

# EDINBURGH TRAM INQUIRY

## CLOSING SUBMISSIONS

### On behalf of

**PARSONS BRINCKERHOFF LIMITED**, a company incorporated under the Companies Acts (02554514) and having its principal place of business at WSP House, 70 Chancery Lane, London, England, WC2A 1AF

Core Participant

### 1 INTRODUCTION

1.1 These closing submissions (“**the Submissions**”) are made on behalf of Parsons Brinckerhoff (“**PB**”) relative to the Edinburgh Tram Inquiry.

1.2 The Submissions have been prepared following attendance at most, but not all, of the oral hearings, and PB’s advisors conducting a relatively high level review of certain factual and oral evidence submitted within the Inquiry. Such review has been restricted to certain sections of certain statements, and to particular evidence. It has not been possible or realistic to conduct a review of the body of evidence as a whole.

1.2.1 Insofar as the Submissions are relevant to evidence not expressly referred to herein, then we request that the Inquiry take account of PB’s general submissions in respect of such other evidence.

1.2.2 Insofar as the Submissions do not respond to particular issues of fact, or contentions, then PB is not to be taken as agreeing to or accepting such factual issues or contentions.

1.3 Within these submissions we use the following abbreviations:

<b>“BBS”</b>	BBUL/Siemens Consortium
<b>“BBUL”</b>	Bilfinger Berger (UK) Limited
<b>”BSC”</b>	Bilfinger Berger /Siemens /CAF Consortium
<b>“CEC”</b>	City of Edinburgh Council
<b>“EARL”</b>	Edinburgh Airport Rail Link
<b>“ETP”</b>	Edinburgh Tram Project
<b>“PB”</b>	Parsons Brinckerhoff
<b>“Siemens”</b>	Siemens plc
<b>“SDS”</b>	System Design Services
<b>“SUC”</b>	Statutory Utilities Company
<b>“TEL”</b>	Transport Edinburgh Limited
<b>“tie”</b>	Transport Initiatives Edinburgh Limited

1.4 Within the Submissions, references to the oral evidence of witnesses, are to the written page numbers as displayed on the Public Hearing Transcripts published on the Edinburgh Tram Inquiry website. For instance “T - 120917

– 192” is a reference to page 192 of the Transcript on 12 September 2017. Where we refer to a particular line, “T - 120917 – 192 – 6” is a reference to line 6 of page 192 of the Transcript on 12 September 2017.

## 2 **PB’S EVIDENCE OF THE RELEVANT FACTS AND CIRCUMSTANCES**

- 2.1 PB’s evidence of the relevant factual circumstances is primarily recorded in (1) the Statement of Steve Reynolds taken by Burness Paull LLP dated 8 October 2015 (TRI00000124); (2) the Inquiry’s Statement of Steve Reynolds dated 4 May 2017 (TRI00000124\_C); (3) the Inquiry’s Statement of Jason Chandler dated 17 May 2017 (TRI00000027\_C); and (4) the response to the Inquiry’s written questions by Alan Dolan dated 17 July 2017 (TRI00000101).
- 2.2 References to SR \* in these submissions are references to paragraphs of the Statement of Steve Reynolds dated 8 October 2015 (TRI00000124). So SR 3.8.1 is a reference to paragraph 3.8.1 of TRI00000124.
- 2.3 Reference is also made to the weekly reports prepared contemporaneously by Steve Reynolds “*diligently from February 2007 certainly all the way through May 2008*” (T- 121017 – 36). These have been provided to the Inquiry as Document 20 to Mr Reynolds’ statement dated 8 October 2015, and provide a contemporaneous record of events at the time the relevant events occurred. As a contemporaneous record, which captured the relevant facts and circumstances at the time, without the risk to evidence of the passage of time and the retrospectivity of evidence given in the context of a public Inquiry, it is submitted that it should be a preferred source of the relevant facts and circumstances.

- 2.4 Reference is also made to the transcribed oral evidence of Steve Reynolds, Jason Chandler and Alan Dolan, taken by the Inquiry on 11 to 13 October 2017.
- 2.5 Reference is also made to the documents referred to by Messrs Reynolds, Chandler and Dolan, within their evidence.
- 2.6 Reference is also made to the Note of Issues by PB dated 25 February 2015, which was provided to the Inquiry.
- 2.7 Insofar that issues arise in respect of the Inquiry's Terms of Reference, which are within the knowledge of PB, or otherwise relate to PB's role and responsibilities in the Edinburgh Tram Project, it is PB's position that the above evidence accurately records the relevant facts and circumstances.

### 3 **RELEVANT ISSUES**

3.1 Besides the general factual narrative, provided to the Inquiry as set out in paragraph 2 above, there are six issues regarding which PB is able to assist the Inquiry relative to the relevant facts and circumstances which pertain to its role in the ETP.

3.1.1 The first issue is the question of the timing of design delivery. We refer to this as the "**Design Timing Issue**".

3.1.2 The second issue relates to comments within the Inquiry process regarding the content of the design. We refer to this as the "**Design Content Issue**".

- 3.1.3 The third issue relates to the management of stakeholders and is referred to as the “**Stakeholder Management Issue**”.
- 3.1.4 The fourth issue relates to the management of utilities and is referred to as the “**Utilities Issue.**”
- 3.1.5 The fifth issue relates to comments regarding PB’s management and resourcing and is referred to as the “**Resource Issue.**”
- 3.1.6 The sixth issue relates generally to comments regarding the suggested reasons for delays and cost of the tram project and is referred to as the “**Causation Issue.**”
- 3.2 In the following sections, we shall take each of the above issues in turn.
- 3.3 With reference to the Note by the Chairman for Core Participants concerning closing submissions dated 15 March 2018, the six identified issues, together with the evidence of PB witnesses in written statements and in oral evidence, provide PB’s submissions on the identified issues which are relevant to PB, namely:
  - 3.3.1 SDS – award of design contract, scope of services, progress to December 2007; difficulties encountered; the reasons for these difficulties and remedial measures attempted.
  - 3.3.2 MUDFA – including difficulties encountered.
  - 3.3.3 Events of December 2007 – state of design and MUDFA works.

3.3.4 Events from January to May 2008 – misalignment of ERs, contractors proposals and SDS design and SDS novation.

3.4 With reference to certain comments made by the Inquiry in prior correspondence it is important that the Inquiry notes that PB was not “the design contractor in respect of the ETP”. There were several parties with various design responsibilities for the ETP. PB was a “Design Provider” for the provision of System Design Services as set out in the contract with tie.

3.4.1 Iain McAlister observed at T – 211117 – 46 that “*the tram system involves civil engineering design, electrical design, mechanical design, information technology design. All those components have to come together to allow the finished product to be constructed.*”

#### 4 **THE DESIGN TIMING ISSUE**

4.1 With regard to the Design Timing Issue, PB does not accept that the evidence of the following witnesses, or any similar evidence not included here, represents a full and proper record of the facts and circumstances:

4.1.1 The written statement evidence of William Reeve at paragraph 59; Andrew Harper at paragraphs 53, 54, 55, 60, 63, 69; Trudi Craggs at paragraphs 78, 85, 105; David Crawley at paragraph 11(4); Damian Sharp at paragraphs 177, 222, 223, 225; Andrew Fitchie at paragraphs 2.40, 5.90, 5.95; Willie Gallagher at paragraphs 78, 83, 152; Matthew Crosse at paragraphs 12; Geoff Gilbert at paragraphs 80, 82; Steven Bell at paragraphs 8,9,154; Susan Clark at paragraphs 4,12, 20; Graeme Barclay at paragraphs 17, 18, 23, 80,

82; David Mackay at paragraphs 4, 157, 159, 163, 164 of their respective statements.

4.1.2 The transcribed oral evidence of: Duncan Fraser, T – 120917 - 192, 193, 194; David Crawley, T – 041017 – 18; Damian Sharp, T - 051017 – 159; Trudi Craggs, T - 061017 - 128, 129, 144, 145; Richard Jeffrey, T - 081117 - 19, 58; David MacKay, 211117 – 44; Andrew Malkin, T - 071117 - 115, 174, 175; Donald McGougan, T - 301117 - 2, 15.

4.2 PB's position is that the Design Timing Issue arose due to continuing uncertainty on scope, and the volume of design changes which impacted upon the progress of detailed design, particularly during the period between June 2006 and June 2007.

### **Requirements Definition**

4.3 The Requirements Definition stage was to be completed by 19 December 2005 and was completed on time.

4.3.1 The date for Requirements Definition completion was deferred from 30 November to 19 December 2005 because the SDS Contract was not awarded until 19 September 2005. See SR 3.13 and 3.14.

### **Preliminary Design**

4.4 The Preliminary Design stage was to be completed by June 2006 and was completed on time. See SR 3.8.1 and 3.17.

- 4.4.1 Trudi Craggs' Statement at paragraph 78 confirms that Preliminary Design was due to be completed in June 2006, and it was.
- 4.4.2 Thomas Hickman confirmed at T – 251017 – 192 that *“The preliminary design was achieved on or about the delivery date.”*
- 4.4.3 Andrew Harper in an email to K Rimmer dated September 2006 (TIE00000206\_0001) confirmed that the Preliminary Design was completed two months prior and notes in that email that it should be paid for.
- 4.5 PB consequently delivered its Preliminary Design, on time.
- 4.6 There were delays by tie in their review of the Preliminary Design. See SR 3.8.2, 3.8.4. See also Jason Chandler's evidence at T – 131017 – 25: *“CHAIR OF THE INQUIRY: How long did it take tie to comment on the preliminary -- they had 20 days -- but you indicated you would start work on the detailed design. Did they deliver within 20 days? A. No, it was significantly longer. We received a report back that had been produced by TSS in December of that year. December 2006. CHAIR OF THE INQUIRY: So that's almost six months, is it? A. Yes.”* Jason Chandler added that PB were *“Extremely confident in the quality of the preliminary design”*, so wished to see any comments tie wished to make.

#### **General circumstances relative to the provision of design**

- 4.7 SR has provided Document 2, with his Statement at TRI00000124, which is a timeline. The timeline illustrates that the Requirements Definition and

Preliminary Design stages were completed on time, but that delays then arose between June 2006 to June 2007 in the progression of detailed design due to changes, arising through the Charrettes process, and to some extent thereafter managed through the Critical Issues register, general change control measures, and the use of the “orange box diagram” by PB to illustrate the impact of change. See also SR 3.54 and 3.55; 4.11 to 4.16; and 3.8.13.

4.7.1 Charrettes gave rise to specification changes and fresh optioneering (SR. 3.8.5, 3.8.6).

4.7.2 Andrew Harper recognised at paragraph 72 of his statement that the charrettes process clearly diverted focus and resource, that this was CEC led and that CEC were taking the opportunity to ‘*improve things*’ for public realm reasons, and that this came too late in the day.

4.7.3 Jason Chandler at T – 131017 – 40, referred to his statement as follows: “*If a review of that preliminary design is undertaken, the vast majority of what was actually built was entirely in line with that preliminary design that SDS submitted in June 2006. All of the optioneering, charrettes and alternatives considered post this submission amounted to very little change post 20 June 2006.*”

4.8 Trudi Craggs, at paragraph 106 of her statement, recognised that PB didn’t get a chance to close off design because SDS got different directions from different people. People were giving instructions to PB and not thinking it

through. *“SDS were getting different direction from different people in tie and were not getting the chance to close off the preliminary design. It was very frantic in tie at that point – there were a lot of competing pressures on people, a lot of decisions not being made and problems not being dealt with; and those not in control were bearing the brunt and feeling under a lot of pressure.”*

4.9 At T – 061017 – 159/160, Trudi Craggs observed: *“Q – “This seems to be a case of the tail wagging the dog again”. What is the reference to the tail wagging the dog? A. It's the procurement tail wagging the design dog effectively. Rather than allowing SDS to complete the detailed design in accordance with the programme, we're reprioritising, I felt at this point without having any regard as to what SDS thought about it, and therefore you're changing the parameters for SDS continually.”*

4.10 Further, Susan Clark at T – 251017 – 10 in response to the question *“Q - You see, I think the point made by the SDS witnesses, were really ... they received requests in an unco-ordinated way from different teams in tie, which resulted in them having to reprioritise their work at different times. Are you in a position to dispute that evidence?”* responded *“A. I'm not in a position to dispute that.”*

### **Change - general**

4.11 We now address the particular point that design changes impacted upon the progress of detailed design, particularly during the period between June 2006 and June 2007.

- 4.12 Jim Harries, T - 061017 – 4, in response to Counsel for the Inquiry's question gave the following response: *"Q. Would it be fair to suggest that at this time, there were too many changes occurring in an uncontrolled manner? A. Yes. Q. Changes from or by whom? Who were making these changes? A. There was input from all sorts of people, from CEC, and from different parts within tie, because tie itself wasn't a very joined-up organisation, and I think I mentioned silos somewhere. Not in this, but elsewhere. So tie did not always have a common view on changes."*
- 4.13 Trudi Craggs, T 061017 - 160 in expanding upon her comment referred to above that the parameters for SDS were continually changing, added: *"From recollection, I think what happens is SDS then have to reprioritise their work, and they are working to obviously their own work plan to try and hit deadlines. That gets reprioritised. Things may not be then done in the right order to allow them to do interdisciplinary checks or could have an impact, as I have said there, on MUDFA design, so MUDFA could be digging up in accordance with one design which then changes through detailed design. So I think they then -- SDS then have to totally restructure what they are doing to fit in with our new list of priorities."*
- 4.14 James Donaldson, T - 161117 - 120, having commented in his statement: *"The overall volume of changes, and in some cases requirement for design work to produce change estimates, is overloading available change management resources and introducing severe delay. Disagreement over liability for change, for example between base date information and IFC drawings when produced, is exacerbating the delays in agreement of*

*changes." confirmed "That's a fair assessment, I would say, at that time. And that continued. You know, that theme continued, but at that time I would say that's a fair assessment."*

4.15 Changes arose from preferential engineering giving rise to changes which departed from the necessary functionality.

4.15.1 This is addressed in more detail at SR 3.8.7 and 3.8.8. SR 4.23 to 4.26.

4.15.2 There was a failure to commit to the underlying specification. See SR 3.8.5.

4.15.3 Design perfection was given priority over programme delivery. See SR 3.8.12.

4.15.4 Visual impact was given priority over functionality. See SR 3.24.

4.15.5 Indeed David Crawley agreed at T – 041017 – 39 that *"the major risk is not that the design may be 99 per cent optimum rather than 100 per cent; it is that further optioneering may delay completion of the programme to the point where cancellation of the scheme results."*

4.15.6 David Crawley, T - 041017 - 21, 22, further noted that *"changes to one item of design may affect other items of design"* and that it is *"essential"* to *"set up a clear and simple system at the outset, and everyone understands their roles and responsibilities, and there are forums for clearing decisions."*

- 4.15.7 Large numbers of late changes arose from city architect issues. See SR 3.21.
- 4.15.8 CEC adopted changes that conflicted with the Tram Design Manual. Indeed Damian Sharp, T – 051017 – 152 gave evidence that *“Despite the fact that they had very helpfully produced a Tram Design Manual, they then had individual planners asking for things which were not consistent with the tram manual, or even where there was open to interpretation, they would be asking for what was essentially personal preference; and it was very hard for SDS in that environment to produce a set of drawings that they would get approved right first time, which, as you will recall from earlier discussions, was a key assumption.”*
- 4.15.9 By way of example there were multiple redesigns at Picardy Place. See SR 3.30.2.
- 4.15.10 By way of further example there were issues of alignment at the airport – a major deviation from Preliminary Design. See SR 3.23.
- 4.15.11 Another example is the Edinburgh Park viaduct. See SR 3.25.
- 4.16 Tony Glazebrook, T – 051017 – 24 gave the following evidence: *“Because at that time there were lots of people saying lots of things about everything under the sun, and there seemed to be this aura around that things were being changed not because they necessarily needed to be, but because Infracore might have, for instance, believed that ground investigation for a particular structure was inadequate, and it had to be done again or done*

*more of, which might have led to, for instance, larger foundations or bigger things to reduce the likelihood of any physical problem arising later on.” At T – 061017 – 4, he agreed in discussion of circumstances in early 2008 that “the very last thing you want to do is to introduce any more change at all.”*

4.17 Damian Sharp, T – 051017 – 152 gave the following evidence: *“People were being critical of SDS without an understanding of what else tie had asked SDS to do and that -- you know, that needed to be managed better because SDS understandably felt put upon that they were getting criticism from all sides”.*

4.18 Damian Sharp went on to make the following comments: *“CEC has only recently started to behave as if it really wants a tram project and only even more recently started to show any willingness to grapple with any of key choices that involve being a good client ... CEC has persistently changed its mind, refused to make decisions, given third parties additional opportunities to re-open agreements and allowed the tail of smaller projects to wag the tram dog. In short, CEC has never behaved like the tram is the biggest project that Edinburgh will see in 50 years ... Privately, at least, someone should convey to CEC that their approach to planning matters in particular has cost a large amount of time and money ... The goalposts have moved so many times, we are not even playing the same sport any more ... by this time, in August 2008, CEC had kind of recently actually got to grips with that, and it was happening much less by then. But if you go back through 2005 and 2006 and 2007, lots of changes, lots of conflicting views, from CEC's planners.”*

4.19 The cause of the delayed designs lay with tie and CEC, and their inability to comply with the review process in place, nor agreed specification. Instead, there was an overly pedantic approach to the design details adopted, with an ethos that changes to the design could be made at any time.

4.19.1 The period of June 2006 to June 2007 is a relevant period during which these issues were at their worst, resulting in substantial delays to the project going forward.

4.19.2 Tony Glazebrook at T – 041017 – 126 gave evidence that the “*main difficulties and delays encountered in carrying out the design work*” arose due to “*The poor relationship that SDS had with tie, utility companies and CEC, largely through inadequate specification compounded by constant meddling, delayed problem clearance, unclear/missing/duplicative roles and responsibilities.*”

4.19.3 Regarding the underlying specification, Tony Glazebrook, T – 041017 – 127 made the following comments. “*The specification was very, very complex, comprised thousands of pages. It was evident to me, and indeed it was evident to many of us, that the specification of the different elements had not necessarily been correlated, shall we say. So there were either duplications or gaps which had to be resolved.*” Against that background, “*In terms of constant meddling, it seemed to me that the way the organisation was arranged and the way people seemed to take their responsibilities meant that, certainly to my recollection, there was a belief that anyone could input, criticise, comment, continually, which rather than solving problems,*

*actually compounded the problems. On the subject of delayed problem clearance, very quickly we became aware that there were quite a lot of critical issues. I think there was 80 something, which had been around for some time, some years in some cases. So one of our first priorities, that is David and I and our team, was to resolve those as far as we could. In terms of the last line, I think that reinforces what I said just now. The roles and responsibilities within tie not only were, but increased, in their duplication. Now, whether that duplication was by design or by assumption, I don't know. But certainly many people felt they had the right to comment on everything under the sun rather than use their energies and their brains to resolve problems.”*

- 4.19.4 Regarding gaps in specification, Tony Glazebrook, T – 041017 – 129 responded to the Inquiry’s question: “*You also earlier in your answer mentioned gaps in specification. Can you indicate which areas there were gaps?*” as follows: “*Probably the key areas. If we take, for instance, planning, planning is one of these things, which, being subjective, is not particularly well specified. So that caused problems, an example being the long wall at Murrayfield practice pitches, where agreement on what pattern or patterns should be in the stone work was first amusingly and then irritatingly delayed because of the subjective nature of it. There were a lot of cases, I can't give you chapter and verse, where there seemed to be conflictions. What I mean by that is it's the nature of a city that's*

*trying to fit a trail way, meaning track poles, signs, alignment of roads to avoid bicycles going down the rails, instead crossing at 90 degrees, as well as the general public realm issues, there were so many factors, some of which conflicted, that it was very hard to resolve all of those in a way that didn't pop up some other problem like the proverbial balloon being poked. That's really a key area where I would have thought and would have expected and wished that CEC, instead of being in a clipboard role, would have been in a problem-solving role, but they seemed reluctant to do that.” Counsel for the Inquiry then asked “Q - What do you mean by CEC in a clipboard role? A. Criticising rather than solving. Q. Finally, I think you had also mentioned the question of constant meddling. Was that meddling from people within tie? Was that the various interested parties or both or what? A. My recollection is it was principally within tie actually. Q. Does that come back to your explanation about in particular after Infracore let, there being other people involved and commenting on design? A. Yes, that made it worse. It was there before.”*

4.19.5 Tony Glazebrook, T – 041017 – 137, 138 went on to give the following evidence: *“It's inevitable, in any engineering design, that sometimes people will design things to some extent based on good practice, or their experience, which may slightly conflict with some subparagraphs somewhere lurking in a specification. The owner of the specification, that's usually the point at which they pop up and say, no, that's not what I wanted at all. But it's also the nature of*

*specifications that it's very hard to make them specific. They're almost always full of equivocation or with some equivocation in them. The utility performance, that really, in my view, in my recollection, delayed everything. It was hard to get information from utilities. Invariably, when the street was dug up, it was different to how it was portrayed on drawings. There were also issues with betterment and restoration of utilities which delayed things. Yes, the constant interference. I mean, that just -- that seemed to progress to a, in my view, level hitherto unknown to me. I have never seen so much interference and it fatally flawed the process of getting some sort of fixed design by the point at which Infracore came along." ... "I mean, CEC were possibly -- I don't know if I should accuse CEC of interfering. One of the parts of the design management plan, the design management process was that we had round table discussions on things, and that was an attempt to try and focus the resolution of problems in a controlled manner such that the people round the table were the people who could make decisions. But it was hard to get decisions out of CEC, even then there would be perhaps a reversion to the role of criticising or saying, you know: go away and do it again and then we will look at it again; which wasn't helpful. Design does not progress with that sort of way forward."*

4.19.6 Tony Glazebrook, T – 041017 – 152: was later referred to the following observations in his statement: *"the nature of the tie/TSS/CEC/TEL organisational and role confusion meant that people felt able to re-open otherwise closed issues repeatedly for*

*their own reasons.", and "As if it wasn't complex enough with tie's own apparent practice of 'anyone can comment', the various organisational elements within CEC were unco-ordinated and produced a rising tide of rejective comments."*

4.19.7 In a similar vein, in responding to the Inquiry's questions, Matthew Crosse, T - 171017 – 55, 56 gave the following evidence: "Q. Was that a source of concern? A. What exactly? Q. Getting decisions out of the Council? A. Yes, it was. Q. What was the concern? A. The concern is it would hold up the programme. Q. Were you advised that there had been difficulty in getting sufficiently swift decisions from the Council? A. I'd been advised that the Council always needed more work done in order for them to make the decision in the first place, and that they sometimes changed their decision. They'd discovered something else and they flipped their decision, and the overall effect was to delay the decision. So it was a kind of degree of, I guess, interrogation of the design, and I talked about cautiousness. It may have been a slight cautiousness because this was new for them."

4.19.8 Julian Wetherley observed at T – 071217 – 72 that "There were a handful of items that perhaps required more focus, largely client side, that were identified in these meetings. So design approval not being progressed or something like that."

4.19.9 Donald McGoughan commented at T – 301117 – 15 that "The time the Council are allowed to come to a decision on this, I think, was

*eight weeks, but I think what SDS might have claimed was that the prior approval process was not working as smoothly as it might, and that the Council needed to, to some extent, tell the designers in advance of them actually doing the design what type of thing at a higher level would be acceptable.”*

4.20 Although appointing tie as the arms-length company to deliver the project, CEC, as stakeholder, continued to want input in the design review process and approvals.

4.20.1 SR 4.19, explains that CEC’s hands on approach meant that the dialogue was three way rather than two way. This created further confusion.

4.20.2 David Crawley, T - 041017 - 18, recognised that the CEC input caused timing issues. CEC were supposed to be separate, but instead seemed to be an integral part of the design review process: *“I was told at the time that CEC seemed to be entirely separate from the project, despite their forming an integral part of the design process. It was a feeling expressed by everybody.”*

4.20.3 Jim Harries, T - 061017 – 32: expanding on his statement, commented: *“CEC appeared not to want the tram system. Tie was a huge organisation when compared with other tram promoters in the UK. Tie was immature in its systems and in its approach.”* and he added *“I felt that in some cases, their hands were tied because CEC was expecting tie to serve the tram system on a plate to CEC, but*

*actually CEC has real knowledge and value that it can add to the development process. Getting that knowledge and value into the scheme was hard work.”*

4.20.4 Stuart Fair in the CIPFA Report dated January 2018 (TRI00000264\_001) noted at paragraph 1.15 that *“On the basis of the evidence presented to us there appears to have been a significant cultural and management disconnect between CEC and its wholly owned company Tie Limited which significantly impaired the effectiveness of these arrangements.”* Reference is also made to the comments at paragraph 1.21 of that Report.

4.20.5 David Crawley, T - 041017 - 24, went on to give evidence that PB required a team to be able to *“remove obstacles from their path”*, not to create more: *“Having appointed a supplier, a consultant, in this case the SDS contract, Parsons Brinckerhoff, to perform the design, it makes no obvious sense to me to do anything other than form one team around them and to clear obstacles from their path. I'm going to summarise for effect. What I saw on arrival was effectively tie and SDS in conflict. In other words, having appointed this contractor to do the design, upon which there was total dependence and almost no chance of changing, it makes no sense to do anything other than to remove obstacles from their path. I didn't see any of that happening.”*

4.20.6 David Crawley, T - 041017 – 68 later commented *“Because approvals from CEC often were not forthcoming in a timely way, at*

*least according to SDS, actually according to me too, it meant that the whole process was delayed, and the design assurance statement, if used, was used much later than even I was there” ... CEC often asked for additional information than was provided to support the approvals process. SDS often indicated that they thought they had provided what was adequate and CEC did not believe it so, and asked for more. There was then the problem of how to resolve things which may be the subject of subjective approval. It may be the appearance of something in the public realm. And it's very difficult, without clear guidance and certainly without written standards, to get it right first time. So there was a heavy level of iteration in the back end of the approvals process.”*

4.20.7 David Crawley, T - 041017 – 71, 72, responded to questions from Counsel for the Inquiry, and also explained that CEC took the view that their powers should remain unfettered, and that this was not helpful. Time limits for design approvals were ignored, and subsequently the delays increased: “Q - Do you know why it was the case, Mr Crawley, that the last few per cent of design for any section took a disproportionately long time to complete? A. Because it was the prior approvals, in other words the consent of CEC, that that refers to.” ... “Q - Presumably an obvious way to resolve these matters would have been to have a bit like the critical issues forum. That sort of forum, but involving the more senior people in each organisation? A. That's quite right. One phrase I heard, personally heard used much by CEC representatives was the powers of the

*Council must remain unfettered. That wasn't helpful." ... "Q - But what was required presumably was very clear guidance from the Council as to what they were looking for? A. That's correct." ... "Q - Are you aware whether any such clear guidance was given while you were engineering director? A. No."*

4.20.8 Tony Glazebrook, T – 041017 – 130: referred to Mr Glazebrook's statement, wherein he referred to the: *"CEC 'we won't tell you exactly what we want but when you make us a proposal we'll tell you what's wrong with it' approach."* He went on to add *"Tie organisational confusion. It was as though everyone was encouraged to meddle with every conceivable aspect of design, regardless of their role, knowledge and experience."*

4.20.9 Tony Glazebrook, T – 041017 – 196-198: further commented as follows: *"I think the frustrating thing to me and my team was that, you know, it was evident to us that in CEC there were many really good people, really, really good people, in planning and in roads. I mean, one I would name immediately, Andy Conway, whose name has come up, he was absolutely superb, and he was exactly the sort of person who, if he had been given the freedom to collaborate with his great skill and judgment and experience of resolving conflicts and subjective issues, he would have been able to bring to closure very quickly design issues, but I don't know whether he was prevented from doing that. But certainly when he contributed to discussions, he was exceptionally helpful. It's just a shame we couldn't have had*

*more of that level of collaboration throughout the project, and indeed, when we had planners in to talk to them, to try and break this cycle of submission, rejection, submission, rejection, they too were extremely helpful. But we weren't able to sort of harness that positive problem solving on a consistent and frequent basis. Q. I suppose the question there, Mr Glazebrook, is whether CEC knew what they wanted at the outset, but felt they couldn't specify that perhaps for reasons of fettering discretion, or whether at the outset, CEC weren't entirely sure of what exactly they wanted and that's why they couldn't say to the designers? A. Absolutely. But in a situation like that, the way to resolve that, to square that circle, is to say to the designers: do something, don't complete it, don't submit it, and then let's have a chat about it, and then you can square off the corners very quickly. That would have been an effective way of doing it."*

4.20.10 Tony Glazebrook at T – 041017 – 174 observed (adopting a Titanic metaphor to emphasise the need to resolve the issues rather than 'fiddle with the deckchairs') that in order for design programming objectives to be met, what was required was "*significant project cultural change and organisational clarity*".

4.20.11 Neil Renilson agreed at T – 141217 – 16 that "*CEC were deemed to be a major blockage in the design approvals system.*"

4.20.12 The scale of CEC changes were not unique to SDS. BSC also experienced similar issues as was illustrated in "The Period Report" by BSC for the period to 13 September 2008 (as discussed in the

oral evidence of Duncan Fraser, T - 120917 - 191): *“BSC is continuing to inform tie of the delays or potential delays regarding prior and technical approvals due to numerous design changes from CEC during the formal consultation stage. It is of great concern that after the extended period of informal consultation, new comments are saved at this stage which will, in many cases, impact on the IFC dates and will require change instructions to be issued for the design to be amended. The informal consultation process, intended to avoid this problem, cannot be considered successful...Under technical approvals (roads), the report noted...as noted above, the number of comments from CEC in their formal responses is a real problem, eg IC1 and IC3 minus IC2 had 1,200 plus comments (70 pages of comments) after an extended opportunity to jointly participate in design development”.*

4.21 Delays in design review and late changes significantly impacted on the design process. Duncan Fraser, (T – 120917 – 200 – 6) acknowledged that *“Yes, I would have welcomed earlier involvement. One of our concerns was that it seemed to come too late in the day, when we were being involved in the process earlier, the suggestion that was being made to have earlier involvement would have been welcomed”.* Their continuous changes were a material factor in the overall project delay.

4.22 Damian Sharp, T – 051017 – 149, 150 was quoted from his statement: *“The SDS contract has also suffered from a lack of continuity in tie management and often a lack of attention. It has not always been possible to identify the*

*single individual who was really responsible for managing the SDS contract. As a result SDS has at times been given conflicting 'instructions' and the culture has grown in tie that it is fair game for anyone to ask SDS to do things and fair game for anyone to convey criticism to SDS."*

4.23 And in response to questions including those from the Chair of the Inquiry, Mr Sharp responded: *"Q - Previous witnesses referred to people meddling. Is that what you're referring to? A. There's an element of that, yes. But there was a clear contractual line of responsibility, and when people didn't follow that, sometimes through meddling, sometimes just with good intentions, but they would end up giving conflicting instructions to somebody else, who might also have given those instructions out of good intention. So it's not just from meddling. It's the lack of clarity meant that SDS had conflicting instructions".* In response to the Chair of the Inquiry's question, *"You say lack of clarity, is that lack of clarity in roles or some other form of lack of clarity?"*, Mr Sharp relied *"Well, it was clear what the roles were and it was clear what SDS should do when given instructions by somebody who is not entitled to give them instructions. But tie didn't help SDS in holding a firm line there, and it didn't -- it was a culture that was embedded. I don't quite know exactly how it grew up, but could it have reached a point -- and therefore the first thing we did was say: no instruction is valid unless it had my signature on it."*

4.24 The charrettes process was introduced to effect some substantial changes to the preliminary design.

- 4.24.1 In recognition of the fact that the design review process was becoming ineffective, workshops known as “charrettes” were conducted in order to try and prevent further delay.
- 4.24.2 Whilst intended to be a rapid review where all stakeholders could come together and approve/discuss any design changes, the charrettes process instead became a vehicle by which further post preliminary design changes were made.
- 4.24.3 A prime example was Picardy Place, where the charrettes process resulted in a further 206 day delay. Mr Reynolds gives examples of multiple redesigns at Picardy Place (SR 3.30.2). Indeed Damian Sharp agreed and at T – 051017 – 160 referred to “*very significant questions like what did CEC want the layout of Picardy Place to be*” as an example of “*One of the issues that rose from the dead many times.*”
- 4.24.4 Matthew Crosse commented at T – 171017 – 31 that “*the final alignment of Picardy Place went through numerous iterations, and the positions of the tramstop on Picardy Place was moved on numerous occasions*”. He went on to add that “*Picardy Place was one example. There were numerous others. Forth Ports. The airport was another. The tramstop at the airport in particular. RBS tramstop. There were numerous of them. ... Haymarket was another one, yes, and the development at Haymarket junction.*”

- 4.24.5 Charrettes gave rise to specification changes and fresh optioneering.  
See SR 3.8.5, 3.8.6.
- 4.24.6 There was recognition in February 2007 that charrettes gave rise to diversion of resources and delay (SR 3.23.3) and uncertainty (SR 4.4.3).
- 4.24.7 Andrew Harper in his statement at paragraph 63 refers to an email from Jason Chandler (CEC01810621\_0001) in which Mr Chandler recorded the importance of the role of tie to support PB in timely decisions re charrettes, utilities, programming etc.
- 4.24.8 Reference is made to the comments of Andrew Harper at paragraph 4.7.2 above.
- 4.24.9 Trudi Craggs in her statement at paragraph 106 recognised that PB didn't get a chance because SDS got different directions from different people and were not getting a chance to close off the design. People were giving instructions to PB and not thinking it through.

### **Critical issues**

4.25 There were delays in resolution of critical issues.

4.25.1 See SR 4.33 – 4.34.

4.25.2 Jason Chandler at T – 131017 – 30 gave evidence that *“So until that point in July 2007, we literally had just been going round in circles producing options for what the design -- on how the design could proceed. From July 2007 we were given direction on how to proceed with those critical issues, but it didn't finally resolve them”*.

### **Stakeholder and change management**

4.26 Yet, the Business Case had recognised the importance of stakeholders' clear definition of specification and scope. See SR 2.3.3.

4.27 There was mismanagement of change by tie. See SR 3.8.14. See further para 6 below. tie lacked the project experience to understand the implications of design delay and programme slippage. There was a failure to recognise that this would impact on cost and programme prolongation.

4.27.1 Jason Chandler, in paragraph 227 of his written statement, explained *“There was a fundamental lack of understanding by tie of the interfaces and the impact of the lack of key decisions”*.

4.27.2 This is illustrated by the lack of briefing of tie's project manager, Tony Glazebrook – T – 041017 – 155: *“Q - To pause there, was it the case, Mr Glazebrook, that tie's SDS project manager was also tie's client representative under this contract? A. Probably. I don't recall that particular detail. At the point where I took over, there was no briefing or anything like that as to what I was to do. I don't actually recall seeing this document. I may well have done but it's a detail thing. I don't recall that. I think the reason possibly why I do not recall*

*it, and it wasn't briefed, and I might not have followed it to the letter, was that in my long experience, when you have a situation which is almost completely chaotic, when the objective is to resolve design, that is where you direct your energies.”*

4.27.3 Matthew Crosse, T - 171017 – 35 gave the following evidence: *“But we didn't have anybody in tie standing behind these sometimes tough technical decisions, and also managing SDS well. So on the one hand SDS were not being managed well, and on the tie side we were not managing SDS and the contractual relationship particularly well. Q. What needed to be done to manage SDS better? A. I didn't think the solution was to beat them up at all. Q. We have seen references there to payment withholding? A. Yes, but I didn't think the solution was to do that. I thought the solution was to ensure the leadership was changed, the approach changed to working with tie. Tie and the Council's involvement in the design development, remembering the Council had a kind of approving role, meant that we needed to work more closely together. Tie were often late in delivering information, data that was required for SDS to complete their design. They called them RFIs, requests for information. They were routinely late, for a variety of reasons, but they were late. And we had to sharpen up our act. We couldn't wait 14 days for a piece of paper, put the two parties together, or three parties, others, and share the information. It's collaboration, and projects these days are done far more collaboratively. There's no point having this bureaucratic way of managing. I saw that straight away, that*

*leadership was poor on both sides. Technical leadership. And collaboration was non-existent. And the relationship had become a little bit brittle.”*

- 4.27.4 Damian Sharp, in his oral evidence, T – 051017 - 187, acknowledged that tie didn't have a proper understanding of the causes of design delay from late 2006 to early/mid 2007.
- 4.27.5 Jochen Keysberg observed at T – 161117 – 43: *“One of my main criticisms of tie is that they had no one who had experience of major construction projects, especially in inner city areas.”*
- 4.27.6 Jim Harries observed at T – 061017 - 31 - 19-22 gave evidence that: *“There were constant changes in tie. People came and went. From my perspective it was never really clear to me who did what. Couldn't lay your hands on job descriptions easily. And I was just generally confused by what some individuals were there to do.”*
- 4.27.7 Jim Harries, in his oral evidence at T - 061017 - 32, commented that tie were immature in their systems and approach and at page 4 stated that: *“there was a lack of understanding of the consequences of change, both technically, commercially and in terms of programme”.*
- 4.27.8 Richard Walker agreed, giving evidence that tie comprised of *“a bunch of incompetent people who were ill-equipped to deliver what they were trying to deliver”*, in his oral evidence at T - 151117 - 167 to 168.

4.27.9 Tony Glazebrook, at T – 041017 – 131: concluded *“I think the last thing I would say is poor tie/SDS liaison. It seemed incredible to me at the point I joined, after a lot of years running and being involved with projects before, it was incredible to me that nobody seemed to have taken the lead to sit down with SDS and find out what was wrong.”*

4.27.10 Sharon Fitzgerald commented at T – 221117 – 157 that *“tie had appointed Parsons Brinckerhoff, they'd also appointed Scott Wilson and Turner & Townsend to be technical advisers. And so what perplexed me is that after having gone to the length of procuring separate technical advisers, those technical advisers weren't involved consistently through the process to actually support tie. So instead there seemed to be just use of TSS, Scott Wilson, Turner & Townsend, on more discrete items, and then there were a number of different consultants who came in, did small parts on -- on the job. Some of those people weren't involved in the project for very long. But there was no -- in my opinion, no consistency of personnel managing the contracts.”*

## **Programming**

4.28 Particularly given the volume of change, it was essential that tie fulfilled its programme obligations.

- 4.29 The Master Programme is defined in tie-PB Contract clause 1.1 as the programme prepared, maintained, updated and amended from time to time *by tie*.
- 4.30 SDS responsibility for the design programme was to align it with the Client and Master Programme. SDS provided regular updates to its design programme, but was impeded by the failure by tie to manage the master programme. Steve Reynolds at T – 121017 – 14 recorded the difficulty that the *“master programme in our view wasn't being maintained by tie, such that the impact of those changes could be forecast going forward.”*
- 4.31 So it was essential that tie fulfilled its obligations relative to the Master Programme.
- 4.31.1 Andrew Fitchie in his statement at paragraph 8.202 recognised that tie was supposed to, but did not, create a master programme to show and direct the SDS design criticalities.
- 4.31.2 Tony Glazebrook at T – 041017 – 134 confirmed tie’s responsibility with regard to programme management: *“CHAIR OF THE INQUIRY: Could I just go back a few minutes and ask about the design management programme. Is that something that you would always expect to be in place in a contract of this -- A. Yes, without something like that, nobody knows exactly what to do, to what standard and when it should be produced. CHAIR OF THE INQUIRY: Whose primary responsibility would it be to have such a*

*system in place? A. The informed client, I think would be my answer. In this case **it was tie.***

4.31.3 Susan Clark at T – 251017 – 10 in response to the question “Q - You see, I think the point made by the SDS witnesses, were really two things. Firstly, they didn't receive a master project programme from tie to enable them to plan their works, ... Are you in a position to dispute that evidence?” responded “A. I'm not in a position to dispute that. I don't recall that, and I don't recall the master programme going back to them ...”

4.32 The failure by tie to manage the Master Programme exacerbated the issues that arose from the mismanagement of change.

### **Commercial claim**

4.33 Commercial resolution of PB's commercial claim, confirmed that PB were paid additional costs arising from change.

### **Circumstances after June 2007, including the state of design at December 2007/January 2008**

4.34 By mid 2007, Steve Reynolds agreed with Counsel for the Inquiry, at T – 121017 - 33 that “Parsons were trying to deliver as much of the design as they could within the time available”; adding “we tried to appreciate the bigger picture and we tried to work hard to at least complete the critical aspects of that work that was outstanding at the time.”

- 4.35 In the event by September 2007 detailed design was substantially on target. See SR 3.71, 3.72.
- 4.36 Notwithstanding the issues between June 2006 to June 2007, Willie Gallagher was impressed that PB achieved 96% of target of 300 detailed design deliverables by January 2008.
- 4.36.1 Actions were largely with tie by January 2008. This is shown in outstanding actions table PBH00016255\_0001 at 28 January 2008 (see cover email from Jason Chandler PBH 00016254\_0001) – see repeated tie actions in action column.
- 4.36.2 See Inquiry's own Statement of SR at paras 359 and 360 – at end January 2008 PB had delivered 287 of 326 deliverables. Reference is made to Willie Gallagher being impressed that PB achieved 96% of the target of 300 design deliverables.

### **Summary of relevant issues**

- 4.37 The delayed progress of detailed design arose due to a failure to commit to the underlying specification (SR 3.8.5). Design perfection was sought as opposed to compliance with the programme delivery (SR 3.8.12). tie were not able to operate with the authority required to deliver a programme as complex as the Tram scheme.
- 4.37.1 A commercial issues paper set out PB's reasoning for tie's allegations of PB fault being unfounded. See SR 3.69.

- 4.37.2 The ascertainment of appropriate design requirements and the SDS Provider's interface with its client to address requirements clarifications to enable the preparation of the design occurs at the requirements definition stage, leading to the preliminary design. So changes which arose post preliminary design arose because stakeholders were changing their underlying requirements – the primary example being CEC.
- 4.37.3 By way of example, Steve Reynolds, in his oral evidence at T – 121017 - 80, explained that *“there were delays in my view due to an overly pedantic approach to an approval of tramstop detail”*.
- 4.37.4 Tony Glazebrook, in his oral evidence at T – 041017 – 129-130, stated that CEC adopted *“a clipboard role”* rather than a *“problem-solving role”*. This is consistent with PB's evidence that CEC were constantly looking for ways to change the design and seek design perfection. He lacked the experience and programme management skills to take control of the project. They should have informed CEC that constant changes could not be adhered to, as Jason Chandler explained at T – 131707 - 57 of his oral evidence.
- 4.37.5 Tony Glazebrook, in his oral evidence at T – 041017 – 129, cited the example of the wall surrounding the Murrayfield practice pitches as a particularly pedantic CEC design change request, explaining *“agreement on what pattern or patterns should be in the stone work was first amusingly and then irritatingly delayed because of the subjective nature of it”*.

4.37.6 Tony Glazebrook, T – 041017 – 159 observed: *“I think when so many -- this is my personal view, based on many years' project experience. When a sufficiently large number of senior people are determined on a course of action and ill informed through lack of contact with people that actually know, they will inevitably make the wrong decision.”* ... *“It seemed that everyone wanted progress regardless of what that progress meant in practical terms. I think it's very hard when people don't take the trouble to find out what feet are doing under the surface to assume from the serenity above the surface that nothing is happening, whereas in fact a lot is happening.”*

4.37.7 Martin Foerder, in his oral evidence at T – 051217 - 69, spoke of the *“immense numbers of comments through the design”* totalling into the *“hundreds for the different design elements”*, and the effect this had on the design completion.

4.37.8 Neil Renilson, in his oral evidence on T - 141217 - 44 and 45, commented on the constant uncertainty surrounding changes and timing of CEC changes, describing the scenario as being unable to *“predict which side of the bed they're going to get out on that day when they look at the design for something”*.

4.38 PB's evidence, with reference to statements given both by PB witnesses, supported by the evidence of others to the Inquiry, is as follows:

- 4.38.1 The Requirements Definition and Preliminary Design was provided on time.
- 4.38.2 Delay from June 2006 to June 2007 in the progress of detailed design arose from late changes to the functional design; mismanagement of that process and of stakeholders by tie; and mismanagement of the master programme responsibilities to identify criticality etc.
- 4.38.3 Design timing issues and project prolongation arose because of repeated change and indecision on the part of both tie and CEC.
- 4.38.4 CEC sought design perfection rather than design that complied with the original specification. As summarised by Counsel to the Inquiry at T – 121017 - 83 *“a theme seems to run throughout the design evidence that the Council’s approach was to require a very high standard of design. By that I mean they wanted every detail to be in place before considering whether to grant an approval or not”*.
- 4.38.5 Notwithstanding the issues between June 2006 to June 2007, Willie Gallagher was impressed that PB achieved 96% of target of 300 detailed design deliverables by January 2008.
- (a) At the end of January 2008, PB had delivered 287 of 326 deliverables (Inquiry statement of SR paras 359 and 360).
- (b) Actions were largely with tie by January 2008. This is shown in outstanding actions table PBH00016255\_0001 at 28

January 2008 (see cover email from Jason Chandler PBH 00016254\_001) – see repeated tie actions in action column.

- (c) Subsequently, in a report to the IPG on 27 July 2009 [CEC00688908], it is stated “*on their own admission tie admit that 40 to 80 per cent of changes and delay are down to them, not BSC*”.

4.39 As set about above, the evidence of other witnesses to the Inquiry is consistent with and supports PB’s evidence with regard to the Design Timing issue.

## 5 THE DESIGN CONTENT ISSUE

5.1 With regard to the Design Content Issue, PB does not accept that the evidence of the following witnesses, or any similar evidence not included here, represents a full and proper record of the facts and circumstances:

5.1.1 The written statement evidence of William Reeve, at para 59 of his statement or Andrew Harper, at para 60 of his statement.

5.1.2 The transcribed oral evidence of: Duncan Fraser, T - 120917 - 24, 154, 155, 192; Jim Inch, T - 190917 - 171; Damian Sharp, T - 051017 - 169, 170; Trudi Craggs, T - 061017 - 183; Mark Bourke, T 1810 2017 - 14; Andrew Malkin, T 071117 - 145, 146, 153, 174, 175; Scott McFadzen, T 141117 - 9, 10, 13, 14; Richard Walker, T 151117 transcript pages 14, 15, 16; Andrew Holmes, T 281117 - 210.

- 5.2 Whilst there were some design issues, particularly prior to February 2007, and some issues with Halcrow, these issues were not material to the delay and/or the increased cost of the project. See SR 3.53.
- 5.3 Whilst it may be an instinctive reaction to blame the designers (see SR 3.30), design was necessarily dependant upon the timely provision of information. Damian Sharp in his statement at paragraph 110 acknowledged that it is overly simplistic to blame SDS for design delays.
- 5.4 Reference is made to the submissions and evidence at paragraph 4 above. The issues referred to as the Design Timing Issue and the Design Content Issue are closely related. In terms of quality of design, it is important to note that (1) essentially the Preliminary Design was what was built (see SR 5.2); and (2) the end product of the Edinburgh Tram is excellent and the quality of the ultimate design is not in question (see SR 5.3).
- 5.5 Willie Gallagher came to realise the '*all designers fault*' argument was flawed. See SR 3.37.
- 5.6 Tony Glazebrook, T – 041017 – 196-198: was quoted from his statement as follows: "*Much design was reviewed. In engineering terms much was acceptable. The principal causes of rejection arose from CEC who claimed that it was not to standard, didn't meet planning 'requirements' (the latter seemingly driven by subjective, not traceably objective, judgment), conflicted with street features et cetera, et cetera. Effective specification and teamwork would have prevented this situation arising.*"

- 5.7 Damian Sharp, T at 051017 – 143 gave evidence that it was convenient, but not fair to *“blame everything on SDS.”* He came to realise that the responses by SDS were *“reasonable, sound and they were being held up from working by decisions that were needed from others.”*
- 5.8 PB were having to manage a variety of different stakeholders with conflicting interests in producing the designs. Critical comments on the PB design content were made without an understanding of the background and plethora of issues, and often by those who were inexperienced in the field of design.
- 5.9 Jim Harries acknowledged, at T - 061017 – 41 of his oral evidence that SDS *“performed well in a difficult environment of a fluid project with multiple difficult stakeholders”*.
- 5.10 Tony Glazebrook explained, at T 041017 - 152 of his oral evidence that: *“People were being critical of SDS without an understanding of what else tie had asked SDS to do”*. His view is that PB was targeted with significant unfair criticism.
- 5.10.1 Indeed, James Donaldson, in his oral evidence, T 161117 - 99, observed that there was a total lack of acknowledgement by tie on what the project was about.
- 5.10.2 In response to CEC allegations that discussions with SDS on what was required were not reflected in the design submissions, Tony Glazebrook, at T 041017 – 147 of his oral evidence, confirmed that he *“did not believe it”*.

- 5.10.3 The acceptable quality of PB work was acknowledged (SR 3.82), including in particular by the engineers, who confirmed that the majority of the design was acceptable from an engineering perspective.
- 5.10.4 Indeed, James Donaldson, T 161117 – 162: acknowledged *“I think the question was, you know, how did you rate the performance of SDS, and the first part there, as designers, they're no worse and no better than other designers I've worked with in the past.”*
- 5.10.5 Martin Foerder, T 051217 - 78, 79, 80 commented as follows: *“Q - On another separate, but related matter, what was your view in general on the performance of the SDS providers? That's both Parsons Brinckerhoff and Halcrow. A. As usual, in executing such a contract, not everything is perfect. I think considering the circumstances in which the SDS been already prior to novation facing the difficulties and then after novation with all these changes and circumstances, I think they have performed quite okay. I would not call it a world class product, but I think they did what they could do within their remit, and they have delivered quite a reasonable -- what was possible to deliver. Q. Were there any aspects of the design in particular you considered fell below the world class product standard? A. Of course there were issues where they had also errors and omissions which is normal in such a contract. Nothing, as I said earlier, it was not always perfect. Also they knew mistakes that had been identified from our side and needed to be corrected. But that is*

*normal. If everything would run without error at all in a five years' contract, I think then we would live in perfect world, which you normally not have on a construction project. .... Q. In relation to Halcrow, at page 372 of your statement, you said: we had some concerns in relation to the performance of Halcrow. Parts of the design were taken back from Halcrow to Parsons Brinckerhoff. Can you explain that, please? So sorry. It's at page 72 of your main statement, in paragraph 215. Can you explain what your concerns were as to the performance of Halcrow and separately can you explain which parts of the design package were re-allocated to Parsons? A. If I recall correctly, I believe Halcrow was in charge for the roads design, or within SDS. And they had -- our concerns were that -- there were two issues. One were that they, from our side, have been also in certain submissions late, but in general we have seen that Halcrow have received enormous numbers of comments to the design submitted for approval, they were in hundreds sometimes, or a few hundreds comments on a design package. So that was -- some of these were definitely not caused by Halcrow. So the number of -- there were two issues. One was that the immense number of comments they have received from CEC, tie on their designs, and by going and reviewing through, we have also identified that some of these comments which were on the minor and could have been avoided, when finally resubmitting the design for final closeout, they received again a huge number of comments and even new comments which haven't helped to finish the design; because if*

*you go through a process, actually, also the client side need to ensure that they provide and forward all the comments, but if you then get 40, 50 new comments to what have been reviewed before, I think it's unreasonable approach, and haven't helped. So there was a general concern, both one of the performance of Halcrow because they had more errors and omissions within theirs caused by themselves than Parsons, but on the other hand I think the majority was also caused by tie and CEC.”*

- 5.11 Certain evidence was heard relative to the trackform issue.
- 5.11.1 The PB witnesses evidenced that a full depth reconstruction and the insertion of a stage 1 reinforced thick concrete slab should be installed to form the basis for the trackform.
- 5.11.2 Conversely BBS *“were looking to put in a very thin trackform, shave the existing road pavement and put a very thin trackform over the top”*, as explained by Jason Chandler in his oral evidence at T – 131017 - 57.
- 5.11.3 The PB evidence is that there was a need for a more complex, robust trackform design. The reasoning for this being one of safety, as Steve Reynolds explained at T – 121017 - 43 and 44 of his oral evidence, *“In our view it wouldn't have been safe because a further characteristic of the trackform design necessary for inner city circumstances like Princes Street, you need what's called void spanning, because you've got to anticipate that there will be cavities*

*under the roadway, and subsequently when Princes Street was excavated, that's exactly what we found...So you need the trackform to be capable of spanning those voids so you don't get rail breakage, and obviously if you get rail breakage in an inner city environment, you get a derailment. That's particularly unsafe. You need to be able to avoid that, obviously".*

5.11.4 Martin Foerder supplementary statement responding to this [TRI00000183] has made certain supplementary comments that have been raised subsequent to the evidence given by Steve Reynolds and Jason Chandler. This evidence has been presented to the Inquiry subsequent to Messrs Reynolds and Chandler's evidence. It is PB's position that there was no confusion over these two separate issues with the trackform design and construction. The question asked by the Chair to the Inquiry at T-121017-43-2 which referred to cavities alongside the line was understood by Mr Reynolds to be concerned with the problems which arose on the roadway surface at the interface with the rails. This was eventually resolved as Mr Foerder's supplementary statement records at section 4 which deals with the road /rail interface. The concerns over the track improvement layer were addressed by Mr Reynolds in his response to the question raised at T-121017-43-19 where he described the need for void spanning capability as a "further" characteristic of the trackform design. i.e. separate from the road /rail interface. The PB concerns surrounding the design of the track improvement layer are covered extensively in Jason Chandler's

statement at T-131017-57 to T-131017-67 and also at T-131057-97. Mr Foerder's supplementary statement confirms at section 2.4.1 that the cost of the reinforced slab which PB insisted on for certain sections of the route was not included in the Infraco Contract Price and was an additional cost which tie had to cover. This topic is covered in the transcript of Stephen Reynolds' hearing between T-131017-58 and T-131017-60. This passage shows the development of the reasoning that the issue could "*add millions to the cost of the scheme*".

5.11.5 Indeed, Steven Bell acknowledged, at T – 251017 - 35 and 36 of his oral evidence, that whilst the BBS trackform option was selected, on commencement of work starting on Princes Street, it was found that "*ground conditions were found to be such that their [PB's] recommended track slab was required*". This is consistent with PB's evidence that their proposed trackform was the most appropriate one for the ground conditions on Princes Street.

## **Summary**

5.12 The Preliminary Design was completed on time. Scott Wilson, as Technical Support Services ("**TSS**") Contractor, confirmed that the Preliminary Design was fit for purpose. See SR 3.8.3. Essentially the Preliminary Design was what was built. See SR 5.2.

- 5.13 Audit Scotland Report in June 2007 did not record significant concerns. See SR 3.60. There was a positive report by Office of Government Commerce in October 2007. See SR 3.75.
- 5.14 The high quality of PB work was acknowledged. See SR 3.82.
- 5.15 The end product of the Edinburgh Tram is excellent and the quality of the ultimate design is not in question. SR 5.3
- 5.16 In summary, as with all projects there were design issues with Halcrow etc, but such issues were not material to delay and cost increase with the project (SR 3.53).
- 5.16.1 Independent audits, including the Office of Government Commerce, provided a positive report on the design.
- 5.16.2 The quality of PB work was acknowledged. Indeed the quality of the PB design content was clearly illustrated in the trackform design option they proposed.
- 5.16.3 The quality of design work is corroborated by the engineers, particularly Tony Glazebrook, who confirmed that the majority of the design was acceptable in engineering terms. CEC and tie, both of whom had very little engineer experience, were choosing to request amendments of this 'acceptable' design.

5.17 As set about above, the evidence of other witnesses to the Inquiry is consistent with and supports PB's evidence with regard to the Design Content issue.

## 6 THE STAKEHOLDER MANAGEMENT ISSUE

6.1 With regard to the Stakeholder Management Issue, PB does not accept that the evidence of the following witnesses, or any similar evidence not included here, represents a full and proper record of the facts and circumstances: the written statement evidence of Trudi Craggs para 30, 80, 85, 86, 94, 132.

6.2 Reference is made to PB's prior submissions at paragraphs 4 and 5.

6.3 There was stakeholder mismanagement by tie. tie did not apply sufficiently rigorous project management, particularly in respect of the management of stakeholders in relation to change. See SR 3.8.14; SR 3.66; and SR 4.3.

6.4 tie-PB Contract Schedule 1 clause 3.3 provides that PB's role is to assist tie to minimise adverse impact on stakeholders and general public.

6.5 In circa early 2007 tie interpreted this as a wide responsibility for all third party issues – but PB pointed out the purpose of clause 15 (provision for client changes), and PB's claim was settled on that basis.

6.6 In order to try and resolve matters, an initiative with the stakeholders was commenced in early 2007 to address the so called "Critical Issues". These were design issues which had remained unresolved for some time and were

contributing to the delay in detailed design completion on many elements of the infrastructure.

6.6.1 However, CEC and TEL used this opportunity to further reject the designs, a particular example being road design junctions not being approved in the absence of results from a detailed traffic modelling exercise (which was being applied to the design by CEC).

6.6.2 As Steve Reynolds, in para 4.34 of his written statement, explained *“The major stakeholders failed to appreciate the severe impact on programme for (at best) marginal improvement in the design and the consequential impact on completion of detailed design and novation of the design contract”*.

6.6.3 There was a lack of an integrated approach from the stakeholders, resulting in increased delay to designs being approved.

6.7 Jim Harries, T – 061017 – 41 observed that *“SDS performed well in a difficult environment of a fluid project with multiple difficult stakeholders.”*

6.8 The interference that PB had to deal with had a materially negative impact on the progress of the design.

6.8.1 As Tony Glazebrook explained in his oral evidence 041017 - 137, 138, the *“constant interference”* was at a *“level hitherto unknown to me. I have never seen so much interference and it fatally flawed the process of getting some sort of fixed design by the point at which Infracore came along”*.

- 6.8.2 Damian Sharp, was very critical of CEC's handling of the stakeholders during this period and described the situation, at T 051017 - 153, 154 of his oral evidence, as *"the goalposts have moved so many times, we are not even playing the same sport any more"*. He explained, at page 153, that the stakeholder input was treated by CEC as giving *"third parties additional opportunities to re-open arguments"*.
- 6.9 The stakeholders should have followed the advice of those more technically experienced in this field.
- 6.10 As Tony Glazebrook summarised, at T – 041017 - 159 of his oral evidence, *"this is my personal view, based on many years' project experience. When a sufficiently large number of senior people are determined on a course of action and ill informed through lack of contact with people that actually know, they will inevitably make the wrong decision"*.
- 6.11 CEC's planners had produced a Tram Design Manual that PB were working from. However, despite being the organisation that had created the manual, CEC then requested changes that were not in line with the manual requirements. As Damian Sharp explained in his oral evidence, at T - 051017 -154-155, *"Despite the fact that they had very helpfully produced a Tram Design Manual, they then had individual planners asking for things which were not consistent with the tram manual, or even where there was open to interpretation, they would be asking for what was essentially personal preference"*. Mr Sharp acknowledged that the result of this meant

that *“it was very hard for SDS in that environment to produce a set of drawings that they would get approved right first time”*.

6.12 David Crawley, T - 041017 – 94 responded to the Inquiry’s questions as follows: *“Q - On the next page, please, page 7, we see paragraph 2.2.1, submission of designs. I think in short this is describing how input from the various stakeholders would be obtained during the design development stage? A. Yes, that's correct. Q. That may be something which had been missing in the previous process? A. Yes. Q. On the question, if we can go back to this page, under 2.2.2, technical approvals, and similarly in 2.2.3, prior approvals, were there any time limits in the procedure at this stage for obtaining these approvals? A. Other than the ones noted there, I'm not aware of. Q. So it would just take as long as it would take? A. Yes. This comes back to the comment of the powers of the Council must remain unfettered.”*

6.13 The stakeholders were not integrated in their approach, resulting in issues having to be repeatedly re-visited and designs being regularly revised rather than approved.

6.14 Jim Harries described the job of meeting the requirements and aspirations of all parties as *“challenging”* at T – 051017 - 202 of his oral evidence. He agreed that this was problem-some and explained, at page 203, that *“A core issue here was the lack of an integrated approach from both tie and Edinburgh CEC/Lothian Bus. This was compounded by the difficulties presented by the multiple stakeholders who tended to be very demanding”*.

- 6.15 Ewan Aitken at T – 060917 – 159 and 160 recorded that he *“was not aware that poor performance by Parsons Brinckerhoff was an issue”* and was *“sympathetic to Parsons Brinckerhoff in the sense that I think they were under a lot of demands.”*
- 6.16 In respect of approvals and consents:
- 6.16.1 Jason Chandler, observed at T – 131017 – 39: *“we as the designer just hadn't got the power to force third parties to accept the design, and because many of those third parties had differing requirements and different sets of objectives as their individual business, for example, a lot of them conflicted.”* and at T – 131017 – 28 – *“although SDS had an obligation to secure approvals, SDS could not force a decision to secure the approval, and SDS were left in a loop of providing iterations of proposals for design without having the power to force agreement with third parties.”*
- 6.16.2 David Crawley, T - 041017 – 85, was referred to the following evidence quoted from his statement: *“SDS were contracted to design but received little help from those providing consents. It was not a collaborative process and should have been. CEC did not work effectively with SDS in order to identify what design might be acceptable to it if it was not satisfied with the original design.”*
- 6.16.3 Neil Renilson, T - 141217 - 44, 45 responded to the Inquiry's question as follows: *“Q - In relation to the question of what changes there might be to the design that would lead to claims for increase in*

*price, design variation generally, did you have any view on to what extent that might give rise to liability or claims for additional cost? A. Well, he covers two issues here. Or two causes. One of which is CEC consenting process, and I was -- as I have mentioned earlier, that was 100 per cent our, tie, City Council's risk. If the planners weren't turning the stuff round or whatever, not granting things, then that was our cost. No doubt about that. And I have no idea -- I had no feeling at all for what that might be. Quite simply because you can't predict which side of bed they're going to get out on that day when they look at the design for something. You know, it's not -- it's an intangible. Planners, it's just whatever they feel like."*

6.16.4 We also refer to the evidence of Jenny Dawe, T - 050917 - 134 which acknowledged CEC's delays in the context of planning decisions ("*... Edinburgh did not have a particularly good reputation at reaching quick decisions on planning matters ...*").

6.17 As set about above, the evidence of other witnesses to the Inquiry is consistent with and supports PB's evidence with regard to the Stakeholder Management issue,

## 7 **THE UTILITIES ISSUE**

7.1 With regard to the Utilities Issue, PB does not accept that the evidence of the following witnesses, or any similar evidence not included here, represents a full and proper record of the facts and circumstances:

- 7.1.1 The written statement evidence of Trudi Craggs at para 123; Damian Sharp at para 270 to 272; Willie Gallagher at para 80; Matthew Crosse at para 41; Steven Bell at para 10 and Graeme Barclay at paragraphs 20, 93, 105, 257 of their respective written statements.
- 7.1.2 The transcribed oral evidence of: Matthew Crosse, T – 171017 -; Susan Clark, T – 251017 - 129; Graeme Barclay, T - 071117 - 37, 38, 45; Andrew Malkin, T – 071117 - 115, 116, 141.
- 7.2 Richard Walker responded to comments made in his statement at T – 151117 – 147: *"I would also state that SDS were never the critical delay on the project, albeit they were also delayed by the continued presence of utilities, et cetera, and the need to complete their design out of sequence. The continued presence of the utilities ... was the critical delay."* Q - *Is there anything you wish to add to these sentences or do you regard that as self-explanatory?* A. *I think that's self-explanatory."*
- 7.3 The Business Plan recognised the responsibility of tie to manage the interface between utility diversions and the Infracore works. SR 2.3.4.
- 7.3.1 See also SR 4.27 to 4.32.
- 7.3.2 Andrew Malkin, T 071117 - 162, 168 expanded on the comment in his statement that: *"The main root causes emanate from excessive contractual interfaces with different parties to the project holding different work scope responsibilities, misaligned programmes with constant changing priorities and imposed change, and tie programme management being limited in their ability to make the*

*necessary changes without incurring cost increases." in the context of utilities by adding: "In the -- in the interface arrangements we had tie dealing with stakeholder community relations. That was one part of tie. We had the MUDFA tie team, you know, obviously managing ourselves and providing input and support. They were also then managing SDS interface, and interface with ourselves, and the utility companies obviously was being managed by tie and supported by us. So there were a number of interfaces and from a consents point of view as well, there was advisers to tie, an external interface to make sure that the prerequisite requirements were forthcoming."*

7.3.3 tie did not effectively manage these interfaces and this resulted in designs being produced that were described as "*uninformed*". This was because the timely flow of information from the SUCs to PB was not achieved. Two further consequences of this tie mismanagement were inefficient deployment of SDS resources and prolongation of the utilities diversions programme.

7.3.4 The SUCs failed to meet the master programme reviews periods agreed with all parties including tie. In addition, there were delays to the provision of information and consent to the utility designs from several of the SUCs.

7.3.5 As a result of this, delays were incurred in the production of the design deliverables necessary to progress the utilities diversion works, thereby delaying the overall design completion. tie did not control the MUDFA contractors as the contracts required. As

Rebecca Andrew explained in her oral evidence, at T – 130917 – 25: *“I did have concerns about how the project was being managed. Slippage on design and utilities contracts indicated deficiencies in tie's ability to manage contractors and to bring projects in on time and on budget”*.

7.3.6 Jochen Keysberg at T – 161117 – 33 commented *“The main reasons for the changes were that the MUDFA works did not appear to be aligned with our contract.”*

7.3.7 General delay in utilities work held up the programme.

7.3.8 A key part of this process was the interface between tie and the SUCs. As Andrew Malkin explained, at Andrew Malkin, T - 071117 - 121 of his oral evidence, *“tie acted in the pivotal role...between the SUCs and designer”*.

(a) Susan Clark, in her oral evidence at T – 251017 - 142 described her role as *“to try and drive everything forward”*, but this interface was not well managed and they required to take better control, as explained at SR 3.74.

(b) Andrew Malkin concurred, commenting at T – 071117 - 162, that *“the main root causes emanate from...tie project management being limited in their ability to make the necessary changes”*.

7.3.9 There was a heavy dependence on SUCs to provide information. The sequence, of necessity, was (1) provision of information from service provider; (2) SDS design aspects; and then (3) CEC approval. However, there was a lack of information provided by the SUCs, particularly regarding local knowledge.

(a) Jason Chandler commented at T – 131017 – 132 that the benefits of such information would have *“supported us [PB] tremendously in identifying where those services needed to be relocated from, and more importantly, probably, where we could locate them in future to avoid other services that were already in those regions as well”*.

(b) A result of this lack of information, utilities were delayed and poor interface management resulted in progress being slow. As Jason Chandler stated, at T – 131017 – 131 of his oral evidence, *“What should have happened was greater use of the local knowledge of the SUCs themselves. That was one of the issues that SDS raised with tie throughout the process”*.

(c) During the programme, Steve Reynolds issued a letter to Steven Bell highlighting the delays to the provision of information from several of the statutory utility companies. Steve Reynolds, in his oral evidence at T – 121017 - 158, stated that *“that was certainly a key factor in delays to design completion”*.

- (d) Tony Glazebrook, T – 041017 – 130 agreed: *"Poor utility performance due to their inadequate records and processes." I think that's perhaps self-evident.* He commented at T – 041017 – 137 that *"The utility performance, that really, in my view, in my recollection, delayed everything. It was hard to get information from utilities."*
- (e) Duncan Fraser, T 120917 - 51, 52 commented: *"So just to explain that slightly, when the planned utility works ran into difficulties, you had to get a new approval from, say, SACB if it was an electrical -- about the relocation of their apparatus, so that had a delay on it. But the cumulative effect of that and the slippage with the actual physical works on the ground accumulated to the point that it was affecting the end date of MUDFA, and it was that which was my major concern. It is the end date of MUDFA which we have discussed was supposed to be prior to the Infracore works, so that there were little concerns that -- there were indications that notwithstanding the assurances that MUDFA would be completed on time, because that's what the programme at this time suggested, that the records so far had been that the programme kept slipping. So there was concerns that this would have an impact on Infracore, so therefore I was flagging up there was a risk which in my coordination role I felt was*

*important to highlight because it wasn't necessarily coming through from the MUDFA reports."*

- (f) David Crawley, T 041017 – 53 gave evidence that:  
*"Fundamentally, and to be fair to everybody, I was advised even before doing the quick three-day review in early 2007, that many of the delays initially were caused by the utilities diversion project. And that was a function of having poor records and being constantly surprised when the ground was opened up as to what was or was not there. There were further problems associated with utilities in terms of installing the new utilities, which were the ones that were placed to one side of the track form. That then meant that the entire design programme was held up, because it's not possible to complete the design if the utilities work hasn't been done."*

7.3.10 Changes impacted on the progress of utilities design. As Counsel to the Inquiry summarised Alan Dolan's evidence at T – 121017 – 192,  
*"the more changes one has, the more problems that will arise, and the more changes to the other design, the more changes that will cause to the utilities design."*

7.3.11 The SUCs failed to meet the master programme reviews periods agreed with all parties including tie.

- (a) Document PBH00003588 is a letter from Alan Dolan of PB to Tony Glazebrook of tie, dated 17 April 2007. Within this

letter, Mr Dolan states *“tie has entered into legal agreements with the SUCs which failed to define a response period for the consideration of designs submitted to them for approval. Given the co-operative nature of these agreements and the ongoing dialogue with the SUC representatives, the SDS assumption of a 20 business day response period to our designs seemed reasonable at the time the design programme was drawn up. Tie confirmed agreement with the SDS assumption...and we assume, following the relevant contractual discussions with the SUCs themselves. At no time did tie indicate any disagreement with the design review assumptions made by SDS. At the end of the day the SUC approval period will be whatever they decide and we have no option but to go along with it. As this becomes apparent, updates to the SDS design programme have reflected this situation and will continue to do so”*.

- (b) Indeed, Graeme Barclay in his oral evidence at T – 071117 - 99 acknowledged that, with hindsight, *“he would have started the design probably a year earlier. There would then have been a year of complete designs to work with”*. With the benefit of time, he explained that he realised the importance of *“ensuring that you had a fairly effective process for getting the design approved and channelled through the SUCs”*. Thus, there was recognition from tie’s

construction director for utilities that the approvals process in place at the time was not as effective as it could have been.

- (c) Tie and CEC underestimated the time involved in negotiating and dealing with the SUCs and so had not factored in sufficient time for this in their programme. As Andrew Holmes commented, at T – 281117 - 81 of his oral evidence, *“everybody who has ever dealt with the utility companies knows that there are difficulties around that and factors it into their own calculations”*, again, illustrating that tie’s inexperience was a significant factor in contributing to the problems.

7.3.12 When difficulties were experienced with the utilities works, and the designs required to be re-done, the approvals process with SUCs had to begin again, thus further contributing to the overall utility design delays.

- (a) As Duncan Fraser, in his oral evidence at T – 120917 - 51 and 52 explained, *“when the planned utility works ran into difficulties, you had to get a new approval from, say, SACB if it was an electrical – about the relocation of their apparatus, so that had a delay on it. But the cumulative effect of that and the slippage with the actual physical works on the ground accumulated to the point that it was affecting the end date of MUDFA, and it was that which was my major concern”*.

- 7.3.13 The diversion and installation of new utilities delayed the completion of the utility design programme.
- 7.4 tie-PB Contract Schedule 1 (scope of services) para 3.2 provides PB role is to provide *assistance* to tie. Bullet point 3 provides PB design aspect is to provide *critical* design (eg areas of multiple interfaces in confined locations). In relation to *all* utilities issues, the role is to *assist* tie in strategy re minimise diversion requirements etc.
- 7.5 There was heavy dependence on SUCs to provide information. Tony Glazebrook, T 041017 - 137 stated: "*The utility performance, that really, in my view, in my recollection, delayed everything. It was hard to get information from utilities. Invariably, when the street was dug up, it was different to how it was portrayed on drawings.*"
- 7.6 SUC and MUDFA contracts were direct with tie. tie did not have good control of the MUDFA contractors. SR 3.74
- 7.7 In summary, there were material difficulties and delays in obtaining the agreement of the SUCs. Tie's management of this interface was poor and delayed PB in progressing and completing the utilities design.
- 7.7.1 The Highlight report to the IPG on 17 April 2007 noted: "*The systems designers (SDS) are having difficulty obtaining the necessary consents from the various utility companies with regard to the planned utility designs*".

7.7.2 PB was delayed in progressing the utilities diversions critical designs due to the lack of timely provision of information by some of the SUCs.

7.7.3 The overall complexity of the utility diversions programme was underestimated by tie, especially the time involved in obtaining the necessary consents on the designs from the SUCs. This, again, further added to the delay in the utility design programme.

7.8 As set about above, the evidence of other witnesses to the Inquiry is consistent with and supports PB's evidence with regard to the Utilities issue.

## 8 THE RESOURCES ISSUE

8.1 With regard to the Resources Issue, PB does not accept that the evidence of the following witnesses, or any similar evidence not included here, represents a full and proper record of the facts and circumstances:

8.1.1 The written statement evidence of Andrew Harper at paragraphs 52, 56, 61; Tony Glazebrook at paragraph 3(2); and Geoff Gilbert at paragraph 85 of their respective statements.

8.1.2 The transcribed oral evidence of: Duncan Fraser, T – 120917 - 193, 194, 195; Damian Sharp, T - 051017 - 164, 170; David Crawley, T - 041017 - 19; Matthew Crosse, T - 171017 - 54, 76, 77, 117, 118; Mark Bourke, T 181017 - 12, 16, 17; John Casserly, T - 181017 - 84; Richard Walker, T - 151117 - 14, 15; David MacKay, T - 211117 - 43, 44; Andrew Holmes, T 281117 - 204.

8.2 It is not unusual or uncommon for a design team to work across various offices. This did not effect the design integration or quality of design content.

8.2.1 Martin Foerder commented at T – 051217 - 79 of his oral evidence that the design teams working on design in different offices is “*quite normal*” and that with the “*digitisation of the world, was no problem anymore*”, confirming that this was neither unusual, nor ineffective - the design performance was not affected in any way:

*Q. Now, we've heard evidence that the design was being worked on by different design teams in different offices. Did that cause a problem, in your opinion at all, or did that take place in other projects you've worked on? A. That's quite normal. Normally -- depending on what kind of designer you have, if you work internationally, it could be even that that works are done in different countries. So not even different offices. That is nowadays, with digitisation of the world, was no problem anymore. So I think that hasn't caused any problem if they're not sitting all in the same office.*

8.2.2 Reference is made to submissions and evidence referred to at paragraph 8.5 below regarding the experienced PB team.

8.2.3 The design teams working in remote offices were managed by design team leaders who had regular meetings with the management team in Edinburgh. The resources at each office were deployed to ensure deliverables were produced in line with the target dates set out in the design programme. The point is made at T-

121017-21 that work was suspended for a short time in July 2007 pending agreement on the deliverables to be produced going forward. This did not entail anyone being sent back to Birmingham – it would have resulted in people located in Birmingham, and elsewhere, being reassigned other duties pending receipt of instructions on the Edinburgh tasks. This was a high value and therefore high priority project for PB and due to the complexity of the design, PB had systems such that clear instructions were communicated to avoid abortive work and /or costly rework on integrated designs impacting a number of design teams.

8.3 The absence of programme management (see para 4.28 *ff* above) and the multiplicity of changes (see para 4.11 *ff* above) gave rise to challenges to PB to ensure the appropriate level of resource.

8.3.1 Whilst SDS do not accept that they were under resourced, in any event, Tony Glazebrook, T – 041017 – 131 observed “*I would like to just explain a wee thing. Where I have put "sometimes inadequate SDS resource", I wouldn't regard that as a blaming statement. I think that was because, if I had been in charge of SDS, and I had seen the amount of meddling, delay and lack of problem solving, I would have probably wanted to assign expert resource on to other things until the problems had been resolved. So that's what I mean by that.*” At T – 041017 – 135, he commented “*Aside from intermittent resource issues they were adequate. Because of the constant delays and*

*rework, it was difficult for SDS and Halcrow to maintain unchanging resource."*

8.3.2 Whilst in reality PB continued to deploy appropriate resource, David Crawley, T - 041017 – 19 also recognised that *"SDS were essentially burning cash by keeping a design team idle in Edinburgh."*

8.4 In fact SDS required to increase staff and management due to charrettes/changes etc, and did so.

8.5 Both Steve Reynolds and Jason Chandler were brought into their roles in 2006 and early 2007 as PB Project Director and Project Manager, respectively, due to the wealth of experience they had in tram project delivery. Steve Reynolds had been employed by PB for 27 years and Jason Chandler had been employed by PB for approximately 8 years, with previous experience as Design Manager for Mersey Tram.

8.5.1 Witnesses, notably David Crawley and Matthew Crosse, have explained that the involvement of Steve Reynolds and Jason Chandler significantly improved the design service and made things much easier. As David Crawley explained at T – 041017 - 35 of his oral evidence, *"This process was made much easier by the co-operation of Steve Reynolds, who was the most senior Parsons Brinckerhoff manager on site. He had been assigned to the project by Parsons Brinckerhoff specifically to deal with the growing problems"*.

- 8.5.2 Given both Messrs Reynolds and Chandler were brought into the project in the early stages (2006 and early February 2007), there is no merit in any suggestion that the design team resource was poor or insufficient. Indeed, Matthew Crosse, in his oral evidence at T – 171017 - 77, commented that *“everything changed”* from the point Steve Reynolds was brought into the project. This was February 2007.
- 8.5.3 Jason Chandler, in his oral evidence at T - 131017 - 37, explained that *“In terms of experience, we had a very experienced technical team for the delivery of the tram and infrastructure”*.
- 8.6 In contrast, commenting on tie’s resource, Mr Chandler commented, at T - 131017 - 38, that tie *“relied very heavily on the support from TSS but that was a very slim structure”*.
- 8.6.1 James Donaldson, construction manager within BB, commented at T – 1261117 - 159 – 160 of his oral evidence that the performance that should be criticised was that of tie. He realised that no one within tie had the skill set required for delivery of a tram project.
- 8.7 Martin Foerder, again an experienced project manager, recognised at T – 051217 - 78 of his oral evidence that PB performed *“quite okay”* considering the circumstances and difficulties in which they faced.
- 8.8 PB managed its resource and introduced methodology to manage change including change control process (SR 3.40.2) and “orange box” methodology (SR 3.8.13).

8.9 As set about above, the evidence of other witnesses to the Inquiry is consistent with and supports PB's evidence with regard to the Resources issue.

## 9 CAUSATION ISSUES

9.1 With regard to the Causation Issue, PB does not accept that the evidence of the following witnesses, or any similar evidence not included here, represents a full and proper record of the facts and circumstances:

9.1.1 The evidence referred to above at paragraph 4.1, 5.1, 6.1, 7.1 and 8.1.

9.1.2 The written statement evidence of Andrew Harper at paragraphs 67, 72; Trudi Craggs at paragraphs 140 and 141; Damian Sharp at paragraph 110; Andrew Fitchie at paragraphs 5.89, 5.96-5.97; or Geoff Gilbert at paragraph 106 of their respective statements.

9.1.3 We have noted general comments regarding the suggested reasons for delay and cost of the tram project.

9.2 The evidence of the other witnesses regarding the design process itself should be considered in the proper and wider context and factual circumstances.

9.3 PB's position is that there were shortcomings in the implementation of the Business Case. SR 2.2, 2.3, 2.4, 2.5 and 4.6 to 4.8. The Business Case

intent was for complete SDS design prior to Infracore tender and award (SR 2.3.2).

9.4 The cause of the design not being completed prior to Infracore tender and award was the mismanagement of change, as more particularly referred to in paragraph 4 above. The evidence of other witnesses regarding the design process itself should be considered in the proper and wider context and factual circumstances. The true cause of design delay was the multiplicity of change post Preliminary Design.

9.5 The project was further impacted by significant stakeholder third party requests, changes and demands. Third party agreements resulted in additional changes, subsequent to the SDS Contract award, being requested (SR 4.21, 4.22) and difficulties were faced, on an almost weekly basis, from the multiple stakeholders who Jim Harries, in his oral evidence at T – 051017 - 203, explained “*tended to be very demanding*”.

9.6 The difficulties were exacerbated by project management failures by tie. See SR 2.1.1(f); 3.8.10; 3.8.11; 3.32; 3.56; 3.58; 4.2 to 4.4.

9.7 Other issues that gave rise to delay and cost overrun were:

9.7.1 Programme impact of planning issues and consents unreasonably withheld or arising from post preliminary design changes issues. See SR 4.9, 4.10.

9.7.2 CEC continued direct involvement. See SR 4.3.2 and 4.17 to 4.20.

- 9.7.3 Additional changes from third party agreements. See SR 4.21, 4.22.
- 9.7.4 EARL – lack of coordination by tie. See SR 3.63 and 3.65, 4.35 to 4.37. Impacted on design programme. Eventual cancellation in July 2007. Numerous interface issues between EARL and Tram.
- 9.7.5 Emerging third party developer issues. See SR 4.38, 4.39.
- 9.7.6 Management of Employers' Requirements alignment issues. See SR 3.87, 3.94 (see diagram at SR Document 16) and 3.96 (note this issue was recorded in the contemporaneous weekly reports), 4.40 to 4.46.
- (a) Andrew Fitchie at paragraph 8.201 of his statement records the decision by tie to amend the ERs post preferred bidder stage causing issue in warranting of design, which he identifies was not the fault of SDS.
- (b) Tony Glazebrook, T – 041017 – 180, in the context of the misalignment of the ERs, commented: *“Q - If it was simply a collaborative project, what problems might arise from gaps and conflicts of the type you've mentioned? A. The designer can't win. Q. What do you mean by that? A. Whatever is proposed, somebody will say is unacceptable.”*
- (c) Tony Glazebrook, T – 041017 – 184 agreed in response to the issue of *“misalignment between the SDS design, employer's requirements and the civils proposals”* that *“It's a*

*mystery to me why it wasn't proceeded with to clarify, close gaps, and to remove conflictions."*

9.7.7 With regard to political aspects, we refer to SR 3.49. 3.50, 4.5 and to the Glasgow Caledonian paper. Political uncertainty gave rise to ambiguity in terms of the underlying objectives for the project. Damian Sharp agreed at T – 051017 – 73 that *"uncertainties arising from the political situation would impact on progress and costs."*

9.7.8 Martin Foerder, T - 051217 - 69 responded *"Q - So is it correct to say that the underlying dispute between tie and the consortium was one of the factors or reasons for design being delayed? A. Yes. Definitely"*. The dispute between BBS and tie, particularly the dispute surrounding Princes Street, contributed to the design delay and ability to complete the design. Richard Walker, in his oral evidence at T – 151117 - 142, agreed that the dispute between BBS and tie was *"one of the main reasons"* for the design not being completed earlier.

9.8 We note the reference to Alistair McLean's evidence *"The obvious problem was that the design wasn't complete before the contract was let."* in the CIPFA Report (TRI00000264\_063) at paragraph 3.127, and to the summary at paragraph 5.2: *"We consider that it was premature to deliver financial close in May 2008 whilst the design was not fully completed and there were delays with the utilities work."* We consider that the issues identified in the Chairman's Note concerning closing submissions from the third to seventh page are relevant issues to the Inquiry's terms of reference. We have addressed the particular issues relevant to PB, being those matters referred

to at paragraph 3.3 above. Whilst PB cannot directly assist with the wider issues identified in the Chairman's Note, PB concurs that such wider issues are those relevant to the Inquiry's remit.

9.9 In summary PB considers that the Inquiry has been correct in their approach in identifying and focusing their review on the relevant matters, notably: the convoluted governance structure of the project, CEC's approach to changes, third party issues, the nature of the Infraco contract, and the management of risk particularly leading up to the Infraco award.

## 10 **CONCLUSION**

10.1 Accordingly, in respect of the issues referred to above referred to as the Design Timing Issue; the Design Content Issue; the Stakeholder Management Issue; the Utilities Issue; the Resources Issue and the Causation Issue, the evidence by witnesses at paragraphs 4.1, 5.1, 6.1, 7.1, 8.1 and 9.1 above do not provide the full and accurate record of the relevant causes of cost and time overrun in respect of the Edinburgh Tram Project.

10.2 The causes of the cost and time overruns are as explained more widely in the evidence described in paragraph 2 above, and the explanations provided in sections 4 to 9 generally, including with reference to the evidence of other witnesses.

**Burness Paull LLP**

**27 April 2018**