Scottish Hospitals Inquiry
Witness Statement of John Ballantyne

Introduction

1. My name is John Charles Ballantyne.

2. I am a consultant now, having retired from Multiplex in June 2021. I am self-employed and work with various organisations within the construction industry.

Professional background

3. I joined John Laing Construction in 1979 on what they described as an articled pupilship, which had a five-year duration, in Quantity Surveying. I was there for 17 years.

4. I then joined Bovis Lendlease and stayed with them in the UK for about five years, and then went to America with them. I stayed in America until late 2007, then came back and re-joined Laing but as part of Laing O'Rourke. I stayed with them for a couple of years as Commercial Director for the Scottish business, and then I went to the Robertson Group to head up their construction business, but I was only there for about a year.

5. Thereafter, I joined what was then Brookfield Multiplex and was working on what became the Queen Elizabeth University Hospital, very early in its tenure. The laboratories building was just coming up to completion when I joined, and we were putting piles in the ground on the main hospital. I think this was in 2011. Then, as I said, I retired from Multiplex in June 2021.

6. As part of my tenure with Multiplex, I was on the main European Board for a couple of years towards the latter end of my employment. Specific to Royal Hospital for Sick Children ("RHSC"), when I was at the Queen Elizabeth

University Hospital, we were bidding in competition for the RHSC project as one of the three bidders going through competitive dialogue as part of the preferred bidder selection process. I led the bid, took it through Financial Close, and then for a short period of time I was Project Director on the RHSC Project. I then relinquished that responsibility to Alasdair Fernie early in the construction programme. Overall, I have around 42 years' experience in the construction industry.

7. I have been involved in a number of other hospital construction projects including (as I said above) the Queen Elizabeth University Hospital in Glasgow prior to the Edinburgh RHSC. I was also involved in the Forth Valley Hospital when I was with the Laing O'Rourke group as Commercial Director for the Scottish business. When I was in America with Bovis Lendlease, I was Area Risk Manager and on our portfolio were a number of healthcare projects.

Environmental Matrix – Royal Hospital for Sick Children (Edinburgh)

8. I am familiar with environmental matrices and they have they been used in other projects that I have been worked on. On the Queen Elizabeth University Hospital in Glasgow, for example, where you have over 7,000 rooms, albeit a number of which are repetitive in style and type, you have both the accommodation matrix which describes what size those rooms are and where they are in relation to one another. Then, sitting beside that you would have the environmental matrix on the M&E side to say how those spaces would perform. In my view, it's a very useful tool for capturing all of that data in one place rather than a library of room datasheets which would otherwise be the case.

9. One of the main aims of the Board for the RHSC project (by "Board" I mean NHSL), in my understanding, was to have absolute clarity on what they were going to receive as part of the procurement and delivery process. Brian Currie and I had many a lengthy conversation during the preferred bidder phase when the phrase environmental matrix kept reappearing. There were examples in the past where the NHS Lothian Board felt they did not get what

they thought they were going to get and then could do nothing about it. That was something they desperately wanted to avoid on the RHSC Project. This meant they went into the granular detail and absolute clarity was what they were driving to, not to get caught short by way of any misunderstanding of expectations and output result. If we look at the environmental matrix as an example, my understanding, albeit I'm not an expert on M&E services, was to clarify the performance requirements from an environmental point of view in every single type of space in the facility; for example in terms of temperature range, and air change. It was intended to give clarity and lack of ambiguity. This was imbedded and reinforced all the way through the dialogue phases and into preferred bidder by the Board and its advisory team.

10. With regard to the Board's Construction Requirements (BCR's) and our Project Co Proposals (PCPs), the Environmental Matrix would have been a line in the sand which IHSL and the Board would understand as the technical requirements IHSL was expected to deliver and so our contractual obligations.

11. The environmental matrix was one of a number of tools on the design side to support that level of clarity and non-ambiguity, to be available as a reference document, if and when it was required, so NHSL could come back and say, *"You promised to deliver this, and it appears from your commissioning reports and output data that you haven't done so."* In my view, the environmental matrix, is what NHSL would be using to validate compliance or otherwise.

12. I am asked about where there is information within the environmental matrix and that differs to that within an SHTM. Returning to how important the Board regarded the environmental matrix to be, it was seen as the Bible, for want of a better expression. Relative to an SHTM, which might expect something different, I would say they would defer and prefer to go to the environmental matrix to confirm expectations. Validation and certification were to be done against the Environmental Matrix and not against any other standard of guidance.

13. We were told at the competitive dialogue meetings that the Environmental Matrix was mandatory and that there was to be no deviation. It was absolute.

14. In my view, the Board had told us what they wanted, i.e. the Environmental Matrix and we gave that to them in out design being in compliance with the Environmental Matrix. The Matrix set the standard for the Board on this Project as it had been written and produced by them.

15. I was at arm's length to the M&E side of our team at Financial Close. It was led on our behalf by two very experienced groups: one, a domestic subcontractor in the shape of Mercury Engineering; and two, TÜV SÜD in the shape of the professional designers of M&E. I would have expected - and I believe there was - communication about the environmental matrix from those two groups on IHSL's side and the Board, to ensure that both parties understood what the expectations were.

16. Operating theatres obviously demand a far greater flow of air and a number of air changes than a single person bedroom would. So I would have expected, these two areas would have different numbers and there would have been discussions in dialogue and design sessions with the Board's advisors about that level of air change expectation.

17. If there were discrepancies, these would have been picked up by the subcontractor of M&E, the designer of M&E and in consultation with Motts and the Board's professional advisory team. They would have tabled that document (the Environmental Matrix). They would have been looking at our design offering, overlaid upon that, with the Board saying, "Yes, you're giving us what we want".

18. I don't recall specifically the terminology of room function reference sheets within the environmental matrix for every room. If you looked at a room, that would explain in very simple but clinical terms what we would understand, and our design team members would understand, that room had to do by way of clinical functionality, and what the contract then expects us to deliver. There

were parameters of performance expectation defined by the room type definition. It was clear and both parties understood it, whether for operating theatre, single patient bedroom, isolation suite, dirty utility, etc.

Procurement process

19. I couldn't tell you specifically the date when the environmental matrix, was added to the draft contract provided in the ITPD. As part of the pricing, programming and designing tasks that had to be done, we had to understand what the Board wanted, and my reference in that would be the BCRs. In those BCRs would be all of their expectations, including the performance requirements of the environmental matrix as I explain above.

20. During the competitive dialogue phase, more on the architectural side, there was a level of encouraged license that the Board wanted to give to the competing bidders. Whilst the site was physically constrained by its footprint as to how far you could go in terms of exercising that design license, they still wanted a world-class, state-of-the-art facility. It was like "*Give us what you can and be as modernistic as you can"* because one of their primary aims, because it was a children's hospital in the main sitting aside the Department of Clinical Neurosciences, was to try and take away the utilitarian type of healthcare environment, so that the children that were attending the hospital could feel as comfortable as practically possible in that space. If you go to the hospital and walk into the main atrium, for example, it is aimed to deliver a welcoming environment to the patient groups attending. In terms of all of the wayfinding artwork, all of the patient waiting areas, some of the examination rooms with sky ceilings, we were told "Be a bit creative in your design offering" and the same was said to the other two bidders.

21. I would say that Multiplex and IHSL were satisfied with the competitive dialogue process. We must have been, because we came out winning the opportunity to go forward as preferred bidder. It was a very lengthy process. I believe that we had done enough to secure the bid. Particularly on the architectural side of our design offering, I thought that HLM did an absolutely

fantastic job in their interpretation of the Board's requirements to hit those buttons of "We're giving you something different here and taking you into something ground-breaking from an architectural design point of view." It was really, really good – for patients, clinicians, and visitors alike. I thought the selection process was very good and we'd taken enough time to develop the design as far as it could be developed at that stage to give them a commercial offering, a defined design offering, in a level of detail, and a programme that was doable.

22. I think there were two rounds of questions over the final competitive bids. I can't recall specifically, but I do think it was two rounds of questions and then responses, so that if the response we gave in the first round of questions wasn't specific enough, there was the second round of questions in order to let the Board make a properly informed decision on preferred bidder selection.

23. In terms of innovation with regard to patient pathways, to afford the clinicians the right level of ability to provide treatment, that's not something we would normally mess with. Innovation was more in line with things like, "Can we do something with the non-institutional environment by way of the artwork, by way of the decor, by way of the softening it. It's still really a hospital but let's try and disguise it as much as we can into being something else." But when you have drilled or scraped the surface off that, it's still an acute hospital, and we could not breach those fundamental desires of the board that had been discussed and agreed before MPX were involved. We could not mess with that "brief". We heard the phrase, "You need to listen to what we want" and I think, on Edinburgh, through Brian Currie, the message that was coming over was: "I know what you might want to give us, but listen to what we want and respond to that, please."

24. I am asked about Room Data Sheets. (**A34108626 – IHS Lothian room data sheets – 08 October 2013[1])** IHSL was supposed to provide all room datasheets at Financial Close but there was a decision taken to relax this provision and only c.40 percent were produced.

[1] Bundle 6 - Key Sections of IHS Lothian Tender, item 7, p.405

Preferred Bidder Stage

25. Both teams (IHSL and the Board) embarked on the Preferred Bidder process co-locating at Canaan Lane in Edinburgh. Co-location of the teams was seen as a way to make it work faster and more efficiently.

26. I looked more on the architectural side than I did on the M&E side, but the Board's level of diligence, and this isn't a criticism, went back to the "*We want to understand what we get,*" mentality and meant that the length of time each of the tabled drawings took to achieve the: "*Yes, that's fine, now we know what we're getting, now move on to the next drawing",* took longer than both sides wanted it to take. As a result of that, the preferred bidder period to take it to Financial Close was taking too long; it was costing too much in resources and time and we were not going to hit the targeted dates for Financial Close. That was a matter of great debate at very senior level on both sides at that time.

27. I would challenge the suggestion that discussions around the air-change rates and pressures were unresolved at financial close. I would have said that at Financial Close the IHSL design was what we thought we were going to be expected to deliver. There was a level of mutual understanding of how far the design had got and what it would deliver. Bearing in mind, again, with my commercial hat on, we were agreeing the costs for the construction project at Financial Close based on the design - costing a set amount of money for what that design included.

28. I do not believe that the project or expectations on what was to be delivered by Multiplex changed fundamentally between the ITPD stage and the period up to Financial Close. It would have matured in terms of its depth of detail to support what the last tender included. So, on the design, you would go from a 1:100 to a 1:20 type level of scale. You're drilling down then into what should be provided to gain more specific certainty. From an equipment point of view, you're saying "I know that you might have allowed for shielding in this particular MRI suite. What type of shielding and to what extent?" So you're

moving into a deeper level of interrogation through the FC process, again seeking and getting further and further clarity, on both parties. But fundamentally it's not changing, it's just developing in its level of detail.

29. At that time too, we would have been looking at the supply chain that would be delivering on those particular elements and identifying who was going to be the provider of specific things, who was going to put the render on the walls, who was going to put the vinyl on the floor, the roof on the building, who was going to be providing the air-handling units in the plant rooms. Mercury Engineering would have been going through their procurement phase, narrowing down their supply chain on component parts of the M&E system. Again, from the Board's point of view, there were equipment specific meetings that talked to those elements: not only what IHSL would provide in the treatment suites, but what the Board knew it had to provide (imaging machines for example) and how those two elements would sit comfortably together and not clash.

Ventilation

30. There were discussions around the mixed-mode ventilation such as the opening of windows to be included as natural ventilation. These discussions started as part of the overall strategy and the architectural design around patient wellbeing. The Board wanted openable windows because openable windows benefits patient wellbeing by bringing the outside in if you like. That was always in our contemplation as part of the brief, to have the benefit of natural ventilation as opposed to the set up of the Glasgow hospital. It was the reverse. None of the windows in the Glasgow hospital were openable.

31. The Board's stance on this, I believe, came from the clinical side seeing the benefit of having openable windows. But, at the end of the day, openable or not - because in some rooms the windows even though they could be, wouldn't be opened (in winter for example), the system therefore still had to function independent of natural ventilation. On its own the system would have had to generate sufficient output to meet the Board's requirements because

you can't be reliant on a patient, or a visitor, or nursing staff opening windows to make it all work.

32. In my role there was very little direct clinical engagement, but I was not involved in the technical design. Some of the Board's advisory team were former clinicians. Two of the ladies on the board side, Jackie Sansbury and Janice MacKenzie, were both lead nurses at the Sick Children's hospital in Edinburgh, so they took the lead on what the clinicians expected in the children's hospital. There was no obvious (to me) direct departmental lead engagement, and I thought that the Board's team were suitably qualified in having those members on their side to talk on behalf of the clinicians. They had been through the ringer many times before with the clinical groups of NHS Lothian, before it was an NPD project platform for procurement. That had developed the reference design and BCR's. The definition and the opportunity to fundamentally change that input was gone by the time we came to the table, even in bidding stage.

33. At Financial Close the design was not as developed as one might expect. However, we could have built the hospital – and did, in my opinion – from the documentation that was signed off at financial close. The assurance that my business needed from me as the bid leader, and I would have suggested the same on the Board's side to allow them to enter into that contract, meant what was to be provided needed to be of sufficient clarity and definition. That wasn't going to change unless the Board told us they want it changed. On this job, because of its procurement route, you have a number of entities all having to satisfy themselves. So for example Bouygues needed to understand what the hard FM consisted of so that they could work out their lifecycle replacement liability. So you've got a number of entities all looking at it to satisfy themselves. Therefore, having reached Financial Close you're getting the blessing of not just NHSL, in my view, but the funders as well as the Facilities Management contractor on the IHSL side and the different stakeholders on the Board side.

34. Multiplex did have some concerns about the level of RDD at financial close because my understanding was some drawings had only achieved a status C for example. Status C means you can't build it since it is not yet approved. This wasn't fundamental though to the point where there was a risk for £X million pounds of more scope. It was more along the lines that the Board's not quite satisfied yet. We're going to have to do a bit more work. It wasn't going to change anything in terms of the wider design principles and approach.

35. NHS Lothian and ourselves were therefore content with items remaining open on the RDD following Financial Close. They had been flagged up but there was no "We'll never get here" because, at the end of the day, Financial Close was the catalyst to starting on-site, and once that machine starts rolling it becomes very expensive if it has to stop to re-think and interfere with the construction process. Again, Brian Currie and his team were very alert to that. A fundamental redesign after Financial Close wasn't really an option. You can't do it. The parties need to be sure when we sign what is to be provided and that whilst there may be a bit of tweaking and polishing, it doesn't require a fundamental rethink. If we look to M&E, the design was such at Financial Close that you know the number of air-handling units required to achieve the Air Change Rates, because you know what we're going to do with one air-handling unit and the flow rates to be achieved.

36. In my view the RDD process was there to check that the IHSL design was delivering what had been asked for by the Board, including for example what was in the Environmental Matrix. So, the level of air flow and air change rates would be presented with duct and plantroom information, together with the energy model to confirm performance and compliance with the Environmental Matrix.

Relationship with the Board

37. In terms of relations between Multiplex and the Board as we drew towards Financial Close, I think that the co-location at Canaan Lane was very much a

positive because we were working as one and not as two organisations. Whilst we sat in different offices, because physically it was a cellular facility, the amount of interaction the discussions, the meetings were good. There were lots of meetings every day, and the relationships in those meetings had a level of mutual spirit of trust and cooperation even although it wasn't an NEC (New Engineering and Construction Contract, this being a form of contract that expressly requires this). Obviously, there are differences of opinion and levels of stress and strain but, I think that the relationships were very good.

38. I cannot comment on the project management group meeting in August 2014, regarding a review of the environmental matrix there but I would be happy to assist if more information can be provided.

39. I do remember the Special Project Steering board meeting on 22 August 2014 **(A32676824 – Action notes RHSC and DCN Special Project Steering Board – 22 August 2014[2])** which Ross attended, where NHSL raised their concerns about the project programme and achieving Financial Closure. It goes back to the points I was making earlier that the board had a level of diligence they wanted to apply and were applying through the RDD process, but which meant it was all collectively taking too long. A level of frustration relative to how long it was taking was starting to bubble to the surface. The risk was missing the Financial Close target date because, as things take longer and dates pass, inevitably it will cost more money. There was always an overall commercial constraint on the Board which we understood. There may have been a level of criticism levied at the IHSL team side, but equally I think we were, through Ross Ballingall, pushing back on the Board side saying, "You are going into this in our opinion in a level of detail far in excess of what we believe is necessary."

40. Ross had stated there was a genuine mismatch in NHSL's and IHSL's expectation where IHSL's been asked to deliver much more than on other projects and considerably more than what was required for operational

[2] Bundle 8 - Scoring & Correspondence Regarding Issues, item 2, p.11

functionality. For example, if you looked at a particular room going through the RDD process, we would table a set of drawings. We would have the meeting. A couple of things would be moved around. We would take the drawing away, redraw it, present it for what we thought was signature, and then the board would say, “Oh, we would like to move this again. I know we put it on that wall previously, now we’d like to put it on this wall, and can we not have one of those cupboards removed? We’d like three shelves in that one as opposed to two, and now we want to put this piece of equipment in here.” So, on several occasions, the same drawing was revisited a number of times instead of, in our view, once and the second meeting is the “Now you can sign off on it. Let’s get the next rooms drawing on the table.” We were still pouring over the same drawing many, many times.

41. So it just took longer than we would normally have expected, and with more revisits, therefore our architectural and design team were spending too long on the same thing – the same thing being a room space and its internal layout in the facility. We felt “We shouldn’t have to take this long to get you satisfied. Stop changing your mind”. The Board’s answer to that would be, “But that’s who we are. We can change our mind until we get what we think we need to provide us the facility that we’re going to buy from you. And we’ve not bought it yet by the way, you’re still only preferred bidder.”

42. That was the kind of discussion that was happening at that time. So while I have said that the relationship was very good, the stresses started to show as we were getting closer to Financial Close in date but not close enough in terms of RDD progress.

43. There were issues around the PCPs. Those documents are in response to the BCRs. So how it works is the Board says “This is what we want" in the BCR. Then the PCPs are produced as this is what is being provided. So, in a way the PCPs here described the BCRs, and in the simplest of terms, you could have said, “We’ll give you what the BCRs ask full stop.” But that would be ridiculous. So, then you move forward, and you develop the PCPs and you explain it in a bit more detail. Again, the level of detail that the Board expected in the PCPs, in our opinion, was over and above what we would

normally have had to deliver to satisfy another health board. But stepping aside, why do they want them in that level of detail? In our view so they would not get to the same place they've been in before when they thought they were buying something and got something else. So I can fully understand why they wanted it in so much detail. It's just how long it takes to create that amount of detail and but also how so unusual, in our experience, it was because we've done this before and so had the Board.

44. I do not specifically recall being involved in any discussions around BREEAM, other than about how much it was going to cost for the benefit that it would actually bring. There was certainly a desire by the Board to hit an excellent rating on BREEAM. Going back to our experience, to go from "very good" to "excellent" is physically achievable and would be easier to achieve in certain facilities for example a commercial office block. "Excellent" in healthcare is pushing the BREEAM envelope quite far. Again, it comes back to how much you having to expend in order to get those additional points to get you from "very good" to "excellent," and commercially as well as operationally is it worth it to you, the Board, as the building operator?

45. You have to strike a fine balance between your M&E proposals in trying to achieve that, because how much energy you use fundamentally is a BREEAM consideration. So the energy model and its anticipated burn/use of energy is very much a mainstay to how many BREEAM points you can earn: how much water you're actually going to use and how much you're going to recirculate. The same for air. It's all a consideration in BREEAM.

46. My understanding of the term "operational functionality", which was sought by the Board, goes back to the question "What is the purpose of this building?" It is an acute hospital for children, with the ability to incorporate a department for the Department of Clinical Neurosciences. You have to have a number of rooms that do specific things. So for example you have to have a certain width of corridor so that, when that MRI machine gets replaced by the latest and the greatest version of it, you have to have a way of getting those machines in and out of the facility. So demountable wall panels overhead panels and corridor doors so that you don't have to deconstruct half the

hospital to switch the machine out." Some of those equipment machines, for example on the MRI, need special services, a quench pipe for example which needs to be routed through the facility to external safe space. Every so often the magnet gets too hot and you need to cool it down really quickly.

47. The whole way a hospital works has to be considered in the design as a builder we absolutely understood the importance of clinical functionality to the Health Board. We had been required to deliver it in a number of facilities elsewhere and did so successfully in our view.

48. I believe that the facts stated in this witness statement are true, that this statement may form part of the evidence before the Inquiry and be published on the Inquiry's website.

Signature

Date