



16 November 2009

Keith Kilburn
c/o tie Limited
City Point
65 Haymarket Terrace
Edinburgh
EH12 5HD

BY EMAIL & POST

And

Fraser McMillan
Pinsent Masons LLP
123 St Vincent Street
Glasgow
G2 5EA

BY EMAIL & POST

Dear Sirs

**EDINBURGH TRAM NETWORK
TIE LIMITED AND BILFINGER BERGER (UK) LIMITED/SIEMENS PLC/
CONSTRUCCIONES Y AUXILIAR DE FERROCARRILES DELIVERY CONSORTIUM
("INFRACO")
ADJUDICATION - CARRICK KNOWE BRIDGE**

I enclose my final decision in respect of the above adjudication.

If I do not hear otherwise from the parties within 28 days from the date of this letter the papers submitted in this adjudication will be destroyed.

Yours faithfully



JOHN HUNTER

Construction Contract Consultants
Dispute Resolution
Adjudication and Mediation Services
Arbitration Services
Litigation Support
Expert Opinion and Evidence
Claims Preparation

Suite 1
Kirk House
4 Kirk Road
Bearsden
Glasgow
G61 3RG

tel. [REDACTED]
fax: [REDACTED]
e-mail hunterconsult@aol.com

Adjudication

Between

TIE LIMITED, a company incorporated under the Companies Acts (Company No SC230949), and having its registered office at City Chambers, High Street, Edinburgh, Midlothian EH1 1YJ (**“the Referring Party”**)

and

BILFINGER BERGER UK LIMITED, a company incorporated under the Companies Acts (Company No 02418086), and having its registered office at 150 Aldershot Street, London EC1A 4EJ and **SIEMENS PLC**, a company incorporated under the Companies Acts (Company No 00727817), and having its registered office at Faraday House, Sir William Siemens Square, Frimley, Camberley, Surrey GU16 8QD and **CONSTRUCCIONES Y AUXILIAR DE FERROCARRILES S.A.** a company registered in Spain and having its registered office at J.M.Iturrioz 26, 20200 Beasain, Spain (**“the Responding Party”**)

Adjudicator’s Decision and Reasons

Carrick Knowe Bridge

John Hunter BSc FRICS MCIArb MAPM of Hunter Consulting, Suite 1, Kirk House, 4 Kirk Road, Bearsden, Glasgow G61 3RG named as Adjudicator in respect of a dispute between tie Limited and Infraco.

1. INTRODUCTION

- 1.1 This adjudication concerns a dispute over matters arising under a contract for the provision of work associated with a new tram network for the City of Edinburgh. In particular this dispute relates to one element of the work, Carrick Knowe Bridge, and whether changes have occurred between the Base Date Design Information (BDDI) upon which the parties contracted and the Issued For Construction information (IFC) to the extent that such changes amount to a Notified Departure as defined in the contract.
- 1.2 Carrick Knowe Bridge or S23 is a simply supported bridge structure that provides thoroughfare over four parallel Network Rail lines. The structure comprises a reinforced concrete bridge deck supported by five U12 precast concrete beams that connect to diaphragms bearing on typical L shaped reinforced abutment walls.

2. THE PARTIES

- 2.1 TIE LIMITED is a company incorporated under the Companies Acts (Company No SC230949), and having its registered office at City Chambers, High Street, Edinburgh, Midlothian EH1 1YJ (“the Referring Party”)
- 2.2 BILFINGER BERGER UK LIMITED is a company incorporated under the Companies Acts (Company No 02418086), and having its registered office at 150 Aldershot Street, London EC1A 4EJ and SIEMENS PLC is a company incorporated under the Companies Acts (Company No 00727817), and having its registered office at Faraday House, Sir William Siemens Square, Frimley, Camberley, Surrey GU16 8QD and CONSTRUCCIONES Y AUXILIAR DE FERROCARRILES S.A. is a company registered in Spain and having its registered office at J.M.Iturrioz 26, 20200 Beasain, Spain referred to in the contract as “Infraco”. (“the Responding Party”)

3. THE WORKS

- 3.1 The works, referred to as the Infraco Works are defined on page 257 of the contract as “the EAL Works and all or any of the works to be constructed and completed and/or services to be provided and/or the plant, machinery and equipment to be supplied and installed by the Responding Party and which are necessary to deliver the Edinburgh Tram Network and to subsequently maintain it, all in accordance with this Agreement and the Employer’s Requirements.”

4. THE DISPUTE

- 4.1. On or around 19 September 2008, the Responding Party served on the Referring Party a notification of tie change number 115 dated 18 September 2008 (hereinafter referred to as “Infraco Notification of tie Change”) in terms of which the Responding Party advised the Referring Party of its opinion that:

“Schedule Part 4, Pricing Assumption, paragraph 3.4.1.1, assumes that the Issued for Construction Drawings do not differ from the base date assumption drawings of 25 November 2007 other than design development as the (IFC drawings for Carrick Know Bridge S23 (IFC Drws ULE90130-05-BRG-00230 - 00261) differ to a greater extent and complexity than design development, the foregoing results in a Notified Departure”

- 4.2. On or around 16 October 2008 the Responding Party, by letter, informed the Referring Party that an estimate in respect of the matters set out in the Infraco Notification of tie Change would be provided within 25 business days from 16 October 2008. Following exchanges of correspondence a preliminary estimate was then submitted to the Referring Party on 1 April 2009 with a revised estimate being issued by the Responding Party on 7 May 2009. The Referring Party by email of 13 May 2009 requested further and better particulars in respect of that estimate and a number of questions were put to the Responding Party by the Referring Party by letter dated 22 May 2009 asking for further information in respect of service ducts, foamed concrete, the design and make up of a run on slab, amendments to the parapets and an additional piling platform.

- 4.3. Following this dialogue between the Referring Party and the Responding Party then continued in regard to the Infraco Notification and tie Change and Estimate in terms of which the Responding Party did not alter its opinion. On or around 25 August 2009 the Referring Party gave notice to the Responding Party that the dispute was to be referred to the Internal Dispute Resolution Procedure.
- 4.4. The parties failed to settle their differences through this procedure.
- 4.5. As a result of the refusal or failure by the Responding Party to agree that the only items of work which constitute a Notified Departure in respect of the Infraco Notification of tie Change are those which relate to the Galleries and to amend the contents of the Estimate accordingly the Referring Party were compelled to refer the dispute to Adjudication.

5. THE ADJUDICATION

- 5.1 The Referring Party issued a notice of adjudication on 28 September 2009. I was provided with a copy of that notice and advised by the Referring Party that my name was set out as one of a list of Adjudicators named for dispute resolution purposes in the contract executed by the parties.
- 5.2 On 5 October 2009, following my agreement to act in this dispute, the Referring Party requested me to act and confirmed that in terms of clause 30 of Schedule Part 9, dispute resolution procedure to the Infraco Contract, that I adjudicate at the same time on both this dispute and another dispute concerning Gogarburn Bridge. I have adjudicated simultaneously upon each of these disputes and issue separate decisions in respect thereof.
- 5.3 The referral notice was delivered to me on 5 October 2009 and in subsequent correspondence I set a timetable for the adjudication and agreed with the parties that my decision would be issued on 16 November 2009.
- 5.4 On 20 October 2009 the Responding Party submitted their response.

- 5.5 The Referring Party replied to this response on 30 October 2009 and on 6 November 2009 I received a rejoinder from the Responding Party.
- 5.6 I initially pencilled in a meeting with the parties but upon the reviewing the written submissions, which were extensive, I concluded that I would be able to make a decision without reference to oral evidence either from the parties or from their respective experts and I advised the parties by email on 9 November 2009 that I would not require a meeting.

6. PARTIES' CONTENTIONS

- 6.1 The Referring Party submit that:
- 6.2 The only items of work which could be said to flow from the Infraco Notification of tie Change and which could be said to constitute a Notified Departure are those which relate to Galleries.
- 6.3 The only items of work which could be said to flow from the Infraco Notification of tie Change and which could be said to give rise to a deemed tie notice of Change are those which relate to the Galleries.
- 6.4 The only items of work which could be said to flow from the Infraco Notification of tie Change and are further particularised in the Estimate, which are to be the subject of a tie Change Order are those which relate to the Galleries.
- 6.5 The only items of work which constitute a Notified Departure and should be contained in the Estimate are those which relate to the Galleries.
- 6.6 Those items of work which are said by the Responding Party to flow from the Infraco Notification of tie Change but are not related to the Galleries arise from the Responding Party's obligation to complete the design of the Edinburgh Tram Network including, but not limited to, the achievement of full compliance with the

Employer's Requirements for the deliverables to enable the Edinburgh Tram Network to be procured, constructed and commissioned.

6.7 Those items of work which flow from the Infraco Notification of tie Change but are not related to the Galleries come about through the evolution of the design through normal development and completion of the designs.

6.8 The Referring Party consider that Estimate delivered by the Responding Party is deficient, lacking in detail and does not comply with the whole requirements of the Infraco Contract and that the Responding Party have failed to demonstrate and/or substantiate that those items of work which they allege flow from the Infraco Notification of tie Change and are further particularised in the Estimate but are not related to the Galleries constitute a Notified Departure.

6.9 Notwithstanding the deficiencies noted above, the Referring Party considers that it does not have sufficient information to know that the only items of work which could be said to flow from the Infraco Notification of tie Change and are further particularised in the Estimate which constitute a Notified Departure are those which relate to the Galleries. In support of their contentions the Referring Party have submitted an experts report prepared by Mr Robert McKittrick.

6.10 Furthermore, the Referring Party submit that in order for it to be said that a Notified Departure has occurred under the Infraco Contract, it is for the Responding Party to:

- Demonstrate and prove that the evolution and completion of the design to Issued For Construction stage exceeds normal development and completion of the designs.
- Demonstrate and prove that a Notified Departure has occurred; and
- Provide a sufficient, adequate and competent estimate.

- 6.11 The Referring Party say that the foregoing is the logical sequence of steps which occur in the event of a Notified Departure, but the Responding Party have failed to fully comply with each of these steps.
- 6.12 The Referring Party submit that the Responding Party is therefore assumed to have taken into account, when pricing the Infraco Works, all the amendments to the design as at 25 November 2007 (the Base Date Design Information) which would result from the normal development and completion of the designs.
- 6.13 Any and every change from what is depicted on the Base Date Design Information does not therefore constitute a Notified Departure and thereby justify inclusion in the Estimate. It is only those items of work which arise as a consequence of changes which are alterations in “design principle, shape, form and/or specification” which do not arise from the normal development and completion of designs which validly and legitimately constitute a Notified Departure and could therefore validly and legitimately be included in the Estimate.
- 6.14 In light of this, the Referring Party submit that it is only the items of work which relate to the Galleries which are to be contained in the Estimate as it is only those items of work which arise as a consequence of changes which the Referring Party acknowledges constitute a Notified Departure resulting from amendments to the drawings forming the Base Date Design Information as a consequence of an Approval Body under Pricing Assumption 3.4.1.1.3.
- 6.15 In this regard the Referring Party also rely upon the expert report prepared by Bob McKittrick BSc, CEng, FStructE, FICE dated 30 September 2009 which expert report concludes.

“I have carried out a detailed comparison between each of the two general arrangement BDDI drawings and the corresponding IFC drawings. They are very similar, in that the design principle, shape, form and/or specification are the same, except for the addition at the IFC stage of an inspection gallery at the top, and on the back, of each of the two abutments. It is my opinion that only these galleries constitute a change in shape and form and that Infraco should accordingly be paid for only these changes.”

Redress Sought

- 6.16 As a consequence of the foregoing submission the Referring Party has raised these proceedings and seeks the following declarations.
- 6.17 The Referring Party requests a declaration that the only fact or circumstances notified in the Infraco Notification of tie Change which constitute a Notified Departure are those which relate to the Galleries pursuant to Pricing Assumption 3.4.1.1.3.
- 6.18 The Referring Party requests a declaration that the Estimate is to contain only those items of work which relate to the Galleries.
- 6.19 The Referring Party requests a declaration that the Estimate is to be in the amount of SEVENTY ONE THOUSAND SEVEN HUNDRED AND FIFTY SEVEN POUNDS AND THIRTY SEVEN PENCE (£71,757.37) STERLING EXCLUDING VAT or such other sum as the Adjudicator considers is the true and proper valuation of the works comprised in the Galleries taking into account the whole of the Infraco Contract.
- 6.20 The Referring Party requests an order that the Responding Party is liable for the whole cost of the Adjudicator's fees and expenses in relation to the Adjudication as determined by the Adjudicator, or such other sum as the Adjudicator considers that the Responding Party is liable for.
- 6.21 The Referring Party requests reasons for the Decision and I have incorporated my reasons into my findings as set out in this decision.
- 6.22 The Responding Party contend that:
- 6.23 The process for identifying whether the design changes are Notified Departures is one of comparison between the BDDI drawings and the IFC drawings. Except where design changes had been made as a consequence Approval Body requirements and the Notified Departure has arisen under pricing assumption 3.4.1.3 the underlying why/how a change occurred are not relevant to the analysis of whether a design change is a change in design principle, shape and/or form or specification. Further,

the Responding Party contend that the timeous administration of the change mechanism and sufficiency or adequacy of the estimate are not conditions precedent to establishing whether or not a Notified Departure has occurred.

6.24 The Responding Party further contend that a number of changes between the BDDI drawings and IFC drawings are Notified Departures in addition to the inspection galleries and will deal with each of these items as I proceed through my findings.

6.25 The Responding Party advise me that if I find that any of these design changes is a Notified Departure then I must refuse the redress sought by the Referring Party in paragraph 7.1 and 7.2 of the referral notice.

7. ADJUDICATOR'S FINDINGS

Introduction

7.1 The issues in this adjudication boil down to an interpretation of whether any of the differences highlighted by the parties between the BDDI drawings and the IFC drawings constitute changes that amount to a Notified Departure in terms of the contract.

7.2 The Referring Party put it to me that the dispute referred is not based entirely on a matter of fact or, as the Responding Party put it, that a mere allegation of fact is self evident but that the issue is broader than that suggested by the Responding Party as it involves operating the process of assessing and evaluating the actual or alleged change.

7.3 The documents that define the BDDI and IFC stages are not disputed.

7.4 Identification of the actual differences between the drawings has been clearly established by the parties and the extent of the differences is not a matter that is disputed between them. The differences have been highlighted on the respective drawings and it is the status that is to be applied to each of these differences that is the matter at issue.

- 7.5 There are fundamental differences between the parties when it comes to assessing the nature of these changes in order to conclude whether they fall within the exclusions set out in Schedule Part 4 of the contract which was drafted to encompass the assumptions that led to what was contained in the contract price.
- 7.6 The parties approach their assessment of the nature of these changes from different perspectives and their respective experts hold opposing views on a substantial number of the identified changes.
- 7.7 These opposing views flow from the different interpretations that each party puts upon Schedule Part 4 as it affects the matters in dispute. It is therefore appropriate to start with each party's understanding of the relevant contractual provisions and how they operate before proceeding to a detailed analysis of each of the items included within the drawing comparison.
- 7.8 I will deal with each of these matters before applying my mind to the matters listed as alleged Notified Departures
- 7.9 Thereafter I shall deal with the question of any additional relief as a result of delay caused by the date of notification of the Notified Departure and the delivery of the Estimate.

Contract Overview

- 7.10 There is no dispute over the general obligations for delivery of the Works and indeed the Responding Party confirm at paragraph 3.6 of the rejoinder that it has an obligation to carry out and complete the detailed design obligations set out in the contract. In this regard the design obligations are very clear.
- 7.11 In the response to the referral at paragraph 6.11 the Referring Party set out that the design of the Works has been novated to the Responding Party. The intent of this form of procurement is that the Responding Party is contractually responsible to the Referring Party for both the design and construction of the whole of the works once novation has taken place and that in the usual way, therefore, the Responding Party has an opportunity to undertake full due diligence on the design

and acquires the means to manage the design consultant. The Referring Party contends that this removes or reduces uncertainty in pricing the completed design.

- 7.12 My finding is that quite clearly uncertainty in pricing has not been removed as the subject matter of the dispute referred to me clearly shows. Where the parties are at issue is over whether the design obligations and the price that was agreed between them at BDDI stage reflect one another.
- 7.13 My finding is that the design obligations are all very clear and not in dispute. However, it is also clear that Schedule Part 4 was included by the parties within their contract as certain pricing assumptions have been necessary at the time that the contract was executed. Considering the point of Schedule Part 4 one is driven to consider why it was included as part of the agreement if the Infraco obligation was simply to meet the Employers Requirements.
- 7.14 This brings into focus the point relied upon by the Responding Party that there is an obligation to deliver a product and, distinct from that obligation, a contractual arrangement for being paid to deliver that product.
- 7.15 Both parties seem to be at one that the inclusion of Schedule Part 4 to the Infraco contract arose because certain elements of the works had not been fully investigated or quantified and therefore risk existed that had to be addressed commercially in any agreement between the parties. In plain words the design was not complete enough to allow a full unqualified price to be agreed.
- 7.16 Section 3.2.1 of Schedule Part 4 states that *"it is accepted by tie that certain pricing assumptions have been necessary and these are listed and defined in section 3.4 below. The parties acknowledge that certain of these pricing assumptions may result in the notification of a Notified Departure immediately following execution of this agreement. This arises as a consequence of the need to fix the contract price against the developing factual background. In order to fix the contract price at the date of this agreement certain pricing assumptions represent factual statements that the parties acknowledge represent facts and circumstances that are not consistent with the actual facts and circumstances that*

apply. For the avoidance of doubt the commercial intention of the parties is that in such circumstances the notified departure mechanism will apply.”

- 7.17 My finding is that Schedule Part 4 was included because the design was incomplete and therefore some unknowns existed that were beyond the capabilities of the Responding Party to include within their price. In other words how the BDDI was to be developed to IFC could be known in respect of certain factors but not all factors and the unknown or insufficiently developed elements were captured by the provision of the wording in Schedule Part 4.
- 7.18 The parties are at one that the risk for normal development to completion of design lies with the Responding Party. This is other than where that risk has been transferred to the Referring Party under one or more of the pricing assumptions set out in Schedule Part 4 pricing.
- 7.19 My finding is that whilst the occurrence of a Notified Departure is a question of fact I concur with the Referring Party that the onus is on the Responding Party to demonstrate that which they claim falls within the exceptions set out in the contract.
- 7.20 My finding is that this position is best summed up as follows. The risk which ought properly to be transferred to the Referring Party is where development and completion of designs is outside of the normal course of development of the detail shown in the initial design i.e. the Base Date information, into the detail needed to construct the works as described all to meet the Employer's Requirements. I would go one step further and clarify that the Employer's Requirements have to be sufficiently well developed within the BDDI procedure as a baseline for proceeding in such a manner. I include this further step as it is clear to me that the Employer's Requirements have in terms of the price for the works been limited by the BDDI and the Schedule Part 4 agreement in respect of the agreed price. I find that to arrive at any other conclusion would, in my view, make Schedule Part 4 meaningless.
- 7.21 My finding is that matters that will become Notified Departures are matters that fall outwith normal design development that could be construed from the information available to the Contractor contained within the BDDI. These matters may have

been alluded to in the Employer's Requirements as an obligation but because of the lack of complete design had not been sufficiently developed in terms of specification to become part of the price.

7.22 As an example if one were to use the bat boxes to apply this rational one has to ask the question, what could reasonably be expected of the Contractor when the performance specification states that requirements for bats are to be taken into account? The BDDI drawings are developed in many respects but nothing is shown in relation to bat boxes. In other words no outline or detailed specification is given. The performance specification is a very general obligation that has yet to be developed and therefore it falls into the category of incomplete design. It appears to me that the very reason for the incorporation of Schedule Part 4 is the fact that the design was incomplete. Thus I cannot see how the Responding Party could, in such circumstances, be saddled with a requirement to include in its price a sum to take from BDDI to detailed design something which has not been established at any level of detail in the BDDI documentation.

7.23 None of the foregoing means that each and every change becomes a Notified Departure or that one can abandon the tests that must be satisfied in order to establish that a Notified Departure has occurred and I shall deal with these now.

7.24 My finding is that the first condition that must be satisfied in order to establish that a notified departure has occurred is a difference between the Base Case assumptions and actual facts and circumstances applying to the Infraco works. Such change has to fall within the definition set out at section 2.8 of Schedule Part 4 i.e. *"a Notified Departure is where now or at any time the facts or circumstances differ in any way from the Base Case assumptions save to the extent caused by a breach of contract by the Infraco, an Infraco Change or a change in law."*

7.25 The key wording that is to be considered in this regard is set out in Pricing Assumption 3.4.1.1 as follows.

"The design prepared by the SDS provider will not, other than amendments arising from the normal development and completion of designs.

1.1 In terms of design principle, shape, form and/or specification be amended from the drawings forming the base date design information [except in respect of value engineering identified in appendices C or D to this Schedule Part 4].”

- 7.26 The clear starting point is contained in the words “The design prepared by the SDS provider”.
- 7.27 The parties are at one that normal development and completion of designs means the evolution of design through the stages of preliminary to construction stage and excludes changes of design principle, shape and form and outline specification as this is set out in pricing assumption 3.4.1.
- 7.28 Where the parties differ is on the interpretation of the pricing assumption as the Referring Party asserts that the Responding Party must prove that the evolution and completion of the design to IFC stage exceeds normal development and completion of designs. The Responding Party’s position is that if a change in design principle, shape or form or outline specification occurs between the drawings forming the BDDI and the IFC drawings then on a proper interpretation of this pricing assumption the changes are automatically outwith the bounds of normal development and completion of design as defined in the contract.
- 7.29 It is clear that the Referring Party do not concur with the narrow interpretation placed by the Responding Party on pricing assumption 3.4.1 and they aver that to give primacy to the last sentence of the final paragraph 3.4.1 which “excludes changes of design, principle, shape and form and outline specification” from normal development and completion of designs over the whole of pricing assumption 3.4.1 is to ignore the words “the evolution of design through the stages preliminary to construction stage”.
- 7.30 Having considered this point long and hard my finding, on balance, is that one has to give proper credence to design evolution flowing from the information that is available at BDDI but one must also take everything into account in considering why the pricing assumptions were included in the first place.

- 7.31 If there is an obligation to meet completion of the design to the Employer's Requirements, come what may, for the agreed price then there would be no requirement for any pricing assumptions as the Responding Party would have the full obligation to meet the Employer's Requirements without any particular specification being required or any further monies being paid beyond the price agreed.
- 7.32 My finding is that at the stage when BDDI was drawn up and the pricing assumptions drafted this was a stage which was an interim position being an interpretation of the Employer's Requirements set out on the drawings which both experts agree were designed to a particular level of detail. This was the starting point for assessment of any Notified Departures and not the Employer's Requirements.
- 7.33 It is clear, therefore, in my mind that the drawings have to be the starting point and they are the baseline for interpretation of the obligation to develop design to completion. In other words if something is not in any way addressed on the drawing then I cannot see how it can subsequently be developed.
- 7.34 In considering the submissions of the Responding Party the Referring Party consider that the Responding Party have simply carried out a remeasure in establishing the changes. My finding is that I do not agree with this point as it is clear that there are some obvious elements of design development which have not been claimed.
- 7.35 Further, the Referring Party contend that the Responding Party's expert Mr Hunt has started from an incorrect premise and therefore his interpretation of design development is narrower than it should be. I do not concur with this statement as it appears to me that, leaving aside any of Mr Hunt's interpretation of the legal position, if one takes ones preferred analysis of the legal position and then considers Mr Hunt's starting point the two sit squarely together and I therefore have no difficulty in making use of Mr Hunt's report in the form that it has been submitted. Both experts apply a series of tests in considering the changes and I have chosen to rely heavily upon their respective opinions in reaching my decision in the context of the general analysis set out above.

- 7.36 The proper approach, in my view, is as follows.
- 7.37 A comparison between the BDDI and IFC drawings reveals the changes in facts and circumstances that have occurred during the process of moving from BDDI stage to IFC stage. These changes must then be characterised as changes as follows.
- 7.38 The changes must firstly be established as changes in design principle, shape, form or specification.
- 7.39 Secondly, the changes must be assessed in order to conclude whether they are categorised as design development in which case they would not constitute a Notified Departure.
- 7.40 It is this two step test that I have initially applied to each of the changes identified. I have then applied a third test to ensure that each of the changes does not arise from a breach of the contract, an Infraco change or a change in law.
- 7.41 In applying the foregoing tests there is another fundamental matter that has, in my view, to be addressed and that is the distinction between the general obligation upon the Responding Party to design the project and the commercial limitations placed upon their price for the work brought about by Schedule Part 4.
- 7.42 It is appropriate at this stage to deal with this issue which was brought into focus by the Responding Party in paragraphs 5.12 and 6.3.4 of the Rejoinder where they state at paragraph 5.12.

"The Responding Party accepts that it had carried out a due diligence exercise on the design, it accepts that SDS was novated to it, it accepts that it was responsible for development of design and ultimately for delivering the Edinburgh Tram Network. There has been no omission by the Responding Party in not referring to these obligations in its analysis of pricing assumption 3.4.1. That is because Schedule Part 4 relates not to what the Responding Party is obliged to do under this contract but how it is to be paid for performing those obligations and at paragraph 6.3.4 the Responding Party states the Responding Party fully accepts that the Employer's

Requirements require anti pigeon measures. The Responding Party's obligation to provide anti pigeon mesh is entirely distinct from how it is to be paid for carrying out this work. The same could be said about all of the changes identified, the Responding Party accepts that it has an obligation to complete the design in all respects and to construct in accordance therewith, but this is a separate matter to how it is to be recompensed for doing so."

7.43 The foregoing also becomes apparent in the respective experts reports as follows.

7.44 The Referring Party appointed Mr McKittrick to prepare a report on their behalf and the Responding Party appointed Mr Hunt to carry out a similar exercise. In his amended report Mr McKittrick criticises Mr Hunt for failing to take account of the Employer's Requirements and Mr Hunt's response in paragraph 2.1 of his report states that he made no reference to the Employer's Requirements because clause 2.3 of Schedule Part 4 states that only the drawings issued by 25 November 2007 are to be BDDI. In paragraph 7.6 of the response the Responding Party clarify that the definition of Base Date design information is as follows.

"The Base Date design information means the design information drawings issued to Infraco up to and including 25 November 2007 listed in appendix H to this Schedule Part 4."

7.45 My finding is that it is important to ensure that there is clarity in reaching an understanding of the distinction between the general obligation to meet the Employer's Requirements and a commercial agreement that reflects the fact that the detailed design requirement for that obligation had not been completed at the date of the contract agreement.

7.46 My finding is that this position is summed up in paragraph 5.12.2 of the reply to the response to the referral notice where it states that other than where that risk has been transferred to the Referring Party under 1 or more of the pricing assumptions numbered 2 to 43 set out in Schedule Part 4 pricing the risk for normal development and completion of design lies with the Responding Party. In my view this normal development and completion of the design would include meeting the Employer's Requirements. However it is also clear that Schedule Part 4 has a key

part to play in any interpretation of the financial liability for meeting these obligations.

- 7.47 My finding is that I am sufficiently persuaded by the Responding Party's argument on this point to concur with them that there is a distinction between their obligation to design the works and the price that they are to be paid and I reach this conclusion as it is clear from clause 4.3 of the Infraco Contract that "nothing in this agreement shall prejudice the Infraco's right to claim additional relief or payment pursuant to Schedule Part 4 pricing.
- 7.48 My finding is that in addressing the changes I have to take into account all of the information that is defined as the BDDI but I must also bear in mind that a line was drawn in the sand as clearly articulated in Schedule Part 4. Whilst it may be a minor element of the works the pigeon mesh is a good example of how specification issues should be addressed in terms of this particular project. Both parties agree that the Employer's Requirements make provision for a general requirement in this respect. The drawings, whilst sufficiently far advanced in many respects, go to the extent of being quite detailed with regard to ducts and the like. No specific solution for the requirement to provide pigeon mesh is shown on the drawings or specified in any of the other documents that I have seen.
- 7.49 At the point of entering into the agreement, if the Referring Party were correct in its interpretation that the Responding Party is obliged to meet the Employer's Requirements then the Responding Party would need to have allowed for a provision for pigeon mesh that was clearly not sufficiently defined. I have seen nothing in the BDDI that leads the Responding Party specifically to know what it has to provide or to develop to detailed design stage. My finding is that design development in this respect would be of the nature of deciding what form of fixing and where the pigeon mesh should be positioned. There is no specification for pigeon mesh in the BDDI, that I have seen, and therefore there could have been no opportunity to make an allowance in the price for the specific requirement that is now specified in terms of type and extent of pigeon mesh. Applying this rational has helped to clarify my thinking in interpreting what the contract says with regard to pricing and I have concluded that by applying this rational I have been able to make sense of the respective positions advanced by the experts.

7.50 I turn now to each of the matters at issue.

SPECIFIC MATTERS AT ISSUE

7.51 The parties are not at issue over what constitutes the BDDI or Base Date Design Information and the IFC or Issued For Construction drawings.

7.52 What is apparent is that at the date of the design freeze on 25 November 2007 there was a limited amount of design information available to the Responding Party for pricing and this was contained on three BDDI drawings. It is an accepted fact that the design information contained on the issued for construction drawings was much more extensive being contained on 32 drawings. What is at issue between the parties is whether, in addition to incorporation of inspection galleries, a change which is not at issue between the parties, whether all of the other changes amount to notified departures or whether they are simply a product of design development.

Abutment Inspection Galleries

7.53 The addition of the abutment inspection galleries is not at issue in this adjudication except to the extent that the Referring Party has sought a declaration on the price to be paid for the galleries. This is accepted as a Notified Departure but the Responding Party contends that there are other changes that flow from the addition of the abutment inspection galleries as follows.

Abutment Foundations

7.54 The parties are at issue over this because the Responding Party contends that the original foundation arrangements were discarded and the shape of the foundation was changed to a skewed arrangement, whilst the Referring Party contends that this is normal development in completion of the design.

7.55 Mr McKittrick's report makes reference to the addition of an inspection gallery in his comments on drawing 00227 (00232 at construction) but thereafter his

report in respect of each and every drawing simply observes that the content of the drawings show nothing unusual and are what he would expect as necessary for normal design completion for this type of structure.

- 7.56 Mr McKittrick states in his initial report on his note for drawing 00227 that in addition to the gallery change there are some additional details shown but no more than he would expect between an approval in principle drawing and one issued for construction. He states on page 4 of his supplementary report that he does not concur with Ian Hunt's overall opinion in respect of the Carrick Knowe Bridge but does not provide any information within the table on page to support that opinion and he does not, in my mind, critically set out why he considers that Mr Hunt is incorrect. On page 6 at paragraph 8.13 Mr McKittrick agrees that the shape of the bases to the abutment walls has changed but he then considers that the overall shape and form of the abutments have not changed and therefore this is considered to be a change in detail.
- 7.57 Mr Hunt takes an opposing view in his report. He concludes at paragraph 8.7 that the changes to the design post BDDI can be attributed to the introduction of inspection galleries and square deck ends and this includes the changes to the shape of the foundations which opines are consequent to the requirements of the Technical Approval Authority.
- 7.58 Mr Hunt supports his opinion in his general observations on each of the drawings concluding in his supplementary report at paragraph 2.2 that the change arising from the incorporation of the gallery within the wall extends into the wing walls which are required to assist in carrying the extended mass cantilevering of the back of the front wall.
- 7.59 Mr Hunt considers this change in structural action has necessitated the wing walls to be taken down to the slab base rather than to simply cantilever from the front wall and this in turn has driven the need to align the edges of the base slab with the wing walls.

7.60 Mr Hunt concludes that this may be design development but in his opinion it certainly is not normal and has resulted in changes in design principle leading to changes in form, shape and specification.

7.61 My finding is that Mr Hunt's analysis sits more squarely with the evidence set out in the drawings than that of Mr McKittrick. The drawings contain a number of changes all of which I find can be linked to the accepted notified change being the introduction of the inspection galleries. I further find that in the case of such a substantial change to the structure the Referring Party have a difficulty here in distinguishing what they consider to be normal design development. They accept the introduction of what appears, on the face of it, to be a substantial adjustment in the form of the inspection galleries as a change. Mr McKittrick accepts that the shape of the bases has changed. He provides no analysis to support his contention that this is normal design development and that this may have occurred even if the inspection galleries had not been introduced. The Responding Party argue that the foundations have had to be changed as a result of the changes in the loadings transferring down to the foundations and this appears to me to be a very plausible argument supported by a more detailed opinion by Mr Hunt, whereas the opinion of Mr McKittrick advances no substantive evidence in support of his opinion being different to that of Mr Hunt. On this basis I find that I have no trouble in reaching the conclusion that the abutment foundations flow from that change and are also a Notified Departure.

Temporary Sheet Piling to Adjust Abutment Bases

7.62 On this point Mr Hunt does not agree with the Responding Party's contention for a Notified Departure and he sets out his reasoning in paragraph 2.14 of his addendum report. Mr Hunt reaches this conclusion on the basis that temporary piling may always have been needed for work within the Network Rail 45 degree protection zone. As I understand the point put by the Responding Party in this regard their position is that because of the change in abutment bases in terms of their actual size an increase in the temporary sheet piling was required. Mr Hunt's expert opinion on the matters of change throughout his reports have in my opinion been well thought out and I am not therefore minded to depart from his line of thinking on this point. I therefore dismiss this item as an extra.

Lockable Troughing

- 7.63 The BDDI drawings show circular ducts under the footways. There is an obvious change to lockable troughing. MY finding is that I have difficulty in reaching a conclusion that a change from circular ducts into lockable troughing is simply design development unless it can be established that there was always an obligation to provide lockable troughing.
- 7.64 I accept Mr Hunt's comments in relation to this at paragraph 2.7 of his addendum report where he draws a distinction between the same detail required in other structures such as Gogarburn and the requirement for a different detail herein. I concur with the argument that had the provision of circular ducts under footways remained in the design it would have been adequate and that the change arises from the need to allow access for maintenance. Mr McKittrick makes no observation in relation to this item in his initial report or in his addendum report.
- 7.65 I have been unable to find anything in the Employer's Requirements that specifies lockable troughing in this area. I find that this therefore constitutes a Notified Departure.

Cycleway Drainage Channel

- 7.66 It is apparent from the information provided that the Acco drainage channel is a new requirement that was not shown on the original drawings. Mr Hunt states that whilst drainage of the deck is to be expected this is an additional provision. Mr Hunt does not clarify what he considers would have been normal design development in respect of this item, although the Responding Party at paragraph 8.16.1 of the response indicate that the BDDI drawings show drainage to the cycleway by means of cross falls towards the track area and the Acco drain located between the tracks. On the basis of this analysis my finding is that the requirement for an additional Acco drain goes beyond what would appear to be normal design development. This does not fall within the ambit of being an Infraco change, breach or change in the law and my finding is therefore that it is a Notified Departure.

ADDITIONAL CHANGES

Amendment to the Extent of Drainage

- 7.67 It is apparent that the IFC drawings indicate more extensive drainage provision.
- 7.68 The IFC drawing 233 rev 4 and 234 rev 4 show the addition of the galleries at either abutment and gallery drainage is also shown. Whilst I am persuaded that the additional Acco drain adjacent to the cycleway was required the bridge drainage does appear to be more extensive than that envisaged at BDDI and I find myself having to rely upon the opinion of Mr Hunt in this regard in which opines, at page 18 paragraph 00247 rev 3 of his table, that there is a change in design principle and specification in relation to the structure drainage arrangement.
- 7.69 On the basis of the foregoing I therefore find that this is a Notified Departure.

Deck Expansion Joints

- 7.70 IFC drawings show a different profile of deck expansion joints from that on the BDDI drawings and Mr Hunt contends that this is dictated by a requirement to provide a square joint across the track. I am not persuaded that this amounts to a change in design principle. An expansion joint was always required, there is no dispute about that. There is no change identified creating a specific restriction on the final formation of that joint albeit that the change appears to be a more complex form of construction but I have some difficulty in concluding that this is anything other than design development. I therefore find that this is not a Notified Departure.

Anti Pigeon Measures

- 7.71 It is clear that the IFC drawings contain anti pigeon measures not shown on the BDDI drawings. I have set out earlier in my findings the reasoning behind my approach to matters of this nature. I therefore find that this amounts to a change in specification and is therefore a Notified Departure.

New Deck Lighting Plinths

- 7.72 Once again these are clearly additional works not shown on the original drawings. I find that they amount to a change in specification and are therefore a Notified Departure..

Permanent Formwork to Soffit

7.73 I am persuaded by Mr Hunt's observation that this is often a contractor's choice to make and not a specified detail. It is however a specified detail on the IFC drawings that was not on the BDDI and I therefore find it to be a notified departure.

Freestanding Wing Walls and Soil Embankments and Abutments

7.74 The BDDI drawings show an arrangement of free standing wing walls and it is clear that there is a change between those drawings and the IFC drawing 237 rev 3. However, no explanation has been given as to why there was a change in the number and arrangement of the wing walls. Mr Hunt identifies that this is a change in shape and form and goes no further than that. I am therefore left in a position where I have no evidence to support any contention that this change in shape and form falls outwith normal design development and I therefore dismiss the free standing wing walls and soil embankments and abutments on the basis that I consider them to be normal design development.

Reinforcement Steel

7.75 My finding is that it follows naturally that any increase that can be demonstrated in reinforcement steel arising from those matters that I have found to be Notified Departures in the findings set out above in itself constitutes a Notified Departure and I therefore concur with the Responding Party that a change in the reinforcement steel flowing from the changes set out above is a Notified Departure.

Adjudicator's Fees

7.76 As the Responding Party have only been partially successful in defending the Notified Departure when considered from the perspective of each of the Notified Departures I allocate my fees as 25% to the Responding Party and 75% to the Referring Party.

8. THE DECISION

- 8.1 Having considered all of the submissions and on the basis of the evidence that I have seen my decision is:
- 8.2 I refuse the redress sought by the Referring Party at paragraph 7.1.
- 8.3 Having answered the first redress sought in the negative I refuse the redress sought at paragraph 7.2.
- 8.4 Having answered the first redress sought in the negative I refuse the redress sought at paragraph 7.3.
- 8.5 I hereby order that notwithstanding the joint and several liability of the parties the Referring Party shall bear responsibility for 75% and the Respondents for 25% of my fees and expenses.

Adjudicator
John Hunter



Date

16 NOVEMBER 2009.

Witness



Hunter Consulting
Suite 1
Kirk House
4 Kirk Road
Bearsden
Glasgow
G61 3RG

Tel: 0 [redacted]
Fax: 0 [redacted]
Email: hunterconsult@aol.com