

PARSONS BRINCKERHOFF LIMITED

**SDS CONTRACT
CLAIM FOR ADDITIONAL COSTS
FOR ADDITIONAL MANAGEMENT AND SUPERVISION
SERVICES**

PERIOD 03 JULY 2006 to 09 APRIL 2007

Date 31 May 2007

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1 INTRODUCTION

1.1 Overview

During September 2005 PB entered into a Contract with tie Limited for a fixed price of £23,547,079.00 based upon the services set out in Schedule 1 of the Contract relating to the Edinburgh Tram Network. In fulfilling its obligations PB has been required to provide additional services for which PB is entitled to be paid. This document describes the additional services and highlights the resulting disruption and costs for the period from the submission of the Preliminary Design up to 30 June 2006 through to the issue of Version 13 of the SDS Programme on 09 April 2007. The document also presents a quantification of the overall delay to the SDS programme arising from the delay to the Contract Start Date and the increased durations of the Requirements Definition, Preliminary Design, and Detailed Design Phases.

In summary:-

- PB claims an extension of time of **40 weeks** at 09 April 2007.
- PB claims additional payment of **£2,248,517** to 09 April 2007.

Completion of the Detailed Design Phase remains dependent upon the resolution of a number of Critical Issues and it is intended that any additional management and supervision costs arising form part of a revised estimate to completion which is to be prepared as a supplementary document.

The main categories of additional services provided during the period 03 July 2006 to 09 April 2007 are summarised below: Appendix A of this document provides a pictorial representation of each of the areas affected including charts summarising the effect on the specific segment of the SDS programme.

1.2 Changes due to Charrettes with CEC/tie and TEL

Additional services were requested by **tie** for detailed studies to be undertaken by PB on several aspects of the preliminary design. Many of these studies were undertaken as part of the Charrettes arranged by **tie** /CEC. The document provides a detailed narrative describing the impact of engaging in the Charrette process

PB developed the Preliminary Design on the basis of the Contract Requirements, (including the Tram Design Manual, Parliamentary Drawings and other base information) and the Preliminary Design deliverables were submitted up to 30 June 2006 on this basis. Upon completion of numerous elements of the Preliminary Design the City of Edinburgh Council (CEC), **tie** and TEL challenged the base scheme and fundamental design principles described in the Parliamentary Drawings and other core documents. As a consequence of these changes to core requirements a series of Charrettes were arranged to reassess the Promoter's requirements for numerous sections of the route.

PB was required by **tie** to undertake fresh optioneering exercises and to develop a new base scheme for many sections of the route which differed from the original contract baseline and the Parliamentary Drawings. PB increased its management and design staff to allow closer working with the client to try to ensure speedy resolution of these issues, with a view to mitigating delays wherever possible. However, significant delays did still result.

1.3 Changes due to additional third party agreements

Additional services were provided as a result of new agreements and changes to draft agreements between 3rd Parties and CEC implemented subsequent to September 2005. The contract requires PB to assist **tie** in minimising any adverse impact from the implementation of the Edinburgh Tram Network on stakeholders. Accordingly PB has assisted with the management of numerous technical interfaces with 3rd parties. However, the introduction of additional 3rd party agreements during the course of the contract has resulted in PB having to revise the design leading to increased scope and delay.

1.4 Changes required by tie

Additional services were provided as a result of new or changed requirements instructed by **tie**. PB produced the design in accordance with the Tram Design Manual and subsequently

tie requested PB to carry out alternative design studies. These are outside the scope of the Contract and have resulted in additional costs and delay.

1.5 Consents

PB is obliged to obtain and maintain all consents required for the construction, installation, commissioning, completion and opening of the Tram Scheme. However, PB cannot be held liable if the design has been delivered in accordance with the contract, but the consent has been unreasonably withheld. The document details where this has occurred.

1.6 Changes due to EARL

There are four areas of work which have led to delays at Edinburgh Airport. The underlying reason for all of these delays is lack of coordination by **tie** between work for the Tram and Edinburgh Airport Rail Link, (EARL), projects.

tie has been developing the EARL project under a separate contract and is responsible for the interface between the two projects. However the EARL Project is several months behind the Tram Project and the details emerging from EARL are impacting on the Tram design in several areas. In addition, the close proximity of the Tram and EARL Projects has led to numerous interface issues. **tie** has required PB to undertake a number of design studies relating to the interface issues by way of additional services resulting in additional costs and delay. In respect of these interface issues, **tie** has then failed to instruct PB in a timely manner as to how it wishes PB to proceed, causing delay and disruption and additional cost.

1.7 tie's failure to accept and review the preliminary design in a timely manner

The design review process for the Preliminary Design Phase requires the Client to review SDS submissions in a timely manner. This has not always been achieved in the prescribed times and this has resulted in additional costs being incurred by PB.

The Preliminary Design Submission deliverable was prepared and submitted to **tie** on 30th June 2006. PB rebaselined the SDS programme on 3rd July 2006 (No ULE90130-SW-PRO-00010 Version 1) to reflect the delays at that time.

The report in Appendix B, Section 32 documents the claim for costs and Extension of Time arising from the late review and acceptance of the SDS Preliminary Design. **tie** failed to complete its review within the response time of 20 working days, (paragraph 1.3 of Schedule 9). **tie** is therefore deemed (paragraph 1.4 of Schedule 9) to have no objection. Subsequent to the expiry of the time limit expressed at paragraph 1.3 of Schedule 9, **tie** returned the Preliminary Design to PB piecemeal over a five month period. In addition **tie**'s changes were not presented in the agreed manner in that they were not endorsed correctly.

tie's approach resulted in additional and/or modified services being required from PB in (a) accommodating **tie**'s requirements subsequent to **tie**'s deemed acceptance; (b) in dealing with **tie**'s failure to provide its objections in accordance with paragraph 1.3 of Schedule 9; and, (c) dealing with **tie**'s failure correctly to endorse its objections.

The failure to respond to the Preliminary Design Submission in the contracted response period has caused delay to all Detailed Design elements of work. The failure by **tie** to respond prevented PB as the SDS designer from proceeding through the contractual design gate from Preliminary Design to Detailed Design in an efficient manner.

1.8 Changes due to Third Party Developers' Emerging Designs

During the Preliminary and Detailed Design Phases it has become evident that Developers along the route have secured planning permission from CEC for designs that conflict with the base scheme for Edinburgh Tram. This has caused considerable redesign and delay to Tram infrastructure design.

1.9 Failure to update the Master Project Programme

tie is obliged to issue the Master Project Programme which shows the programming interfaces for all Tram Network contracts. PB has only been issued with one version of the

Master Programme, (dated 19 February 2007), and this has impacted resource planning through the resulting lack of clarity on project overall requirements.

The document describes the example of PB's interaction with the MUDFA contract where PB has had to devote additional time to dealing with interface issues

2. RELEVANT CONTRACT CLAUSES

1. Paragraph 2.2 of Schedule 1 sets out the 'Design Approach' as follows:

PB should approach the Design and Technical Services in a structured manner using a recognised 'V' life cycle model with regard to the integration of design engineering, systems engineering and safety engineering activities. PB should carry out the Design and Technical Services over three phases:

- (i) Requirements Definition Phase (meaning the phase described in paragraph 2.3 of Schedule 1);
- (ii) Preliminary Design Phase (meaning the phase described in paragraph 2.4 of Schedule 1) and
- (iii) Detailed Design Phase (meaning the phase described in paragraph 2.6 of Schedule 1).

Obligations as to Time

2. By clause 7.2 PB should carry out the Services required in respect of the Requirements Definition Phase, the System-Wide Preliminary Design Requirements, the Preliminary Design Phase, and the Detailed Design Phase in the order of "criticality" (with "A" being the most critical), sequence and dates shown in the Programme Phasing Structure PROVIDED ALWAYS that **tie** may at any time require PB to stop, amend and/or accelerate such order of performance in respect of the whole or any part of the Requirements Definition Phase, the System-Wide Preliminary Design Requirements, the Preliminary Design Phase and/or the Detailed Design Phase. **By clause 7.2.3 the valuation of any required stop, amendment or acceleration should be added to or deducted from the sums due to be paid to PB and should be ascertained, by tie.**
3. Clause 7.3 sets out the 'Design and Technical Gateway Process whereby following notification by PB to **tie** that it has completed each of the Services to be carried out pursuant to a Phase, **tie** should, if it agrees that all of such Services have been completed, issue a Milestone Completion Certificate and, at the end of the

Preliminary Design Phase, **confirm in writing that the Detailed Design Phase can commence.**

4. Paragraph 1.4 of schedule 9 stipulates the default provisions for tie's failure to review deliverables in accordance with time units at paragraph 1.3.

Client Decisions and Information

5. By clause 7.6.3, if any provision of **information by tie results in delay to the continuity of Services the matter should be treated as an extension of time** in accordance with Clause 7.5

Abortive Work

6. By clause 7.7.2 tie should determine the actual extent of any Abortive Work carried out by PB and by clause 7.7.3 **payment in respect of Abortive Work should be determined as a variation** in accordance with Clause 15 (Changes).

Client Changes

7. 'Client Changes' are defined as 'any **addition, modification, reduction or omission** in respect of the Services or any other term of the Agreement instructed in accordance with clauses 7.2, 15 or 29'.
8. By clause 15.1, if tie requires a Client Change, it must serve a Client Notice of Change on PB.

Rights to Extensions of Time

9. By clause 7.5.1, if for any other reason outwith the control of PB and not arising out of PB's breach of the Agreement or PB's negligent or wilful act or omission, PB considers that PB is entitled to an extension of time for completion of the Services,

PB should within 10 Business Days of becoming aware of such possible entitlement to an extension of time, request an extension of time from **tie**.

10. By clause 7.5.2, and subject to clause 7.5.3, **tie** should respond, either:
 - (i) agreeing to the extension of time and consequent amendment of the Programme or the Master Project Programme; or
 - (ii) granting an amended extension of time and consequent amendment of the Programme or the Master Project Programme; or
 - (iii) clearly stating the further information required before reaching a decision; or
 - (iv) rejecting the request, clearly stating **tie's** reason for doing so
11. 'The Master Project Programme' is defined as the project programme to be prepared, maintained, updated, and amended from time to time by **tie** and notified to PB and as may be extended in accordance with clause 7.5 of the Agreement.

Purpose of the Agreement

12. From the principal clauses of the Agreement, it is clear that the purpose of the Agreement is to require (and allow) PB to design the Edinburgh Tram Network such that the final design complies with the provisions set out in clause 3.3 and paragraph 2.1 of Schedule 1 and that, in doing so, it is for PB to produce (and/or complete) the Functional Requirements Specifications and the Technical Specifications (together referred to as the Deliverables).
13. **tie's** input into this process is limited and consists of (a) "discussing the development of any Deliverable" (clause 4.7) with PB required only to give "due consideration" to any comments made by **tie** (but not necessarily to comply with them), (b) operate properly the Gateway Process (clause 7.3) and (c) review the Deliverables in accordance with Schedule 9 clause 4.1.

14. Other than that it is for PB and not **tie** or anyone else to design the Edinburgh Tram Network.
15. At clause 5 of the Agreement, there is an obligation on PB to obtain and maintain in effect all Consents which may be required for the construction etc of the Edinburgh Tram Network and, at paragraph 3.3 of Schedule 1, there is an obligation on PB to "assist **tie** to minimise the adverse impact of the implementation of the Edinburgh Tram Network on stakeholders (not defined anywhere in the agreement) and the general public".
16. **tie** has indicated that it considers that these two provisions require PB, at its cost, to do everything necessary to comply with any and all requirements/wishes of countless third parties - in particular, but not limited to, the City of Edinburgh Council, Network Rail and BAA.
17. That contention plainly cannot be correct. The Agreement is a contract between **tie** and PB whereby, for a fixed price, **PB is to design the Edinburgh Tram Network to achieve the requirements set out in clause 3.3 of the Agreement and paragraph 2.1 of Schedule 1, with any changes to that obligation being allowed pursuant to clause 15. There would be no requirement for clause 15 if PB's obligation was to do all that was necessary to comply with the requirements/wishes of any and all third parties.**
18. PB's obligation to obtain "Consents" requires it to ensure that its design allows the Edinburgh Tram Network to be accepted and approved by the Approval Bodies (as defined) or any Relevant Authority (as defined). Such acceptance and approval to be assessed against those organisations' objective standards and requirements as known at the time the Agreement was entered into (19 September 2005).
19. For example, the City of Edinburgh's requirements were set out in the Design Manual (being a critical document with which the design must comply - clause 3.3.5) and, therefore, any Consent required to be obtained from the City of Edinburgh ought to be obtained if the design complied with the requirements of the Design Manual. Failure by the City of Edinburgh Council to give consent because, subsequently to the Design Manual being produced, it had changed its mind as to

its requirements would give rise either to an application for judicial review of the City of Edinburgh's rejection or an obligation upon **tie** to operate clause 15 so as to allow PB to comply with the City of Edinburgh's changed requirements as, without a clause 15 Change, those requirements would place PB in breach of clause 3.3.5.

20. The same situation would arise if any Approval Bodies sought to change the design.
21. As to paragraph 3.3 of Schedule 1, that does not create any obligation on PB to change its design to suit third party requirements. It simply requires PB to assist **tie** to minimise the adverse impact of the implementation of the Edinburgh Tram Network. If **tie** wishes to change PB's design to satisfy the concerns, say, of a member of the general public then it must issue a Change instruction.
22. The reference in the paragraph to "Network Rail, BAA and other third party agreements" is meaningless as no such agreements are defined in the Agreement or otherwise identified. If **tie** has entered into agreements with third parties which create obligations on **tie** which are not reflected in the Agreement then it must issue a Change instruction to PB to allow it to assist **tie** in that regard.

Current Position

23. PB has complied with all its contractual obligations and is entitled to additional money and to an extension of time.
24. PB has regularly advised **tie**, by, inter alia, submitting a revised Programme, that additional services required by **tie**, failures by **tie** to provide necessary decisions and abortive work have caused delay to PB and have caused it to incur substantial additional costs for which, to date, it has received no formal extension of time nor additional payment.
25. **tie** has required PB to undertake additional services by requiring it to attend what are referred to by **tie** as "Charrette" meetings - being meetings where various and many alternative design schemes are required by **tie** to be considered.

26. Many of the alternative design schemes arise as a consequence of interference by third parties whose view **tie** has instructed PB to consider and take into account. These meetings are not what is contemplated by clause 4.7 of the Agreement as, at the meetings, **tie** requires PB to work up and submit alternative designs - not simply to take due consideration of **tie**'s comments on PB's designs.
27. However, following this requirement to undertake additional work, **tie** has consistently failed to decide which of the alternative designs PB has submitted is acceptable to **tie** - as such the Gateway Process set out in clause 7.3 has been frustrated to the extent that PB has not properly been able to commence the Detailed Design Phase.
28. Further, if and insofar as **tie** has made a decision, then (a) it has failed to issue a Client Notice of Change or Client Change Order and (b) it has failed to treat the consequential wasted work as Abortive Work.
29. Full details of the additional time and cost incurred by PB as a consequence of the above are set out in the attached schedules.

3. SUMMARY DELAY ANALYSIS

3.1 Delay in Contract Start Date

The programme submitted as part of the PB tender was based on a contract start date of 01 July 2005. In fact the contract did not start until 19 September 2005, a delay of 80 days.

This issue is covered in the document contained in Appendix B – Section 1.

3.2 Increased Duration of Requirements Definition Phase

During the course of tender negotiations with tie, PB agreed an increase in the Requirements Definition Phase from 8 weeks to 13 weeks, a further 35 days. This is documented in tender correspondence.

This issue is covered in the document contained in Appendix B – Section 1.

3.3 Changes due to Charrettes with CEC/tie and TEL

See 1.2 above.

The status in terms of changes and delay are set out below.

Section 1

| Location | Report Location | Delay to original completion date | Status at May 2007 |
|---|----------------------|-----------------------------------|----------------------------|
| | | | Technical Solution agreed? |
| St. Andrew Square (Charrette - re-alignment and tramstop redesign) | Appendix B Section 2 | 206 days | √ |
| Princes Street Charrette - re-alignment) | Appendix B Section 3 | 206 days | √ |

| | | | |
|---|-------------------------|----------|---|
| Leith Walk (Charrette - re-alignment and parking / loading provision) | Appendix B Section 4 | 200 days | √ |
| Shandwick Place (Charrette - tramstop location / road layout) | Appendix B Section 5 | 279 days | √ |
| Picardy Place (Charrette - road redesign) | Appendix B Section 6 | 206 days | X |
| Foot of the Walk Charrette - (tramstop location) | Appendix B Section 7 | 265 days | √ |
| Haymarket (Charrette – junction remodelling) | Appendix B Section 8 | 279 days | √ |

Section 3

| Location | Report Location | Delay to original completion date | Status at May 2007 |
|---|--------------------------|-----------------------------------|----------------------------|
| | | | Technical Solution agreed? |
| Coltbridge Viaduct (Structures Charrette) | Appendix B Section 9 | 249 days | X |
| Craigleith Drive Bridge (Structures Charrette) | Appendix B Section 10 | 249 days | X |

Section 5

| Location | Report Location | Delay to original completion date | Status at May 2007 |
|---|--------------------------|-----------------------------------|----------------------------|
| | | | Technical Solution agreed? |
| Edinburgh Park Station Bridge (Structures Charrette) | Appendix B Section 11 | 307 days | √ |

| | | | |
|---|-----------------------|----------|---|
| Carrick Knowe (Structures Charrette) | Appendix B Section 12 | 307 days | √ |
|---|-----------------------|----------|---|

3.4 Changes due to new tie or CEC agreements with 3rd Parties

See 1.3 above.

The status in terms of changes and delay are set out below.

Section 1

| Location | Report Location | Delay to original completion date | Status at May 2007 |
|---|-----------------------|-----------------------------------|----------------------------|
| | | | Technical Solution agreed? |
| Forth Ports Interface Section 1A Bridges Redesign Leith Sands Sub-station relocation Ocean Terminal frontage redesign Lindsay Road Extension Ocean Drive Stop Relocation/Redesign | Appendix B Section 13 | 265 days | √ / X |

Section 3

| Location | Report Location | Delay to original completion date | Status at May 2007 |
|---|-----------------------|-----------------------------------|----------------------------|
| | | | Technical Solution agreed? |
| Groathill Road South (undertaking for designed works to maintain a 2m gap from property boundary (LoD)) | Appendix B Section 14 | 249 days | X |
| Telford Road Tramstop/alignment (change notice to relocate alignment/tramstop) | Appendix B Section 15 | 249 days | √ |

Section 5

| Location | Report Location | Delay to original completion date | Status at May 2007 |
|---|--------------------------|-----------------------------------|----------------------------|
| | | | Technical Solution agreed? |
| SRU (lack of signed agreement and integration with flood scheme) | Appendix B Section 16 | 340 days | X |
| Balgreen Road/ Baird Drive (suite of structures and stop, substation) | Appendix B Section 17 | 340 days | √ |
| Gogarburn Tramstop (RBS) | Appendix B Section 18 | 219 days | X |

Section 7

| Location | Report Location | Delay to original completion date | Status at May 2007 |
|---|--------------------------|-----------------------------------|----------------------------|
| | | | Technical Solution agreed? |
| NIL (future proofing) | Appendix B Section 19 | 182 days | X |
| Ingliston Park and Ride (car park layout not finalised. There is an additional interface here.) | Appendix B Section 20 | 182 days | X |
| Section 7A, Culverts 1,2 & 3 (flooding / culvert 3) | Appendix B Section 21 | 182 days | √ |

3.5 Changes due to new tie or CEC requirements

See 1.4 above

The status in terms of changes and delay are set out below:

Section 1

| Location | Report Location | Delay to original completion date | Status at May 2007 |
|--------------------------------|-----------------------|-----------------------------------|----------------------------|
| | | | Technical Solution agreed? |
| Constitution Street (tramstop) | Appendix B Section 22 | 265 days | √ |
| Leith Walk Substation | Appendix B Section 23 | 200 days | √ |

Section 2

| Location | Report Location | Delay to original completion date | Status at May 2007 |
|-----------------------------------|-----------------------|-----------------------------------|----------------------------|
| | | | Technical Solution agreed? |
| Section 2A (steps and Masterplan) | Appendix B Section 24 | 285 days | X |

Section 3

| Location | Report Location | Delay to original completion date | Status at May 2007 |
|--|-----------------------|-----------------------------------|----------------------------|
| | | | Technical Solution agreed? |
| Noise Mitigation (seeking confirmation of contractual requirements and tram noise emissions) | Appendix B Section 25 | 249 days | X |
| Granton Square (urban development of Granton Square) | Appendix B Section 26 | 193 days | X |
| Oxcraig Street (design needs to close Oxcraig Street - not envisaged in STAG) | Appendix B Section 27 | 193 days | X |

Section 5

| Location | Report Location | Delay to original completion date | Status at May 2007 |
|----------|-----------------|-----------------------------------|--------------------|
| | | | Technical Solution |

| | | | |
|--|--------------------------|----------|---|
| | | | agreed? |
| South Gyle Tramstop (relocation of tramstop) | Appendix B Section 29 | 266 days | issue resolved (23 March 2007) |

Section 6

| Location | Report Location | Delay to original completion date | Status at May 2007 |
|---|--------------------------|--|-----------------------------------|
| | | | Technical Solution agreed? |
| Depot (Tram Length, Occupancy and accommodation requirements, Specification and requirements of Depot equipment, Revised Levels and wire height to minimise excavation) | Appendix B Section 30 | 218 days | X |

Section 7

| Location | Report Location | Delay to original completion date | Status at May 2007 |
|--|--------------------------|--|-----------------------------------|
| | | | Technical Solution agreed? |
| Newbridge Branch (Transdev requirements for future proofing) | Appendix B Section 28 | 182 days | X |

3.6 Changes due to tie's EARL Project and Interface with BAA.

See 1.6 above.

The status in terms of changes and delay are set out below;

Section 7

| Location | Report Location | Delay to original completion date | Status at May 2007 |
|-----------------|------------------------|--|-----------------------------------|
| | | | Technical Solution agreed? |

| | | | |
|---|-----------------------|----------|---|
| Edinburgh Airport <ul style="list-style-type: none"> • Eastfield Avenue (Gogarburn retaining walls) • Burnside Road (BAA/ EARL interface) • Airport Utilities Surveys (BAA/ EARL interface) • Airport Stop (BAA/ EARL interface) | Appendix B Section 31 | 182 days | √ |
|---|-----------------------|----------|---|

3.7 TIE Delays to SDS Utilities Design

The report in Appendix B Section 33 documents the claim for Extension of Time arising from delays caused by tie to the Utilities Design as follows;

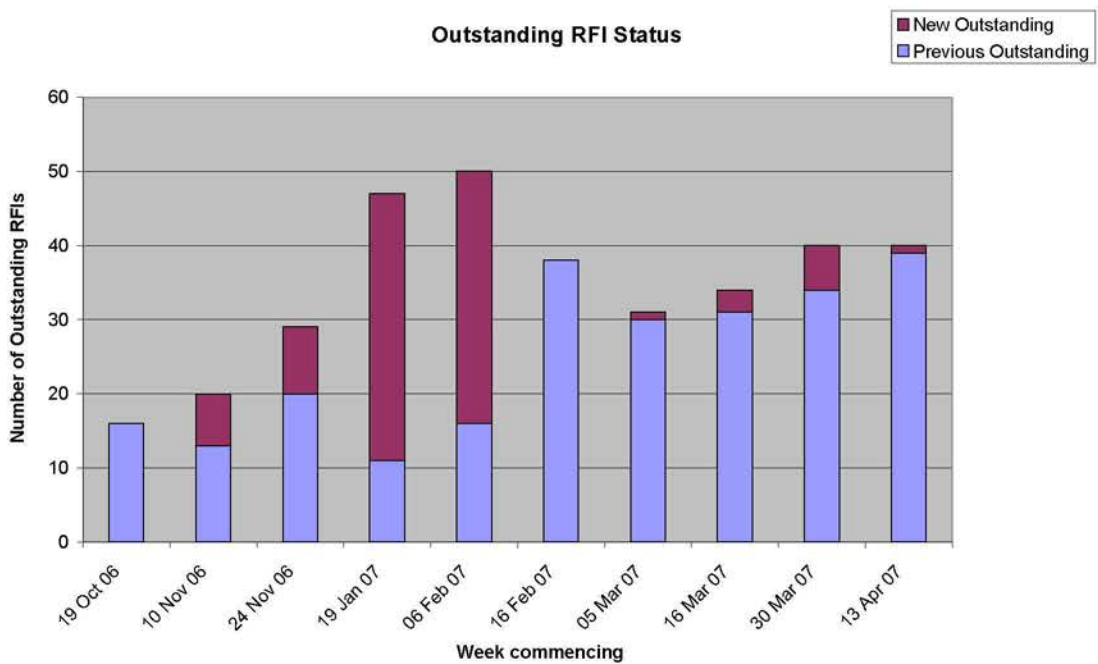
- a) Direction of SDS resources by tie to prioritise MUDFA procurement documentation & support function
- b) Failure by tie to conclude Agreements with SUCs
- c) Failure by tie to engage with SUCs to gain their cooperation to proceed without issue of NRSWA statutory notices
- d) Failure by tie to persuade SUCs to mobilise their resources to respond to SDS design proposals due to (c) above
- e) Late and incomplete issue by tie of NRSWA C4 Notices to initiate SUC formal response to SDS design proposals
- f) Failure of SUCs to respond to SDS design proposals in programmed period due to their lack of resource and need due to (d) & (e) above
- g) Failure of tie to engage with SUCs on procedural and statutory powers consequences of SUC's identification of need to divert apparatus in Constitution Street to outwith LoDs
- h) Failure of tie to recognise implications to utilities design development of Charrette changes and delay until these resolved
- i) Direction of SUCs by tie to prioritise their response to Section 1 and de-prioritise their response to Section 3 SDS proposals thereby frustrating design approvals sought by SDS in accordance with SDS Design Programme
- j) Direction of SDS resources by tie to prioritise preparation for Trial Area

- k) Failure by **tie** to conclude Section-by-Section commercial arrangements with SUCs in parallel to approval of SDS design proposals.

3.8 TIE Response Time to RFIs

tie has failed to comply with the contract requirement, (Clause 7.6), for responding to Requests for Information from PB resulting in cost and delay to PB.

A summary of the situation regarding **tie**'s response rate to RFIs is shown in the attached graph for the period from October 2006 to April 2007.



The delay in answering the RFIs in a timely manner has contributed to the delays detailed in the individual reports in Appendix B Sections 1- 33.

The full RFI Register is contained in Appendix B Section 34.

3.9 Delay Impact

The delaying events outlined above have had a significant impact on PB's progress. PB rebaselined the SDS programme on 3rd July 2006, (No ULE90130-SW-PRO-00010 Version

1), to reflect the delays at that time, and to ensure **tie** was aware of the impact of the events and the criticality with respect to progressing the subsequent detailed design. These delays have been highlighted in each subsequent issue of PB's programme.

3.10 Quantum in Relation to Delays

The valuation of the provision of the additional services described in this document has been arrived at as follows. For both the PB and Halcrow management teams the time spent on each of the topics detailed in Appendix B has been determined for each member of staff for each week of the period from 03 July 2006 to 09 April 2007. A valuation of this time has then been calculated using the rates for "Provisional Additional Work" contained within the contract for the different staff grades. Table 1 provides a breakdown of the valuation by individual and by week, with the total sum claimed as shown in section 1.1 above.

The valuation does not include any additional PB costs associated with the production of the design itself. These costs have been presented separately through the project change control process.

TABLES

TABLE 1

**VALUATION OF THE ADDITIONAL TIME SPENT BY THE PB
AND HALCROW MANAGEMENT TEAMS IN CARRYING OUT
THE ADDITIONAL SERVICES**

| Grade | Rate | Price by Individual (£k) | Jul | | | | | | | | | | | | Aug | | | | | | | | | | | | Sep | | | | | | | | | | | | Oct | | | | | | | | | | | | Nov | | | | | | | | | | | | Dec | | | | | | | | | | | | Jan | | | | | | | | | | | | Feb | | | | | | | | | | | | Mar | | | | | | | | | | | | Apr | | | | | | | | | | | |
|-------|------|--------------------------|---------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|--|--|--|--|--|--|--|--|---------|--|--|--|--|--|--|--|--|--|--|--|-----|--|--|--|--|--|--|--|--|--|--|--|-----|--|--|--|--|--|--|--|--|--|--|--|-----|--|--|--|--|--|--|--|--|--|--|--|-----|--|--|--|--|--|--|--|--|--|--|--|-----|--|--|--|--|--|--|--|--|--|--|--|
| | | | 03/07/2006 | 10/07/2006 | 17/07/2006 | 24/07/2006 | 31/07/2006 | 07/08/2006 | 14/08/2006 | 21/08/2006 | 28/08/2006 | 04/09/2006 | 11/09/2006 | 18/09/2006 | 25/09/2006 | 02/10/2006 | 09/10/2006 | 16/10/2006 | 23/10/2006 | 30/10/2006 | 06/11/2006 | 13/11/2006 | 20/11/2006 | 27/11/2006 | 04/12/2006 | 11/12/2006 | 18/12/2006 | 25/12/2006 | 01/01/2007 | 08/01/2007 | 15/01/2007 | 22/01/2007 | 29/01/2007 | 05/02/2007 | 12/02/2007 | 19/02/2007 | 26/02/2007 | 05/03/2007 | 12/03/2007 | 19/03/2007 | 26/03/2007 | 02/04/2007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SD | 78 | 1 | BISHOP Tony | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | £18k | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PD | 95 | 2 | BLOE Jonathan | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | £127k | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PD | 95 | 3 | CHANDLER Jason | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | £121k | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SD | 78 | 4 | CLARKE Bob | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | £5k | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GD | 55 | 5 | CLEMENT Gavin | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | £69k | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SD | 78 | 6 | CONROY Martin | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | £8k | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SD | 78 | 7 | COX Ellie | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | £95k | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PD | 95 | 8 | DIXON Andy | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | £28k | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PD | 95 | 9 | DOLAN Alan | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | £133k | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PD | 95 | 10 | DORRINGTON Kim | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | £83k | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GD | 55 | 11 | DYSON Jonathon | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | £47k | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PD | 95 | 12 | ENNION Bruce | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | £110k | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PD | 95 | 13 | FIRTH Richard | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | £22k | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SD | 78 | 14 | HANSEN Jes | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | £50k | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SCT | 49 | 15 | HUNTER Ross | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | £39k | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PD | 95 | 16 | HUTCHISON David | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | £55k | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SD | 78 | 17 | JONES Carla | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | £48k | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SD | 78 | 18 | KELLY Tom | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | £48k | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PD | 95 | 19 | MASON Chris | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | £121k | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SD | 78 | 20 | MacDONALD Colin | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | £32k | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SD | 78 | 21 | NEY Scott | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | £107k | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SCT | 49 | 22 | ROSE Martin | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | £33k | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SD | 78 | 23 | SHUDALL Kate | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | £113k | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GD | 55 | 24 | STACY Mungo | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | £59k | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SD | 78 | 25 | WILSON Paul | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | £87k | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PD | 95 | 26 | JORY Tony | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | £58k | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PD | 95 | 27 | REEVES Mike | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | £9k | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PD | 95 | 28 | CHRISTOFFERSON John | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | £34k | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PD | 95 | 29 | BROWN Ian | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | £26k | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PD | 95 | 30 | McQUADE Paul | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | £21k | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PD | 95 | 31 | PARK A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | £6k | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PD | 95 | 32 | PRICE Derek | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | £6k | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PD | 95 | 33 | PRICE S | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PD | 95 | 34 | PLUSE David | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | £42k | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PD | 95 | 35 | JANANI F | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | £16k | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Analysis | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | £1,877k | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| Grade | Rate | Price by Individual (£k) | Jul | | | | Aug | | | | Sep | | | | Oct | | | | Nov | | | | Dec | | | | Jan | | | | Feb | | | | Mar | | | | Apr |
|-------|------|--------------------------|------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| | | | 03/07/2006 | 10/07/2006 | 17/07/2006 | 24/07/2006 | 31/07/2006 | 07/08/2006 | 14/08/2006 | 21/08/2006 | 28/08/2006 | 04/09/2006 | 11/09/2006 | 18/09/2006 | 25/09/2006 | 02/10/2006 | 09/10/2006 | 16/10/2006 | 23/10/2006 | 30/10/2006 | 06/11/2006 | 13/11/2006 | 20/11/2006 | 27/11/2006 | 04/12/2006 | 11/12/2006 | 18/12/2006 | 25/12/2006 | 01/01/2007 | 08/01/2007 | 15/01/2007 | 22/01/2007 | 29/01/2007 | 05/02/2007 | 12/02/2007 | 19/02/2007 | 26/02/2007 | 05/03/2007 | 12/03/2007 |
| HA | 78 | 1 | COHEN Russell | | | | | | | | | | | | | | | | | | | | | | | | | | | | £36k | | | | | | | | |
| HB | 68 | 2 | DENNIS Kat | | | | | | | | | | | | | | | | | | | | | | | | | | | | £11k | | | | | | | | |
| HA | 78 | 3 | FINC Rick | | | | | | | | | | | | | | | | | | | | | | | | | | | | £16k | | | | | | | | |
| HB | 68 | 4 | GARVIE Alan | | | | | | | | | | | | | | | | | | | | | | | | | | | | £12k | | | | | | | | |
| HA | 78 | 5 | HILL Louise | | | | | | | | | | | | | | | | | | | | | | | | | | | | £16k | | | | | | | | |
| HA | 78 | 6 | MARTIN Stewart | | | | | | | | | | | | | | | | | | | | | | | | | | | | £1k | | | | | | | | |
| HB | 68 | 7 | MENTIPLAY Laurie | | | | | | | | | | | | | | | | | | | | | | | | | | | | £9k | | | | | | | | |
| HC | 52 | 8 | MOLENAAR Elwin | | | | | | | | | | | | | | | | | | | | | | | | | | | | £6k | | | | | | | | |
| HB | 68 | 9 | PLANNERS | | | | | | | | | | | | | | | | | | | | | | | | | | | | £5k | | | | | | | | |
| HA | 78 | 10 | PERRY Kevin | | | | | | | | | | | | | | | | | | | | | | | | | | | | £83k | | | | | | | | |
| HC | 52 | 11 | PHILLIPS Ashley & MOTT Jenny | | | | | | | | | | | | | | | | | | | | | | | | | | | | £7k | | | | | | | | |
| HA | 78 | 12 | RAESIDE David | | | | | | | | | | | | | | | | | | | | | | | | | | | | £18k | | | | | | | | |
| HA | 78 | 13 | SIMMONS David | | | | | | | | | | | | | | | | | | | | | | | | | | | | £45k | | | | | | | | |
| HA | 78 | 14 | WALKER Colin | | | | | | | | | | | | | | | | | | | | | | | | | | | | £24k | | | | | | | | |
| HA | 78 | 15 | BISSETT Malcolm | | | | | | | | | | | | | | | | | | | | | | | | | | | | £36k | | | | | | | | |
| HA | 78 | 16 | LEATHERBARROW Bruce | | | | | | | | | | | | | | | | | | | | | | | | | | | | £5k | | | | | | | | |
| HB | 68 | 17 | McCARROLL Simon | | | | | | | | | | | | | | | | | | | | | | | | | | | | £12k | | | | | | | | |
| HB | 68 | 18 | RODRIGUEZ Patricia | | | | | | | | | | | | | | | | | | | | | | | | | | | | £11k | | | | | | | | |
| HB | 68 | 19 | SWENSON Helen | | | | | | | | | | | | | | | | | | | | | | | | | | | | £10k | | | | | | | | |
| HB | 68 | 20 | PATON Iain | | | | | | | | | | | | | | | | | | | | | | | | | | | | £9k | | | | | | | | |
| | | | Analysis | | | | | | | | | | | | | | | | | | | | | | | | | | | | £371k | | | | | | | | |

APPENDICES

APPENDIX A

LAYOUT OF AREAS AND PROGRAMME IMPLICATIONS

- Line 1 – Section 1A – ULE90130-01-DRG-00017
- Line 1 – Section 1B – ULE90130-01-DRG-00018
- Line 1 – Section 1C – ULE90130-01-DRG-00019
- Line 1 – Section 1D – ULE90130-01-DRG-00020
- Line 1 – Section 2A – ULE90130-02-DRG-00004
- Line 1 – Section 3A – ULE90130-03-DRG-00170
- Line 1 – Section 3C – ULE90130-03-DRG-00172
- Line 1 – Section 5A – ULE90130-05-DRG-00221
- Line 1 – Section 5B – ULE90130-05-DRG-00222
- Line 1 – Section 5C – ULE90130-05-DRG-00223
- Line 1 – Overview - ULE90130-SW-DRG-00507
- Line 2 – Section 6 – ULE90130-06-DRG-00002
- Line 2 – Section 7A – ULE90130-07-DRG-00071
- Line 2 – Overview – ULE90130-SW-DRG-00508

APPENDIX B

INDIVIDUAL DOCUMENTS FOR DESIGN STUDIES

- Section 1 - Delay of Contract Award and Alignment of Delivery with Procurement
- Section 2 - St Andrew Square
- Section 3 - Princes Street
- Section 4 - Leith Walk
- Section 5 - Shandwick Place
- Section 6 - Picardy Place
- Section 7 - Foot of the Walk
- Section 8 - Haymarket
- Section 9 - Coltbridge Viaduct
- Section 10 - Craigleith Drive Bridge
- Section 11 - Edinburgh Park Station Viaduct
- Section 12 - Carrick Knowe Bridge
- Section 13 - Section 1A – Forth Ports
- Section 14 - Groathill Road South
- Section 15 - Telford Road/Crewe Toll Alignment
- Section 16 - Scottish Rugby Union
- Section 17 - Balgreen Road
- Section 18 - Gogarburn Tram Stop - RBS
- Section 19 - New Ingliston
- Section 20 - Ingliston Park and Ride
- Section 21 - Section 7A – Culverts 1, 2 & 3
- Section 22 - Constitution Street Tram Stop
- Section 23 - Leith Walk Substation
- Section 24 - Section 2A
- Section 25 - Noise Mitigation – Roseburn Corridor
- Section 26 - Granton Square
- Section 27 - Granton Square Terminus Layout/Oxcraig Street
- Section 28 - Newbridge Branch
- Section 29 - South Gyle Tram Stop
- Section 30 - Depot
- Section 31 - Edinburgh Airport
- Section 32 - Delay to Preliminary Design Review and Acceptance
- Section 33 - Delay to SDS Utilities Design
- Section 34 – RFI Register

APPENDIX C

REFERENCE DOCUMENTS

C - C

APPENDIX D

PARLIAMENTARY PLANS AND STAG DRAWINGS