirement for testing to be carried out. JR agreed to identify sample rooms across the building for acoustic testing to be conducted in, this will cover different room types.	Identify sample rooms for acoustic testing	JR
	<i>FM Maintenance Access</i>	PM advised that the main access strategy for the Labs had been reviewed and comments were sent back to BM. DY noted that a Supervisor Communication had been raised noting the need for appropriate access to fire dampers etc. BM have put some additional access into the building but some remain outstanding. This will be monitored. GT noted that the ceiling grid is due to be installed in Areas 1 & 2; this area needs to be reviewed closely. DY advised that a sign off procedure needs to be in place before the ceiling is installed. This will be discussed at the Labs Site Progress meeting on Monday 9 th May.	- - Discuss sign off procedure prior to ceiling installation at LSPM on 9 th May	- - DY
	<i>Fire Dampers</i>	DY advised that after reviewing the ERs he cannot conclude if the building has been classified as a clinical building or an administration building, this decision must have been made during early contract negotiations. As patients are not being treated within the building manual dampers may be accepted, however there is a cost to maintain manual dampers. PM noted that the building was classed as an administration facility for building regulation purposes. GT agreed to email Wallace Whittle to establish what was signed off at design stage, GT will copy LMc into this correspondence.	- Email Wallace Whittle to clarify what was category of building was signed off at design stage, copy to LMc	- GT
	<i>DW144 requirements</i>	DY advised that in the main this had been addressed and the Supervisors are now satisfied. The Supervisors will continue to monitor. Item closed.	-	-

	<i>Trunking</i>	DY advised that one instance of damage to hanging cables had been identified, the insulation was damaged and has been raised to BM through a Supervisor Communication. It has been noted that some cabling, instead of being run behind walls, has been installed using vertical trunking, this then connects to the horizontal trunking. Although this installation method is unusual it should not pose any issues.	-	-
	<i>Piling Delay</i>	WR advised that following a meeting on site on 24 th March a brief on procedures was issued and are satisfactory. The QA procedures seem comprehensive and although the piling was behind schedule, the programme has been adjusted and progress is being made. The rate of piling has now increased. Item closed.	-	-
	<i>Lab Gases</i>	PM noted that an authorised engineer was still to be identified. Carry action forward.	Identify authorised engineer for gas commissioning	PM
3.	Site Procedures	JR advised that procedures on site were generally good and work was progressing to a good standard. JR noted that the QA from BM was reasonably good, but generally reliant on sub-contractors systems. The sub-contractors use different systems, BM then collate and check the sub-contractor information.	- -	- -
4.	Monthly Reporting	<p>NEC 3 Supervisors report No.11 was issued prior to the meeting. JR highlighted the following points from the report:</p> <ul style="list-style-type: none"> - Blockwork is ongoing with other structural works mainly completed. - Certificate of Waterproofing Integrity received. - In general all mechanical services first fix are progressing satisfactorily. - Protection of open ends of pipes and ductwork being provided throughout the site, some isolated areas have not been done - this has been raised through a Supervisor Communication. - Electrical works are being carried out to a high standard. - Extensive data cabling has now been installed on cable tray. - Overall installation and co-ordination of services appear to be well organised. - No concerns noted re information requirements - Nothing to report re Early Warnings. <p><u>Steelwork</u> JR advised that a number of remedial works are required on the curved stair, including bolts not tightened, bolts missing and spaces between the wall and plates. BM have been notified via Supervisor Communication.</p> <p><u>Partitions</u> JR advised there is no partition shown on the drawing separating the male and female toilets on Level 1 Area 7. Details showing how the proposed IPS panels will achieve required sound insulation have been requested.</p> <p><u>Fermacell</u> Moisture content of the Fermacell boarding affected by water ingress is being monitored. Some small defects have been identified and a Defect Notification will be raised regarding this.</p> <p>DY advised the installations are going well to a generally good standard. Some minor housekeeping issues have been noted, such as the ends of some pipework not being protected.</p>	<p>-</p> <p>-</p> <p>-</p> <p>Defect Notification to be raised re Fermacell defects</p> <p>-</p>	<p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p>

		<p><u>Insulation</u> Insulation to pipework and ductwork that was damaged during the construction process is being repaired, some areas still ongoing.</p> <p><u>Plant</u> One of the chilled beams has sustained physical damage so will need to be replaced. Air handling units within plant areas require further protection to avoid damage.</p> <p><u>Steelwork</u> WR advised that he has asked BM to review the connection steelwork between the POD and main building, the boltheads look small and clearance is tight. WR is currently awaiting BM's response.</p> <p>AS noted that BM need to action these issues promptly, DY agreed to collate the issues and send a request to David Jordan asking that they are resolved within one week to prevent further issues at a later date.</p> <p><u>Insulation</u> AS queried the insulation BM are currently fitting, noting that the retrofit needs to be dealt with correctly. PM noted that this was raised at the Labs DTM where David Jordan acknowledged the issue and gave assurances that it would be installed correctly. JR agreed to discuss the design with BMJ and will request full details on the specification. DY also noted that the U-value should be requested.</p>	-	-
			-	-
			-	-
			Send request to David Jordan asking that all minor issues are resolved on site within one week	DY
			Request details of insulation from BMJ	JR
5.	Notification of Defects	JR reported that there were no defects to note in this reporting period.	-	-
6.	Information Requirements	WR confirmed there are no major outstanding information requirements for Labs at this point.	-	-
8.	AOCB	No further business was noted	-	-
9.	Date and time of next meeting	Friday 3 rd June 2011 at 2pm in the Boardroom, Top Floor, Construction Site Offices		

PROJECT SUPERVISOR MEETING: 8th July 2011
Action Note

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Present: David Hall (DH) John Redmond (JR) Willie Roxburgh (WR) Allan Follett (AF)
Peter Moir (PM)

Apologies: David Campbell (DC) Graeme Thomson (GT) Alan Seabourne (AS)

Item No	Item	Discussion/Information	Action	Action by whom
1.	Notes from previous meeting	Accepted as a true record with the exception of item no 4 – under Energy Centre final bullet point should read Sub structure works complete.	AH to change previous notes and reissue	AH
2.	Matters Arising			
	<i>Sypro</i>	This was no longer an issue and could be removed from discussion.	Closed off	-
	<i>Acoustic Testing</i>	GT/JR have to review drawings to source likely rooms for testing. BMCL would then carry out testing and forward to Capita Symonds and Board for their review. Manny Ajuwon' will supply date for testing.	Identify sample rooms for acoustic testing and date of tests	GT/JR
	<i>IPS Panels</i>	There was nothing yet received from BMCL on these panels for the toilets within the Laboratories. This would require to be chased up.	Information to be obtained from BMCL	JR
	<i>Lab Gases</i>	PM noted that an authorised engineer was still to be identified. Carry action forward.	Identify authorised engineer for gas commissioning	PM
	<i>Insulation Retrofit (Structal Panels)</i>	JR advised that he was still awaiting feedback from Wallace Whittle re their recalculated thermal values.	JR to obtain information	JR
	<i>Laboratory Mechanical</i>	JR advised that there had been improved performance in access to fire dampers and BMCL have taken action to resolve this issue. Chilled Beam Supports – AF advised that the manufacturer had visited site and a proposal had apparently been received. This information has not yet been forwarded to the Board.	- Information on resolution to be reviewed	AF/PM
	<i>Laboratory Electrical</i>	Exposed Cables – these issues have been reported to BMCL as defects. Capita Symonds have been instructed to continue to monitor the situation and report any future incidents. Benchmark Rooms – the two rooms that were to be ready for full inspection still appear to have lighting issues as well as other area. Defect notice has already been raised with BMCL.	Capita to continue to report Capita to continue to monitor	JR JR
	<i>Laboratory Structural</i>	Roof – this items is closed Fermacell Boarding – Capita Symonds agreed to continue to monitor and review quality of workmanship especially on curved internal partitions. Mortuary Floor Slab – PM reported that he had noticed fibres in finished floor surface were sticking up. JR reported that he had recently inspected the area and was not aware but would review as it had been highlighted to himself.	Closed off Capita to continue to monitor JR to recheck area and confirm OK	- JR JR
	<i>A&C Piling</i>	Capita were still awaiting response to NCR in relation to the piling works. DH agreed to speak to DR with regard to additional piles that were now required in relation to cost implications.	Capita to pursue DH to feedback response	WR DH
3.	Site Procedures	Capita reported that in general workmanship was good and were continuing to check on sub-contractors work. It was noted that there was good communication with BMCL who were helpful when issues arose. It was noted however, that benchmark rooms were not quite ready and CS agreed to continue monitoring but reported that quality was good.	-	JR
4.	Monthly Reporting A51769432	The circulated monthly report was discussed and the following matters were highlighted		

		<p>Roof – Waterproof integrity checked and certificates had been received.</p> <p>Pipework – good standards but noted that ends require to be sealed to prevent ingress of dirt and couplings secured – BMCL informed and will resolve.</p> <p>Expansion Bellows – BMCL have been made aware of the issues and are in process of resolving.</p> <p>Vents – are now well in advance and back to plant. Issues with duct supports have been addressed by BMCL and manufacturers data support the methods used by BMCL.</p> <p>Insulation – well advanced – damaged areas have now been or are being resolved although it was noted that sealant requires to be monitored.</p> <p>Plant Rooms – it was noted that these are in the process of being installed but it will be sometime before review of works can be carried out.</p> <p>Trunking – this was well underway although some issues noted on the supports. This was being addressed with BMCL.</p> <p>Data cabling – this issue would require continuous monitoring to resolve issues as they arise.</p> <p>Power Bar – works are reported to be well in advance and Capita Symonds satisfied with progress.</p> <p>Mechanical and Electrical – in general works all progressing well and BMCL aware of issues as they arise.</p> <p>Energy Centre Super Structure – on-going and quality satisfactory. Monitoring on-going.</p> <p>Linthouse Burn – works progressing satisfactorily in respect of quality with some final pressure testing now completed.</p> <p>Jenny's Burn – quality is satisfactory.</p> <p>A&C Structural</p> <p>With regard to piling NCRs' had been raised by Skanska/Cementation and feedback was awaited on the design integrity for reinforcement as positioned BMCL anticipate completion of 100 piles per week using the 7 piling rigs on site. Clarity on the numbers achieved weekly will be produced by BMCL.</p> <p>Issues had arisen around Zone ZE Core G at the deep excavation works. It was reported that there had been some slippage and water ingress but both of these issues had been resolved by BMCL and foundation casting was due to commence next week.</p> <p>Construction drawings were still awaited for the final corner splay detail for the base of the slipform.</p> <p>Around the excavation works it was noted that cracks had appeared and this was being monitored carefully by BMCL for ground slippage in this area.</p>	<p>Item now closed</p> <p>BMCL to resolve – Capita to revisit to check</p> <p>Revisit to check</p> <p>Item now closed</p> <p>Continue to monitor</p> <p>To be reviewed once complete and issues reported</p> <p>Continue to monitor</p> <p>Continue to monitor</p> <p>Continue to monitor</p> <p>-</p> <p>Continue to monitor</p> <p>Capita to persue NCRs resolution</p>	<p>AF</p> <p>AF</p> <p>-</p> <p>Capita/AF</p> <p>Capita/AF</p> <p>Capita/AF</p> <p>Capita/AF</p> <p>-</p> <p>WR</p> <p>WR</p>
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		<p>It was reported that a building warrant was still outstanding for the piling and foundation works – the Project Team are to raise this issue at Construction Progress Meeting.</p> <p>Vibration from re MRI scanners – this had been addressed and was now a closed item. Specifications for the machines are being checked and most were deemed suitable with only one exception. This issue would be raised at Hospitals Site Progress Meeting on this coming Monday afternoon.</p> <p>WR noted that an updated Structural Design Philosophy document has been received from WSP, and that a response to this had been raised. In respect of this, details of the proposed method to address shrinkage problems were awaited.</p>	Project Team to raise at Construction Progress Meeting	Project Team
5.	Notification of Defects	<p>It was noted that 10 defects had been reported with three being closed and waiting on response to one. There were no outstanding issues from previous months checks.</p> <p>Some other issues had arisen and these were reported as follows :-</p> <p>Crimped and compression joints to be quality assessed to ensure secure and marked to show overall checks. Capita Symonds agreed to check method of jointing.</p> <p>Laboratories Civil and Structural – Substantially completed although an issue of vehicle exhaust marks on the outer walls could become an issue for the finishing – BMCL have been informed and will resolve.</p>	<p>Joint checking carried out</p> <p>To be checked</p>	<p>Capita</p> <p>Capita</p>
6.	Information Requirements	Previous document control issues had now been resolved.	-	-
7.	AOCB	<p>M&E RDD drawings for Laboratory Project to be reviewed and PM asked Capita to review these and mark the drawings as appropriate to allow PM to sign off. PM requested that this be completed within one week.</p> <p>Stage 1 Commissioning Programme had been received and Capita agreed to review and highlight any issues as they are seen and seek to resolve. PM agreed to forward copies of these programmes to Capita and Currie and Brown.</p>	<p>M&E drawing review</p> <p>Commissioning Programme issues</p>	<p>AF</p> <p>PM/AF</p>
8.	Date and time of next meeting	Friday 5 th August at 2pm, Top Floor, Construction Site Offices		

ACTION NOTE

Present:
Shiona Frew (SF)
Apologies:

Peter Moir (PM)
Alan Seabourne (AS)
Graeme Thomson (GT)

Graeme Bruce (GB)

John Redmond (JR)

Willie Roxburgh (WR)

Item No	Item	Discussion/Information	Action	Action by Whom
1.	Action note from previous meeting	Accepted as an accurate record subject to the following changes: <i>Item 2, Matters Arising, Labs Mortuary Floor – amend to include WR to action</i>	Amend notes	SF
2.	Matters Arising			
	Acoustic Testing	JR advised that Capita and Currie & Brown had reviewed the BMCL acoustic test proposals. He noted that BMCL had identified 3% of rooms for testing however to achieve BREEAM a rate of 10% was required. Capita and Currie & Brown had subsequently further reviewed the drawings and identified a further 2% of rooms. PM enquired whether a BREEAM point would be lost if 10% of rooms not being tested. DH suggested that it would be important to identify if a BREEAM credit was being claimed for HEA 13 and agreed to obtain confirmation.	Confirm if any impact to BREEAM credit	DH
	IPS Panels	JR reported that BMCL were agreeable to the Capita/Currie & Brown revised proposals and BMCL would organise for Acoustic Logic to carry-out the testing. PM enquired whether Capita would be advised when the testing would be carried out as it was important that there is an overview of what testing. JR advised that BMCL would notify Capita of when the testing would be carried out.	-	-
	Insulation Retrofit	PM reported that there were 2 areas where there was no insulation (between Male and Female toilets). BMCL were proposing to test the panels without the insulation to ascertain the acoustic reduction and if the acoustics do not achieve a certain level then BMCL would need to identify a solution i.e. soft-pack insulation. JR advised that BMCL had indicated that the testing of these areas would be carried out around the 18 th August 2011 (post installation of doors). DH enquired whether a sound reduction level had been set. JR advised that the ERs Appendix S set the standard required. GB commented that acoustic transfer through the ductwork should also be checked as there were no crossed off attenuators on that duct path. BMCL should also be asked to confirm that the acoustic requirements were being achieved through the duct-paths.	BMCL to be requested to check acoustic transfer through the ductwork	JR
		JR advised that he had liaised with DP and MA who were advising that the remodelling with the "as-built" situation will be the same as the BREEAM Design requirements (Design U Value). JR was awaiting written confirmation of this from BMCL.	-	-

Item No	Item	Discussion/Information	Action	Page 1743	Action by Whom
2.	Matters Arising (cont'd)				
	<i>Chilled Beam Supports</i>	GB advised that this issue related to the grippo wires needing to be tightened which was being dealt with on a room by room basis. GB noted that a number of the chilled beams were not in their final position as yet.	-		-
	<i>Benchmark Rooms</i>	JR advised that the rooms were expected to be available for sign-off by Capita by 16 th August 2011.	-		-
	<i>Piles/Piling</i>	WR advised that 6 NCRs had been reported in the previous period regarding the reinforcement being installed in a number of the A&C piles. The current reporting period had saw an increase in NCRs against the A&C piling (now approx 24 NCRs). In instances where the reinforcement cage had been unable to be put in before the concrete went off the contractor has added an additional pile to either side of the failed pile, BMCL are awaiting an Engineer's report on those piles where the reinforcement cage has not been installed deep enough and one the occasion that the reinforcement cage was installed too deep couplers have been used. Skanska were commenting that the NCRs were attributed to unforeseen ground conditions however he did not agree that this was the case. AS requested that the Capita continue to record any issues in detail.	Capita to continue to record details of NCRs		WR
	<i>RDD</i>	DH advised that BMCL were regarding the payment treatment of the non compliant piles as a disallowable cost and that BMCL had raised an EW with Skanska in relation to the abortive costs for redesign.	-		-
	<i>Stage 1 Commissioning Programme</i>	PM advised that AF had returned all the M&E RDD and PM had subsequently provided all the RDD information back to BMCL.	-		-
3.	Site Procedures	PM advised that he had issued the Stage 1 Commissioning programme in draft format and that everyone should continue to work towards the dates on this programme.	-		-
		JR advised that site procedures were satisfactory over the previous reporting period. The workmanship continued to be of a good standard. Capita continued to be assisted by John Wales who was now the main point of contact for Capita to close out any communication/queries. GB advised that the Electrical and Mechanical works were of a good quality.	-		-
4.	Monthly Reporting	The NEC 3 Supervisors report No 14 was issued prior to the meeting. The following key points were highlighted from the report:	-		-
		<ul style="list-style-type: none"> Labs Benchmark Rooms - JR advised that Capita had checked the Benchmark Rooms for quality and the QA system it these were of a reasonably high standard. Capita had raised a few minor points with BMCL. PM suggested that the snagging PDA system had not been seen as yet. JR advised that a BMCL rep had advised earlier that day that the PDA system for snagging was expected very soon. GB enquired if BMCL would be downloading the PDA information into a database. PM advised that it was a system whereby drawings can be marked up and downloaded when back into the office for saving into the database. The database can be used to produce reports. Information can be loaded onto the PDA specifically for snagging rooms. PM advised that a similar system 	-		-
			-		-
			-		-
			-		-

Item No	Item	Discussion/Information	Action	Page 1745	Action by Whom
4.	Monthly Reporting	<p><u>Labs M&E – cont'd (GB)</u></p> <ul style="list-style-type: none"> • BMCL had been notified that a further chilled beam had been damaged. • GB enquired whether the room which stored the water tank had been tanked. He raised concern that if the water tank was to burst then the whole floor would be flooded. DH suggested that the comms room was not tanked. PM agreed to investigate. • GB witnessed the pressure test on the HV cable (from temporary sub to labs facility) had failed and a replacement joint was required. • GB advised that BMCL had proposed to pump up the air conditioning systems but this couldn't be done as BMCL discovered that there were a series of joints which had not be braised on the pipe-work. Concern was raised regarding the BMCL pre-commissioning checks. • PM noted that the report highlighted damage to boiler casing. GB advised that damage was cosmetic however it would have been expected that this would be protected after installation. He had also identified some damage to a scroll compressor pack. <p>JB noted that the report had an error to item 7, last paragraph – this should state room 53. JB advised that it was his intention going forward that the A&C and Labs would be separate reports.</p> <p><u>Labs Defects (JB)</u></p> <p>JB advised that Capita had issued 10 defects since May of which 4 had been closed out and 5 were still to be addressed. PM enquired about the defect no 8 – fire damper. GB advised that Capita were requesting confirmation of their strategy i.e. motorised damper and compartment walls or fuseable link on non-compartment walls. At this stage it would not be too onerous if dampers had to be changed from a fuseable link to a motorised damper.</p> <p>JB advised that the roof integrity test results had been provided and this item had subsequently been closed out.</p> <p><u>Labs Inspection/Testing</u></p> <p>All carried out with the exception of the angle beads to the fermacell walls which would be carried out in due course.</p> <p><u>Civil/Structural</u></p> <p>WR reported that the concrete works to the Labs has been very good however he was disappointed to notice the poor workmanship to the floor pours at the West wing areas 1 and 2. BMCL had raised an NCR against Dunne in respect to these works. BMCL have asked Dunnes to confirm level of protection. WR was awaiting feedback from BMCL.</p>	<p>-</p> <p>Investigate room tanking at Comms rooms/Mortuary</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p>		<p>-</p> <p>PM</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p>

Item No	Item	Discussion/Information	Action	Page 1746	Action by Whom
4.	Monthly Reporting (cont'd)	<p><u>A&C Hospitals</u> WR advised that he was awaiting feedback re the 24 piling NCRs however the progress on the piling works generally had improved. The test results and cube results did not indicate any issues. The earth works to the pile caps to cores F, G and C was ongoing. The pile caps had commenced on the south east corner of the site. Core G slip forming started the previous week and the slip form was starting to appear out of the ground. Overall the quality was satisfactory and the QA aspects were very good. The slip form did not allow for as good a finish as the Labs Facility as the slip forming is moving all the time (moving against wet concrete). In addition, floors will not be power floated. AS enquired why power floating was not being carried out and WR suggested that the power floating produced a lot of noise and required late night working. DH suggested that more screeding would be required. PM suggested that the team would need to be mindful of the AGV requirements and impact on the flooring. DH suggested that the spec of the screed would need to be checked. PM advised that he would raise the power floating with BMCL.</p> <p><u>Energy Centre</u> WR advised that progress was satisfactory with the last main floor pour completed a few days earlier.</p> <p><u>Linthouse Burn</u> WR advised that the works to Linthouse Burn had been completed satisfactorily.</p> <p><u>Jenny's Burn</u> WR advised that the works to Jenny's Burn was ongoing as BMCL had an issue re pipework failure and had to replace some pipework sections. He noted that BMCL had taken appropriate action and were liaising with the pipework manufacturer.</p> <p><u>Interconnecting Tunnel</u> WR advised that works were ongoing. The base floor was being power floated and the finish was very good.</p> <p><u>Dual Carraigeway connection to Renfrew Road</u> WR noted that good progress had been achieved and to date the works were satisfactory. DH advised that there was a cable diversion ongoing in that area and he enquired if there was any sign of delay as works had stopped to undertake connections as Daily Record feed and Scottish Power not willing to progress connections until Daily Record issue resolved. WR suggested that works in this area could have been progressed. WR agreed to photograph and diary the works in this area for discussion with BMCL if required.</p> <p><u>Building Control Certificate</u> WR stressed that he still had not seen the certificate for the piling and sub-structure. PM advised that DS had reported that he would upload to Aconex. DH advised that he had attended a meeting with Building Control where it had been confirmed that the certificate had been issued.</p>	<p>Check spec for concrete</p> <p>Liaise with BMCL re power floating in A&C</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>Check if Building Control certificates uploaded to Aconex</p>		<p>DH</p> <p>PM</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>PM</p>

Item No	Item	Discussion/Information	Action	Action by Whom
4.	Monthly Reporting (cont'd)	<u>Structural Design Philosophy</u> WR advised that feedback was awaited from BMCL regarding the mark-up structural design philosophy document returned by Capita to BMCL. Details of the admixtures had been requested. <u>Information Requirements</u> PM enquired if there was any information required from the NHS Team or any assistance from the NHS Team to BMCL to obtain information. It was confirmed there was no requirements from the NHS Team at this time.	-	-
5.	AOCB	RDD Programme – DH advised that BMCL had been requested to provide the RDD Programme for the next 6 months which would be shared with Capita as soon as it had been received.	-	-
6.	<i>Date and Time of Next Meeting</i> Friday, 7 th October 2011 at 2pm		For Noting	ALL

PROJECT SUPERVISOR MEETING: 7th October 2011
Action Note

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Present: David Hall (DH) John Redmond (JR) Willie Roxburgh (WR) Graeme Bruce (GB)
Peter Moir (PM)

Apologies: Graeme Thomson (GT) Alan Seabourne (AS)

Item No	Item	Discussion/Information	Action	Action by whom
1.	Notes from previous meeting	Accepted as a true record with the exception of item no 4 – Monthly Reporting – Civil structural Dunnes to confirm level of Should read Dunnes to confirm cover to reinforcement.	AH to change previous notes and reissue	AH
2.	Matters Arising			
	<i>Acoustic Testing</i>	The 10% reference to number of rooms to be tested was noted by Acoustic Logic and nothing noted in the Beeam documentation. It was noted that there were no definitive levels noted in documentation and this was decided upon by the assessors own judgement. Additional rooms to be tested. These would be sourced from Manny Anjowan (MA).	Further rooms to be tested	
	<i>Acoustic Ducts</i>	Tests were in the process of being carried out and would be noted as work in progress	WIP	-
	<i>Piles and Piling</i>	It was noted that NCRs were now being recorded more accurately by both Skanska and Dunnes. It was noted that BMCL should have sight of these documents as they need to be fully aware of any defects noted so that Capita can be informed.	To be monitored	Capita
	<i>Tanking</i>	This was raised during the Early Warning Meeting – DH would confirm issues have been dealt with.	DH to report back	DH
	<i>A&C</i>	The issue of concrete in the basement area was raised and the specification of the concrete is to be reviewed to ensure that it is of such quality as to survive the impact of the AGVs. DH agreed to check the specification was sufficient.	DH to review concrete spec	DH
	<i>Building Control Certificate</i>	It was noted that this had been received from Glasgow City Council but it had to be returned due to some typographical errors noted.	-	-
3.	Site Procedures Laboratory			
	<i>Construction Process</i>	JR advised that site procedures were satisfactory over the previous reporting period.		
	<i>Early Warning</i>	An early warning was issued on the location of smoke detectors. BMCL had agreed to resite where possible and review their location with building control for those it was not possible to relocate. Wallace Whittle would be asked to review these.	Wallace Whittle to report back to Capita on completion	Wallace Whittle
	<i>Testing/Inspection</i>	Witnessing of the mechanical and electrical testing had been carried out and passed. The issue of the meter that was not calibrated has been resolved by a regular Monday morning testing of all meters to ensure this does not happen in the future and the equipment that this metre had indicated pass would all be retested. AF raised the question of Mercury sub-contracting their LV testing works out to another company James Findlay, and the concerns were noted as the company not being NEC EIC accredited and that Mercury staff were not always present during testing but signing off on completion. PM agreed to raise this matter with BMCL.	Satisfied that meter testing was being carried out no further action PM to raise issue with BMCL	- PM
	<i>Civil/Structural</i>	The poor workmanship in some areas had raised some concerns and Capita have requested concrete specifications from Dunnes to ensure it is to standard although it appears that cover is sufficient.	-	-
	<i>Fire Protection</i>	There are several areas of concern (fully reported in Supervisors Report No 16) which are still to be closed out by BMCL. Capita would keep this on the agenda until fully resolved.	Not all issues resolved but would continue to monitor	Capita
	<i>Flat Roofs</i>	It was noted that there were some issues of seals not being completed and this work still had to be carried out in order that completed inspections could be carried out to ensure water tight.	Temporary fix but will be permanently fixed in due course	BMCL
	A51769432			JR

Item No	Item	Discussion/Information	Action	Action by whom
	<i>Seedum Roof</i>	JR reported that patchy areas had been reseeded and weeds were pulled. PM reported that he had notices that the weeds in the other areas had regrown and would need to be treated and reseeded.	JR agreed to inform BMCL	
	<i>Pipework</i>	It was noted that pipework was all progressing well within the Laboratory. Still some open ended pipes being left for long periods of time. Capita had again reminded BMCL of the issues that this causes with ingress of dirt and debris. Chilled beams were reported to be distorted and BMCL: have been reminded that the connections are to be fitted as per manufacturers instructions. This would be continuously monitored. Expansion dampers were not fitted as per drawings and this was highlighted to BMCL via supervisors communications. No response has yet been received.	Continue to monitor Continue to monitor Await response and take forward	Capita Capita Capita
	<i>Ventilation</i>	Installation was well advanced and testing of air handling units is going well. Capita reported that they were happy with progress so far.	-	-
	<i>Access Hatches</i>	It was noted in the CAT III laboratory that access was restricted or awkward. BMCL were aware of the issue and were working to provide a solution that would be acceptable. PM requested sight of the Atlas drawings to review the layouts.	Drawings to be provided to PM	Capita
	<i>Louvre Designs</i>	It was noted that the size installed may cause issue with extraction of air as this can alter the velocity that air is removed and if not removed at a sufficient rate can cause moisture to building up within the duct causing the filters to be changed more frequently than is necessary for their lifespan. Supervisor communication issued and response awaited.	Response from BMCL required	Capita
	<i>Plant Items</i>	It was noted that the pumps were mounted on a steel framework and raised the question with BMCL if this was an appropriate method recommended by the manufacturer. Response is still awaited although verbally the only concern noted from BMCL was the vibration that may be noted.	Response from BMCL required	Capita
	<i>Chilled Beams</i>	Noted that these were frequently noted in incorrect positioning in relation to windows etc. Board to review and respond with their thoughts.	Board to review position and respond	Board
	<i>Electrical</i>	All testing on-going and meter monitoring will continue.	-	-
	<i>Mortuary Coring</i>	It was reported that coring had been witnessed within the mortuary slab but reasoning unknown. Capita to investigate and report back.	Report back to Board	Capita
	<i>Cosmetic Issues</i>	JR reported that he had spotted staining and marking in the north west area of the laboratory. JR agreed to review head restraints positioning. JR also reported that the windows opposite to the pod were out of alignment.	Monitored through Supervisors Report	Capita
	<i>Defects</i>	Reported that there were several issues outstanding in supervisors communications but all were in M&E.	Capita to review and close	Capita
	<i>Summary of Laboratory</i>	Generally progressing well – some issues noted and communications issue which will require follow up and close off.	Continue to monitor	Capita

Item No	Item	Discussion/Information	Action	Action by whom
4.	A&C			
		Progressing satisfactorily albeit still some piling issues. Which have already been discussed. Quality of works so far of satisfactory. Core C will be constructed in slipform but Core F is constructed by a more traditional method and therefore goes up slowly. WR noted that the south east columns have been cast and the shear walls are of very good quality.		
	<i>Energy Centre</i>	Steel work is progressing well and the block work to the west facia is moving along.		
	<i>Drainage</i>	Drainage works to the south west of the main building is progressing.		
	<i>Tunnel</i>	Works have restarted and progressing to complete the connection.		
	<i>Dual Carriageway</i>	Works are reported to be progressing well at Renfrew Road.		
	<i>Design Matters</i>	Capita noted that they had requested details of the concrete mixtures in order to review so as to prevent cracking and shrinkage. BMCL have yet to provide evidence to satisfy this.	Capita to continue to review	Capita
	Summary	It was noted that in general the main site was progressing well with small issues being noted as they occur. No issue to raise at present.	-	-
5.	Date and time of Next Meeting	The next meeting of this group will take place on Friday 4 th November at 2pm in the project offices.	-	-

ACTION NOTE

Present: David Hall (DH) Graeme Bruce (GB) John Redmond (JR) Willie Roxburgh (WR)
Shiona Frew (SF)
Apologies: Alan Seabourne (AS) Graeme Thomson (GT) Peter Moir (PM)

Item No	Item	Discussion/Information	Action	Action by Whom
1.	Action note from previous meeting	Accepted as an accurate record subject to the following changes:	Amend notes	SF
2.	Matters Arising			
	<i>Tanking to Plant Rooms</i>	DH advised that there was a proposal awaited from BMCL for the pod plant. DH advised that he would liaise with BMCL to receive the proposal asap. JR advised that he had seen sight of some detailed drawings/sketches.	Liaise with BMCL to obtain proposal re tanking to plant rooms	DH
	<i>A&C Concrete in the Basement – Spec</i>	DH advised that there was a resin floor finish to the concrete and he had agreed to check the specification to ensure that the quality would be adequate for the AGV turning movements at lift cores, etc. DH agreed to check the specification.	Check specification of resin floor finishes	DH
	<i>Smoke Detectors</i>	DH enquired if Capita had received any feedback re the smoke detectors. GB advised that BMCL were relocating some of the smoke detectors which could be sited better and those which were not being re-sited were to be discussed with Building Control to request relaxation on smoke detector positions but he hadn't received any further feedback from BMCL. JR advised that he had discussed the smoke detector issue with David Wilson the previous day. DH enquired how many locations had smoke detector issues. JB reported that the ground floor and corridors were the worst areas due to the concentration of services. GB noted that BMCL were trying to locate the smoke detector in the best locations and he did not foresee Building Control raising any issues. A view from Building Control was currently awaited. DH queried why Wallace Whittle would be reporting back to Capita. GB advised that Wallace Whittle would have prepared the performance spec and Mercury would subsequently have carried out the detailed design.	Feedback awaited from BMCL re Building control view regarding location of smoke detectors	-
	<i>Testing and Inspection</i>	DH suggested that James Findlay Contractors would be undertaking less and less works to the facility. Capita should be alert to JFC works as it would appear that JFC had commercial issues.	Consideration to be given to JFC works	GB
	<i>Fire Protection Outstanding Issues</i>	DH enquired whether Capita were aware whether the increased resource by BMCL was allowing items to be closed out timeously and this was confirmed.	-	-
	<i>Flat Roofs- Seals</i>	JR advised that this item remained as outstanding until the works were complete.	-	-

Item No	Item	Discussion/Information	Action	Page 1752	Action by Whom
2.	Matters Arising (cont'd)				
	<i>Sedum Roof</i>	DH noted that JR has discussed with the sub-contractor the suitability of a sedum roof in the West of Scotland climate and a response from the sub-contractor was awaited. GB enquired if there was any other sedum roof in the west of Scotland as a precedent. DH advised that he had no knowledge of a sedum roof locally. DH noted that there was an action to identify the maintenance aspect for the sedum roof for inclusion in the O & M Manual. Consideration would need to be given to whether sedum would be the correct product for the new hospitals.	Maintenance aspect of Sedum roof to be identified		BMCL
	<i>Labs Pipework</i>	It was noted that Capita would continue to monitor the completion of the pipework i.e. pipes being left open ended for periods of time.	Continue to monitor		Capita
	<i>Chilled Beams</i>	It was noted that Capita would continue to monitor the final installation on the chilled beams/connections. JR advised that in some rooms the vents/grilles had been placed next to chilled beams. Capita will continue to monitor as the building nears completion. DH advised that some of the positioning relative to windows was odd looking. JR advised that the positioning relative to windows had been resolved. GB reported that Capita had raised a Supervisor's Communication to BMCL re the vent/grille positioning and it was expected that BMCL would resolve this issue.	Continue to monitor connections and positioning of vents/grilles		Capita
	<i>Access Hatches</i>	JR advised that the issue re access hatches to the CAT III Laboratory had been resolved.	Item closed		-
	<i>Louvre Design - Ventilation Extract/Intake</i>	GB advised he hadn't received any information back from BMCL. JR confirmed that the issue had been raised through a Supervisor's Communication to BMCL. DH suggested that the action was for Wallace Whittle to provide a response. GB reported that Wallace Whittle had included in the performance spec elements of the operational design however he wasn't sure whether Wallace Whittle had included information regarding the face velocities.	Response awaited from BMCL		BMCL
	<i>Pumps mounted on steel framework</i>	GB reported that BMCL had responded to Capita's concern re pumps being mounted on steel framework. BMCL had advised that the proposed to use Tico Pad between the pump and the framework and there remained concern that the Tico Pad would not be sufficient to eliminate vibration and that concern could only be alleviated once the pumps were operational. DH raised concern that whilst all fittings was tight there would be minimal vibration however as fittings start to loosen off through time and the Tico Pad starts to compress that vibration would occur. It was agreed that this item should be noted for Commissioning and 2 year defects period.	Consideration to be given during Commissioning and Defect period		GB/NHS
	<i>Mortuary slab – Coring works</i>	DH advised that the reason for the coring works had been confirmed as to move the position as some of the setting out of the associated benching had been incorrect.	Item closed		-
	<i>Design Matters – Admixtures</i>	JR advised that Capita had received the admixture information and this item could be closed	Item closed		-
3.	Site Procedures	JR advised that site procedures were satisfactory over the previous reporting period. The workmanship continued to be of a good standard.	-		-

Item No	Item	Discussion/Information	Action	Page 1753	Action by Whom
4.	Monthly Reporting New Laboratory Facility	<p>The NEC 3 Supervisors report No 14 was issued prior to the meeting. The following key points were highlighted from the report:</p> <ul style="list-style-type: none"> Scotshield have provided a QA Checklist for above ceilings which included smoke detectors. JR had viewed the sample sheet and he was awaiting the receipt of the complete QA pack. Steelwork - Capita had viewed a poorly constructed joint in the CAT III Lab Level 4. Atlas had subsequently condemned this work. WR noted that the joint would structurally probably have been okay however BMCL had immediately condemned it. JR advised that the ceiling was still open and Capita would review Partitions – there were still Acoustics issues to be resolved i.e. basis of what measuring against as Capita can't assess sound reduction. DH advised that the revised report was awaited from BMCL however it was understood that BMCL had received the revised report from Acoustic Logic and it was expected to be issued to the NHS Team during the following week. JR enquired if the report would include sound reduction and the additional rooms to be tested. DH advised that the NHS Team had been informed that the revised report would address all the issues raised by Capita and Currie & Brown. Fire Protection – JR noted that the fire sleeves at SR 13 were still to be fitted. BMCL were indentifying a method of stopping fire at the extract vents and confirmation of the method to be utilised was awaited by Capita. GB commented that the issue was that the pipes were going through the wall(s) at an angle. If BMCL had the pipes routed straight through the walls then it would have been simple to resolve. Intumescent Paint – Capita have requested BMCL to provide intumescent dry film thickness measurements. BMCL had been asked to provide a copy of the Fire Resistance Certificate for insertion in the O&M Manual. Fire/Wall penetrations – JR noted that the NHS Project Fire Adviser had requested the wall penetrations to be identified. BMCL have put numbers against each of the penetrations however JR was unsure how this information was being recorded. GB advised that the Fire Dampers had been numbered and he assumed that the as fitted drawings would identify the wall penetrations. Pipe work – GB advised that the mechanical services works were progressing well. The works were at the point of flushing, chemical treatment and commissioning. Testing witnessed by Capita thus far had been satisfactory. Distorted pipework/chilled beams – GB advised that the placing of the beams into their final positions had resolved the distorted pipework issue and Capita had discharged the Supervisors Communication however would continue to monitor. Hand Tightened Compression Coupling – BMCL had advised Capita that the hand tightened compression couplings had been addressed. Capita had discharged the Supervisor's Communication. Damage to Chilled Beam (Cytology) – Capita have checked the beam and the manufacturers information and damage is cosmetic therefore this item has been discharged. 	-		-
			-		-
			Review remedial works at joint at CAT III Lab		JR
			Revised report awaited		BMCL
			Continue to monitor		GB
			-		-
			-		-
			-		-
			Continue to monitor pipework for distortion as chilled beams place in final position		GB
			-		-
			-		-

Item No	Item	Discussion/Information	Action	Page 1754	Action by Whom
4.	Monthly Reporting New Laboratory Facility	<ul style="list-style-type: none">Bunding in the Basement – Capita are still awaiting the BMCL proposal. GB had liaised with D Wilson (BMCL) and had enquired about the drainage in the basement and the number of gulleys. Feedback from BMCL on this matter was awaited. DH enquired whether the Labs Facility had crimped joints and GB advised that Capita were currently witnessing pressure testing and GB only knew of one failure which had been at the beginning of testing (refrigerant). All pressure testing witnessed by Capita had been satisfactory. GB advised that when joints are crimped closed the inner colour collar disappears therefore if the joint is not crimped properly then the coloured collar can be seen. BMCL are marking each joint and D Wilson is signing off the testing for BMCL.Ventilation – works nearing completion and Capita are witnessing the testing of ductwork. Capita are also carrying out spot checks on the chilled beams and grilles and flow rates. Capita have not identified any issues thus far. BMCL did advise that they had identified a section which had failed however they had traced the issue and identified the ductwork which wasn't sealed properly and resolved the issue.Gas – now on-site. BMCL will test and treat the system and will then get the heating onWitnessing/testing – Capita are continuing to attend witness testing as and when requested by BMCL.Data Cabling – DH advised that the data cabling was now ongoing. GB advised that BMCL had operatives working over the weekend to accelerate the data cable electrical works.Pod – DH enquired whether Capita were aware of the peak load issue in the pod. DH reported that BMCL had advised that they will be putting in additional units in the ceiling void to supplement the chilled beams. It had been suggested that the Structal panels to the façade were not achieving the thermal performance as promoted. GB enquired what type of system BMCL were proposing to install. DH commented that it may be an electrical system however Capita should query this with BMCL. GB suggested that the installation of additional units may impact upon BREEAM. DH advised that the additional units and BREEAM had been discussed at the recent Low Carbon meeting and BMCL were investigating the impact on BREEAM however it was anticipated that 1 point from 7 points may be lost. It was hoped that there would be no issue regarding energy.Blockwork - JR advised that staining and marks had been viewed on the external unpolished blockwork. BMCL have been trying to clean the staining/marks off the blockwork.Screeding - JR advised that areas of screed on the basement floor which had become detached have now been reinstated. Item closed.	Awaiting proposal from BMCL	-	-
				-	-
				-	-
				-	-
			Query addition system being installed by BMCL to supplement the chilled beams		GB
				-	-
				-	-

Item No	Item	Discussion/Information	Action	Action by Whom
4.	Monthly Reporting <i>New Laboratory Facility</i>	<p>Defects:</p> <p>JR advised that there was 1 glazing defect that needed to be followed up by Capita to BMCL and the following 4 defects were outstanding from BMCL from the August inspections:</p> <ul style="list-style-type: none"> Channel Iron Support to header pipework and pumps required additional fixing at high level. GB advised that he had seen some evidence that BMCL were trying to stabilise the supports; Damper Access being insufficient for maintenance and testing in various areas – response awaited from BMCL; Light fittings and ducting in contact with the ceiling void - response awaited from BMCL; Extract Grilles not fitted as identified on design drawings - response awaited from BMCL. 	- - - - -	- - - - -
	<i>Adult and Children's Hospitals</i>	<p>The NEC 3 Supervisors report No 7 was issued prior to the meeting. The following key points were highlighted from the report:</p> <p>Piling Works:</p> <p>WR advised that there were circa 25% of piling NCRs yet to be closed out and these were mainly design related issues and there was no problems expected. WR had liaised with BMCL re the final documentation and the quality was satisfactory to date. The documentation presented appears to be good and he had informed BMCL that they needed to liaise with the CDMC co-ordinator. BMCL had advised that the documentation would also be uploaded to Zutec.</p> <p>WR advised that the latest 7 day concrete cube results were lower than what would be expected. There had previously been 2 other instances of low 7 day cube results however the 56 day cube results had been satisfactory. The concern regarding the current results was that the piling rigs would be off-site before the 56 day results were known. It was noted that the worst case scenario would be that the 56 days results did not achieve the thresh-hold and therefore the piles would not be of an appropriate strength and BMCL would need to bring back on a piling rig. Capita would monitor the piling works and await the 56 day cube results.</p> <p>Sub-structure:</p> <p>WR advised that the quality of the sub-structure works was satisfactory. There were no quality issues for Core H, Core B, Single Cap Foundations, etc.</p>	- - Continue to monitor and await 56 day cube results -	- - WR -

Item No	Item	Discussion/Information	Action	Action by Whom
4.	Monthly Reporting <i>Adult and Children's Hospitals</i>	<p>Super-structure: WR advised that the quality of the super-structure works appears to be satisfactory. Works to Core F are complete and works to Core C slipforming have commenced. The first floor zone G has had two pours completed and BMCL have managed to get a power float finish. DH advised that there had been 1 neighbourhood complaint re power floating in the evening.</p> <p>WR advised that Capita would probably raise a Supervisor's Communication to BMCL re not having an 'A' status method statement for pouring the first floor. DH advised that BMCL did not have a warrant for the works either and that Building Control had issued a letter to BMCL to say that they were progressing at their own risk.</p> <p>WR advised that BMCL were dealing timeously with the incidences of the reinforcement touching formwork sides and links twisted in their final position.</p> <p>WR advised that BMCL had left out a wall in order to carry out power floating however the wall would be post-fixed.</p> <p>Energy Centre: WR advised that the steel-works were progressing satisfactorily however there would become access issues due to the crane being unable to get round the corner at the Labs Facility.</p> <p>Information Requirements: It was noted that Capita are still awaiting sight of the Building Warrants for the sub-structure, super-structure and the below slab drainage works. DH reported that BMCL had advised that the Building Warrants issued had been erroneous therefore they had all been sent back to Building Control for amendment. There was no Building Warrant currently for the super-structure however Building Control were not uncomfortable with what they were seeing on the site. WSP were progressing the Building Warrant applications.</p> <p>Design Issue: WR advised that an NCR had been raised against the 1st floor slab mesh for fire resistance purposes at the Energy Centre. The concrete had been cast with too much cover as per drawings (not a construction issue). BMCL had identified the issue early and had rectified for all other areas therefore only 1 area impacted upon and BMCL were investigating best way forward to rectify the issue in this 1 area.</p>	<p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p>	<p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p>

Item No	Item	Discussion/Information	Action	Page 1757	Action by Whom
4.	Monthly Reporting <i>Adult and Children's Hospitals</i>	<p>Aconex Drawings: WR advised that some Aconex drawings being received post dated the construction i.e. construction drawings occasionally have comments written on them for example, Underslab drainage comments include 'materials on site and installation underway'. WR had challenged BMCL regarding the slip form drawing comments and had received a satisfactory response. WR suggested that there was no time between the design and the construction. WR agreed to raise this concern at the Hospitals Site Progress meeting on 7th November 2011.</p> <p>Energy Centre – Slab Edge: DH advised that there was an issue between the junction and the façade re 4 hour fire protection. It was believed that this was a build-ability issue.</p> <p>Underslab Drainage: WR advised that the underslab drainage drawings had been revised. WR had met to discuss the revised drawings. Capita had responded directly back to BMCL. DH advised that DS had responded that the Zone G drain was already installed. WR commented that PM had also sent comments back to BMCL. WR noted that the drainage had been cast under the perimeter beam (locally underneath) but Capita haven't seen any pop-ups.</p> <p>Notification of Defects: It was noted that there were no further items requiring to be raised over and above the items already discussed.</p> <p>Inspections and Testing: It was noted that there were no inspection or testing issues.</p> <p>Information Requirements: WR advised that a list of the required information was as stated in the report.</p>	<p>Raise concern at Hospitals Site Progress meeting re comments being put on construction drawings</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p>		<p>WR</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p>
5.	AOCB	<p>DH advised that a recent visit of the Labs Facility by an NHS Board member led to an email being sent to the NHS Board Chief Executive and Chairman raising concerns regarding progress on basis of completing the Labs by Christmas as per Contractor's programme. AS had subsequently met the Board Member to provide a status update and explain the programmes. A further visit of Board Members had been arranged for the following week however a specific route had been identified. Capita were requested to inform the NHS Team of any issues.</p>	<p>Inform NHS Team of any issues</p>		<p>Capita</p>
6.	<i>Date and Time of Next Meeting</i> Friday, 2 nd December 2011 at 2pm		For Noting		ALL

ACTION NOTE

Present:
John Redmond (JR)
Apologies:

Alan Seabourne (AS)
Peter Moir (PM)
Graeme Bruce (GB)

Allan Follet (AF)
Willie Roxburgh (WR)

David Hall (DH)
Shiona Frew (SF)

Graeme Thomson (GT)

Item No	Item	Discussion/Information	Action	Action by Whom
1.	Action note from previous meeting	Accepted as an accurate record subject to the following changes:	Amend notes	SF
2.	Matters Arising			
	<i>Tanking to Plant Rooms</i>	DH advised that he had raised the issue with BMCL the previous day who had categorically confirmed that the basement would be tanked. No proposals had been received for the top floor plant room as BMCL were just undertaken the required works. PM advised that he would liaise with BMCL for the proposals for the basement and level 4 of the pod. .	Liaise with BMCL to obtain proposal re tanking to plant rooms and basement	SF
	<i>Smoke Detectors</i>	PM advised that formal confirmation of Building Control acceptance of the smoke detector locations was awaited however it was expected that the response from Building Control would be favourable	Feedback awaited from BMCL re Building control view regarding location of smoke detectors	DH
	<i>Specification of floor finishes</i>	DH advised that BMCL had advised that they would be power floating the straight runs however a resin floor screed would be installed to areas of high turning i.e. the cores. PM enquired if BMCL would be providing details of the proposed resin. DH advised that the floor finishes strategy had just been discussed with BMCL through the RDD process however the detail was still awaited.	-	-
	<i>Testing and Inspections</i>	PM enquired if J Findlay was still working on site and GT confirmed that there were J Findlay electricians still on site.	-	-
	<i>Sedum Roof</i>	JR advised that BMCL had received a report from their specialist contractor however Capita had not seen the report. The specialist consultant had advised that there is no action that can be taken until April 2012 due to the weather. AS enquired how contractually the sedum roof issue would be dealt and it was confirmed that the sedum roof would be a defect. PM advised that the NHS would need to work round the remedial works if there is a need to bring in new materials. DH reported that given the comments that sedum does not thrive in cold, dark, wet conditions the winter would obviously not be the correct time to undertake remedial works. AS enquired if the sedum roof was dead or appeared to be dead because it was dormant. JR advised that sedum is dormant in winter. DH advised that there were some areas of the sedum which was dead. GT suggested that there was circa 40/45% sedum needing replaced between the both roofs. AS enquired what would happen if the sedum were to fail again after being replanted and PM confirmed that this would still be a defect. WR advised that there was also a lot of weeds and JB reported that sedum should suppress the grass.	-	-

Item No	Item	Discussion/Information	Action	Page 1759	Action by Whom
2.	Matters Arising (cont'd)				
	<i>Sedum Roof</i>	DH advised that in light of the sedum issues on the Labs facility he had highlighted the sedum as a potential issue for the Hospitals but that BMCL were reporting that a different type of sedum suitable for this environment would be used for the hospitals. DH suggested that sedum may not be the correct product to be used on the hospitals. JR suggested that sedum roofs may be high maintenance. PM advised that the sedum roofs would be re-evaluated in early Spring 2012. DH suggested that he could ask Hurst Landscapes to comment on the Labs sedum roof.	Re-evaluate sedum roofs in early spring 2012		PM/DH
	<i>Labs pipework/chilled beams</i>	PM noted that Capita were continuing to monitor the completion of the Labs pipework. WR advised that a communication had been raised regarding the closeness of the vents to the chilled beams. PM enquired if the issue re distortion of pipework/hoses was being resolved as the chilled beams were placed in their final position/set in the grid. AF advised that there had been concern about the brackets being used for fixing. The chilled beams had been installed higher up using grippo wire but were now being put in their final place now that the ceilings were in. Capita had seen a proposal from BMCL re mechanism of how to attach the chilled beams. The proposal was under discussion with BMCL as it was Capita's view that a drop rod should be used. Capita did not expect that the chilled beams would fall down however they had asked BMCL to clarify how the grippo wires would be attached to the brackets.	-		-
	<i>Pumps mounted on steel framework</i>	JR advised that BMCL had put in wooden blocks around the pipes and padding underneath the frame. AF advised that the potential for vibration was still of concern however Capita needed to have the pumps up and running in order to fully evaluate the impact on vibration.	Provide feedback at next meeting		AF
	<i>Ceiling of CAT III Labs</i>	WR advised that the issue re the ceiling of the CAT III Laboratory had been resolved.	Provide feedback at next meeting		AF
	<i>Acoustics</i>	DH advised that he had liaised with D Smith earlier that day and the list of rooms to be tested and the method of assessment for specific rooms in the mortuary and rooms categorised as education rooms had been agreed. Clarification was awaited from BMCL re BREEAM rating. DS had advised earlier that day the BREEAM is not related to measuring sound between rooms only the sound in rooms. DH would be requesting that BMCL undertake the tests for all the rooms as per agreed method of assessment and to provide values for the decibel reduction through the wall which would then be assessed against the SHTM however SHTMs were not a valid in the Labs Contract. DH advised that the testing process being undertaken was satisfactory. DH noted that the previous results provided were based on the sound within the room and not through partitions and as the walls did not extend to the outside then it would be difficult to identify any flanking issues. DH suggested that as the partitions were well specified in the NBS that the sound through the partitions was not expected to be an issue.	Item closed		-
			Provide update re acoustic testing at next meeting		DH/JR

Item No	Item	Discussion/Information	Action	Page 1760	Action by Whom
2.	Matters Arising (cont'd)				
	<i>Bunding to Labs basement</i>	PM enquired if there was any update regarding BMCL proposals for between water tank room and Comms Room in the Labs Facility and no-one was able to provide an update. PM advised that he would liaise with BMCL to obtain their proposal. PM advised that he had noticed puddles in the mortuary and that this had re-emphasised that need of having a good detail along the base of the wall.	Liaise with BMCL re bunding proposals		PM
	<i>Labs pod – Additional cooling</i>	DH suggested that the additional cooling to the Labs Pod should now be installed. DH enquired if BMCL had provided drawings of the additional cooling and it was confirmed that no drawings for the additional cooling had been received.	-		-
	<i>A&C Hospitals – Cube Results</i>	PM enquired about the monitoring of the cube results. WR advised that all the 56 day cube results had been satisfactory to date and from the low 7 day results the 28 days results are awaited next week. WR advised that there was no cause for alarm at this time.	Provide update re cube results at next meeting		WR
	<i>A&C Construction Drawings – Inclusion of comments</i>	WR advised that BMCL had feedback that the drawings being released with comments was an administrative catch-up and that all the changes that was required had been processed by the relevant engineering personnel and relayed in appropriate time for construction. The release of construction drawings with comments was ongoing and he was continuing to keep monitoring.	-		-
3.	Site Procedures	JR advised that site procedures were satisfactory over the previous reporting period. The workmanship continued to be of a good standard.	-		-
4.	Monthly Reporting <i>New Laboratory Facility</i>	<p>The NEC 3 Supervisors report No 15 was issued prior to the meeting. The following key points were highlighted from the report:</p> <p>BMCL have now put together a pack to inspect areas and to identify quality and check that snags have been closed off. The inspections commenced earlier that week and Capita had inspected the offices on levels 1 and 2. All the offices were locked and there were very few snags however any snags were being recorded on BMCLs handheld devices. PM enquired how everything was being formally recorded in order that Capita could advise the NHS Team how many rooms had been signed off. JR advised that Capita were inspecting quality and defects they were not signing off rooms as the NEC contract did not allow for rooms to be signed off and that the process was for Capita to complete an NEC Defect Notice at the end of the build. PM raised concern about the impact on the Capita inspection workload caused by BMCL not completing the rooms as originally intended. DH advised that he had not seen a revised inspection programme identifying each room/area. JR advised that BMCL had not formally issued a room/area completion programme. BMCL were giving Capita 2/3 days notice of rooms/areas being available for inspection. DH acknowledged that there needed to be flexibility on the inspection programme however raised concern that there was currently no way to monitor progress. PM enquired if Capita were marking up a drawing to identify what inspections had been undertaken and JR advised that Capita were marking up their own drawing. JR advised that BMCL provided a master plan and a schedule of rooms to be viewed.</p>	-		-

Item No	Item	Discussion/Information	Action	Page 1761	Action by Whom
4.	Monthly Reporting				
	<i>New Laboratory Facility(cont)</i>	<ul style="list-style-type: none">DH advised that he would want to see a schedule of rooms in order that progress could be monitored. JR advised that the process he was involved in was the identification of defects and every room that had been inspected could be identified through the IDMS system. DH suggested that as there was no programme to monitor the rate of progress against that it could reasonably be suspected that the completion programme would not be achieved. AS requested that C&B and Capita liaise with Alan Keeley if a programme is required. PM advised that he would raise the need for an inspection programme at the forthcoming Labs Site Progress meeting on Monday.JR advised that Capita had a list of exclusions within those areas i.e. fume cupboards, cold rooms and that the blinds would be done at a later date. PM enquired if there would be final review of the building by key personnel at the end of the construction and JR confirmed that a final walk-round of the building would take place.JR advised that the format of the Labs NEC Supervisors Monthly Report would change in structure to be more focussed on the inspections and witness testing going forward.JR advised that BMCL now have snagging protocols in place as indicated by the screen dump included in the report which was augmented by pictures. PM enquired if Capita had access to the IDMS system and JR reported that Capita did not have direct access to the system but that they could ask BMCL for print-outs from the system.Caltite Warranty – JR advised that a copy of the Caltite Warranty was still awaited and that Capita would raise a Supervisors Communication to BMCL to request the information. WR advised that he had spoken to a Caltite rep and he was advised that the process was that 1 rep reviewed what was going on at the source (compaction) and another rep would check the mix. The Caltite rep had intimated that they were satisfied with the works on site. The Caltite appeared to be working well however certification was still required. PM suggested that the certification would be held back until the completion of the Labs Facility in March in order to ensure that there were no leaks. DH suggested that Capita should remind BMCL that without the warranty certificate BMCL would be unable to be provided with a completion certificate.M&E – AF advised that testing had been ongoing over the last couple of months. BMCL had carried out pressure testing of rooms (Gas) and Capita had witnessed testing earlier and there were no concerns so far. BMCL were publishing the test results on Zutec and Capita were monitoring the test results. PM enquired if Ian Powrie was attending any witness testing. AF advised that BMCL were advising of testing at short notice and also it was part of systems that were being currently tested but that he would get IP to attend when BMCL were testing full systems. AS clarified that IP's role was to understand the system in order to operationalise the building and not to witness test.	Liaise with A Keeley to obtain a completion programme - - - -	DH/JR - - -	

Item No	Item	Discussion/Information	Action	Page 1762	Action by Whom
4.	Monthly Reporting				
	<i>New Laboratory Facility (cont'd)</i>	<ul style="list-style-type: none">Acoustics – JR advised that a number of communications had been raised to BMCL i.e. back to back IPS/toilets and that a response was awaited from BMCL. PM advised that the Board's Designers had designed these incorrectly with the wall stopping at the IPS in some toilets. PM suggested that a solution to enhance the acoustic performance could be retro-fitted. DH advised that BMCL are aware of the issue but they were not focused on identifying a solution at the moment and that BMCL should be pushed to provide a response back to Capita. PM advised that it was still anticipated that BMCL to enhance the acoustic performance of the IPS in the back to back toilets. JR suggested that the acoustic issues as identified on page 10 the report would be closed off dependent on the Acoustic Report awaited from BMCL. DH suggested that the onus be put on BMJ/BMCL to resolve the acoustic issues and then any cost discussions be debated at the Commercial Group. DH advised that in terms of the percentage of rooms to be tested that there would be no change as Susan Logan had signed of the proposal for BREEAM purposes. DH advised that MS had agreed to the Appendix S in relation to the acoustic measurement between rooms. PM agreed to liaise with RD regarding provision of a proposal to enhance the acoustic performance of the IPS in the back to back toilets.Fire Dampers (not fitted within the partition) - JR advised that this item was now closed.Service penetrations – JR advised that BMCL were resolving this issue and there were now very few currently remaining.Fire sleeve – SR13 – JR advised that BMCL were currently putting adequate fire collars on. The only concern now was whether the housing to the vent pipes had an appropriate fire rating and Capita would check this out. PM requested that Capita check whether the vent pipes had vermin guards fitted.Test Certificates – JR advised that he had asked BMCL for the test certificates for Fire Collars and the intumescent dry film thickness measurements and these are still awaited.Perforations through fire walls – JR advised that on behalf of Gibby Donnelly, Capita had asked Brookfield to identify and label any perforations through fire walls/barriers and this had not yet been undertaken. DH advised that BMCL would need to get the perforations marked up to ensure that there was a record and reinstatement had been undertaken. AS requested that JR liaise with BMCL to ensure that the perforations are identified and labelled.Flat Roof – JR advised that he had reviewed the joints on the lower roof with Samson Agboggunleri and once BMCL have confirmed that they have completed the snagging a joint inspection would be carried out.Pipework – AF advised that he was accompanying BMCL when witness testing and commissioning. There had been an incident earlier in the week whereby when BMCL were testing the chilled water system (raising from 4 bar to 5 bar) that a joint blew on level 4 and it was thought that rubber gasket had not been fitted properly. AF reported that in general the testing was ongoing and there were no major issues and no concerns about the testing.	<p>Liaise with BMCL/R Deb re solution to enhance acoustic performance between back to back toilets</p> <p>-</p> <p>-</p> <p>Check out rating of housing to vent pipes</p> <p>Carry out joint inspection once snagging concluded</p> <p>-</p>	<p>PM</p> <p>-</p> <p>-</p> <p>JR</p> <p>JR</p> <p>-</p>	

Item No	Item	Discussion/Information	Action	Page 1763	Action by Whom
4.	Monthly Reporting <i>New Laboratory Facility</i>	<ul style="list-style-type: none">• Ventilation – AF advised that testing of some of the chilled beam air systems were ongoing. Capita had raised concern regarding the face velocities of the supply and extract air louvres and a response was awaited. AF suggested that normally the louvre size was greater than the ducts size but that it appeared that some louvres may be smaller which could potentially drag rain into the system.• Hatches – Restricted access – AF advised that BMCL were addressing the issues raised regarding restricted hatch access. A new hatch was being installed in the CAT III Lab. DH enquired about the ductwork cleaning prior to handover. AF reported that the ducts would have to be cleaned prior to handover.• Electrical – AF advised that BMCL had been undertaking primary system testing. Capita had witnessed high control and switching testing. Generally the lighting systems, power systems and data testing had been satisfactory. DH enquired if BMCL were undertaking end to end tests on the data as yet and AF advised that some end to end testing had been carried out and very few failures had occurred.• AF advised that he was heavily involved in witness testing through-out the building. DH enquired if there were any heating systems on as yet and whether it was felt that the building was at risk due to the temperature drop. AF advised that heating was starting to be put on around the building and that the current ambient temperature in the building was okay. AF suggested that it would be important to keep an eye on the building throughout December and to have an understanding of BMCLs plan for the festive period. AS reported that Darren Pike had advised that al the water systems were circulating and there would be no chance of freezing as freezing occurs on standing water not circulating water. AS suggested that the building would need to be checked on a daily basis over the festive period to check for any leaks and he would liaise with BMCL regarding the festive arrangements.• Externals – JR advised that marks on the external blockwork had been identified and that Capita were waiting to ascertain how BMCL would address this issue.• Windows – JR advised that a communication had been raised as 1 window was out of alignment. Capita would check to see if this issue had been resolved when undertaking their next inspection.• Stairs – JR advised that as the atrium stair was at half height at the main entrance there was a health and safety issue and BMCL had advised that they would be putting out planters to resolve the issue. Capita had raised a communication to BMCL regarding cracking in a number of locations to staircase 1 and a response was awaited from BMCL. PM enquired how many stair pans were boss and JR confirmed that there was 1 area.• Suspended Ceilings – JR advised that Capita had identified a couple of areas where the suspended ceiling hangers were not fitted properly i.e. horizontal instead of vertical and a response from BMCL is awaited.	<p>Provide update at next meeting</p> <p>-</p> <p>-</p> <p>-</p> <p>Liaise with BMCL re festive arrangement cover</p> <p>Provide update at next meeting</p> <p>Provide update at next meeting</p> <p>Provide update at next meeting</p> <p>Provide update at next meeting</p>	<p>AF</p> <p>-</p> <p>-</p> <p>-</p> <p>AS</p> <p>JR</p> <p>JR</p> <p>JR</p> <p>JR</p>	

Item No	Item	Discussion/Information	Action	Page 1764	Action by Whom
4.	Monthly Reporting				
		<ul style="list-style-type: none"> Defects – JR advised that there were 4 defect communications outstanding from June awaiting a response from BMCL which were all M&E related as follows: <ol style="list-style-type: none"> Motorised Fire dampers and DH advised that the fire damper defect notice would be closed out dependant on the SHTM response from Wallace Whittle/BMCL. Vent proximity to chilled beams. DH agreed to progress a response from BMCL on this issue. Fitment of some smoke detectors not in compliance with British Standards. DH advised that the response from Building Control was awaited to close this defect notice out. It was estimated that this issue related to approximately 30 locations. It was noted that the locations were all in corridors however that BMCL had ensured that the smoke detectors had been fitted as high in the ductwork as was possible. AS suggested that the NHS Team would need to check the smoke detectors once the Building Control response was known as it was anticipated that the NHS Team would need to undertake a risk assessment on the smoke detectors not being fitted in compliance with BS in specific locations. It was acknowledged that consideration would need to be given to the proximity to electrical cables. AS enquired what would happen if Building Control did not sign-off the smoke detectors in non-compliance with the British Standards and DH reported that should this be the case then BMCL would need to identify an alternative solution. Extract vents installed not as per drawing (2 locations) and a response from BMCL was awaited. 	<p>Provide update at next meeting re close out of SHTM/HTM list with BMCL Liaise with BMCL</p> <p>Building Control response to be provided to Capita</p> <p>Provide update at next meeting</p>		<p>DH</p> <p>DH</p> <p>PM</p> <p>JR</p>
	Adult and Children's Hospitals	<p>The NEC 3 Supervisors report No 8 was issued prior to the meeting. The following key points were highlighted by WR from the report:</p> <ul style="list-style-type: none"> Essentially it was civil and structural works currently ongoing on the A&C site. The quality and workmanship on site was of a good standard. AS enquired about the low 7 day cube results and what was measured in the cube results. WR advised that cube results measures strength. Some of the 7 day cube results were a lot lower than would have been expected. Generally it would be expected that the 7 days results were 2/3rd value of 28 day results and for 7 day results you would normally expect 25/26 and the low results were 17/18. AS enquired what could cause a low cube result and WR advised that some of the mixes being used do have an earlier strength gathering but it could be that the cube is not as well looked after and cured. WR commented that there had been previous instances of low cube results but not at the current level being highlighted. WR was raising the low cube results in order to advise that Capita were aware of the situation and were monitoring especially as the piling was due to be concluded (circa 18 piles to be undertaken). WR advised that it was predicated that the low results were from zone e results however the 28 day results expected the following week would allow for any issues to be identified. AS enquired what would be the worst case scenario if the piles were not to be of an appropriate strength..... 	<p>-</p> <p>-</p> <p>Continue to monitor and await 56 day cube results</p>		<p>-</p> <p>-</p> <p>WR</p>

Item No	Item	Discussion/Information	Action	Page 1765	Action by Whom
4.	Monthly Reporting <i>Adult and Children's Hospitals</i>	<p>..... WR suggested that BMCL would need to provide a method statement for rectification of the problem piles and it may be that BMCL would need to bring the piling rig back on site to install additional piles however a design check on the problem piles would be carried out in advance of bringing a pile rig back on site. BMCL were aware of the potential issues and were monitoring the situation very closely. WR advised that there were 2 NCRs raised on piling as there were 1 or 2 out-with tolerance. Capita were awaiting feedback on the design implications as the designers were checking this out.</p> <ul style="list-style-type: none">• Substructure – progressing at a pace and the quality appeared to be good. Ongoing excavations had made some of the pile caps visible and these looked very good. Core C had been completed on the 30th November 2011 and these works had progressed satisfactorily. The preparatory works for Cores B and H were being undertaken and Dunne's were taking time to set everything up.• Super-structure – first floor zone g complete with very good workmanship having taken place. There had been the odd reinforcement detail which needed rectification however the steel fixers were immediately on hand to undertake any rectification works. There were also plenty of operatives on site. Dunne's were continuing to power float and he did not think there had been any noise complaints from neighbours. Dunne's had undertaken a couple of 2nd floor pours to zones g and h and works were progressing satisfactorily.• Overall, the A&C civil and structural works were being manned appropriately and the quality was good.• Drainage – WR tabled a marked up drawing of the drainage plan. WR advised that the green indicated what had been done and the yellow indicated what had been considered. Once the temporary props are out of the zone g area then work on the foul sewer elements will be commenced and this will allow Capita to see the quality of these works. DH commented that the drawing confirmed that the pop-ups were not in as previously advised by DS. WR advised that holes were being out in the upper floors for the drainage going up and down. DH advised that the concern was that the Acute Assessment toilets do not stack and that the NHS Team would need to press BMCL strongly for revised drainage drawings with sub-stacks to ensure that these toilets can be rodded through sub-stack/pop-up.• Energy Centre – works ongoing to the Energy Centre. Block and steel work still ongoing. Progress is satisfactory and the quality is good. Snagging on the steelwork still to be carried out as was interrupted when the star pipe installation was ongoing.• Roadworks (Access to Govan Road) – Quality satisfactory. WR had identified a crack in a kerb base and BMCL has addressed this issue.	<p>Provide update at next meeting</p> <p>-</p> <p>-</p> <p>-</p> <p>Liaise with BMCL re revised drainage proposals</p> <p>-</p> <p>-</p>	<p>WR</p> <p>-</p> <p>-</p> <p>-</p> <p>DH</p> <p>-</p> <p>-</p>	

Item No	Item	Discussion/Information	Action	Action by Whom
4.	Monthly Reporting			
	<i>Adult and Children's Hospitals</i>	<ul style="list-style-type: none"> Information Requirements – WR advised that the information requirements were largely as the previous month i.e. Building Warrants and RCC. DH commented that BMCL had advised that the Building Warrants had been erroneous when received by BMCL so they had returned them requesting corrected warrants and that all application have been submitted. PM queried whether an RCC Application could have been submitted as he was of the understanding that this application needed an NHS signature and had no knowledge of anyone from the NHS signing off an RCC Application. DH agreed to liaise with BMCL to check which applications had been submitted. WR advised that there continued to be a risk that Building Control could advise that works need to be stopped as BMCL are proceeding without Building Warrants. DH advised that this was a mitigated risk as Building Control and BMCL were meeting regularly on- site therefore Building Control knew what BMCL were doing. DH noted that the building works were carried out under SER. WR acknowledged that the works were carried out under SER however stressed that there is a Building Warrant process for a reason. DH agreed to liaise with BMCL re the building warrants. 	Provide copies of Building Warrants to Capita when received Check with BMCL what applications have been made	PM/DH DH
5.	AOCB	It was noted that there were no further business requiring discussion.	-	-
6.	<i>Date and Time of Next Meeting</i> Friday, 13 th January 2012 at 2pm		For Noting	ALL

ACTION NOTE

Present:
Graeme Bruce (GB)

Apologies:

Peter Moir (PM)
John Redmond (JR)
Graeme Thomson (GT)

Allan Follet (AF)
Willie Roxburgh (WR)

Alan Seabourne (AS)
Shiona Frew (SF)

David Hall (DH)

Item No	Item	Discussion/Information	Action	Action by Whom
1.	Action note from previous meeting	Accepted as an accurate record subject.	-	-
2.	Matters Arising			
	<i>Tanking to Plant Rooms</i>	DH advised that the tanking to the plant rooms and basements had been raised at the Early Warning meeting with BMCL the previous day. BMCL were advising that there understood what needed to undertaken to tank the pod plant rooms and basement and there were no implications to programme. It was noted that BMCL had not provided any drawings of the bunding/tanking proposals.	-	-
	<i>Smoke Detectors</i>	DH advised that he had reviewed the email issued by Building Control confirming acceptance to the positioning of those smoke dampers which were not exactly positioned as required by BS 5839 Pt 1 2004. BMCL had agreed to provide a drawing identifying the locations of these smoke detectors in order that the NHS can check that these have been satisfactorily positioned i.e. no combustible materials above.	-	-
	<i>Sedum Roof</i>	AS advised that the Sedum Roof was looking better. DH suggested that the growth of weeds were giving the appearance of the roof being better. It was noted that the Sedum Roof would be a defect at project completion.	-	-
	<i>Chilled Beams</i>	AF advised that BMCL had changed the way the bracket was attached and that the bracket was now perpendicular with the drop through the vertical. The mechanism of how to attach the chilled beams was satisfactory and therefore the issue re distortion of pipework/hoses had been resolved. DH enquired if BMCL had resolved the distortion issue in all locations and GB advised that BMCL had addressed in all the locations they could.	-	-
	<i>Pumps mounted on steel framework</i>	AS advised that he had visited the Labs Facility the previous day and the vibration he witnessed from the pumps had been minimal. GB advised that he had also witnessed minimal vibration through the steel framework however BMCL were still to install the tico pad which would further minimise vibration. BMCL were aware that the tico pad was still to be installed in all locations. GB suggested that the worst vibration would be from the large heating pumps. GB advised that BMCL were still to install the tico pad in all locations.	Continue to monitor and provide feedback at next meeting	AF/GB

Item No	Item	Discussion/Information	Action	Page 1768	Action by Whom
2.	Matters Arising (cont'd)				
	<i>Labs Acoustics</i>	<p><u>Testing</u> DH advised that BMCL had an understanding of what testing needed to be done. JR advised that the further testing had been undertaken/commenced on 12th January 2012.</p> <p><u>IPS/Back to back toilets</u> DH reported that BMCL had advised that the method for calculating sound reduction was based on subtracting the background noise from 75 db and BMCL had used the value of 45db as identified in Building Bulletin 93 (for schools) as there was no value for background noise in toilets in BREEAM. Based on the 45db value the toilets were now achieving 31db however with improved sealing to penetrations 32db had been achieved. DH had checked the Building Bulletin 93 and identified that the rating of 50 and not 45 should be utilized therefore based on the Building Bulletin 93 BMCL were achieving 6db more than required.</p>	-		-
	<i>A&C Hospitals – Cube Results</i>	WR advised that he had been informally advised that there were no issues with the 28 day results however formal 28 day results from BMCL were awaited.	Provide update at next meeting		WR
	<i>Labs – Inspections/Completion</i>	DH advised that the NHS Team now had a tool to monitor progress of inspections against which was programmed through to 25 th February 2012 however that there were a few areas still to be scheduled.	-		-
	<i>Labs - Fire sleeve – SR13 – Housing to the vent pipes</i>	JR advised that Capita were checking out whether the housing/wooden framed cowl has a fire rating. The vents for the fume cupboards had been collared at each compartment boundary however there was concern that in the event of a fire that the fire would go up the duct and set alight the housing. JR advised that he was awaiting a response from BMCL.	Provide feedback at future meeting		JR
	<i>Labs - Flat Roof</i>	JR advised that he had inspected the joints on the lower roof since completion of BMCL snagging. This item was now closed.	Item closed		-
	<i>Labs - Supply and extract air louvers</i>	GB advised that he had not received any face velocities information for the supply and extract air louvers but that Wallace Whittle will check this out. There had been no confirmation of what the design is trying to achieve. JR advised that this item had been raised as an observation. DH suggested that this observation should be escalated. JR was requested to provide the observation ref no to DH in order that DH could liaise with BMCL to progress.	DH to escalate the need for the provision of the face velocity information with BMCL		JR/DH
	<i>Festive Period - Heating</i>	DH noted that the heating had been on over the festive period and this item was now closed.	Item closed		-
	<i>Labs – Marks on Blockwork</i>	JR advised that Capita would review the block-work at a later date. DH enquired about whether the bad pointing had been rectified. JR advised that Capita would inspect this as part of the external works programme and inspection schedule.	Provide feedback at future meeting		JR
	<i>Window out of alignment</i>	JR advised that 1 window was still out of alignment however it was his intention to request that BMCL check all the windows.	Provide feedback at future meeting		JR

Item No	Item	Discussion/Information	Action	Page 1769	Action by Whom
2.	Matters Arising (cont'd)				
	<i>H&S issue at main entrance half atrium height stair</i>	JR advised that the H&S risk at the main entrance atrium half height stair still existed.	-		-
	<i>Staircase – cracking</i>	JR advised that remedial works to the cracking in a number of locations on staircase 1 had been undertaken. This item could be closed.	Item closed.		-
	<i>Suspended Ceilings</i>	JR advised that remedial works to areas where the suspended ceiling hangers were not fitted properly had been undertaken. This item could be closed.	Item closed.		-
	<i>Defects/SHTM list</i>	DH advised that the Motorised Fire Damper defect notice would be closed out dependant on the impending close out of the SHTM list with BMCL.	DH to confirm close out of the SHTM list with BMCL.		DH
		DH advised that the HBN 15 (Pathology Services) was still under discussion with BMCL. BMCL had reported that this only applied to the basement and ground floors not the full labs building and in any case this HBN related to Pathology Services in Hospitals. BMCL have said that they have designed the Labs in accordance with HBN 15 and ACPD but it does not fully comply as there are 3 elements which are non compliant i.e. showers in CATIII Lab and there is an office opening off a lab.	Provide feedback at future meeting		DH
	<i>Defects/ Proximity of Extract vents to Chilled Beams</i>	JR reported that BMCL proposed to move the extract vents a further tile away from the chilled beam where this was possible. Where it was not possible to move the extract vent they proposed to put in a baffle. GB advised that BMCL had offered to carry out a smoke test and Capita would be accepting this offer.	Continue to monitor		GB
			Provide feedback re smoke test at next meeting		GB
	<i>Piling – Out of tolerance</i>	WR reported that BMCL had advised that a piling rig would be onsite from 15 th January 2012. BMCL had detailed discussion re the problem piling group earlier that day and BMCL were now reviewing the crop of piles (3 piles) currently covered by backfill nearest to the wall that had just been cast. AS suggested that BMCL had also suggested that there may be a further crop of piles which were out of tolerance (core c). WR reported that BMCL had advised that the piling situation was "still fluid". AS enquired what remedial works would need to be undertaken to the piling and WR advised that mini-piles would be put in around the problem crop of piles. AS enquired if there was any reason why the piling was out of tolerance in that particular area. WR advised that he had looked at the piles from different angles and he could not identify a logical reason for the piles being out of tolerance and there was nothing to suggest that the piles had been under distress from any lateral movement. PM enquired whether the rigs worked on GPS for positioning. WR advised that the placement of the rigs/piles was triangulated from various stations around the site at setting out. AS enquired if it was unusual to for piling to be out of tolerance WR commented that out of the 2000 piles having just 6 out of tolerance was a good achievement and that it was just unfortunate that the problem piles were under the tower as out of tolerance piles in other areas could be designed out in the pile cap. BMCL were reviewing the piling. AS advised that BMCL were awaiting a report on the piling from Skanska and it would be beneficial if Capita could review this report.	Review Skanska piling report (if made available) and provide feedback		WR

Item No	Item	Discussion/Information	Action	Page 1770	Action by Whom
2.	Matters Arising (cont'd)				
	<i>Drainage/A&C Ground Floor</i>	DH advised that he hadn't seen any of the A&C Ground floor drainage proposals. AS requested that PM and DH met to discuss the surface/foul drainage raised by D Smith at the previous Project Management Group.	-		-
	<i>Building Warrants</i>	DH advised that Building Warrant issue was still on-going and D Smith was escalating the issue with Raymond Barlow at a forthcoming meeting. The applications for the A&C works on site have been submitted however the warrants had not yet been received. The warrants for the Labs Facility were all in place.	Ongoing. Provide feedback once info available		DH
3.	Site Procedures	JR advised that site procedures were satisfactory over the previous reporting period. The workmanship continued to be of a good standard.	-		-
4.	Monthly Reporting <i>New Laboratory Facility</i>	<p>The NEC 3 Supervisors report No 16 was issued prior to the meeting. The following key points were highlighted from the report:</p> <ul style="list-style-type: none">• Inspections Programme – Capita had received a new programme with inspections now scheduled up to 25th February 2012. PM enquired if Capita were still able to work to the revised schedule and JR advised that Capita could work to the revised schedule. The report identifies that Capita had reviewed a number of areas and that defects were being noted and BMCL were continuing to use the IDMS system to note defects. Capita proposed that a final walk-through of the Labs Building to close out defects on the 20th February 2012.• Acoustics – Partition Walls/IPS(Toilets) - This item had been closed out. The flanking transmission issue had also been closed out. JR noted that all the acoustic issues would be closed out upon receipt of the Acoustic Logic report from BMCL.• Intumescent Paint – confirmed that the completion certificate was required for the O&M Manuals and that all the snagging had been completed• Expansion bellows, Anchors and guides re expansion & contraction calculations – GB confirmed that this item had now been closed• Bunding – Capita had raised 2 observations regarding no bunding to tanks in the basement and pod. Details of the bunding proposals are awaited from BMCL• Access Hatch to corridor (opposite entrance to Plant pod 1 – BMCL have confirmed that they will install another hatch in close proximity to the existing hatch. This item was now closed.• Gas Dampers (L4) – GB noted that the gas dampers to the CAT III Labs had not yet been installed. PM confirmed that the gas dampers for the CATIII Lab were on order and delivery to site was expected on 26th January 2012. GB suggested that there may be fair amount of disruption to install the dampers. DH advised that BMCL intended to minimise disruption to the CATIII area by installing the dampers from outside the lab. PM provided Capita with the plan for the damper installation.• Calorifier – Capita had raised 2 observations regarding damage to calorifiers and confirmation was awaited from BMCL as to the remedial works to be carried.	<p>-</p> <p>Acoustic Logic report awaited</p> <p>Item closed</p> <p>Item closed</p> <p>Bunding proposals awaited from BMCL</p> <p>Item closed</p> <p>-</p> <p>Proposal re rectifying damage to calorifier awaited from BMCL</p>	<p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p>	

Item No	Item	Discussion/Information	Action	Page 177	Action by Whom
4.	Monthly Reporting				
	<i>New Laboratory Facility(cont)</i>	<ul style="list-style-type: none">Cold Room Temperature Mapping – BMCL have confirmed that the testing will be carried out in line with the Ace Method Statement. PM advised that advice from the Senior NHS rep from the Blood Bank specified bulk fill is required for testing purposes as there will be air patterns/pockets which impact on cooling potential. GB advised that the specification asked that cold rooms meet a certain temperature and that BMCL will be able to prove that the temp has been obtained and that he did not think that the guidance requested that the blood fridge be full for testing. BMCL would be taking 6 measuring points in cold rooms however it would be important to ensure that probes not being covered by blood product packages. DH advised that BMCL had advised that they would be leaving the probes in situ permanently. DH noted that the MHRA document stated full and empty testing. GB commented that the Blood Safety and Quality Regulations 2005 applied to post hand-over. PM acknowledged that the regulations applied post hand over but that the NHS Team wanted to ensure that there were no issues before hand-over to the service. PM advised that he had asked A Smith to check guidance regarding whether testing should be carried out on an empty of fully loaded fridge. GB enquired whether the Blood Transfusion Service could not provide the information. PM noted that it was understood what C&M do and there was no mention of testing when empty. PM noted that he presumed BMCL would undertake the empty tests first and then test when full of saline. GB advised that when testing as fully loaded that a product that closely simulating blood would need to be used as blood will take in heat and cold. It was noted that saline is being used to simulate blood.Damaged cladding – this defect would remain open until inspected. DH advised that he had noticed the panel being bonded which suggested that only the face of the panel had been taken off. PM advised that the panels are interlocked therefore only the face can be taken off.First floor atrium stair – handrail is closer to the wall than the stair and the stair is positioned 170mm way from the face of the wall. This meant there was potential for someone to put their foot in the gap. AS and PM agreed to have a look at this issue on site.Drop tests – GB advised that drop tests had been carried out. He enquired if JR had received any information back from BMCL re the unsupported suspended ceiling. JR agreed to liaise with BMCL.Fuseable Link Fire Dampers – this item will be closed out once response received from BMCL re SHTM listFire Dampers – BMCL have confirmed to Capita that they will provide a drawings and certificate/statement. This item would be closed out once Capita has received this information.Atrium Lighting – AF advised that he had a set of drawings from BMCL. Initially Capita had been investigating the lighting across the atrium link bridge. It appeared that the lift lobby is 80/90 lux and Capita viewed this as a circulation space and circulation space guidance requested 200 lux. BMCL had advised that the lift lobby was an atrium therefore only 50 lux was required at the lift lobby. AF reported that it might be an atrium however as it is a...	<div>Provide feedback at future meeting</div> <div>Provide feedback at future meeting</div> <div>Review staircase/atrium handrail</div> <div>Provide feedback at future meeting</div> <div>Item awaiting close out</div> <div>Item awaiting close out</div>	<div>GB/PM</div> <div>JR</div> <div>AS/DH</div> <div>GB/JR</div> <div>JR</div> <div>JR</div>	

Item No	Item	Discussion/Information	Action	Page 1772	Action by Whom
4.	Monthly Reporting				
	<i>New Laboratory Facility(cont)</i>	<p>Atrium Lighting cont'd - circulation space it needs to be 200 lux. DH acknowledged that atrias were expected to have lighting effects but that if it was classed at a circulation space then would need to be appropriately lit. AF explained the different lighting lux levels using a drawing. DH suggested that the lighting level issue would not be difficult to resolve. AF advised that BMCL had reported that the area was not designed as a circulation space but as an atria. AF stressed that the lift area at the reception desk was a multi-purpose area so could not be treated as a atria. DH enquired about the lighting level at the reception desk. AF advised that Capita had not received the calculation for the reception desk or the stairs and that it had been identified that a couple of landings were not in accordance with guidance. PM enquired if the lighting level included the pendant lighting and AF reported that he only had a calc and not the workings so couldn't confirm whether the pendant lights had been included in the calculation. AF acknowledged that additional lighting in the soffit would resolve the inadequate lux levels. PM advised that he had signed off the Appendix K Lighting document on the basis of the type of fittings and not the lux levels. AF suggested that it didn't matter if PM had signed off the stage c lighting document as BMCL still had to comply with guidance. DH suggested that the debate was where it was a circulation space and where it was an atria. AF advised that the Healthcare Lighting Guide (LG2) provided lighting levels for lift halls, waiting areas, entrance halls, reception desks. The CIBSE guide suggests that an atria and general circulation space should be between 50 and 200 and Waiting areas with lift halls should be 200. AF advised that he would discuss the levels indicated in the CIBSE guidance at the end of the meeting. GB suggested that further discussion with BMCL would need to be had to resolve the lux level issues. PM advised that he was comfortable to let BMCL continue to complete the lighting installation. AF noted that Capita would be getting a light meter to ascertain the light levels in specific areas.</p> <p>PM raised concern about the damage to the floor coverings and that Capita would need to continue to monitor. DH enquired about the level of control of the access to completed areas of the building as he had viewed someone opening all the doors to enable commissioning activities and walking off and presumably going back at a later time to lock all the rooms. JR advised that he had witnessed the same process. DH advised that he, AS and PM had visited the Labs site earlier the previous morning and it had felt that the Labs site wasn't being adequately supervised or controlled. Comments had been fed back to BMCL and it had been recognised during the site visit earlier that morning that the Labs Site was a lot tidier. GB suggested that BMCLs Lock-down plan had been impacted upon due to on-going commissioning activities. DH suggested that the access control would need to be resolve for the A&C Hospitals lock-down. JR suggested that the lock down of the A&C Hospitals would be easier to manage as there would be larger areas being locked down i.e. full departments.</p>	Discuss lighting levels with PM/DH at end of meeting		AF

Item No	Item	Discussion/Information	Action	Page 1773	Action by Whom
4.	Monthly Reporting				
	<i>New Laboratory Facility(cont)</i>	WR advised that BMCL were starting to finish off the civil structural works around the building i.e. kerb lines, which looked satisfactory. The completion of the area between the energy centre and the Labs was also progressing quickly. WR enquired whether the RCC for the road at the Labs had been received. DH advised that the RCC application had been submitted however the process had been held up by the TRO as this related to Hardgate Road. The TRO letters had been sent to the consultees and the advertisement would be placed at the end of January 2012.			
	Labs Facility	DH reported that there was flaking paint work at the body store room and Capita agreed to check this out. AS advised that a piece of capping had come off during the high winds which had caused some damage to the building. JR advised the damage had been sustained at the level 3, lower flat roof entrance. DH commented that BMCL had suggested that an investigation into why the capping had come off was underway. It was believed that there was a failure of the fixing.			
	A&C Hospitals	The NEC 3 Supervisors report No 9 was issued prior to the meeting. WR highlighted the following key points from the report: <ul style="list-style-type: none"> • Piling issues – discussed earlier in the meeting • Water/Rainfall – AS enquired if the water/rainfall had been impacting on the need for Dunne's to redress the pilemat. WR advised that the rainfall had impacted on the heavy traffic areas and Dunne's had continually been putting down additional type 1 or larger material. AS noted that the site SI indicated that the site had a high water table and enquired if the appropriate materials had been utilised in the first instance. WR reported that the initial fill looked good and there was plenty of it. The walkways could even be seen to be falling away in areas. • Main Superstructure – concreting works to the suspended slabs were progressing well. Works to Zones G, D and H and the cores appeared to be satisfactory. There was an issue with the finish of one of the slabs which had not been able to be power floated due to complaints from neighbours. WR suggested that the finish to the slab may be out of spec but that the area in question was a roof area. BMCL were doing an investigation in the finish and had requested the roofing contractor to review the finish and advise if suitable for the roofing works. Dunne's were also forward planning for the next pour in that area (plant room). All the other slab finishes had been very good. AS enquired if the power floating could be carried out earlier in the working day. DH suggested that the opening hours of the concrete plant may be determining how early pouring activities can commence. WR noted that Dunne's were not happy with the quality of their own works. DH suggested that to improve the finishes that Dunne's could pour much shorter sections to commence the power floating earlier. WR advised that Dunne's were pouring big areas at a time which was the most economical way i.e.300 cubic metres and until now there had been no issues. AS enquired about implications going forward. WR suggested that as the height of the tower increases then the noise is further way from the residents. 			

Item No	Item	Discussion/Information	Action	Page 1774	Action by Whom
4.	Monthly Reporting				
	<i>A&C Hospitals (cont'd)</i>	Consideration was also being given to installing acoustic barriers. It was agreed that the power floating/finishing issue be raised at the Hospitals Construction Progress meeting on the 16 th January 2012. DH enquired what the solution would be if the slab was found to be out of tolerance. WR suggested that Dunne's would have to buff down the floor which would create a lot more noise.	Raise slab finishes/finishing at forthcoming Hospitals Construction Progress Meeting		WR
	<i>Energy Centre</i>	WR advised that there were no issues to report. The quality, block-work and steel-work appeared to be satisfactory. Drainage works were continuing where possible. The interconnecting tunnels and the dual-carriage works appeared to be satisfactory.	-		-
5.	Information Requirements	<ul style="list-style-type: none"> Structural Design Philosophy – Capita still to be provided with revised document from BMCL Energy Centre – still to see the design proposals for 1st floor slab from BMCL Suspended Slab Concreting - BMCL advised that the method statement is now available. DH enquired if the suspended slab concrete currently had anti-shrinkage additive and WR advised that it did not have the anti –shrinkage additive. <p>PM noted that the zone G works had progressed but that he had thought he would have seen more of the 3rd floor going on. WR advised that the works had now reached the corner.</p> <p>WR advised that some M&E works had commenced and that the risers had been put down and more would be carried out over the weekend.</p>	- - - - -		- - - - -
5.	AOCB	It was noted that there were no further business requiring discussion.	-		-
6.	<i>Date and Time of Next Meeting</i> Friday, 3 rd February 2012 at 2pm		For Noting		ALL

ACTION NOTE

Present:
John Redmond (JR)
Apologies:

Peter Moir (PM)
Willie Roxburgh (WR)
Allan Follet (AF)

Alan Seabourne (AS)
Shiona Frew (SF)
Graeme Thomson (GT)

David Hall (DH)

Graeme Bruce (GB)

Item No	Item	Discussion/Information	Action	Action by Whom
1.	Action note from previous meeting	Accepted as an accurate record subject to the following amendment. Item 2, Matter Arising - Defects/SHTM list - DH advised that the Motorised <u>Smoke Detectors</u> defect notice would be closed out dependant on the impending close out of the SHTM list with BMCL.	-	-
2.	Matters Arising			
	<i>Pumps mounted on steel framework</i>	JR advised that Capita were monitoring the vibration from the pumps mounted on the steel framework on an ongoing basis. JR noted however that the tico pad was still to be installed.	Continue to monitor and provide feedback at next meeting	AF/GB
	<i>A&C Hospitals – Cube Results</i>	WR advised that no 28 day results had caused concern. It was agreed this item was closed.	Item closed	-
	<i>Labs - Fire sleeve – SR13 – Housing to the vent pipes</i>	JR advised that BMCL had been checking out whether the housing/wooden framed cowl has a fire rating. BMCL had confirmed verbally that the housing does comply. JR would liaise with BMCL to obtain a formal response in advance of the Labs Site Progress meeting schedule on 6 th February 2012.	Obtain verbal confirmation that housing is compliant	JR
	<i>Labs - Supply and extract air louvres</i>	DH advised that he had liaised with D Pike and requested the face velocity information. DH had subsequently raised this item again as the information was still awaited.	Liaise with BMCL re face velocity information	DH
	<i>Labs – Marks on Blockwork</i>	JR advised that Capita would review the block-work as part of the external inspections taking place w/c 20 th February 2012. It was anticipated that the necessary remedial action had been taken in advance of the inspection.	-	-
	<i>Window out of alignment</i>	JR advised that Capita had carried out a 10% test on the windows with BMCL. Capita had tried to open windows and there were a few that wouldn't open and some that did open would not close. The windows had been noted on the IDMS system as a rectification.	-	-
	<i>Labs Defects/SHTM list</i>	DH advised that the low surface temperature radiators was the last remaining item to conclude the SHTM list. BMCL were investigating the potential to install covers. All other items had been closed out however DH was awaiting a formal response from JR re Fire dampers in the main hospitals.	Conclude SHTM list with BCML	DH
	<i>Smoke Test</i>	JR advised that the smoke tests had been undertaken, video recorded and witnessed by Capita. The smoke test had been satisfactory. It was agreed this item should be closed.	Item closed	-

Item No	Item	Discussion/Information	Action	Page 1776	Action by Whom
2.	Matters Arising (cont'd)				
	<i>Piling</i>	WR noted that he understood BMCL investigations were ongoing. DH advised that the NHS Team were awaiting the BMCL report. BMCL had appointed an independent surveyor (Robert Bird). BMCL were obtaining reports from the dewatering company, WSP and the Independent Surveyor. AS advised that AS, D Ross and URS were attending a meeting with BMCL and their Loss Adjustor on 10 th February 2012.	Provide feedback at next meeting		AS
	<i>Building Warrants</i>	DH advised that Building Warrant issue was still on-going as the updated paperwork was still awaited from Building Control by BMCL.	Ongoing. Provide feedback once info available		DH
	<i>Acoustics – Partition Walls/IPS(Toilets)</i>	JR advised that Capita had received the Acoustic Logic report therefore this item was now closed. DH enquired if BMCL had advised of the additional testing and JR advised that BMCL had provided a programme for the additional testing.	Item closed		-
	<i>Bunding to tanks in the Basement and Pod</i>	JR advised that Capita had received the drawings for the basement and pod therefore this item was now closed.	Item closed		-
	<i>Damaged Calorifiers</i>	JR advised that the damaged calorifiers had been repaired therefore this item was now closed.	Item closed		-
	<i>Cold Room – Temperature Mapping</i>	PM advised that a meeting to discuss the temperature mapping and commissioning had taken place earlier that day. The current regime of testing was very close to meeting the MHRA requirements however additional testing to meet the User requirements would be required. It was anticipated that between the Ace commissioning and minimal enhanced commissioning that the user requirements will be achieved. The user requirements were focused on the information needed to prepare the validation handbook. The haematology rep had been requested to confirm the temperature mapping and commissioning required to PM who would liaise and review with BMCL. PM noted that it was only the freezer room and linked room which needed to be tested as fully loaded. PM advised that this item was progressing positively.	Liaise with BMCL re User temp mapping and commissioning requirements		PM
	<i>Damaged cladding</i>	JR advised that the damaged cladding would be inspected as part of the inspection regime throughout February 2012.	Provide feedback at next meeting		JR
	<i>Hard-rail (first flight)</i>	PM advised that he had reviewed the hand-rail at the first flight where the handrail is closer to the wall than the stair but that he was unsure what remedial action could be undertaken with the exception of putting a plate across the gap. PM suggested reviewing the hand-rail with JR. JR advised that he would inspect the handrail on his next visit to the Labs Facility however he suspected that the gap had already been remedied by a plate.	Feedback whether plate already fitted		JR
	<i>Drop tests (Damper)</i>	JR advised that there were a few remaining to be tested due to difficulty in accessing them. It was anticipated that the tests would be concluded by 10 th February 2012. DH enquired what the access difficulty had been. GB advised that the access difficulties were due to areas being locked down.	Provide update at next meeting		GB

Item No	Item	Discussion/Information	Action	Page 1777	Action by Whom
2.	Matters Arising (cont'd)				
	<i>Labs – Fuseable links</i>	DH confirmed that this item was closed.	Item closed		-
	<i>Smoke Detectors</i>	DH advised that he had requested that that Capita confirm that the drawings accorded with what they had seen on site as BMCL had advised that Capita has seen all the smoke detectors. JR agreed to provide a review the drawings and formally provide a response.	Confirm if drawings accord with what Capita have seen		JR
	<i>Lighting</i>	DH noted that there were still a number of lights to be fitted. GB advised that it appeared that BMCL are outing in extra light fittings and there were additional light fittings to be installed at the half landing closest to the lift. BMCL were identifying how the additional light fittings would be installed.			
	<i>Flaking Paint (Body store area)</i>	JR advised that the flanking item was on the IDMS list therefore this item was now closed.	Item closed		-
	<i>A&C Roof Slab</i>	WR advised that there was one slab that BMCL had hand floated (final roof slab). BMCL had requested their roofing sub-contractor to test the slab finish and confirm if there would be any issues laying the roofing product. The test results were awaited from BMCL. The plant room finish looked satisfactory and BMCL were doing a check on the levels. DH enquired whether the hand floating was a potential alternative should there be issues carrying out power floating. WR advised that the pour the previous evening looked satisfactory.	Advise if any slab finishing issues		WR
3.	<i>Site Procedures</i>	JR advised that site procedures were satisfactory over the previous reporting period.	-		-
4.	<i>Monthly Reporting New Laboratory Facility</i>	<p>The NEC 3 Supervisors report No 20 was issued prior to the meeting. The following key points were highlighted from the report:</p> <ul style="list-style-type: none">• Works were nearing completion and quality and standards continue to be good.• 7% of inspections had been carried out over the previous month. Capita were continuing to work to the Inspection programme issued by BMCL. Capita were monitoring how BMCL were recording and closing out defects• Identified that there were a number of sliding doors that did not comply with DDA Legislation as there was insufficient clearance. BMCL were currently rectifying this issue and in one area they had replaced the sliding doors with a swing door. BMCL have identified how they propose to remedy the sliding door issue. PM raised concern that there may be reasons for these sliding doors i.e. entrance into tight spaces.• Areas now being offered up for inspection have few elements of incomplete works• Inspections continuing into February 2012.• Intumescent Paint - certificate of compliance to be added to the O & M Manual• BMCL were finishing putting the fire stopping in place• Riser in SR13 Level 1 which had now been closed off	<p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p>	<p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p>	

Item No	Item	Discussion/Information	Action	Page 1778	Action by Whom
4.	Monthly Reporting				
	<i>New Laboratory Facility(cont)</i>	<p>M&E</p> <ul style="list-style-type: none">Gas tight dampers – GB advised that the gas tight dampers were due to be fitted and he was a bit dismayed at how big they were and he would like to see the BMCL detail of how they proposed to support the dampers which were very heavy especially the actuators.PM noted that a few of the gas tight dampers may already have been fitted.Cold room testing – GB advised that the 7 day tests were due to be completed and Capita had requested the test results. PM noted that it had transpired that the 7 day testing did not need to be carried out. The Labs reps were now producing a list of what needs to be tested and was focused upon the operation and challenging the system i.e. how long the room stays cool if the electric goes off, does the alarm go off, etc. The Users wanted to understand how the system worked in practice. PM would be receiving the list on Monday and would subsequently discuss the user testing with BMCL. The users were keen to have 24 hour simulation testing. PM advised that the -40 freezer room and adjoining room was the only areas to be tested as fully loaded. GB suggested that the recovery period should be identified through the testing. <p>Civil & Structural</p> <ul style="list-style-type: none">Infrastructure works – WR advised that the infrastructure works were progressing and the quality appeared to be of a good standard however there was still a substantial amount of works to be completed. BMCL were currently installing the kerb logs. AS enquired if WR had any concerns regarding works not being complete by 9th March. AS reported that a safe crossing with hard standing from the SGH to access the Labs needed to be in place by 12th March 2012. AS suggested that the NHS Team should visit the site w/c 6th February 2012 to get a feel if the Labs Facility and safe access will be completed in time. WR reported that he could not comment on the programme as he had not seen the programme. GB advised that there was very little internal heavy works to be undertaken before handover. PM noted that the key issue was the completion of dual carriageway road and he understood how quickly tar can be laid. BMCL were fully sighted on this issue and that Dunne's had advised that they would put on extra operatives to ensure the road works are completed on time. DH commented that the programme appeared to be achievable however the external lighting and bollard installation was behind programme. AS intimated that if the lighting was not adequate then this would cause a Health & Safety issue. PM suggested that there would not be a Health & Safety issue as there was pavement lighting to the front door in addition to the lighting standards hanging over the site. DH suggested that the programme was achievable but needed to be monitored. WR suggested that a RCC would be required if opening the road to members of the public. PM advised that the road would not be adopted and it was acknowledged that the road would be used for delivery vehicles. DH advised that the RCC will be issued in advance however the RCC was tied into the TRO for the whole site and the TRO application was now in and advertised. AS enquired whether any conditions were expected and DH confirmed that one of the conditions would be drainage, undertaking a safety review.	<p>Provide feedback at next meeting re fitting of troyx dampers</p> <p>-</p> <p>Raise awareness if works to create the safe road crossing may not be achievable by 9th March 2012</p>	<p>GB</p> <p>-</p> <p>ALL</p>	

Item No	Item	Discussion/Information	Action	Page 1779	Action by Whom
4.	Monthly Reporting				
	<i>New Laboratory Facility(cont)</i>	<p>PM enquired about the reference in the Capita report Items 12 and 14 to Medical Gases and GB advised the Labs Gases referred to the natural gas supply to the benching and the Medical Gases referred to the oxygen and nitrogen. PM requested that the terminology Medical Gases not be used and it was agreed that going forward the oxygen and nitrogen would be covered by the Labs Medical Gases term. DH enquired whether the testing was on the pipework systems and this was confirmed.</p> <p>Substation</p> <ul style="list-style-type: none"> GB advised there were no areas of concern. AS requested that from the 10th March that there is a demarcation agreement signed between BMCL, NHS, and Scottish Power. <p>A&C</p> <ul style="list-style-type: none"> WR advised that the quality overall continues to be good. 2 issues to be concluded i.e. piling and finishes on some of the slabs Works were progressing well The staffing and operative levels appeared to be suitably high to ensure the quality 	<p>Amend terminology to Labs Medical Gases</p> <p>Demarcation agreement to be prepared for signature</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p>	<p>JR/GB</p> <p>PM/IP</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p>	
5.	Information Requirements	<p>WR noted that Capita were still awaiting the following information:</p> <ul style="list-style-type: none"> RCC Building Warrants Updated Structural Design Philosophy <p>DH noted that he was aware that installation of M&E modules, headtrack, partitions around electrical risers was taking place and this work would need to be monitored to ensure no water damage. He suggested that the type of boarding should be investigated. It was noted that the boarding was being installed 28mm off the floor. The works were quickly commencing into fit-out.</p> <p>JR advised that 2 A&C communications had been closed out and Capita were continuing to liaise with BMCL to close issues off.</p>	<p>-</p> <p>Monitor works for water/weather damage</p> <p>-</p>	<p>-</p> <p>ALL</p> <p>-</p>	
5.	AOCB				
	<i>Handover</i>	<p>AS enquired whether a meeting to discuss what documentation is expected at handover should be arranged i.e. test and completion status, outstanding snagging, Inspection of services, handover documentation, etc. It was noted that all the BMCL documentation would be received electronically on Zutec. JR reported that JWales was compiling all the O&M and completion criteria information. DH suggested that the handover documentation had been agreed and he did not think there would be any issues regarding the handover documentation.</p>	<p>-</p>	<p>-</p>	

Item No	Item	Discussion/Information	Action	Page 1780	Action by Whom
5.	AOCB (cont'd)				
	Handover (cont'd)	<p>AS enquired what would stop completion being awarded to the building. DH suggested that items such as not having all the certification in place would prevent the completion of the building i.e. building warrants, completion certificate, certificate for water tests, JR advised that JW was collating the completion information together and Capita were monitoring this. JR agreed to notify AS if there were any issues.</p> <p>DH advised that he had already discussed on several occasions with BMCL how they were handling Building Control and ensuring everything in place to ensure no delays to obtaining the final certificate(s) from BMCL. GB advised that BMCL had started liaising with Ian Powrie re demonstrations/training pre handover.</p> <p>DH noted that if BMCL cannot deliver a room then that would be listed as a defect. AS enquired if completion would not be achieved should the 2nd water meter not be in. GB suggested that not having the 2nd water meter in would not impact on the building achieving completion as it wouldn't stop the habitation notice however it may impact on BREEAM. DH suggested that there may be a couple of options to deal with items which are not complete i.e. could transfer some of the external works over to the stage 3 works instead of listing as a defect i.e. planters.</p> <p>AS Advised that it was crucial to have safe access from the existing site into the building. DH noted that safe access and egress would need to be proved to Building Control in order that they provide the completion certificate. Building Control have indicated that they wish to see the final certification as he is comfortable at what he has seen on the site throughout the construction period. JR advised that on completion Capita issue a defect certificate and BMCL have 2 weeks to resolve unless a different timescale is specified by the NHS Team.</p> <p>WR reported that he had observed leaks in the basement liner which BMCL had subsequently been repairing. Capita were awaiting confirmation of the repair resin that had been used.</p> <p>BMCL had also be drilling and resining in the water tank area. WR provided pictures to PM regarding cracks in core 5 (room next to the lift pit) for review. WR advised that Cementaid had been monitoring the cracks all the way through the construction process.</p> <p>AS enquired what would happen if the leaks were still there on the 9th March 2012. DH advised that if there are leaks evident on the 09th March then these are listed as a defect. If there are any leaks after the 9th March then these as listed as a latent defect i.e. leak behind fridges that does not manifest itself until after the 9th March 2012.</p> <p>WR suggested that Building Control may request DDA compliant parking within a certain distance from the building. PM advised that there was a temporary arrangement for 3 spaces.</p>	Notify AS of any certification issues - - - - -	JR - - - -	

Item No	Item	Discussion/Information	Action	Action by Whom
6.	<i>Date and Time of Next Meeting</i> Friday, 2 nd March 2012 at 2pm		For Noting	ALL

ACTION NOTE

Present:
John Redmond (JR)
Apologies:

Peter Moir (PM)
Willie Roxburgh (WR)
Allan Follet (AF)

Alan Seabourne (AS)
Shiona Frew (SF)
Graeme Thomson (GT)

David Hall (DH)

Graeme Bruce (GB)

Item No	Item	Discussion/Information	Action	Action by Whom
1.	Action note from previous meeting	Accepted as an accurate record .	-	-
2.	Matters Arising			
	<i>Pumps mounted on steel framework</i>	GB advised that Capita were continuing to monitor the vibration from the pumps mounted on the steel framework and that the tico pad was still to be installed however M Ross had assured that the tico pad would be installed.	Continue to monitor and provide feedback at next meeting	AF/GB
	<i>Labs - Fire sleeve – SR13 – Housing to the vent pipes</i>	JR advised that Building Control had reviewed the fire sleeve/housing to the vent pipes and they had advised that they had no issues.	Item closed	-
	<i>Labs - Supply and extract air louvres</i>	DH advised that he had received an email earlier that day which advised that BMCL had reviewed the louvre velocities and there were 3 units which were found to have a high velocity. They had altered the ductwork to reduce the velocity and were in the process of altering 2 other units to acceptable levels. BMCL indicating that they are addressing the problem and all other units were within acceptable limits. GB advised he was concerned that the email included the following statement i.e. the velocities would be above the nominal velocity in the CIBSE guidance. This statement would need to be discussed with BMCL as if above the nominal value then will get water carry over. GB noted that to resolve the transition piece onto the louvre should be made bigger.	Update NHS of any issues	GB
	<i>Labs Defects/SHTM list</i>	PM advised that the Labs SHTM List had been agreed with BMCL and a PMI had subsequently been provided.	Item closed	-
	<i>Piling</i>	PM advised that the reports had all been issued and the NHS had received copies of all the reports submitted to the insurer. AS commented that he had read all the reports and was generally comfortable with the report contents. The R Bird report appeared to be identifying that the issue was due to OGI dewatering and batter angle. The claim was circa £1.5m (£2m inc VAT). WR advised that he had noticed that the piling rig had been idle for a couple of days however piling works had commenced again. It appeared that BMCL had not finished the survey works and the number of locations with piling issues had increased to 35 locations. It would appear that the survey works were still to be completed. A Fernie would be providing an update on the piling issues at the forthcoming Hospitals Construction Site Progress meeting scheduled on 5 th March 2012. AS noted that it appeared that the picture showed how easy it was for the piling to shift.	-	-

Item No	Item	Discussion/Information	Action	Page 1783	Action by Whom
2.	Matters Arising (cont'd)				
	<i>Piling</i>	WR commented that he would be interested to see the OGI response to the R Bird report. WR advised that the sides of the piles were quite rough however it was relatively easy to pick-up if there are any piles out of plumb. DH reported that on reviewing the programme it appeared that the piling works were 4 days behind programme. PM noted that he expected that the works were staying ahead of the critical path.	Request copy of an OGI response to R Bird report		SF
	<i>Building Warrants (A&C)</i>	DH advised that there were 45 building warrant application stages numbered between 1 and 54 for the A&C Hospitals with 9 numbers unused which the GCC system is unable to compute. BMCL will now need to renumber all the applications with no gaps in the numbering and resubmit.	On-going - provide feedback once info available		DH
	<i>Labs</i>	PM advised that he had discussed the Labs Building Warrants with D Jordan earlier that day. DJ had advised that Building Control had visited the Labs site the previous day and everything was in hand to obtain the completion certificate. Building Control had however raised a query re the locking of 2 sets of double doors on level 4 and PM had agreed a resolution with BMCL in case Building Control raise an issue re the double doors. BMCL were pulling together the final certifications as a pack for providing to Building Control. BMCL were anticipating receipt of the Completion Certificate by the middle of w/c 5 th March 2012.	-		-
	<i>Cold Room – Temperature Mapping</i>	PM advised that the balance of the temperature mapping was to be undertaken post 10 th March 2012. The NHS have agreed to cover the cost for the additional testing i.e. loaded state with 16 probes.	-		-
	<i>Labs Damaged cladding</i>	JR advised that inspection of the damaged cladding was on-going as there had been access difficulties due to the externals works to undertake the full inspections.	Advise NHS of any issues		JR
	<i>Hard-rail (first flight)</i>	JR advised that the BMCL had undertaken remedial action to the gap therefore this item was now closed.	Item closed		-
	<i>Smoke Detectors</i>	JR advised that Capita had closed the Smoke Detector Supervisor Defect Notification. JR suggested that BMCL should perhaps be provided with a PMI. DH advised that a PMI was not required as the Certificate allows for the anomalies to be listed as the NHS were not instructing BMCL to fit detectors which were not compliant.	-		-
	<i>A&C Roof Slab Finishes</i>	WR advised that Capita were awaiting the asphalt sub-contractor test results from BMCL.	Advised NHS if any issues		WR
	<i>Plant Room Slab Finishes</i>	WR advised that Capita were awaiting the paint spec and level survey information from BMCL.	Advise NHS if any issues		WR
	<i>CAT 3 Lab</i>	GB advised that the gas tight dampers had all now been fitted. He had reviewed all the supports for the dampers and was satisfied with what he had witnessed.	Item closed		-

Item No	Item	Discussion/Information	Action	Page 1784	Action by Whom
2.	Matters Arising (cont'd)				
	<i>Access to Labs from SGH site</i>	WR advised that it was difficult to comments on the suitability of the access across to the Labs from the SGH existing site as there was still works taking place in that area.	Advise NHS if there are any issues which would prevent completion of safe crossing by 9 th March 2012.		WR
	<i>Substation – Demarcation Agreement</i>	It was noted that I Powrie was preparing the demarcation agreement for signature.	Item closed		-
	<i>Information Requirements</i>	PM commented that he had seen a pipe which had been installed with no stop ends. GB noted that he had also witnessed that duct work was currently being installed, a lot of the ductwork was bashed, and there were metal workers on site straightening out the bashes/dents. GB had also viewed a lorry arriving on site with ductwork which was also bashed. PM suggested that it would be useful to get some pictures of bashed ductwork and remedial works being undertaken. GB advised that Capita would need to raise awareness that they had witnessed damaged ductwork and remediation taking place on site with BMCL. GB advised that the concern re the open ended pipework is in relation to the add-ons to the central modules as the central modules as satisfactory.	Obtain pictures of damaged ductwork		GB
		PM noted that he had witnessed a riser casing which had been stained by a torrent of dirty water and raised concern about the potential appearance of this casing in a few years' time. GB advised that there would be no issue re stainless however there would be an issue for the carbon ducts. PM advised that he would raise an Early Warning to BMCL. AS raised concern about the BMCL Quality Control re damaged ductwork being accepted on site. GB suggested that BMCL and Mercury should have a system in place through their specification and to address any issues. It was expected that BMCL should be inspecting quality. AS requested that PM raise both issues as EWs to BMCL.	Raise issue of damaged ductwork with BMCL		PM/GB
3.	<i>Site Procedures</i>	JR advised that site procedures were satisfactory over the previous reporting period.	-		-
4.	<i>Monthly Reporting New Laboratory Facility</i>	<p>The NEC 3 Supervisors report No 21 was issued prior to the meeting. The following key points were highlighted from the report:</p> <ul style="list-style-type: none"> JR advised that Capita had been inspecting areas which were handed over from BMCL as being substantially complete. Capita were now doing a second pass at all the areas and the previous week had gone through each level and any issues identified were compiled onto a schedule and provided to BMCL. The pictures at the rear of the report identified various elements which had been picked up (not all). PM enquired if the staining to the block-work and there were different colours of mortuary pointing would be picked up by BMCL for remediation and this was confirmed. JR noted that the picture on page 13 showed an infill area on the plantroom area (where a service duct was planned and then not needed). Capita suggest that this area needs to be identified clearly as this area of floor only has strength for foot traffic only. GB advised how the infill was backfilled and there was potential for a heavy length of pipe which could pass all the way through. The NHS may want to consider putting a chevron around the area or putting a checker plate over the top. PM advised that he would review the area on site. GB suggested that another solution would be to open up the aperture, put a steel angle frame around the aperture and then screw plating to the frame. 	-		-
			Consider using chevrons to mark out area for use by foot traffic only		PM

Item No	Item	Discussion/Information	Action	Page 1785	Action by Whom
4.	Monthly Reporting New Laboratory Facility(cont)	<ul style="list-style-type: none">Basement walling/Cement Aid – WR advised that there now appears to be no issues with the remedial works. WR noted that he had commented that he had seen some pools of water in the plantroom area (mortuary) but that he thought this water had been from leaks from apparatus.Acoustic Report – JR noted that the Acoustic report was still awaited from BMCL.Completion Criteria – JR noted that he was liaising with J Wales. There were 2 schedules (1 for M&E). JR was meeting with JW again to discuss the O&M and Zutec. GB would also be meeting with D Wilson.Supervisors Communications – JR reported that the only communication outstanding was regarding the louvre face velocities and GB would review the email received from BMCL.Defects – JR reported that there were 2 defects outstanding i.e. the Sedum roof and the Fermacell joints. PM Noted that these would be recorded formally as a defect at completion. JR noted that in the plant rooms there were no expansion joints but that there were no cracks. The room mutual with the break out area in level 1 there was a crack in the inside of the roof however the wall was not large enough to require an expansion joint. It appeared that there is cracking when there is not an expansion joint and not cracking when there is an expansion joint problem. Remedial works were ongoing and BMCL intended to conclude all the remedial works pre-completion. PM suggested that it would be beneficial to obtain a Fermacell report in order to plan for future and especially for the post 2 year defect period. PM suggested that this be discussed at the Labs Construction Progress meeting. DH noted that at the end of the 2 year period it is still a recurring problem then the NHS could change how the defect needs to be dealt with. PM suggested that the NHS could withhold retention. AS requested that DH discuss withholding retention with DR. DH advised that it would be important to obtain clarification on whether it is a product problem or installation problem.Inspections – JR noted that there was circa 100 IDMS items to be closed out and 2 defects outstanding. Capita had planned to inspect the revised IDMS list on 7th/8th March 2012. The majority of items on the IDMS were minor. DH enquired about the report comment re sockets not being in the correct position. JR advised that there were 2 sockets fitted on the wall below the trunking and on level 3 there were 2 locations where sockets had not been fitted and there was no conjute. PM suggested that this would need to be remediated post completion. It was anticipated that there would be very little issues identified over the coming days.Lifts – JR advised that he and AF had tested all the lifts and checked the response from the call centre. There was one lift that couldn't be identified by the call centre and there was 1 left which had a broken plan. AS noted that the lift maintenance schedule was still to be agreed between the NHS and BMCL.CDM H & S file – WR enquired if the CDM H&S File is handed over on the 9th March 2012.DH advised that the file would be handed over electronically on the 9th March 2012. PM requested that SF organise a login for PM for Zutec.	<div>-</div> <div>-</div> <div>-</div> <div>-</div> <div>Obtain Fermacell report</div> <div>Update NHS of any issues</div> <div>-</div> <div>Organise login to Zutec for PM</div>	<div>-</div> <div>-</div> <div>-</div> <div>-</div> <div>JR/PM</div> <div>JR</div> <div>-</div> <div>SF</div>	

Item No	Item	Discussion/Information	Action	Page 1786	Action by Whom
4.	Monthly Reporting <i>New Laboratory Facility(cont)</i>	<ul style="list-style-type: none"> Certification – PM enquired whether Capita were satisfied with the certification i.e. 1 certificate for defects and 1 certificate for incomplete works and this was confirmed. PM advised that he would discuss the incomplete works certification with D Ross. DH reported that the contract did not allow for incomplete works. AS advised that D Ross and J Ballantyne had discussed the incomplete works proposal but that JR subsequently wanted to amend the proposal. PM noted that all the documentation would be provided electronically. Water Tests – DH enquired whether all the water test results had been received. GB reported that the final fire hydrant pressure test was due to be carried out on 5th March 2012. DH enquired whether the water quality tests had been returned. GB advised that he would check with BMCL whether the potable water quality results had been received back. <p>Pre-handover walk-round – AS enquired whether the NHS would be carrying out a final walk-round of the Labs Building w/c 5th March 2012. PM noted that he had been carrying out site walk-rounds fairly frequently but that he proposed to carry out a full walk-round and check every room. JR advised that Capita were carrying out walk-rounds on 7th and 8th March 2012. AS suggested that PM/AS/DH carry out his walk-round in advance of the Capita walk-round. AS requested that SF organise a date/time for the AS,PM,DH walk-round.</p> <p>Benchmarking – AS enquired how Capita felt the Labs works benchmarked against other jobs. JR reported that Capita felt that the quality was good except from the Fermacell. Capita saw no reason why the 9th March 2012 completion could not be achieved. DH noted that should there be an enquiry re opting for the Fermacell board that it should be advised that the Fermacell is a more robust board which would stand up to knocks better than other softer type boards. JR commented that it was thought that the Fermacell will crack around the risers and doors. PM advised that the Fermacell was also chosen for its flexibility for retrofitting of hanging shelving.</p> <p><i>A&C Hospitals</i></p> <ul style="list-style-type: none"> JR advised that stud partitioning is progressing in areas Z and G. The partitions were providing protection against water damage which would be monitored by Capita over the coming months. BMCL had put plastic sheeting on the outer partitions. Supervisor Communications – JR advised that there was 1 outstanding communication (re Fire and integrity of a specific area on the 1st floor slab of the Energy Centre). <p>Civil and Structural Works</p> <ul style="list-style-type: none"> Work continues to be progressed to a good quality and standard throughout WR had advised BMCL of reinforcement congestion and cleanliness concerns and that BMCL were liaising with WSP to check that WSP were satisfied i.e. grids touching and people walking over the top bringing in dirt prior to a pour. Slip-forming – new slip-forming method to core D is not as good a finish however no real issue. DH suggested that this was to an FM core therefore the finish would need to be reviewed as this core may not be sheeted. WR advised that BMCL had started to paint the cores of F and G. DH advised that core F was being painted to lighten the area as using as an access core. DH had requested that core G be painted as it was a jump form core and the finishes did not appear to be as good in order to identify if any remedial works are required. 	<p>Discuss incomplete works certification with DR</p> <p>Check if potable water test results available</p> <p>Organise site walkround</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p>		<p>PM/JR</p> <p>GB</p> <p>SF</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p>

Item No	Item	Discussion/Information	Action	Page 1787	Action by Whom
5.	Information Requirements	<p>WR noted that Capita were still awaiting the following information:</p> <ul style="list-style-type: none"> • Building Warrants (as discussed) • Updated Structural Design Philosophy • Piling – reports awaited. DH advised that it had been confirmed last Thursday that the piling survey works were nearing completion. <p>PM enquired whether the cube tests results had all been received. WR advised that there were a couple of 28 days results which were awaiting the 56 day results. There were no current issues.</p> <p>DH enquired about the comment re congestion of reinforcement and reported that BMCL had changed the aggregate size. WR advised that he was not aware that the mix had been changed however this would not have made any difference to the issue as raised. The strength of a mix can be designed for different types of aggregate.</p> <p>DH advised that he had raised the slab finish in Zone A with BMCL as it will not be possible to power float in that area due to the closeness to the neighbouring houses. BMCL had not confirmed the alternative to power floating in this area but suggested that they may need to screed this zone.</p>	- - - - - -		- - - - - -
6.	AOCB	It was noted that there were no other items requiring discussion.	-		-
7.	Date and Time of Next Meeting Friday, 13 th April 2012 at 2pm		For Noting		ALL

ACTION NOTE

Present: Peter Moir (PM) Allan Follet (AF) Alan Seabourne (AS) David Hall (DH)
John Redmond (JR) Shiona Frew (SF)
Apologies: Graeme Bruce (GB) Graeme Thomson (GT) Willie Roxburgh (WR)

Item No	Item	Discussion/Information	Action	Action by Whom
1.	Action note from previous meeting	Accepted as an accurate record .	-	-
2.	Matters Arising			
	<i>Pumps mounted on steel framework</i>	AF advised that Capita were continuing to monitor the vibration from the pumps mounted on the steel framework and that the tico pad was still to be installed.	Continue to monitor and provide feedback at next meeting	AF/GB
	<i>Labs - Supply and extract air louvres</i>	AF advised that the velocity testing had been carried out and there were no issues.	Item Closed	-
	<i>Piling</i>	AS advised that the NHS Team had received the OGI response to the Robert Bird report and that AS would provide a copy of the latest insurance information to WR for review and subsequent discussion with AS.	Provide reports to WR Discuss reports with AS	AS WR
	<i>Building Warrants</i>	DH advised that BMCL had renumbered all the Building Warrants and resubmitted them to Building Control. BMCL had reported that Building Control had advised that the warrants had been sent to BMCL in the post. DH advised that he would check the warrant status at the Building Control meeting on scheduled on 17 th April 2012.	Provide update at next meeting re status of warrants	DH
	<i>External Façade/Damaged Cladding to Labs</i>	JR advised that there were some areas that Capita could not get access to inspect however whenever BMCL offered up areas the necessary checks were being carried out asap. AS suggested that 1 of the columns had a chip out of it. PM commented that the Project Team should give consideration to installing protection to the columns. DH suggested that a product such as Armco could be put on the columns. PM agreed to discuss this suggestion with HMc.	Discuss adding Armco to columns with HMc	PM
	<i>Roof Slab Finishes</i>	DH advised that he hadn't received any feedback regarding the roof or floor test results. JR advised that Capita had received the floor survey result and BMCL have an action in place to carry out remedial works to the level.	Provide update at next meeting	JR
	<i>Labs Cold Temperature Mapping</i>	PM advised that Capita would be asked to review the ACE report and advise any issues to AS or PM only.	Provide ACE report to Capita for review. Capita to provide feedback on the report.	PM/AF

Item No	Item	Discussion/Information	Action	Page 1789	Action by Whom
2.	Matters Arising (cont'd)				
	<i>Access to Labs from SGH site</i>	PM advised that the Access to the Labs from the SGH site was working satisfactorily. Item Closed.	Item Closed		-
	<i>Damaged ductwork</i>	AF advised that Capita had taken pictures of the damaged ductwork sections and had raised the issue with BMCL. AS enquired whether there was an opportunity to review the M&E Quality Assurance processes. JR advised that Capita do have the opportunity to review Quality Processes. AS requested that Capita organise a review of quality processes and provide update to the NHS Team. JR agreed to organise a quality process review and provide feedback to the NHS Team. JR noted that he had seen an on-site QA sheet. AF advised that BMCL are marking up drawings on site on a tablet and it appeared that all operatives undertaking checking were using tablets. The marked up drawings were being sent to document control for onward transmittal to the designers so that drawings could be updated. There were advantages to having on-site access to all drawings.	Provide update at next meeting Organise review of Quality Processes and provide update to NHS Team		JR JR
	<i>Labs Plant-room Infill Area</i>	JR advised that the infill had been painted out. Item closed.	Item closed		-
	<i>Fermacell Report</i>	JR advised that Capita had received the Fermacell Report but that the report focussed on walls in excess of lengths which required expansion joints however the report stated that as the Building was now in a steady state there should be no issues. JR noted that BMCL would continue to sort any cracks for a period of 2 years. DH suggested that if cracks still appearing over the 2 year period then a latent defect should be issued to BMCL.	-		-
	<i>Inspections (IDMS)</i>	JR advised that the IDMS inspections had been concluded. Item closed	Item closed		-
	<i>Zutec</i>	PM reported that he had received his Zutec login and had accessed the site but that the information uploaded to the site seemed to be incomplete. It was noted that the deadline for completion of Zutec information upload was 6 weeks after the handover. AS advised that IP had flagged that Zutec was incomplete and that AS had sent correspondence to DP regarding the shortage of information on Zutec, PM advised that he was proposing to carry-out an audit of the Zutec	Carry out audit of Zutec		PM
	<i>Certification</i>	PM advised that this item had been subsequently closed.	Item closed		-
	<i>Potable Water Tests</i>	PM advised that the test results had been favourable. Item closed	Item closed		-
	<i>Handover</i>	It was noted that the Labs Facility had been handed over to the NHS both informally and formally. Item closed	Item closed		-
3.	<i>Site Procedures</i>	JR advised that site procedures were satisfactory over the previous reporting period. The workmanship continued to be of a good quality.	-		-

Item No	Item	Discussion/Information	Action	Action by Whom
4.	Monthly Reporting New Laboratory Facility	<p>The NEC 3 Supervisors report No 22 was issued prior to the meeting. The following key points were highlighted from the report:</p> <ul style="list-style-type: none"> Inspections - JR advised that inspection of the items on the IDMS document at completion identified that there were 3 items outstanding which were being attended to. BMCL had tried to remove scratches/marks on the vinyl which was now looking a lot better. AS suggested that KC should be asked to check out the scuffs/scratches. DH suggested that as a precedent BMCL should be requested to replace any vinyl where the remediation is not satisfactory. JR was requested to send the relevant drawings to PM in order that PM could liaise with KC. PM advised that personally he did not want to start having vinyl being ripped and replaced all over the building and a balanced view would need to be taken. PM agreed to liaise with KC. Defect Certification - JR noted Capita were awaiting BMCL to offer up for inspection those areas which were identified at handover as incomplete works. BMCL had a programme in place to resolve the outstanding sedum roof and glazing issues. JR noted that post completion Capita had issued circa 60 defect notices and remediation works are underway by BMCL. DH suggested that the majority of the defects were minor. JR commented that approximately 80% of the defect notices had been completed. DH reported that earlier that day he had been advised that during the tap flushing a vent duct had been filled on one of the staining tables and he was not sure whether this was a defect or an operational issue. PM advised that he had been briefed by A Smith and would visit the site to review. A Smith had organised for AFOS to liaise with the NHS Team when next on site to explain how water could get into the vent duct. DH advised that this issue had only been found because there was a leak in the ductwork. PM summarised that all works were generally moving forward to complete the Labs. 	<p>-</p> <p>Liaise with KC re scratches/scuffs on vinyl Provide marked up drawings</p> <p>Provide update at next meeting</p> <p>Provide update at next meeting</p>	<p>-</p> <p>PM JR</p> <p>JR</p> <p>PM</p>
4.	Monthly Reporting A&C Hospitals	<p>Civil & Structural Works</p> <ul style="list-style-type: none"> Piling - Cementation and Skanska continuing to install mini-piles. The progress to date for the mini-piling works had been satisfactory. Slabs cast to zone D & G - finish not satisfactory as not able to power float in these slabs. BMCL indicating that their sub-contractor has remediation proposals for this. Capita will continue to monitor these works. Concrete forming and below slab drainage – continue to be progressed as per ERs and the works were of a good quality. Zone E basement –there appeared to be congestion regarding the reinforcement. WSP had been on site to review and WSP had confirmed that the reinforcement was compatible with the design. WSP were monitoring the concrete pours onsite and the concrete aggregate now being used had been reduced to 10 millimetres. Level surface drawings for Zone D had been received and the ridges would be ground off however a thin screed grout would be required to the surface would be required. 	<p>-</p> <p>Continue to monitor finishes</p> <p>-</p> <p>-</p> <p>-</p>	<p>-</p> <p>WR</p> <p>-</p> <p>-</p> <p>-</p>

Item No	Item	Discussion/Information	Action	Page 1794	Action by Whom
4.	A&C Hospitals	<p>Civil and Structural Works (cont'd)</p> <p>AS enquired whether it was possible for BMCL to change the timing of the concrete pours in order that power floating could be carried out within site working hours. DH suggested that changing the timing of concrete pours to site would create another issue i.e. potential H&S issues. The size of the pours and proximity to the residencies was the reason why the slabs were unable to be power floated. DH suggested that concrete takes longer to cure in colder temps therefore the warmer weather would allow the concrete to be worked on earlier and there were longer daylight hours. AS enquired about the expected date for the tower powers to commence and DH suggested late summer. DH noted that the tower pours would be smaller as the slab was thinner and smaller. AS enquired whether there would be a way to power float and minimise the noise nuisance. PM advised that BMCL had already installed acoustic curtains to minimise the noise nuisance.</p> <ul style="list-style-type: none">• Energy Centre – Capita had requested BMCL to provide detail of the installation of the ground floor slab pop-ups. BMCL had received an initial response from Mercury and requested that Mercury revise the response. Capita were still awaiting the final response from BMCL.• Energy Centre - 1st Floor slab Fire resistance integrity – BMCL had been requested to provide design proposals for a section of the 1st floor slab. WSP reported that WSP Fire Report and NA Fire Plans note four hour integrity and after review it was considered that the reduction in fire performance due to open flue stacks, link bridge corridor, etc should not affect the overall performance of the floor. DH agreed to liaise with BMCL as he was concerned with this response. PM noted that the flues rise up throughout the drawing. DH Advised that he would review the design of the Energy Centre central area.• Energy Centre – Exhausts – AS advised that he had raised concern with BMCL regarding the fitting of the 5 exhausts to the generators on level 1 as it appeared that these were being held in place with 8 studs. The BMCL rep had confirmed that each stud could take a weight of up to 1.5 tonne. AS had reviewed earlier that day and there had been no changes made to the support of the exhaust. DH suggested that he would raise this issue with URS under CDMC. AS requested that Capita did not enter this area. AS advised that the spool pieces were not yet in. AS suggested that Capita should request BMCL to confirm whether the calculations provided were for a perpendicular load or a swing load.• RCC – JR noted that the RCC had been granted in principle therefore this observation had been closed out.• Pipe work (left with open ends) – BMCL have now sealed these. AF advised that BMCL appear to be working on the basis that if works in progress the ends not closed off/sealed/covered. After the works have been completed the ends are sealed.• DH raised a query re some of the crimped pipework as he had noticed that there was tape at the end of a sleeved piece. AF suggested that there is a long sleeved piece which gets crimped at both ends – designed to slide along the pipe.• M&E – AF advised that generally all the M&E being installed was a prefabrication assembly which had been pre-crimped and pre-tested off site which provided comfort that everything in place and installed has no issues as pre-tested.	<p>-</p> <p>Provide update at next meeting</p> <p>Review design and discuss with BMCL</p> <p>Discuss exhaust fitting with URS as CDMC</p> <p>Item closed</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p>	<p>-</p> <p>JR</p> <p>DH</p> <p>DH</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p>	

Item No	Item	Discussion/Information	Action	Page 1792	Action by Whom
4.	<i>Monthly Reporting Adult and Children's Hospitals</i>	<ul style="list-style-type: none"> Ventilation Ductworks – Capita have flagged with BMCL that there are concern re damage to duct work and ductwork being bashed back into shape on site and BMCL have advised that they will monitor this. General Systems- installation is progressing quickly. Capita had raised concern regarding open ends and whether protected from weather and moisture/damp at the floor plate as there was a lot of electrical systems being installed. BMCL were identifying that power on would be in September 2012. BMCL indicating that they want to test as they go. The off-site fabrication standard was good and this allowed plenty of space for operative to work to install the units. Generators – Capita had witnessed the satisfactory testing of the first five generators. The next testing for the remainder of the generators was expected to be scheduled in October. AS advised that he would attend the October testing. 	<p>Continue to monitor condition of ductwork</p> <p>Provide feedback re protection from damp/moisture</p> <p>-</p>		<p>AF/GB</p> <p>AF</p> <p>-</p>
5.	Information Requirements	<p>JR noted that the information requirements had been recorded in the communications section of the report and covered through-out the meeting.</p> <p>AF advised that Capita were going to ask BMCL how they were going to maintain the generators and ask for their procedure to ensure that when BMCL hand them over that they are in full workable state. AS advised that there were two aspects to be considered a) the Engineering aspect (testing and running) and b) the Warranty aspect – NHS expect 2 year warranty at handover. DR should be requested to sort the warranty issue with BMCL. DH advised that the NHS had requested 2 generators for the Labs not 5 so therefore it was expected that 3 out of the 5 generators would commence the warranty period on handover and would need to agree Warranty arrangement for only 2 of the generators. DH advised that IP was doing a generator test for the Laboratories every month starting July 2012. AF advised that there had been discussion regarding load banks to do a full load test of all the 5 generators. AS suggested that this may be the case in order that BMCL can commission all 5 generators and therefore the warranty for all 5 would commence immediately thereafter.</p> <p>AS enquired if the snags and operational lists process would continue as the departments move into the Labs building and this was confirmed as being dealt with on an on-going basis.</p>	<p>-</p> <p>Provide feedback re BMCL process for generator handover</p> <p>-</p> <p>-</p>		<p>-</p> <p>AF</p> <p>-</p> <p>-</p>
6.	AOCB	Automatic Taps – AS advised that he had asked J Stewart to comment about using non-automatic instead of automatic and to which areas non-automatic could be used. AS noted that choosing the correct valve was critical. AF advised that Monklands had installed automatic in certain areas for infection control and a lot of work had been undertaken on temperature to ensure that the best mixer valve for the tap was identified. DH advised that he was aware of this study and would be able to provide relevant information. AF advised that Capita would further investigate. AS advised that there was a new 10 point plan to be issued re Health Estates and it was hoped that this plan would provide some guidance.	<p>Provide feedback re Monklands</p> <p>Provide feedback re Lanarkshire</p>		<p>AF</p> <p>DH</p>

Item No	Item	Discussion/Information	Action	Action by Whom
7.	Date and Time of Next Meeting Friday, 11 th May 2012 at 2pm		For Noting	ALL

ACTION NOTE

Present: Peter Moir (PM) Allan Follet (AF) Alan Seabourne (AS) David Hall (DH)
John Redmond (JR) Willie Roxburgh (WR) Allyson Hirst (AH) Notes

Item No	Item	Discussion/Information	Action	Action by Whom
1.	Action note from previous meeting	Accepted as an accurate record.	-	-
2.	Matters Arising			
	<i>Pumps mounted on steel framework</i>	BMCEL to fit Tiko pads and Capita continue to monitor	Continue to monitor and provide feedback at next meeting	AF/GB
	<i>Piling</i>	WR reported that he was awaiting further information from BMCEL and asked for further comments from WSP and Skanska regarding the grout levels. It was noted that more grout was being recording than used in the pile. WR reported that this did not usually indicate any leaks but had asked for comment from Skanska and was awaiting response. WR noted that it was not a cause for concern but awaited confirmation report. The Robert Bird and Cunningham and Lyndsay reports were due early next week.	Information awaited from BMCEL/WSP and Skanska	WR
	<i>Building Warrants</i>	DH reported that no feedback on the building warrants had been received as yet but noted the paperwork issues have been resolved and reissue was awaited from Building Control	Provide update at next meeting re status of warrants	DH
	<i>Damage to Courtyard</i>	PM advised that he would review this with HMcD	PM to review with HMcD	PM
	<i>Roof Slab Finishes</i>	It was noted that ridges will be ground off and screeded and a resin topping applied in plant room areas. DH raised the issue in labs and asked for thicker layout for resilience	Provide update at next meeting	JR
	<i>Labs Cold Temperature Mapping</i>	It was noted that the report had not yet been received	Follow up to obtain report	PM/AF
	<i>Damaged Ductwork</i>	Reported that damaged ductwork had now been replaced and this item could now be closed. JR noted that a QA process presentation would be given on the 30th May	Closed off item	-
	<i>Zutec</i>	PM reported that he was in contact with John Wales to obtain and update on the population of the Zutec system. It was noted that there was a requirement within the contract to populate this system within 60 days of handover. JR agreed to check the actual deadline and check warranty issues	PM to review completion of updates JR to check on actual date required to complete and warranty issue	PM JR

Item No	Item	Discussion/Information	Action	Page 1795	Action by Whom
2.	Matters Arising (cont'd)				
	<i>Inspections</i>	JR reported that vinyl repairs would be rectified this weekend but that this issue would be highlighted for the A&C build	Item closed		-
	<i>Defects</i>	JR reported that there were some issues still requiring to be completed - seedum roof, 5 panes to be replaced and some external works to be completed. It was noted that there were an additional 15 species required and sourcing clarification was required from Susan Logan. Once clarified reseeding would commence. Covers that were requested for the dissection tables in mortuary would be supplied by Afos and expected w/c 14th May. Works were being led for BMCEL by Dave Jordan	Update at next meeting		JR
	<i>A&C Slabs</i>	JR reported that all slabs checked looked satisfactory with the exception of those already noted.	-		-
	<i>Energy Centre</i>	DH to carry this item forward to completion. Exhaust issues raised and reviewed. It was noted that the exhausts were now enclosed and therefore stable and had passed the pull out test- DH noted his concern with the sway pulling out	Continue to monitor		DH
	<i>Duct Work</i>	This item could be closed out as satisfied with conclusion	Closed out		-
	<i>General Systems</i>	WR reported that due to the areas being worked in now being less susceptible to the elements there is now not such concern but this would be monitored by Capita as the build progressed	Capita to continue to monitor the situation		WR
	<i>Information Requirements</i>	AF had discuss this with BMCEL and is required for put this formally this would include clarity of handover as it will required to maintain	AF to formalise this process and feedback		AF
	<i>Automatic Taps</i>	Feedback has now been received from other hospitals and noted that Armitage Shanks and Horne products being used and both had passed vigorous testing and therefore are acceptable	=		-
3.	<i>Laboratory</i>	JR reported that 124 items issued - Defects 7 progressing and 2 still open Cabinet doors are to be reattached by BMCEL JR hoped to have all issued completed in 2 week but as users continue to move into the building other matters are likely to arise	Continue to feedback		JR
	<i>A&C</i>	WR reported that QA procedures on site had improved - meetings are held daily in the mornings to discuss what works are scheduled and QA procedures are now formally in place - WR had sample reports and partition checklist to show. JR reported that Mercury's QA had improved along with contractors with checklists now in place using a traffic light system. The contractor is using completed areas as benchmarks of quality. In general the site is tidy and this is thought to aid in site efficiency			

Item No	Item	Discussion/Information	Action	Action by Whom
4.	<i>Supervisors Communications</i>	Outstanding at this time :- Building warrants are a work in progress Pop ups still awaiting a satisfactory response Pressure testing of pipework would be tested using pressurised air negating the possibility of rust and other contaminants being present once the system is fully up and running - once testing completed the ends will be blocked off. Capita noted happy with this method to continue.		
		Capita questioned the used of fire dampers - asked BMCEL to clarify accordance with HTMS BMCEL contuing with previously discussed and horizontal only in hazard room		
		M&E happy with quality of installation of off site fabrication and therefore rapid progress but noted lack of drawings prevents verifying during checks. PM asked that Capita raise notifications to ensure that full on-going checking can continue including construction drawings and guides and to include Capita in drawing issues to allow an easier search method on Acconex	JR to raise communication with BMCEL	JR
	Energy Centre	5 generators are installed with exhausts and cabling progressing. hand over to Board is scheduled for 18th August once installation is complete temporary generators will be taken away. AF was asked to liaise with BMCEL to ensure full understanding of the process planned	AF to liaise with BMCEL on generator removal process	AF
	Mini Piling	WR reported that the feedback from BMCEL/Skanska was that mini pile testing was not required. It was vital that the Board be assured that the building was constructed to the standard required. WR noted that the Skanska designers are happy with the solutions put in place to resolve the issues of the pile movement and Capita have these assurances in writing from BMCEL and will forward to Board for their information and for any future issues should they arise	Documented assurance on building to be forward to PM/AS	Capita
	Suspended Floor	WR noted his concern that in Zone E (first floor slab adjacent to core C) he noted that during pouring there were works taking place close by namely cutting reinforcements, joinery etc – the concern was that there may be a slippage in quality with too many jobs being carried out in a relatively tight area. Will be noted at construction meeting on Monday	Capita to monitor situation	Capita
	Basement	WR noted that the reinforcement was congested but this had been resolved with BMCEL	-	-
	Slip Form	WR noted that the quality of the works has been high throughout with only one left to complete	-	-
	Drainage	WR noted that below slab drainage at core G continues and areas that had previously failed were now rectified	-	-
	Waterproofing arrangements	Noted working in this area was carefully carried out	-	-
	Seal underslab	WR noted that this was not common practice but noted that BMCEL are complying with requests. DH agreed to check with URS why this was being carried out but did note that this may be required in certain high risk areas	DH check with URS on seal	DH
	Quality	AS noted his concerns on quality processes and wanted to ensure that Capita were on top of this issue. It was noted that further works had been carried out by BMCEL and subs to improve quality processes and a presentation was due to be given on 30 th May	-	-
	Date and time of Next Meeting	8 th June 2012 at 2pm in Meeting Room 1 – Project Offices	For noting	All

ACTION NOTE

Present:
John Redmond (JR)
Apologies:

Peter Moir (PM)
Willie Roxburgh (WR)
Graeme Bruce (GB)

Allan Follet (AF)
Shiona Frew (SF)
Graeme Thomson (GT)

Alan Seabourne (AS)

David Hall (DH)

Item No	Item	Discussion/Information	Action	Action by Whom
1.	Action note from previous meeting	Accepted as an accurate record.	-	-
2.	Matters Arising			
	<i>Building Warrants</i>	DH advised that copies of the newer Building Warrants had been received by all parties however copies of the Building Warrants numbered 1 to 7 were still awaited as GCC would only issue the revised Building Warrants on receipt of the originals. It was understood that BMCL had returned the original Building Warrants Numbered 1 to 6 and BMCL were currently relocating the original Building Warrant numbered No 7 to return back.	Provide Building Warrants to Capita once available	DH
	<i>Slab Finishes</i>	WR advised that the slab finishes were under ongoing review. WR had noticed the finish of the ground floor suspended slab at F wasn't very good and remedial works would need to take place i.e. buffing. AS enquired if buffing was satisfactory. WR reported that the buffing would ensure that the floor finish was satisfactory/within spec however this would obviously cost more. DH noted that BMCL had provided a spec for a levelling screed. AS enquired if the application of a layering of different materials would make the slab finish more fragile i.e. concrete floor, then levelling screed, then flooring application then floor. WR advised that there would be no issues having layering as long as each material is applied as per manufacturer's instructions. WR advised that there were no structural issues. WR noted that the roofing representatives were on-site conducting tests with various applications of water proofing materials.	Continue to review	JR/WR
	<i>M&E Drawings</i>	JR advised that drawings had been received through Aconex the previous week however Capita were still not receiving all the documents. JR advised that the issue was that Capita did not know whether a drawing existed until they asked a package manager for drawings however when advised that specific drawings exist it is still not available to Capita on Aconex. It would appear that Capita were not being copied into the distribution of all drawings. PM suggested that the NHS Team raise this issue with BMCL at the next PMG meeting and at the forthcoming Hospital Design Group meeting. JR noted that as there was no drawing register it was not possible to look up a list. PM suggested that it would be helpful if the Consultants were asked to provide a drawing register.	Add to PMG agenda	AS
	<i>Suspended Concrete Floors</i>	WR advised that the timing between events i.e. concreting whilst working close-by fixing reinforcement, etc. WR noted that this situation had improved and he had not observed a repetition of the previous observation. BMCL were ensuring that all preparatory work was completed in advance of concrete pours.	Item closed. Capita will continue to monitor and provide updates as required.	-

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Item No	Item	Discussion/Information	Action	Page 1798	Action by Whom
2.	Matters Arising (cont'd)				
	Labs Defects	<p>JR advised that the glazing defects had been completed and the BMCL Horticulturist had visited the site on 7th July 2012 to inspect the Sedum Roof and the Horticulturist would subsequently be preparing a report. The repairs to the felt roofs had been on-going.</p> <p>PM noted that the Sedum roof appeared to be looking a bit better however it was acknowledged that in advance of closing out the handover defect list on 9th August that PM would inspect the Sedum roofs. JR advised that the Sedum was colonising areas of weeds.</p> <p>AS enquired about the grass verge at the Labs. JR noted that the grass verge did not have sufficient top soil on it and this would be a defect.</p>	<p>Provide update at next meeting</p> <p>-</p> <p>Raise defect re grass verge</p>		<p>JR</p> <p>-</p> <p>JR</p>
	External Works	JR noted that all the external works were now complete except for the mastic to the slab at the north west corner. Once the mastic had been complete Capita would review all the external works defects.	Provide update at next meeting		JR
	Defects	<p>JR noted that there were currently 14 open defects and off these 12 were issued on the 7th July and 9 were work in progress by BMCL to close out.</p> <p>DH enquired about the defects which were being advised by the NHS re IT ports not working. JR advised that he had no further details regarding the IT ports. PM noted that MG was liaising with the users re IT ports which were being report as not working to ensure that the reason for the ports not working was actually a defect rather than because the port had not been patched.</p>	<p>Provide update at next meeting</p> <p>-</p>		<p>JR</p> <p>-</p>
	Mortuary Noise	AS advised that he had received a summary report from BMCL. AS enquired whether the noise rating curve is the figure to focus on. DH advised that he would check out the summary sheet noting that the mortuary does not achieve 35 however this standard was not applicable at the time.	Provide update at next meeting		DH/JR
	Air Leakage Testing	JR advised that Capita had raised a communication to BMCL requesting for details of the process and timescale for undertaking this testing.	Provide update at next meeting		JR
	M&E Drawing return	DH advised that the M&E review was work in progress. GB had provided drawings back. DH had provided a list of the drawings under review for information. It was agreed this item could be closed out.	Item closed		-
3.	Site Procedures	JR advised that site procedures were satisfactory over the previous reporting period.	-		-

Item No	Item	Discussion/Information	Action	Action by Whom
4.	Monthly Reporting <i>New Laboratory Facility</i>	<p>The NEC 3 Supervisors report No 25 was issued prior to the meeting. The following key points were highlighted from the report:</p> <ul style="list-style-type: none"> Of the 3 defects notices issued to BMCL only 1 defect notice was outstanding (this included the Sedum roof and External works. Capita would inspect the outstanding defects that were identified at handover on the 9th August 2012 which was the deadline date for BMCL to rectify all the defects identified at handover. DH enquired about the identification of a condensate (cassette unit) which was dripping on a comms cabinet. JR advised that he had been unable at this time to locate this issue Partition/Column (L0/A/010 and L0/A/011) – updated Acoustic test report awaited from BMCL for retest carried out on 4th July 2012. <p>JR noted that the recent defects were not isolated to one area.</p>	<p>Provide update re defects close out at next meeting</p> <p>Provide update re Acoustic Report findings at next meeting</p>	<p>JR</p> <p>JR</p>
	<i>A&C Hospitals</i>	<p>The NEC 3 Supervisors report No 15 was issued prior to the meeting. JR noted that the A&C construction site was one of the tidiest sites he had seen. AS noted that there had been a considerable improvement in tidiness since the Labs Construction site. JR noted that the BMCL Package Managers were driving tidy working.</p> <p>The following key points were highlighted from the report:</p> <ul style="list-style-type: none"> Quality and standard of work was being maintained Communication No 14 had been issued requesting testing and commissioning for those areas which would be finished ahead of handover and mothballed until handover. AS noted that he had been advised that at Brighton Children's Hospital there had been an issue whereby the system had been filled, tested and drained and the pipes had corroded. It appeared that air testing is satisfactory as long as can ensure no moisture being put into the pipes/system. AF advised that typically for pressure tests the water would not be treated until after the final test however BMCL had confirmed that they would be Air Testing. AF noted that at Crosshouse Hospital plastic pipework had been installed circa 20 years ago and the plastic pipework was now being replaced as the plastic and joints had become brittle. DH advised that it would be worthwhile checking that the quality or gauge of steel was compliant with the specification. DH advised that he would liaise with WW re the specification. Communication 12 had been issued regarding receiving drawings through Aconex had been closed out. Capita would raise a further communication should the circulation of drawings to Capita not improve. The report should the progress in zone 527 over May and June for info. Communication 18 had been issued regarding receiving copies of the early Building Warrants i.e. nos 1,2,3,4,6,7 Energy Centre – Communication no 5 re manufactures specification for pop-ups was still awaited therefore this communication was still open Communication 19 – re drainage interceptor had been closed 	<p>-</p> <p>-</p> <p>Provide update re testing/commissioning of mothballed areas at next meeting</p> <p>Liaise with WW re pipework spec</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p>	<p>-</p> <p>-</p> <p>JR/AF</p> <p>DH</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p>

Item No	Item	Discussion/Information	Action	Page 1800	Action by Whom
4.	Monthly Reporting A&C Hospitals (cont'd)	<ul style="list-style-type: none">Communication 21 – gaps between Acoustic Intake louvres – Capita were continuing to monitor this item noting that BMCL had advised that insulation would be fitted but that work was still in progress.Partitions – Capita had witnessed the opening back-up of partitions to check insulation had been fitted as appropriate. Capita did a spot check and only 1 area had been found with no insulation. Capita would now carry out an 85 point inspection and Capita had been requested by BMCL to choose a partition for checking. AS enquired whether the amount of partitions to go up and the M&E installation was forcing the partitions to go up too quickly. JR advised that in his view the partitions were being installed at about the correct rate.Electronic tests for roof had been received and Capita would continue to receive the test results. DH enquired if the electronic tests were carried out immediately before the ballast was laid and this was confirmed i.e. before the insulation is put down. <p>Civil and Structural Works</p> <ul style="list-style-type: none">WR noted that the mini-piling was nearing conclusion. Locally in some areas the foundation level of the pile cap is lower than where they cast to therefore he had witnessed BMCL having to break out some pile caps and these appeared to be made up of very dense material.Concrete finish – 2 areas did not have a good finish and would need to be attended to i.e. zone F and Zone JBMCL would need to give consideration to the backfilling as some of the backfill was too loose in places but BMCL were aware that the backfill needs to be compacted to the specificationEnergy Centre – there were some steelwork snagging to be attended to which BMCL were aware ofUnder slab drainage – there was an area that the drainage had been incorrectly laid however the drainage had been rectified. Pressure testing in this area was still to be carried out.Dual Carriageway at Renfrew Road – a deterioration of the wearing course had been witnessed i.e. rutting to the east carriageway. BMCL had been made aware of this observation. DH noted that site traffic would be causing the deterioration. WR advised that he thought the deterioration was worse than would have been anticipated. BMCL had advised that they would be requesting that the sub-contractor reviewed. Capita will await a report from BMCL on this issue. DH suggested that the damage may have been caused by the recent crane move. WR advised that he had queried this with BMCL who had advised that the crane move had not impacted on the wearing course. <p>AS enquired if WR had observed any disruptive work due to the adverse weather (rain). WR advised that the works were mainly now out of the ground and that the operatives had been working through the rain. WR suggested that some of the back-filling, mini-piling, pile caps at zone J or pipework at the eastern edge could have been affected by the adverse weather however WR did not think that the rain had impacted on any works. WR noted that he had been advised that some leaks had been observed in the tunnel areas and that Callite were on site to carry out repairs. WR suggested that there may have been local pockets of impacted works however there had been no obvious activities impacted on by the rain.</p>	<p>Continue to monitor</p> <p>Provide feedback from 85 point inspection at next meeting</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>Provide feedback re sub-contractor report re wearing on road surface</p> <p>-</p>	<p>JR</p> <p>JR</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>WR</p> <p>-</p>	

Item No	Item	Discussion/Information	Action	Page 1801	Action by Whom
4.	Monthly Reporting <i>A&C Hospitals (cont'd)</i>	<p>Mechanical & Electrical works</p> <p>AF advised that the quality was very good and there were no concerns. The pre-fab sections were assisting ensure the level of quality on site as the quality is inherent. BMCL and Mercury are driving through all areas of the building however BMCL and Mercury were proposing to completely finish and test 1 zone and then mothball the zone (AAU on the ground floor and Critical Care on the first floor). The electrical systems will be electrically tested and the mechanical systems will be air tested. The air testing will identify any leaks and provide comfort on workmanship and quality for other areas as works are progressed. AF noted that many issues/leaks on hot water systems are due to the contraction and expansion of pipework, joints, etc. DH suggested that BMCL would carry out the pressure testing and when satisfactory put in the ceilings. JR noted that Birmingham Hospital had been handed over in phases and the client had moved the phase boundaries to suit their needs (18 phases became 30 phases). AS enquired whether there had been logistics/access issues. JR advised that the fire lines had been followed for handover. AF advised that BMCL had a process in place to test and mothball systems in zones. Capita were satisfied that the systems were being installed correctly and in a proper manner. AF suggested that the A&C had more Mercury labour on the job as opposed to the labour used in the Labs Building. AF advised that going forward it was proposed to introduce other staff into the Supervisor process so that there are more people reviewing the works and an increased presence on site. DH suggested that if BMCL do shorten the construction programme that there would be pressure on the testing and commissioning programme. JR noted that at Birmingham there had been some areas finished over 1 year in advance of being used but that there had been a programme/regime for flushing, etc.</p> <p>PM advised that he had observed operatives on site loading plasterboard into the building which had been lying in the rain without any protection. PM noted that going forward this would need to be monitored. JR advised that he had a picture of the plasterboard lying in the rain. AS requested a copy of the photograph in case required for a Commercial discussion. PM advised that BMCL had been informed that there had been plasterboard lying in the rain.</p> <p>AS noted that he had been informed informally that BMCL were putting pressure on Mercury to push on progress quicker than Mercury would like.</p> <p>DH noted that the stability of the low level partitions would need to be monitored.</p>	-	-	-
			Provide photo of plasterboard lying in the rain		JR
			-	-	-
			Continue to monitor		JR
5.	Information Requirements	It was noted that there were no information requirements from the NHS Team however as discussed previously Capita did need access to Aconex drawings.	-		-
6.	AOCB	AS enquired if Capita had seen/received a copy of the Jessops report. WR confirmed that he had not seen the recent Jessops report. AS agreed to forward the Jessops report to WR. AS noted that the Jessops report suggested that the piling issue was due to OGI however they were awaiting the Dunne report.	Provide copy of Jessop's report to WR		AS
7.	Date and Time of Next Meeting	Friday, 10 th August 2012 at 2pm	For Noting		ALL

ACTION NOTE

Present:
Hugh McDermott (HMc)
Apologies:

Peter Moir (PM)
John Redmond (JR)
Alan Seabourne (AS)

Alastair Smith (AGS)
Willie Roxburgh (WR)
Graeme Thomson (GT)

Allan Follet (AF)
Shiona Frew (SF)

David Hall (DH)

Item No	Item	Discussion/Information	Action	Action by Whom
1.	Welcome	PM welcomed AGS and HMc to the group. PM advised that AGS and HMc would be taking a more pro-active role regarding the construction of the hospitals. AGS and HMc would be working as a team with Capita. AGS and HMc would be liaising closely with JR re issues to be raised to BMCL via a Supervisor's Communication/Defect Notifications.	-	-
2.	Action note from previous meeting	Accepted as an accurate record.	-	-
3.	Matters Arising			
	<i>Building Warrants</i>	It was confirmed by both Capita and Currie & Brown that all the outstanding revised Building Warrants had been received. It was agreed that this item could be closed.	Item closed	-
	<i>Slab Finishes</i>	WR advised that the slab finishes were under ongoing review. WR noted that generally the standard of finishes was very good however there were a few pours where the finish was not as good due to BMCL being unable to power float. WR advised that some slabs have a 20mm step and forming the 20mm lip can be tricky. It was enquired why there was a 20mm step and WR suggested that the step was to accommodate the difference in floor finishes. WR commented that when the finish of a slab needs to be addressed that the necessary works are being carried out. WR noted that the ground floor slab finish would need to be addressed however as this area was being used as a thoroughfare BMCL would deal with this finish at an appropriate time. It was agreed that WR would report any issues as they arise.	Item closed	-
	<i>M& E Drawing Register</i>	PM advised that he had not received a drawing register from BMCL and would continue to push for drawing registers.	Liaise with BMCL re obtaining drawing registers	PM
	<i>Labs Defects</i>	PM advised that PM and JR had visited the sedum roof on 8 th August 2012 and it was apparent that the sedum roof could not be signed off at present. PM advised that he would need to meet with BMCL to discuss sign-off. JR noted that the Notification of Defects has a second sign-off section for sign-off i.e. 2 boxes (Defects – Successful or Unsuccessful) and he would mark the sedum roof as unsuccessful. PM advised that it would be advantageous to issue the defect sign-off form in advance of the Hospitals Construction Progress meeting.	Issue Notification of Defects sign-off in advance of HCSP meeting	JR
		JR noted that in addition to the Sedum Roof defect there was still some mortar slab spatter (at perimeter of the courtyard) which would also not be signed off. HMc advised that there was also an issue with the Fire Alarm panel.	-	-

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Item No	Item	Discussion/Information	Action	Page 1803	Discussion by Whom
3.	Matters Arising				
	<i>Labs Defects (cont)</i>	<p>External works/Landscaping – JR advised that he had reviewed the external works/landscaping with JW and there were a number of items still outstanding.</p> <p>JR noted that there were 14 defects open, 1 work in progress however generally the number of defects was generally decreasing.</p> <p>PM enquired whether the gulley in the mortuary which was above the surrounding area should be raised as a defect and JR confirmed that the spec stated that there should be no irregularities in the floor therefore this issue could be raised as a defect.</p> <p>Mortuary Noise – PM noted that this item had been closed. PM had written to IP to confirm that the noise level was generally within design guidance (CIBSE).</p>	<p>Continue to review</p> <p>-</p> <p>Raise defect re raised gulley in the mortuary</p> <p>Item closed</p>		<p>JR</p> <p>-</p> <p>JR</p> <p>-</p>
	<i>Air Leakage Testing</i>	JR advised that BMCL have contracted Building Sciences Services to carry out design verification and sample testing. It will be impossible to carry out air testing on whole system (CIBSE 22-23 & BSCEM 13829). JR would review the guidance. BSS will mark-up the zonal areas for testing. BMCL would then review and if proposals satisfactory would be provided to Capita for review.	Provide update at next meeting		JR
	<i>A&C Testing & Commissioning Programme for mothballed areas</i>	It was noted that this item had previously been discussed in the meeting. Discussion will be a precursor to future meeting with BMCL re how to sign off areas. AF advised that BMCL had informed Capita that BMCL are having ongoing discussions with Mercury re Testing & Commissioning of mothballed areas and that a programme would be provided to Capita for review. PM requested that SF organise a meeting of PM, AF, DH, HMc and AGS to discuss how to progress this item with BMCL once Capita have received the Mercury/BMCL programme.	Organise meeting once programme received by Capita		SF
	<i>Pipework – Quality and Gauge</i>	DH advised that he had liaised with Wallace Whittle who had confirmed that they were content to stand by their current pipework spec (no change to plastic). It was agreed this item was closed.	Item closed		-
	<i>Acoustic Intake Louvres</i>	JR noted that the insulation works had been completed therefore this item was closed.	Item closed		-
	<i>Partition Insulation</i>	JR advised that a further 85 point inspection had been carried out and there had been no issues identified.	Item closed		-
	<i>Dual Carriageway @ Renfrew Road</i>	WR advised that the BMCL sub-contractor report re the wearing course was awaited by BMCL.	Provide feedback on sub-contractor report when available		WR
	<i>Plasterboard Photographs – Rain Damaged</i>	PM advised that he had provided photo's to AS therefore this item could be closed.	Item closed		-
	<i>Low Level Partitions – Critical Care</i>	PM noted that concern had been raised that if the low level partitions were to be clattered by a bed that there could be damage. PM advised that he had discussed this with AS and suggested that BMCL could use a proprietary product to steady up the ends. JR advised that he had raised this concern with BMCL.	Provide feedback at future meeting		JR

Item No	Item	Discussion/Information	Action	Action by Whom
3.	Matters Arising <i>Jessop's Report</i>	WR acknowledged that he had received a copy of the Jessop's report and that he had been informed that OGI had been requested to provide a presentation to Skanska and BMCL.	-	-
4.	Site Procedures	JR advised that site procedures were satisfactory over the previous reporting period.	-	-
5.	Monthly Reporting <i>A&C Hospitals</i>	<p>The NEC 3 Supervisors report No 26 was issued prior to the meeting. The following key points were highlighted from the report:</p> <ul style="list-style-type: none"> • Quality and workmanship continues to be generally good • Pages 6 & 8 shows the partition sign-off check sheets for June and July which indicates the progress to end July 2012. JR noted that further progress had been achieved to date as walls were now being first coated. PM enquired what the 85 point checklist was used for. JR advised that the 85 point checklist was used to check the partitions and those items below the red line are second fix items. • Energy Centre Acoustic spraying – concern had been raised regarding residual spray and dust affecting the filters however covers had subsequently been put on the filters. <p>Structural (WR)</p> <ul style="list-style-type: none"> • WR noted that the concrete works had been overall very good to date. • Finish to the ground floor at zone F & J requires remedial work (ongoing) • 20mm level change detail in 1st floor slabs at Zones E and J – as previously discussed • Cracks had been identified in the soffit of the suspended ground floor slab in Zone E. BMCL were aware of the cracks and were monitoring this. The cracks were currently within tolerance. • Cracks had also been identified in the tunnel between cores C&F however these had been remediated by Calite. • Spalling had been identified to a couple of parapet walls at the top of Core G and this would be remediated when operatives can work in that area in a safe manner • Brown marks/spots had been identified on the concrete surface and it had been found to be due to lignite in the concrete. Resultant testing had identified that the lignite is within acceptable limits. The brown spots were largely disappearing when the final power float finish is carried out. • Drainage – sub-slab drainage is pretty complex/congested in areas with access in places difficult due to obstacles i.e. tower bases which has impacted on the alignment. Some drainage routes were not satisfactory and BMCL had been asked to reroute some drainage runs. There were a couple of occurrences where the slabs had already been pre-cast and Capita would request that BMCL test retrospectively that this drainage can be rodded with standard rods. Zone E redesign had been initiated by package manager's review. The drainage works continued to be monitored by Capita and BMCL had acknowledged that they were aware that Capita were looking for straight lines. Report pages 14 & 15 shows sample of 2 drawings of below ground drainage which Capita witnessed being tested over the previous month. 	<p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p>	<p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p>

Item No	Item	Discussion/Information	Action	Action by Whom
5.	Monthly Reporting <i>A&C Hospitals (cont'd)</i>	<ul style="list-style-type: none"> Energy Centre – BMCL have confirmed that the final slab pour is awaited and thereafter the pop-ups will be installed as per WSP drawings. Atrium Structural Steelwork – install of steelwork has commenced and Capita have raised a Communication to BMCL regarding damage to the fire protection paintwork and a response is awaited from BMCL. <p>M&E (AF)</p> <ul style="list-style-type: none"> Installations are progressing well Through the period some issues re insulation and length of dead legs had been picked up however during a site visit earlier that day Capita had seen an improvement in these items. BMCL had been requested to provide an explanation of why there is a wash hand basin on a dead leg pipe run which is in excess of 5m. A communication had been raised to BMCL regarding Smoke Detectors placement at high level between ducts (issue similar to that in the Labs) and a response was awaited. BMCL had also been notified that there was concern regarding access to ductwork for maintenance purposes. AF noted that Capita had also made comment on the access hatches for dampers on the RDD drawings. AGS advised that there were co-ordination issues on the 2nd floor and it would be critical to stop this issue now. Medical Gases – DH advised that Atkins had commented on the Medical Gas drawings so there would be some changes potentially coming through the process (primarily re AVSU's) and DH would keep Capita updated. In general, installation works are good. <p>JR noted that Capita had raised concern regarding the upper joints of the plasterboard not having horizontal fixings and concern that plates had not been put in place. BMCL had opened a joint up to demonstrate that a plate had been installed. PM enquired why 1 side of boarding had been removed from one of the lead rooms in level 1 area D. JR agreed to investigate and feedback to PM.</p> <p>JR noted that a further 85 point inspection had been undertaken the previous week and no issues had been identified during this inspection.</p> <p>Access round back of the Energy Centre – BMCL have confirmed that through sub-contractors that the access would not work until the temporary sub-station is moved. AGS suggested that it was expected that the temporary substation would be removed January 2013. DH suggested that the first fill up of the tanks would be impacted however BMCL were responsible to ensure that there was sufficient access to the tank. AGS suggested that if delivery being made by a large tanker then the lorry would need to reverse in however there was potential that delivery could be by a number of the small vehicles.</p> <p>DH enquired if there was a closing out schedule and JR advised that he had not received a closing out schedule but expected to receive a schedule in due course however that BMCL were inviting JR on site in advance of closing up ceilings.</p>	<p>-</p> <p>Provide feedback at future meeting</p> <p>-</p> <p>Provide feedback at future meeting</p> <p>Provide feedback at future meeting</p> <p>Provide feedback at future meeting</p> <p>Provide Capita with updates as required</p> <p>-</p> <p>Investigate reason for boarding being removed (level 1/ area d)</p> <p>-</p> <p>-</p> <p>-</p>	<p>-</p> <p>WR</p> <p>-</p> <p>AF</p> <p>AF</p> <p>AF</p> <p>DH</p> <p>-</p> <p>JR</p> <p>-</p> <p>-</p> <p>-</p>

Item No	Item	Discussion/Information	Action	Action by Whom
5.	Monthly Reporting <i>New Laboratory Facility</i>	It was noted that there was nothing further to report as the Labs report items had been discussed throughout the meeting.	-	-
6.	NHS Observations	<p>PM requested that for future meetings that HMc/AGS provided a summary of how HMcD/AGS see works are progressing. HMc advised that HMc and AGS would liaise with Capita to ensure that items were being tracked through to close out.</p> <p>WR noted that HMc had discussed a number of structural issues with himself (WR).</p> <p>HMc that he had identified locations where the stair nosing's were being damaged. PM advised that BMCL would be installing stair nosing's in due course however expected that there may be a need for remedial works in advance of stair nosing's being fitted which in itself could cause a trip hazard.</p> <p>HMc noted that sagging in the slipforms in soffits had also been identified. WR advised that this item had been raised with BMCL and BMCL were confident that this would not be an issue.</p>	<p>Provide summary for future meetings</p> <p>-</p> <p>-</p> <p>-</p>	<p>HMc/AGS</p> <p>-</p> <p>-</p> <p>-</p>
7.	Information Requirements	It was noted that there were no information requirements from the NHS Team.	-	-
8.	AOCB	AF requested that Graeme Bruce be removed from the distribution list for this meeting and that he is now included in the circulation for the Project Supervisor papers.	Amend Distribution list	SF
9.	Date and Time of Next Meeting	Friday, 7 th September 2012 at 2pm	For Noting	ALL

ACTION NOTE

Present:
Hugh McDermott (HMc)
Apologies:

Peter Moir (PM)
John Redmond (JR)
Alastair Smith (AGS)

Alan Seabourne (AS)
Willie Roxburgh (WR)
Graeme Thomson (GT)

Allan Follett (AF)
Shiona Frew (SF)

David Hall (DH)

Item No	Item	Discussion/Information	Action	Action by Whom
1.	Action note from previous meeting	Accepted as an accurate record.	-	-
3.	Matters Arising			
	<i>M&E Drawing Register</i>	PM advised that the request for a M&E Drawing Register had been raised at the Project Management Group meeting. It was acknowledged that there had been no action by BMCL to date however DSmith had agreed to investigate the provision of the M&E Drawing Register to Capita. PM noted that he would keep the pressure on BMCL to provide a M&E Drawing Register.	Continue to push BMCL for a drawing register	PM
	<i>Labs Defects</i>	JR noted that the Defect Certificate had been issued which identified 2 unacceptable areas i.e. a) Sedum Roof and b) Mortar splashes on the block-work. AS requested an update on the recent Emergency Lighting issue. JR advised that Capita had reviewed the Emergency Lighting on site and lighting was satisfactory however Whitecroft would be on-site on 10 th September 2012. AS suggested that the issue appeared to be a signalling problem.	Provide update at next meeting	PM/JR
	<i>Gulley in Mortuary</i>	JR advised that Capita had surveyed all rooms in the mortuary area and only 1 room had been identified as having a low spot however this low spot was within tolerance. Generally the floors had been constructed to SR2 spec and not SR3 spec (SR2 was a better spec). JR noted that he would provide a written report of the review to PM. AS noted that this was a re-check of an area which had already been reviewed and this was acknowledged.	Provide written report re mortuary floors	JR
	<i>Air Leakage Testing</i>	AF advised that 2 documents were key for the design and commissioning of pipework i.e. CIBSETM23 which was the design guidance re heating and ventilation and b) BSEN 13829 which included the methodology to determine whether there is a leak on the building. It would not be possible to undertake air leakage testing as one building and therefore air leakage testing would need to be carried out in packages. JR noted that smaller areas would be used, external ducts etc would be sealed, air would then be blown into the area and the area then checked for leakage. DH enquired if the air leakage result would be the sum of all parts and this was confirmed. DH raised concern that the testing may involve a large piece of equipment and it was suggested that Capita request Method Statements for the Air Leakage Testing from BMCL for review.	Request Air Leakage Testing Method Statements	JR
	<i>Dual Carriageway (North of Energy Centre)</i>	WR noted that the sub-contractor report re the base course was awaited from BMCL. DH enquired if the base course was showing any further deterioration. WR advised that he had not noticed the base course further deteriorating but that he would continue to review the dual carriageway surface. It was agreed that this issue could be closed and any issues be raised as necessary.	Item closed	-

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Item No	Item	Discussion/Information	Action	Page 1808	Initiated by Whom
2.	Matters Arising				
	<i>Low Level Partitions – Critical Care</i>	JR advised that he had reviewed all the drawings and the low level partitions had been built in accordance with the drawings/spec. JR suggested that the stability of the low level partitions had been firmed up due to the IPS panels being fitted to both sides. PM commented that he was still sceptical about the solidity of the low level partitions should they be hit by equipment, beds, etc. AS enquired if there were any other areas with low level partitions and PM confirmed that it was only Critical Care that had the low level partitions. AS enquired if it would be possible for a bumper rail to be fitted and JR noted that bumpers attached to the edge of the partitions are shown on the drawings. PM suggested that it may be beneficial to have a bumper fitted as a base plate. DH commented that there should be an 'off the shelf' solution i.e. retail/gondola solution. DH noted that consideration would need to be given to infection control issues versus need for fitting baseplate type bumpers. AS enquired whether the fitting of bumper rails would be an NHS or BMCL cost and it was agreed that the NHS would discuss any potential cost issues separately.	Investigate potential to fit bumpers to low level partitions. Investigate infection control issues.		DH/PM
	<i>Atrium Structural Steelwork</i>	WR noted that BMCL had provided a response to the Capita communication regarding damage to the paintwork on the atrium steelwork. The response had advised that the damage had been sustained in the supplier's yard rather than on site or in transit. Repairs to the paintwork were being carried out on-site as the weather allowed. Capita were continuing to review the atrium steelwork install/on-site works. The atrium steelwork had not yet been offered to Capita for inspection. DH raised concern about the impact on the certificate for fire due to 2 different products being used i.e. initial product as the coating then a different product being used for repairs. DH suggested that Capita should request clarification from BMCL of the compatibility of the products and that there will be no impact on Fire Certification. WR noted that the paint damage was localised. PM suggested that damage had occurred when the retaining bolts are being hammered through the holes. DH noted that it would still be worthwhile checking that the remedial works would not invalidate any warranties.	Request confirmation from BMCL that remedial works does not invalidate any warranties and no impact to certification for fire.		JR
	<i>M&E – Deadlegs</i>	AF noted that Capita had received a response re deadlegs being in excess of 5m. AF noted that the guidance advises that deadlegs should not be in excess of 5m however ZBP drawings were specifying that deadlegs should not be in excess of 3m. BMCL had provided an explanation for the deadlegs in excess of 5m and it was Capita's view that BMCL were pushing the boundaries of what was acceptable. AS suggested that the NHS Rep would not accept deadlegs in excess of 5m. PM noted that BMCL should be installing the pipework in line with the ZBP spec (no dead legs in excess of 3m.) AF noted that if the return loop was to be fitted further down the wall then there would be no dead legs in excess of 5m but currently the return loop was being stopped at the ceiling. DH noted that the drawings advise 3m but that as the SHTMs state 5m the NHS could not accept any deadlegs in excess of 5m. AF noted that on-site deadlegs were currently around 5m. PM noted that BMCL will need to be questioned as to why not constructing to the drawings i.e. 3m. DH commented that initially there had been a debate as to whether deadlegs should be 2m and not 3m. The SHTM was a maximum length and the project was trying to ensure best practice. The 3m length as per ZBP drawings had been agreed due to the large ceiling voids. AS advised that it would need to be checked that the deadlegs are not in excess of 5m. JR suggested that the Capita should review with BMCL on site and this was agreed.	Review deadlegs on site with BMCL		JR/HMc

Item No	Item	Discussion/Information	Action	Page 1809	Initiation by Whom
2.	Matters Arising				
	<i>Smoke Detectors</i>	AF noted that there was a notional response from BMCL and that Capita would be reviewing on-site with BMCL on 10 th September 2012. The A&C Smoke Detector issues identified by Capita was as previously experienced in the new Laboratory Facility.	Provide feedback at next meeting		AF
	<i>Access Hatches</i>	AF advised that there are some access hatches that conduits and ducting were running across. DH suggested that he did not think that all the access hatches were identified on the drawings and therefore there were services co-ordination issues. AF advised that he had a list of specific locations where there were issues. JR noted that Capita had issued a defect notification for circa 6 access hatches which were not acceptable. AF noted that this item would be progressed on site with BMCL on 10 th September 2012.	Provide feedback at future meeting		AF
	<i>Medical Gases</i>	DH advised that AVU drawings were still awaited from Hospital Pipeline for providing to Capita. PM noted that there were still AGSS and Nitrous pipes installed in area G and asked that Capita issue a communication to BMCL requesting that this pipework be removed as the NHS did not want this pipework left in-situ if not being used.	Issue communication re removing AGSS and Nitrous pipework		JR
	<i>Removed Plasterboard</i>	JR noted that the plasterboard had been removed in an area to allow lead to be fitted. It appeared that this plasterboard had been fitted too early.	-		-
	<i>NHS Observations</i>	PM advised that NHS Observations were being included in the weekly reports. HMc noted that he was working to Capita to raise any NHS observations.	Item closed		-
3.	Site Procedures	JR advised that site procedures were satisfactory over the previous reporting period.	-		-
4.	Monthly Reporting				
	<i>A&C Hospitals</i>	The NEC 3 Supervisors report No 17 was issued prior to the meeting. The following key points were highlighted from the report: <ul style="list-style-type: none"> • Quality and workmanship continues to be of a reasonable standard • ASm and HMc had raised through Capita that slabs were being stored of the roof. The package manager had also identified this issue and this practice on site had now been stopped. • Exemplar Rooms – works were progressing and the standard was continuing to be of a good quality • Testing & Commissioning – programme still awaited from BMCL. BMCL advising that the programme is in development • Air Test Procedures - procedures/programme is awaited from BMCL. BMCL advising that the procedure is in development. Capita had observed BMCL undertaking a sample air leak test on level 1 so that BMCL could check internally that the process being proposed works. • QA Checks – the QA checks to area 527 for July and August have been included in pages 7 & 8 of the report. The jointing was finished and areas had mostly been coated 	-		-
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Item No	Item	Discussion/Information	Action	Action by Whom
4.	Monthly Reporting <i>A&C Hospitals (cont'd)</i>	<ul style="list-style-type: none"> Quality Inspection Report – page 9 of the report provides a checklist which is being used to check the Ceiling Voids. JR had witnessed the ceiling inspection and checking of intumescent seals for fire and acoustic purposes. 85 point check to partitions – JR had witnessed an 85 point check to partitions to 2 areas during August and there were no issues identified. <p>Structural (WR)</p> <ul style="list-style-type: none"> WR noted that the structural works were continuing to be generally of a good quality and in accordance with Employer's Requirements There were a couple of areas that the finish would need to be tidied up to be compatible with the finishes (Ground Floor Zone F and 1st floors at Zone J). The 20mm step in zones E & J 1st and 2nd floors would require remedial works. PM advised that he had enquired why there was a 20mm step and had been advised that the slot is where the partition sits and the 20mm difference is to account for the difference in floor finishes i.e. 1 side quarry tile and 1 side vinyl. WR noted that a response is awaited from BMCL and would have expected a better finish. Soffit cracks (suspended ground floor slab)– WR was continuing to monitor the cracks which had been identified in the soffit. AS enquired if cracking to the soffit was normal and WR advised that all concrete can potentially crack but that the soffit cracks appeared to be within tolerance. BMCL had improved the reinforcement in that area and in the long term the loadings will be less than currently. Slab Pours – slab pours are continuing to be carried out whilst the steel fixing/joiner works are being completed. This issue would be raised at the Hospital Site Progress meeting on 10th September 2012. AS enquired if the tight working was due to the desire to complete the build early. DH suggested that this was as a result of trying to complete the project early and it was not good practice and increased the risk of loss of quality. HMc noted that there was also an issue re columns not having steel. HMc had asked D Fraser (BMCL) who had inspected the steelwork and D Fraser seemed to be unaware who had been checking the steelwork. WR advised that Capita have asked for a copy of the sign-off sheet for that particular pour. HMc enquired if the sign-off sheets were being completed on-site or as a desktop exercise. DH noted that the NHS could not manage the operations on site – this was for BMCL. HMc advised that it could be suggest that the current practice of fitting the steelwork whilst pouring concrete was risking quality and ask that the steel fixing works are completed in advance of concrete pours. JR suggested that Capita could ask BMCL for their QA Procedures prior to a pour. WR advised that Capita were not instructing BMCL how to carry out their works but raising that continuing this practice is an error waiting to happen. DH stressed that should there be any errors then this would still be a cost to the project as part of the defined cost. WR advised that he would raise the issue at the Hospital Site Progress meeting on 10th September 2012. WR proposed to undertake a more regular review of the sign-off sheets. 	<p>-</p> <p>Provide feedback at future meeting</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>Request BMCL to provide the QA Procedures in advance of a concrete pour</p> <p>Raise the issue at the Hospital Site Progress meeting</p>	<p>-</p> <p>WR</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>JR</p> <p>WR</p>

Item No	Item	Discussion/Information	Action	Page 181	Action by Whom
4.	Monthly Reporting <i>A&C Hospitals</i>	<p>Structural (WR) (cont'd)</p> <ul style="list-style-type: none"> Links from foundations – WR noted that BMCL had been requested to advise of the need for the steel links coming up from the foundations as it was regarded that these were not necessary. In-situ Columns – WR advised that he had noticed some grout loss and general untidiness on a couple of in-situ columns. WR would raise this issue at the Hospital Site Progress meeting on 10th September 2012 Energy Centre – AS enquired if the acoustic material finish would stay as currently applied as it appeared that the product/finish can be picked off. It was confirmed that this was a standard product for this environment. Drainage – works progressing and generally satisfactory. In zone G there are areas where runs are not straight however BMCL had rod tested these runs and the tests were satisfactory. There were 2 runs still to be checked/rod tested. Further zone E and F drawings had been provided via Aconex. DH noted that hard copies of the Aconex drawings had not yet been received. <p>M&E (AF)</p> <ul style="list-style-type: none"> Install continuing at pace and Capita generally comfortable with the install. The quality of the pre-fabricated sections continued to be good. Nothing untoward being identified on the pipe-work or ventilation install however Capita will be reminding BMCL about capping ductwork Pressure testing of water systems – Capita were awaiting a date from BMCL to discuss the proposals for the pressure testing of water systems. Capita had subsequently heard that BMCL propose to fill pipes with water and leave the water in the pipework. Capita need to understand what is being proposed. DH noted that BMCL had advised in all previous discussions that the pipework would not be filled with water. AS advised that the team would need to take a view as to whether they could allow water to be left in the pipes. AF noted that leaving water in the pipes would lead to corrosion. AS noted that he could not allow BMCL to fill and then empty pipework noting that Brighton Hospital had replaced their pipework due to corrosion. AF suggested that Air testing would not allow for testing and packaging up of an area to close down. DH requested that Capita confirm BMCL proposals i.e. leave pipes filled with water. Medical Gases – AF advised that he would notify BMCL to remove the AGSS and Nitrous pipework as previously discussed. AF noted that it was observed that medical gas pipework support was lacking. Capita proposed to raise this issue with BMCL. DH suggested that G Dunne could be asked for a view on the medical gas support if required. 	<p>Raise at Hospital Site Progress meeting on 10th September 2012</p> <p>Raise at Hospital Site Progress meeting on 10th September 2012</p> <p>-</p> <p>-</p> <p>-</p> <p>Liaise with BMCL re capping ductwork</p> <p>Confirm BMCL proposals re filling water systems/pipes</p> <p>Raise lack of medical gas pipework supports with BMCL.</p>		

Item No	Item	Discussion/Information	Action	Page 1812	Action by Whom
4.	Monthly Reporting <i>A&C Hospitals</i>	<ul style="list-style-type: none"> Energy Centre – the HV Switching pressure test had been carried out and no issues identified. The generator factory tests were due to be carried out mid September 2012. The install for the standby generators is progressing well and it is expected that on-site generator tests will commence soon. HMc advised that he had provided a copy of the A-side commissioning programme to the Estate Dept so that they can organise AP's. AS advised that the NHS Team would be meeting with Estates and requested that no further information is passed to Estates at this time. HMc advised that he had advised that the programme was a draft programme at this time. Void Detection – Capita have identified void detection in close proximity and in between ducts. This issue would be raised with BMCL on site on 10th September 2012. 33kv Intake Sub-station – JR advised that there was a high level of water remaining in the trenches after the recent rain storm. AS enquired whether Capita would have expected there to have been a sumo pump and this was confirmed. Capita have asked BMCL to confirm when the cabling will be complete so that Capita can review/inspect. Damage to the front door had also been identified and BMCL had been asked to identify when the issue with the door had been addressed. Capita had also noticed that there were damaged batteries lying in the corridor. BMCL had advised that they would contact SPEN to find out when they would be removed. Partitions – Capita carried out a first pass inspection and witnessing of the fire stopping to area 527 level 1 and no issues were identified. Capita have also identified a few impact damaged partitions on levels 1 and 2 which will continue to be monitored. Capita requested that BMCL confirm if there are any proposals to stiffen the half height partitions as there is concern that any damage to the ends may affect the partition stability and BMCL have advised that the half-height partitions have been constructed as per approved drawings. Capita also observed that there are some partition lintels with no infill timber pieces which had already been boarded on both sides. Capita are awaiting confirmation of when this issue had been resolved so that Capita can inspect. Roof-works – continuing. Roof integrity test carried out on level 4 and test results awaited. DH enquired if once the roof integrity tests are carried out whether these areas become unavailable for accessing to ensure no potential damage. JR confirmed that operatives continue to work in these areas as after the integrity tests then insulation and ballast needs to be installed. Cladding to internal courtyards and external façade – works underway Window installation – continuing. Pile cap reinforcement – JR advised that pages 31 and 32 showed pictures of pile cap reinforcement before and after remedial works (only carried out in 1 area). BMCL had verbally reported that the reinforcement was to take any sheer force that gets induced into the slab (ground movement, etc). J Curry and J Beryl had suggested that the U bars were not necessary. WR suggested that the columns would prevent any lateral movement. 	-		-
			Raise void detection issues with BMCL		AF
			Provide update at next meeting		JR
			-		-
			-		-
			Provide update at next meeting		JR
			Provide update at next meeting		JR
			-		-

Item No	Item	Discussion/Information	Action	Page 1813	Action by Whom
4.	Monthly Reporting <i>New Laboratory Facility</i>	<p>The NEC 3 Supervisors report No 27 was issued prior to the meeting. The following key points were highlighted from the report:</p> <ul style="list-style-type: none"> JR advised that there had been 46 defects issued during August of which 11 were in relation to the Emergency Lighting and there were a couple for roof leaks. JR noted that Anthony Foggarty had been taken off the Labs defects process and replaced by J Wales. External Landscaping – BMCL were undertaking remedial work to the external landscaping. Capita will inspect once offered up for inspection. AS enquired why the remedial works only appeared to have commenced half way down the road. JR advised that Capita had asked BMCL to dig pilot holes so Capita can check that there is the appropriate amount of sub-soil. AS noted that there were areas which were to have been weeded and the grass cut. AS requested that HMc liaise with D Jordan to tidy this area up. AS advised that Strathclyde Police have indicated that they are not happy with the fence however the NHS Team had no plans to carry out remedial/other works. The Strathclyde Police Officer was going to visit the neighbouring property to discuss the fence. 	-		-
5.	NHS Observations	<p>HMc advised that a Weekly Construction report was being prepared by HMcD and ASmith. AS noted that HMcD and ASmith have been requested to visit the site to enhance the work already being undertaken by Capita so that a reconciliation and consideration of the responsibility to deliver the project is demonstrated. AS has asked that HMc highlight any key issues identified. JR advised that he had taken information from HMc and A Smith and Capita were focusing on quality issues to be reported to BMCL. AS suggested that for this meeting in future HMc should provide an overview of any items which are not being dealt with. JR noted that he had incorporated the quality issues into the Capita Report.</p> <p>HMc advised that the process was working well and HMc and ASmith were discussing any issues with Capita and getting their view as and when required. HMc advised that he would continue to monitor the pile caps.</p> <p>AS enquired what had been the outcome from the discovery of an unsightly substance in the basement tunnel. HMc advised that this had occurred due to a mixture of condensation and salt in the tunnel as the tunnel was not being ventilated. It was expected that once the tunnel became ventilated that the issue will disappear. WR suggested that efflorescence in mortar/brickwork would inevitably reappear.</p> <p>AS enquired if there had been a leak in the tunnel and WR noted that there had been a few minor leaks however Calitite had been on site to undertake remedial action. DH noted that the guarantee would be provided by Calitite.</p> <p>DH noted that the basement fit-out had been brought forward 24 weeks. The programme for the basement fit out would need to be checked especially with the efflorescence issue and no ventilation. WR agreed to inspect the efflorescence issue and HMc agreed to show WR the locations of the issue.</p>	<p>Provide summary for future meetings</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>Identify efflorescence location(s) for inspection by WR</p>		<p>HMc/AGS</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>HMc/WR</p>

Item No	Item	Discussion/Information	Action	Page 1814	Action by Whom
5.	NHS Observations	PM suggested that going forward HMc would attend these meetings with a list of the issues from the weekly reports. HMc to flag up recurring issues. PM requested that the Weekly Construction reports are added to Aconex and this was agreed.	Prepare list of issues from the weekly reports for highlighting at the meeting Upload Weekly Construction reports to Aconex		HMc HMc
6.	Information Requirements	It was noted that there were no information requirements from the NHS Team.	-		-
7.	AOCB	AS requested that if Capita have any issues progressing critical items then they should advise AS or PM asap. AS enquired if Capita would like to attend the forthcoming A-side Generator meeting with BMCL. AF advised that he would attend this meeting. DH confirmed that the meeting was scheduled to take place on 11 th September 2012 at 10.30am.	- -		- -
8.	Date and Time of Next Meeting	Friday, 5 th October 2012 at 2pm	For Noting		ALL

ACTION NOTE

Present:
Willie Roxburgh (WR)
Apologies:

Peter Moir (PM)
Shiona Frew (SF)
Alan Seabourne (AS)

Alastair Smith (AGS)
David Hall (DH)

Allan Follett (AF)
Graeme Thomson (GT)

John Redmond (JR)
Hugh McDerment (HMc)

Item No	Item	Discussion/Information	Action	Action by Whom
1.	Action note from previous meeting	Accepted as an accurate record.	-	-
2.	Matters Arising	JR advised that he had received a list of drawings (not a drawing register) noting that the list had not yet been updated since receiving it. JR was still finding that Capita are still not receiving all the drawings via Aconex. It was agreed this item could be closed.	Item closed	-
	<i>M&E Drawing Register</i>			
	<i>Labs Defects</i>	JR noted that BMCL are attending to all defects being notified. There were less defects now being raised i.e. 2 defects raised the current week and no defects the previous week.	-	-
		AS advised that BMCL had instructed the monitor to be fitted on the 10 th October and a report was not expected for 3 weeks post install of the monitor.	-	-
		PM noted that the Sedum Roof would remain as a defect until next August 2013.	-	-
		JR advised that BMCL were still working on removing the mortar splashes as BMCL were experiencing difficulty in removing the splashes.	-	-
	<i>Gulley in Mortuary</i>	PM advised that he had been trying to obtain an audit trail from the Architect without success of how the flat floor solution was agreed. It had been identified that there were 9 gulleys which required remedial actions. It was proposed that a 900 square would be cut round each gulley then drop the gulley pot by 10mm and then replace the water-proofing layer. PM acknowledged that he had received the report from Capita following the re-check of the flatness of the floor and that the report confirms that the floor flatness was within tolerance for an SR3 floor.	Item closed	-
	<i>Air Leakage Testing</i>	JR advised that he had discussed this issue with BMCL who had subsequently advised that BMCL were awaiting a methodology report and programme from Building Sciences.	Provide update at next meeting	JR
	<i>Low Level Partitions – Critical Care</i>	PM advised that he had further reviewed the low level partitions in critical care since the installation of the IPS which had firmed up the stability of the partitions. It was expected that the NHS would leave as is currently built however BMCL would need to fit guards to the corners.	Item closed	-

Item No	Item	Discussion/Information	Action	Page 1816	Action by Whom
2.	Matters Arising	JR advised that he had requested that BMCL confirm that there will be no impact to the warranties/fire proofing certificate due to the on-site remedial works. BMCL had advised that they were currently liaising with their sub-contractor, JD Pierce, to provide verification documentation for the fire proofing, etc. JR noted that he would issue a formal communication to BMCL to ask for the documentation formally.	Request verification documentation re fire proofing coating, etc		JR
	<i>Atrium Structural Steelwork</i>				
	<i>Pipework Deadlegs – Excessive Lengths</i>	AF advised that Capita were having on-going discussions with BMCL re the lengths of deadlegs and were continuing to review on site. BMCL had carried out a survey on site of all locations and the majority of deadlegs were now within 3m and almost all the deadlegs were within the tolerance of the 3m maximum distance. There were no deadlegs of an excessive length. JR noted that Capita could carry out a sample test. AF noted that it was expected that the lessons learned on the early areas would be taken forward in other areas going forward.	-		-
	<i>Smoke Detectors</i>	AF advised that Capita had met with BMCL on site to review smoke detectors however BMCL did not seem overly concerned about the locations of some smoke detectors. JR noted that a formal communication had been issued by BMCL to Capita which stated that the detectors issues would be addressed.	-		-
	<i>Access Hatches</i>	AF advised that issues re access to hatches were continuing to be raised with BMCL on an ongoing basis. AS noted that on level 2, zone d there are 3 access hatches in a row that are blocked by a cable tray. JR advised that defect notifications had been issued to BMCL. The accessibility of access hatches should continue to be monitored going forward.	-		-
	<i>Redundant Pipework</i>	PM noted that the redundant AGSS and Nitrous pipework had not yet been removed. JR advised that he had discussed this issue with J Wales who had advised that BMCL would be removing the pipework in due course. PM raised concern that once the grids were installed removing this pipework would be more difficult. PM advised that he would continue to monitor this issue and would issue a PMI if the pipework is not removed prior to the grid being installed. JR noted that Capita had raised a communication to BMCL requesting confirmation of when the pipework would be removed. JR suggested that a defect could be issued by Capita advising that the pipework has been installed in error. PM stressed that he did not want pipework being left in that is not needed. PM requested that Capita raise this issue as a Defect confirming that the pipework had been installed at BMCLs own risk.	Raise formal defect to BMCL re removal of redundant pipework		JR
	<i>QA Procedures – Concrete Pours</i>	WR advised that he had seen the QA procedures. WR had again raised the issue with BMCL of the joiner work and steel fixing work not being finished in advance of a pour commencing. This issue had been raised at the September Hospital Construction Progress meeting.	Continue to monitor		WR
	<i>Testing of Water Systems</i>	PM advised that a draft method statement for the testing of water systems had been received. AF noted that he had liaised with D Wilson who had advised that BMCL were preparing a programme and method statement. PM agreed to provide the draft Method Statement to AF. PM requested that DH conclude discussions with DPike to enable the method statement to be finalised by BMCL.	Conclude discussions re water testing methodology with DPike		DH

Item No	Item	Discussion/Information	Action	Page 18	Action by Whom
2.	Matters Arising <i>Pipework – Structural Support</i> <i>33kv Sub-station</i> <i>Partition Infill Timbers</i> <i>Basement Walls - Efflorescence</i>	<p>AF noted that the previous Capita Monthly report had identified a concern regarding the number of supports to pipework. PM requested that this be raised as a Communication or defect.</p> <p>JR noted that BMCL were still carrying out work in the building and still had possession of the building however Capita had raised a communication regarding various aspects of the work. AS noted that the ducts and trench was drying out. PM advised that he had noticed that the end of the HV ducts had been sealed up. AS noted that the ends had been sealed for some time now however there had been water which had managed to get into the ducts which had now dried out.</p> <p>JR noted that he had discussed the partition infill timber issue with P Norton. This issue had subsequently been checked on site and it was confirmed that the issue had been remediated.</p> <p>WR noted that a visit to review the efflorescence on the basement walls had been organised to take place on 8th October 2012.</p>	<p>Raise formal communication re support to pipework</p> <p>-</p> <p>Item closed</p> <p>Provide feedback at future meeting</p>	<p>17</p> <p>-</p> <p>-</p> <p>WR/HMc</p>	<p>JR</p> <p>-</p> <p>-</p> <p>WR/HMc</p>
3.	Site Procedures	JR advised that site procedures were satisfactory over the previous reporting period.	-	-	-
4.	Monthly Reporting <i>A&C Hospitals</i>	<p>The NEC 3 Supervisors report No 18 was issued prior to the meeting. The following key points were highlighted from the report:</p> <ul style="list-style-type: none">• Standard of workmanship and quality satisfactory• Capita are checking the QA for different packages and carrying out witness of testing mainly to partitions and electrical. The 85 point partition checklist lists issues found when the partition was opened up and sign-off confirming that issues have been addressed.• The Supervisor Communication re final test and commissioning programme - Capita Communication now been closed out• Air Test Procedures – previously discussed in meeting under Matters Arising. <p>Structural (WR)</p> <ul style="list-style-type: none">• Piling remained as the key Civil & Structural issue over the period. A meeting had taken place on Monday and WR had taken notes from this meeting. BMCL remained on target to complete the mini-piling works that day. Capita were awaiting the final records and associated results regarding the piling. WR reported that he was trying to ensure that all the paperwork was received/uploaded to Zutec in advance of TBaillie leaving the project.• The 20mm step in the floor slabs remained a concern. BMCL have advised that these areas have not yet been offered by Dunne to BMCL for inspection. WR noted that this item had been raised on various occasions.• Atrium Structural Steelwork protection – this would be checked once offered up by BMCL for inspection by Capita.• Sub-slab drainage – Continuing to witness pressure tests and observation of piperun requests for rodding checks. BMCL were adopting the principle of making the runs as straight as possible and where straight lines not possible that a rodding test in undertaken.	<p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p>	<p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p>	

Item No	Item	Discussion/Information	Action	Action by Whom
4.	Monthly Reporting <i>A&C Hospitals (cont'd)</i>	<p>M&E (AF)</p> <ul style="list-style-type: none"> • Installation across the Energy Centre and A&C Hospitals is moving at a pace • 1st and final fix being carried out in some areas of the hospitals. • There were no major concerns at this time with this installation. • Energy Centre: Excellent progress had been achieved over the period. BMCL were making the installations live and power on had taken place on 4th October 2012. Both LV and HV was now on which allowed the generators to be tested. It was expected that the full generator tests were expected to take place over the next few weeks. A substantial amount of pre-testing was still to be carried however and AF was doubtful that the 31st October 2012 handover date would be achieved. PM suggested that the Gartnavel generator could be retained for a short while after the 31st October 2012. • Capia had raised a concern regarding the ENMS system as it was not expected that this system would be ready in time for testing of the Energy Centre for the whole hospital site. The generators could function without the ENMS however it relied on a connection to the primary sub-station and the switchgear did not have the termination required. BMCL had requested that the termination be installed. Ultimately without the connection the generators would not synchronise with the mains. AS noted that Dieslec have advised Mercury that system won't work without the connection and Mercury are subsequently pressuring BMCL for the connection. AF noted that the switchgear only had 2 phase and earth connection and a 3 phase and earth connection was required. • Hot and Cold Water Installation – AF would continue to monitor the deadlegs and ensure install is in compliance with the drawings. • Open ends to ductwork and pipework was still being observed on site. AF had witnessed water ingress to ductwork at risers and had taken pictures and flagged this with the contractor. • Concern had been raised regarding coiled cables left hanging with insufficient support – this issue had been flagged up. • AF awaiting final dates for further electrical testing. • AF noted that he was generally satisfied but would continue to raise any items that were unsatisfactory <p>Communications (JR)</p> <ul style="list-style-type: none"> • Partition with high level insulation missing – BMCL provided a photograph to confirm that the remedial works had been carried out • Stud partitions being cut – photo included on page 20 of the report. The partition had been cut so that a socket could be installed. Capita had checked with Knauff who had advised that this was unacceptable. BMCL have confirmed that the services have been located and the stud repaired. AS noted that he had identified another location where the partition had been cut at a sprinkler pipe. 	<p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>Continue to monitor progress re ENMS</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p>	<p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>AF</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p>

Item No	Item	Discussion/Information	Action	Page 181	Action by Whom
4.	Monthly Reporting <i>A&C Hospitals</i>	<p>Communications (JR)</p> <ul style="list-style-type: none"> Capita had requested that BMCL provide the QA process for partition construction. Highlighted that materials being wasted i.e. plaster board badly stored and now no longer useable. Roofs – requested clarification of the current specification for the liquid applied waterproof roof coatings. The spec that Capita have been provided with is not the same as what the Contractor is using. Drawings on site indicate that the redline spec has been changed to PermaQuick 6100. This communication has been resolved as Capita have the drawings. PM noted that it was important to ensure that there was no impact to the warranty. JR advised that he had contacted the Radmat representative who has agreed to visit the site. JR noted that he had visited the site with the package manager and was comfortable with what he was seeing being carried out on site. JR had asked BMCL to confirm that the 35 year warranty would be provided and for the integrated test results for level 3. PM raised concern about the roof works at one of the wells – BMCL were putting materials onto the roof which could potentially damage the integrity of the products being used i.e. stones being stamped into the roofing material which could affect the life span of the products. PM was concerned about the tidiness of the top roof i.e. screws, pipework, etc and there was an absolute risk of damage being caused. PM suggested that Capita should review this area. AS reported that there was also concern regarding the unprotected areas of roof on level 3 and some operatives were using the hoist and then walking over the unprotected area to get to their area of work. Reflective foil to parapets – PM enquired if this would be covered by a cement faced insulation board and this was confirmed. Cladding – PM advised that he had met with Dave Ramsay and John Haggarty at the back of A&E and it looked like panels had been pulled in. PM showed a picture of the issue he had observed. PM noted that he was awaiting feedback from Dave Ramsay. JR noted that Capita were awaiting a response to the Supervisors Communication No 35 re Courtyard 4 cladding issue. Window Fixing – works progressing well – no issues to date Capita had requested that BMCL confirm how they propose to stop water ingress into the building. JR noted that BMCL have been continuing to ensure that boarding is fitted off the ground. <p>Defects (JR)</p> <ul style="list-style-type: none"> Ductwork – insufficient access – response awaited from BMCL Void detection – previously discussed Misaligned bolts – response awaited from BMCL Steel Angle plate which was too short – response awaited from BMCL Duct access blocked (no 10) – awaiting a response from BMCL 	<div>-</div> <div>-</div> <div>-</div> <div>-</div> <div>-</div> <div>Provide feedback re cladding</div> <div>-</div> <div>-</div> <div>-</div> <div>-</div> <div>-</div> <div>-</div> <div>-</div> <div>-</div> <div>-</div>	<div>-</div> <div>-</div> <div>-</div> <div>-</div> <div>-</div> <div>JR/DR</div> <div>-</div> <div>-</div> <div>-</div> <div>-</div> <div>-</div> <div>-</div> <div>-</div> <div>-</div> <div>-</div>	

Item No	Item	Discussion/Information	Action	Page 1820	Action by Whom
5.	NHS Observations	<p>PM advised that he had a brief conversation with ARichardson re untidiness of the site and suggested that the site needed to be cleaned up. PM was concerned that there were potentially areas which were hazardous i.e. rebar lying on ground. PM proposed to raise this at the Hospital Construction Progress meeting on 8th October 2012.</p> <p>AS provided the following highlights from the NHS weekly report:</p> <ul style="list-style-type: none"> • Concern re general untidiness of the site • There appeared to be a lot of wasted plasterboard • It had been observed that there was punctured insulation to an underground heating pipe which BMCL needed to deal with asap before being back covered prior to repair. JR noted that BMCL were aware of this issue. • The works to the ground floor were accelerating <p>PM noted that the site was generally untidy and he would raise this issue at the forthcoming Hospital Construction Site Progress (HCCP) meeting. PM proposed to carry out a walk-round of the site in advance of the HCSP. AS proposed to accompany PM on the site walk-round. PM proposed to take pictures as necessary for tabling at the HCP meeting.</p>	-		-
6.	Information Requirements	It was noted that there were no information requirements from the NHS Team.	-		-
7.	AOCB	It was noted that there were other competent business requiring discussion.	-		-
8.	Date and Time of Next Meeting	Friday, 2 nd November 2012 at 2pm	For Noting		ALL

PROJECT SUPERVISOR INTERFACE MEETING: No27
Notes from meeting held on 2nd November at 3.30pm in the Boardroom, Top Floor

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Present:	Peter Moir (PM)	Allan Follett (AFo)	David Hall (DH)	Hugh McDermont (HMc)
	John Redmond (JR)	Shiona Frew (SF)		
Apologies:	Alan Seabourne (AS)	Alastair Smith (ASm)	Graeme Thomson (GT)	Wullie Roxburgh (WR)

Item No	Item	Discussion / Information	Action	Action by whom
1.	Action Note from Previous meeting	Accepted as an accurate record.	-	-
2.	Matters Arising			
	<i>Air Leakage Tests</i>	PM enquired if BMCL had provided an update regarding the Air Leakage Testing. JR advised that BMCL were still developing the programme and would issue the methodology along with the programme once the programme was available. JR noted that according to John Wales that Building Sciences have been on site.	Provide update at next meeting	JR
	<i>Link Bridge Fire Proofing</i>	JR advised that the Fire Proofing information/documentation from BMCL remained outstanding.	Provide update at next meeting	JR
	<i>Redundant Pipework</i>	PM advised that he understood that all the redundant pipework had been removed and JR confirmed that the redundant pipework had been removed.	Item closed	-
	<i>Testing of Water Systems</i>	DH noted that the methodology for the testing of water systems remained outstanding.	Provide update at next meeting	DH
	<i>Residue to the Basement Walls</i>	HMc advised that he had asked the Estates Dept to open up the doors in order to ventilate the area. JR advised that BMCL had requested RDeb to investigate the residue to the basement walls. Feedback from BMCL remained outstanding.	Provide update at next meeting	JR
	<i>Pipework - Structural Support</i>	JR advised that this issue had been discussed with BMCL however a formal communication had not been raised. It is proposed that when the M&E Capita Reps are on site they would walk round with BMCL to identify and highlight issues and that BMCL have advised that they (BMCL) will close out any issues identified on site within 24hours. The first joint visit had taken place earlier that week and it had worked very well. Capita and BMCL were working together in order to resolve a lot of M&E issues immediately. BMCL will take pictures to confirm that remediation works have been carried out in order to those items not closed out immediately.	-	-
	<i>ENMS</i>	AFo reported that he had seen an update to a Capita query re generator controls however concern still exists and a further response is awaited.	Provide feedback at future meeting	AFo
	<i>Cladding at rear elevation</i>	JR advised that he had issued the cladding panels being pulled in as a defect. Item closed	-	-
	<i>Site Tidiness</i>	PM advised that the site untidiness had been raised at the Hospitals Construction Progress meeting and that the site was now a lot tidier than it had been.	Item closed	-

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Item No	Item	Discussion / Information	Action	Action by whom
3.	Contractor Report	The Project Supervisor reports were circulated in advance of the meeting. JR highlighted the following key points from the report:		
	<ul style="list-style-type: none"> Labs 	<p>PM noted that the Whitecroft lighting units had been sent away and enquired if there had been any update from BMCL as yet. DH raised concern that it was potentially the same lighting unit to be used in the A&C Hospitals and enquired if Capita were beginning to see a resolution to the problem. JR advised that DWilson has advised that he (DW) will provide a report w/c 12th November 2012. BMCL are monitoring the fittings. DH suggested that the BMS was getting faults from the emergency lighting indicating that there is a fault with the emergency battery back-up. It is important to understand what the issue to ensure that the same issue does not occur in the A&C Hospitals.</p> <p>PM enquired if the mortar splatter to the block-work defect had been resolved. JR advised that BMCL have made several attempts to clean the block-work without success and were trying to identify a solution to resolve the issue.</p> <p>JR advised that the grass seed at the path adjacent to the body shop however this seeding would not be carried out until next year. PM reported that NHS staff are now walking on the grass verge therefore it would be difficult to pursue BMCL to sort this strip along the verge.</p> <p>HMc reported that a fault had been reported on the automatic lighting system within the main lab area on the 4th floor as because the automatic lighting is based on absence detection Labs staff are finding that lights are going off and they need to walk through/across a large area through darkness to switch the lights back on at the switch. PM enquired if the motion sensors could be repositioned. HMc suggested that some detectors had been moved however it was thought to be a software issue and the software should be written to be presence detection. JR advised that BMCL have suggested that they will resolve the issue however it is not a defect. DH suggested that staff having to physically negotiate their way through an unlit lab to switch on lights was dangerous. AFo indicated that the Labs Lights were based on absence detection and it would be worthwhile checking, as lessons learned, if the A&C Hospitals are based on presence or absence detection.</p>	<p>Provide feedback re Lighting issues</p> <p>-</p> <p>-</p> <p>Provide feedback re automatic lighting</p>	<p>JR</p> <p>-</p> <p>-</p> <p>HMc</p>
	<ul style="list-style-type: none"> A&C Hospitals 	<p>JR advised that standards and quality continued to be good and in accordance with the Employer's Requirements.</p> <ul style="list-style-type: none"> The exemplar rooms were continuing to progress well with door frames, sanitary ware, ceiling trims, bulkhead lighting, etc nearing completion and the quality appears to be good. Capita had witnessed an 85 point partition checks with only 2 failures – one failure was fixed immediately and the other failure was fixed and pictures provided to Capita to confirm that the remedial works had been carried out. Air Tightness Test – discussed previously in the meeting. BMCL were to provide the programme to the NHS for approval. All mini-piling works have been completed. WR was meeting with BMCL to ensure that all the piling information/details are uploaded to Zutec Capita had raised concern regarding the atrium steelwork to the cores which was raised with BMCL and BMCL have advised they will resolve. Capita had raised concern regarding the different levels from 1 part of the structure to another and BMCL were carrying out work to remedy and a joint inspection would be carried out in due course. 	<p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p>	<p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p>

Item No	Item	Discussion / Information	Action	Action by whom
3.	Contractor report			
		<ul style="list-style-type: none"> Capita have queried why there appears to be bolts missing from the steelwork bridge connection i.e. are the holes for lifting purposes or for fixings. Capita had advised BMCL that there was a glass gauge in the Energy Centre which was broken and BMCL had recorded this issue and will remediate Capita had carried out witness testing of drainage at zone E which were successful. Dual Carriageway to Renfrew Road – no change from the previous report <p>M&E (AFo)</p> <ul style="list-style-type: none"> The M&E installation in the A&C was continuing to be progressed at a pace. There were a lot of prefab sections being delivered. Observing continued progress towards completion and testing in the main A&C areas. Capita has witnessed a lot of testing in the Energy Centre acknowledging that there would be further testing over the next couple of months with big tests to occur over the next 2/3 weeks. Generally, the Hot and Cold Water pipework systems and Chilled Water pipework was continuing at a pace. Standards continue to be good however uncapped pipework is still being identified and BMCL are aware of this. Capita carrying out a walk-round with BMCL will enable the ‘work in progress’ uncapped pipework to be identified. Ventilation install is continuing to progress very well and there had been a far lesser amount of damaged ductwork identified. Open ends to ductwork on both vertical and horizontal ductwork which was off concern in relation to water ingress. BMCL were aware of Capita’s concerns regarding the uncapped ductwork and were focusing on the reducing the number of open ends. Water Systems testing – as previously discussed, Capita are awaiting the programme and method statement from BMCL. DH raised concern that the NHS Project Team may not agree with the BMCL methodology which would impact on the proposed programme. Energy Centre – a huge amount of work has been completed. The generators had all been placed and BMCL indicating that they wish to carry out load testing on the A-side in the next few weeks. Systems generally across the board are being installed in the correct manner and Capita have not seen major deviation from what is meant to be installed. <p>DH enquired about the dead-legs issue. AF advised that the dead-legs continued to be an ongoing issue however BMCL accepts that the dead-legs can be no longer than 3m and remedial works to rectify are being undertaken. The occurrence of deadlegs in excess of 3m has improved and any identified as longer than 3m will be rectified.</p> <p>AF suggested that trying to keep on top of the inspections and testing was difficult as finding that being diverted from inspections to do witnessing and vice versa. PM advised that the NHS Team could take pictures for review by Capita of items being closed in. DH suggested that consideration should be given to who was all involved in witness testing. AFo suggested that Capita should focus on the life safety issues re testing i.e. HV, Sprinklers, Fire Systems and others (HM & ASm) witness testing BMS, etc. PM suggested that he discuss the way forward with JR to ensure no impact on Capita's focus on the commitment to the job.</p>	- Item closed - - - - - - - - -	- - - - - - - - -
			Discuss any issues/pressures with PM	JR

Item No	Item	Discussion / Information	Action	Action by whom
3.	Contractor report cont'd			
		<ul style="list-style-type: none"> Partitions – there had been a number of impact damaged partitions on levels 1 and 2 – Capita were continuing to monitor Water damaged boards in exemplar area – closed out. Water damaged boards in zones E, H and G recorded by BMCL and being rectified. Capita had raised a communication re multiple partition issues and BMCL provided a response advising that they will deal with these issues through the QA system and by carrying out the 85 point check. BMCL also had Quality Control reps carrying out individual checks and noting that some of the insulation was being removed by other trades. DH enquired whether Capita felt that BMCL had enough Quality Control taking place. JR advised that he was not in a position to comment but that BMCL had 2 Quality Control Managers and each of the Floor Managers. DH queried whether the floor managers were carry out a quality role. JR advised that it was for Astins to carry out their quality control and then for BMCL to accept/reject after inspection. Communication 47 closed out Stacks of plasterboard – BMCL are utilising parts of the boards for pattressing, fire stopping, acoustic stopping Stud partition – back box mounted on a stud partition which has been remediated Roofs – multiple list of issues was raised to BMCL. JR was surprised that Radmat had not been on site so JR had asked BMCL to organise for Radmat to attend site so that Capita could discuss the multiple issues. JR had subsequently met with BMCL, Radmat and Prater reps and had obtained confirmation that the roofing issues would be rectified. The roofing issues were being responded to or are in the process of being responded to by BMCL. Insulation to parapets – a variance in detail between between the green roof and the perma-quick roof had been identified however Capita been advised that no impact as long as adequate coverage is installed. <p>Defects:</p> <ul style="list-style-type: none"> No's 3, 4, 18 have been subsequently closed out. Capita are awaiting a response to No's 8, 9, 10. DH enquired about the defects re restricted access to ductwork and asked whether this was being left to Capita to identify of whether BMCL were picking up instances of restricted access. JR advised that BMCL do not advise Capita of items they have already identified and remediated.. JR noted that BMCL have a co-ordination meeting took place every morning with Mercury. HMc advised that from the Project perspective the Floor Manager responsible for the area should be picking up issues. DH suggested that it would be worthwhile checking how BMCL pass on issues between the floor/area managers to ensure that lessons learned are being passed on. No 11(Sprinkler heads), BMCL have advised that there will be 2 levels of sprinklers. DH enquired if this was shown of the drawings and JR agreed to check that 2 levels of sprinklers was as per the drawings. No 12 - Motorised dampers – defect raised and response awaited No 13 – restricted access to ductwork - defect raised and response awaited No 14 – ductwork obstructed by frame - defect raised and response awaited No 15 – part of stud cut away to accommodate a sprinkler – rectified by BMCL No 16 – Insulation/cladding - over tightening of the fixing at the top – defect raised and response awaited No 18 – cabling –tidied up No 19 - Fire protection around the vent - defect raised and response awaited 	- - - - - - -	- - - - - -
			Ask BMCL is sprinkler install is as per drawings	JR
			-	-

Item No	Item	Discussion / Information	Action	Action by whom
4.	NHS Observations	JR noted that all NHS Observations had been passed to Capita and had been discussed previously throughout the meeting.	-	-
5.	Information Requirements	<p>It was noted that there were no information requirements awaited by Capita from the NHS.</p> <p>It was noted that the water systems commissioning and testing methodology needed to be obtained from BMCL asap as the NHS need to understand what is going to be done in advance of being done. Confirmation re whether BMCL will be pressure testing with air, will be keeping the system charged, will be flushed, etc requires to be known. It was agreed that this issue would be raised at the Hospital Construction Site Progress meeting on 5th November 2012.</p>	<p>-</p> <p>Raise commissioning and testing of water systems at HCP meeting</p>	<p>-</p> <p>PM/DH</p>
6.	AOCB	It was noted that there were no other items for discussion.	-	-
7.	Date and Time of Next meeting Monday, 10 th December 2012 at 10am.		For noting	ALL

PROJECT SUPERVISOR INTERFACE MEETING: No28

Notes from meeting held on 10th December 2012 at 9.30am in the Meeting Room 1, Top Floor

Action Note				
Present:	Peter Moir (PM)	Allan Follett (AFo)	Alan Seabourne (AS)	Alastair Smith (ASm)
David Hall (DH)	Hugh McDermont (HMc)	John Redmond (JR)	Wullie Roxburgh (WR)	Shiona Frew (SF)
Apologies:	Graeme Thomson (GT)			

Item No	Item	Discussion / Information	Action	Action by whom
1.	Action Note from Previous meeting	Accepted as an accurate record.	-	-
2.	Matters Arising			
	<i>Air Leakage Tests</i>	PM enquired if BMCL had provided an update regarding the Air Leakage Testing. JR advised that BMCL had provided the method statement. Capita have reviewed the method statement and in discussion with DH had raised a communication to BMCL seeking clarification on the method statement.	Provide update at next meeting	JR
	<i>Link Bridge Fire Protection</i>	JR advised that BMCL have received the Intumescent Paint log and JW is reviewing the log (information in relation to the steel certificate and results of the intumescent paint coverage testing) and feedback is awaited.	Provide update at next meeting	JR
	<i>Testing of Water Systems</i>	DH advised that he had again asked DP to provide BMCL's proposals to test the water systems. DP had advised that it will be sometime before water is put in any of the systems and that details will be provided in due course.	Provide update at next meeting	JR
	<i>Completion Criteria</i>	AS enquired about the status of the completion criteria as provided by JWales. DH advised that JR had provided initial comments on the Completion Criteria and it would be beneficial to meet again to discuss.	Arrange meeting to discuss Completion Criteria	SF
	<i>Residue to the Basement Walls</i>	JR advised that there had been no feedback in relation to the floor however the containment manufacturer had suggested that the walls be treated with in an oil and BMCL have carried this out to a sample area for review/testing.	Provide update at next meeting	JR
	<i>ENMS</i>	AFo reported that he hadn't seen any feedback to the Capita query re generator controls however concern still exists and a response from BMCL is still awaited. DH advised that he had received an Energy centre drawing which showed the position of the ENMS locations within the Energy Centre. AFo advised that this is a part of the larger ENMS query however he was keen to understand the ENMS protocols.	Provide feedback at future meeting	AFo
	<i>BMS Lighting Issues in Labs</i>	JR advised that the lighting issues in the Labs were in the process of being resolved. Whitecroft have provided an explanation of how the battery works the system memory. BMCL are going to replace the last faulty batteries. Whitecroft have advised that for the A&C Commissioning BMCL will ensure that the batteries and charged and fully discharged twice.	Provide update at next meeting	JR
		ASmith advised that Whitecroft had been on site on the 4 th December and had carried out the final few sets of tests. ASm was awaiting a print off to check everything was satisfactory.	Provide update at next meeting	ASm

Item No	Item	Discussion / Information	Action	Action by whom
	<i>Labs – Automatic Lighting</i>	JR advised that BMCL have accepted that they need to resolve the sensor issue in the level 4 Lab areas. Capita have provided BMCL with a drawing indicating all the areas of concern (mainly open plan areas). ASm advised that to resolve the issue the sensors would need to be re-programmed. AS suggested that if only reprogramming of sensors is required then this could be carried out very quickly/soon. ASm advised that the reprogramming of the sensors was an easy fix but not a quick fix. AS requested that ASm push the reprogramming works on.	Provide update at next meeting	JR/ASm
	<i>Capita Input</i>	PM advised that he and JR had met to discuss Capita's input to the project and Capita would still be responsible for inspections and sign-off however HMc and ASm would assist with site walk-rounds as necessary. PM advised that he had reviewed the cashflow and fees and was satisfied.	-	-
		AS enquired if PM had received an offer from Capita for the Car Park Supervisor activities and PM confirmed that an offer had been received.	-	-
	<i>Sprinklers (2 levels)</i>	JR advised that he had received a drawing of the sprinklers being at 2 levels and this only occurred in the plant areas. It was agreed this item could be closed.	Item closed	-
3.	Capita Report	The Project Supervisor reports were circulated in advance of the meeting. JR highlighted the following key points from the report:		
	<ul style="list-style-type: none"> <i>A&C Hospitals</i> 	<p>JR advised that standards and quality continued to be acceptable and in accordance with the Employer's Requirements.</p> <ul style="list-style-type: none"> BMCL continue to utilise their QA system on site. Capita continue to carry out sample/spot checks on BMCLs QA process/system and witnessing on site. An extract for the recent 85 point partition check is included at page 7 in the report. Capita continue to be offered the option to select partitions for checking and selected a 1 hour firewall for checking on this occasion – there were minor issues identified during the check which were resolved on site. Communication No 68 was issued requesting clarification re air tightness tests. JR had subsequently seen confirmation that RSK will be the specialist contractor for this work and that Building Control will be on site to witness the tests. BMCL had also been asked to confirm that smoke tests will have no impact on equipment. BMCL have advised that the NHS Team will be provided with advance notice of any testing. <p>Structural (WR)</p> <ul style="list-style-type: none"> All the piling records and information had been uploaded to Zutec and WR was satisfied with the information which had been uploaded. WR noted that BMCL would however need to amend the drawings from 'construction' drawings to 'as built' drawings and this was something that the CDM Co-ordinator should progress. Concrete works – continuing at a pace and generally satisfied with the workmanship however there remained concerns regarding the 20mm lip detail. WR had walked round the site with BMCL and highlighted the 20mm lip as a concern so BMCL are aware of his concern. WR noted that there were no issues regarding the structure of the step however that BMCL would have issues when carrying out the finishes works. BMCL have advised that Dunne's have not yet offered the lip areas to BMCL for checking. In a few areas the partitions are now coming against the step so remedial works are ongoing..... (Cont'd) 	<p>-</p> <p>-</p> <p>-</p> <p>-</p>	<p>-</p> <p>-</p> <p>-</p> <p>-</p>

Item No	Item	Discussion / Information	Action	Action by whom
3.	Contractor report –cont	<p>Structural (WR)</p> <p>WR suggested that BMCL were still pushing the concrete works in a few areas i.e. still fixing during pouring works with darkness setting in. There had been no incidents so far but there was potential for errors to be made. PM enquired about the stiffening of the edge to the apertures and WR advised that is a design issue.</p> <ul style="list-style-type: none"> Atrium Link Bridge – WR advised that BMCL had carried out further analysis and recalculation of the link bridge elements. BMCL had checked the bolts and the bolt detail and BMCL had replaced bolts where required. WR was awaiting the updated deck drawings. The use of light-weight concrete was now being proposed by BMCL. BMCL suggesting that if there is anything not correct then the steelwork may put stress onto the fixings. WR had asked for a copy of the survey results. WR had been advised that the subcontractor (JD Pierce) were to have checked the setting out as they casted in the place which may not have happened satisfactorily. WR noted that he would raise at the HCSP meeting later that day that the survey and updated deck drawings were awaited. WR proposed to ask for a concise summary of the current status. BMCL were not blaming anyone for the atrium link bridge issue they were just trying to identify a solution to the issue and ensure satisfied before starting to pour the concrete onto the deck. WR advised that he had only found out that there was an issue because he had been asking questions re painting in that area however BMCL had not formally advised of any issue with the link bridge. HMc reported that AFernie advised that BMCL will be monitoring the deflection when doing the concrete pours. WR advised that perspective in terms of walking across the link bridge it was satisfactory from a level perspective. PM raised concern that there was potential for the panels to be splattered with concrete from the concrete pours and presumed that the panels would be protected. DH enquired if there were any implications using lightweight concrete. WR advised that the light-weight concrete had the same strength as ordinary concrete however was more expensive. AS requested that PM raise the link bridge issue formally at the HCSP meeting later that day. Sub-slab drainage – works ongoing. BMCL were proofing the drainage runs with rodding tests when required and the testing to date had been satisfactory. PM enquired on how many occasions per zone were runs being installed with bends and WR advised very few occasions, no more than 1 per zone. <p>M&E (AFo)</p> <ul style="list-style-type: none"> The M&E Fit out was continuing at a pace. AFo was walking round the site with Julie Miller so that issues/concerns can be resolved as quickly as possible. Capita were satisfied with the installation works to date however there were concerns regarding access for maintenance. The access issues were becoming more prominent due to the ceilings going in and Capita had raised a number of formal communications to BMCL as well as raising on site and being included in the monthly report. There was an on-going recurrent theme re difficulty in accessing maintenance hatches, smoke detectors, sprinkler heads, etc. In some areas Capita were observing adjustments to maintenance access to resolve the maintenance access issue. AS enquired how many occasions there was difficult access. AF advised that there were a few occasions but that the access difficulties were becoming more apparent as the ceilings are being installed and as more ceilings are installed it gives rise to an increased number of maintenance access issues. AFo was trying to continually raise with BMCL the access hatch issues. AS enquired whether BMCL were reacting to the issues being raised and ensuring that access can be gained through another means i.e. through light fittings, etc. AF suggested BMCL could change how they do fire detection in the building/change the type of smoke detector in the void i.e. use an aspiration system. 	<p>-</p> <p>Enquire about Atrium Link Bridge at HCSP</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p>	<p>-</p> <p>WR</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p>

Item No	Item	Discussion / Information	Action	Action by whom
3.	Contractor report cont'd	<p>DH noted that the isolation rooms were scattered through the department, suitable hatches could be installed however the room would need to be closed down for cleaning after the hatch was opened. The light fittings in theatres act as a hatch. AFo noted that a Supervisor's Communication had been issued for the first isolation room.</p> <ul style="list-style-type: none"> • AFo noted that there were no major issues to be raised and the minor issues were a repetition of what previously raised. Capita had observed an improvement in the blanking of the ends of ductwork. • AFo suggested that there may be some testing to be carried out over the next period so that BMCL can start to close up areas. • Energy Centre – works were progressing well and the first set of generators had been tested satisfactorily and it was expected to see the 2nd set tested in the next few months. <p>General (JR)</p> <ul style="list-style-type: none"> • Bulkhead back to back electrical boxes – a formal communication had been raised to BMCL. BMCL had now started to separate back boxes as per HTML 08/01 noting that the ER's also state that boxes should not be back to back. A formal response from BMCL was awaited. ASm suggested that there were a few back to back to back boxes on the ground floor and JR advised that BMCL knew about these and will be moving all the back boxes. • AFo noted that the access to dampers was generally satisfactory. There had been a few cases where Capita had raised concern re congestion with ductwork. • There were minor areas where the insulation was missing at a high level however BMCL were aware of this and were rectifying this • BMCL had provided a programme for the 85 point checks. • Roof Pull-up test – Capita had witnessed a pull up test to the roof on level 3 which had passed. There were concerns re the sealing of roofs and it had been observed that BMCL were currently undertaking sealing works to upper sections of openings only. JR noted that there have been water penetrations in various locations and there is QA procedures in place to identify these areas and deal with this issue. JR had asked to provide the QA procedures. • JR had reminded BMCL that Capita was awaiting the atrium steel info • Capita had also witnessed BMCL stripping off architraves so as can prove the gap the inside surface and partitions is ok. The tests witnessed had been satisfactory to date. • Defects – is a mixture of both construction and M&E. The main defect being raised is access to hatches. • There were fixing in cladding which were noticeable however BMCL have confirmed that the fixings are not a permanent solution <p>DH enquired who was picking up the access hatch issues and JR confirmed that it was both BMCL (Julie Miller) and Capita as Capita and BMCL are undertaking joint visits on site.</p> <ul style="list-style-type: none"> • Capita were continuing to observe some dead leg issues and partition issues. • The table of defects included in the report shows those items which have been closed out and the pie chart indicates that items are being actioned. DH noted that the oldest open item dated back to October 2012. • Supervisor Communications – most of the items shown in red are work in progress <p>AS enquired about item 57 (Missing Bolts) and WR noted that this had been an earlier query (cross ref photo on page 11) as it wasn't clear whether the holes were for lifting or fixing and the response from BMCL awaited.</p>	<p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>Provide update at next meeting</p> <p>-</p> <p>-</p> <p>-</p> <p>Provide update at next meeting</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>Provide update at next meeting</p>	<p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>JR/ASm</p> <p>-</p> <p>-</p> <p>-</p> <p>JR</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>WR</p>

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4.	NHS Observations	<ul style="list-style-type: none"> PM requested that Capita review the detail of the lead backed plaster board which stops at 2.1m and plasterboard being skimmed to inside of board and there was concern that a crack may appear around the room as there was a definite lip. <p>DH enquired about the pipework to the basement as it enters the building and transfers across and JR noted that this had been checked on the 7th December 2012 and feedback was awaited. Capita had also checked the supports to the medical gases/distance and this was satisfactory.</p> <p>HMc provided the following overview:</p> <ul style="list-style-type: none"> Labour on site had increased from 750 operatives to 900 operatives Housekeeping – the housekeeping standards appeared to have fallen Roof Level 3 Zone D – it was thought that an eye would need to be kept on the sub-contractors when doing work in large areas to ensure that the area gets cleaned. JR noted that the roofs will lie completed for some time. <p>AS agreed with the concern raised by HMc re lessons learned from the Labs Facility and advised that if issues were not being actioned properly on site then the work must be stopped and AS/PM will get MSharples on site to discuss. HMc noted that the majority of concrete works were very good, the lead lining to theatres was very good and that laminar flow cabinets installation to the theatres appeared to be good.</p> <p>AS noted that the stair nosing and finishes were still to be discussed with BMCL. PM noted that the NHS were looking at the potential to downgrade finishes to those stairs which have very little traffic i.e. vinyl floor finishes, wall finishes. The NHS Team were suggesting a portaflec type paint for the walls. HMc advised that there were some sample panels in Core G. PM advised that a white paint was not wanted as white highlights any and all imperfections.</p>	<p>Provide update at next meeting</p> <p>Provide update at next meeting</p> <p>-</p> <p>-</p> <p>-</p> <p>Advise AS/PM if works not being actions appropriately on site</p> <p>-</p>	<p>JR</p> <p>JR</p> <p>-</p> <p>-</p> <p>-</p> <p>ALL</p> <p>-</p>
5.	Information Requirements	It was noted that there were no information requirements awaited by Capita from the NHS.	-	-
6.	AOCB	It was noted that there were no other items for discussion.	-	-
7.	Date and Time of Next meeting Friday, 8 th February 2013 at 2pm.		For noting	ALL

PROJECT SUPERVISOR INTERFACE MEETING: No30

Notes from meeting held on 8th February 2013 at 2pm in Meeting Room 1, Top Floor

Action Note				
Present:	Peter Moir (PM)	Alastair Smith (ASm)	David Hall (DH)	John Redmond (JR)
Willie Roxburgh (WR)	Shiona Frew (SF)			
Apologies:	Alan Seabourne (AS)	Allan Follett (AFo)	Graeme Thomson (GT)	Hugh McDerment (HMc)

Item No	Item	Discussion / Information	Action	Action by whom
1.	Action Note from Previous meeting	Accepted as an accurate record.	-	-
2.	Matters Arising			
	<i>Air Leakage Tests</i>	JR advised that he and DH had met with JMurray and a draft of the air leakage test proposals were awaited for circulation to the team.	Provide update at next meeting	JR
	<i>Link Bridge Fire Protection</i>	JR advised that additional works had subsequently been undertaken to the intumescent paint and that BMCL were subsequently updating the records accordingly prior to issuing to Capita. WR noted that the checking of the intumescent paint was ongoing by all parties.	Provide update at next meeting	JR
	<i>Testing of Water Systems Completion Criteria</i>	DH advised that he was still awaiting a commissioning programme from DP. PM noted that an internal meeting to discuss the Commissioning Criteria had taken place earlier that week and a copy of the commissioning criteria was in circulation for comment/mark-up. DH advised that he currently had the criteria for comment and would provide to JR asap. PM advised that he had added a column named Zutec to emphasise to BMCL those items that the NHS would want to see on Zutec. JR noted that the Completion Criteria did not make specific reference to any documentation which would be expected.	Provide update at next meeting Comments to be added to Completion Criteria and passed to PM	DH DH, JR, PM
	<i>Residue to the Basement Walls</i>	JR advised that baby oil is to be applied to the residue to the basement walls w/c 11 th February 2013 as advised by the containment contractor. BMCL are awaiting feedback from RDeb regarding the stain on the floor however the stain seems to be disappearing.	Provide update at next meeting	JR
	<i>ENMS</i>	ASm noted that BMCL have advised that a demonstration of the ENMS system had been organised for 20 th February 2013 at Telford and he had discussed this with AS. DH enquired if the demonstration could not been carried out on site. ASm confirmed that the demonstration had been set up at the factory as the on Energy Centre ENMS connections to the LV switchgear were not installed. The factory demonstration allowed dummy loads to be used – similar to that carried out on the HV demonstration.	Provide feedback at future meeting	ASm
	<i>BMS Lighting Issues in Labs</i>	ASm advised that the BMS Lighting issues were largely resolved with the exception of the fitting at the under-croft which was awaiting a replacement part. There had been no further failures to date. It was agreed this item could be closed.	Item closed	-

Item No	Item	Discussion / Information	Action	Action by whom
	<i>Labs – Automatic Lighting</i>	ASm advised that in liaison with Capita drawings had been marked up identifying those areas which caused concern and have asked BMCL to re-programme the sensors/system. BMCL have advised that the system is installed as designed. BMCL were liaising with Ian Powrie. The Employer's Requirements do state that safe exit lighting must be provided but BMCL advising that to re-programme the system/sensors could involve a week's worth of re-programing. PM enquired if the fitting of a further sensor would resolve the issue. DH suggested that the sensors are absence detection therefore a further sensor would not resolve the issue and if an additional sensor was to be fitted then the system would still need to be re-programmed to include this new sensor. DH noted that when he had spoken to DP regarding the issue DP had suggested that it may take up to 2 weeks to carry out the re-programming works. PM reported that he would issue a defect notification to BMCL regarding the level 4 lighting issue.	Issue defect on level 4 lighting	PM/JR
	<i>Atrium Link Bridge</i>	WR advised that the movement in the link bridge was largely resolved and BMCL and their consultants were monitoring closely during concrete pouring activities. DH enquired if BMCL had confirmed to Capita whether the deflection was 2mm per floor or cumulative. WR advised that he had not been supplied with all the deflection information however the initial deflection information appeared to suggest that the deflection was less than the accuracy that the deflection can be measured at. PM noted that WSP appeared to be satisfied with the levels of deflection. WR advised that WSP have confirmed in writing that they are satisfied with the level of deflection. WR noted that Capita would continue to monitor the link bridge pours/deflection. It was agreed this item could be closed.	Item closed	-
	<i>Electrical Back boxes</i>	JR advised that BMCL now believe that there are no back to back electrical boxes on site however if any are subsequently identified they will ensure that there are relocated. Capita would continue to monitor this on site.	Item closed	-
	<i>Roof Pull-up tests</i>	JR advised that Capita had received the QA results of the recent roof pull up tests which were satisfactory.	Item closed	-
	<i>Atrium Missing Bolts</i>	WR noted that the bolt detail appears to be a lot better as all the bolt holes were now filled however he thought that BMCL were still to provide a response to BMCL in order that the paperwork can be closed out.	Item closed	-
	<i>Potential cracking due to different thicknesses of plaster board.</i>	JR advised that he had reviewed the detail for the jointing of lead backed plaster board to non-lead back plaster board and that BMCL proposed to ames tape the joint and apply a screed to level off the different thicknesses of plaster board. It was agreed this item could be closed.	Item closed	-
	<i>Basement pipework – thickness of pipes</i>	DH advised that this item was now closed further to the update provided by HMc at another meeting.	Item closed	-

Item No	Item	Discussion / Information	Action	Action by whom
3.	Capita Report	The Project Supervisor reports were circulated in advance of the meeting. JR highlighted the following key points from the report:		
	<ul style="list-style-type: none"> A&C Hospitals 	<p>JR advised that standards and quality continued to be acceptable and in accordance with the Employer's Requirements.</p> <ul style="list-style-type: none"> The main difference between the December and January reports was the number of defects and communications which had been closed out. Construction procedures being carried out in a satisfactory manner. BMCL continue to utilise their QA system on site. Capita continue to liaise with JW. The standard and quality of the exemplar rooms is very good. PM noted that he had witnessed PNorton ask operatives to clean the blind blades in one of the bed bays Exemplar theatres- JR had witnessed above ceiling inspections of which only 1 had failed as a penetration had not been sealed 85 point partition check – JR had witnessed a number of 85 point partition checks – there were a few instances which prior to inspection issues had been picked up such as intumescent sealing at columns not satisfactory. BMCL subsequently held a toolbox talk with their sub-contractors will highlight the issue identified <p>Civil & Structural (WR)</p> <ul style="list-style-type: none"> Zutec – as built piling drawings still need to be uploaded by BMCL Other ancillary steelwork – works progressing satisfactorily Concrete works- continuing to progress at a pace to all 4 legs of the tower with good quality being achieved throughout Drainage – advancing B, E, H & J - generally of a good quality. There had been 1 failure which was underneath a cast slab which BMCL were remediating and should be available for testing later that day. PM enquired if there was a reason for the failure and WR noted that BMCL think that something has run over the area prior to the reinforcement being in place properly as the run had passed testing prior to be concreted. Details of drainage tests and CCTV camera runs had been uploaded to Zutec Block work to basement – works commenced and thus far quality is satisfactory Energy Centre – almost complete however needs tidying up Zone A Steelwork – appears to be satisfactory but WR had not had the opportunity to review properly as yet as area had been zoned off due to construction works <p>M&E (JR)</p> <ul style="list-style-type: none"> The pipework was being capped off however it had been observed that in the plantroom on level 2 that there are open ends – JR would raise this BMCL <p>Supervisor Communications (JR)</p> <ul style="list-style-type: none"> Further responses were awaited from BMCL in respect to Supervisor Communications 70, 79, 90 and 93 Communication 75 - Access to sprinkler head – BMCL had advised Capita of their plan to resolve this issue however the proposal is unacceptable to Capita <p>..... cont'd</p>	- - - - - -	- - - -

Item No	Item	Discussion / Information	Action	Action by whom
3.	Capita Report	Supervisor Communications (cont'd)		
	•	<ul style="list-style-type: none"> Communication 89 – water sprinkler tank has been built on concrete floor – this does comply however will need to be signed off by the CDMC re satisfactory maintenance of plant. BMCL have advised that there access to drain off water and vacuum out however the CDMC will need to sign-off that the proposed maintenance procedure is satisfactory. ASm noted that NHS reps would need to be trained in working in confined spaces, etc. JR would ask the CDMC to review. Communications 71, 72, 73 re duct access – response from Mercury is awaited. These communications have been outstanding since November 2012and JWales is pursuing Mercury for a response asap. Communication 91 – Access issue – Capita will re-inspect to ensure remedial works are satisfactory Communication 94 – Access issue - item resolved Observation 97 – item closed as satisfactory explanation provided by BMCL JR noted that AFo had attended the witness testing of a buzz bar of the switchboards – the buzz bar had passed the test however there was a variance on the readings and an explanation for the differences had been requested and was awaited. Capita have raised some communications re void detection. BMCL had advised that the void detection is different in some places due to either a variations to contract i.e. installing double doors, a change in strategy because the size of a room has changed, etc. BMCL have requested that Scotshield carry out a survey of the void detection and will provide a report to BMCL which would enable Capita to close out a number of the communications. DH suggested that the changes were due to a variation of drawings as required by Building Control rather than a variation to the contract. DH noted that BMCL had designed out void detection due to risk assessments and enquired if Capita were getting access to these risk assessments. JR agreed to check and to carry out a sample review of the risk assessments. Communication 89 – Hatch inaccessible – issue resolved and BMCL going to double check that the corridor has no in-accessible hatches. Back to back electrical boxes – DH noted that the report advised that there were some back to back electrical boxes which could not be changed. JR confirmed that the fit out team have confirmed that there are no back to back electrical boxes. Communication 30 – 45 - intake sub-station – this was an older item and once the cables had been pulled through the sub-station this item could be closed. ASm suggested that a formal communication should be raised to BMCL regarding the water lying in the ducts. ASm noted that the ducts had been previously pumped out however they were now filled with water again and it was unknown what type of water was coming in from either the Scottish Power or BMCL ducts. BMCL had been asked to liaise with Scottish Power for access to their transformer room so that the Scottish Power duct could be observed. ASm advised that the back-ground heating in the sub-station had also recently tripped which had meant that the ceiling had condensation and that the condensation had been dripping onto the switchgear. Mercury were aware of the trip to the heating and would be monitoring the breaker. Partition walls – a number of communications had been raised to BMCL regarding missing insulation in fire walls or insulation which has been disturbed when Mercury have been carrying out their works. Potential damage to roof – Capita had observed a skip on the roof which had no protection – the skip was removed the same day and a report regarding the condition of the roof is awaited from BMCL. 	Liaise with CDMC re water sprinkler tank - - - - - - - - - - -	- - - - - - - - - -

Item No	Item	Discussion / Information	Action	Action by whom
3.	Contractor report –cont	<ul style="list-style-type: none"> Water penetration into the building – JR had requested a QA and asked BMCL to replace any water damaged Knauff boards Structural frame – identified cold spots in the wall – areas where there are no insulation. The boards have had to be sprung up so that insulation can be installed. National Equipment Defect Reporting Scheme (NEDeRS) – Mercury have verbally confirmed that there are no equipment which falls under the NEDeRS notices. Fire damper actuator highlights – access issue – awaiting a response from BMCL Flaking paintwork in the basement – response re remedial works awaited from BMCL. The reason for the paintwork flaking may be due to the concrete still drying out. Lighting protection tape not secured in a number of places – item closed WILO pumps – response received from BMCL confirming that these pumps are suitable for external mounting Above ceiling access – theatres (level 2) ultra clean – advised that can't access plant/equipment. DH advised that the services/plant are meant to be serviced through the light fittings. ASm suggested that suitable access could not be gained through the light fittings. JR advised that he would raise this issue formally to BMCL. <p>Defect Notifications (JR)</p> <ul style="list-style-type: none"> Defect Notifications 9, 10, 30, 32, 33, 34 and 35 have been closed out since the previous meeting Defect Notification 12 is awaiting response from BMCL Defect Notification 36 – example of disturbed insulation included on page 36 Defect Notification 37 – void detection located in corner of electrical cupboard and Capita have advised that void detection must be in the centre of the room to accord with BS. Defect Notification no 38 – Fire proof ductwork should extend to 150mm – now resolved <p>PM noted that the defects being raised appeared to be a repetition of previous defects and enquired if Capita were reasonably impressed with what they are observing on site. JR noted that in general Capita are satisfied with the works on site and that the package managers are very conscientious.</p>	- - - - - - - - - - -	
4.	NHS Observations	<p>ASm advised that the NHS Reps continue to liaise with Capita, provide the weekly reports and pass over observations of which there had been 7 this current week i.e. walkways left with snow and ice. Capita had raised the issue of open duct work with BMCL. ASm noted that there were a few occasions where the ductwork is out of alignment.</p> <p>ASm noted that it had been observed that there were bolts missing and bolts on the vertical only hand tightened (level 1 – core c from main roof). WR noted that there were a couple of areas within the cores where BMCL have had an issue.</p> <p>ASm concurred that the works on site were generally good.</p> <p>ASm noted that it had been observed that there is an air handling unit lying uncovered which should therefore be vacuumed prior to fitting.</p> <p>WR noted that he had been liaising HMcD re an area which had been buffed through to the steelwork. WR had not yet seen this area and would liaise with HMcD for the actual location of this issue.</p>	- - - -	- - - - Liaise with HMc re location of area of concern WR

Item No	Item	Discussion / Information	Action	Action by whom
4.	NHS Observations (cont'd)	WR advised that he had identified a potential interface issue where the pipework/plumbing is inside the building then goes out of the building to a manhole and BMCL had been requested to confirm how they would carry out testing to this pipework. WR noted that some pipework has an inspection flange however this pipework did not appear to have an inspection flange.	-	-
5.	Information Requirements	It was noted that there were no information requirements awaited by Capita from the NHS.	-	-
6.	AOCB	A-Side handover – ASm reported that BMCL have advised that they will provide 1 day notice of testing and raised concern that a greater notice period was required. DH agreed to raise this issue at the Hospital Construction Site Progress meeting scheduled to take place on 11 th February 2013. It was noted that the NHS Team had requested a notice period of 1 week.	-	-
7.	Date and Time of Next meeting Friday, 8 th March 2013 at 2pm.		For noting	ALL

PROJECT SUPERVISOR INTERFACE MEETING: No32
Notes from meeting held on 5th April 2013 at 2pm in Meeting Room 1, Top Floor

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Action Note				
Present:	Peter Moir (PM)	Alastair Smith (ASm)	David Hall (DH)	Hugh McDermont (HMc)
	John Redmond (JR)	Shiona Frew (SF)		
Apologies:	Alan Seabourne (AS)	Allan Follett (AFo)	Graeme Thomson (GT)	Willie Roxburgh (WR)

Item No	Item	Discussion / Information	Action	Action by whom
1.	Action Note from Previous meeting	Accepted as an accurate record.	-	-
2.	Matters Arising			
	<i>Air Leakage Tests</i>	DH advised that he had received the air leakage testing proposals and had circulated these to the team for comment noting that ASm had already provided comment. JR advised that he had seen the proposals before. DH noted that any comments should be provided to himself (DH)	Provide update at next meeting	JR
	<i>Link Bridge Fire Protection</i>	JR advised that additional works were being undertaken by JDPierce and that once the works were complete and offered for inspection by BMCL that Capita would carry out an inspection of the fire protection.	Provide update at next meeting	JR
	<i>Testing of Water Systems ENMS</i>	JR advised that there was no update at this time as he was still awaiting a commissioning programme from DP. ASm that the problems that may have occurred on the testing will be resolved over the next few days for testing w/c 7 th April 2013. ASm was awaiting confirmation from RJohnson that the UPS by-pass switch would be included on the UPS bypass units. ASm agreed to pursue RJohnson for confirmation. ASm noted that a copy of the report from the factory visit had not been received from BMCL and that he would pursue BMCL for a copy of the Schneider report.	Await Commissioning programme Obtain confirmation from RJ re UPS by pass switch Obtain factory visit report	JR ASm ASm
	<i>BMS Lighting Issues in Labs</i>	PM noted that the NHS had issued a PMI to BMCL requesting a cost for the reprogramming works in order to gauge the size of the issue. DH noted that JB had discussed with him (DH) who was responsible for resolving issue and DH had advised that the responsibility was with BMCL.	-	-
	<i>Water Sprinkler Tanks</i>	DH advised that he was awaiting feedback from the CDMC as to whether he had received appropriate method statements from BMCL. DH noted that he had emailed the CDM Co-ordinator who was aware that he had to resolve this. JR noted that the drinking water tanks were externally flanged and the internal tanks were internally flanged.	Confirm CDMC has no issues re method statements for cleaning water sprinkler tanks -	DH -
	<i>Area buffed through to steel reinforcement</i>	HMc advised that he had advised WR the location of the area which had been buffed through to the steelwork reinforcement and that WR had agreed to review this.	Provide update at next meeting	WR

Item No	Item	Discussion / Information	Action	Action by whom
3.	<i>Sprinkler Heads</i>	JR confirmed that the sprinkler head tank should be cleaned every 10 years. ASm suggested that AFo agreed to provide information regarding what was involved in the maintenance of a sprinkler head. JR noted that he had received the various maintenance sheets. ASm advised that he had reviewed the maintenance sheets and he had been unable to locate any information re the maintenance of a sprinkler head. DH suggested that there were 2 issues which the NHS Team needs to be satisfied with a) how difficult is it to access the sprinkler head to maintain and b) what is the maintenance requirements for a sprinkler head. JR suggested that he would discuss this with BMCL. DH suggested that he could liaise with Buro for advice re the maintenance requirements for a sprinkler head. JR noted that he had issued a notification to BMCL. PM noted that this issue could be closed as being dealt with through the Capita notification process.	Item closed	-
	<i>Cladding Panels</i>	PM advised that the NHS Team were awaiting samples. JR noted that BMCL were in discussion with painter contractors as there was a need to ensure no impact to the 25 year guarantee/remedial works could be guaranteed for 25 years. PM noted that this issue could be closed as being dealt with through the Capita notification process. JR noted that this was part of the Capita defect notification process.	Item closed	-
	<i>CV's for new Capita reps</i>	PM noted that he had received the CV's for the 2 new Capita reps. JR noted that the new reps would be on site on the 10 th & 11 th April 2013 and AFo would witness the 2 tests on the electrical switchgear system planned for 9 th & 11 th April 2013. ASm noted that he would be attending these tests. PM suggested that he may also attend these tests.	Item closed	-
	<i>Capita Report</i>	The Project Supervisor reports were circulated in advance of the meeting. JR highlighted the following key points from the report:		
	<ul style="list-style-type: none"> <i>A&C Hospitals</i> 	<p>JR advised that standards and quality continued to be generally good and in accordance with the Employer's Requirements.</p> <ul style="list-style-type: none"> • QA process – BMCL are continuing to carry out QA checks on site. JR regularly has discussions with JWales to review QA and documentation. On 7th April JR would be inspecting the exemplar areas and JWales had a QA pack to be used for the signing off of these areas. PM requested a copy of the QA pack. • There were a number of issues being raised by Capita, HMc and ASm on site re damages and these were also being raised to BMCL via Aconex and BMCL were uploading these to their IDMS System in order that the package managers could address the issues. • 85 point partition check- witness testing carried out at level 0& 1. The majority of the partitions were satisfactory with only a few minor issues identified which were being addressed on site. However, there had been 1 major failure identified, large pattress with no insulation, therefore the partition did not achieve the spec as required. • Roof checklist – shown on page 10 – checklist is as used by Prater on site • Pull up tests – shown on page 11 • Air leakage tests – Capita awaiting a programme from BMCL however it was understood that a drawing had been circulated and DH confirmed that a drawing had been circulated. <p>Civil & Structural (JR)</p> <ul style="list-style-type: none"> • Piling records – noted that a review of Zutec had been carried out which indicated that the as-built piling drawings were still to be uploaded to Zutec. • Concrete works – continue to be to a good standard with the exceptions as per those listed in the report 	<p>-</p> <p>Provide copy of QA pack to PM</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p>	<p>-</p> <p>JR</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p>

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Item No	Item	Discussion / Information	Action	Action by whom
3.	Capita Report <i>A&C Hospitals</i>	<ul style="list-style-type: none"> Void detection – Capita have raised a number of communications regarding void detection. Scotshield are currently carrying out a survey and drawings showing areas requiring void detection will be provided Back to Back back boxes – in various locations BMCL have put sleeves and covered the back boxes with putty which resolves the issue. Lead lined partition – Capita identified 1 area where crews have punctured a lead lined partition and the BMCL package manager on site had advised that he will get these covered Short cut lead lined partition sheets – BMCL have been using an alternative solution to resolve the issue of short cut lead lined sheets and Capita have advised that BMCL will need to provide revised drawings to the NHS for approval Rood thickness tests –HMc and JR had requested that BMCL carry out a thickness test to the roof at level 2 (level 3 slab) – the depth tests were successful however some areas have an accumulation of debris. The package managers will review these areas. There was 1 exception however the permaquick rep have advised that there are no issues which would prevent the 25 year guarantee from being provided. Doors – PM enquired whether Capita were aware that on some doors that the NHS had taken out the drop seals and JR confirmed that this was known. Fire Damper Actuator – confirmation awaited from BMCL re accordance with relevant guidance. <p>Defects</p> <ul style="list-style-type: none"> Access hatches – various locations 13 – response from BMCL awaited 16 – response from BMCL awaited 37 – response from BMCL awaited AVSU – Capita awaiting a drawing showing the construction of the AVSU. BMCL appear to be forming a recess and sealing all the way round 41 – response awaited from BMCL 42 - response awaited from BMCL 44 – cladding panels – response awaited from BMCL 45 –lead lined sheets – response awaited from BMCL <p>DH noted that communication no 85 had been open for a long period. JR noted that communication no 22 had been open longer than 85 and agreed to review and progress as necessary with BMCL.</p>	- - - - - - - - - - - - - - - -	- - - - - - - - - - - - - - -
4.	NHS Observations	<p>HMc advised that there were no NHS Observations which were not covered within the Capita report.</p> <p>HMc suggested that the site tidiness issues had been addressed due to an email from AKeeley.</p> <p>HMc noted that the quality and workmanship on site was to a good quality.</p>	- - -	- - -
5.	Information Requirements	JR noted that there was no NHS information outstanding. Capita were however awaiting the Commissioning Programme from BMCL.	-	-

Item No	Item	Discussion / Information	Action	Action by whom
6.	AOCB	<p>A-Side handover – DH enquired what was to be done over the next few weeks in respect to the A-side handover. JR advised that JWales had a completion criteria for the A-side energy centre. DH advised that it will be imperative that all the documentation and certification is in place and to ensure that processes are in place to enable handover on the 18th April 2013.</p> <p>ASm enquired if it was proposed that all the documentation/certification is available via Zutec as the Estates reps would need to have access to the documentation at handover. ASm enquired if BMCL could be requested to accelerate the upload of documents to Zutec. PM enquired that once the Energy Centre is handed over whether the standby generator uninstalled. ASm suggested that all going well with satisfactory tests on the 9th & 11th April and a satisfactory black start test on the 15th April the BMCL would switch the power onto remote control therefore the generator would not be required however the generator may be retained for a further 1-2 weeks as a backup. After handover then IP and PAllan will be doing Energy Centre tests on a regular basis. DH enquired if the generator was available for the further 1-2 weeks and ASm reported that there was a date for the return of the generator which allowed it to be retained as a backup for 1-2 weeks.</p> <p>PM advised that AS has a query re how to prove the track for lifting patients across the beds in level 1, zone G. PM suggested that the test weight was unknown at this time. DH suggested that the test weight was circa 250/270kg.</p> <p>PM enquired when Capita would be commencing their final walkround of exemplar areas and JR advised that the walkround would commence on 8th April 2013. PM advised that he wished to carry out a walkround and suggested accompanying Capita when they were carrying out their walkrounds. JR advised that on 8th April 2013 he would walkround with BMCL in order to check their QA and check that all the snags are on the IDMS and identify anything that has been missed. DH enquired what room content was included on the Capita checks and whether BMCL were providing an information pack which would advise on what the requirements for the room was as there were no C sheets. JR advised that Capita do a check of all the BMCL checks/QA, Capita would not check all the rooms. PM advised that the Board would be doing a detailed check of each room and would use the first area to flush out all the issues. JR noted that at Birmingham the client and contractor teams had validation teams, both teams checked off the C sheet, used countdown meetings and had targeted information for completion. PM enquired whether this process was written down and could be provided to PM. JR agreed to check whether the process info was available and could be provided to PM. ASm suggested that if using 1 list then there would need to be agreement on who held the list as there would need to be one common list. DH suggested that a check of the equipment could be carried out at a later date.</p>	<p>-</p> <p>-</p> <p>-</p> <p>Provide sign-off process used at Birmingham</p>	<p>-</p> <p>-</p> <p>-</p> <p>JR</p>
7.	Date and Time of Next meeting Friday, 10 th May 2013 at 2pm.		For noting	ALL

PROJECT SUPERVISOR INTERFACE MEETING: No32
Notes from meeting held on 10th May 2013 at 2pm in Meeting Room 1, Top Floor

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Present:	Peter Moir (PM) John Redmond (JR)	Action Note	Allan Follett (AFo) Shiona Frew (SF) Alastair Smith (ASm)	Alan Seabourne (AS) Willie Roxburgh (WR) Graeme Thomson (GT)	David Hall (DH) Hugh McDerment (HMc)
Apologies:					

Item No	Item	Discussion / Information	Action	Action by whom
1.	Action Note from Previous meeting	Accepted as an accurate record.	-	-
2.	Matters Arising			
	<i>Air Leakage Tests</i>	JR advised that drawings had been received with the locations identified. DH advised that he had liaised with JMurray re doing air leakage testing in the exemplar area and feedback was awaited. DH noted that the actual rooms within the identified zones would need to be agreed with BMCL.	Provide update at next meeting	DH
	<i>Link Bridge Fire Protection</i>	JR advised that BMCL had provided some dry film thickness information however other information was still awaited to close this item off. WR advised that JDPierce had been on site carrying out remedial works to the fire protection and that Pierce had appointed an independent company to check the fire protection. WR had been verbally advised that the testing had been satisfactory and that JDPierce were awaiting the formal certification.	Provide update at next meeting	JR
	<i>Testing of Water Systems</i>	DH advised that there was no update at this time as the commissioning programme was still awaited from DP. There had been an advance copy of the programme however this had not been provided formally and it was not integrated with the construction programme.	Await Commissioning programme	-
	<i>ENMS</i>	ASm was not present to provide an update regarding the problems that may have occurred on the testing which would be resolved over the next few days for testing w/c 7 th April 2013. ASm was not present to confirm whether confirmation had been obtained from RJohnson that the UPS by-pass switch would be included on the UPS bypass units. AF advised that in relation to the ENMS that the issues from the black start testing were ultimately resolved. ASm was not present to confirm that a copy of the report from the factory visit had been received from BMCL.	Obtain confirmation from RJ re UPS by pass switch - Obtain factory visit report	ASm - ASm
	<i>Water Sprinkler Tanks</i>	DH advised that the CDMC was in dialogue with BMCL to ensure that the appropriate method statements are included in the O&M. The CDMC was comfortable that the tank was for water only and that as there were no fumes there would be no issues.	Item closed	-
	<i>Area buffed through to steel reinforcement</i>	WR advised that he had reviewed this on site (close to 1 of the link bridge crossings). BMCL had been asked to provide a proposal to remediate this issue and BMCL were liaising with Dunne's however Capita did not think that issue was structurally significant. DH suggested that there should be a minimal coverage and queried whether the steel was at the correct depth in other areas. WR advised that the issue was extremely localised.	Provide update at next meeting	WR

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Item No	Item	Discussion / Information	Action	Action by whom
2.	Matters Arising (cont'd) <i>Exemplar QA Pack</i>	PM confirmed that he had received a copy of the QA pack.	Item closed	-
	<i>Crack in the pour</i>	It was noted that WSP had confirmed that the crack at Zone G, Ground floor, pour no 7 was within tolerance therefore this item had been closed.	Item closed	-
	<i>Birmingham Sign-off process</i>	PM acknowledged receiving a copy of the sign-off process as used at the Birmingham project therefore which PM was currently reviewing therefore this item could be closed.	Item closed	-
3.	<i>Capita Report</i> <ul style="list-style-type: none"><i>A&C Hospitals</i>	<p>The Project Supervisor reports were circulated in advance of the meeting. JR highlighted the following key points from the report:</p> <p>JR advised that standards and quality continued to be generally good and in accordance with the Employer's Requirements.</p> <ul style="list-style-type: none"> • QA process – JR had reviewed the QA procedures and checked BMCL documentation has there had been concerned regarding dislodged/disturbed insulation and had subsequently asked Brookfield to include a hold point with the checking process. JR advised that Mercury have an obligation to advise Astins that insulation has been dislodged/disturbed and Astins have an obligation no to board up the insulation. JR acknowledged that the QA pack had been received for the exemplar areas which had been opened up for inspection. A few snags had been identified during the exemplar area inspection which had been added to the BMCL IDMS system. In addition Capita had identified a defect as the rods for the curtain rail should be fitted to a pattress behind the ceiling tile affixed to the grid which should have additional hangers to hold the weight. • 85 point partition checks - a number had been carried out on site within the reporting period. One test had identified insulation moved to the side which was subsequently remediated. BMCL have raised this issue in toolbox talks to the sub-contractors and both Astins and Mercury are aware of the on-going insulation issues. • BMCL had raised an NCR for the block-work on the south and east elevations as there were a couple of different shades of pointing, etc. JR noted that there were a couple of areas which had been rebuilt. PM advised that he had spoken to AFernie who had advised that BMCL are in discussion with Praters regarding the blockwork quality. Capita would continue to monitor the blockwork. • EW notice raised due to water having gained access to the Structural panels. PM suggested that it was thought that the water was getting into the panel through the blind fixing access hatch as the blind was currently not installed. BMCL were proposing to clean the inner glazing panels. • Communication raised to BMCL requesting the programme for the air leakage testing. DH suggested that it may be some time before this is received unless BMCL agree to carry out testing to the exemplar area. <p>Civil & Structural (JR)</p> <ul style="list-style-type: none"> • Works were continuing to be carried out to a high standard and there had been no defects identified within the reporting period. • WR had received a response from WSP regarding the atrium link bridge deflection and the independent paint certificate was now awaited. • Drainage works – continue to be progressed in a satisfactory manner • Car Park piling has commenced and appears to be progressing satisfactorily. 	<p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p>	<p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p>

Item No	Item	Discussion / Information	Action	Action by whom
3.	Capita Report <i>A&C Hospitals (cont'd)</i>	<p>Civil & Structural (JR) (cont'd)</p> <p>PM noted that there appeared to be a belly in each of the link bridge spans and enquired whether it was known whether BMCL proposed to screed. WR noted that BMCL had always advised that they would apply a uniform screed and would look at the fenestration and elements of trimming, etc to ensure that these elements are all level. HMc advised that BMCL are advising that the deflection is tiny but the eye was indicating that it was not tiny and it would be worthwhile getting the amount of deflection. DH enquired whether BMCL would be adapting the skirting etc. AS suggested that the uniform screed would never hide the belly. WR noted that from a structural perspective there were no issues and if BMCL were to fill in the bellies then this would add more load to the bridge. WSP appeared to have analysed fully the structure loads and subsequently additional steel supports had been added in places. WSP were reporting that the deflection was compatible with their design and that he did not think that WSP were surprised at the deflection. WSP had back analysed to identify the deflections and distortions. AS requested that HMc and WR review the defection on site so that an idea of how the finishes will look can be obtained. WR suggested that BMCL could be asked for their proposals for the aesthetic finishes. HMc suggested that BMCL should be requested to provide the deflection results. WR noted that BMCL had previously been asked to provide deflection which had been provided and it was at this time that it was discovered that BMCL have had a columnation issue (may have used the wrong datum). AS requested that BMCL be asked to provide the deflection information and if there are any concerns regarding these results then WR/HMc can measure the deflection. WR noted that the deflection is the difference between the ends and the middle but every span will have some sort of deflection. HMc suggested that an indication of the belly should be identified. AS requested that Capita request that BMCL provide an explanation of how they propose to finish the area as if proposing to finish with a belly then AS would not be satisfied. DH suggested that this query should be raised at the forthcoming Hospital Construction Progress meetings.</p> <ul style="list-style-type: none"> • All other issues were being dealt with in an appropriate manner. • BMCL were carrying out checks on the piling and there was no intention to carry out big excavations. • Steel angle bracket - NCH first floor suspended ceiling (page 15) – response to communication awaited however BMCL were aware of the issue which would be resolved at the appropriate time. WR suggested that the fixings/nuts would need to be removed and washers installed and then remedial works carried out all the way round. • Drainage tests – witnessed at Zone C <p>M&E (AF)</p> <ul style="list-style-type: none"> • Significant amount of progress had taken place over the reporting period • Energy Centre – activity within the reporting period primarily focused on a significant witnessing of testing of the HV switch gear and generator black start tests. There had been some minor issues during the testing process which had been resolved and subsequently the A-side was handed over to the NHS • M&E fit-out to the Adult & Children's Hospitals were progressing at a pace • Capita had undertaken inspections in the reporting period and there had been a few issues highlighted to BMCL and BMCL are taking the comments made on board. • Sprinkler pipework - Page 14/15 – querying whether sprinkler will be effective and response awaited. • Access issues to hatches –being identified to BMCL and being addressed on site by BMCL 	<p>BMCL to be requested to provide the deflection information</p> <p>BMCL to be asked to provide proposals for link bridge finishes</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p>	<p>JR</p> <p>JR</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p>

Item No	Item	Discussion / Information	Action	Action by whom
3.	Capita Report	<p>DH enquired about the reference to the data cable trays which looked to be full. JR advised that he had raised this with JWales who had advised that they appeared to be full when you look from underneath however there was room on top to stack the cables. AFo advised that this would need to be monitored as some data cables do not like to be stacked due to the pressure being put on cables and on some occasions a data carpet should be installed to ensure that the cables do not get distorted. DH noted that a statement may need to be inserted so that in future if there is to be a further 25% additional data cabling to be installed that a data carpet is installed.</p> <ul style="list-style-type: none"> • Void detection – JR advised that Capita had raised a number of communications to BMCL regarding void detection and that a survey had been undertaken by Scotshield and the survey drawings were awaited by BMCL and BMCL would carry out the remedial works which would close out a number of these issues. <p>AS enquired whether in M&E terms there was sufficient Capita M&E resource to the project. JR advised that there was sufficient M&E resource and that the Capita reps may not always be seen as they tend to go straight out to the site.</p> <ul style="list-style-type: none"> • Drainage Access Panels – WR advised that he had taken the opportunity to review some void areas and the drainage rodding in these areas had subsequently been undertaken and all the testing had been satisfactory however it was clear that for some of the storm water drains it would not be able to be accessed at ground floor level as it is not possible to get a rodding position. Capita had requested that BMCL demonstrate that the rodding issue has been picked up elsewhere in the building and that it complies. In addition it had been observed that there was a storm water drain which had the access hatch in an unsatisfactory location. • Below slab drainage – normally is no smaller than 100mm diameter but that there is a transition piece installed at slab level between the above (50mm pipes) and below slab drainage and that there was no hatch. This concern had been raised with BMCL and a response was awaited. • Lead partitions – JR noted that there had been 2 locations where the lead lined partition didn't comply with the drawings. One of the locations had been raised to BMCL as a non-compliance and the other location had been raised as a defect. BMCL had been asked to provide a response. There was also a location where bats which were no short and a lead lined sheet had been put over the baton. Capita had reviewed their QA and identified that there are a few occasions identified where the lead lining has been punctured by a nail. Astins have reviewed and developed an action plan to carry out remedial works. • Damaged cladding (courtyards) – JR noted that BMCL had carried out sample remedial works to 2 cladding panels the previous day. One panel had remedial works carried out to an isolated area of the panel and the other panel had a full re-spray. JR advised that the remedial works were satisfactory. JWales had issued a number of queries to Prater i.e. to provide confirmation that the warranty will not be compromised, etc. • Block-work – South east elevation (page 23) – different shades of pointing had been identified. 	<p>-</p> <p>Provide update at next meeting</p> <p>-</p> <p>Provide update at next meeting</p> <p>Provide update at next meeting</p> <p>Provide update at next meeting</p> <p>Provide update at next meeting</p>	<p>-</p> <p>JR</p> <p>-</p> <p>JR</p> <p>JR</p> <p>JR</p> <p>JR</p>

Item No	Item	Discussion / Information	Action	Action by whom
	<i>A&C Hospitals</i>	<p>Defects</p> <ul style="list-style-type: none"> Access issues (page 25) - a lot of the defects related to access issues and a response was awaited to close these out. Fire dampers – BMCL have been requested to advise how they propose to carry out maintenance of the head once the ceilings are put in. DH advised that he had marked up a number of reflective ceiling plans and had identified that there were a few occasions that sprinkler heads had been pushed close to the wall and that a sprinkler should be placed no closer than circa 150mm from a wall. Smoke detectors (page 26) - smoke detector in a narrow void. AFo advised that BMCL had been asked to provide a response re compliance with BS re distances from walls and BMCL had also been asked how the smoke detector will be maintained. <p>AVSU unit (recessed into a fire wall) – JR had requested that BMCL provide a drawing showing how the opening will be formed and this was still awaited.</p> <ul style="list-style-type: none"> A defect list is included in the report A list of the witness testing and inspections over the period were noted in the report <p>PM enquired if BMCL were carrying forward lessons learned from the first zones into the other areas and this was confirmed. AS noted that the Critical Care area was lying open with no controls re access. DH noted that BMCL had advised that they would be closing the area down but had not confirmed the date for closing down. DH advised that he would raise this issue at the Hospital Construction Progress meeting scheduled to take place the following week. AS suggested that the completed areas need to get locked down asap so that there is no damage. DH suggested that the Project Team will need to understand the process of accessing areas. BMCL were due to install of the wireless access points and as the kit gets installed the risk of damage increases.</p>	<p>Provide update at next meeting</p> <p>Provide update at next meeting</p> <p>Provide update at next meeting</p> <p>Provide update at next meeting</p> <p>-</p> <p>-</p> <p>Raise closing down of areas at HCSP meeting</p>	<p>JR</p> <p>JR</p> <p>JR</p> <p>JR</p> <p>-</p> <p>-</p> <p>DH</p>
4.	NHS Observations	<p>HMc advised that in terms of M&E there were no NHS Observations which were not covered within the Capita report.</p> <p>HMc reported that there were 2/3 plinths to the NCH steelwork where were in the wrong place and expected that BMCL would have informed WR.</p>	<p>-</p> <p>-</p>	<p>-</p> <p>-</p>
5.	Information Requirements	JR noted that there was no NHS information outstanding. Capita were however awaiting the Commissioning Programme from BMCL.	-	-

Item No	Item	Discussion / Information	Action	Action by whom
6.	AOCB	DH noted that the NHS Team had been provided with a presentation re handover processes, etc and at the time had raised concern regarding JWales being the single point of contact and enquired if BMCL have the structure behind JWales should JWales not be on site for any length of time. JR advised that he was not sure whether there was a structure to support JWales at this time. JR noted that JWales had provided a number of dates for when areas would be completed. PM suggested that for resource planning purposes it would be advantageous to get key dates for the next 6 months. DH advised that there are a number of areas where physical rooms may be finished according to the programme however the M&E may be behind as the rooms may be tied into a plantroom. AFo noted that the exemplar area is finished but the M&E are being tested on an area by area basis and are not complete until full systems are up and running. There may be areas throughout the building which may finished from a fabric perspective however the commissioning may still to be carried out.	Request BMCL to provide info re room/area close down over next 6 months	JR
7.	Date and Time of Next meeting Friday, 7 th June 2013 at 2pm.		For noting	ALL

PROJECT SUPERVISOR INTERFACE MEETING: No33
Notes from meeting held on 7th June 2013 at 2pm in Meeting Room 1, Top Floor

Action Note

Present:
Alastair Smith (ASm)
Apologies:

Peter Moir (PM)
John Redmond (JR)

Allan Follett (AFo)
Shiona Frew (SF)

Alan Seabourne (AS)
Willie Roxburgh (WR)
Graeme Thomson (GT)

David Hall (DH)
Hugh McDermott (HMc)

Item No	Item	Discussion / Information	Action	Action by whom
1.	Action Note from Previous meeting	Accepted as an accurate record.	-	-
2.	Matters Arising			
	<i>Air Leakage Tests</i>	DH advised that the proposal at the moment was unaltered however BMCL are now considering whether rooms in the exemplar area can be brought forward for testing.	-	-
	<i>Link Bridge Fire Protection</i>	JR advised that BMCL had received a certificate of conformity from JD Pierce however Capita did not yet have the dry film thickness test results from BMCL. PM enquired if the dry film thickness tests were being carried out by themselves or by an independent contractor. JR agreed to check whether the dry film thickness tests were being carried out by an independent contractor.	Advise of any issues when information received	JR
	<i>Testing of Water Systems</i>	AFo advised that the Commissioning Programme did not provide any confidence in how BMCL plan to carry out the water testing. At the moment BMCL are proposing to carry out air tests and filling the system and leaving treated however the programmes did not give any detail for the testing. PM enquired if this needed to be progressed with BMCL. AFo suggested that the process needed to be known soon. DH suggested that BMCL should be requested to provide the testing procedures via an RFI. JR agreed to provide DH with a draft RFI for DH to issue. AFo noted that at this point BMCL must know how they are going to test the systems. PM enquired whether the testing involves over pressurising the system and this was confirmed by AFo.	Provide RFI wording to DH re testing of water systems – commissioning programme	JR/AFo
	<i>ENMS</i>	AGS noted that this item was now closed as the drawings for the UPS and the By-pass switch had been obtained and were currently being reviewed. AGS noted that the factory visit report had not yet been received however the report had now been overtaken by the current situation and the ENMS issues appear to be resolved. The only information awaited from BMCL was in relation to the change to the load sensing (labs lightning). AFo noted that he had not seen the proposal as to how BMCL are going to resolve the labs lighting issues. AGS agreed to chase up a copy of the factory visit report.	Obtain factory visit report	ASm
	<i>Area buffed through to steel reinforcement</i>	WR noted that he was awaiting proposals from BMCL to remediate the localised area where the concrete had been buffed through to the reinforcement (core H first floor). WR advised that the issue was very localised and that there were no structural issues. PM advised that he would be satisfied as long as BMCL get a flat substrate for laying the vinyl.	-	-

Item No	Item	Discussion / Information	Action	Action by whom
2.	Matters Arising (cont'd) <i>Link Bridge</i>	JR reported that BMCL have advised that in relation to SR2 flatness the link bridge was within tolerance. JR had enquired about the finish and levelness of the link bridge and BMCL had advised that there is currently a 40mm deviation however this may change as the bridge is loaded up with the pods and the glazing. JR noted that BMCL are allowed to have 1mm deviation per metre and as the span is circa 57m. BMCL had advised that the finish will be a screed then vinyl and that they have no plans to level across the span. DH suggested that the door in the middle of the link would therefore be at a different height from the doors at the end. PM suggested that an Early Warning be issued to BMCL and that he would advise at the HCP that an Early Warning will be issued in due course. PM noted that he was not concerned about the floor finish but he was concerned about the deflection.	PM to consider raising EW re link bridges	PM
	<i>Data Cables/Data Trays</i>	AFo advised that carpet for the stacking the data cables was not a specification item AFo had spoken to BMCL and Boston regarding the need to put in carpet and both parties had confirmed that there was no requirement to install carpet. The only item to be concluded was in relation to spare capacity and JR advised that there was no issue re spare capacity.	Item closed	-
	<i>Void Detection</i>	JR noted that the Scotshield drawings and report were awaited. DH agreed to raise with BMCL as he suspected that the delay may a Scotshield resource issue.	Liaise with BMCL re Scotshield report and drawings	DH
	<i>Drainage Access Panels/Below slab drainage</i>	JR advised that feedback was awaited from BMCL. WR noted that the below slab drainage tests had been completed in zone C. BMCL have started putting all the test results on Zutec and BMCL also have some CCTV reports and BMCL would review this information in due course. WR suspected that BMCL may need to washout the drainage pipes as BMCL had been getting muck down into the pipes.	-	-
		DH noted that he had reviewed an above ground drainage drawing and had marked this drawing up with comments re access, rodding points, etc. PM noted that he expected that the rodding points would be at ground level and JR advised that this was not an unreasonable request. WR noted that as long as the rodding point was not above head height on the ground floor then this would be acceptable.	-	-
	<i>Lead Partitions</i>	JR noted that he had issued a communication re partitions. Astins had surveyed all the partitions and photographic evidence of the survey had been provided. JR had reviewed the partitions on site with BMCL and subsequently carried out an 85 point check are there were no issues.	Item closed	
		DH noted that confirmation from AFe regarding testing dates was awaited. AFe had been requested to confirm one of the three dates which had been offered.	-	-
	<i>Damaged Cladding to courtyards</i>	JR noted that the remediated panels had been reviewed and were satisfactory. The warranty confirmation was awaited from Rookie.	Advise of any issues when information received	JR
	<i>Different shades of pointing</i>	JR advised that BMCL were awaiting Prater to clean the block-work before they comment on he works. BMCL had already raised an NCR on the works.	-	-

Item No	Item	Discussion / Information	Action	Action by whom
2.	Matters Arising (cont'd) <i>Access difficulties</i>	JR noted that there were a few older communications awaiting close out and he would raise this at the HCP meeting. JR advised that there was a lesser occurrence of access difficulties on site.	-	-
	<i>Sprinkler Heads close to the wall</i>	AFo noted that there were some sprinkler heads which were being installed in close proximity to either walls or windows and the drawing shows they should be fitted closer to the centre of the room. Capita had asked BMCL to confirm that the install is compliant with the sprinkler design.	Advise of any issues when information received	JR
	<i>Smoke detectors</i>	JR advised that Capita had received 1 response regarding 1 smoke detector item. PM enquired if this was a situation whereby BMCL are continuing to fit smoke detectors without taking cognisance of issues previously identified. AGS noted that in some instances it was due to access difficulties due to lower ceilings where there is 1m between the ceiling tile and the detector and there was no device to get operatives above the ceiling tile. AFo noted that DPike had been requested to provide a proposal as to how it was proposed to get above ceiling height. AFo noted that in some places the devices had to be installed as otherwise there would be no coverage therefore there will be a requirement for deviations. AFo noted that it was possible to carry out testing. DH enquired if the issue was because some of the areas don't have ceilings therefore the device was being fitted to the soffit rather than the ceiling and this was confirmed. HMc suggested that there is special access equipment available however the Estates Reps would expect this to be provided to them. PM advised that if BMCL need to provide special access equipment then they should be pushed to do so.	-	-
	<i>AVSU</i>	JR noted that the AVSU issue had been closed however he had asked BMCL to provide a more up to date drawing as the current drawing did not show the detail.	Item closed	-
	<i>Close down of areas</i>	AFo noted that he had been on site earlier that day to look at the perimeter access control and it was thought that the access control system would be coming into operation on 10 th June 2013. From 10 th June access to these areas would be via an access control card or the BMCL floor manager. HMc suggested that it would be beneficial for the Project Team to have a few cards in the office and this was agreed. AFo noted that the programme for the close out of areas had been received and BMCL were generally working to within a few days of the programme. PM noted that the next batch of programmes were due to be received and requested that DH liaise with GT to close out the current batch of programmes.	Liaise with BMCL re obtaining access control cards for the Project Team	HMc
3.	Capita Report	The Project Supervisor reports were circulated in advance of the meeting. JR highlighted the following key points from the report:	-	-
	<ul style="list-style-type: none"> <i>A&C Hospitals</i> 	<p>JR advised that standards and quality continued to be generally good and in accordance with the Employer's Requirements.</p> <ul style="list-style-type: none"> • QA process – Capita regularly reviewed the BMCL QA documentation • Quality compliance checks had been carried out to areas 525, 526 and 528 and the standard was good with only a few minor defects being picked up by Capita and subsequently loaded onto the BMCL IDMS system 	-	-

Item No	Item	Discussion / Information	Action	Action by whom
3.	Capita Report <i>A&C Hospitals (cont'd)</i>	<p>M&E (AF)</p> <ul style="list-style-type: none"> • Inspections and a lot of witness testing had been carried out throughout the period • Overall, AFo was comfortable that works on site are in accordance with the Employer's requirements • Witnessed tests to chilled beam water systems and tests were satisfactory • Plantroom 21 – BMCL had presented a sample air handling unit in order to get a standard for going forward. Capita had provided comments/observations to BMCL and a response was awaited • HV Switchgear tests –witnessed over the period (substation due to go live in July) • Energy Centre – a programme to commission the Energy Centre was now available – commissioning from now until handover. There was a significant amount of commissioning activities to be carried out to the Energy Centre. • Generally, works are progressing well. <p>AFo was keeping on top of the commissioning activities. PM requested that AFo inform AGS, HMc and DH re any major testing activities and this was agreed. PM noted that IP may need to be present at some of the testing. DH noted that IP was focussed on ensuring that all the contracts were put in place i.e. Board staff will not operate or maintain the CHPs. DH enquired about the BMCL query re the cladding material to the air handling unit. DH had liaised with DP and requested that queries are progressed through the formal process. AFo advised that BMCL had suggested that they wished to aluclad. DH reported that as BMCL Had not requested the changes formally then the cladding should be installed as per the current spec.</p> <ul style="list-style-type: none"> • Significant amount of progress had taken place over the reporting period • Energy Centre – activity within the reporting period primarily focused on a significant witnessing of testing of the HV switch gear and generator black start tests. There had been some minor issues during the testing process which had been resolved and subsequently the A-side was handed over to the NHS • M&E fit-out to the Adult & Children's Hospitals were progressing at a pace • Capita had undertaken inspections in the reporting period and there had been a few issues highlighted to BMCL and BMCL are taking the comments made on board. • Sprinkler pipework - Page 14/15 – querying whether sprinkler will be effective and response awaited. • Access issues to hatches –being identified to BMCL and being addressed on site by BMCL • AFo noted that the report included a fair amount of issues previously but hadn't yet been closed out and needed to be closed out asap. DH agreed to raise this with BMCL. <p>PM raised concern that the partition insulation issues appeared to be occurring more frequently. JR suggested that May had been a bad month as previous 85 point partition checks had as many bad results. DH noted that he had been advised that for every 20 Astins operatives who start on site that circa 6 leave within 2 weeks. HMc advised that Astins had circa 200 operatives on site. DH suggested that there could be a number issues which could be attributed to the poor partitions. HMc suggested that sample testing could be done using a camera. DH noted that the on-going partition issues provided a good reason to request that the acoustic testing be expanded.</p>	<p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>Advise NHS Team re testing dates for big pieces of equipment</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>Liaise with BMCL re close out of Capita communications</p> <p>-</p>	<p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>AFo</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>DH</p> <p>-</p>

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Item No	Item	Discussion / Information	Action	Action by whom
3.	Capita Report <i>A&C Hospitals (cont'd)</i> Car Park	Defects (JR) <ul style="list-style-type: none">14% were awaiting response- majority raised in the last few weeks Supervisor Communications (JR) <ul style="list-style-type: none">2% awaiting response DH noted that there were a large number of tests that are repeat tests and Capita were not attending them all however how much feedback was Capita receiving for those tests that Capita had not attended. AFo advised that Capita were not witnessing all the tests and that BMCL were uploading test results to Zutec however Capita were not always informed that test results had been uploaded. DH enquired what feedback Capita received for those tests which had failed and AFo advised that if there are any issues during testing that the test is stopped and the issue resolved before restarting the testing. AFo suggested that there was not full transparency regarding testing however the test results are uploaded to Zutec but Capita need to look for them. AFo advised that some of the programmes did not identify everything that would be tested and that it would be used to have a schedule of what is being tested and when. WR noted that the piling works were well advanced and the quality appears to be satisfactory to date. Dunne were starting to do the excavations and these appear to be no deeper than the cut-off point. DH noted that he had requested that Capita be provided with construction drawings for the car park. WR advised that PMcGuinness had been providing some drawings and other information via Aconex. WR was currently awaiting the method statement for the piling works however PMcGuinness hadn't been satisfied with the first method statement provided by Dunne and were awaiting revised information.	- - - -	- - - -
4.	NHS Observations	HMc advised that there were no major issues which had not already been picked up in the Capita report. HMc noted that he had been unable to find any information on Zutec in relation to the front doors at the Labs Building. PM suggested that the doors could be fitted with reasonable sized d handles. AGS suggested that the issue was only occurring on the heavier of the used door. PM suggested that as the issue was being raised as a Health & Safety issue therefore handles should be fitted to both doors. HMc requested a copy of the link bridge deflection report once available.	- - Copy of deflection report to be provided to NHS team	- -. JR
5.	Information Requirements	WR noted that Capita had highlighted some time ago that there were bolts holding up a wall bracket in the NCH were had not been responded to and now the concrete deck had been cast on the rigging which will make it more difficult to resolve.	-	-

Item No	Item	Discussion / Information	Action	Action by whom
6.	AOCB	WR noted that Capita had highlighted some time ago that there were bolts holding up a wall bracket in the NCH were had not been responded to and now the concrete deck had been cast on the rigging which will make it more difficult to resolve. PM suggested that outstanding issues should be raised at the forthcoming HCP meeting.	Raise any outstanding issues at HCP meeting	ALL
7.	Date and Time of Next meeting Friday, 5th July 2013 at 2pm.		For noting	ALL

PROJECT SUPERVISOR INTERFACE MEETING: No34
Notes from meeting held on 5th July 2013 at 2pm in the Boardroom, Top Floor

Present:	Peter Moir (PM)	Allan Follett (AFo)	Alastair Smith (AGS)	David Hall (DH)
David Loudon (DL)	Ian Barnes (IB)	John Redmond (JR)	Willie Roxburgh (WR)	Shiona Frew (SF)
Apologies:	Alan Seabourne (AS)	Graeme Thomson (GT)	Hugh McDerment (HMc)	

Action Note

Item No	Item	Discussion / Information	Action	Action by whom
1.	Welcome and Introductions	PM welcomed DL to the meeting and AFo explained the role of Capita on the project.	-	-
2.	Action Note from Previous meeting	Accepted as an accurate record.	-	-
3.	Matters Arising	It was noted that the following items had been closed out since the last meeting: <ul style="list-style-type: none"> Damaged cladding to courtyards Close down of Areas 	Item closed Item closed	- -
	<i>Air Leakage Tests</i>	<p>It was noted that the following items were WIP to close out:</p> <ul style="list-style-type: none"> Air Leakage Tests Link Bridge Fire Protection Testing of Water Systems ENMS Area buffed through to steel reinforcement Link Bridge Void Detection Drainage Access Panels/Below slab drainage Different shades of pointing Access difficulties Sprinkler Heads close to the wall Smoke detectors <p>It was noted that BMCL had tasked ARichardson & FShaw & SJackson to identify specific rooms and JWales was co-ordinating this activity. Once agreed JWales would meet with RSK to confirm the areas and ABebington would programme these works/tests.</p>	-	-

Item No	Item	Discussion / Information	Action	Action by whom
3.	Matters Arising <i>Testing of Water Systems & ENMS & Void Detection</i>	<p>AFo noted that Capita was still pushing BMCL to provide responses to close out many of the items and that some responses had subsequently been provided which had closed out a few of the outstanding items.</p> <p>DH advised that he had spoken to DPike informally and advised that there was concern that as activities ramp up that those long outstanding items may be left behind. JR noted that DP was scheduled to meet with RO'Donovan to discuss access problems. PM enquired about the occurrence of access issues and AFo explained that some areas had more issues than others. DH enquired if some were isolated occurrences i.e. a pipe is across a duct and will be resolved. AFo noted that there was a fundamental issue re access to main pipework in the duct and DP would be providing a solution to this issue DH advised that there were 2 access issues i.e. a) suspended ceilings and b) bulkheads. DH reported that Mercury apparently have a piece of equipment to assist accessing the pipework in the voids however a method statement for the safe access to plant would need to be provided and it would be expected that the equipment would be provided by BMCL/Mercury. The BMCL proposals/method statement to access ductwork would be reviewed by the CDM Co-ordinator.</p> <p>DH noted that in relation the testing of the water systems the NHS Team needed to understand the principles of what BMCL would be doing to charge systems. AFo advised that BMCL would be carrying out air tests in the first instance and then would fill with water and retardant for testing and this water/retardant would be left in the pipework. PM noted that leaving the water in the pipework was preferable to emptying the pipework after testing and leaving empty. AGS noted that the first fill of the tanks had come from the Govan Road metered supply and DW had indicated that BMCL propose to install an on-site construction meter for the filling of systems.</p> <p>DH noted that AS had previously raised concern refilling systems and then discarding the water after testing. IB advised that some of the water could be recovered for flushing other pipework. AGS noted that he had estimated that BMCL could be using 2m⁴ per hour. PM requested that Capita request BMCL to confirm the water testing proposals.</p>	-	-
	<i>Dates for testing of major pieces of equipment</i>	<p>AFo advised that Capita had carried out witness testing over the period however there had been no testing of any big plant as yet. Over the next few months there was expected to be a lot of activity regarding the Energy Centre and Capita have received a draft copy of the commissioning proposals for the Energy Centre. PM suggested that the activities were spread across different programmes and AFo confirmed that generally the activities were either on the Energy Centre programme or included with the plantroom activities. DH reported that DWilson usually issues an email when there is a significant piece of kit being tested asking who the NHS wants to attend this testing. AFo advised that Capita continue to liaise with DWilson and were happy with the arrangements in place. DH reported that it was generally for the Project Team to advise IPowrie when specific pieces of equipment were being tested. DL reported that going forward IPowrie should be given the opportunity to attend testing as IP decides. DH advised that he would request that IPowrie be added to DWilson's communication circulation list.</p>	Request BMCL to confirm the water testing proposals.	JR
			DW to be asked to add IP to the distribution for the testing	DH

Item No	Item	Discussion / Information	Action	Action by whom
3.	Matters Arising <i>Link Bridge</i>	PM acknowledged that he had received a copy of the link bridge deflection report and it appeared that the deflection was between 80-90mm. WR noted that the difference in level isn't necessary the deflection and that the information which had been circulated related to the difference in level from the datum. PM raised concern that in relation to sight lines of the finishes (i.e. skirting) that it would be difficult to make sure that these were satisfactory and that AK had suggested at the previous Hospital Construction Progress meeting that there would be a thin screed applied. WR noted that Capita had raised a communication regarding this and a response was awaited. JR reported that he had discussed this on site with JCurry who indicated that a self-levelling screed was to be applied which would follow the contours of the existing bridge. PM enquired whether BMCL should be requested to provide an exemplar floor. DH suggested that BMCL would want to have all the pods and glazing installed before applying any screeding. DH suggested that the 4 th floor may be the best floor to request as an exemplar. WR reported that the screed would be best applied once all the dead weight had been installed and that either the 4 th or 7 th floor would be the best floors to get as exemplar areas. WR noted that structurally there were no issues and that the BMCL designers had passed the structure for the installation of the pods, the issue was aesthetic. JR reported that the pod floor reflects the level at the door into the pod. PM enquired if there was any more formal way to raise the NHS concern. JR advised that the Capita communication referred to both the levelness and flatness. BMCL had confirmed that the flatness was SR02 however had not provided feedback re the levelness. JR noted that SR02 flatness was compliant. JR suggested that Capita could ask BMCL to confirm whether the floor would be level or would follow the contours and this was agreed.	Raise communication to Capita re aesthetic/finishes to link bridge	JR
3.	Capita Report	The Project Supervisor reports were circulated in advance of the meeting. JR highlighted the following key points from the report:	-	-
	<ul style="list-style-type: none"> <i>A&C Hospitals</i> 	<p>JR advised that standards and quality continued to be generally good and in accordance with the Employer's Requirements.</p> <ul style="list-style-type: none"> QA process – Capita regularly reviewed the BMCL QA documentation and procedures. Quality compliance checks had been carried out to area 523, level 1 and found that the finish was to a good standard with minimal defects which had been recorded on the IDMS system. A check had also been carried out in 525 and 526 where putty pads were found to be missing from sockets and light switches which were addressed immediately. A 85 point partition check was carried out to level 1 527 and 528 (no failures identified) and level 1 527 (2 failures identified). 85 point partition check witness testing to the sub-station had been stopped as there were too many failures to carry on testing – the failures related to sealant missing from the head track and not enough fixing to some boards and BMCL had raised an NCR to Astins regarding the operative who had carried out these works. JR noted that the BMCL had amended there QA process to include a new hold point which now meant that Astins can't finish off the final boarding (second side) until BMCL have checked the partition. BMCL NCR Tracker had been reviewed and the 2 main issues were a) the blockwork to the east elevation (awaiting handover from Prater to BMCL) and b) the water in the Structal panels. PM advised that he wished to review the east elevation blockwork when offered to Capita for review. <p>M&E (AFo)</p> <ul style="list-style-type: none"> Capita are continuing to carry out witness testing and inspections noting that BMCL had started M&E fit out work to level 9. 	<p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p>	<p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p>

Item No	Item	Discussion / Information	Action	Action by whom
3.	Capita Report	<p>M&E (AFo) – cont'd</p> <ul style="list-style-type: none"> Capita had carried out an inspection to the renal plant room on level 1 further to the recent fire in order to identify the extent of the damage. AFo noted that Capita were awaiting formal paperwork from BMCL regarding the fire however it appeared that the fire damage had travelled further than the immediate area. Capita were awaiting feedback re how far they would strip back from the damage i.e. smoke damaged cables. DH noted that BMCL should be providing a scope of remedial works for review and agreement by the NHS. Page 13 – repetitive comments and there are similar installs across the building. Zone J levels 10 & 11- fire testing satisfactory. Restricted access to sprinkler heads – Capita will continue to push BMCL for a response Pipework – generally happy with the install and minimal instances where seeing open ends. Trip hazard re condensate gulleys – raised with BMCL and awaiting response. Capita expect that this should be ramped up/over/down rather than covering. JR noted that the CDM Co-ordinator had been asked to provide comment. IB noted that these comments needed to be incorporated into a BMCL lessons learned report and cognisance needed to be taken re route of pipework to minimise the chance of this happening elsewhere. AFo noted that Capita had reviewed the room on the basis of exemplar area and expect BMCL to learn lessons for going forward. Air-handling units – comments provided to BMCL i.e. suggested that Capita was not sure it is a fully compliant system. BMCL had been requested to confirm where the system is not fully compliant with the relevant SHTM. DH reported that contractually BMCL are responsible for identifying derogations which will then be checked off technically by the NHS and C&B advisors. IB advised that he had been told that the units “generally” comply and he had pressed BMCL to provide an explanation of “generally”. PM enquired how many points were being raised against the air handling unit to be signed off and IB advised that there were a number of points, many of which could be closed however there was still queries regarding the fuser plate that was to be fitted into the unit and the grade of filtration to the back filters, etc. PM enquired if there were any issues for the Board going forward and IB advised that there were no issues at this time however Capita were pushing to ensure that everything is correct in the first instance for going forward. DH noted that he had received a communication advising that the requested F7 filters had now been re-graded as M6 filters and going forward would be labelled as M6 filters however these filters did meet the previous spec for F7 filters as had been requested. DH agreed to provide the communication to Capita. AFo noted that it was proposed to raise the air handling plant and access to equipment at a high level items at the forthcoming HCP meeting. HV testing on the substation 5a, 5b, 2a and 2b – carried out witness testing. Levels 2a and 2b were now live in the building. BMCL were starting to get mains supply into the building. The live supply would start to filter up through the building. AF noted that it was a good point in time getting the power into the building. AGS advised that BMCL were starting to use power off the sub-stations therefore AGS would obtain the meter readings. PM requested that AGS recorded the meter readings in a file going forward. AFo reported that his overall impression was that the standard and quality was good with good progress being achieved though the building and the Capita were satisfied with the testing processes in place. Access issues, etc were being picked up and dealt with quickly. Capita were not concerned regarding any deviations from the standard. DH noted that there are a series of alternate design solutions i.e. fire engineered solution for the building and that he was not aware of any derogations to air handling units and would check this out. 	<p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>Provide communication to Capita re filters</p> <p>Raise air handling plant at HCP</p> <p>Record meter readings</p> <p>Identify if there are any derogations to the air handling units</p>	<p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>DH</p> <p>JR/AFo</p> <p>AGS</p> <p>DH</p>

Action by
whom

Item No	Item	Discussion / Information	Action	Action by whom
3.	Capita Report (cont'd)	<p>General Progress (JR) – cont'd</p> <ul style="list-style-type: none"> • Fire stopping and dry film thickness – survey results received and under the technical guidance there was no need for BMCL to provide results for the touch-up areas as these are very small. • SFS system (NCH) – have doubled up the studs around the windows which has resulted in cold spots – this was due to the way the SFS had been measured and fitted. PM enquired how BMCL proposed to resolve the cold spots and JR advised that in the Adult Hospital BMCL had sprung the boards, added some insulation and refitted the boards. • Page 35 of the report indicates the witness testing carried out throughout the month. <p>PM enquired about the tests that didn't pass. JR advised that these were not included in the report however going forward would be included.</p> <p>DL enquired about the Capita inspection regime and asked how confident Capita were there isn't more areas in which the partitions would fail. JR advised that under the contract that Capita cannot request that BMCL open up partitions however in the past when Capita have suggested that they open up other areas this has generally been carried out. BMCL needed to satisfy themselves that the partitions were being constructed appropriately. JR noted that on zone j level 1 that BMCL had opened up every partition. DL acknowledged that 100% perfect is not realistic however the Board needed to have a level of confidence that everything is being constructed as should be. DH noted that in response to the ongoing issue partitions and missing insulation that BMCL had added a hold point which meant that an area could not be second boarded until BMCL were satisfied that the partition/insulation was correct. There had been 1 particular squad who had been constructing the partitions not in accordance with the spec and this squad was now off-site. The responsibility to board the partitions is with Astins however it was not necessarily Astins fault as the issue may have been caused by a Mercury operative going back in to install conjute and disturbing the insulation. DH noted that the 85 point partition check is a random sampling process whereby BMCL pick 1 partition to open up and if it fails then another few partitions are opened and if these fail then more and more are opened up. DL sought confirmation that it was BMCL responsibility to understand that QA process works and this was confirmed. DH advised that there was circa 100 random samples done and that at the end of the job there was acoustic testing to be carried out (random sampling). PM noted that the hold point should reduce the incidence/recurrence of the partition insulation issues.</p> <p>IB advised that it had been noticed that in some of the support systems in the hybrid gantries a drop rod off the unistrut was being used and that it was thought that due to the weight of the hybrid gantries that bolt fixings may cause problems. AGS advised that he had observed that there were a series of connection on one bar and that he had witnessed deflection to some of the unistrut bars and could provide Capita with pictures. IB noted that in some instances the fixings looked inadequate and concern had been raised in plantroom 31. Other areas have been checked and the issue is not consistent. BMCL have been asked to confirm what the correct detail for the fixing of the unistrut is as it would have been expected that there would be some form of lateral restraint. WR advised that the unistrut needed to be bolstered up with adequate lateral restraint noting that unistrut is a common product. WR noted that it had also been observed that on some of the steelwork the washers being used looked to be inadequate. DL enquired how this issue would be resolved and JR noted that Capita raise issues to BMCL as defects and communications. DL enquired if there was a specific response time and JR noted that the response time varied however Capita stated a response time on their communications/defect notifications. DL advised that if there are any safety concerns then these must be notified to BMCL asap. IB noted that the fit out of the plantrooms was progressing at a pace. DL suggested that any inadequate details needed to be picked up quickly so that the issue is not replicated through the building.</p>	<p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>Raise defect notification re steelwork washers</p>	<p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>JR</p>

Item No	Item	Discussion / Information	Action	Action by whom
4.	NHS Observations	<p>AGS noted that Capita had identified an issue re the panels in the ceiling whereby the supports had been pulled together into one system which was becoming a common occurrence.</p> <p>AGS noted that endcaps to the trunking had been identified as being quite loose and suggested that BMCL should perhaps fix these so that they cannot easily be dislodged.</p> <p>AGS reported that it had been noticed that there were plastic bags covering the medical gas outlets and that on level 4 there were plastic bags missing from the outlets. DH suggested that this needed to be reported to ISandford and agreed to liaise with ISandford regarding this observation.</p>	<p>-</p> <p>-</p> <p>Liaise with ISandford re outlets missing protection</p>	<p>-</p> <p>-</p> <p>DH</p>
5.	Information Requirements	It was noted that there were no information required from either the NHS or Capita.	-	-
6.	AOCB	<p>DH enquired if everyone was aware that the NHS had instructed that works be stopped in the haemato-oncology area (level 4 south west) as there is a potential alteration to extend this area.</p> <p>PM advised that there had been a shattered glass panel in zone g which had occurred during lifting operations and which had subsequently been removed.</p>	<p>For info</p> <p>-</p>	<p>ALL</p> <p>-</p>
7.	Items to be raised at the HCP	<p>Access plant at high level</p> <p>Air handling units</p> <p>Scope of Remedial works in respect to fire damage</p> <p>Structural panel water ingress</p> <p>Atrium link bridge.</p>	Raise at HCP meeting	ALL
8.	Date and Time of Next meeting Friday, 9 th August 2013 at 2pm.			For noting ALL

PROJECT SUPERVISOR INTERFACE MEETING: No35
Notes from meeting held on 8th August 2013 at 2pm in the Boardroom, Top Floor

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Present:	Peter Moir (PM)	Hugh McDermont (HMc)	Alastair Smith (AGS)	David Hall (DH)
	Ian Barnes (IB)	John Redmond (JR)	Douglas Wilson (DW)	
Apologies:	Graeme Thomson (GT)	Willie Roxburgh (WR)	David Loudon (DWL)	

Item No	Item	Discussion / Information	Action	Action by whom
1.	Apologies	Noted above	-	-
2.	Action Note from Previous meeting	Accepted as an accurate record.	-	-
3.	Matters Arising	<p>It was noted that the following items had been closed out since the last meeting:</p> <ul style="list-style-type: none"> Floor cracking – No 132 LTHW pumps vibration issue – No 123 Fire rated ductwork damaged – No 136 Filtration bag grading to standard throughout Void detectors – No 90 Detector heads obstructed – No 93 Void detectors in clean area – No 112 Protected duct mounted heater – No 127 Floors at atrium bridges – No 120 Exposed pneumatic tube end covered – No 130 Insulation missing at vertical SFS NCH windows – No 129 Duct access hatch by chilled water pipe – No 56 Duct obstructed by modular frame – No 14 Restricted access to ductwork – No 48 Access to hatches – No 53 11th floor atrium repairs to intumescent fire coating – No 55 Failed partitions and floortrack identified – No 58 Air Test procedure and programme – No 22 	<p>Item closed</p> <p>Item closed</p>	<p>-</p> <p>-</p>
4.	Work In Progress	<ul style="list-style-type: none"> Water for wet system and tank tests – water being used for this purpose was metered so that NHS would be aware of amount being used. For tank testing a large amount of water will be used and if this had to be fully jettisoned it would be wasteful. There may be issues with contamination if the systems remained charged until brought into use, Capita will check and issue communication to confirm position with Brookfield. Fortcrete facing blockwork and pointing on south and east elevations – Board remain concerned with quality, Brookfield have confirmed they intend letting the work 'weather' to see if the position improves, BMCL has NCR against their sub-contractor for this work. Adult atrium bridge – deflection checks have been made and confirmed within design tolerance and signed off by WSP. While this closes out No 120 and compliance with SR2, Brookfield require to provide proposals of how 		<p>JR</p> <p>JR</p>

A51769432

		they intend dealing door openings, skirtings and ceilings. Response required from BMCL, Capita to raise communication.		JR
5.	Capita Report	<p>Air Handling raised at PMG – deregations – none noted</p> <p>Power readings – AGS had agreed to record all sub-station readings and compare with costs arising from Brookfield.</p> <p>Steel Washers – Capita received comprehensive reports but concern raised over a week point – BMCL reported rigorous testing of bolts and not issues with shearing</p> <p>MTHW – DH had reported that this had been walked through with IP and a route had been identified to a vacant room. This now required to be tested by design review and would place a proposal to the board to take this forward.</p> <p>Zone completion - Progressing as expected with QA and compliance checks continuing. JR noted minor defects such as blind handles stiff, nurse call pull cords in the incorrect position all have been reported to BMCL and project team. A communication has been raised about the incorrect position of smoke detectors in relation to supply vents and the requirement to have these relocated. It was noted that due to the congested ceiling spaces it may prove difficult but it was noted that it only required to be moved to a minimum 1000mm away from vent.</p> <p>85 point checks continuing to be carried out and fed back on missing insulation on level 0</p> <p>Car Park 2 Piling – although this work is now complete the final reports are still awaited.</p> <p>Highlights of the report -</p> <ul style="list-style-type: none"> • Steel fixings of 1st floor composite deck at Zone A within NCH - check that to specification and report is awaited from BMCL. • Two internal RHS columns in NCH at Zone B held up by adjoining steel work – BMCL to confirm final detail of connection to concrete. • Paint damage to steel works in Zone B of NCH – remedial works to be carried out and rechecked. • Air Leakage Tests – drawings now received on 9th August and locations agreed. • Missing bolts at parapet of NCH –Capita raised with BMCL and WSP have offered a solution – formal response is awaited. • Insufficient nut connection to bolt thread – WSP to provide a design response. • Floating plate either missing concrete or edge distances are minimal to prevent HD bolt fixing – WSP asked to provide a response and BMCL will report back. • Drainage – SC raised 116 – response received but will require a further walkthrough. • Storm drainage access unsuitable – BMCL require a walkthrough to check but confirm installed as per construction issued approved drawings. • Sprinkler heads too close to duct work – issue raised with BMCL and response awaited. • Trip hazard in plant room 21 – BMCL developing a system to ensure safe. • Access to valves for medical gases – BMCL and Mercury developing a strategy for access. ISandford noted issues with valves being high in the void and away from ceiling. BMCL to provide a list of all valves and positioning which will be reviewed by Estates and project team. • Pipework connections above unistrut and difficult to access – Capita have identified access difficulties and have raised communication. Access difficulties above ceiling BMCL/Mercury are preparing and access tracker. 	Capita to check process	DH JR/DW/IB

- Fire Alarm points void reducing access for maintenance – Mercury/BMCL preparing Access Tracker – JR asked if estates to be involved in the process.
- Pipework support being bent under the weight of prefab pipework module in plant room PR31 – BMCL to investigate
- Sprinkler system pipe clashing with electrical trunking on level 2 – BMCL addressing.
- AHU not in compliances with HVAL resulting in high pressure loss – item to be replaced.
- Assurances required from BMCL on the fire retardant properties of the flexible fixing connections in PR31 also within HEPA filter plant.
- Fan discharge velocity issues have had diffuser plate fitted to alleviate this. Reassurance required that adequate for purpose.
- Reduced fan power issues raised. BMCL confirm compliant with ZBP design but assurance required and listing of minor to major to be listed.
- Access via access hatches being blocked on level 2 will be investigated and reported on the access tracker.
- Communication cables for the sub-station are to be relocated.
- Infill board not to same standard as other board ie not lead lined. Review of design will be required to have NHS approval before being cleared off Capita's supervisors instructions.
- Ducting access within room EMC-012 to be confirmed by BMCL.
- Brickwork poor workmanship issues have been raised with BMCL and brickwork contractor – progress will be fed back via the Hospital Construction meeting and if necessary will be actioned by PM.
- Issues with en-suites on level 0 and level 3 cut outs – Capita raised the question of there being adequate fire protection – BMCL to respond.
- Pull cords within some en-suites are located in unsuitable positions – Mercury will investigate and relocate where possible to a more suitable position.
- Screw fixings too close to the edge of boarding feed back is awaited from BMCL.
- Insulation to upper sections of partitioning missing – BMCL addressing before further inspections are undertaken

PM noted that some of these issues have been noted for some time and required to have resolutions and closed off

Some other issues noted during walk rounds were – ensuite doors in coronary care being hung incorrectly – BMCL have been informed and it was noted that staff completing area checks would be asked to watch out for such issues.

Car Park

This will be reported as a separate section of Capita's Report

Capita to note

Capita

6. Weekly Report

Items noted from Weekly Site Report –
Insulation damage
Concerns on the refrigeration units – how should these be closed off, kept air tight and clean

Capita agreed to check
manufacturers instructions

Capita

7. Information
Requirements

Nothing to report

-

-

8. AOCB

AGS noted that medical gas outlets had end caps missing and need to be sealed to prevent ingress of dirt and debris
Trunking required to be positioned in order to allow sealing off ends and to allow cleaning of the area to be undertaken

Capita will follow up

Capita

9. Date and Time of Next
Meeting

6th September at 2pm in the Project Offices. In PMs absence DH agreed to chair

To note

All

PROJECT SUPERVISOR INTERFACE MEETING: No37

Notes from meeting held on 9th September 2013 at 2pm in the Boardroom, Top Floor

Action Note				
Present:	Peter Moir (PM)	Alastair Smith (AGS)	David Hall (DH)	Douglas Wilson (DW)
	John Redmond (JR)	Willie Roxburgh (WR)	Shiona Frew (SF)	
Apologies:	David Loudon (DL)	Graeme Thomson (GT)		

Item No	Item	Discussion / Information	Action	Action by whom
1.	Action Note from Previous meeting	Accepted as an accurate record.	-	-
2.	Matters Arising	JR advised that number of items had been closed out since the last meeting i.e. No's 132, 123, 136, 90, 93, 112, 120, 127, 129, 116, 14, 48, 53, 55, 58, 22. DH noted that the item relating to the filtration grading issue had been resolved.	Item closed	-
	<i>Testing of water systems</i>	JR advised that a Supervisor Communication had been raised to BMCL regarding the pipe work and a separate communication had been raised regarding that tanks. BMCL had advised that sterilisation of the pipes would be carried out 3 months prior to handover and that the pipe & tank water would not be reused due to contaminants.	-	-
		AGS advised that the NHS were taking a monthly meter reading of the water used by BMCL and BMCL were being charged for their consumption. DH advised that the water consumption was a BMCL defined cost.	-	-
	<i>Forticrete facing blockwork</i>	PM noted that it had previously been agreed to allow some time prior to making a decision so that the block-work had a chance to weather however during a recent review of the block-work PM was concerned that the block-work would not weather sufficiently and that some areas should be removed and re-done. DH advised that a recent photograph taken by HMc showed that there had been an improvement to the mortar appearance due to the weathering however the block-work lines weren't good. JR advised that BMCL had an NCR against Prater for block-work and that Supervisor Communication had been raised for an area at the acute entrance and also for the section of wall damaged by a vehicle.	-	-
	<i>Bridge Link</i>	JR advised that feedback was awaited from BMCL regarding the floor finish to the link bridge. JR noted that BMCL had laid the floors inside the pods. PM enquired if BMCL had carried out a level check and JR noted that he was not aware that a level check had been carried out. HMc enquired about the interpretation of the BS and codes noting that the ERs allowed for 25mm. from the defined plane. WR advised that he had looked at various codes previously and that BMCL were working to the straight edge test and that the bridge link complied with this test. WR requested that HMc provide the BS code wording which he wanted to be checked.	Provide BS wording to WR for review	HMc
		JR advised that the door positions need to be at the same level as the rooms and there was concern regarding the co-ordination of the doors as to fit the doors a flat floor is needed. Capita were awaiting feedback from BMCL re how they were going to get the floors level between rooms.	-	-

Item No	Item	Discussion / Information	Action	Action by whom
2.	<p><i>Smoke Detectors located too close to air grilles</i></p> <p><i>Car Park 2 Piling</i></p> <p><i>Access to Service Locations</i></p> <p><i>Fridges</i></p> <p><i>Open ends to Pipework</i></p>	<p>JR advised that when the inspections were carried out it was identified that there were smoke detectors which had been positioned too close to air grilles. The BS states that detectors should be 1m away from an air grille. Scotshield subsequently carried out a survey of all the detector locations and were relocating the detectors to a minimum 950mm from an air grille. Scotshield had advised that the 50mm variance to the BS will not cause an issue however this variance would need to be noted as a minor derogation. It was acknowledged that some of the ceilings were so congested that it was not possible to position the detectors 1m from the air grille. DH advised that it was expected that variations from the BS would be noted on the Scotshield Certificate.</p> <p>WR advised that he had not seen any information uploaded to Zutec as yet.</p> <p>DH advised that there was an outstanding action relating to the Access & Maintenance Strategy whereby BMCL were to provide proposals for the slim access platform. DH noted that this item had been on-going for a number of months and agreed to push BMCL for a formal response/proposal. DH noted that he would liaise with IPowrie once proposal received from BMCL.</p> <p>JR advised that he had asked BMCL to provide the manufacturer guidelines re keeping fridges air-tight and clean and that Capita had been advised by BMCL that while in construction there is no guidelines regarding keeping the fridges air-tight and clean.</p> <p>JR advised that Mercury were carrying out checks of pipework. DH advised that he had discussed open ended pipework with ISandford who had advised that he would check for any medical gas open ended pipework on site.</p>	<p>-</p> <p>-</p> <p>Liaise with BMCL re access solution</p> <p>-</p> <p>-</p>	<p>-</p> <p>-</p> <p>DH</p> <p>-</p> <p>-</p>
3.	Capita Report	The Project Supervisor reports were circulated in advance of the meeting. JR highlighted the following key points from the report:	-	-
		<p>JR advised that standards and quality continued to be generally good and in accordance with the Employer's Requirements.</p> <ul style="list-style-type: none"> • BMCL continue to check QA on site. The report contains examples of QA. BMCL had raised a number of quality issues with Astins and Astins have subsequently undertook to resolve all the issues which had been raised. Level 0, area 526 inspection had identified that the standard of workmanship is good with defects captured on the BMCL IDMS system. Level 0, area 525 inspection had identified that the standard of workmanship is good with only minor defects identified. • Scotshield have carried out a survey of all the detectors however as yet hadn't moved all the detectors however there is a defect in 1 area still remaining. Scotshield have advised that the lesser distance i.e. 950mm as opposed to 1000mm would make no difference to the operation of the system. • Joint site inspection of all zones on level 4 had been carried out. The workmanship was generally good however an issue re double studding of partitions had been identified which would be rectified in due course as this could cause flanking. The level 3 inspection had identified insulation missing from partitions against external walls, level 2 was subsequently checked which had identified insulation missing from partitions therefore BMCL were now going to open up all of the partitions against external walls to ensure that insulation is in place. 	<p>-</p> <p>-</p> <p>-</p> <p>-</p>	<p>-</p> <p>-</p> <p>-</p> <p>-</p>

Item No	Item	Discussion / Information	Action	Action by whom
3.	Capita Report	<p>Car Park 1 (WR)</p> <ul style="list-style-type: none"> • Works being progressed in a satisfactory manner • WR suggested that works had been slower than expected however the operatives appeared to now be up to speed with the works/requirements • Concrete test results awaited from BMCL. <p>WR advised that the next focus would be on the helipad and the bridge crossings. PM advised that the date proposed for the install of the bridge link was 21st October 2013.</p> <p>WR noted that BMCL were aware of the issues being raised by Capita. DH suggested that WSP may detail out proposed solutions. WR advised that the remedial works to the Adult Roof were practical and satisfactory.</p> <p>General (JR)</p> <p>JR noted that pages 24 to 28 provided information as to how BMCL check the quality on site.</p> <p>PM advised that he would want to do a walk-round of the external envelope and roofs. HMc noted that further punctures had been identified and enquired if this had been visually identified which was confirmed.</p> <p>JR noted that page 27 of the report shows the depths re hot melt roof – all were within tolerances.</p> <p>JR noted that Capita were awaiting the Rookie letter to close out Communication 103. PM enquired if there were cladding remedial works being carried out on site and JR noted that it remedial works were being carried out then this was at BMCL's own risk. JR provided an overview of other Supervisor Communications i.e. extract fan access hatch, atrium link bridge floor finish, block-work damage, pull cord position out of reach, depth of recessed back box, etc.</p> <p>JR noted that a copy of the Building Standards regs for sprinkler heads had been provided by BMCL. It had been confirmed that the sprinkler heads are tested every 25 years and are designed to last 100 years. The Supervisor Communication 75 would now be closed however Capita would treat every head would be treated as an access problem.</p>	- - - - - - - - -	- - - - - - - - -
4.	NHS Observations	It was noted that there were NHS observations to be highlighted which had not been captured within the Capita report.	-	-
5.	Information Requirements	It was noted that there were no information required from either the NHS or Capita.	-	-
6.	AOCB	It was noted that there was no other business which required discussion.	-	-
7.	Items to be raised at the HCP	Blockwork Atrium link bridge.	Raise at HCP meeting	ALL
8.	Date and Time of Next meeting Friday, 4 th October 2013 at 2pm.		For noting	ALL

PROJECT SUPERVISOR INTERFACE MEETING: No38

Notes from meeting held on 4th October 2013 at 2pm in the Meeting room 1, Top Floor

Action Note				
Present:	Peter Moir (PM)	Alastair Smith (AGS)	Douglas Wilson (DW)	John Redmond (JR)
Shiona Frew (SF)				
Apologies:	Graeme Thomson (GT)	Willie Roxburgh (WR)	David Loudon (DWL)	David Hall (DH)
Hugh McDermont (HMc)	Ian Barnes (IB)			

Item No	Item	Discussion / Information	Action	Action by whom
1.	Action Note from Previous meeting	Accepted as an accurate record.	-	-
2.	Matters Arising	JR advised that number of items had been closed out since the last meeting i.e. No's 132, 123, 136, 90, 93, 112, 120, 127, 129, 116, 14, 48, 53, 55, 58, 22. DH noted that the item relating to the filtration grading issue had been resolved.	Item closed	-
	<i>Bridge Link Tolerances</i>	PM enquired if HMc had provided WR with the Building Standards wording which he was querying. JR advised that he was not sure if this had been provided. PM requested that ASM liaise with HMc and check whether the wording had been provided.	Provide BS wording to WR for review	ASM/HMc
	<i>Smoke Detectors located too close to air grilles</i>	JR advised that the Scotshield survey of the smoke detector locations was ongoing and a report would be provided in due course.	Provide feedback at next meeting	JR
	<i>Access to services/ceilings</i>	SF noted that DH had received an email from Darren Pike advising that BMCL were in the process of obtaining a "slim" access platform for working through ceilings and that BMCL were proposing to trial this onsite with Mercury in the first instance.	Provide update at next meeting	DH
3.	<i>Capita Report</i>	The Project Supervisor reports were circulated in advance of the meeting. JR highlighted the following key points from the report: JR advised that standards and quality continued to be generally good throughout and in accordance with the Employer's Requirements. <ul style="list-style-type: none"> Capita carried out joint inspections with BMCL on a) Level 0 Zones 522, 520, 523, 524, 519 and these works are generally to a good industrial standard with only 2 issues identified (i.e. fire putty missing from 2 back boxes); Level 1 Zones 534, 533, 530, 532, 537, 538, 539 and these works are being carried out to a good standard with only 1 issue identified (query re protection to ducts and penetrations passing through walls in lead contained room) and c) level 2 zones 520, 521, 521B and these works are being carried out to a good industrial standard. Inspected the blockwork to an area on the south elevation on NCH and the quality is good however there was a few localised vertical pointing which is too deep. Main Atrium roof between NCH and Adult – insulation currently being laid on the hot melt – quality of works are good 85 point partition checks – partitions are generally being constructed in accordance with specification. However, an issue regarding the partition in RENW 143 has been raised with BMCL as there is a small step between the concrete upstand and the unitised panel which has been filled with acoustic mastic and there is concern this may allow flanking. The construction quality of partitions is generally improving. 	- - - - -	- - - - -

Item No	Item	Discussion / Information	Action	Action by whom
3.	Capita Report (cont'd)	<p>JR advised that Capita was awaiting information from BMCL re the repairs to the damaged cladding and it was understood that BMCL were still in discussion regarding the warranty. BMCL have advised that they want Capita to review a sample on site. BMCL are requesting confirmation from Rookie that they will warranty the panel that they have carried out remedial paintworks to.</p> <p>Defects - Update (JR)</p> <ul style="list-style-type: none"> 13 – restricted access to ductwork - being progressed through the BMCL Access Tracker 51 – Knauf Boards fixings – awaiting response from Knauf re fixings at the edge of the boards 54 – Faulty internal blinds – awaiting confirmation of remedial works being completed and available for inspection 60 – Damaged pod (north east corner of link bridge) – awaiting confirmation of remedial works being completed and available for inspection 61/62 – penetrations through partitions/pipework support - awaiting confirmation of remedial works being completed and available for inspection 64 – blockwork - awaiting confirmation of remedial works being completed and available for inspection, standard of workmanship improving on site 65 – damage to medical gas pipe (above ceiling) - awaiting confirmation of remedial works being completed and available for inspection 66 - damage to medical gas pipe (at bed head unit) - awaiting confirmation of remedial works being completed and available for inspection 	-	-
4.	NHS Observations	<p>It was noted that there were no major NHS observations to be highlighted which had not been captured within the Capita report. AGS advised that the NHS Weekly report identified damage to the insulation to air handling units and of pipes. AGS noted that at the recent defects meeting there had been a request to have BMCL re-coat the flooring in the tunnel.</p> <p>AGS suggested that the site should be tidier as there was rubbish against the access to the HV substation and that there had been heras fencing across the emergency access to the HV substation. The heras fencing had been moved by Dunne however this issue would need to be monitored to ensure that the emergency access remains accessible.</p>	-	-
5.	Information Requirements	It was noted that there were no information required from either the NHS or Capita.	-	-
6.	AOCB	It was noted that there was no other business which required discussion.	-	-
7.	Date and Time of Next meeting Friday, 8 th November 2013 at 2pm.		For noting	ALL

PROJECT SUPERVISOR INTERFACE MEETING: No39

Notes from meeting held on 8th November 2013 at 2pm in the Meeting room 1, Top Floor

Action Note				
Present:	David Hall (DH)	Douglas Wilson (DW)	Hugh McDermott (HMc)	John Redmond (JR)
	Willie Roxburgh (WR)			
Apologies:	Graeme Thomson (GT)	Alastair Smith (AGS)	Ian Barnes (IB)	Peter Moir (PM)

Item No	Item	Discussion / Information	Action	Action by whom
1.	Action Note from Previous meeting	Accepted as an accurate record subject to the following amendment: Item 2, Bridge Link Tolerances – amend Building Standards to read <i>British</i> Standards	Amend note	SF
2.	Matters Arising <i>Bridge Link Tolerances</i>	WR advised that he had received the wording being queried from HMc on 9 th September 2013. DH enquired if it was considered that compliance was being met regarding variation from the target plane. WR noted that there is a range of deviations and the standards do not specifically state compliance but is an interpretation. JR noted that BMCL had agreed to provide level 4 as an exemplar.	-	-
	<i>Smoke Detectors locations</i>	JR noted that the report from Scotshield regarding the survey of the smoke detector locations was awaited.	Provide feedback at next meeting	JR
	<i>Access to services/ceilings</i>	It was noted that the slim access platform had been agreed between the NHS and BMCL. JR noted that Mercury was still required to minimise the number of access hatches which had access restrictions.	Provide update at next meeting	DH
3.	<i>Capita Report</i>	The Project Supervisor report was circulated in advance of the meeting. JR highlighted the following key points from the report: JR advised that standards and quality continued to be generally good throughout and in accordance with the Employer's Requirements. <ul style="list-style-type: none"> Capita carried out joint inspections with BMCL on a) Level 0 Zones 523 and 524 and these works are generally to a good industrial standard with any issues captured on the IDMS system however there were a few minor issues identified i.e. gaps between the floor vinyl and the upstand in a number of locations which BMCL added to the IDMS; b) Level 1 Zones 529 and 530 and these works are being carried out to a good standard with only a couple of additional issues identified which BMCL were recorded onto the IDMS. It was observed that there are pull cords which are difficult to reach however BMCL advised that these would be repositioned; c) level 2 Theatres 524 and these works are being carried out to a good industrial standard however it had been observed that the pass doors from the corridors into the main scrub areas did not have door closers. Capita had enquired about access control and been advised by BMCL that this would be in the form of a thumb turn; d) level 0 520 – observed a handrail clash with WC and also handrails fixed to IPS boards; e) level 2 zones 525 & 526 – observed 2 doors to toilets which have been hung in the wrong direction, Capita had been advised that these doors had been discussed with PM who had agreed that these doors should be left as they are; f) level 0 zone 522 – observed that the cabinet door clashes with the bedhead when open however PM had reviewed this on-site and thought it would be possible to get the tray in the cabinet. DH noted that this would need to be tested on site;cont'd..... 	- - - - -	- - - - -

Item No	Item	Discussion / Information	Action	Action by whom
3.	Capita Report (cont'd)	<ul style="list-style-type: none"> g) levels 1 & 2 NCH – water damaged boards and vertical stud above a double door incorrectly cut which BMCL had agreed to resolve. Capita had observed a joint BMCL/Astins QA of pattresses on level 5 zones 511 & 513. Inspections had been carried out to the 4th floor of the link bridge and it had been observed that the door openings are at different heights as the door opening was being measured from the floor. BMCL had advised that the doors would all be specifically sized. 85 point partition checks – a) carried out to room RENW-143 and observed that there is a gap between the concrete upstand and the partition which could cause flanking – a response was awaited from BMCL; b) carried out to room GEN-WC-028 – partition failed and c) carried out to room RAD -110-143 – inspection passed. <p>General (JR)</p> <ul style="list-style-type: none"> Capita had witnessed a number of tests through the period; a) manual fire damper/drop tests, b) proportional airflow tests of ventilation systems, c) 4 sprinkler pipework pressure tests, d) LTHW balancing and water tests relating to PR21. The water testing had been carried out by BMCL onsite and Capita had observed that the water was pretty clear and compared with the water quality at the Energy Centre. e) Lighting and HVAC controls on level 1; f) fire alarm loop tests (2 failures therefore will be retested), etc. Capita would revisit the smoke dampers failures identified in September when they were back in this area. There were no new NCRs causing any concern <p>Civil & Structural (WR)</p> <ul style="list-style-type: none"> There were a number of steelwork issues on the NCH roof which still needed to be closed out i.e. floating base plates. WR noted that there had been similar problems on the main roof which had been attended to quickly and there was concern at the slowness of resolving the NCH issues. DH suggested that WR Should raise this concern at the forthcoming Hospital Construction Site Progress meeting. WR noted that he had been on site with a BMCL Manager. DH reported that BMCL were advising that they want to have the building wind and water tight by Christmas. WR reported that BMCL had advised that they may use cleats to resolve the problem. WR noted that Capita had raised a communication to BMCL and would not sign-off the works until entirely satisfied. Main Atrium roof – works progressing well Link bridge is in place except from at 1 side. <p>M&E (DW)</p> <ul style="list-style-type: none"> PR21 – AHU Condensate- Capita awaiting proposal from BMCL to resolve the potential trip hazard of the low level unprotected plastic pipework to the gulleys Access issues – Capita awaiting the BMCL/Mercury Access Issues Tracker for review. There are a number of areas where Capita have concern that are considered to not be sufficient to allow for plant to be maintained. DW had witnessed the successful testing of the supply and airflow testing of AHUs 24 and 25 from PR21. Concern was raised regarding the ductwork to 21AHU16 and BMCL have confirmed this ducting will be changed. Capita await confirmation from BMCL regarding the fire rating of the flexible connections at PR31 Capita await responses from BMCL re various access hatch concerns. Capita are awaiting a response from BMCL re whether a double seal is needed to the isolation ductwork hatch in PR21. 	<p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>Raise concern about the NCH Roof issues remaining resolution</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p>	<p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>WR</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p>

Item No	Item	Discussion / Information	Action	Action by whom
3.	Capita Report (cont'd)	<p>M&E (DW) – cont'd</p> <ul style="list-style-type: none"> • Capita are awaiting a response from BMCL regarding the fixings of the isolation ductwork flexible connections in PR21 i.e. single jubilee clips. • Capita are awaiting a response from BMCL regarding the suitability of the diffuser plate at AHU 21 which appears to be inadequate. Capita had raised concern about the air flow velocities which depending on the type of filter being used maybe inadequate. It was noted that BMCL would need to carry out testing. <p>DH requested that Capita monitor the access through the light fittings in the interventional theatres as he was unsure that the pipework and medical gas was co-ordinated. The HPI works were not part of the Mercury clash model.</p> <ul style="list-style-type: none"> • Capita awaiting confirmation from BMCL that all the smoke detectors on level 1 Zone H 529 and 530 which had been too close to the chilled beams had been repositioned to the required distance. • Installation of the new transformer for car park 1 is scheduled to take place at the same time as the HV cable pulling (approx. end Jan/beginning Feb). • Capita have advised BMCL about various locations which has water damaged boards which BMCL would need to replace. • Capita have observed that angle plates which have been providing temporary support to the main atrium roof have punctured the hot melt roof on level 12. • Cladding and the STO render is substantially complete to courtyards 1 – 9 and courtyards 2-8 respectively. The sandstone rain screen can be viewed in the pictures on page 27 of the report. <p>Communications – Status Update (JR)</p> <ul style="list-style-type: none"> • 160 – STO render top the upper panel has shaded areas visible below the finished surface. BMCL have advised that the marks are not obtrusive. JR has advised BMCL that Capita will review this on a sunny day. • 151 – service access panel to the fans are not accessible and BMCL advising that new panels will enable service access to be obtained. DW noted that the new fans recently delivered to site have suitable access panels. • 177 – access hatch at the partition between rooms RENO-064 and DOPD-037 which is too close. Response awaited from BMCL. • 145 – atrium link bridge floors – awaiting level 4 exemplar • 165 – blockwork east elevation – further inspection of the blockwork to be undertaken. Capita will accept the joint variances and block size difference however will recheck the colour variance of the pointing. • 140 – pull cord position – BMCL to resolve this item • 178 – inaccessible sprinkler head – Capita awaiting feedback • 176 – PV panels on level 2 roof currently resting on the ballast. Subsequently been told that they need to be repositioned off the ballast. <p>Defects - Update (JR)</p> <ul style="list-style-type: none"> • 54 – Faulty internal blinds – awaiting confirmation of remedial works being completed (1 still to be fitted) before inspecting • 63 – partition/frame which has been cut – awaiting feedback from BMCL • 67 – blockwork on the west facing elevation – Capita will further inspect 	<div>-</div> <p>Monitor the accessibility through the light fittings</p> <div>- - - - - -</div> <div>- - - - - -</div>	<div>-</div> <p>DW</p> <div>- - - - - -</div> <div>- - - - - -</div>

Item No	Item	Discussion / Information	Action	Action by whom
3.	Capita Report (cont'd)	<ul style="list-style-type: none"> 61 & 62 – Capita will inspect once BMCL have advised that the penetration issues have been addressed. 65 & 66 – medical gas pipes – feedback is awaited from BMCL There had been no defect notifications issued during October 2013. <p>JR reported that a list of the tests which had been witnessed had been listed in page 39 of the report.</p> <p>DH enquired whether, in terms of the programme, Capita were noticing any slippage in the series of areas which were being offered up for inspection. JR advised that there was marginal slippage being observed and that JWales would be issuing a 3 month rolling programme of inspection dates. JR noted that the dates can fluctuate with some inspections being earlier and some later than anticipated.</p> <p>DH advised that the blinds to door of the police office within A&E had controls on both sides of the door therefore a communication would need to be issued to BMCL advising that there should only be a blind controller on the inside of the office door.</p> <p>Car Park (WR) WR advised that the works to the car park were going well and he had no comments requiring noting. WR suggested that the he would have expected BMCL to have received the Building Warrants (3&4) for the Superstructure and Diversion/Drainage & Suds on the basis of what had been constructed on site.</p>		
4.	NHS Observations	It was noted that there were no major NHS observations to be highlighted which had not been captured within the Capita report.	-	-
5.	Information Requirements	It was noted that there were no information required from either the NHS or Capita.	-	-
6.	AOCB	<p>It was noted that there was no other business which required discussion.</p> <p>It was noted that the Safe Access Platform around the helipad was being installed and that Core G was being used as the access lift.</p>	- -	- -
7.	Date and Time of Next meeting Friday, 6 th December 2013 at 2pm.		For noting	ALL

ACTION NOTE

Present:
John Redmond (JR)
Apologies:

Peter Moir (PM)
Willie Roxburgh (WR)
Hugh McDerment (HMc)

Alastair Smith (AS)
Shiona Frew (SF) (Notes)
Graeme Thomson (GT)

David Hall (DH)

Douglas Wilson (DW)

Item No	Item	Discussion/Information	Action	Action by Whom
1.	Action note from the previous meeting	Accepted as an accurate record	-	-
2.	Matters Arising		-	-
	<i>Smoke Detectors</i>	JR noted that he had received survey drawings for 4 areas showing new locations for smoke detectors and these will be fitted 950mm minimum in from the edge of the vent. Some areas had been done before the survey had been carried out so Capita would continue to raise these with BMCL as they are observed. 2 smoke detectors had been observed during a walkround the previous day. DH advised that the 950mm will be noted as a variation in the design. JR noted that Capita will continue to identify any smoke detectors outwith the 950mm.	-	-
	<i>Access Hatches</i>	DH advised that it was on-going for Mercury to minimise the number of access hatches with access difficulties. JR noted that the access tracker was still awaited from BMCL. DH noted that he had seen the slim access platform and that the guard rails go through the single tile.	Item closed -	- -
	<i>Floating Column Bases</i>	WR advised that BMCL had started to address the floating column bases. Still on-going to resolve. Some remedial works are structurally deficient and WR has advised BMCL that they are unacceptable i.e. bolt too close to the edge of the concrete. BMCL have not offered anything up for WR to inspect. WR noted that BMCL had the same issues on the roof of the Adult roof which had been remediated more timeously.	-	-
	<i>Access through the light fittings in theatres</i>	DH noted that some of the gas pipework was running round the perimeter and as the clash detection exercise was carried out without the incorporation of the HPI drawings. DH noted that this matter was something to continually be mindful of when checking areas.	Continue to monitor - Item closed	-
3.	Capita Monthly Report a) Hospitals	JR noted that works continued to be generally be carried out in accordance with the employer requirements. Quality and compliance inspections were carried out as follows: <ul style="list-style-type: none"> 2/527 – standard good. Defects identified by BMCL and loaded onto the IDMS system. Observed gaps between the base units and wall. BMCL have advised that they will provide an area as an exemplar area for inspection. 0/529 – standard high. Defects are logged onto the IDMS system. The usual issues are being identified i.e. smoke detectors too close to grilles and pull cords in the wrong position. DH noted that he had been marking up drawings which had the wrong location for the pull cords – the most common occurrence of pull cords being in the wrong location was on the WC drawings. 	- -	- -

[illegible]

	Action by Whom	
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Item No	Item	Discussion/Information	Action	Action by Whom
3.	Capita Monthly Report <i>Hospitals (cont'd)</i>	Civil & Structural (WR) – cont'd <ul style="list-style-type: none"> Aluminium work to the helipad – almost completed. WR have enquired about the insulating pads between the aluminium and steel no ensure no preferential corrosion and enquired if there is a way of testing and a response awaited from BMCL. DH enquired if the helipad was to the same spec as used for oil rigs. PM enquired if the helideck was heated and WR advised that it wasn't heated. WR was noted that the helipad is on a gradient so water shouldn't lie on it. The final bridge link section had been installed and the quality was satisfactory. 	- -	- -
3.	Capita Monthly Report <i>Car Park</i>	<p>WR advised that the car park was pretty well progressed and the finish was starting to appear as they strip back the shuttering from the lower floors and the appearance was of a good quality.</p> <p>The Conforce drawings were still being issued and WR had exchanged correspondence with BMCL to request confirmation that any/all issues were being caught. DH suggested that in the months previous the contractors were working hand to mouth regarding the design drawings. WR noted that some steelwork had started to arrive on site and be installed.</p>	- -	- -
4.	NHS Observations	AS noted that there were no other issues requiring discussion which had not been provided to Capita and had not already covered in the Capita update. PM reported that he would advise Capita if BMCL advised the NHS of any damage incurred during the stormy conditions.	-	-
5.	Information Requirements	It was noted that there were no information required from either the NHS or Capita.	-	-
6.	AOCB			
	<i>Quality and Compliance Inspections</i>	<p>JR noted that JW proposes to provide a 3 monthly look-ahead programme on a monthly basis.</p> <p>JR noted that to date there had been only minor comments to be relayed to BMCL from the previous zone checks undertaken.</p>	- -	- -
	<i>IT Meeting</i>	DH noted that there had been a fault on an HV cable which had delayed the getting power to 1 of the hub rooms. DW noted that the Energy Centre 4A cables had been witnessed being tested but they had not been powered on.	-	-
	<i>Ductwork – Level of Cleaning</i>	DH noted that DP had enquired if every area needs to be cleaned through the whole building and enquired what Capita's view on the installed ductwork was. DW reported that Capita had observed no issues as the ductwork was being delivered to site packaged and then installed. DH is liaising with BMCL regarding the cleaning regime/BMCL proposed schedule. PM suggested that the whole building should be cleaned to the same standard. WR enquired if the schedule included for the internal and external cleaning of the ductwork. AS noted that the majority of the ductwork was insulated suggesting that the ductwork would have been cleaned prior to insulating.	-	-

Item No	Item	Discussion/Information	Action	Action by Whom
6.	AOCB			
	<i>Commissioning Programme</i>	AS reported that BMCL are obliged to provide prior notice of commissioning and witnessing activities. DH reported that it was acceptable to sometimes need to react to a change to the BMCL Commissioning schedule however should provide 5 days notice, then 48 days notice and then exceptions. JR suggested that the notification regime should continue to be adhered to and it was agreed that as a minimum BMCL needed to provide 48 hours notice. It was suggested that this matter should be raised at the forthcoming Hospital Construction Progress Meeting. It was agreed that 48 hours notice enabled resources to be managed. It was noted that if reps were unable to be present to witness test then the QA records are available as the testing does not stop.	Adhere to notification regime	ALL
7.	Date and Time of Next meeting Friday, 7 th February 2014 at 2pm.		For noting	ALL

PROJECT SUPERVISOR INTERFACE MEETING: No 45

Notes from meeting held on 9th June 2014 at 1pm in the Meeting room 1, Top Floor

Present:
Douglas Wilson (DW)
Apologies:

Peter Moir (PM)
Hugh McDermont (HMc)
Graeme Thomson (GT)

Action Note
Alastair Smith (AGS)
Shiona Frew (SF)

David Hall (DH)
Willie Roxburgh (WR)

John Redmond (JR)

Item No	Item	Discussion / Information	Action	Action by whom
1.	Action Note from Previous meeting	Accepted as an accurate record.	-	-
2.	Matters Arising <i>Bridge Link – level 4</i>	JR advised that the heads of the door frames are being fitted and the door opening are in and are level. The ceiling grids are insitu and level. The door openings have been sized for normal sized doors and not bespoke sized doors as agreed. BMCL are proposing to install a deeper architrave section and if this is satisfactory to the NHS then Capita have no issue. The corridor wall to the pod side was broken up with the pod entrance openings therefore it would not be obvious to most whether the link is level. PM advised that he would review the level 4 link bridge.	Review level 4 link bridge	PM
3.	Capita Report	<p>The Project Supervisor report was circulated in advance of the meeting. JR highlighted the following key points from the report:</p> <ul style="list-style-type: none"> standards and quality continued to be generally good throughout and in accordance with the Employer's Requirements. Capita carried out joint inspections with BMCL on a) ground floor and level 5 Zone 531 and the works are generally of a good quality however there are an increasing number of snags and areas of incomplete works which gives the impression that quality has dropped against the areas inspected in 2013. JR suggested that the incomplete works may be due to logistics i.e. getting other sub-contractors to finish works. JR had raised with BMCL re exceptions/works being finished before the Project Team carry out the room checking. DH suggested that the NHS room checking was taking place as programmed however this was following on closely behind the Capita inspections as these were being pushed towards the end of the 3 week Capita timeframe within the inspection plan. Package sign-off sheet shown on page 5. Typical BMCL area checklist shown on page 6 M&E ceiling layout shown on page 7 <p>PM enquired when Capita thought BMCL would be handing over complete area i.e. fully commissioned. JR advised that BMCL had not given an indication of this however he would not expect this to occur before August 2014. PM suggested that this information should be available on the Commissioning programmes. DH noted that BMCL had only provided full commissioning programmes for plantrooms 21 and 31. DH noted that the boiler commissioning and power on is not until the PPC permit has been received which is anticipated to be August 2014. DH further noted that the renal water commissioning is scheduled to take place from December 2014.</p> <ul style="list-style-type: none"> Regen kitchens sign-off sheet – shown on page 8 for info. Sheet shows those items that have been fitted and items that are in store. 	<p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p>	<p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p>

Item No	Item	Discussion / Information	Action	Action by whom
		<p>Civil & Structural (WR) – cont'd</p> <ul style="list-style-type: none"> Internal courtyards – works appear to be of a good quality. Car Park – a lot of finishing off to be undertaken. There is one outstanding issue to be resolved to the north-east corner stairwell column baseplate. PM requested HMc to review the finish of the remedial when complete. WR noted that a lot of the areas are still to be offered by BMCL for inspection however most packages are complete. Face bolts need to be tidied up, glazing is on and BMCL have advised that they have a solution (weld on a section to the baseplate) however the detail of remedial works is awaited. Communication 162 – primarily and M&E issue. WR had asked BMCL to confirm if it complies with their design requirements. JR noted that BMCL had provided a response which includes their calculations and suggesting that BMCL will need to add a piece to the legs. Communication 166 – water damaged partitions – BMCL have advised that they will remediate the damaged partitions once they are sure that there is no water which can provide further damage. <p>PM noted that during a recent walkround he had noticed areas where there must have been some burst pipes potentially sprinklers. JR noted that BMCL had been testing the joints. AGS advised that the joints are greased and when they put the pipe under the pressure the grease can weep. BMCL are now putting the blue overshoes round the joints when they are putting the pipework joints under pressure. AGS noted that pipe bursts were not a common occurrence within the buildings.</p> <ul style="list-style-type: none"> Communications 146 & 165 – PM and JR to review on site Communication 199 – remote TRVs/Cavity walls – feedback from BMCL awaited <p>Defects (JR)</p> <ul style="list-style-type: none"> Smoke detectors fitted too close to walls – Scotshield are going to upload to Zutec information identifying where this occurs. 64 - item closed as defect rectified 78 – metal gland could cut into the cables – BMCL are using metal conjute into a plastic box. DW advised that BMCL are allegedly going to change the boxes. <p>JR noted that the emphasis of the report will change from Commissioning and Defects. Anything picked up during inspections is captured in their IDMS. JR advised that there are a few en-suites which has the door to the toilet fitted the wrong way. DH noted that there are a few doors in coronary care, endoscopy suite and renal out-patients that are fitted wrongly.</p>	<p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>Review on site</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p>	<p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>PM/JR</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p>
4.	NHS Observations	<p>DH suggested that the fire damper issue should be raised at the HCSP meeting later that day. DH noted that the commissioning programmes should also be raised with BMCL at the HCSP meeting later that day. DH was aware that information had been received on 6th June however had not yet had an opportunity to review this information.</p> <p>AGS advised that he had received a list of commissioning items last week for items over the coming week however there had been late notification of witness testing in plantroom 33. AGS suggested that there will be a lot of commissioning due to take place in the Energy Centre as the Labs has been moved to the Govan Road supply.</p> <p>AGS advised that the standby generator had been connected satisfactorily and the black-start had gone well earlier that day.</p>	<p>Raise fire dampers and need for commissioning programmes at HCSP</p> <p>-</p> <p>-</p>	<p>JR/DH</p> <p>-</p> <p>-</p>

Item No	Item	Discussion / Information	Action	Action by whom
4.	NHS Observations (cont'd)	HMc noted that the beam for the neonatal link bridge ties into the beam in the building and suggested that HMc and WR should review this.	Review tie in of neonatal link bridge	HM/WR
5.	Information Requirements	It was noted that there were no information required from either the NHS or Capita.	-	-
6.	AOCB	It was noted that there was no other business which required discussion.	-	-
7.	Date and Time of Next meeting Friday, 4 th July 2014 at 2pm.			For noting ALL

PROJECT SUPERVISOR INTERFACE MEETING: No 46

Notes from meeting held on 4th July 2014 at 2pm in the Meeting room 1, Top Floor

Present: Shiona Frew (SF)	Action Note			
	Peter Moir (PM)	John Redmond (JR)	Douglas Wilson (DW)	Willie Roxburgh (WR)
Apologies:	Graeme Thomson (GT)	Alastair Smith (AGS)	Hugh McDerment (HMc)	David Hall (DH)

Item No	Item	Discussion / Information	Action	Action by whom
1.	Action Note from Previous meeting	Accepted as an accurate record.	-	-
2.	<p>Matters Arising</p> <p><i>Bridge Link – level 4</i></p> <p><i>Communication 163 – lead protection aspects</i></p> <p><i>Communications 146/165 – blockwork</i></p> <p><i>Fire Dampers – commissioning</i></p> <p><i>Neo-natal Link Bridge tie in to existing building</i></p>	<p>PM advised that he will still to review the level 4 link bridge. JR noted PM is satisfied with the principal of the architrave was acceptable.</p> <p>PM noted that in general there are a few minor exceptions however the RPA tests have been satisfactory and RPA reps were reasonably impressed with the workmanship of the build.</p> <p>PM advised that he had reviewed the blockwork on site noting that BMCL have to carry out tinting to the blockwork pointing and generally tidy up the works in that area. It was noted that this is WIP with BMCL to conclude.</p> <p>PM noted that the request for commissioning programmes had been raised at the HCSP meeting and BMCL were aware of the issue and the programmes are awaited.</p> <p>WR advised that he had looked at the beam both on his own and with HMc. WR had been concerned about a note which was included on the drawing (i.e. existing beam to be upgraded) and WR had raised this with BMCL and a satisfactory response was awaited. If a response is not received soon then Capita will issue a formal communication to BMCL. Verbally BMCL had advised that the existing beam in the building had been checked and that there was no works or strengthening required. BMCL have also been asked to confirm the remedial works which will need to be carried out to the fire protection which has been disturbed and a response is awaited. It was agreed this item should be raised at the HCSP meeting.</p>	- - - - -	- - - -
3.	Capita Report	<p>The Project Supervisor report was circulated in advance of the meeting. JR highlighted the following key points from the report:</p> <ul style="list-style-type: none"> The inspections carried out in the reporting period are listed in page 3 of the report. The quality is generally to a good standard however there are some rooms which appear to have dropped in standard, there are more exclusions being advised and more snagging identified. Level 6, area 6-509, 6-510 and 6-511– quality inspections identified that there were a number of en-suites which had the lead door hung on the wrong side of the door frame. Level 5, Areas 5-506, 5-507, 5-508, 5-512, 5-513 and 5-514. Defects identified as part of these quality inspections were generally of a minor nature and these were recorded onto the BMCL IDMS Level 0, 507 – the quality appeared not to be as good as previously witnessed and BMCL had been asked to comment about this. BMCL provided an immediate response and the quality issues were remediated immediately. 	- - - - -	- - - -

Item No	Item	Discussion / Information	Action	Action by whom
3.	Capita Report (cont'd)	<ul style="list-style-type: none"> OPD 047 – was offered up for inspection however the trunking was not complete (see photos on page 7). PM enquired if the zone inspections were being pushed to the end of the 3 week inspection period and this was confirmed. JR noted that there were areas which had a number of the 'red' rooms and this was giving the impression that the area is not finished/complete. Some areas have an increased number of 'red' rooms/exclusions. Page 10 – observed that vinyl appears to be coming detached from the backing/wall (in ensuite) – it was not sure whether this had been due to the heat or was an issue with the glue. PM suggested that he wouldn't expect an moisture issue at a partition wall but possibly a sheer wall. PM reported that the vinyl issue would need to be monitored and perhaps tested by the NHS. Additional snags and defects had been identified during the recent inspections to level 6 areas 512, 513 514 and level 3 area 515 (50 additional defects/snags and 28 additional defects/snags respectively). The majority of defects/snags were minor issues however they should not be missed as the sub-contractors check and sign off their work and BMCL should then be checking the sub-contractors work before Capita and the NHS carry out checking. PM suggested that the quality matters should be mentioned to AFe. Adjustors for viewers through doors – (page 11) – one adjustor had come off when checking. JW advised that this particular handle had not been welded to the mechanism Side windows – it had been identified that blinds had been hung off the level and BMCL had advised that these should correct themselves but if it doesn't then remedial works to level the blinds would be undertaken. JW noted that there were areas where the rooms were available for inspection but the corridor was not ready for inspection. 2 locations had been identified where putty pads were missing from behind the sockets, Capita had subsequently asked for other areas to be opened up and these were found to be satisfactory. Fire damper tests were witnessed at various locations on Level 1 and that access to testing of the operations of each fire damper was difficult due to the size of the access Communication 191 - Nurse call – Capita were awaiting on the nurse call to be fitted to the rooms so this item could be closed out. Communication 194 - OPD – BMCL have advised that they will move the IPS to accommodate the fitting of the grab rail. <p>General inspections</p> <ul style="list-style-type: none"> Car Park – carried out inspection of the car park with BMCL and identified only minor faults with the exception of the edge of the ramp being too steep. BMCL advised that the ramp is as the approved drawing. Capita's view is that this presents a trip hazard. Capita would raise this item formally with BMCL. Channel at the front of a staircase door is considered to be a trip hazard and this will be raised formally with BMCL. Acoustic testing report for June is awaited Communication 163 – penetrations through walls closed 	<p>-</p> <p>-</p> <p>-</p> <p>Raise issue of drop in quality with AFe</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>Raise formally with BMCL</p> <p>Raise formally with BMCL</p> <p>-</p> <p>-</p>	<p>-</p> <p>-</p> <p>-</p> <p>JR/PM</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>JR</p> <p>JR</p> <p>-</p> <p>-</p>

Item No	Item	Discussion / Information	Action	Action by whom
4.	NHS Observations	There were no NHS observations which had not already been passed to Capita.	-	-
5.	Information Requirements	It was noted that there were no information required from either the NHS or Capita.	-	-
6.	AOCB	PM advised that BMCL would be carrying out works to the Neuro main entrance and would also be doing cladding works to the neuro building. PM proposed that once the Compensation Event to BMCL has been signed off then he would provide information to Capita so that they can provide a proposal to provide NEC3 Supervisor works to these projects.	Provide information re neuro entrance and cladding works to JR	PM
7.	Date and Time of Next meeting Friday, 1 st August 2014 at 2pm.		For noting	ALL

PROJECT SUPERVISOR INTERFACE MEETING: No 47

Notes from meeting held on 1st August 2014 at 2pm in the Meeting room 1, Top Floor

Action Note				
Present:	Peter Moir (PM)	John Redmond (JR)	Douglas Wilson (DW)	Willie Roxburgh (WR)
Alastair Smith (AGS)	David Hall (DH)	Shiona Frew (SF)		
Apologies:	Graeme Thomson (GT)	Hugh McDerment (HMc)		

Item No	Item	Discussion / Information	Action	Action by whom
1.	Action Note from Previous meeting	Accepted as an accurate record.	-	-
2.	Matters Arising <i>Communication 163 – lead protection aspects</i> <i>Room Checking – quality issues</i> <i>MS Car Park</i> <i>Neuro main entrance and cladding works</i>	<p>PM noted that he had seen an email from Andy Brennan who has identified a number of shortcomings. The information had been provided to BMCL. PM enquired if JR had seen a copy of the email and JR confirmed that he had not seen the email. PM agreed to provide JR with a copy of the email.</p> <p>PM noted that the room checking quality issues had been mentioned at the July meeting of the HCSP. JR noted that Capita had recently inspected level 5 and less than half the rooms were suitable for inspection. AFe had advised that he was not happy that the area was not ready for inspection and that BMCL would organise to get these areas finished as a whole before offering up for Capita inspection. Going forward Capita will be offered complete areas as 1 package for inspection. BMCL are reviewing the original inspection programme to accommodate the changes to the inspections. PM suggested that if complete areas are being offered then this suggested that BMCL were now following the B room programme for inspections.</p> <p>JR noted that 2 communications had been raised to BMCL and feedback is awaited from BMCL. PM advised that he had asked HMc to check with AFe whether BMCL want the NHS to have an inspection before BMCL bring the car park into operation circa September 2014 in order that the NHS can identify any snags. Condition photos of the car park will be taken prior to BMCL bring the car park into operation. BMCL will replace/repair any defective items at 26th January 2015. PM advised that BMCL were moving all the site staff parking to the new multi-storey. PM advised that he would discuss the Ogilvie Car Park with DL.</p> <p>PM advised that he anticipated providing information to Capita at the end of September/beginning of October so that they can provide a proposal to provide NEC3 Supervisor works to these projects.</p>	<p>Provide ABrennan email to JR</p> <p>-</p> <p>-</p> <p>Provide information re neuro entrance and cladding works to JR</p>	<p>PM</p> <p>-</p> <p>-</p> <p>PM</p>
3.	Capita Report	<p>The Project Supervisor report was circulated in advance of the meeting. JR highlighted the following key points from the report:</p> <ul style="list-style-type: none"> The inspections carried out in the reporting period are listed in page 1 of the report. The quality is generally to a good standard however typical issues being identified included missing doors, drop handrails, windows. PM noted that the Capita report identified an issue with the vinyl in the showers becoming free. JR noted that the vinyl in the showers is being rebounded and that the higher up the tower the increased prevalence of the issue is witnessed. It was thought that the heat in the building was the reason that the vinyl was becoming free. DH advised that in a couple of rooms he had noticed that there was no sealer at the edge where the shower butts up to the door. JR advised that the shower does not butt up to the door in the majority of locations. 	<p>-</p> <p>-</p> <p>-</p>	<p>-</p> <p>-</p> <p>-</p>

Item No	Item	Discussion / Information	Action	Action by whom
3.	Capita Report (cont'd)	<ul style="list-style-type: none"> Capita are identifying numerous locations where the blinds are not fitted properly (photos included in the report). On some occasions the cavity is dirty. PM enquired if BMCL were cleaning the cavity and glass prior to the tertiary glazing being fitted and it was noted that cleaning of the glass had not been observed as yet. JR noted that when a room is completely finished then the quality is good. JR advised that clashes between the ensuite door and the room door had been identified (level 7 zone E) and this occurred all the way up the tower however the rooms are built as per signed off drawings. DH suggested that the doors could only strike each other if the ensuite door is fully opened. DH had however noticed that with the toilet doors opened up fully into the room that the handle of the main door strikes the toilet door and that door stoppers could not be added to the floor as this would be a trip hazard. PM advised that an option to fit stoppers would need to be explored and that a communication should be raised to BMCL. It had been noticed that on level 8 there are windows which have condensation in the cavity. PM suggested that may have been caused because of the heat in the building and that these windows would need to be cleaned out. JR noted Capita had also carried out some room back checks and that during a back check it had been noticed that on level 2 there is a wooden glazed screen and everywhere else in that area has plastic glazed screen. DH noted that the wooden glazed screen was in the hybrid theatre control room. <p>PM advised that there was an approved sample for the theatre doors for lasers in use. The sample had plastic fore-edges however he had witnessed on site a MDF box and it didn't look very good. PM advised that he would be enquiring about the MDF box.</p> <p>PM acknowledged that in some rooms the quality of workmanship and finishes is excellent.</p> <p>Supervisor Communications</p> <ul style="list-style-type: none"> Communication 286 – restricted access to dampers – access is being widened and damper tests rearranged Communication 191 – Nurse call points have now been fitted in their correct position Communication 194 – OPD/relocation of IPS to accommodate grab rail – no change Acoustic Tests – in the period there was 1 test failure therefore to date there is 3 failures in total Communication 163 – item closed out as been advised that penetration is acceptable Above ceiling inspections carried out in the period and the report shows an example of one of the marked up areas. <p>M&E (DW)</p> <ul style="list-style-type: none"> Quality being maintained to good standards A reduced amount of first fix was being carried on site. Levels 0 to 3 are the most advanced in relation to commissioning. Final proving and commissioning was still to take place to the theatre areas. Second fix installation testing is ongoing to levels 4 through to 11. Plantroom 21 is nearing completion with only minors items to be completed. Commissioning activities continues to plantrooms 22, 31, 32, 33 and 41. There has been no commissioning taking place on level 12 as yet. Energy Centre and CHP works are continuing. Witness testing carried out in the period included: lighting controls within the basement, sprinkler system pressure testing to the ground and third floor, nurse call on 1st and 4th floors, fire alarm system on ground floor, IT activity tests to ground floor computer room and hub on level 5, electrical circuitry tests in NCH, etc. 	<p>-</p> <p>-</p> <p>Raise communication to BMCL re door stoppers</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p>	<p>-</p> <p>-</p> <p>PM</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p>

Item No	Item	Discussion / Information	Action	Action by whom
3.	Capita Report (cont'd)	<p>DH enquired if DW was witnessing integrated tests and DW confirmed not as yet.</p> <p>DW noted that there had been a couple of cancellations i.e. 3 dates for fire alarm witness testing which had all been cancelled. DH enquired if DW thought they cancellations were due to progress or administrative. DW advised that BMCL have advised that BMCL are needing CAD drawings. It was agreed that the cancellations would be raised at the HCSP meeting on 4th August 2014.</p> <p>JR noted that he had observed taps which had running water and DH suggested the running taps were located in ground floor outpatients department and that BMCL would need to be asked what is in the water (additive) and what controls they have in place.</p> <p>JR advised that there had been a number of failed M&E tests and the number of failures is increasing however he would be discussing this with JWales and DWilson asap.</p> <p>Civil & Structural (WR)</p> <ul style="list-style-type: none"> • The main build and car park were almost complete • BMCL have a few communication responses outstanding i.e. intumescent paint remedial, paintwork to main atrium, etc. There is a bit of paperwork catch-up/close out to happen. • Podium door opening to be addressed • Neonatal link bridge connection – have 2 out-standing queries a) structural integrity of the existing building is satisfactory and b) damage to intumescent paint on existing beam. BMCL have advised that they are progressing responses with sub-contractors. • Concrete baseplate at Neuro – queried how will be covered up in the planting. <p>PM enquired whether BMCL are keeping up with the Capita communication close outstanding JR advised in general BMCL are keeping up with the Capita communication close out. Capita will continue to push for the communications to be closed out asap.</p> <p>PM acknowledged that the workload had increased as more rooms come on line for inspection and more M&E services/systems coming online/being tested.</p>	<p>-</p> <p>Raise cancellations at HCSP</p> <p>Request confirmation of whether any additive has been added to the water/controls in place</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p>	<p>-</p> <p>JR</p> <p>JR</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p>
4.	NHS Observations	<p>There were no NHS observations which had not already been passed to Capita. AS suggested that the programme is tight for commissioning and there have been some last minute cancellations. AS acknowledged BMCL are trying to give notice of cancellations. AS raised concern that commissioning and witness testing will start to clash. DH suggested that the PPC permit would be granted on or around the 8th August and that this would bring about increased testing and commissioning in the Energy Centre/to boilers, etc towards the end of August/beginning September 2014. DH suggested that BMCL will be starting to do the synchronising testing and then the black start testing.</p>	-	-
5.	Information Requirements	<p>It was noted that there were no information required from either the NHS or Capita.</p>	-	-

Item No	Item	Discussion / Information	Action	Action by whom
6.	AOCB	DH noted that he would discuss with BMCL the floor finish colour of the head of the stairs.	Liaise with BMCL re stair head	DH
7.	Date and Time of Next meeting Monday, 8 th September 2014 at 1pm.		For noting	ALL

PROJECT SUPERVISOR INTERFACE MEETING: No 48

Notes from meeting held on 8th September 2014 at 1pm in the Meeting room 1, Top Floor

Action Note				
Present:	Peter Moir (PM)	John Redmond (JR)	Douglas Wilson (DW)	Willie Roxburgh (WR)
Alastair Smith (AGS)	David Hall (DH)	Shiona Frew (SF)		
Apologies:	Graeme Thomson (GT)	Hugh McDerment (HMc)		

Item No	Item	Discussion / Information	Action	Action by whom
1.	Action Note from Previous meeting	Accepted as an accurate record.	-	-
2.	Matters Arising <i>Communication 163 – lead protection aspects</i> <i>INS Main Entrance Works</i> <i>Fire Alarm Test Cancellations</i> <i>Water Systems/Additives</i> <i>Finish at the head of the stairs</i>	<p>PM advised that the RPA rep had provided a report to BMCL regarding minor issues with the lead protection detail and it would be worthwhile JR reviewing the report for information. DH agreed to provide a copy of the RPA report to JR.</p> <p>PM advised that the NHS were awaiting final proposals and costs from BMCL. Once agreement has been provided to BMCL to carry out these works then PM would provide Capita with the necessary information. PM anticipated that the agreement should be reached in advance of the next Project Supervisor meeting.</p> <p>It was noted that the issue re cancellation of tests had been raised at the August HCSP meeting. DW noted that he had been given 8 dates for tests and had already been notified of 3 cancellations for the next fortnight. One of the cancellations had been rescheduled for testing however revised test dates for the other cancellations were awaited.</p> <p>JR advised that he had asked BMCL for confirmation of what is in the water. DH noted that there was concern because the water is discoloured. AS noted that the discolouration looked like dirty water from flushing. JR advised that the sterilisation process will commence during September 2014.</p> <p>DH advised that he had recommended to BMCL colour only for the top i.e. no requirement for tactile finish.</p>	<p>Provide copy of RPA report to JR</p> <p>-</p> <p>-</p> <p>-</p>	<p>DH</p> <p>-</p> <p>-</p> <p>-</p>
3.	Capita Report	<p>The Project Supervisor report was circulated in advance of the meeting. JR highlighted the following key points from the report:</p> <ul style="list-style-type: none"> • Inspections carried out on levels 1, 2, 3, 4, 8, 9, 10, 11 and Ground floor. • Quality remains generally good • More defects and snags being identified because BMCL are pushing to get areas finished i.e. painters • Exclusions and exceptions ongoing – includes windows and doors not being fitted. Capita expect additional snags to be identified when the windows and doors are fitted. • Capita believed that BMCL were making positive progress. <p>DH enquired about the volume of doors which haven't been fitted as there will be some doors which need to be fitted for the fire alarm commissioning. JR advised that the main corridor doors are fitted. The missing doors mainly related to ensuite doors and half leaf doors. A picture of a typical window still to be fitted is shown on page 8 of the report – generally the rooms are complete and only need the window fitted to be fully complete.</p>	<p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p>	<p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p>

Item No	Item	Discussion / Information	Action	Action by whom
3.	Capita Report (cont'd)	<p>PM enquired if the ETFE remedial works had been completed and DH confirmed that the works had been completed.</p> <p>PM enquired about progress in general and whether everything was moving slowly to a conclusion and JR advised that everything was moving toward conclusion. PM suggested that he anticipated that there would be a rush to the end for the NHS Team doing the double checking of areas, etc and that the end of the year could be a bit chaotic.</p> <p>PM suggested that the external works appeared to be a bit behind programme and DH advised that the programme indicates that the external woks will have a January 2015 completion noting that the completion would be weather dependent. WR advised that the weather can be very detrimental to progress. DH noted that the front entrance area landscaping had been held up due to Prater not having completed their works as programmed. DH noted that BMCL were supposed to be moving the operatives away from the front door so that the scaffolding can be taken down and the front door ring works commenced during the current week.</p> <p>PM enquired about the progress to the main atrium and DH advised that works have progressed fairly well with the underfloor heating and screeding works largely complete to the main area.</p> <p>DH raised concern regarding one of the acoustic test failures as it had appeared to be a substantial failure i.e. 39 achieved against 47 target. JR noted that BMCL will investigate the construction of the partition.</p> <p>DH enquired if Capita were still being provided with areas for inspection as programmed and JR advised that in general the areas are being offered up as programmed however are usually at the end of the programmed slots. JR noted that BMCL have moved a few programmed slots i.e. Schiehallion. DH suggested that Schiehallion would have been moved back due to the area awaiting doors to be fitted.</p> <p>PM enquired if there were any matters to be raised at the forthcoming HCSP meeting and JR reported that everything was being dealt with.</p>	- - - - -	- - - -
4.	NHS Observations	<p>AS noted that during load checking inspections it was observed that the access to the substation 3a and 3b is impossible as the floor is 700mm beneath the door and stairs have never been put in at the access via PR 32 from the children's roof garden. PM advised this is unacceptable.</p> <p>AS advised that if had been observed that some of the test point locations/grilles did not appear to be clearly labelled and that on occasion reps were not sure if they were testing the correct points. AS noted that there are still positions where it is difficult to access the smoke dampers. It was noted that this was an ongoing issue and there is concern that the ceilings are being closed up so issues could become hidden. AS was requested to provide Capita with the locations so that a communication can be raised to BMCL.</p>	Provide info to JR Provide info to JR	AS AS
5.	Information Requirements	DH advised that he needed a copy of the up to date completion criteria. JR advised that JR meets with JWales regularly to ensure that the completion criteria is being populated and it evolving. DH advised that DL has called a meeting and part of the meeting is a discussion regarding the completion criteria therefore it would be helpful to have a copy of the most recent completion criteria in advance of this meeting as it had moved on since being issued as part of the ERs	Provide completion criteria to DH	JR

Item No	Item	Discussion / Information	Action	Action by whom
6.	AOCB	There were no further items requiring discussion.	-	-
7.	Date and Time of Next meeting Friday 3 rd October 2014 at 2pm.		For noting	ALL

PROJECT SUPERVISOR INTERFACE MEETING: No 49

Notes from meeting held on 3rd October 2014 at 1pm in the Meeting room 1, Top Floor

Present: Shiona Frew (SF)	Peter Moir (PM)	John Redmond (JR)	Douglas Wilson (DW)	Alastair Smith (AGS)
	Graeme Thomson (GT)	Hugh McDerment (HMc)	Willie Roxburgh (WR)	David Hall (DH)

Item No	Item	Discussion / Information	Action	Action by whom
1.	Action Note from Previous meeting	Accepted as an accurate record.	-	-
2.	Matters Arising <i>Communication 163 – lead protection aspects</i>	PM noted that DH was to pass a copy of the RPA report to JR and enquired if he had received the report. JR advised that he would check and confirm back. <i>Post Note: JR confirmed he had received a copy of the RPA report.</i>	Item closed	-
3.	Capita Report <i>General Observations</i>	<p>The Project Supervisor report was circulated in advance of the meeting. JR highlighted the following key points from the report:</p> <p>JR advised that Capita had carried out inspections on a number of floors, as listed in the report, and generally there are 100 snags per zone. Common snags include doors not fitted or only 1 leaf fitted, some blinds being a bit stiff, soffits and reveals needing some remedial attention/re-decoration. Capita had also observed a track for a wall fitted in the wrong place and BMCL will need to box in or move the damper.</p> <p>Capita had witnessed partitions and doors being incomplete.</p> <p><i>Communication 194 – (OPD1-004 – IPS panel)</i> - No change to previous report and response awaited from BMCL.</p> <p><i>Acoustic tests</i> - JR advised that page 16 of the report lists the tests carried out in September 2014. The results from these tests are awaited. The report also lists the non-compliant rooms which will need to be resolved.</p> <p><i>Plantroom 31</i> - Plantroom 31 had been programmed to be inspected however the plantroom wasn't so Capita had used the slot as a pre-inspection and had identified matters such as floors being pitted and a pipe at the lift threshold which would need to be resolved.</p> <p><i>Ophthalmology – dimmable switches</i> - JR advised that the drawings showed that there should be 2 dimmable switches however only 1 switch has been fitted. Capita had raised a communication to BMCL regarding this and a response was awaited.</p> <p>M&E (DW)</p> <ul style="list-style-type: none"> 36 tests had been witnessed in the period <p>There had been 7 failures – mostly due to the visible indicator on the fire damper being obscured by mastic.</p>	<p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p>	<p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p>

Item No	Item	Discussion / Information	Action	Action by whom
3.	Capita Report (cont'd)	<p>Witness testing – Capita are tracking and raising any issues with BMCL</p> <p>PM enquired if the works on site at this stage of the project were similar to that which Capita witnessed on the Birmingham Project and JR advised that on the Birmingham Project the focus at this stage was on the room inspections and commissioning. AS advised that when waiting for the damper tests that checks that the blinds are working and taps are still running were being made. DW noted that BMCL were due to start to chlorinate the tanks w/c 7th October 2014.</p> <p>JR advised that it was proposed that at the end of October/beginning of November that Capita will revisit the podium areas and check what items remains outstanding. PM enquired if Capita have access to the BMCL IDMS and this was confirmed.</p>	-	-
4.	NHS Observations	AS noted that witness testing is ongoing however cancellations and requests are still being received at short notice. It had been noticed that there are still some spills in the Energy Centre tank room to be cleared up. AS advised that it had been noticed that there is damage to the tank room door lock however Estates reps are going to try and straighten up the catch-plate however this will be raised with BMCL as this area remains as shared access.	-	-
5.	Information Requirements	JR confirmed that there was no information requirements at this time. JR noted that he was scheduled to meet with HG for a catch-up regarding the rooms that HG has inspected.	-	-
6.	AOCB	There were no further items requiring discussion.	-	-
7.	Date and Time of Next meeting Friday 7 th November 2014 at 2pm.			For noting ALL

PROJECT SUPERVISOR INTERFACE MEETING: No50

Notes from meeting held on 10th November 2014 at 1pm in the Meeting room 1, Top Floor

Present: Shiona Frew (SF)	Peter Moir (PM)	John Redmond (JR)	Douglas Wilson (DW)	Alastair Smith (AGS)
	David Hall (DH)			
Apologies:	Graeme Thomson (GT)	Hugh McDerment (HMc)	Willie Roxburgh (WR)	

Item No	Item	Discussion / Information	Action	Action by whom
1.	Action Note from Previous meeting	Accepted as an accurate record.	-	-
2.	Matters Arising <i>Capita resource</i>	JR advised that there had been additional Capita resource on site the previous week however generally the current Capita resource was sufficient. JR noted that there are less room inspections to be undertaken, the focus was witnessing commissioning and testing.	Item closed	-
	<i>Sill flashing to air intakes</i>	JR advised that the sill flashings to the air intakes were properly screwed down.	-	-
3.	Capita Report <i>General Observations</i>	<p>The Project Supervisor report was circulated in advance of the meeting. JR highlighted the following key points from the report:</p> <p>Inspections carried out to:</p> <ul style="list-style-type: none"> • level 9 areas 503, 504 and 505 – only minor snags identified • Level 6 atrium link bridge - only minor snags identified • Level 5 atrium link bridge - only minor snags identified with the exception of damage to the vinyl • Some decoration needs attention on the link bridge • Witness vinyl patched at a set of double doors and the vinyl appears to a different shade to what already in place. • Door to cubicle toilet almost hits the wc – there is insufficient activity space. BMCL have advised that the drawing has been signed off by the NHS however they would review the cubicle. There is potential to either change the width of the door or have the door opening out. Communication had been raised to BMCL regarding this item • Level 10 areas 503 -505 – 105 rooms inspected and only 79 minor defects identified • Level 7 atrium bridge and B rooms on levels 8, 9, 10 & 11 - only minor snags identified • Level 11 - only minor snags identified. Some decoration needs to be attended to. 105 rooms inspected and only 70 minor defects identified. <p>During an inspection it was noticed that there are some fire doors that have too big a gap between the floor and the bottom of the door (not in tolerance). BMCL advised that they would carry out a side wide check and would provide marked up drawings to identify where remediation is required and what remediation would be carried out at each location.</p>	<p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p>	<p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p>

Item No	Item	Discussion / Information	Action	Action by whom
3.	Capita Report (cont'd)	<p>Supervisor Communications (JW) (cont'd)</p> <ul style="list-style-type: none"> Smoke extract isolator switches have been installed beyond the face of the cladding (photo included in the report). FShaw has advised that BMCL will put some form of casing round the switches for water-proofing. There is concern regarding access to the fan isolator switch. Communication 214 has been issued to BMCL regarding this matter. Ophthalmology – omission of dimmers – the signed off drawing identifies that 2 dimmer switches should have been fitted to a number of rooms and it appears that only 1 dimmer switch has been fitted (report lists those rooms affected). PM advised that the missing dimmer switches should be installed as per the signed-off drawings. DH agreed to advise BMCL to progress as per signed off drawing. Intake sub-station – works not yet complete. BMCL advised that there is still 1 comms cable to be pulled through (Comms 30 & 45) A door on the east elevation clashes with a extract fan (level 3 Core H) Comms 215 has been raised to BMCL regarding this matter. Blockwork – BMCL have advised that they have undertaken some pointing works and BMCL have been asked to confirm the extent of the work. Defect 81 relates to the different colours of pointing at the NCH A&E Entrance and feedback is awaited from BMCL regarding the remediation of 1 remaining block Gaps in the thermal insulation in the back box of remote TRVs. Remains outstanding – response from BMCL awaited. (Communication 199) <p>PM noted that a record of all the fire damper issues should be kept for Practical Completion. AS noted that wrongly addressed fire dampers had been witnessed – sometimes this is due to a drawing error. Only sample testing is being undertaken so there is concern that there may be more issues which have not been identified from the sample testing and the extent of the issue cannot be identified DH enquired what happens when failures are identified and AS advised that further random sampling is undertaken until there is no failures identified.</p> <p>JR advised that the quality on site is generally being maintained throughout in light of the programme. DH suggested that it is the % failures that could cause an issue especially if these are discovered later in the testing process.</p>	<p>-</p> <p>Advise BMCL that dimmers to be fitted as per signed off drawing</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>Record of fire damper issues to be created</p> <p>-</p>	<p>-</p> <p>DH</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>JR/DW/AS</p> <p>-</p>
4.	NHS Observations	<p>AS advised that in relation to the note on page 25 of the report that the NHS do not have the 'A' side boilers handed over as yet, only 'A' side power.</p> <p>DH advised that he noticed that there is a concentration of acceptance of the plantrooms on level 12 in December. DW advised that Capita have already reviewed some of the plantrooms already.</p> <p>DH noted that the aseptic suite works are slipping out to 7th January 2015 and enquired if there are any issues regarding the plant. DW advised that he did not know of any plant issues, visual inspections have gone well and only a few items had been identified. DH agreed to enquire about the Aseptic Suite programme at the HCSP meeting being held later that day.</p>	<p>-</p> <p>-</p> <p>Raise programme for Aseptic suite slippage at HCSP</p>	<p>-</p> <p>-</p> <p>DH</p>

Item No	Item	Discussion / Information	Action	Action by whom
5.	Information Requirements	It was noted that there were no information requirements outstanding.	-	-
6.	AOCB	<p>AS enquired if BMCL are looking at the provision of safe access to sub-station 3a & 3b switch as there is a circa 900 drop into the switchroom and this drop would cause difficulty in getting safe egress in the event of an emergency.</p> <p>DH noted that the timescales for the acceptance of the external works are tight. JR advised that Capita are still to inspect a) external fabric, b) external works, c) stair cores and main circulation areas, d) courtyards and e) previously excluded rooms.</p> <p>PM queried the progress being obtained to the air handling units on level 9 and on a recent inspection the area seemed very warm. DW advised that BMCL are working their way through the balancing of the air handling units.</p> <p>PM noted that the A-side boilers and CHP will need to be tested. AS advised that the 'B' side boilers were to be load tested. DH suggested that in relation to the integration of the boilers with the CHP that it would be beneficial for BMCL to demonstrate that the controls are working. AS advised that there is minimal work regarding the controls to be undertaken.</p> <p>DH advised that an interceptor would be getting installed on the current fuel road and also an interceptor is to be installed at A&E for the decontamination suite.</p> <p>DW noted that during the commissioning of the DCTs it had been identified that someone has been shutting off the DCTs.</p>	<p>Check if access/egress being checked out by BMCL</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p>	<p>JR</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p> <p>-</p>
7.	Date and Time of Next meeting Friday 5 th December 2014 at 2pm in meeting room 1.		For noting	ALL



**Bundle of documents for Oral hearings commencing from 13 May 2025 in relation to the
Queen Elizabeth University Hospital and the Royal Hospital for Children, Glasgow**

Bundle 33 - NEC3 Supervisor's Reports and Project Supervisors Interface Action Notes

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