

Edinburgh Tram Network

SDS Progress Report -

Period 26

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*Parsons Brinckerhoff Ltd
Edinburgh Tram Network
SDS Provider
CityPoint
1st Floor
65 Haymarket Terrace
Edinburgh, EH12 5HD*

*Telephone: 44(0) 131 623 8600
Facsimile: 44(0) 131 623 8601
Email: edinburghtram@pbworld.com*

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AUTHORISATION PAGE

Title: SDS Monthly Progress Report				
Approvals	Name	Position	Signed	Date
Author	 S. Ney	Design Manager		15 Mar 10
Approver	J Chandler	Project Manager		15 Mar 10

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21	15 Mar 10	Monthly Update	S. Ney

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Ver No	Date	Name	Role	Company
21	15 Mar 10	Martin Foerder	Project Director	BSC

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1 TOP ISSUES

1. Civil Design Completion (CDC) Programme
2. Receipt of outstanding information to complete design
3. Resolution to Outstanding SDS Changes
4. Resolution of the TRO Support Requirement
5. Revised Forth Ports Agreement and Closeout of Issues Arising
6. Tram Stop Informatives closeout
7. BAA Issues and Closeout
8. CEC Requirements for Picardy Place and Elder Street
9. Depot Design Completion
10. Picardy Place Closeout for TAA
11. Earthworks Issues and Closeout
12. Section 3 TAA Closeout

2 COMMERCIAL

2.1 General

This report covers Period 01st March 10 to 26th March 10. The progress is detailed for the time period of 15th February 10 to 12th March '10, during which actual events occurred. There are several critical issues outstanding on the project. These are presented per the drawings in Appendix A.

The CDC Programme was signed by both parties this week, to a value of £495,000.00.

2.1.1 Applications for Payment

SDS and BSC closed out the outstanding issues on the backlog of hours for the Extended Construction and Design Support, and have agreed a final certification value from for the period of 15 May 2008 to 06th November 2009. This is good progress. BSC have undertaken to write to SDS to formalise this agreement. SDS are keen to meet with BSC/ tie periodically to review the timesheets to prevent this discrepancy occurring again.

SDS met with BSC and tie related to the ongoing Extended Construction Support (ECS) function and the possibility of amending the current percentage ECS for a time period (possibly for a quarterly period in lieu of a month to month review) and having agreed percentages of time to be paid without the requirement for supporting timesheets. The organisation charts were agreed for March only, with tie, still on the basis that timesheets are required. BSC were asked by tie to provide a realistic lookahead construction programme for SDS, so that resource can be planned accordingly, taking into account lead times for site licensing etc...

2.1.2 Change Control

Approximately £3.1 million worth of Change Instruction has been instructed to SDS to date. This is a progression in terms of the change process, and SDS is keen to work on this success to 'unlock' other outstanding changes, and new changes that are instructed.

SDS, BSC and tie met on the 12th August '09 to discuss the 'Pre Novation' changes, and as an outcome of this meeting SDS have withdrawn 4no. changes. tie is due to reply to the other 2 changes, to confirm if they can be instructed. SDS continues to chase tie to resolve these 2 changes, and have been assured that this will be closed out ASAP.

BSC have instructed changes to the SDS Design as part of the CDC agreement.

- DCR numbers: 036, 103, 127, 132, 141, 151, 167, 170, 180, 185, 191, 198, 200, 202, 203.
- 75% Payment of original agreed estimate value. If additional value is agreed between BSC / tie, this additional amount will be paid to SDS for DCR numbers: 101, 102, 163, 169, 172, 181, 193, 201, 204, 205, 209, 211, 212, 213, 214, 216, 219, 220, 227.

SDS will support BSC in achieving resolution with tie for the above changes.

SDS still await Change Order for DCR0036 (BSC to confirm scope) & DCR0227 (SDS to submit estimate).

2.1.3 ATR's

Only 1no. ATR remains unapproved at this time.

2.2 Summary of Changes

- Changes Identified; 246
- Change Notification Received; 157
- Change Estimates Submitted; 142
- Changes Withdrawn/Closed; 63
- Change Instructions Received; 113

2.3 Programme

Version 55 of the programme was issued to BSC at the beginning of the period. Several queries and issues were raised by BSC which will be addressed with the release of Version 56.

SDS continues to work to the CDC programme to improve on the dates previously identified in V50. This proposal has been discussed several times between SDS and BSC, with the signing of a Memorandum of Understanding (MOU) to complete the works on this basis (with agreed additional resource) understood to be immanent.

SDS meets with BSC on a weekly basis to go through the progress of CDC completion.

3 APPROVALS

3.1 General

SDS is progressing to obtaining the final planning and technical approvals to complete the design. There has been a noticeable increase in the number of overall approvals required this month due to new instructions received and included in the programme. As such, the percentages indicate lower completion than last period.

From a total of 270 planning and technical approvals:

- 78% are approved (211).
- 6% are pending approval (16).
- 16% are to be submitted (43).

Current status (today) is:

88% Planning Approvals granted.

72% Technical Approvals granted.

The remaining outstanding approvals are either: 1) to be approved imminently, 2) have been subject to re-prioritisation and long standing changes, or 3) are new with recent changes instructed. Most of the new approvals are associated with Technical requirements due to OLE changes, including impact to structures and on-street roads impacts. Some of these approvals may become obsolete, as the changes required may not require formal re-approval, however this will not be known until the work is further progressed.

In order to complete to CEC:

- Roads Approvals and Prioritisation – Section 1C2 and the entirety of Section 3 need to be reviewed and approved by CEC. SDS understands that this is being completed in line with a prioritisation list.
- Instruct known changes.
- Freeze on any future changes to allow current scope to progress to completion.

It should also be noted that some of the changes now instructed by BSC may no longer be required as indicated by tie in recent change meetings (i.e. DCR0141).

The CEC/tie/BSC/SDS Approvals Task Force continues to meet fortnightly and is proving to be a productive catalyst for troubleshooting any Approval issues and clearly identifying actions for the group to resolve. The focus of this group has logically changed this month to focus on the Informatives arising, and a secondary meeting now occurs to go through the informatives on alternating weeks from the Approvals Task Force.

It is critical that a focus is maintained on the outstanding items so as not to lose sight of the outstanding requirements.

Various changes being instructed as part of the approvals process will also require updates to the planning approvals. These items have been included in this report upon receipt of the formal instructions. Variations to the planning approvals due to technical comments / Siemens designs are also not included. This information is now shown in the update to the Technical Look ahead. SDS has been advised that Siemens are undertaking their own approvals regime. Alignment of

planning drawings with technical comments is subject to final confirmation of the technical closeouts from CEC.

The Approvals Look Ahead and Approvals Trackers are emailed to BSC on a weekly basis for SDS scope of works.

3.2 Systemwide

3.2.1 Outstanding:

- Scottish Water Approval/Consents. Formal process now agreed and SDS has received the majority of the formal approvals. Section 3 approvals and Section 1C1/2 outstanding for reasons out with SDS control. Recent communication from SW indicates that Section 3A and 3B are now being progressed.

3.2.2 Progress

a) General

- DCR0036 works for reconstituted Planing VE is approximately 0% complete. Scope to be confirmed by tie/BSC and instructed.
- DCR0083 works to provide TRO informal consultation plans complete.
- DCR0101 works for wider area modelling approximately 90% complete.
- DCR0144 for Stage E drawings approximately 0% complete. SDS has issued letters to BSC identifying the current status of the issue raised by CEC and proposed resolution.
- DCR0214 works for provision of 110v power supply approximately 0% complete. SDS understands that BSC (Siemens) are continuing to discuss the requirements with tie. SDS have issued an RFI on this issue and confirmation of requirements.
- DCR0212 works for Tramstop Development Workshop approximately 40% complete.
- DCR0213 works for Substation Development Workshop approximately 30% complete
- DCR0216 works for Drainage Development Workshop approximately 20% complete.

b) TRO

- DCR0014 works to provide additional copies of TRO drawings complete.
- DCR0083 works to provide TRO informal consultation plans complete.
- DCR0215 works for additional changes to TRO drawings complete.
- Statutory Consultation completed. Draft comments received from CEC from Statutory Consultees. Meeting with BSC / SDS / **tie** held 17 November 09 to discuss issues raised. SDS to provide responses to comments once formally received from BSC.
- SDS submitted revised schedules and drawing based on informal comments from **tie**.
- SDS submitted 2 supporting documents for TRO process as a result of discussions with **tie**.
- A meeting was held between BSC / SDS / **tie** to resolve the outstanding change orders for TRO.
- **tie** to confirm level of assistance they require moving forward.

c) Traffic Modelling

- DCR0086 works for incorporating TAL 5/05 complete.
- Junction assessment report previously issued to BSC.
- All traffic modelling reports submitted to BSC and CEC
- Pre-presentation discussion with BSC on 11 March 10.
- Presentation to **tie** / CEC on 18 March 10.

d) Track and Trackform

- DCR0125 works for trackform ground improvement and vibration mitigation approximately 70% complete.
- DCR0206 works for DKE check against CAF tram complete. Report issued. Further work to confirm that required mitigations remove any clearance issues will be required culminating in issue of close out report. SDS has provided data on Operational Speed Limits to BSC to enable CAF to investigate potential for reduced DKE requirements.
- SDS undertaking revisions to tram stop design to accommodate revised dimensions for CAF. BSC to issue instruction.

e) Roads Design

- DCR0126 works for roads construction details methodology complete.
- Appendix 7/1 designs for Princes Street submitted and approved by CEC. Updated appendix to be provided to replace original 7/1.

- Meeting held with CEC to go through comments received. SDS reviewing comments and preparing responses.
- DCR0140 works for Roads construction analysis of results approximately 50% complete.

f) OLE and OLE Foundations

- DCR0130 works for Section 1 generic pole foundation designs 90% complete.
- DCR0127 for Building Fixing Owner agreements is approximately 75% complete.
- DCR0152 works for OLE pole foundations in Section 1A approximately 75% complete.
- DCR0153 works for OLE pole foundations in Section 1B approximately 75% complete.
- DCR0154 works for OLE pole foundations in Section 1C approximately 75% complete.
- DCR0155 works for OLE pole foundations in Section 1D approximately 75% complete.
- DCR0176 works for line 2 OLE layout and foundation drawings approximately 95% complete.
- DCR0177 works to amend OLE system documents approximately 60% complete.
- DCR0178 works to amend building fixing locations approximately 0% complete.
- DCR0179 works to provide alternative lighting design to accommodate relevant aspects of BSC OLE design approximately 70% complete.
- DCR0180 works for development workshop approximately 0% complete.
- DCR0227 works for OLE technical and planning alignment approximately 5% complete.

g) Ducting

- DCR0156 works for updating cable route and ducting layouts for Section 1B complete.
- DCR0171 works for Siemens cable pulling pits complete.

h) Office Move

- DCR0195 works for office move complete.

3.3 Section 1

3.3.1 Outstanding – Planning

- None

3.3.2 Outstanding - Technical

- 1C2, Roads with CEC. Being held due to prioritisation and CEC issues with modelling.

- 1C1 Drainage with designers awaiting confirmation of design.
- DCR0202 works for 1A Forth Ports Drainage – advised by CEC that this is a required approval. Instruction received. Tie have advised that Forth Ports drainage has now been adopted by CEC. Formal verification required. Approximately 80% complete.

3.3.3 Subsection 1A1 – Dock Gates to Foot of the Walk

a) Roads, Street Lighting, Landscaping, Drainage 1A1

- DCR0098 works to eliminate tree build outs work complete.
- DCR0136 works for new demarcation request by CEC complete.
- IFC already issued.
- Closeout Report issued to CEC.
- Closeout comments received. IFC re-issued based on closeout comments.
- DCR0242 - CEC raised new issue about additional wider area signing. SDS sent letter to BSC. Change order required.

b) Tram Stop – Bernard Street (Ch 102+240)

- IFC already issued.

c) Tram Stop – Foot of the Walk (Ch102+700)

- IFC already issued.

3.3.4 Subsection 1A2 – Victoria Docks Entrance Bridge to Dock Gates

a) Roads, Street Lighting, Landscaping, and Drainage

- DCR0096 works for splitting Prior Approval batch 1/02 complete.
- DCR0103 works for OLE poles at Tower Place junction complete.

- DCR0136 works for new demarcation request by CEC complete.
 - IFC already issued.
 - Closeout Report issued to CEC.
 - Closeout comments received. . IFC re-issued based on closeout comments.
 - Forth Ports raised new issued about adding additional access points near the casino. SDS sent letter to BSC. Change order required.
- b) Tram Stop – Port of Leith (Ch 101+780)
- IFC already issued.
- c) Victoria Dock Entrance Bridge – S16 (Ch 101+370)
- IFC already issued.
 - Additional change to containment provision required. SDS assessing status.
- d) Tower Place Bridge - S17 (Ch101+470)
- IFC already issued.
 - Change notice issued to review ramp, coping layouts, and Siemens OLE design. SDS evaluating change requirements.

3.3.5 Subsection 1A3– Ocean Terminal to Victoria Docks Entrance Bridge

- a) Roads, Track, Street Lighting and Landscaping
- IFC to be issued by end of reporting period.
 - Planning condition by CEC in conflict with CEC TAA approval. SDS working with CEC for resolution.
 - Forth Ports - Final agreement between CEC and Forth Ports on the proposed bypass road (Road 8) pending.
 - DCR0100 works for Road 8 works complete.
 - SDS has requested copy of agreement with Scottish Government and designs for the movement of the access gate to the Scottish Government complex with Forth Port has indicated is being completed. SDS has completed review and assessment of required gate move in line with request by BSC and ATR approved.
 - DCR0166 works for revised Road 8 requirements complete.
 - DCR0175 works for alteration to Road 8 alignment complete.
 - SDS issued drawing under ATR0102 showing potential road shift as requested by tie.
 - IFC issued.
- b) Drainage – Subsection 1A3 – Ocean Terminal to Port of Leith
- Approved by CEC and Scottish Water.

- Revised design prepared to align with concept on Forth Ports Employers Requirements.
- Issued to **tie** to obtain Forth Ports concurrence.
- SDS responded to letter points to assist BSC in response to **tie**.
- SDS revising drainage per agreement with **tie**. SDS provided revised design to **tie** for **tie** to obtain Forth Ports acceptance with respect to future provision. Confirmation from **tie** required.

c) Tram Stop – Ocean Terminal (Ch 100+950)

- Approved by CEC. Comments addressed.
- IFC issued.

3.3.6 Subsection 1A4

a) Roads, Track, Street Lightning and Landscaping – Subsection 1A4 – Newhaven to Ocean Terminal

- IFC already issued (without pending changes noted below).
- DRC0131 works for feasibility study at ADM Milling complete.
- DCR0136 works for new demarcation request by CEC complete.
- DCR0141 works for new cycleway connection outside LOD approximately 0% complete. **tie** indicated at change meeting on 05 March that this change is no longer desired. Formal confirmation required from BSC.
- DCR0147 works for change due to traffic signal modification outside LOD requested by CEC – works approximately 90% complete.
- New change due to CEC request for connection of high and low level at Lindsay Road Retaining Wall. Instruction awaited.
- Closeout report issued to CEC (not including new changes noted above). CEC letter of 18 September 09 indicates refusal to confirm closeout without new changes being incorporated.
- DCR0244 issue with new radio mast. Change order required.

b) Drainage – Subsection 1A4 Newhaven to Ocean Terminal

- Prior Approval granted.
- Forth Ports have completed construction of a new substation and access drive through this area. No as-built information available. DCR0111 has been instructed and survey procured. SDS has formally advised of issues arising from new as-built condition by Forth Ports. Change order received.

c) Tram Stop – Newhaven (Ch 100+080)

- IFC already issued.

d) Lindsay Road Retaining Wall – W1 (Ch 100+170)

- IFC already issued.

- New change due to CEC request for connection of high and low level at Lindsay Road Retaining Wall. Change order required.

e) Substation – Leith Sands – SS16 (Ch 100+570)

- New change due to Forth Ports having completed construction of a new substation and access drive through this area. No as-built information available.
- DCR0111 works survey complete. Survey has indicated that Forth Ports have not constructed their infrastructure in location originally provided to SDS. SDS has advised of issues arising from new as-built condition by Forth Ports.
- DCR0203 works for redesign of substation approximately 30% complete.

3.3.7 Subsection 1B

a) Roads, Track, Drainage, Street Lighting, Landscaping, and Drainage – Subsection 1B

- DCR0064 works for additional Balfour Street crossing complete.
- DCR0136 works for new demarcation request by CEC complete.
- IFC already issued.
- Closeout Report Issued to CEC. Acceptance received with comments.
- CEC provided letter noting closeout of Road Safety Audit and requirements.
- SDS working with BSC on closeout of drainage issues raised.

b) Tram Stop – Balfour Street (Ch 110+670)

- IFC already issued.

c) Substation – Leith Walk – SS11 (Ch110+380)

- IFC already issued.

3.3.8 Subsection 1C1 – Section 1B to north of Annandale Street

a) Roads, Track, Street Lightning, Landscaping, and Drainage – Subsection 1C1 – London Road

- IFC already issued.
- SW approved drainage via email. Design to be submitted to Business Stream and Scottish Water for formal approval with 1C2 due to interrelationship.
- Closeout Report issued to CEC.

b) Tram Stop – McDonald Road (Ch110+670)

- IFC already issued.
- Revised IFC issued reflecting shift in Tramstop due to levels issues arising.

3.3.9 Subsection 1C2 – North of Annandale Street to Broughton Street

a) Roads, Track, Street Lighting and Landscaping – Subsection 1C2 – London Road to Picardy Place

- TAA submittal with CEC for approval. SDS submitted supplemental information based on initial comments received from CEC via letter.
- Prior Approval granted.
- SW approved drainage via email. Design to be submitted to Business Stream and Scottish Water for formal approval with 1C1 due to interrelationship.
- DCR0106 issued for works outside LOD on Little King Street. Works 10% complete. Field visit identified issues with instruction provided to reverse direction of street. SDS provided email to CEC outlining issues and proposal. Informal response from CEC indicated no longer desirable to reverse direction of street. Formal CEC response required to confirm. Design on hold awaiting confirmation.
- DCR0172 works for Leith Walk underground structure approximately complete.
- DCR0173 change instruction issued to investigate Stage 1 and 2 works for developer request. Works approximately 95% complete. SDS submitted advance letter on traffic modelling results 22 Dec 09. Results report issued to BSC. BSC to confirm if meeting with **tie** / CEC is required.
- Change due to CEC revised requirements at north side of Picardy Place due to traffic modelling issues raised by CEC. Letter received from CEC on 18 September 09 indicating changes required to the area. Change order received. Change estimate submitted.

b) Substation – Cathedral Lane – SS12 (Ch120+400)

- Building Warrant granted.
- Full planning permission granted.
- IFC Issued.
- DCR0167 works for developer request to provide new building works approximately 15% complete. Survey access requested.

c) Tram Stop – Picardy Place (Ch120+600)

- TAA submittal with CEC for approval. Initial informal comments from CEC on submittal addressed
- Prior Approval granted.

3.3.10 Subsection 1C3 – Broughton Street to Section 1D

a) Roads, Track, Street Lighting and Landscaping – Subsection 1C3 – York Place

- IFC already issued.
- Closeout report issued to CEC. Acceptance received with comments.
- DCR0209 works for Crawley tunnel design approximately 95% complete.
- DCR0219 works for new Frederick Street crossing approximately 5% complete. Meeting held with CEC on site to go through requirements.

- Letter received from CEC on 18 September 09 indicating changes required to the Elder Street junction and removal of bus lane along York Place. Change order required.

b) Tram Stop – Princes Street (Ch121+950)

- IFC already issued.

c) Tram Stop – St Andrew Square (Ch121+150)

- IFC already issued.

3.3.11 Subsection 1D

a) Roads, Track, Drainage, Street Lighting and Landscaping – Subsection 1D

- DCR0011, 11a works for Shandwick Place preferential treatments complete.
- DCR0063 works for design alternative to Haymarket junction complete.
- DCR0075 works for Haymarket taxi stance complete.
- DCR0105 works for West End tram stop review complete
- DCR0149 works for Shandwick Place TRO signage complete.
- IFC already issued.
- Closeout Report issued to CEC. Acceptance received with comments.
- DCR0193 works for Haymarket street light approximately 0% complete.
- DCR0211 works for West Maitland tunnel design approximately 95% complete.
- CEC have indicated the potential that they may wish to change the concept at Torphichen Street. Clarification required and instruction as appropriate required.
- Requirement to change kerb lines and traffic movements at Grosvenor Street. Resolution of TRO change orders required. SDS issued letter to BSC.
- SDS responding to issued raised by CEC for informatives closeout of walls.

b) Tram Stop – Shandwick Place (Ch130+710)

- DCR0011, 11a works for Shandwick Place preferential treatments complete.
- IFC already issued.

3.4 Section 2

3.4.1 Subsection 2A

a) Roads, Track, Street Lighting and Landscaping – Subsection 2A

- IFC already issued.
- Closeout Report issued to CEC.
- Revised street lighting Issued for Construction which deals with agreed Operational Design Review comment.

- Revised design for Phase 1A/1B separation underway. Revised approvals required. Approximately 20% complete.
- b) Drainage
- IFC already issued.
- c) Substation – Russell Road – SS03 (Ch 200+790)
- IFC already issued
- d) Russell Road Bridge – S20 (Ch 200+770)
- IFC already issued
- e) Substation – Haymarket – SS02 (Ch 200+070)
- Prior Approval granted and Siemens now to complete the design and issue the IFC.
- f) Tram Stop – Haymarket (Ch 200+070)
- IFC already issued.
 - Revised design issued to CEC to deal with comments received on bus and tram shelter location and integration.
- g) Haymarket Station Viaduct – S19 (Ch 200+020)
- DCR0113 works for internal retaining wall complete.
 - IFC already issued.
 - DCR0169 works for new cycle provision on steps approximately 0% complete. **tie** have informally discussed with CEC and indicated via email to SDS that this change may not be required. **tie** to confirm change status with BSC. SDS instructed by BSC to complete as required as part of CDC. SDS queried CEC via email on 10 March 10 for status of closeout..
- h) Verity House Access road retaining wall
- IFC already issued.
- i) Crew Relief Facility
- Building Warrant granted.
 - IFC issued.
 - SDS attended meeting with **tie** / BSC on 04 February 10 to go through **tie** requested changes. **tie** have now reverted back to approved design. SDS responded to additional queries from **tie** to BSC. ATR for this meeting approved.

3.5 Section 3

3.5.1 Outstanding – Planning: None

3.5.2 Outstanding - Technical:

- All 6 technical approvals that are with CEC for consideration are currently on hold due to the agreed prioritisation list between **tie** and CEC. SDS is in delay with respect to these items.
- Drainage information submitted to Scottish Water (SW).

3.5.3 Subsection 3A

a) Roads, Track, Street Lighting and Landscaping – Subsection 3A

- Prior Approval achieved.
- Roads, Drainage and Street Lighting IFC is outstanding as TAA comments are outstanding. Section 3 has been de-prioritised by CEC therefore it is not know at present when comments are likely to be received. Letter sent to BSC 08 July 2008. **tie** responded 07 August 2008 (SDS received 27 August 2008) accepting there has been delay to IFC. **tie** stated expected IFC submission 09 August 2008, which was not achieved. The de-prioritisation is apparently as **tie** to CEC agreement. SDS awaits approval and any comments.

b) Drainage

- Submittal with SW for approval.
- Section 3 has been de-prioritised by CEC therefore it is not know at present when comments are likely to be received. Letter sent to BSC 08 July 2008. **tie** responded 07 August 2008 (SDS received 27 August 2008) accepting there has been delay to IFC. **tie** stated expected IFC submission 09 August 2008, which was not achieved. The de-prioritisation is apparently as **tie** to CEC agreement. SDS awaits approval and any comments.

c) Tram Stop – Crewe Toll for Western General (Ch 303+010)

- IFC already issued.

d) Roseburn Corridor Retaining Structure H (Ch 302+600) (Ch 303+030)

- IFC already issued.

e) Tram Stop – Telford Road (Ch 302+604)

- IFC already issued.

f) Roseburn Corridor Retaining Structure G (Ch 302+300) (Ch 302+600)

- IFC already issued.

g) Telford Road Bridge – S10 (Ch 302+220)

- IFC already issued.

- h) Groathill Road South Bridge – S09 (Ch 302+010)
 - IFC already issued.
- i) Substation – Craigleith – SS13 (Ch 301+960)
 - Prior Approval granted and Siemens now to complete the design and issue the IFC.
- j) Roseburn Corridor Retaining Structure F (Ch301+900) (Ch 302+300)
 - IFC already issued.
- k) Tram Stop – Craigleith (Ch 301+860)
 - IFC already issued.
- l) Queensferry Road Bridge – S07 (Ch 301+700)
 - IFC already issued.
- m) Holiday Inn Access Bridge – S07 (Ch 301+630)
 - IFC already issued.
- n) Roseburn Corridor Retaining Structure E (Ch 301+600) (Ch 301+900)
 - IFC already issued.
- o) Craigleith Drive Bridge – S06 (Ch 301+320)
 - IFC already issued.
- p) Roseburn Corridor Retaining Structure D (Ch 301+200) (Ch 301+600)
 - IFC already issued.
- q) Ravelston Dykes Bridge – S05 (Ch 300+960)
 - IFC already issued.
- r) Roseburn Corridor Retaining Structure C (Ch 300+900) (Ch 301+200)
 - IFC already issued.
- s) Tram Stop – Ravelston (Ch 300+860)
 - DCR0005 works for landscaping completed.
 - IFC already issued.
- t) St George's School Footbridge – S04 (Ch 300+650)
 - IFC already issued.

- u) St George's School Access Bridge – S03 (300+640)
 - IFC already issued.
- v) Roseburn Corridor Retaining Structure B (Ch 300+500) (Ch 300+900)
 - IFC already issued.
- w) Coltbridge Viaduct – S02 (Ch 300+470)
 - IFC already issued.
- x) Tram Stop – Roseburn (Ch 300+260)
 - IFC already issued.
- y) Roseburn Terrace Bridge – S01 (Ch 300+210)
 - IFC already issued.
- z) Roseburn Corridor Retaining Structure A (Ch 300+200) (Ch 300+500)
 - IFC already issued.

3.5.4 Subsection 3B

- a) Roads, Track, Street Lighting and landscaping – Subsection 3B
 - Roads, Drainage and Street Lighting IFC is outstanding as TAA comments are outstanding. Section 3 has been de-prioritised by CEC therefore it is not know at present when comments are likely to be received. Letter sent to BSC 08 July 2008. **tie** responded 07 August 2008 (SDS received 27 August 2008) accepting there has been delay to IFC. **tie** stated expected IFC submission 09 August 2008, which was not achieved. The de-prioritisation is apparently as **tie** to CEC agreement. SDS awaits approval and any comments.
- b) Drainage – Subsection 3B
 - Submittal with SW for approval.
 - Section 3 has been de-prioritised by CEC therefore it is not know at present when comments are likely to be received. Letter sent to BSC 08 July 2008. **tie** responded 07 August 2008 (SDS received 27 August 2008) accepting there has been delay to IFC. **tie** stated expected IFC submission 09 August 2008, which was not achieved. The de-prioritisation is apparently as **tie** to CEC agreement. SDS awaits approval and any comments.
- c) Tram Stop – Caroline Park (Ch 311+310)
 - IFC already issued.

d) Substation – Granton Mains East – SS14 (Ch 310+950)

- Prior Approval granted and Siemens now to complete the design and issue the IFC.

e) Tram Stop – West Pilton (Ch 310+670)

- DCR0067 works for annotated drawings complete.
- IFC already issued.

f) Crewe Road Gardens Bridge – S12 (Ch 310+390)

- IFC already issued.

3.5.5 Subsection 3C

a) Roads, Track, Street Lighting and Landscaping – Subsection 3C

- Roads, Drainage and Street Lighting IFC is outstanding as TAA comments are outstanding. Section 3 has been deprioritised by CEC therefore it is not know at present when comments are likely to be received. Letter sent to BSC 08 July 2008. **tie** responded 07 August 2008 (SDS received 27 August 2008) accepting there has been delay to IFC. **tie** stated expected IFC submission 09 August 2008, which was not achieved. The deprioritisation is as **tie** to CEC agreement. SDS awaits approval and any comments.

b) Drainage – Subsection 3C

- Submittal with SW for approval.
- Section 3 has been de-prioritised by CEC therefore it is not know at present when comments are likely to be received. Letter sent to BSC 08 July 2008. **tie** responded 07 August 2008 (SDS received 27 August 2008) accepting there has been delay to IFC. **tie** stated expected IFC submission 09 August 2008, which was not achieved. The de-prioritisation is apparently as **tie** to CEC agreement. SDS awaits approval and any comments.

c) Tram Stop – Saltire Square (Ch 320+370)

- IFC already issued.

d) Tram Stop – Granton (Ch 321+120)

- IFC already issued.

e) Substation – Granton Road – SS15 (Ch 400+020)

- Prior Approval granted and Siemens now to complete the design and issue the IFC.

3.6 Section 5

3.6.1 Outstanding - Planning:

Approvals:

- 5/07a – Murrayfield Turnstiles and Accommodation Works (Full Planning Permission).change order has been received. Design was on hold for a period of time, however is now underway.
- 5/07d – Murrayfield Accommodation Works (Advertising Consent). Change order has been received. Consultation with CEC underway.
- 5/23 – Roseburn Street Bridge – new prior approval required to accommodate change in design. Informal consultation underway, CEC requested additional changes at pre-submittal meeting on 08 February. SDS evaluating requests and will advise.
- 5/24 – Gogar Interchange. SDS is preparing this new design in accordance with the Network Rail guidance and letter received from CEC. BSC have advised that this design should be completed in line with current design in the area (i.e. no instruction to construct a revised design). SDS has formally written to BSC to confirm. SDS awaiting formal resolution on relocation of retaining wall due to sewer relocation by others. Prior approval to be submitted by end of reporting period assuming resolution provided immanently
- 5/30 - Tram Stop Gogarburn. Change Order received. Design progressing. Approximately 20% complete. Informal consultation to be initiated with CEC by end of reporting period.

Building Warrants:

- 5/05c - JB McLean – revised application submitted, pending consideration. SDS to submit for change order for change to application / additional fee due to BSC undertaking demolition in advance of warrant being granted.
- 5/07c – Murrayfield Accommodation Works. Change order has been received. Consultation underway with CEC.
- Potential demolition warrants required at properties 96 and 101. Instruction required for SDS to progress.

3.6.2 Outstanding - Technical:

- Revised Roseburn Street Bridge and retaining structures – revised designs have been issued to CEC for review and approval.

3.6.3 Subsection 5A

a) Roads, Track, Street Lighting and Landscaping – Subsection 5A

- DCR0201 works for Network Rail Turning head lighting complete by end of reporting period.
- IFC already issued.
- Closeout Report issued to CEC.
- Revised design for Roseburn Street Bridge VE underway.

b) Drainage – Subsection 5A

- IFC already issued.

c) Balgreen Road Tram Bridge – S22 (Ch 511+400)

- IFC already issued

- d) Balgreen Road Network Rail Access Bridge (Ch 511+410)
- IFC issued.
 - DCR0016 works for amended technical design complete.
 - Design issued to Network Rail and CEC. Form B approval received from NWR.
 - Minor comments received from CEC via email. SDS has addressed.
- e) Baird Drive Retaining Wall – W8 (Ch 511+190)
- IFC already issued
- f) Water of Leith Bridge – S21E (Ch 511+060)
- IFC already issued.
 - Revised IFC issued based on DCR0076 works for sewer / pile conflict.
- g) Murrayfield Training Pitches Retaining Wall (Ch 510+870) (Ch 511-060)
- IFC already issued
- h) Murrayfield Stadium Underpass – S21C (Ch 510+860)
- IFC already issued
- i) Murrayfield Stadium retaining Wall – S21B (Ch 510+650) (Ch 510-870)
- DCR0018 works for patterned finish complete.
 - DCR0157 works for additional GI complete.
 - IFC already issued
- j) Roseburn Street Bridge – S21A (Ch 510+580)
- DCR0024A works for preliminary VE redesign complete.
 - DCR0024 works for detailed VE redesign approximately 75% complete.
 - New TAA and Prior Approval required.
 - Several pieces of information were outstanding a number of weeks, as outlined in various correspondence between SDS, BSC, and **tie**. Design now progressing with information recently provided.
 - Bridge and retaining structures issued to CEC for technical approvals.
 - Informal consultation started with planning. Meeting held 06 November 09 - comments received and under consideration. **tie** have confirmed that design is to remain as proposed as part of VE and be submitted to CEC regardless of CEC comments at informal consultation. Pre-submittal meeting held 08 February 10, and CEC are looking for additional revisions. SDS evaluating requests and to advise.
- k) Murrayfield Tramstop Retaining Wall – W18 (Ch 510-450)
- Change Order received.
 - SDS progressing design.

- l) Tram Stop – Murrayfield (Ch 510-470)
 - DCR0019 works stop design change complete.
 - IFC issued.
- m) Russell Road Retaining Wall 1 – W3 (Ch 510-200)
 - IFC already issued.
- n) Russell Road Retaining Wall 2 – W4 (Ch 510-150)
 - IFC already issued
- o) SRU / Murrayfield Accommodation Works (DCR0114 / DCR0194)
 - Coordination with SRU on-going.
 - Planning application submitted. Approval granted.
 - Detailed points raised by planning for fence type and gate position being addressed with detailed design. Sample provided and agreed.
 - Building warrant package under development for submittal February 2010.
 - Design approximately 65% complete.

3.6.4 Subsection 5B

- a) Roads, Track, Drainage, Street Lighting and Landscaping – Subsection 5B
 - DCR0090 works for environmentally friendly lighting complete.
 - DCR0092 works for cycleway design at Edinburgh Park station complete.
 - IFC already issued
 - Closeout Report issued to CEC. Acceptance received with comments.
 - DCR0168 works for revisions to WEBS trackform approximately 20% complete.
 - DCR0185 works for WEBS GI approximately 0% complete.
- b) Drainage
 - IFC already issued
- c) Tram Stop – Edinburgh Park Central (Ch 524+530)
 - IFC already issued
- d) Edinburgh Park Station Bridge – S27 (Ch 524+010)
 - DCR0027 – awaiting scope clarification from BSC for VE works.
 - DCR0150 works for U12 Beams complete.
 - IFC already issued

- e) Tram Stop – Edinburgh Park Station (Ch 523+740)
 - IFC already issued
- f) Tram Stop – Bankhead (Ch 522+960)
 - IFC already issued
- g) Bankhead Drive Retaining Wall – W11 (Ch 522+800)
 - IFC already issued
- h) South Gyle Access Bridge – S26 (Ch 522+750)
 - IFC already issued
 - Pending change at South Gyle Access Bridge. Partial instruction received.
 - DCR0133 works for preliminary design of option 4 complete.
 - SW has indicated that they have not previously accepted principle of instruction provided by **tie. tie** to confirm.
 - Additional works are required based on tie selected alternative. SDS to identify in Preliminary Design report. Change order required for additional works.
 - Preliminary Design Report submitted.
- i) Substation – Bankhead Drive – SS22 (Ch 522+580)
 - Prior Approval already Granted, Siemens to complete the design and issue IFC.
- j) Tram Stop – Saughton (Ch 521+690)
 - IFC already issued
- k) Carrick Knowe Underbridge – S23 (Ch 521+030)
 - IFC already issued.
 - DCR0084 works for beam design complete.
 - DCR0190 works for beam design complete.
 - Revised IFCs issued.
- l) Substation – Jenners Depository (Balgreen) – SS21 (Ch 520+060)
 - Prior Approval already Granted, Siemens to complete the design and issue IFC.
- m) Tram Stop – Balgreen (Ch 520+050)
 - IFC already issued

3.6.5 Subsection 5C

a) Roads, Track, Drainage, Street Lighting and Landscaping – Subsection 5C

- DCR0070 works for hedge north of tramway complete.
- DCR0107 works for Gyle stop cycleway widening complete.
- DCR0108 works for Gogar Roundabout lighting complete.
- IFC already issued
- Closeout Report issued to CEC.
- DCR0104 change instruction received to upgrade Lochside Avenue junction. Updated TAA progressing, submittal imminent. Further CEC clarification on lighting requirements to be confirmed as part of potential VE opportunity.
- DCR0102 works for operator comments approximately 0% complete.

b) Drainage

- IFC already issued

c) Tram stop – Gogarburn (Ch 531+860)

- DCR0170 works for RBS Tramstop existing utility works approximately 0% complete.
- DCR0132 works for RBS tram stop future proofing. Confirmation of scope received. Approximately 20% complete.

d) Depot Access bridge – S32 (Ch531+230)

- IFC already issued.

e) A8 Underpass – S28 (Ch 531+000)

- DCR0028 – awaiting scope clarification from BSC for VE works.
- DCR0116 works for underpass piling options complete.
- IFC already issued.
- DCR0139 works for modification of permanent works to facilitate temporary work approximately 80% complete.

f) Tram Stop – Gyle Centre (Ch 530+770)

- IFC already issued.

g) Gyle Stop Retaining Wall – W19 (Ch 530+750)

- IFC already issued.

h) Tram Stop – Gogar Interchange

- DCR0082 change instruction for new tram stop issued. Works approximately 50% complete.
- Coordination with Network Rail designer on-going

- Informal Consultation underway with CEC.
- Clarification on delivery of landscaping on south side of A8 required from **tie**.
- Written confirmation from **tie** / BSC of new design approach to be provided.
- NWR confirmation of mast position to be confirmed.
- SDS awaiting clarification on location of retaining wall due to relocation of sewer pipe by others.

3.7 Section 6

3.7.1 Outstanding:

- Confirmation being sought on requirements due to revised earthworks (north and south batters)
- DCR0026 – awaiting scope clarification from BSC for VE works.

3.7.2 Subsection 6A

a) Roads, Street Lighting & Landscaping – Subsection 6 – Depot

- DCR0145 works for turning head complete.
- DCR0148 works for street lighting complete.
- IFC already issued.
- Closeout report submitted to CEC.
- CEC have raised issue related to departure on depot access road. SDS met with CEC on 14 January 10 and 12 February 10 to discuss issue and resolution. Additional information requested and issue being progressed. Formal letter received from CEC.

b) Drainage – Subsection 6 – Depot

- Design received formal approval from SW.
- Revised IFC submitted.

c) Depot Earthworks

- IFC already issued.
- DCR0160 works for modifications to north batter complete.
- DCR0184 works for stability of north batter drainage complete.
- DCR0204 works for BAA drainage complete.
- Revised IFC for north batter drainage design issued.

d) Depot Internal Retaining Walls

- IFC already issued.
- On-going discussion between **tie** and BSC regarding use of soil nail slope.

e) Depot Ductwork – External Services

- IFC already issued.

- SDS progressing with revised design based on Siemens requirements provided.
- f) Depot General Layout
- IFC already issued.
 - DCR0163 works for operational design review of depot approximately 0% complete.
 - DCR0181 works for additional design approximately 75% complete.
 - DCR0220 for Compressed air supply complete.
- g) Depot Building Foundations
- IFC already issued.
- h) Depot Main Building
- IFC already issued.
- i) Ground Floor Slab and Pits
- IFC already issued.
 - Revisions to IFC undertaken to account for Siemens design element details provided.
 - DCR0188 works for pit for manual bogie turntable approximately 60% complete.
- j) Depot Building Steel Superstructure
- IFC already issued.
 - Reviews of contractor drawings on-going.
- k) Track – Subsection 6 – Depot
- DCR0151 works for west turnout revision complete.
 - IFC already issued.
- l) Depot Halt
- IFC already issued.
- m) OLE in Depot
- IFC already issued.
 - SDS received letter confirming Siemens pole layout. Foundation layout drawings to incorporating Siemens design have been issued IFC.
- n) Substation – Gogar Depot – SS01
- IFC already issued.

3.8 Section 7

3.8.1 Outstanding - Planning:

Approvals:

- 7/29a – Airport Kiosk (Full Planning Permission). Change order has been received.

- Revised applications to deal with NIL changes.
- Revised applications to deal with revised earthworks.

Building Warrants:

- 7/29b – Airport Kiosk. Change order has been received.

3.8.2 Subsection 7A

a) Roads, Track, Drainage, Street Lighting and Landscaping

- IFC already issued
- Closeout Report issued to CEC.
- DCR0134 works for NIL future proofing approximately 10% complete. Track alignment completed and provided to NIL for acceptance. Coordination meeting held with NIL on 19 November 09. Additional clarifications provided to NIL and tie as requested via email.
- Revised earthworks and landscaping layout required due to topo issues arising and design update a Gogar. Amendment to Prior Approval required.
- Revised track vertical alignment issued.
- Revised earthworks and drainage design issued.
- Design progressing on earthworks solution at Gogar Landfill.
- DCR0191 works for Gogar Landfill utility diversion approximately 0% complete.
- DCR0198 works for BAA dualling future proofing approximately 0% complete.
- DCR0200 works for BAA new Burnside Road alignment approximately 0% complete.
- DCR0205 works for CCRC interfaces with slope and drainage approximately 0% complete.

b) Species Mitigation Plan

- Issued as approved by SNH

c) Tram Stop – Edinburgh Airport (Ch 712+560)

- IFC Issued (less pending changes).
- DCR0095 change order for Airport Kiosk received. Design progressing.
- DCR0135 works for interface with CCRC scheme complete.
- Informal consultation meeting scheduled with CEC on 01 December 09.
- DCR0146 works for Airport Canopy approximately 50% complete.
- CEC have raised objection to detail. SDS instructed to hold submittal of Planning Application (email from tie to BSC on 13 Jan 09) and provide information instead for further consultation. Information submitted to CEC as requested.
- Additional meeting held with tie / BAA

d) Gogar Burn Retaining Wall Two – W14 (Ch 712+220) (Ch 712+570) –

- DCR0015 works redesign of wall complete.

- DCR0091 works amending wall finish complete.
 - IFC already issued.
 - Issue identified with burn migration. Change instruction required.
 - Issue identified with BAA acceptance to be resolved with redesign.
 - Formal letter received from BSC.
- e) Gogar Burn Retaining Wall One – W14 (Ch 712+100) (Ch 712+190)
- DCR0091 works amending wall finish complete.
 - IFC already issued
 - Issue identified with burn migration. Change instruction required.
 - Issue identified with BAA acceptance to be resolved with redesign.
 - Formal letter received from BSC.
- f) Gogarburn Culvert Three – S34 (Ch712+030)
- IFC already issued
- g) Gogarburn Culvert Two – S31 (711+830)
- IFC already issued
- h) Tram Stop – Ingliston Park & Ride (Ch 711+740)
- IFC already issued
- i) Substation – Tram Eastfield Road (Ch 711-630)
- Prior Approval granted. Siemens to issue IFC upon completion of their design.
- j) Gogarburn Culvert One – S30 (Ch 711+420)
- IFC already issued
- k) Gogarburn Bridge – S29 (Ch 710+400)
- DCR0069 works complete.
 - IFC already issued

4 ISSUE FOR CONSTRUCTION PROGRESS SUMMARY

As of 12 March 2010, the Issue for Construction packages status is as follows:

From a total of 114 IFC Packages, 102 (90%) have been delivered.

The remaining packages outstanding are being finalised, and have been subject to changes and/or delays due to resolution of comments. It should be noted that several IFC drawings already submitted will require to be updated in line with the emerging changes.

5 UTILITIES

5.1 Utilities

5.1.1 Section 1A

- Under instruction from tie SDS have supplied an additional resource to work on resolving Section 1A utilities issues.
- Section 1A (1-5) IFC drawings have been issued to **tie** (Excluding SW foul for Plate 2 only which require further information, tie undertaking survey).
- Section 1A (6-10) IFC drawings have been issued to **tie**.
- Section 1A (11-12) IFC drawings have been issued to **tie**.
- Section 1A (13-20) IFC drawings have been issued to **tie**.
- Change Order issued to SDS for re-design of Baltic Street, tie/SDS held first design meeting at which tie highlighted that they require additional diversions to be design and that an additional change request would be submitted. Trial pit work undertaken by tie and information forwarded to SDS for revised change estimate. SDS submitted revised estimate and requested to amend estimate with further additional scope.
- SDS asked to review Clancy Docwra design proposal and accept on TQ, SDS began review and awaiting further information from tie

5.1.2 Section 1B

- IFC drawings have been issued to **tie**.
- The IDC has been carried out and issued to **tie** showing the conflicts between the Utilities IFC infrastructure design and the Approved infrastructure design.

5.1.3 Section 1C

- IFC drawings have been issued to **tie**
- 1C (Picardy Place) **tie** have requested that SDS compare the IFC design with the roads and track layout issued to CEC for approval, The IDC has been carried out and issued to **tie** showing the conflicts between the designs.
- The redesign of the Mound Gas design has been issued IFC.
- SDS have produced revised IFA drawings for Broughton St to North St Andrews St showing the remaining works to completion as agreed by tie. SDS chasing SUC approvals, currently issues with Thus and SW
- The IDC has been carried out and issued to **tie** showing the conflicts between the Utilities IFC infrastructure design and the Approved infrastructure design.

5.1.4 Section 1D

- IFC drawings have been issued to **tie**.
- Haymarket Junction utilities redesign is complete and issued IFC.
- SDS have produced revised IFA drawings for Shandwick Place to Haymarket showing the remaining works to completion as agreed by tie. SDS chasing SUC approvals, SGN comments incorporated and IFA re-issued.

- Under instruction from tie SDS have supplied an additional resource to work on resolving Sections 1B-1D utilities issues.
- The IDC has been carried out and issued to **tie** showing the conflicts between the Utilities IFC infrastructure design and the Approved infrastructure design.

5.1.5 Section 2A

- IFC drawings have been issued to **tie**

5.1.6 Section 5A

- IFC drawings have been issued to **tie**
- Water of Leith Sewer lining issued IFC to **tie**.
- Roseburn St Viaduct Change means that the utility diversions need to be reassessed in proximity to the new structure. Coordinating with Network Rail/tie to resolve remaining outstanding issues.

5.1.7 Section 5B

- IFC drawings have been issued to **tie**.
- All sewer design issued for IFC except at South Gyle Access, design approved by Scottish Water. SDS have produced Prelim Design for revised scheme as instructed against Option 4. Awaiting further instruction from BSC
- SDS working with tie to amend original SDS to reflect site conditions.

5.1.8 Section 5C

- IFC drawings have been issued to **tie**.
- SDS amaneding Edinburgh Park utilites design based on site conditions and the supply of new as-builts.

5.1.9 Section 6A

- IFC drawings have been issued to **tie**.

5.1.10 Section 7A

- 7A was carried out under RATS, **tie** to supply XYZ coordinate as-builts for comparison to design

5.1.11 Section 7B (utilities only section)

- Design being carried out by others (not SDS scope)

6 ADDITIONAL CONSTRUCTION SUPPORT

6.1 TQs

- 121 TQs received during the reporting period and 108 responded to; refer to the TQ register referenced below.

6.2 Month Ahead Org Chart and Activities

Proposed staffing for the upcoming month, based on anticipated construction activities from the BSC look-ahead programme is included as Appendix B.

Roads Construction Support Teams

- Support and attendance to section progress meetings
- Section 1C/1D (Princes Street)
 - a. Review of remedial/snagging works.
 - b. Monitoring of any ongoing activities in line with ITP requirements
 - c. Responding to on site and technical queries as required
- Section 1A
 - a. Responding to on site and technical queries as activity commences with BSC package contractor McKean.
 - b. Supporting Forth Ports applications and queries
 - c. Attending meetings as required
- Section 1B
 - a. Ready to Mobilise and providing any design advice on mobilisation
 - b. Responding to on site and technical queries as necessary.
- Remainder of Section 1C
 - a. Reading to Mobilise and providing any design advice on mobilisation
 - b. Responding to on site and technical queries as necessary.
- Remainder of Section 1D
 - a. Reading to Mobilise and providing any design advice on mobilisation
 - b. Review and inspection of any advanced works
 - c. Responding to on site and technical queries as activity commences with BSC package contractor
 - d. Attending meetings as required
- Section 5B
 - a. Monitoring and checking road construction works at Hermiston Gait/Edinburgh Park Station area.
 - b. Responding to technical queries and on site reviews.

- c. Monitoring of ongoing activities in line with ITP requirements.

Geotechnical Construction Support Teams

- Section 1D
 - a. Assistance with formation testing for trackform ground improvement layer and OLE foundations and road construction.
- Section 2A
 - a. Review of investigations and verifications of ground conditions
 - b. Ongoing technical support to construction team through technical queries
 - c. Attendance at client and package contractor progress meetings as required
 - d. Review and support for earthworks in line with ULE90130-SW-GEO-00015
 - a. Monitoring of activities in line with ITP requirements
- Section 5
 - a. Inspection and witness of Piling works at Russell Road
 - b. Inspection and witness of reinforced earth works at Edinburgh approach ramps
 - c. Inspection and witness of any formations
 - d. Ongoing technical support to construction team through technical queries
 - e. Review and check suitability of arisings for use in make up
 - f. Monitoring of the placement of material
 - g. Monitoring of activities in line with ITP requirements
- Section 6
 - b. Ongoing technical support to construction team through Technical Queries
 - c. Attendance at client and package contractor progress meetings
 - d. Monitoring of ongoing activities in line with ITP requirements
 - e. Formation inspection for depot foundations
 - f. Formation inspections for road build up
 - g. Slope inspections
- Section 7
 - b. Review of investigations and verifications of ground conditions in line with Farrans programme of works
 - c. Ongoing technical support to construction team through technical queries
 - d. Attendance at client and package contractor progress meetings as required

- e. Review and support for earthworks in line with ULE90130-SW-GEO-00015
- f. Monitoring of activities in line with ITP requirements

Civil and Structural teams

- a. Ongoing review of Construction programmes to ensure appropriate supervision of construction activities and ITP requirements.
 - b. Attendance at progress meetings as required.
 - c. Monitor and manage TQs in and out
 - d. Manage and provide detail for design changes as a result of site queries
- Section 1A
 - a. Prepare for Mobilisation commencement on new sites
 - b. Support at start-up meetings and workshops
 - c. Review and assistance with MUDFA conflict schedules for impact on construction works
 - d. Responding to site queries related to ducting, drainage, civil and structural items
 - e. Attendance at Contractor and package contractor progress meetings
 - f. Support to BSC in resolution of Tower Place Bridge and review design change requests in relation to this structure
 - Remainder of Section 1C / 1D
 - a. Prepare for Mobilisation commencement on new sites
 - b. Support at start-up meetings and workshops
 - c. Review and assistance with MUDFA conflict schedules for impact on construction works
 - d. Responding to site queries related to ducting and drainage, civil and structural items
 - e. Attendance at Contractor and package contractor progress meetings
 - Section 2A
 - a. Ongoing inspections and support for construction of Haymarket Viaduct.
 - b. Attendance at Contractor and Package contractor progress meetings
 - c. Ongoing technical support to construction teams through technical queries
 - d. Monitoring of construction activities in line with ITP requirements
 - e. Ongoing technical support to construction teams through technical queries
 - Section 5
 - a. Ongoing inspections of Russell Road Piling works.

- b. Ongoing inspection of Carricknowe Bridge construction works
 - c. Ongoing inspections of Edinburgh Park Bridge
 - d. Ongoing inspection of A8 underpass. Attendance at Contractor and Package contractor progress meetings
 - e. Ongoing technical support to construction teams through technical queries
 - f. Monitoring of construction activities in line with ITP requirements
 - g. Ongoing technical support to construction teams through technical queries
- Section 6
 - a. Ongoing inspections of piling for OLE foundations
 - b. Ongoing inspections of piling for Floor slabs and pits.
 - c. Ongoing inspections and technical support for construction activities related to building works
 - d. Attendance at contractor and package contractor progress meetings
 - e. Monitoring of construction activities in line with ITP requirements
 - f. Ongoing technical support to construction teams through technical queries
- Section 7
 - a. Ongoing inspections of Gogarburn bridge and culvert works.
 - b. Ongoing inspections of drainage and ducting installation
 - c. Attendance at Contractor and Package contractor progress meetings
 - d. Ongoing technical support to construction teams through technical queries
 - e. Monitoring of construction activities in line with ITP requirements
 - f. Ongoing technical support to construction teams through technical queries

7 DESIGN AND ADDITIONAL DESIGN SUPPORT

7.1 Activities Undertaken

SDS has continued to provide as-needed Additional Design Support to BSC as required and attended several meetings related to various items. As discussed with BSC and tie, SDS has reduced our resourcing during this period. Main focus over the past 4 weeks has been around:

- Coordination of CAF DKE and swept path run analysis results and clarifications
- Meeting and IDR of emerging BSC OLE designs

- Design and coordination of requirements for Road Rehabilitation Works
- Design and coordination of requirements for upcoming design for BSC Trackform integration
- Design and coordination of requirements for OLE design.
- Design and coordination of requirements for OLE foundation designs

7.2 Ongoing Design Issues

7.2.1 Picardy Place

- Section 1C-2
- Layout generally agreed with Roads Authority at coordination meeting 06th August pending confirmation of updated modelling results. CEC to advise any further TAA issues. Impact on PA, TA and IFC.
- CEC planning department desire 6no. additional cross sections as advised 01-September 08 via email.
- CEC Planning department have provided no feedback on plaza concept provided for informal comment.
- Informal Consultation drawings issued to CEC 26th Sep '08. Meeting to finalise PA on 02 Oct '08.
- Informal meeting of tie / CEC / SDS on 30 September 2008 where CEC identified new constraints with hotel.
- Informal meeting with CEC on 1st October 2008 to discuss design development. SDS issued letter on 2 October 2008.
- Prior Approval meeting on 2 October 2008. SDS issued information to CEC via email.
- Prior Approval issued on 17 October 2008.
- Comments on Prior Approval received informally from CEC on 30 October 2008.
- Technical Approval issued on 3rd November 2008. SDS responding to initial comments from CEC on TAA submittal.
- CEC informally noted to SDS on 20 November 2008 that they may wish to change Roads layout.
- Prior Approval including CEC comments re-submitted on 28 November 2008.
- TAA including CEC comments resubmitted on 28 November 2008.
- Updated Planning drawings submitted 05 December based on advance TAA comments received.
- Road Safety Audit and Tram Stop submitted to CEC on 12 December 2009.
- Meeting on 15 January 09 with CEC to discuss potential comments and provide clarifications.
- Meeting on 21 January 2009 to discuss CEC modelling concerns. No response from CEC on information provided.
- Email from CEC on 30 March 09 indicates potential CEC change to layout of the area. Clarification required.
- SDS received change notice from BSC. SDS reviewing and preparing estimate.

- **tie** requested this change be included on w/e 08 May Design Changes meeting.
- CEC identified that they have issue with operation of junction based on CEC internal modelling. Junction is designed to instruction provided and subsequent discussions during design development. SDS has done significant advance modelling and has advised CEC of potential issue in advance of CEC raising the issue.
- CEC indicated in recent TRO Meetings that paper sits with M. Paulson and awaits final decision before instruction can be issued.
- Letter issued by CEC on 18 September 09 identifying additional changes required.
- Instruction issued for Stage 1 and Stage 2 CEC change to island geometry. Design underway and advance letter on traffic modelling issued.
- Full report to be issued by end of reporting period.

7.2.2 Transdev comments on 5C Technical Approval – Roads (DCR0102)

- Section 5C
- Transdev have written a paper on the design at Edinburgh Park. SDS has notified BSC of Change and will review paper when instructed.
- SDS received response to letter from BSC. SDS has returned response confirming position that change is required.
- Change Notice received. SDS submitted estimate w/e 27 Feb 09. SDS requested to provide revised estimate.
- Meeting scheduled for week of 22 June 09 to discuss responses.
- SDS evaluating relevant comments as outcome of meeting.
- Letter received from BSC containing tie position on this issue. SDS reviewing letter and SDS / BSC to have meeting to discuss as agreed in Design-Change Issues meeting.
- Meeting held between BSC and SDS on 07 Jan 10 to discuss issues and tie letter. SDS responded to BSC letter.

7.2.3 TRO Drawings (DCR0083, DCR0110, DCR0119)

- Section 1
- **tie** (Keith Rimmer) informally handed SDS marked up drawings catching fundamental changes to kerb lines for drawings already approved by CEC and in some instances, Issued For Construction to BSC. Change Order required.
- These drawings must be formally submitted to SDS under cover of tie letter for audit trail and QA / QC procedures.
- Discussion is required prior to execution of design work with the priority of Section 1B as changes to the Technical Drawings (i.e. gullies / kerbs etc) will need to be immediately instructed to BSC as construction work is already ongoing.
- Additional work outside the LOD arising from drawing mark-ups.
- Informal meeting with CEC on 14 November 2008 to discuss the mark-ups.
- SDS provided updated responses to Public Exhibition comments on 08 January 2009.
- SDS prepared scope and estimate for Changes (DCR0110)

- **tie** / CEC request final drawings for public deposit to be provided before Christmas. CEC have indicated that they have not yet reviewed sections 2-7. CEC indicate that they wish TAL 5/05 to be modelled. SDS yet to be instructed to use TAL 5/05, and have previously advised of potential issues which may arise.
- SDS advised **tie** via email on 08 January 2009 about issues arising from TAL5/05 and need for change order to SDS.
- BSC requested a meeting for discussion of TRO changes. BSC to advise.
- Change notices received, SDS submitted estimates w/e 27/02/09.(DCR0083, DCR0119)
- SDS received letter on 24 March 09.
- SDS has requested meetings with BSC to discuss, however these have been cancelled by BSC prior to meeting.
- Discussed at change meeting on 23 April 09. Agreed that higher level meeting to be scheduled to resolve commercial issue, as there is a fundamental disagreement with **tie**.
- CEC provided new comments with respect to recent made TRO along Fastlink after 26 May 09 meeting.
- Site walkout scheduled for 08 June 09 for Little King Street requirements.
- Meeting scheduled with CEC for 10 June 09 to confirm all requirements for TRO and aligned design moving forward.
- Additional meeting held on 17 June 09 completing information not covered in meeting of 10 June 09.
- TRO drawings issued to BSC / **tie** on 19 August 2009.
- Letter received from CEC outlining additional requirements and design for TRO drawings.
- Additional meeting held on 14 September 09 to talk through changes. Change order received.
- SDS has submitted final TRO drawings to **tie** / CEC containing all comments.
- SDS / BSC attended meeting with **tie** on 17 November 09 to discuss comments received from Statutory Consultation. **tie** indicated that they are looking for further written formal justification for the agreed and approved design in addition to the information previously supplied to support the TRO process. SDS believes this request to be extra work, as the drawings, schedules, public meetings, and informal TRO consultations have demonstrated the case that the design has been consulted with all parties in an appropriate manner. SDS to provide response to Statutory Consultation comments when formally received from BSC.
- Outstanding commercial issues to be resolved. BSC has requested meeting, SDS to confirm.
- SDS provided 2 updated versions of TRO General Overview document to BSC, based on multiple sets of informal comments received from **tie** on this document which has been provided to support the TRO process.
- **tie** have provided informal comments on schedules to BSC / SDS. SDS reviewing for any technical issues raised. Formal comments required.
- **tie** raised informal query to BSC on 15 Jan 10 via email to change the agreed and approved design based on frontager comment. SDS replied to BSC request for comment.

- SDS has provided updated TRO General Overview document based on informal comments by **tie**.
- SDS has provided summary of TRO changes from informal public consultation to public deposit document based on request by **tie**.
- SDS has provided updated TRO Schedules and one drawing based on informal comments by **tie**.
- SDS has formally written to BSC on the recent events of TROs.

7.2.4 Operator Comments

- System-wide
- At the Design Assurance Presentation, SDS and BSC were informed that Transdev are currently undertaking Operator reviews of the Design. Any changes arising out of this must be instructed via the Change Control procedure.
- 2A Operational Review was on Thursday 30th October 2008. BSC could not attend.
- 6A Operational Review was on Wednesday 29 October 2008. BSC in attendance (Colin Brady).
- There is an ATR outstanding for attendance at these meetings and any future meetings.
- Letter from BSC received on 02 March 09. SDS to formally respond indicating that no revisions to be made unless formally instructed.
- SDS provided response letter to BSC on 09 March 09 (our ref ULE90130-SW-LET-01442)
- Meeting scheduled for week of 22 June 09 to discuss responses.
- SDS evaluating relevant comments as outcome of meeting.
- Meeting held between BSC and SDS to discuss issues arising. BSC to advise of any future actions.

7.2.5 Cycle Connection at Hawthornevale (DCR0141)

- Section 1A
- CEC requested new cycleway connection outside LOD. Change order required.
- Change estimate submitted w/e 27 Feb 09.
- Discussed at 23 April 09 change meeting. **tie** to review and respond.
- Discussed at 28 May 09 Meeting. CEC to respond and clarify what facility is desired and **tie** to instruct.
- Estimate issued.
- Change order received.

7.2.6 Section 1C3 Closeout

- Section 1C3
- CEC provided letter closing out 1C3.

- Meeting anticipated to be held week of 29 June 09 to discuss and new / remaining comments to and requirements to close.
- New informatives included which must be closed during construction with procurement of items.
- Meeting held week of 16 November to discuss issues related to re-opening of Princes Street.
- New change (DCR0219) identified for additional crossing at Frederick Street. Meeting held with CEC on 27 January 10 at site to go through requirements.

7.2.7 Little King Street Reversal

- Section 1C2
- SDS and CEC completed walkout on 08 June 09 and identified several potential issues arising out of instruction.
- Current change instruction does not account for all required works if moved forward.
- SDS provided email to CEC on 12 June 09 outlining issues arising, potential impacts, and proposed resolution. Preliminary information on modelling impacts of not reversing direction of street included to assist CEC in decision making process.
- Formal response from CEC required.
- Letter issued by CEC on 18 September 09 outlining issues with this area.

7.2.8 Elder Street / York Place Design Change

- Section 1C3
- **tie** (D. Fraser) informally requested a design change to the TRO and Roads design via email to SDS (S. Ney) on 19 June 09.
- SDS response was that no action to be taken unless formally instructed through appropriate contractual channels.
- Letter issued by CEC on 18 September 09 outlining changes to this area to accommodate Henderson Global Development.
- Change order required.

7.2.9 Gogar Intermodal Stop

- Section 5C
- Kick-off meeting held 17 June 09 with Transport Scotland.
- Change order received. Tie to schedule workshop for 02 July 09 to discuss design details.
- SDS preparing list of required items from NR designer in advance of meeting.
- SDS completed actions arising from initial meeting.
- SDS issued information requested by Network Rail.
- Network Rail confirmed which proposal they intend to progress forward with. **tie** to issue formal instruction of Network Rail proposal. SDS working to verbal agreement with BSC / **tie** of modified concept.
- Meeting held 22 September to confirm scope requirements.

- Preliminary design completed.
- Assisted Mott McDonald with NWR planning application as requested.
- Informal Consultation meeting with CEC held 06 November 09.
- BSC confirmed at progress meeting on 21 October 09 that design should be finalised assuming new interchange to be built after implementation of base tram scheme.
- SDS has identified issues with track / sewer level interface which needs to be resolved.
- OLE and trackform designs from Siemens critical to closing out design and planning requirements.
- Radio Mast requirements to be closed out at meeting on 24 November 09.
- Tram stop and canopy design progressing, including structural steel framework.
- Earthworks being progressed, including landscaping based on information received from Mott Macdonald. Change order required for new / additional works identified.
- Change to wall design required due to water line design being proposed by NWR.
- CEC requested radio mast to be placed on NWR building. SDS to confirm with NWR issues arising.
- SDS instructed not to proceed with Prior Approval submittal by **tie**.
- SDS awaiting clarification on requirements for relocated wall as a result of the sewer diversion by others.
- Prior Approval to be submitted by end of reporting period assuming instruction on wall position provided.

7.2.10 Murrayfield Accommodation Works

- Section 5A
- SDS received additional change order for the balance of the scope.
- Meeting undertaken with SRU leading to design comments,
- SRU then submit additional comments once amendments had commenced.
- **tie** to discuss with BSC and SDS impacts to original change.
- Informal consultation underway.
- Formal Prior Approval Issued to CEC
- Prior Approval granted by CEC

7.2.11 Phase 1A/1B Split

- Sections 2A, 3A, 5A
- SDS submitted change and awaiting instruction. Discussed at 26 June 09 Design Change Meeting. Agreed included at Novation.
- Design being progressed.

7.2.12 CAF DKE Swept Path Analysis

- Systemwide
- Assumptions and analysis finalised.

- Several issues requiring more in-depth analysis have been identified during the review process.
- Draft results issued to BSC via email.
- Closeout report issued.
- Letter received from BSC noting perceived issues. SDS provided response.
- SDS proceeding with revised tram stop layout based on dimensional requirements of CAF tram. Impact to platform width and stop shelter roof dimension.

7.2.13 Section 7 Earthworks

- Revised earthworks and landscaping layout required due to topo issues arising.
- Revised design investigation due to issues arising at Gogar Landfill.
- Revised vertical alignment issued.
- Revised earthworks drawings issued.
- Revised environmental drawings issued.
- SDS confirmed earthworks design at Gogar Landfill is suitable. No change required.

7.2.14 Section 3 Technical Reviews by CEC

- Required to closeout detailed design.
- Revised Road Safety Audits provided.
- De-prioritised by CEC.
- Confirmation of programme to complete required.

7.2.15 Depot

- Responding to TQ's as required.
- Attending weekly meetings at site.
- Raising RFIs to BSC to clarify information shown on ICF documentation.
- Coordinating E&M design with Architectural and Structural elements and amending layouts.
- Updating layouts in line with site changes.
- Reviewing subcontractor drawings.
- Revising inspection pits details and layouts.
- Revising wheel lathe details and layouts.
- Revising switch room trench RC and general arrangement.
- Coordinating energy centre design.
- Blockwork package updates to suit ODR and changes.
- Joinery package updates to suit ODR and changes.
- Partition package updates to suit ODR and changes.
- Fire strategy updates to suit ODR and changes.

7.3 Additional Resources

The Design Team Leaders detailed below can be made available to respond to TQ's and attend the appropriate meeting (subject to suitable notice) on the proviso that BSC give instruction that these DTL's time spent will be paid for.

<u>DISCIPLINE</u>	<u>Code</u>	<u>DTL (and contact details)</u>
Tram	TRM	Tony Goodyear
Track (and Alignment)	TRK	Phil Bull
Track Auxiliaries	TRA	Mike Reeves
Roads	RDS	Mike Rogers
Pavement Design	RDS	Orlando Walters
Structures (P)	STR-P	Andy Groves
Structures (H)	STR-H	Phil McKenna
Traction Power Supply	TPS	Graeme Evans
Sub Stations	SUB	Brian Hall
Depot / Gogar Interchange	DEP	Steven Anderson
Tram Stops	STP	Ashwin Rabadia
Overhead Line Equipment	OLE	Mike Coupe
Supervisory, Control and Comms	SCC	Mike Goldsworthy
Low Voltage Supplies	LVS	John Ash
Street Lighting	STL	Anthony Walsh
Drainage	DRN	Mike Rogers
Ducting	DUC	Chris Reid
Geotechnical	GEO	David Raeside
Environment	ENV	Kat Dennis
Utilities (L2 - Sections 2, 5, 6 and 7)	UTL	Alan Dolan
Utilities (L1 - Sections 1 and 3)	UTL	Brian McCrear
Landscape	LSC	John Ramsay
Noise		Rupert Taylor

APPENDICES

APPENDIX A – RFI REGISTER

APPENDIX B – CRITICAL ISSUES DRAWINGS

Doc Ref ULE90130-SW-DRG-00651 (Line 1)

Doc Ref ULE90130-SW-DRG-00652 (Line 2)

