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Edinburgh Tram Project  
Full Progress Report No. 14  
14<sup>th</sup> October to 10<sup>th</sup> November 2012  
**FINAL**

CONFIDENTIAL – LEGALLY PRIVILEGED AND FOI(S)A EXEMPT  
November 2012



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Rev	Originator	Approved	Date
0	Shirley-Anne Collin	Julian Weatherley	16 <sup>th</sup> November 2012
1	Shirley-Anne Collin	Julian Weatherley	20 <sup>th</sup> November 2012
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## **1 Executive Summary**

This report covers progress made during the period from 14<sup>th</sup> October to the 10<sup>th</sup> November 2012. It incorporates progress reported within Infraco and CAF Progress Reports No. 5-7 to the 13<sup>th</sup> October 2012 and the 30<sup>th</sup> November 2012 respectively.

There were eighteen health & safety incidents recorded during the period, two of which involved members of the public and have been identified as Serious / Significant.

Discussions are nearing completion between City of Edinburgh Council and SEPA in relation to the depositing of material removed from Baird Drive. Formal notification of this agreement is anticipated imminently.

Eight days erosion of the 22 week time bank took place during the period with 9.2 weeks remaining to date. Turner & Townsend currently estimate that a further erosion of up to three weeks will result from the need to keep the bus station operational during the York Place works. Infraco have indicated that they consider this additional erosion will take the total erosion beyond 22 weeks; however, this has yet to be substantiated.

The Sectional completion date for Section B remains on target for 8<sup>th</sup> March 2013 (the contract programme date). Following a divergence between the contract programme logic and the progression of works on site, Turner & Townsend have revised the structure of the Master Schedule to reflect increasing improvements in both On Street and Off Street areas. Turner & Townsend are now forecasting an overall project completion date of 19 April 2014, including the impact of risk and opportunity. The critical path remains through Section 5A (Roseburn Junction to Balgreen Road).

Discussions are ongoing with Turner & Townsend and Infraco and CEC in relation to the scope of Section B. It is anticipated that this will be agreed and concluded within the coming period.

Measures to protect tram stops prior to operation have been agreed with CEC and instructed to Infraco.

Good cooperation between Crummock, McNicholas and Infraco continues to yield opportunities within the On Street areas. Phase 1 of the York Place works was handed over to Infraco on programme on 6<sup>th</sup> November 2012. Phase 2 is on target to be handed over week commencing the 19<sup>th</sup> November 2012. These achievements give Infraco access to York Place ahead of the Rev 5 programme and were made possible as a result of the CEC led cost engineering workshops held in February 2012 and the resulting revised traffic management arrangements.

Works in St Andrew Street are progressing and the 2<sup>nd</sup> section of the Princes Street "plug" is forecast to be open to traffic on the 23<sup>rd</sup> November 2012 in line with the CEC promoted "Radical Plan" of traffic management change agreed with Infraco and Turner & Townsend. Achieving this date is heavily depended on the weather.

Turner & Townsend continue to work with CEC to explore ways of capping and reducing the scope of Scottish Water legacy works. Turner & Townsend have developed a scope of work for Leith Walk which is consistent with the project's budget. Scottish Water has not accepted this scope and CEC have requested that Turner & Townsend put this work stream on hold until



further notice. The project's relationship with Scottish Water remains challenging, however issues are being addressed by T&T and CEC.

Progress against resolving type two conflicts is progressing well and is being successful in minimising disruption to Infraco.

It is envisaged that Infraco will be in possession of all On Street areas by mid November 2012. The installation of track slab works is making good progress overall and progress within Shandwick Place remains significantly ahead of programme in most locations. This achievement is dependent on the ongoing willingness of Infraco to permit joint occupancy of worksites with enabling works contractors.

Good progress continues to be made throughout much of the Off Street areas. Tamping within section B was completed on programme and works have commenced with the erection of overhead line electrification. Tram stop furniture has now been installed within Section B.

Good progress continues to be made through Edinburgh Gateway with the roof of the attenuation tank now constructed and the king post wall piling completed during the period.

Sheet piling has been successfully removed through the Murrayfield corridor. Progress at the Murrayfield reinforced retaining walls continues to be slow and further complications have arisen as a result of an error in the designed location of a Scottish Water sewer at the base of the wall which has slowed construction of the embankment. Discussions are ongoing to broker an agreement on a way forward with Scottish Water.

Discussions are ongoing between CEC and the Airport in relation to the resolution of issues at Eastfield Avenue Crossing with a Siemens promoted solution being favoured by all parties.

CEC are in discussion with Infraco in an attempt to persuade them to take responsibility for the resolution of the remaining depot snags.

Twenty five trams have now been delivered to the Gogar depot with twenty three having completed routine testing and commissioning.

Turner & Townsend have written to CAF requesting their confirmation that they are progressing to the Rev5 programme. This confirmation is outstanding.

Agreement has been reached on the procurement of the project fare collection system through Parkeon. Instructions relating to the interface with Infraco have been issued.

Following the Safety Verification Manager's decision to leave CEC at the end of October 2012, Turner & Townsend are supporting CEC in the consideration of options for a revised assurance strategy for the project. A short to medium solution to this issue remains a priority, particularly in support of Section B completion.

A meeting was held with CEC and Infraco on the 5<sup>th</sup> of November to review the application of prelims and overhead profit where work is omitted or de-scoped. It was agreed that a common template would be used and that there should be no double recovery of costs. £65K remains unresolved in the current valuation and a further meeting is planned for the 19<sup>th</sup> of November to resolve.



**Progress Report No. 14 – 14<sup>th</sup> October to 10<sup>th</sup> November 2012**

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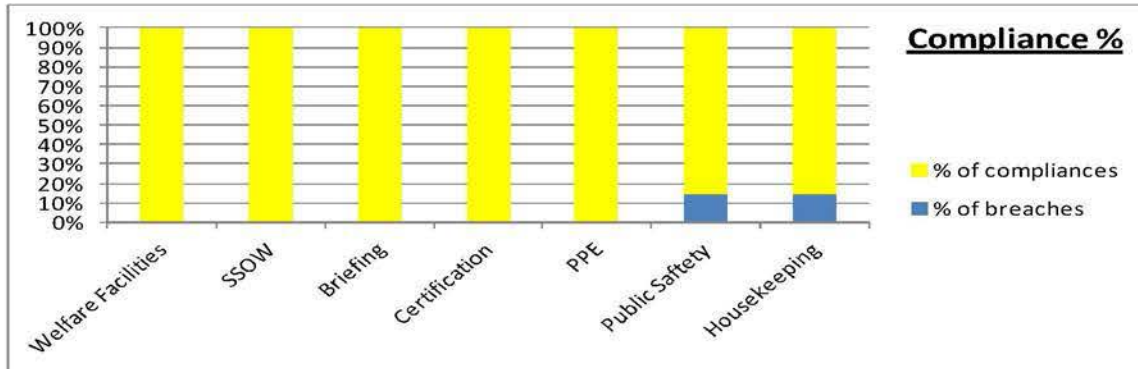
BBS have submitted a milestone schedule for the Rev 3A to Rev 4 programme change. This amounts to c. £3,100K. The issue of evidence to comply with the Independent Certifier's Opinion has not yet been resolved. BBS 1st milestone is January 2013.

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## 2 Health, Safety & Environment

### 2.1 Management of Health & Safety

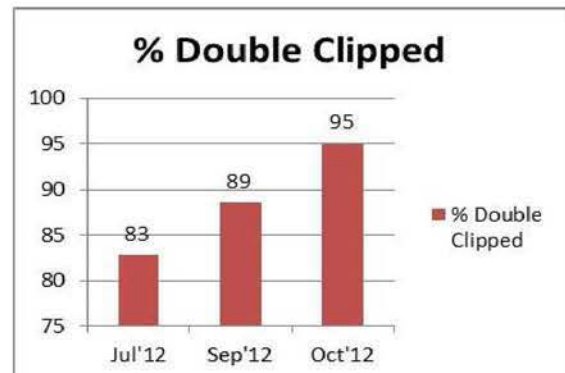
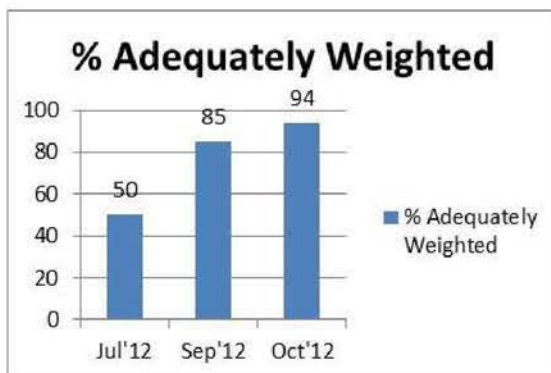
Joint monitoring of the leading indicators has continued to be undertaken between Turner & Townsend and the Principal Contractors across the project. The results are included below, and have identified that housekeeping and public safety, are still the areas where non-compliance has been identified. This has been raised with Bilfinger Berger Siemens at meetings and additional inspections have been undertaken.

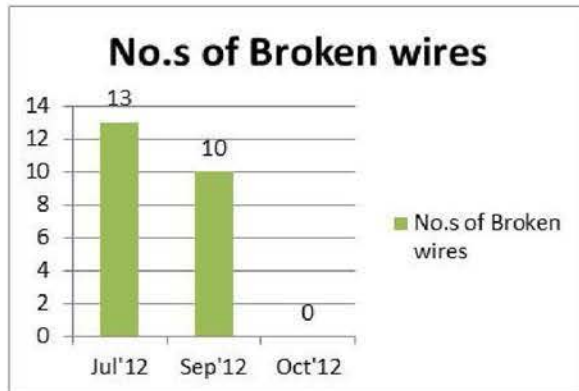


Turner & Townsend have been working to implement a number of initiatives regarding health and safety on the project. During the last period this monitoring focused on issues that had a significant health and safety impact as the project completes the ground-works phase and moves to working on new structures i.e. work at height.

Targeted inspections have been undertaken at the attenuation tank being constructed at Edinburgh Gateway and at Balgreen Bridge. These confirmed that safe systems of work were being employed. Further inspections will be carried out along the Network rail corridor, as bridges and embankments, near completion.

Following a monitoring exercise by Turner & Townsend (reported last period) on the condition of the site fencing in the city centre areas, improvements have been made by the relevant contractors. Repeat checks in late October showed the quality of site fencing had improved with more than 90% of fences weighed down and double clipped. No broken wires were found during the exercise.





Bilfinger Berger – Siemens held their monthly Occupational Health & Safety Meeting on the 6<sup>th</sup> of November which was attended by Turner & Townsend. Agenda items for the meeting.

- A presentation on the risk around the affects of cold during winter working.
- A safety briefing regarding the OLE energisation of Section 7.
- CoCP results – Turner & Townsend gave an update on the results of the COCP inspections for the period, focussing on site fencing.
- Specific issues covered under any other business:
  - The requirement for management of vehicle movements on site.
  - Safety of the public when the boundary fencing on construction sites has been removed.
  - Adequacy of lighting on walkways around construction sites in Edinburgh city centre.
  - Issues regarding drying rooms and the possible use of dehumidifiers.

An article was included within the autumn 2012 Advocate Magazine regarding Occupational Health. The article was written by and featured Georgina Mills (the Occupational Health Nurse Edinburgh Tram project).



## **2.2 Incident Management**

### **2.2.1 Incident Reporting**

During the last period there were eighteen incidents on the Edinburgh Tram Project. There were two incidents involving members of the public that were identified as serious / significant. There were 3 member of the public incidents in total.

- One incident, relating to the injury of a member of public when a construction vehicle made contact with a site heras fence panel, which hit their leg. A review of site fencing was undertaken and the contractor carried out a tool box talk on safe vehicle movements.
- The second incident relating to the injury of a member of public when they fell on a temporary walkway in the hours of darkness. A review of the lighting and walkway arrangements within the city has been carried out and additional lights in stalled.
- The third incident was advised by CEC reporting lack of street lighting at the North and East side Of St Andrews Square.

The other incidents comprised four involving service damage, five environmental incidents, and five near misses / unsafe condition and one reported as other – RBS Contractor undertook cabling works which have now been stopped due to BBS having no knowledge of this work. It should be noted that there were no safety incidents relating to Scottish water assets in the period.

The four incidents which involved service damage comprised two to a buried comms cable, one to a power cable and one to a gas supply. The contractor has submitted incident reports which have been reviewed and closed out.

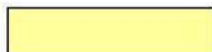
Cyclist incident data has been extracted from the incident database and supplied to City of Edinburgh Council to supplement the Council's own data.

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### 2.2.2 Record of Incidents

- Incidents reported within this period comprise:

Serious / significant incident



Date	Location	Detail	Contractor	Classification
16/10/2012	Haymarket / Dalry Road	MOP injured by construction vehicle driving into heras fence and colliding with leg.	McNicholas	MOP
19/10/2012	South Gyle Broadway	Whilst operating the excavator the operator scraped the insulation of an existing cable. Scottish Power was informed and placed a casing on the cable.	Coffey	Service damage
24/10/2012	Abercrombie Place/York Place	The battery on traffic lights between Abercrombie Place and York Place failed resulting in the traffic facing light being stuck on red.	BBS	Near miss / unsafe condition
18/10/2012	Ingliston Park & Ride Tram Stop – Disabled Parking Bay	Diesel fuel spillage from jerry cans carried from pickup parked at disabled parking bay.	BBS	Environmental
19/10/2012	Gogarburn Tram stop	D.R. Security vehicle parked off track and off road at Gogarburn Tram Stop had a fuel leak.	BBS	Environmental
23/10/2012	Ingliston Park and Ride Tram Stop to Airport Stop	Hydraulic oil leak from ruptured brake slave servo sealing kit.	BBS	Environmental
23/10/2012	Ingliston Park and Ride to Airport – Out Bound	Hydraulic oil leak from ruptured brake slave servo sealing kit.	BBS	Environmental
24/10/2012	Ingliston Park and Ride to Airport - Outbound	Hydraulic oil leak from ruptured brake slave servo sealing kit.	BBS	Environmental
28/10/2012	York Place	The traffic lights from York Place into the bus station have been blown/knocked over. There are exposed wires which may cause harm.	BBS	Near miss / unsafe condition
28/10/2012	Shandwick Place	The site fencing at Shandwick Place had been knocked/blown over and was blocking the footway.	BBS	Near miss / unsafe condition
24/10/2012	Depot	Rail 'marking' on the Mini Test Track believed to be due to by the BAM trailers the evening before. Incident within the boundaries of the operator.	BBS	Near miss / unsafe condition
01/11/2012	South St Andrew Square	Damage to a cable and wireless cable whilst undertaking excavation works at chainage 121300	Crummock	Service damage
02/11/2012	Gogarburn Tram stop	RBS contractor undertaking cabling works which have encroached on BBS site. BBS have stopped RBS contractor working as BBS have no knowledge of these works	BBS	Other
01/11/2012	St Andrew Square	Lack of street lighting on North and East Side of St Andrew Square. Dangerous hazard for pedestrian's due to tram-works affecting street lights	BBS	MOP
20/10/2012	Balgreen Road	Cable Strike to comms cable	Land & Build	Service damage
04/11/2012	Dublin Street	Temporary traffic lights at Abercromby Place and Dublin Street were not working.	BBS	Near miss / unsafe condition
04/11/2012	Elder Street	Damage to Gas main whilst undertaking excavation works at water main.	McNicholas	Service damage
28/10/2012	St Andrew Sq/South St Andrew Street	MOP was crossing over and fell on a temporary walkway - she commented that lighting is extremely bad in this area. MOP has injured her ankle and has attended hospital.	Crummock	MOP

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### **2.2.3 Incident Progress**

In relation to the serious / significant incident at the end of the previous period which involved the overturning of a 17T wheeled excavator by Coffey, this incident was reported to the Health and Safety Executive under RIDDOR as a dangerous occurrence. Coffey the package contractor has produced an incident report which has been reviewed by Bilfinger Berger Siemens. The report has highlighted planning and management failures as underlying causes. Turner & Townsend are currently reviewing the final report.

### **2.3 CDM Regulations**

Bilfinger Berger – Siemens have been requested to review their Construction Phase Plan for the project to ensure that it adequately addresses the management arrangements for the revised risk profile for the project as the civil works near completion.

The arrangements for accessing Section 7 now that the OLE works are underway and the Ingliston Park & Ride substation will be energised have been issued by Bilfinger Berger – Siemens.

The updated safety arrangements for the Test and Commissioning of Section B infrastructure and Tram Vehicle Interface have been reviewed. Lothian and Borders Police have contacted Bilfinger Berger – Siemens with regards to the development of their Incident Plan for the Tram operations. A meeting is planned for the 16<sup>th</sup> of November.

The first section of the York Place enabling works has been handed over to Bilfinger Berger – Siemens from Crummock.

McNicholas have appointed Ian Wood as their replacement Health & Safety Inspector for the project.

A review has been undertaken of the requirements spreadsheet to close out the items relating to Health and Safety in relation to section A.

### **2.4 Environmental**

Edinburgh Airport has raised concerns regarding erosion of the Gogar Burn in the vicinity of the Tram works. This is currently being investigated and discussed with Bilfinger Berger – Siemens.

Crummock, who are currently carrying out works for CEC are removing material from the Tram site to a site on Shrub Hill Lane, East Edinburgh. The material is being processed and returned to the tram project or retained at Shrub hill Lane. A review on these works is currently underway to confirm that the appropriate licences are in place. This matter is now being discussed with SEPA.

Gerardo Austria the appointed Environmental Adviser for Bilfinger Berger – Siemens has left the project on the 7<sup>th</sup> of November 2012. Infracore have not yet formally advised who will take over Gerardo's duties.

Five Environmental Incidents were reported during the period all relating to diesel/fuel spills or oil spills. This area will be targeted during the next period inspections.



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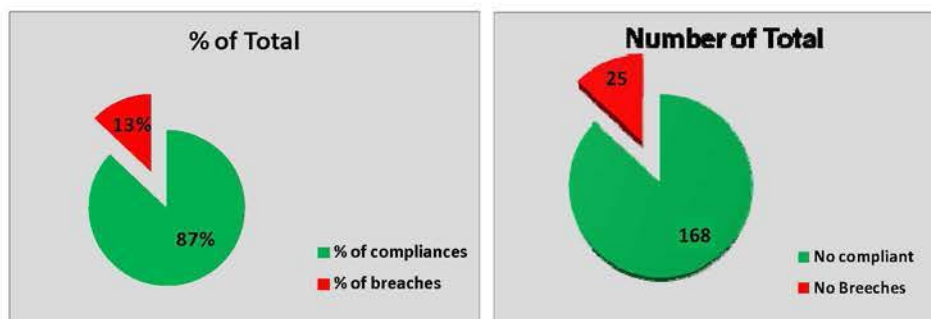
Baird Drive an agreement has now been reached between City of Edinburgh Council and SEPA, formal notification of this agreement is now anticipated imminently.

**2.5 CoCP**

CoCP compliance was recorded at 87% during the Period. The results of the CoCP monitoring have been passed to The City of Edinburgh Council Communication Team to be uploaded to the project web site.

There has been a decrease in the COCP Compliance % due to an increase in Inspections in number and geographical areas. There have been a number of non compliances which have not been addressed and picked up on subsequent inspections; this is being targeted by Turner & Townsend. Details of the breaches are included within the Deliver the Tram Safely report included within Appendix 2.

**% Compliance**



<input type="checkbox"/> Q1. Hours of Work	<input type="checkbox"/> Q9. Emergency Access
<input type="checkbox"/> Q2. Notification	<input type="checkbox"/> Q10. Parking
<input type="checkbox"/> Q3. Notices	<input type="checkbox"/> Q11. Litter and general housekeeping
<input type="checkbox"/> Q4. Fencing and Hoarding	<input type="checkbox"/> Q12. Dust
<input type="checkbox"/> Q5. Noise	<input type="checkbox"/> Q13. Smoking
<input type="checkbox"/> Q6. Waste Management	<input type="checkbox"/> Q14. Members of the Public
<input type="checkbox"/> Q7. Waste Water and Run-Off	<input type="checkbox"/> Q15. PPE and Behaviours
<input type="checkbox"/> Q8. Water	

## 3 Programme

### 3.1 Programme Structure

In previous reports, Turner & Townsend have expressed the need for a 'client side' working group with responsibility to control changes to the Master Programme, in order to produce a more accurate programme to completion.

The Master Programme is used as the realistic view of how the project is to be constructed, and is continually reviewed to ensure that it remains a current view of forecast construction methodology and timescales to project completion.

Increasingly it has become apparent that the actual, on-site, sequencing and progress of the project in each work area has continued to diverge from the Rev5 and Rev5C Infraco programmes. In order to address this disparity, Turner & Townsend have implemented changes to the Master Schedule this period.

**Previous Approach:** The Master Programme has historically been based on the Infraco Rev5 and Rev5C more pessimistic programme phasing, with opportunities for earlier completion identified within the QSRA process.

**Revised Approach:** The Master Programme has been amended to include the current working sequences and anticipated programme to completion. With specific risks to the attainment of these dates modelled within the QSRA (along with the existing project risks).

The Master Programme now reflects the current view of anticipated phasing of the working areas and presents a more realistic view of the potential completion date. The net result is a 3 month improvement on the Section D completion date to 1<sup>st</sup> February 2014, when the affect of the risk is scheduled.

A revised QSRA has been run reflecting the new structure and risk/ opportunity profile. The resultant P80 date is 19<sup>th</sup> April 2014, and further detail can be found in the Risk section of this report.

The changes to the programme are based upon Turner & Townsend's assessment of the current phasing of the intended works Infraco are undertaking, and are:

1. **Gateway:** Reduced Track Laying duration and alignment of civils works as per expanded programme.
2. **Gateway:** Installation of OLE 18 brought forward in line with revenue track laying dates.
3. **Murrayfield Corridor:** Track civils activities constructed on two work fronts as per on-site arrangement of two sub-contractors working on West and East portions of the corridor.
4. **Shandwick Place:** Sequential phasing changed to reflect current plans where concurrent works in phases are underway.
5. **York Place:** Infraco site commencement/handover date brought forwards in line with completion of utility works, plus amendments to phasing to replicate impact of Bus Lane remaining open.

6. **Final Track Finishes/Pre-stressing/Grinding activities:** Depot to Haymarket final track finishes conducted on two fronts; ballasted and non-ballasted track.

The current forecast completion dates for Section C and D are in advance of the contractual dates. At present this shows an overall improvement of more than 5 months to the schedule, excluding allowances for risk (three months allowing for risk). Section B is forecast to complete as per the contract date.

### **3.2 Programme Reporting**

As detailed above, there have been six significant changes made to the Master Programme this period. As the project continues to shift from civils to E&M works it is further anticipated that the Rev5's, and therefore the Master Programme's, representation of forecast sequencing for the E&M scope will need to be reviewed, in a separate exercise.

Infraco continue to report progress against the Rev5 contract programme. Out with the changes above, the Master Programme's sequencing of activities remains primarily based upon the contract programme and progress based on the monthly reports provided by Infraco. All information and analysis contained in this section of the report is based upon the Master Programme, unless otherwise stated.

### **3.3 Master Programme – Key Dates Summary**

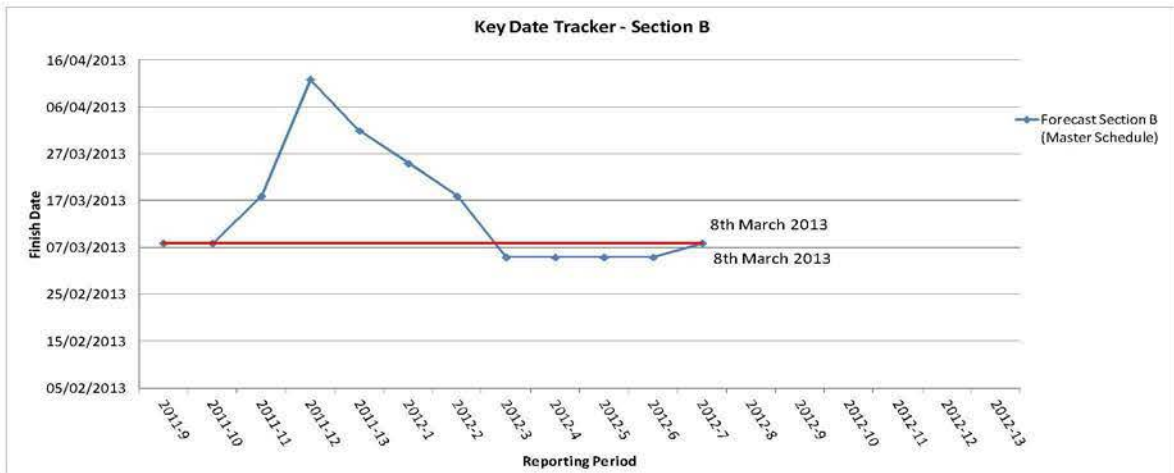
This period, due to the changes to the programme detailed in the section above, there has been a significant change to both the Section C and D completion dates. Both have positively moved by approximately 3 months (excluding risk), to the earlier dates of the 23<sup>rd</sup> October 2013 and 1<sup>st</sup> February 2014 respectively. Section B has not been affected by this initiative and has moved out by 3 working days, to the 8<sup>th</sup> March 2013 due to current site progress.

All contract milestones continue to remain on or earlier than the contractual dates. The charts below track the forecast dates (from the Master Programme) for the Sectional Completion milestones against the contractual dates and their movement throughout the project lifecycle to date. These charts schedule the impact of risk and opportunity.

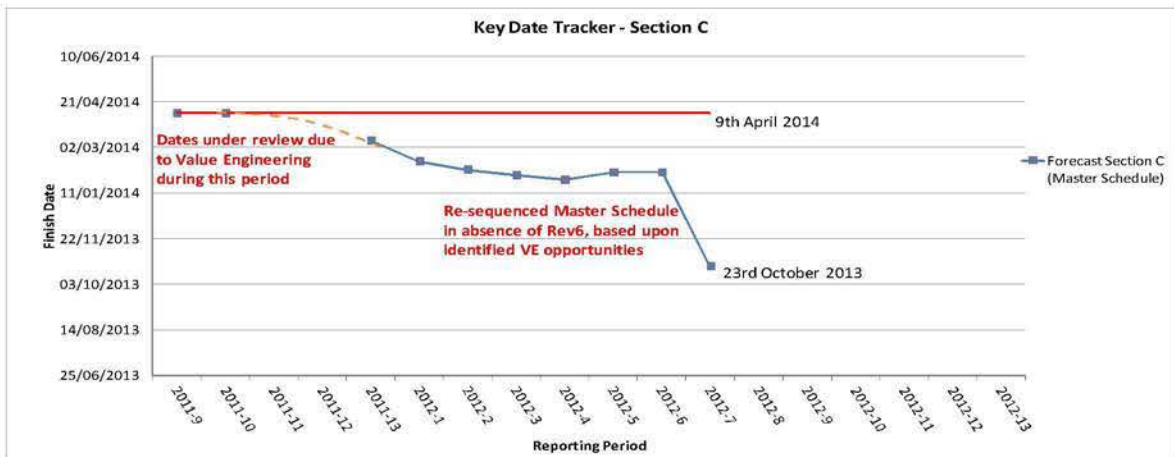


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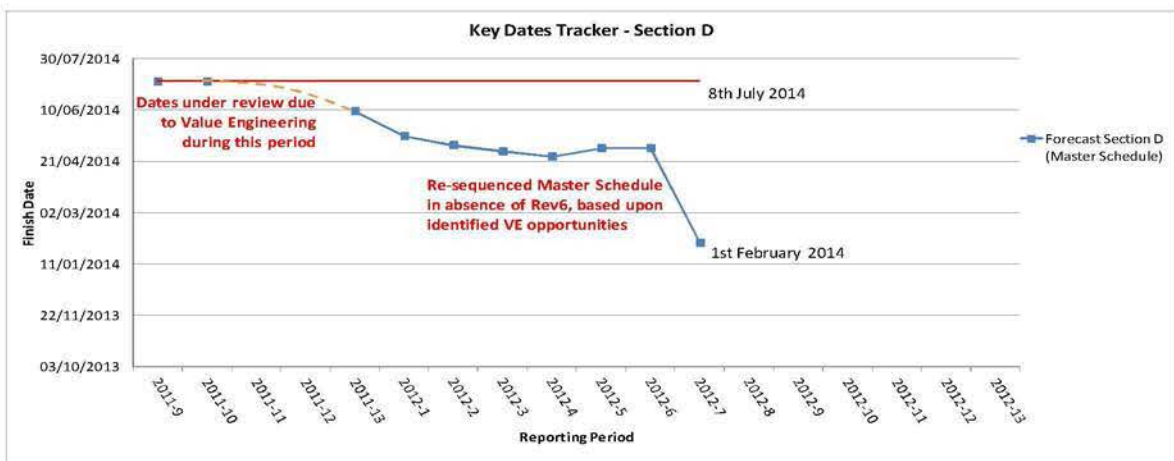
Section B; Test Track Complete



Section C; All Construction Complete (including T1 & T2 testing)



Section D; Open for Revenue



Note: All charts exclude the impact of risk & opportunity

### **3.4 Progress this Period**

Along all sections of the tram route works continue to be achieved and are generally showing strong progress. However in-period progress, within some of the key float paths, has been below planned levels.

Murrayfield corridor continues to show turbulence, with both progress at Roseburn Street Viaduct (S21A) and the adjacent Murrayfield Retaining Wall (S21B) continuing to slip for the 3<sup>rd</sup> consecutive period. This has resulted in a further fifteen d lost to the planned commencement of track laying from Murrayfield tramstop to Balgreen Road tramstop. This delay is represented through actual progress to date in the programme, the risk of continued delays is specifically accounted for within the QSRA analysis.

At Edinburgh Gateway, Infraco have corrected their assessment of progress within the updated Rev5 programme to reflect the steady performance made by Expanded to date. However, Turner & Townsend continue to use their own site data and project records to monitor progress against the Gateway works. It has been assessed, based upon Expanded's schedule of works that since last period, the attenuation tank works have recovered time lost previously and is no longer the driving works in this section. The King Post embankment works have also progressed, but it is assessed that the works are now 1 week behind the Expanded schedule. Therefore it is Turner & Townsend's understanding, that the planned commencement of track laying at Gateway is now 11<sup>th</sup> February 2013, as shown in the Master Programme. This is still earlier than the baseline Rev5 date and marginally earlier than the date in Infraco's latest progress update, of 19<sup>th</sup> February 2013.

Section B completion continues to be on time, now forecast on the contractual date, 8<sup>th</sup> of March 2013. Installation of the tram stop shelters continues to slip. This is due to an ongoing design issue with the tram stop side panels. Depot to Airport tamping works were booked to commence 22<sup>nd</sup> October 2012 and have been the critical driver for the majority of E&M works and subsequent testing and commissioning of Section B. As such the 3days slippage in the schedule has been as a result of final track finishes that were postponed until after the tamping works.

Phase 2 utility works at York Place have progressed well. This has enabled the handover dates, to Infraco, for the separate areas along the section to be brought forwards to mid November 2012, ahead of the initial date of the 7<sup>th</sup> of January 2013. This will help to mitigate against the anticipated time impact to Infraco, as a result of the bus station's traffic management requirements.

Both McNicholas and Infraco works continue at Shandwick Place. Interfaces between contractors continue to be coordinated to minimise disruptions. The main liaisons this period have been within Phases 1, 3 and 6 where McNicholas have been undertaking Type 2 works along the Inbound side (Phases 1 and 6) and more general utility works in Phase 3, the eastern part of the outbound track. Concurrent to this, in Phase 4, Infraco continue to progress with both the inbound and outbound track works.



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### **3.5 22 Week "Time Bank"**

This period, the "time bank" has lost a further eight days. Of the 22 week cost engineering programme saving, 12.8 weeks have now been eroded.

It is important to note that the existing analysis, to get the draw down figure, is based upon the 5C Programme, as provided by Infraco. As with the Rev5 contract programme, this amended programme is not reflective of how Infraco intend to construct the remaining On-Street areas of the project. Therefore the critical paths that are used to monitor the forecast completion dates for the Sections are somewhat spurious and unlikely to be the true critical path through the project. It is to be noted that the construction sequencing and logic in the Rev5C plan continues to demonstrate a slippage against the Section D completion in the period, whereas the more current Master Programme is forecasting an earlier completion date.

Turner & Townsend currently estimate that a further erosion of up to three weeks will result from the need to keep the bus station operational during the York Place works. Further erosion is also anticipated within Shandwick Place and Turner & Townsend's forecast of the overall drawdown is circa 16 weeks.

#### **3.5.1 Critical Path and Alternate Float Paths (Master Programme)**

The Critical Path referred to below, relates to the 'Longest Path' through the programme which would adversely affect the currently forecast end date if delayed. As a result of the changes listed above there has been a change to the Critical Path this period:

**Off Street:** Section 5A (Roseburn Junction to Balgreen Road) /Tamping and Full Line Track Finishes

Infraco intend to have only one visit by the tamper, which is currently forecast for early May 2013. At present the date for the tamper is being driven by the works along the Murrayfield corridor. However, during the next reporting period, Infraco are expected to confirm the planned date for the tamper, in line with the long lead requirement as per their contract schedule. If this is not confirmed then this long lead item in booking the tamper will become the driving activity for the remaining works.

The alternative Key Float Paths are:

1. **Off Street:** Section 5C (Edinburgh Gateway) / Section 5A E&M
2. **On Street:** Section 1D (Shandwick Place) / Section 1D E&M
3. **On Street:** Section 1C (Waverley Junction) / (York Place utilities / main works)

#### **3.5.2 E&M and Deferred Fit-Out of Tram Stops**

As Infraco's works shifts emphasis from civils to E&M, there are a number of challenges arising in the Master Programme as a consequence of the sequencing of works derived from the Rev5 contract schedule. Two observations are that the OHLE works are converging with a spike of activities being forecast in April and May 2013; and the planned sequence of cable laying does not align with the intended order of works.



In light of the changes made to key section of the Master Programme and the earlier planned completion date, integration of Infraco's proposed; deferred fit-out schedule is also being reviewed. The focus of the review is to assess whether the September completion date in the proposed deferred fit-out schedule is likely to drive the Section C and D dates. The remarks below remain the same as previously reported.

The schedule is based upon a sequential strategy in completing tram stops west to east (Depot to York Place) along the route. Infraco's intent appears to be a streamlined series of completion dates based upon the installation of the shelters and completion of the E&M works at each tram stop. However, there remain a number of issues with the proposal.

Due to the length of the deferred fit-out schedule more than half of the stops will still have a significant period of time dormant (ie duration between completion of works and the commencement of the Testing and Commissioning Phase). In the case of Bankhead, Saughton and Balgreen tram stops, which were primarily identified as stops most at risk, their completion dates have not been significantly deferred.

Turner & Townsend have instructed Infraco to take positive measures to further protect trams stops against vandalism. These measures may include:

- Making CCTV operational at the time of installation.
- Deferring the installation of tram stop glazing or protecting glazing.
- Installing exclusion fencing around tram stops.

## 4 Risk

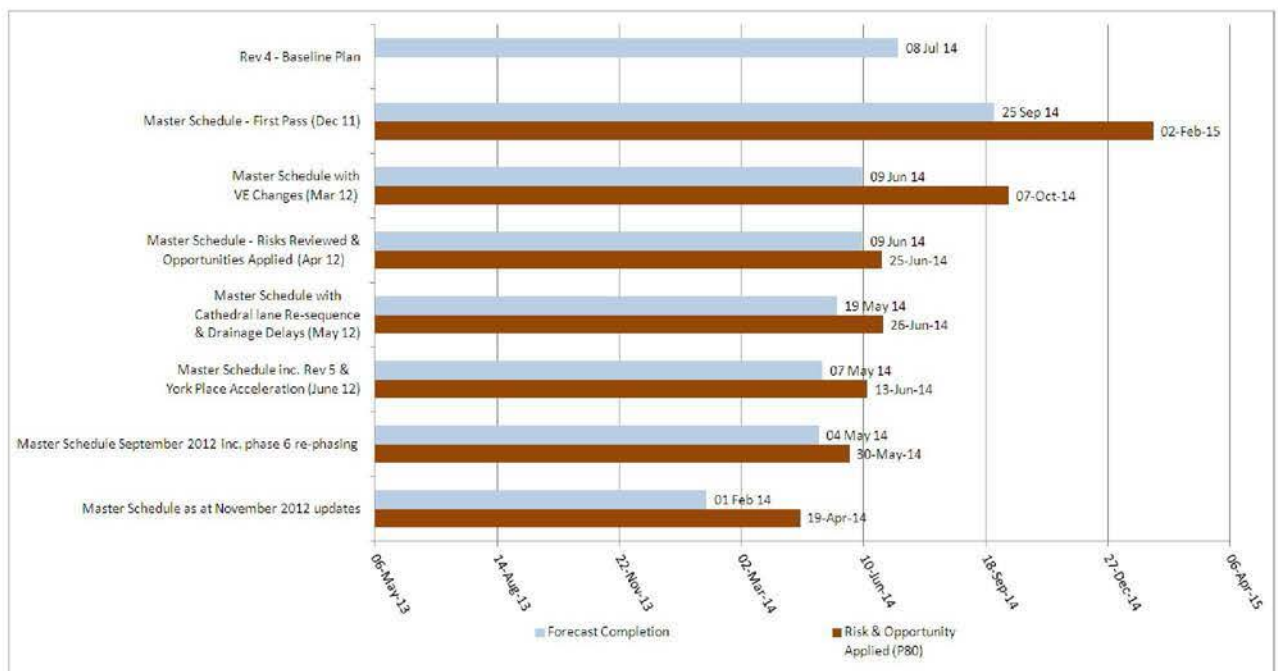
### 4.1 QSRA Tracker

The QSRA is run every quarter or when there are any new significant changes to programme or delivery strategy occurs. Due to the changes to the schedule, detailed in section 3.1 above, a QSRA was run on the 15<sup>th</sup> of November 2012 on the Master Programme.

The potential for programme value engineering was previously captured as opportunity within the QSRA process. These opportunities have now been realised within the Master Schedule and the potential for these benefits not materialising has been modelled as risks within the QSRA. This change is reflective of increased confidence of an earlier completion date

The next scheduled quarterly QSRA is due to be run in December 2012. The chart below shows the forecast dates (before risks and opportunities are included) and the 'impacted' dates for all QSRA's:

QSRA Trend Analysis



The risk profile is made up of schedule related risks as detailed in the attached risk register.

The latest Master Programme incorporates changes to the logic and sequencing which were included as opportunities within earlier iterations of the QSRA. Therefore the following opportunities are now closed:

1. Value Engineering opportunities identified at Shandwick place. This has been added as a re-phasing of phase 6 works to follow phase 2 and assumed to be possible.
2. Value Engineering opportunities identified at Murryfield to Balgreen corridor.

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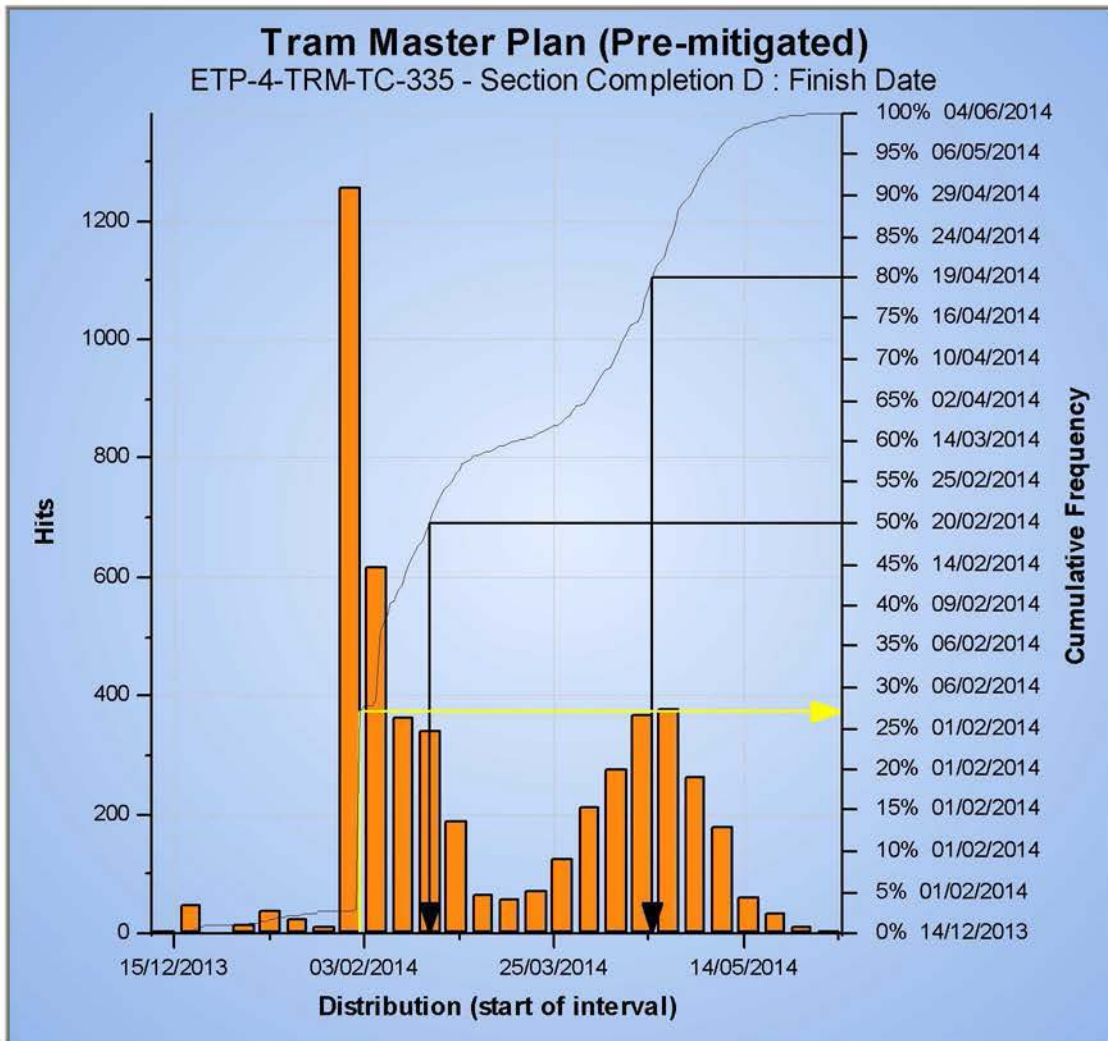
3. Value Engineering opportunities identified at Gateway.
4. Opportunity to off-set time bank draw down as subsequent works de-scoped from Rev5 are realised.

The remaining opportunity Turner & Townsend has assessed in relation to the master schedule and included in the current QSRA are shown below:

1. Opportunity to reduce full line testing as a result of Edinburgh Trams' successful utilisation of Section B line for initial table top and scenario training.

**4.1.1 Risk Likelihood (P80)**

The latest QSRA was carried out on the most up to date schedule as at the 15<sup>th</sup> of November 2012. This was analysed with the current Risk and Opportunity profile to calculate the milestone dates as shown below. Based on the results of the QSRA carried out on the Master Schedule, the analysis predicts a **P80 Section D completion date of the 19<sup>th</sup> of April 2014** against the current risk and opportunity profile and a 27% probability that the schedule completion date of the 1st of February 2014 will be achieved as shown in the distribution graph.





P80 represents an 80% likelihood of completing the milestone on that date, it is usual practice to utilise the P80 date as a standard on a project of this size, nature and public profile.

**4.1.2 QSRA Iterations**

These iterations of the Quantitative Schedule Risk Analysis have been carried out since September 2011, details and progress made are summarised below:

QRA Iteration	What is included
Master Schedule – First Pass	High Level schedule produced for QSRA analysis. Including utilities diversions.
Master Schedule with VE Changes	Post VE exercise Revised On-Street phasing Removal of summer embargoes More mature Risk Register
Master Schedule – Risks Reviewed & Opportunities Applied	Updated programme Detailed Risk review Identification of opportunities and application to the QSRA
Master Schedule with Cathedral Lane Re-Sequence	Further updated programme Early start of Cathedral Lane Sub-Station works Impacted Scottish Water risks Risk Review
Master Schedule – including Rev5 and York Place 'Radical Programme' changes	Further updated programme Rev 5 changes to Off-Street section Early start of utility diversion works at York Place Risk Review
Master Schedule as at September 2012 including phase 6 re-phasing	As above plus progress to date and the re-phasing of section 6 to follow phase 2 instead of 5. This is assumed to be achievable
Master Schedule as at November 2012 updates	As above plus: Works at York Place; Shandwick Place; Murrayfield Corridor; Gateway; as well as for the Depot to Haymarket track finishes, pre-stressing and grinding updated in line with Turner & Townsend's estimate of the as-planned works. Risk & opportunity review in conjunction with the above changes.

**FINAL**

#### 4.2 Project Risk update

Each period the risk register is reviewed and risks are assessed on an ongoing basis, with a general trend of reduction of risks as the team continues to mitigate against the potential impact.

Following this period's review, there has been little change to report in the position of the existing risks which form the project risk register with only one risk being closed as shown below.

Risk	Reason for closure
SDS reviewing entitlement for prelims associated with design changes	Risk occurred with SDS making a claim which has been paid

As a result of the three opportunities being closed in relation to the changes in the schedule (refer to section 4.1 above) three new risks were created to illustrate potential threats to the new schedule which are described below.

New Risk	Cause
Track Laying along Murrayfield Corridor delayed	Progress at S21B has consistently been less than planned each period
Additional Utility works encountered across Palmerston St	Ongoing legacy utility works continue to be implemented prior to Infracore works commencing
BBS unable to fully resource in YP during the initial phase of works	YP available to Infracore ahead of schedule concurrent to other On-Street sections which also require key resources

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## 5 Commercial

### 5.1 Commercial Summary

#### 5.1.1 Cost summary

	£M	Comment
Contract Sum	479.66	
<b>Committed Costs</b>		
approved change	19.57	Includes £1.4m for Rev 3A to Rev 4 programme change (made up of costs incurred during mobilisation period)
changes in progress	11.27	Includes £6.4m Cost Engineering change and £3.1m for Rev 3A to Rev 4 programme change (made up of £0.6m Siemens costs in 2011 and £2.5m costs for period 20 May to 8 July 2014).
anticipated changes	2.86	Changes required to complete, subject to approval
contributions	-7.69	Third party contributions received and anticipated
<b>Total Committed</b>	<b>505.67</b>	Budget £500.15m
<b>Risk</b>		
risk estimate	3.36	QCRA: CEC/T&T risk meeting 12 November 2012. Adjustment for CEC position on Scottish Water MUDFA legacy costs. Note: payment of ex contract claims excluded
<b>Risk adjusted forecast</b>	<b>509.03</b>	Budget £500.15m
<b>Opportunities</b>		
utilities diversions	0.00	Ongoing monitoring of utility expenditure but no further opportunity identified at present.
rev 3A to rev4	0.00	BBS position: prelims aligned with contract completion and BBS to confirm costs are incurred.
early programme completion	0.00	Dec 13 / Jan 14 completion: BB prelims £7.8m and Siemens £3.7m = £11.5m, however no mechanism to realise saving agreed with Infracore
<b>Total Opportunities</b>	<b>0.00</b>	
<b>Total Forecast</b>	<b>509.03</b>	Budget £500.15m
<b>Excluded risks</b>		
Opportunities, rev 3A to Rev4	0.00	BBS obliged to confirm costs incurred, not obliged to demonstrate actual costs. The issue of evidence to comply with the Independent Certifier's Opinion has therefore yet been resolved. If progress is maintained then there may be an opportunity to save some costs at the end of the project.
disruption	Excl	Ex contract disruption claims for On-Street Sub-Contractors and CAF programme changes have been excluded as we believe there is no clear basis for entitlement.
<b>Total</b>	<b>0.00</b>	
<b>Forecast +Exclusions</b>	<b>509.03</b>	
	505.93	BBS have submitted a milestone schedule for the Rev 3A to Rev 4 programme change. This amounts to c. £3,100K. The issue of evidence to comply with the Independent Certifier's Opinion has not yet been resolved. BBS 1st milestone is January 2013.



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### 5.1.2 Movement from previous period

The overall forecast has **increased** by £5,819k in the period. The principal movements are identified below.

The Infraco contract forecast has **increased** by £6,619k from the previous forecast. Significant changes include:

- Agreement by CEC of Infraco's position on the 22 week cost engineering saving (i.e. that it is a cost rather than a saving) has **increased** the forecast by £6,460k
- Cathedral Lane substation forecast adjustment has **increased** the forecast by £165k
- A negotiated agreement with Bilfinger for CCTV at Murrayfield Tramstop has **reduced** the forecast by £36k
- Removal of mitigated Schedule E exclusions from the forecast has **reduced** the forecast by £136k
- Additional costs associated with TVM installation has **increased** the forecast by £155k
- Additional costs associated with isolating section 7 of the track to allow tram commissioning has **increased** the forecast by £50k

The forecast for utilities has **reduced** by £157k following a review of statutory utility company costs.

The allowance for remedial work in Leith Walk is £900k. This is as instructed by CEC and it is understood that work up to this value only will be delivered.

The risk allowance has been reduced by £643k to £3,357k following the most recent risk review.

### 5.1.3 Commercial issues

#### Rev 3A to Rev 4

A detailed description of the background to the cost impacts of the Rev3A to Rev 4 programme change was included in Progress Report 12. Infraco do not believe that they need to provide further evidence to confirm costs incurred. This issue is not resolved at this stage.

#### Rev 4C 22 week saving

CEC have decided to authorise this change as a payment of £6.45M. Turner & Townsend have provided independent advice on this matter and written to CEC confirming the basis of the advice and how this matter will be reported within the cost report and payment applications.

#### Prelims / Overhead Mark ups on change

Meetings have been held to review Turner & Townsend and Infraco's interpretation of the Independent Certifier's decision on the method of calculating prelim recovery on change.

Infraco are applying for prelim recovery on the gross value of a change in addition to retaining prelims for the original value of work. In our opinion this leads to an element of double recovery

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of prelims. We have submitted an advice note to CEC confirming that there is £65k overlap in prelims recovery in Infraco's application with a potential forecast of £632k by the end of the project.

Turner & Townsend are applying prelim recovery on the net value of a change. This is consistent with the Independent Certifier's opinion and does not disadvantage Infraco in any way as they recover their contracted amount of 24.9% prelim uplift for net additions to the contract and no loss of prelims for net deductions to the contract.

As this issue has not been resolved, The Independent Certifier has advised that it should be referred to the escalation process. The next Joint Project Forum is scheduled for the 21<sup>st</sup> of November 2012.

### **Claims**

Schedule 45 governs changes to the On-Street Works and no costs have been submitted for disruption associated with the execution of the On Street Works. The intent of the contract is for any legitimate costs to be submitted within the period applications rather than a retrospective claim for additional costs.

### **Off Street Utilities**

Infraco have stated that their contract price does not contain any risk allowance for Off-Street Utilities. Turner & Townsend have advised that there is a lack of visibility regarding risk pricing by Infraco and therefore a negotiated settlement could be sought on items (specifically the SGN diversion at Ingliston) where liability is contested. The Independent Certifier intends to clarify his decision on this item.

## **5.2 Committed Costs**

### **5.2.1 Approved Change**

Approved change is items that have been instructed and a commitment value agreed. The total value of approved change to date is £19,569k. This is an increase from the previous period of £4,910k.

### **Infraco**

The total value of approved changes in the Infraco contract is £4,573k. This is an increase of £284k from the previous period. Significant changes are as follows:

<b>Description</b>	<b>Change Amount (£k)</b>
Cathedral Lane redesign	35
Independent Certifiers Schedule Part 45 Period End Change Order to 15/9/2012	130
Floating Track Slab – Siemens COWD p.e. 15/9/12	113

\* Increases from previously approved value

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### **Utilities**

The total value of approved changes in the Utilities budget section is £13,976k. This is an increase of £4,626k from the previous period. This is a result of the approval of utility change number 4 which is a drawdown of funds from the overall utility forecast. This does not have any direct impact on the forecast.

#### **5.2.2 Changes in Progress**

Changes in progress are known changes that have not yet been incorporated into the contract sum, either because we are awaiting a price from Infraco or the value has not yet been agreed. The total value of change in progress is £11,273k, an increase of £6,307k from last period.

#### **Infraco**

Change in progress associated with the Infraco contract is £11,238k. This is an increase of £6,307k from last period. Significant changes include:

- tnc 717 - Cost Engineering in respect of the Programme (22 week saving): £6,460k

Refer to the cost report for a complete list of change in progress.

#### **5.2.3 Anticipated Change**

Anticipated change are variations to the contract that are known about but no change has been raised at this time, either because the scope has not yet properly been defined or the change has not taken place yet. Anticipated change during the period has decreased by £4,705k due mainly to the movement of the utility budget from this section to approved change.

#### **Infraco**

Anticipated change has increased by £28k which includes:

- Removal of allowance Schedule Part E exclusion for SDS alignment, the risk of which has now been mitigated: -£124k
- TVM installation – additional costs resulting from the TVM supplier specification impact on Infraco works: £155k
- Requirement to isolate mini test track from section 7: £50k

#### **Utility Works – York Place to Haymarket**

We are continuing to track productivities on the McNicholas works to confirm previous allowances included for the utility forecast are accurate.

In the period the anticipated change for utility dropped significantly as budget was transferred into approved change. This movement does not impact the overall forecast.

#### **5.2.4 Contributions**

The forecast amount of contributions has remained unchanged from the previous period.



### **5.3 Risk and Contingency**

#### **Quantified Cost Risk Analysis (QCRA)**

Following the most recent risk review, the risk allowance included in the forecast amounts to £3,357, a reduction of £643k from the previous period. This is as a result of reducing the probability of disruption as a result of Scottish Water action as well as various other changes with smaller impacts.

It should be noted that the risk allowance does not make provision for any ex-contract claims which may be issued and or accepted by CEC such as loss of productivity.

### **5.4 Opportunities**

The total value of opportunities in the current forecast is £13,017k. Most of these opportunities are secured. However, there remains a risk to certain items included within this total, identified below:

- Item 02 - Setts: This opportunity is for a non tram budget in CEC to contribute towards the cost of setts in St Andrew Square. We are still in negotiation with Bilfinger Berger over the rate for the revised specification of setts which may affect the total value for this item although it is assumed that any additional / reduced cost will be part of the contribution and therefore have no overall effect on the tram forecast
- Item 14 – Road Reconstruction depth: This opportunity was to reduce the depth of road reconstruction to generate a target saving of £700k. From analysis of the marked up drawings and site inspections there are very few areas of roadway that can be preserved. The reason for this is the impact of the utilities diversions at junctions and also the need to bench in road construction infill between the depth of the track slab at 300mm steps. It is anticipated that savings will be realised by retaining pavements. It should be noted that there is a cost risk that the full saving will not be achieved. Also many paving slabs in the pavement are cracked and that there will be pressure to repair areas. CEC have advised that the project should not fund pavement repairs.

There are limited further opportunities to de-scope elements of the work. However there are opportunities to refine the final scope of work and refine estimates. One of the issues on certainty of estimates has been Infraco's insistence that out-turn estimates do not need to be provided for On Street Works. This issue has been identified previously and was included in the CEC Lawyer's review of our contract queries.

Examples include:

- Revised design for the retaining wall for the Cathedral Lane Sub-Station;
- Out-turn costs for the York Place Terminal Point
- Out-turn costs for the floating track slab

#### **Programme Opportunities**

Progress report Nr 13 provided details on relationship between the Rev 3A Rev 4 cost movements (also refer above) and prelims costs associated with the difference between an

estimated completion date (based upon relaxation of resource constraints and extrapolation of current progress) with the Rev 4 completion date.

Infraco's position is that they are entitled to contract prelims, plus the £4.5m to Rev3A to Rev 4 movement. Subject to performance and actual completion in advance of Rev 4 dates there may be an opportunity to save part of the £2.5m for the programme movement at the end of the project. This is also depending upon Infraco not adopting an adversarial position. It should be noted that Infraco have submitted a milestone schedule for these amounts which indicate that the full amount should be paid by December 2013. This issue is not resolved at this time.

## **5.5 Exclusions**

The following items are excluded from the Cost Report

- Additional costs associated with Infraco's interpretation of the application of mark-ups on On Street Change.
- Repairs to pavements and footways
- Further design changes beyond those included in the cost report (note: production of as built drawings from the MUDFA contract and collation of as built information from current utilities diversions is a significant exercise. Also design costs are beyond the norm since SDS Management Fee at 25.65% and Infraco mark up at 34.9% is applied. We suggest a review of this is undertaken with CEC and alternative solutions are evaluated).
- Claims for disruption from the sub-contractors on the On-Street section as entitlement exists for PAVs.
- Leith Walk Utilities Diversion – CEC has confirmed that the budget for defined scope should be £0.9m (based upon the tender and a general contingency allowance). The intention is to value engineer out the undefined scope e.g. gas water pipe separation and to restrict the work done. Should, for technical reasons this approach not be feasible then additional funding would be required.
- All Utility Companies and Network Rail management resource has been included to September 2013. Section completion dates and resources needed to review as-built information is under review.

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**5.6 Payments and Cashflow**

A summary of the certified amounts are provided below.

	<b>Certified £k</b>	<b>Planned £k</b>	<b>Comment</b>
Infraco	343,094	339,080	Planned – based upon Rev 3A programme
Utilities	12,518	11,780	McNicholas plus SUC costs
Trams	61,328	61,328	Payments generally in accordance with milestone schedule. Incomplete milestones are not included in certified amounts.



## 6 On Street - Enabling Works & Utility Legacy Works

### 6.1 General

Enabling and utility legacy works have progressed well during the period and works are being completed to meet dates agreed with Infraco. Similarly "Type 2" utility conflicts (those outside the DKE+2m, road sign bases, traffic signal bases and associated ducting) are progressing well and work is being coordinated with Infraco to avoid/minimise disruption to the main works.

### 6.2 York Place

The York Place enabling works have progressed well during the period and the first phase of the enabling works between North St Andrew Street and Elder Street were completed and the site handed over to Infraco week commencing the 5<sup>th</sup> of November. The remainder of the enabling works are due to be completed during week commencing 19<sup>th</sup> of November thus providing a clear site for Infraco to move into before the Christmas shutdown. Turner & Townsend will retain an island site at Broughton Street to construct a manhole but this will not impact on Infraco works. Some utility works will also continue at Dublin Street but in an area outside the tram swept path. Type 2 works will be scheduled to coincide with Infraco works using the methodologies adopted elsewhere on the project which are working satisfactorily.

Infraco was instructed previously to review the impacts of changes to traffic management in York Place following the decision not to close the bus station. No formal response has been received, although it is worth noting that Infraco is availing of the opportunity to commence works in York Place ahead of the Christmas shut down, this will assist in mitigating any potential delays arising as a consequence of not closing the bus station.



*York Place*



*York Place 1 Inbound rail North-side looking West*

### **6.3 Legacy Works**

There remain some key water issues that have the potential to cause significant difficulty for the project. It was previously reported that agreement on some of these issues will only be reached when the wider commercial discussions with Scottish Water have concluded. It was also reported that behaviours within Scottish Water had changed and it was becoming increasingly difficult to reach agreement on a range of issues.

Since the last reporting period, and despite efforts by CEC and Turner & Townsend to progress specific issues and wider commercial/legal matters, behaviours within Scottish Water have not improved and indeed there have been instances where behaviours and attitudes have deteriorated. Attempts to close down issues are being thwarted by Scottish Water continuing to raise new issues and taking a very inflexible stance on certain matters. An update will be provided at the next tram briefing meeting.

Regarding the legacy works in Leith Walk and Constitution Street Turner & Townsend and CEC are progressing with the value engineering initiative with a view to delivering the legacy works within a revised budget of £900k. Progress has been very slow and there is no commitment from Scottish Water, at any level, to the revised budget. CEC has requested that Turner & Townsend suspend this work-stream until further notice. Delays in agreeing scope are now likely to impact on the January start date.

### **6.4 Look Ahead**

The York Place enabling works will be completed although two sites will be retained by Turner & Townsend in areas not impacting Infracore. Turner & Townsend will remain ready to react to utility discoveries by Infracore although this watching brief work is beginning to ramp down as ground works are completed. Work will continue with CEC is seeking to limit the scope of Scottish Water legacy works. Type 2 works will also be ongoing in the period.



*St Andrews Square/ York Place*



## 7 On Street - Main Works

### 7.1 Progress in Period

All On Street areas from Haymarket to Lothian Road and from Princes Street to North St Andrew Street remain in the possession of Infraco with some minor exceptions agreed where residual works and/or Type 2 conflict works are being carried out by McNicholas. Infraco has continued with track slab construction in all areas and is making good progress with carriageway reconstruction between Haymarket and Lothian Road. Track laying continues to progress well.

Construction of the Cathedral Lane substation is due to start at the end of November but this will be delayed due to a redesign of the retaining wall at the perimeter of the site. Turner & Townsend is working with Infraco to mitigate any delays and to ensure the delay to construction commencement does not impact on the overall programme. Turner & Townsend is also in discussion with CEC regarding the relative merits of de-scoping some of the Cathedral Lane substation works from the Infraco contract. An update on this will be provided at the tram briefing meeting.

Infraco was handed York Place between North St Andrew Street and Elder Street on the 6<sup>th</sup> of November and works commenced immediately with plate bearing tests carried out on the sub-surface. Works have now commenced on the blinding layer which forms the base for the track slab and a more detailed update will be provided at the tram briefing meeting.

The completion date for St Andrew Street is now likely to be January 2013 due to the challenges encountered in recent weeks in relation to Scottish Water assets and carriageway reconstruction. The two weekend closures of the RBS access were very successful allowing the track to be laid through the area. As reported previously the critical path on the On Street section no longer runs through St Andrew Square and the works continuing on into early 2013 will not have an impact on the overall delivery date.



*St Andrews Street*

The remainder of the "plug" on Princes Street is due to be removed in mid November with a target date of the 23<sup>rd</sup>, this however is heavily weather dependent and if the weekend of the 23<sup>rd</sup> of November is not met the opening will be delayed by 1 week. There are some remedial works in the area of the plug on the west bound carriageway but these will not hold up the opening and can be done out of hours in the future.

Princes Street snagging continued in the period and the majority of snags are now closed. Some Scottish Water legacy snags remain to be completed in Princes Street although these will now be carried out after the Christmas period.

As re-sequencing of the phases is steadily implemented in Shandwick Place, progress remains significantly ahead of the Rev5 programme, in most locations. Interfaces between contractors continue to be coordinated to minimise disruptions. In Shandwick Place north the carriageway has been reinstated up to base course level and the final wearing course between the crescents and Stafford Street was completed in the period to allow traffic to be switched away from the



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west end of the crescents. Works have now commenced to tie the tracks in between the Crescents and Coates Place. Works in Shandwick Place south are now underway and the target date for completion is April 2013.

Between the Crescents Infraco is continuing to construct trackslab and lay rails, the Stop construction has also commenced in the area. In the same geographic location the tender documents for the re-building of the Shandwick Place walls together with the excavation of tree pits, the planting of new trees through the area and the construction of a footpath in the gardens, have been finalised. Discussions are ongoing with CEC regarding the timing of the tender for these works.

Works between Haymarket and the Crescents has progressed well during the period although Infraco did have to break out approximately 60 linear metres of concrete on the north side of Coates Place during week commencing the 5<sup>th</sup> of November; this was due to the track levels being too low. The breaking- out work was completed within two days and Infraco is now seeking to mitigate any delays to the programme in the area. A non conformance has been raised and will be discussed with Infraco.



*Haymarket / Crescents*

The formal legal agreement with the building owner on the east corner of Dublin Street is now signed; there are no further blockers in this area to construction commencing.

Turner & Townsend is working with CEC and Infraco to look at possible opportunities to provide extra space in the city centre during the Christmas period. This is being done in the context of not expending additional monies unless funding is made available from external sources.

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## 8 Off Street Works

### 8.1 Progress in Period

The first two sections (8.1.1 and 8.1.2) detail progress and issues at Edinburgh Gateway and Murrayfield. These two areas are the critical paths for the Off Street section and potentially for the entire job.

#### 8.1.1 Edinburgh Gateway

The attenuation tank roof has been completed this period. The King Post Wall piling has been completed with the wall panel construction having commenced on the top level panels. The foundation works for the radio masts have commenced. The project is supplying Scottish Water with method statements and risk assessments to keep them informed of the works being carried out. Scottish Water is now looking to review and approve these method statements rather than have the project apply for ATCs.



*Edinburgh Gateway*

#### 8.1.2 Murrayfield

Sheet piles have been successfully removed along the length of the S21B Murrayfield embankment. During these works the Network Rail/ScotRail shuntline has shown signs of movement however this has been within tolerance and did not cause any disruption to railway operations.

The removal of the sheet piles was a precursor to progressing the remaining reinforced earth retaining wall. This is now showing good signs of progress, it is therefore expected that some of the programme slip shall be regained.



*S21B Murrayfield*

Works have stopped at Murrayfield S21D reinforced earth structure. The previous works to remediate the sewer after it was hit with the ground improvement rig have left the sewer and an associated manhole under the plan of the embankment. This requires the sewer at Murrayfield S21D reinforced earth structure to be temporarily built over, the manhole level reduced and capped and the sewer to be permanently realigned. A technical query has been issued to Scottish Water for approval with accompanying letters to assist in achieving approval for the temporary and realignment works.

Scottish Water have responded stating that their requirements have not been met both in achieving the required level of indemnification and acceptance of liability from CEC and information with regards to the loading of the sewer. In lieu of this information Scottish Water



will be setting out their legal position with regards to the protection of their assets and the actions available to them to prevent works being carried out.

### **8.1.3 Section B Progress**

The tamper arrived on the 22<sup>nd</sup> of October 2012 and successfully completed the tamping of the track along Section 7. This was a key milestone for Section B completion. Notifications have been delivered to neighbouring properties to advise of the overhead lines being electrified in the coming month and posters are now in place along the boundary fences. The high voltage within Inghliston Park and Ride substation has been powered up successfully.



*Overhead Lines*

Tram Stop furniture has been installed including the installation of the Passenger Information Displays. Overhead lines are being installed. Snagging has commenced on civil items with the main issues being cracking of the trackslab and the glazing panels within the tram stop shelters not being properly fixed.



*Overhead Line Installation*

### **8.1.4 Other Items of progress in this period;**

- Gyle Broadway crossing works complete and four lanes of traffic reinstated;
- Edinburgh Park Station track installation commenced;
- Edinburgh Park bridge plinths recast and installation of ductwork;
- Bankhead Tram Stop construction commenced;
- Bankhead bottom ballast complete and area handed over to Siemens for track installation;
- Baird Drive embankment construction continued and duct work installation commenced;
- Balgreen Tram Stop construction works continuing;
- Water of Leith bridge civil work substantially complete;
- W4 retaining wall reinforced concrete construction complete and
- Haymarket Yards track installation commencing.



## **8.2 Key Issues**

The following issues are currently affecting the off street section;

- Murrayfield sewer realignment as described in 8.1.2 requires to resolved to allow the works at S21D reinforced earth structure to continue.
- Bankhead overhead mast works are progressing at risk due to a Scottish Water buildover agreement not being in place.
- Eastfield Avenue road alignment issue still requires resolution with the airport. Confirmation of a scope is awaited from CEC.
- ScotRail depot; potential issues with gates on the main access into the depot. The designer has been asked for his residual risk register for this work and the operator will subsequently be requested to assess this junction.
- Network Rail Haymarket Station development works have allowed abnormal loads to move across the tracks at Haymarket Yards without the appropriate approvals being in place. CEC have written to Network Rail over the unacceptable actions and stating their position.

## **8.3 Look Ahead**

The following works will be progressed during the coming period;

- Completion of cable installation in Section 7;
- First tram on Section 7;
- Edinburgh Gateway wall construction;
- Snagging on the civil items within Section 7 to continuing;
- Edinburgh Park bridge plinths being formed;
- Bankhead OHLE pad foundations formation;
- Tracklaying along Bankhead;
- Track installation at ScotRail depot continuing;
- Tensar wall construction at S21B Murrayfield continuing; and
- W3 wall construction continuing.

## 9 Trams

### 9.1 Trams Progress in Period

The delivery and testing of Trams on the Mini Test Track (MTT) continues to progress well ahead of schedule, with 25 trams having been delivered to Gogar Depot to date and 23 having completed Interim Routine Testing on the MTT.

There is one additional tram scheduled for delivery in November, with the final tram due delivery in December 2012.



*Tram Depot*

There is no planned testing on the MTT in November, as access for testing has been restricted between the 12<sup>th</sup> and the 30<sup>th</sup> of November 2012, to allow connection of the overhead line for Section B.

Testing on the MTT is currently scheduled to be completed by the 7<sup>th</sup> of December 2012, subject to confirmation with BBS.

The monthly Tram Integration and Commissioning meetings originally chaired by CEC have now been replaced by Section B Test & Commissioning Control meetings, held fortnightly and chaired by BBS. These meetings have been set up to manage all areas of Section B commissioning and integration. They are being held alternately with fortnightly Section B Handover meetings chaired by Turner & Townsend, set up to discuss all requirements for Section B handover.

### 9.2 Fare Collection System

Following the appointment of Parkeon as the Preferred Bidder for the system, Turner & Townsend arranged a series of technical discussions to enable the equipment and functionality of the system to be defined and formally agreed by all stakeholders (CEC, Parkeon and Lothian Buses).

Turner & Townsend also facilitated a series of discussions between CEC, Brodies Solicitors, Parkeon and Lothian Buses, culminating in the development of a supply agreement for the Tram Ticketing system. It was anticipated that this agreement will be signed by Parkeon and CEC (tie) by the 16<sup>th</sup> of November 2012, there is a "standstill" period of 10 days prior to signing the supply agreement.

Following the acceptance of this agreement by CEC and Parkeon, the project will immediately enter the Specification Phase, whereby all technical and detailed design requirements will be finalised and agreed.



### 9.3 Key Issues

During the Fare Collection system technical discussions held during the last period, several items of information were identified as being required before the system functionality could be specified in detail:

- Acceptance of Transport Scotland concession cards on trams – A decision is required on whether Transport Scotland will accept the use of concession cards on trams, in the same way they are accepted on Lothian Buses. The functionality of the system has been developed to allow acceptance, should this be accepted.
- Decision on whether servers will be provided by Lothian Buses (LB), or Parkeon – LB have indicated that they would prefer to supply the servers required to house the Back Office software, on the assumption that they are able to supply the hardware, software and operational environment required. A contract change will be required (and subsequent saving realised) should LB decide they are able to provide the equipment.
- Dimensions of Platform Validator mounting poles – Information on the quantity, location and installation of the tramstop equipment has now been submitted to BBS informally, with a formal tNC to be submitted to the Change Control Board on the 12<sup>th</sup> of November 2012. Turner and Townsend will provide additional information on Platform Validator (PV) installation in city centre tramstops, when information on the dimensions of the CCTV poles to be used has been received from BBS.
- Branding / livery to be used on platform equipment – Parkeon will require information on the branding and livery to be used for tramstop equipment prior to the start of manufacture, currently scheduled for early December 2012.

On award of a contract to the Preferred Bidder, Turner & Townsend will continue to follow up on the above actions, as further delay may impact on the installation of the system.

Turner & Townsend are concerned regarding the visibility of progress of Section B test and commissioning activities, as there is limited accurate information available despite Turner & Townsend having requested this at several T&C meetings held during the last period.

Turner & Townsend have developed a 'Section B Tracker', to monitor the progress of significant test, commissioning and integration activities for Section B, to ensure any risk to Section B completion is identified and mitigated as early as possible. Turner & Townsend have asked that all stakeholders monitor the dates of key activities within the programme, in order to identify potential risks to their own operation. Any activities identified as having the potential to delay Section B Completion will be discussed and managed during the fortnightly T&C Control meeting.

CAF have submitted three letters to Turner & Townsend during the last period, seeking information on operational decisions, or specific technical issues which may have affected CAF's testing and maintenance activities at the Depot. Turner & Townsend has responded to these letters, asking CAF to quantify the likelihood and probable extent of any potential delay or any direct costs incurred.

Turner & Townsend have requested an update to the reliability analysis (FMEA) documentation already provided by CAF, following the implementation of a modification on the PISPASPA /



CCTV system. This is necessary to ensure that the modification will have no effect on tram reliability in passenger service.

Turner & Townsend have written to CAF confirming the project's requirement for progression against the Rev 5 programme. Confirmation from CAF in this regard is awaited at the time of writing.

#### **9.4 Look Ahead**

The following items will be progressed during the coming period(s):

- 1 Test and Commissioning (end December 2012):
  - All 27 trams will have been delivered to Gogar Depot
  - All 27 trams will have completed Routine Testing on the MTT
  - The first 5 trams will have completed Routine Testing (Section B) and will be vested with CEC
- 2 System Acceptance and Integration – Turner & Townsend shall develop a tracker to monitor the progress of Section B test, commissioning and integration activities; to be discussed during the fortnightly Test & Commissioning Control meetings.
- 3 Fare Collection – Following award of the Fare Collection supply contract to Parkeon, Turner & Townsend shall:
  - Facilitate initial technical discussions between Parkeon and Lothian Buses, to allow the functional and detailed design specifications to be developed;
  - Develop a more detailed delivery schedule with Parkeon, to allow the programme to be accurately tracked to completion.
- 4 Turner & Townsend will complete the development of a 'Tram Handover' procedure with CAF and Edinburgh Trams, to ensure that all contractual requirements are met before trams are vested with CEC following the completion of Routine Testing on Section B.

## 10 Assurance

### 10.1 Resources

Following the departure of the Safety Verification Manager at the end of October 2012, these duties are currently not being fulfilled. Turner & Townsend have developed various options for City of Edinburgh Council to implement, however a decision from City of Edinburgh Council is still awaited. Detailed discussions and agreement on the future project assurance structure and regime is required in order to prevent risk to the Section B completion date.

### 10.2 Independent Competent Person

Advice of Possible Non Compliance (ANC) 002 - Confirmation of 'Duty Holder' ability to deliver Safety Verification remains open. Bilfinger Berger Siemens have provided the requested additional documentation, a site visit will now be arranged with Bilfinger Berger Siemens to review the construction details on site.

The ICP has requested to be present for the first tram movement on Section 7.

### 10.3 Requirements Management

A further 7 concessions have been agreed in the last period. As the requirements are being reviewed the number requiring concessions has increased to 62. A 'Process Audit' has commenced for the project office to close the contract requirements.

### 10.4 Evidence File

The IT team (Amor) has advised that the last attempt to transfer the documentation has failed. They are now developing a proposal for City of Edinburgh Council to transfer the documents manually.

### 10.5 Quality

Following the completion of the York Place enabling works by Crummock, the handover documents for the Utility, OLE and drainage works have been reviewed by Turner & Townsend and passed to Bilfinger Berger Siemens for acceptance.

An audit of Bilfinger Berger has been undertaken regarding the appointment of subcontractors and review of subcontractor quality plans. The audit is still to be completed as some of the information required was unavailable at the time of the audit.

The monitoring of the NCRs raised on the project continues. Details of the NCRs are included below:

- The number of NCRs raised to date is 721. 55 NCRs were raised during the period and 31 NCRs were closed out during the period. There are 172 NCR's outstanding at present.
- 31 open NCRs are greater than 6 months old. Further details may be found within Section 6 of Deliver a Safe Tram Report (See Appendix 2).

During the period there was a rise in the number of NCRs relating to poor supervision and poor workmanship. Now that the civil works are nearing completion Bilfinger Berger Siemens have

**Progress Report No. 14 – 14<sup>th</sup> October to 10<sup>th</sup> November 2012**

**FINAL**

been focussing on ensuring non conformances are logged and closed prior to the package contractors leaving site.

One NCR (NCR714) has been raised on an out of tolerance on the track after the first stage concreting at West Maitland Street. The track moved after Siemens prepared the track for concreting. The concrete has been broken out and the track realigned to the correct position.





## Appendix 1 – Dashboard





Produced by	Julian Weatherley & Shirley-Anne Collin	SECTION	SUMMARY DASHBOARD REPORT CONFIDENTIAL – LEGALLY PRIVILEGED AND FOI(S)A EXEMPT			Employer	City of Edinburgh Council Waverley Court, Edinburgh, EH8 8BG
Approved by	Julian Weatherley	Issue By:	Turner & Townsend Project Management Limited, 9 Lochside Avenue, Edinburgh Park			Address	
Status	FINAL	Issue Date	20 <sup>th</sup> November 2012	REPORTING PERIOD	14 <sup>th</sup> October to 10 <sup>th</sup> November 2012	Project:	Edinburgh Tram Network

KEY MILESTONES								
Section	Description	A Rev 5 Schedule Date	B Forecast/Actual Date	B-A+D Var. (d's)	C-B+E Mvmt in Period	Complete	Crit. Path	Comments
<b>Section Completions</b>								
ALL	Section B; Test Track complete	08-Mar-13	08-Mar-13	0	↓		Y	3d mvmt to Section B date due to later than planned completion of track finishes at Airport
ALL	Section C; All construction complete	09-Apr-14	23-Oct-13	168	↑		Y	3mth mvmt to Section C date as a result of alignment of schedule to intended sequence of works at Gateway, Shandwick, York Place and Murrayfield Corridor
ALL	Section D; open for revenue	08-Jul-14	01-Feb-14	157	↑		Y	3mth mvmt to Section D date as a result of alignment of schedule to intended sequence of works at Gateway, Shandwick, York Place and Murrayfield Corridor
<b>On Street</b>								
<b>Haymarket</b>								
On-Street	Civil Works complete (H1 to H3B)	17-May-13	26-Mar-13	52	→		N	Utilities Contractor completion of T2 Conflicts throughout this area are affecting access and progress of main works, however continued cooperation and coordination between Main and Utilities Contractor is successfully mitigating delays.
On-Street	All Remaining Works Complete (H4 to H6)	25-Jul-13	03-Jun-13	52	↑		N	
<b>Shandwick Place</b>								
On-Street	Civil Works Complete Palmerston Place to Crescents (SP2 & SP6)	18-Oct-13	24-Apr-13	177	↑		N	Change of work schedule to reflect actual construction is shown in the forecast date. Rev5's representation of intended progress, of on site and planned future works invalid.
On-Street	Civil Works Complete Crescents including Atholl West Tie-In (SP4 & SP5)	05-Jun-13	29-May-13	7	↓		N	Change of work schedule to reflect actual construction is shown in the forecast date. Rev5's representation of intended progress, of on site and planned future works invalid.
On-Street	Civil Works Complete Crescents to Lothian Road (SP1 & SP3)	25-Mar-13	10-Apr-13	-16	↓		N	Carriageway Reconstruction in SP3 delayed by discovery of further utility clashes that prevented traction duct completion.
On-Street	All Remaining Works in Shandwick Place Complete (SP1 to SP7) (incl. commissioning & testing)	04-Dec-13	26-Jun-13	161	↑		N	Change of work schedule to reflect actual construction is shown in the forecast date. Rev5's representation of intended progress, of on site and planned future works invalid.
<b>Princes Street</b>								
On-Street	Princes St Tram Stop Complete	04-Oct-12	04-Mar-13	-151	↓		N	No progress in the period non critical activity
On-Street	Commence M&E Works	07-Oct-13	10-Apr-13	180	↑		N	Change of work schedule to reflect actual construction is shown in the forecast date. Rev5's representation of intended progress, of on site and planned future works invalid.
On-Street	All Remaining Works complete	22-Nov-13	31-May-13	175	↑		N	
<b>South St Andrews St / Waverley Junction</b>								
On-Street	Remaining Civil Works Complete	03-Oct-12	08-Jan-13	-97	↑		N	Continuing concentration of effort on works at 'Plug' resulting in knock on delay in other areas. Limited access to area due to utility diversions also continues, as Main Contractor facilitates revised working sequence to mitigate delays encountered in this area. Area is closely monitored to ensure access for all parties due to congestion.
On-Street	All Remaining Works Complete (Incl. Commissioning & testing)	25-Oct-12	16-Apr-13	-173	↓		N	
<b>St Andrews Square &amp; St Andrews St North</b>								
On-Street	Civil Works Complete	15-Oct-12	30-Jan-13	-107	↓		N	Congested area due to continued utility diversions. Main Contractor has facilitated revised working sequence to mitigate delays encountered in this area. Area is closely monitored to ensure access for all parties.
On-Street	All Remaining Works Complete (Incl. Commissioning & testing)	26-Oct-12	16-Apr-13	-172	↓		N	
<b>York Place</b>								
On-Street	Complete Enabling Works	N/A	16-Nov-12	N/A	→		N	
On-Street	Commence Main Works	22-Nov-12	12-Nov-12	10	↑		Y	West End of main works will now commence earlier due to revised works schedule as per actual construction.
On-Street	Civils Works Complete	29-Oct-13	01-May-13	181	↑		Y	Change of work schedule to reflect actual construction is shown in the forecast date. Rev5's representation of intended progress, of on site and planned future works invalid.
On-Street	All Remaining Works Complete (Incl. Commissioning & testing)	18-Nov-13	12-Jun-13	159	↑		Y	
On-Street	York Place Tram Shelter installed	08-Mar-13	01-Mar-13	7	↑		Y	Dates not yet adjusted to follow proposed BBS fitout solution to TCN 651 & 656 (02Sep13)
<b>Off Street</b>								
Off-Street	W4, 19-29; Russell Rd. Retain Complete	29-Oct-12	30-Oct-12	-1	↑		N	Progressing well with all units 19-29
Off-Street	S21A Roseburn St. (501-505 Viaduct) ready for Track Civils	27-Sep-12	11-Dec-12	-75	↓		Y	A further 8d lost progressing Reinforced Earth and Blockwork. Is 7d from CriPth and driving Track Laying along Murrayfield Corridor
Off-Street	S21B Murrayfield Retaining Wall ready for Track Civils	11-Oct-12	08-Jan-13	-89	↓		Y	A further 15d lost progressing Reinforced Earth and Blockwork. Is on CriPth and driving Track Laying along Murrayfield Corridor
Off-Street	Water of Leith Bridge Complete	31-Aug-12	05-Nov-12	-66	→	✓	N	Deck complete, progressing with Finishes
Off-Street	S22A Balgreen Road Bridge Complete	18-Sep-12	18-Oct-12	-30	→	✓	N	Complete
Off-Street	Track civils - (Formation and Ballast) between MUS and BAL Complete	06-Feb-13	18-Feb-13	-12	↑		Y	The project's critical float path. S21B is again driving this phase of works
Off-Street	5B Track Ready for Tamping	31-Oct-12	10-May-13	-191	↓		N	Track laying resources prioritised to 5A
Off-Street	Tamping Ballast Section 5B Complete	21-Nov-12	22-May-13	-182	↓		N	Long lead requirement of ordering 5B Tamper is driving earliest date for this works. BBS indicate intent is to let this slip till date 5A Tamper is due
Off-Street	5A Track Ready for Tamping	25-Mar-13	05-Apr-13	-11	↑		Y	Further 15d slip is as a result of poor progress at S21B
Off-Street	5C Track Ready for Tamping	19-Jun-13	24-Apr-13	56	↑		N	New scope requirement identified at the Gateway not shown in Rev5 nor in the accepted Expanded schedule
Off-Street	Tamping Ballast Section 5A (&5C) Complete	16-Apr-13	22-May-13	-36	↑		Y	Long lead requirement of ordering 5A(&5C) Tamper is now also driving earliest date for this works
Off-Street	Full Line Pre-Stressing and Grinding	16-Sep-13	25-Jul-13	53	↑		Y	Emphasis on final stage works has changed from E&M (OHLE) to final rail systems works for full length of route
Off-Street	5A Testing & Commissioning (5C-2A T&C)	23-Sep-13	19-Jul-13	66	↑		N	Removed from Crit Path. Emphasis on final stage works has changed from E&M (OHLE) to rail finishes for full length of route
Off-Street	Balgreen Tram Shelter installed	07-Aug-12	27-Nov-12	-112	↑		N	Not adjusted to follow proposed BBS fitout solution to TCN 651 & 656 (29Apr13)
Off-Street	Saughton Tram Shelter installed	13-Dec-11	26-Oct-12	-318	↓		N	Not adjusted to follow proposed BBS fitout solution to TCN 651 & 657 (09Apr13)
Off-Street	Bankhead Tram Shelter installed	19-Mar-13	31-Jan-13	47	↑		N	Not adjusted to follow proposed BBS fitout solution to TCN 651 & 658 (19Mar13)
Off-Street	Gyle Tram Shelter installed	21-Jan-13	26-Oct-12	87	↑		N	Not adjusted to proposed BBS fitout solution to TCN 651 & 658 (18Jan13); NOTE: in Rev5 Fibre Optic for CCTV not due till 27Jun
Off-Street	Gateway King Post Retaining Structure complete	03-Oct-12	10-Dec-12	-68	↓		N	BBS Rev5 has shown closer alignment to TT assessment. TT using this activity to show this
Off-Street	Gateway Post Eathworks Drainage Complete	14-Nov-12	03-Dec-12	-19	↓		N	Expanded woks shows 1wk slip against their schedule. TT using this activity to show this
Off-Street	Gateway Track laying underway	22-Feb-13	11-Feb-13	11	↑		N	7d slip due to progress of heavy civils
<b>Depot &amp; Test facilities</b>								
Depot & Test Facilities	Gogar Burn Tram Stop Complete	17-Oct-12	28-Nov-12	-42	↑		N	E&M fitout continues
Depot & Test Facilities	AIR Tram Stop Complete	21-Dec-12	17-Jan-13	-27	↓		N	Delivery and installation of cubicle delayed along with installation of LV power
Depot & Test Facilities	7A&5C-02 Track Ready for Tamping	27-Sep-12	17-Oct-12	-20	↓	✓	N	Tamping date, set by BBS, is delaying completion of their own final Track Ballast works
Depot & Test Facilities	Tamping Ballast Section 7A Complete	26-Oct-12	26-Oct-12	0	→	✓	Y	Remains key Date driving Section B completion
Depot & Test Facilities	Overhead Catenary Systems 7A Complete (pre SP2.0 testing)	26-Nov-12	08-Nov-12	18	↓	✓	Y	OHLE works now underway, completion however is driven by Tamping 7A
Depot & Test Facilities	Rail Systems 7A Complete	17-Sep-12	09-Nov-12	-53	→	✓	N	No change
<b>Tram Test &amp; Commission</b>								
Section B	OCS Energised (IP1.0)	06-Dec-12	05-Dec-12	1	↓		Y	Driven by commissioning plan
Section B	AIR-Depot Test Track available (post IRI.0)	14-Dec-12	12-Dec-12	2	↓		Y	Driven by commissioning plan
Section B	Tram Bourne Dynamic Tests Complete	04-Feb-13	05-Feb-13	-1	↓		Y	Driven by commissioning plan
Section B	All Secn B SAT/SITs complete. Ready to commence Test1	08-Feb-13	08-Feb-13	0	↓		Y	Driven by commissioning plan

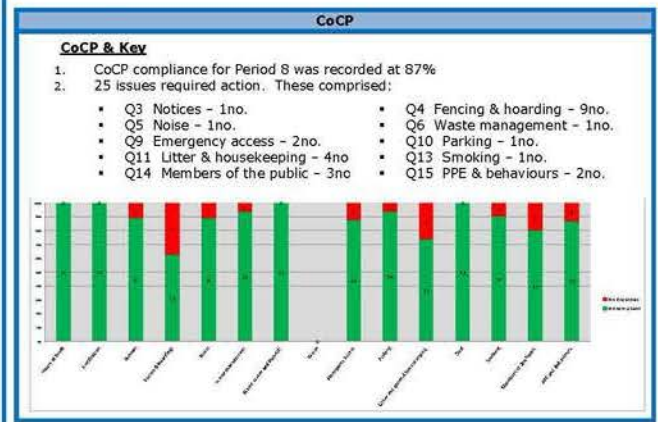


**PROGRESS**

**SUMMARY**

During the last period Turner & Townsend have been working to implement a number of initiatives regarding health and safety on the project. These have comprised undertaking targeted monitoring comprising:

- Housekeeping on sites with a continued emphasis where there is joint occupancy by contractors.
- Fencing of worksites. There has been an improvement with the condition of the fencing during the period.
- Working at height.
- Reversing vehicles.



**CDM Regulations**

BBS have been requested to review the Construction Phase Plan for the project to ensure that it adequately addresses management arrangements for the revised risk profile for the project.

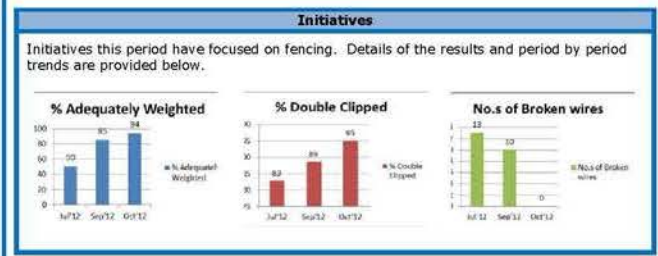
The arrangements for accessing Section 7 now that the OLE works are underway and the IP&R substation will be energised have been advised by BBS.

The updated safety arrangements for the test and commissioning of section B infrastructure and tram vehicle interface have been reviewed. Lothian and Borders Police have contacted BBS with regard to the development of their Incident Plan for the tram operations. A meeting is planned for the 16<sup>th</sup> November to progress this.

The first section of the York Place enabling works has been handed over to BBS from Crummock.

McNicholas have appointed Ian Wood as the health & safety inspector for the project.

A review has been undertaken of the requirements spreadsheet to close out the items relating to health and safety in relation to section A.



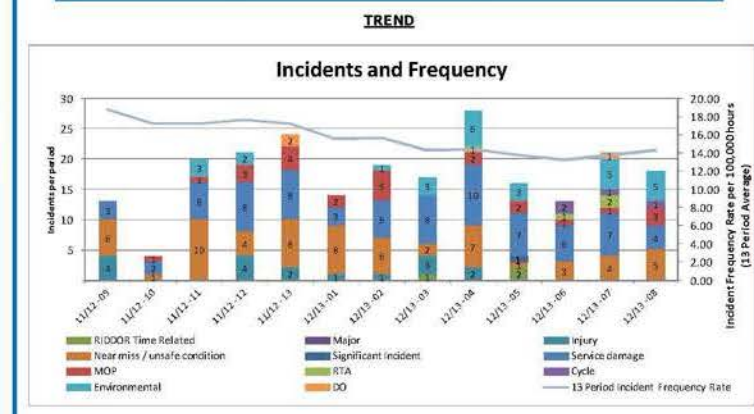
**HEALTH & SAFETY**

**Incidents**

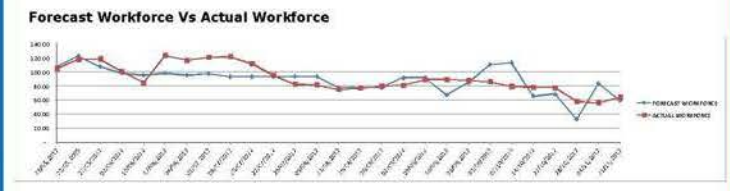
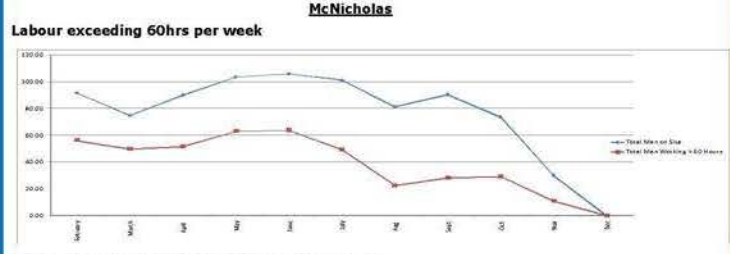
There were 18 incidents reported during the period since the last dashboard. A summary is provided below.

The rolling 13 Period AFR is 0.19

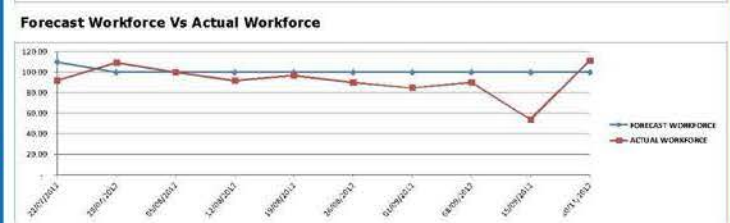
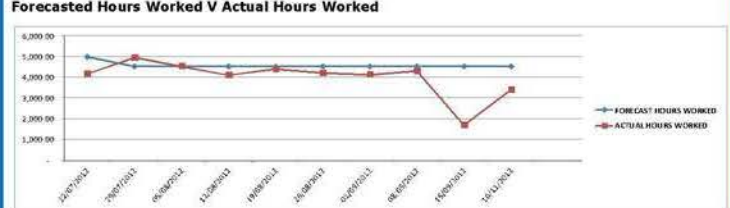
Classification	Number	Major	Serious / significant	Minor	RIDDOR Reportable
Member of public	3		2	1	
Service damage	4			4	
Environmental	5			5	
Major					
Injury > 7day					
Injury < 7 day					
Dangerous occurrence					
Road traffic accident					
Near miss / unsafe condition	5			5	
Significant Incident					
Other	1			1	
<b>TOTAL</b>	<b>18</b>		<b>2</b>	<b>16</b>	



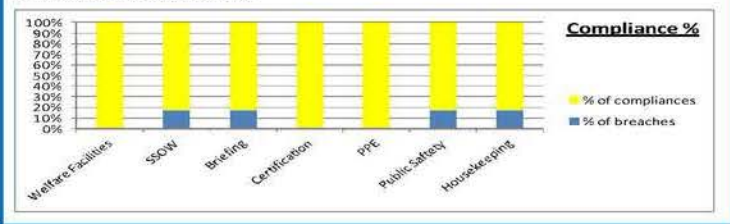
**McNicholas**



**Crummock**



**Monitoring of Leading Indicators**





Produced by	Martyn Ayres & Shirley Collin	SECTION	ENVIRONMENTAL, QUALITY, ASSURANCE CONFIDENTIAL – LEGALLY PRIVILEGED AND FOI(S)A EXEMPT		Employer	City of Edinburgh Council
Approved by	Julian Weatherley	Issue By:	Turner & Townsend Project Management Limited, 9 Lochside Avenue, Edinburgh Park		Address	Waverley Court, Edinburgh, EH8 8BG
Status	FINAL	Issue Date	20 <sup>th</sup> November 2012	REPORTING PERIOD	14 <sup>th</sup> October to 10 <sup>th</sup> November 2012	Project:
						Edinburgh Tram Network

**PROGRESS**

**SUMMARY**

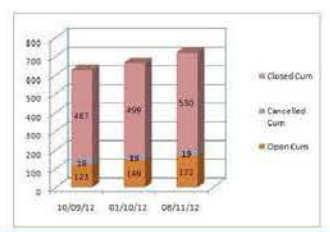
- Independent Competent Person – Advice of Possible Non Compliance (ANC) 002 - Confirmation of 'Duty Holder' ability to deliver Safety Verification remains open, a site visit will now be arranged with BBS to review the construction details on site.
- Requirements Management – Requirements requiring concessions are being progressed. Total of 62 concessions, 27 of which are agreed. The formal closure of the requirement relating to the project office has now commenced.
- Evidence File – IT are still unable to fully transfer the files and metadata. New IT provided (Amor) is developing a proposal for the manual transfer of documentation.
- Safety Verification Scheme Audits – Safety Verification audit TSA/12/01 – Maintenance of Depot Workshop Equipment and track, this audit can now be signed off by Edinburgh Tram and closed.
- Section B – Testing and Commissioning control meeting has now been established, Turner & Townsend will develop a tracker to monitor the completion of the required tests for section B as BBS will only provide progress updates every 4 weeks.
- Total No of NCRs raised is 721. 55 NCRs were raised during the period and 31 NCRs were closed out during the period.

**QUALITY**

**NCRs by Period**

Total number of Non Conformance Reports raised - 721

- Total number of Non Conformance Reports raised in period 7 - 55
- Total number of Non Conformance Reports closed in period 7- 31
- Number of Non Conformance Reports greater than 6 months old -31



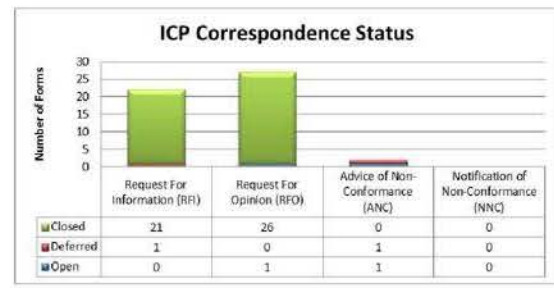
**ENVIRONMENT**

**Environmental**

- Edinburgh Airport has raised concerns regarding erosion of the Gogar Burn in the vicinity of the tram works. This is currently being investigated with the BBS.
- Crummock, who are currently carrying out works for CEC are removing material from Tram site to a site on Shrub Hill Lane, east Edinburgh. The material is being processed and returned to the tram project or retained at Shrub hill Lane. A reviewed on these works is currently underway to confirm the appropriate licences are in place.
- Gerardo Austria the appointed Environmental Adviser for the BBS left the project on the 7th of November 2012. Edinburgh Trams have not yet been advised who will take over Gerardo's duties.
- Six Environmental Incidents were reported during the period all relating to diesel/fuel spills or oil spills. This area will be targeted during the next period inspections.

**INDEPENDENT CERTIFIED PERSON**

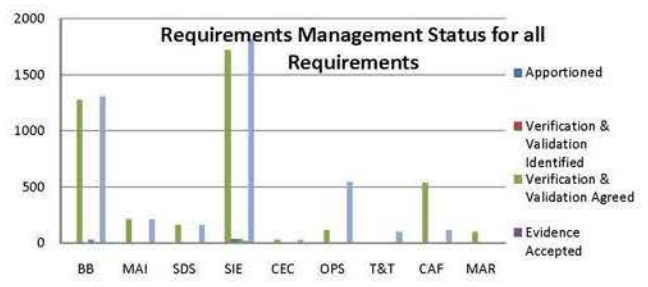
- Advice of Possible Non Compliance (ANC) 002 – Due to cancellation of Safety Verification (SV) audits SVS Audit ref. TSA/12/03; BBS have provided a response to the checklist. These documents have now been reviewed and accepted, subject to a site meeting being held to confirm construction details.
- BBS have now submitted their formal tram signage proposal to the Independent Competent Person (ICP) for acceptance. As required under Rail and Other guided systems (ROGS) regulations.
- The ICP has requested to be present on site for the first tram movement on section B; this has been arranged with BBS.



**REQUIREMENT MANAGEMENT**

**Progress**

- Verification and Validation Agreed Status 100% complete.
- Requirements requiring concession being progressing with a number 7 agreed in the last period.
- 62 concessions have been identified with 27 having been agreed.
- A 'Process Audit' has commenced for the project office to close the requirements for the project office under the contract.
- Weekly meeting have now been agreed with BBS to progress to closure of these requirements.



**Assurance - Section B**

- Initial track inspection was carried out with BBS on 6<sup>th</sup> November following the track tamping operation, a number of observation were raised to BBS relating to track fixings being damages.
- The operation of tensioning the track was viewed. (See below).



- Turner & Townsend have requested Testing and Commissioning updated every two week, as a number of the test have not been completed in-line with the scheduled dates. It was agreed the updated would be provided at the T&C control meeting.

**CONSENTS**

Key Consents due in the next period, with full list in the appendix.

Combined Consents required				
	Total Required	Total On Hold	Total Outstanding	Total Closed
Third party	21	4	14	3
Technical Informatives	6	1	2	3
Planning Consents	38	15	0	23
Other Approvals	13	0	2	11
Legal Agreements	15	0	9	6

- Planning consents are now complete
- The two Technical Informatives are currently with CEC.
- The Key area remains 3<sup>rd</sup> party Consents.

**SOFT ANALYSIS**

**SUCCESSSES**

- All stakeholders are working well together at the depot.
- Establish a detailed testing and commission workshop
- Review of supervisor competencies

**OPPORTUNITIES**

- Increased monitoring of onsite activities. Project Management resources will become part of integral On Street assurance process.
- Safety seminars to be arranged for project managers.

**FAILURES**

- None.

**THREATS**

- Statuary bodies co-operation.
- Late issue of documentation by BBS.
- Potential gaps between contracted maintenance responsibilities
- Visibility of BBS design and assurance documentation.



Produced by	Willie Delaney & Shirley Anne Collin	SECTION	TRAMS CONFIDENTIAL – LEGALLY PRIVILEGED AND FOI(S)A EXEMPT		Employer	City of Edinburgh Council
Approved by	Julian Weatherley	Issue By:	Turner & Townsend Project Management Limited, 9 Lochside Avenue, Edinburgh Park		Address	Waverley Court, Edinburgh, EH8 8BG
Status	FINAL	Issue Date	20 <sup>th</sup> November 2012	REPORTING PERIOD	14 <sup>th</sup> October 2012 to 10 <sup>th</sup> November 2012	Project:
						Edinburgh Tram Network

PROGRESS IN PERIOD	PHOTOGRAPHS / KPIs	KEY ISSUES
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**PROGRESS IN PERIOD**

- Test and Commissioning – Delivery of Trams and testing on the Mini Test Track (MTT) continues to progress ahead of schedule:

  - 25 trams have now been delivered to Gogar Depot
  - 23 have completed Interim Routine Testing on the MTT

There is one additional tram scheduled for delivery in November, with the final tram due delivery in December 2012.

There is no access to the MTT between the 12<sup>th</sup> and the 30<sup>th</sup> of November 2012, to allow connection of the overhead line for Section B, as discussed during the last Tram Integration Meeting.
- System Acceptance and Integration – Section B Test & Commissioning Control meetings are now being held fortnightly (chaired by BBS), in place of the Tram Integration and Commissioning Meeting, to discuss all areas of Section B commissioning and integration. These are being held alternately with fortnightly Section B Handover meetings (chaired by Turner & Townsend), to discuss all requirements for Section B handover.

Turner & Townsend have been asked to develop a 'Section B Tracker', to monitor the progress of significant test, commissioning and integration activities for Section B.
- Fare Collection – Following the appointment of Parkeon as the Preferred Bidder for the system, Turner & Townsend arranged a series of technical discussions to enable the equipment and functionality of the system to be defined and formally agreed by all stakeholders (CEC, Parkeon and Lothian Buses).

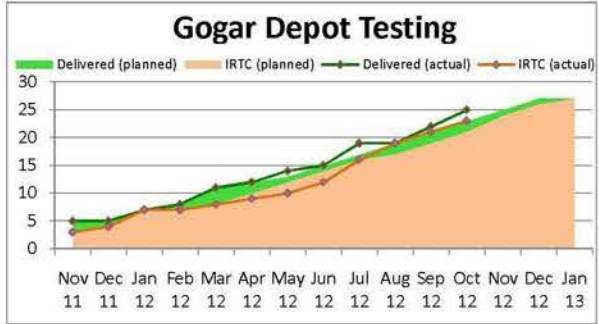
Turner & Townsend also facilitated a series of discussions between CEC, Brodies Solicitors, Parkeon and Lothian Buses, culminating in the development of a supply agreement for the Tram Ticketing system. It is anticipated that this agreement will be signed by Parkeon and CEC (tie) by the 16<sup>th</sup> of November 2012.

Following the acceptance of this agreement by CEC and Parkeon, the project will enter the Specification Phase, whereby all technical and detailed design requirements will be finalised and agreed.

Information on the quantity, location and installation of the tramstop equipment has now been submitted to BBS informally, with a formal TNC to be submitted to the Change Control Board on the 12<sup>th</sup> of November 2012. Turner & Townsend will provide additional information on Platform Validator (PV) installation in city centre tramstops, when information on the dimensions of the CCTV poles to be used has been received from BBS.
- Sub-Contractor Direct Agreements – CAF have submitted a number of agreements with their suppliers, as required by the Tram Supply Agreement, however some of the wording has deviated from that in the relevant Contract Schedule. These amendments are currently being reviewed by CAF.



Trams at Gogar Depot



Trams scheduled for delivery	Date
Tram 26 (#269)	20/11/2012
Tram 27 (#254)	04/12/2012

**KEY ISSUES**

- During the Fare Collection system technical discussions held during the last period, several items of information were identified as being required before the system functionality could be specified in detail:

  - Acceptance of Transport Scotland concession cards on trams (CEC Action)
  - Decision on whether servers will be provided by LB, or Parkeon (LB Action)
  - Dimensions of Platform Validator mounting poles (BBS Action)
  - Branding / livery to be used on platform equipment (CEC Action)

On award of a contract to the Preferred Bidder, Turner & Townsend will continue to follow up on the above actions, as further delay may delay the installation of the system.
- Turner & Townsend are concerned regarding the visibility of progress of Section B test and commissioning activities, as there is limited accurate information available despite Turner & Townsend having requested this at several T&C meetings held during the last period.

Turner & Townsend will develop a tracker to monitor key test, commissioning and integration activities, to be discussed during fortnightly control meetings chaired by BBS.
- CAF have submitted three letters to Turner & Townsend during the last period, seeking information on operational decisions, or technical issues which may have affected CAF's testing and maintenance activities at the Depot.

Turner & Townsend has responded to these letters, asking CAF to quantify the likelihood and probable extent of any potential delay or any direct costs incurred.

**OPERATIONAL ISSUES**

- The water ingress into the depot building maintenance pits remains to be resolved by BBS. Further action is now required as CAF have confirmed that this issue is affecting their operation.

**CEC ACTIONS / DECISIONS**

- The Preferred Bidder for the Fare Collection system has now been appointed, CEC to complete a final review of the Tram Ticketing Agreement prepared by Brodies Solicitors and award a contract, if the Agreement is accepted.
- Acceptance of the wording of Sub-Contractor Direct Agreements between CAF and its suppliers, as submitted by CAF in accordance with the Tram Supply Agreement.

**LOOK AHEAD**

The following items will be progressed during the coming period(s):

- Test and Commissioning (end December 2012):

  - All 27 trams will have been delivered to Gogar Depot
  - All 27 trams will have completed Routine Testing on the MTT
  - The first 5 trams will have completed Routine Testing and will be vested with CEC
- System Acceptance and Integration – Turner & Townsend shall develop a tracker to monitor the progress of Section B test, commissioning and integration activities; to be discussed during the fortnightly Test & Commissioning Control meetings.
- Fare Collection – Following award of the Fare Collection supply contract to Parkeon, Turner & Townsend shall:

  - Facilitate initial technical discussions between Parkeon and Lothian Buses, to allow the functional and detailed design specifications to be developed;
  - Develop a more detailed delivery schedule with Parkeon, to allow the programme to be accurately tracked to completion.
- Development of a 'Tram Handover' procedure with CAF and Edinburgh Trams, to ensure that all contractual requirements are met before trams are vested with CEC following the completion of Routine Testing on Section B.



**SOFT ANALYSIS**

<p><b>SUCCESSSES</b></p> <ol style="list-style-type: none"> <li>Tram delivery and testing continues ahead of schedule. CAF intend to complete delivery ahead of the scheduled December date.</li> <li>Following final discussions held during the last period, The 'System Supply Agreement in Relation to Trams Ticketing' document has been drafted ready for signature by Parkeon and CEC. It is anticipated that the Agreement will be executed by 16<sup>th</sup> November 2012.</li> </ol>	<p><b>OPPORTUNITIES</b></p> <ol style="list-style-type: none"> <li>Start system testing and commissioning on completion of Off Street Section (Airport to Shandwick Place crossover) leading to earlier commencement of Revenue Service date (early partial service on Off Street Section and early service on full route).</li> <li>Further review of BBS Section B completion programme may allow trams to be commissioned ahead of current schedule.</li> <li>Increase in tram delivery rate could allow all trams to be delivered well ahead of schedule.</li> </ol>
<p><b>FAILURES</b> None identified</p>	<p><b>THREATS</b></p> <ol style="list-style-type: none"> <li>Any delay in award of the Fare Collection supply contract past November could significantly delay the required implementation date for the system.</li> </ol>

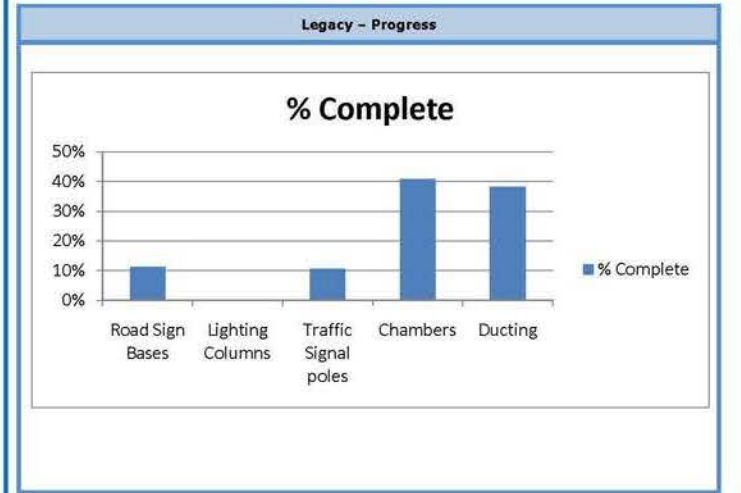


Produced by	Rob Leech & Shirley-Anne Collin	SECTION	ON STREET DASHBOARD REPORT CONFIDENTIAL – LEGALLY PRIVILEGED AND FOI(S)A EXEMPT Turner & Townsend Project Management Limited, 9 Lochside Avenue, Edinburgh Park			Employer	City of Edinburgh Council
Approved by	Julian Weatherley	Issue By:				Address	Waverley Court, Edinburgh, EH8 8BG
Status	FINAL	Issue Date	20 <sup>th</sup> November 2012	REPORTING PERIOD	14 <sup>th</sup> October to 10 <sup>th</sup> November 2012	Project:	Edinburgh Tram Network

**PERIOD**

- PROGRESS**
- All available sites are in the possession of Infracore for installation of trackwork
  - Infracore progressing well with trackslab, track installation, and carriageway reconstruction in all areas from Haymarket to St Andrew Square
  - Cathedral Lane sub-station – Delivery strategy being reviewed
  - 1<sup>st</sup> Phase of York Place handed over to Infracore – remainder W/C 16<sup>th</sup> November
  - Number of challenges in St Andrew Street but critical path not at risk
  - Princes Street plug due to open mid November
  - Stafford Street opened to traffic
  - Non conformance in Coates Place – Remedial action taken
  - Type 2 utility conflicts progressing well and metrics now finalised
  - Poor progress with Scottish Water generally and Leith Walk start date at risk due to slow progress agreeing scope
  - Tender documents for works at the crescents complete – Strategy being finalised
  - Dublin Street Steps – Legal Agreement signed
  - Investigating additional space in the city during the Christmas period

- LOOK AHEAD**
- Track slab, track laying and carriageway reconstruction will continue in St Andrew Square and from Lothian Road to Haymarket.
  - Complete York Place enabling works
  - Continue with Type 2 conflicts
  - Turner & Townsend will continue to react to utility discoveries by Infracore.
  - Scope finalisation with SW for Leith Walk to continue.
  - Continue to work with Infracore to recover time lost due to utility conflicts – replenish the time bank.
  - Work with CEC in seeking to limit the scope of Scottish Water legacy works



**PHOTOGRAPHS**



York Place

York Place



Haymarket

Shandwick Place / Crescents



Haymarket

St Andrew Street

**KEY ISSUES**

- Scottish Water relationship generally
- Type 2 conflicts and SW Legacy issues – Possible delays.
- Legacy works North of York Place.
- Cathedral Lane retaining wall re-design – Potential delays
- Time Bank Recovery.

**CEC ACTIONS / DECISIONS**

- Scottish Water overarching terms
- OLE Building Fixings – Legal Agreements with landowners (some progress made during the period)

**SOFT ANALYSIS**

<p><b>SUCCESSSES</b></p> <ol style="list-style-type: none"> <li>Working relationships with BBS remains good, particularly on site</li> <li>Speedy reaction to conflict issues</li> </ol>	<p><b>OPPORTUNITIES</b></p> <ol style="list-style-type: none"> <li>Optimize revised traffic phasing and work with Infracore to replenish time bank</li> <li>Return buses to Shandwick Place before 31<sup>st</sup> March 2013</li> </ol>
<p><b>FAILURES</b></p> <ol style="list-style-type: none"> <li>Carriageway vertical alignment in south St Andrew St</li> <li>SDS OLE design</li> <li>MUDFA design, as built, contract administration &amp; supervision</li> </ol>	<p><b>THREATS</b></p> <ol style="list-style-type: none"> <li>Type 2 Conflicts</li> <li>Legacy works at Leith Walk</li> <li>Legacy works within tram worksites</li> <li>Scottish Water relationship and derogations required to specification along route.</li> <li>Unknown utilities</li> <li>Infracore delay to Rev 5 due to utilities</li> </ol>

PROGRESS IN PERIOD

PHOTOS

PROGRESS IN PERIOD

1. Tamper has completed Section 7 track works;
2. Tram Stop furniture installed on Section 7 including Passenger Information Displays;
3. Snagging commenced on civil elements within Section 7;
4. Ingliston Park and Ride substation has been powered up;
5. Overhead line installation commenced on Section 7;
6. Electrification notifications have been delivered to neighbouring properties and are posted on boundary fencing;
7. Edinburgh Gateway attenuation tank roof slab complete;
8. Edinburgh Gateway King Post Wall piling complete;
9. Radio mast foundations at Edinburgh Gateway commenced;
10. Gyle Broadway crossing works complete and four lanes of traffic reinstated;
11. Edinburgh Park Station track installation commenced;
12. Edinburgh Park bridge plinths recast and installation of ductwork;
13. Bankhead Tram Stop construction commenced;
14. Bankhead bottom ballast complete and area handed over to Siemens for track installation;
15. Baird Drive embankment construction continued and duct work installation commenced;
16. Balgreen Tram Stop construction works continuing;
17. Water of Leith bridge civil work substantially complete;
18. Sheet piles successfully removed at Murrayfield S21B;
19. W4 retaining wall reinforced concrete construction complete and
20. Haymarket Yards track installation commencing.

Attenuation Tank, Edinburgh Gateway



Ingliston Park and Ride Tram Stop



Tamper on Section 7



KEY ISSUES

1. Eastfield Avenue issues still require resolution with the airport;
2. Murrayfield sewer realignment as described in 8.1.2 requires to be resolved to allow the works at S21D reinforced earth structure to continue.
3. ScotRail depot; potential issues with access gates to the main access, BBS requested to review risks;
4. ScotRail depot; previously agreed encroachment into the depot now greater than expected
5. Bankhead overhead line foundations progressed without a buildover.
6. Network Rail Haymarket Station development works have allowed abnormal loads to move across the tracks at Haymarket Yards without the appropriate approvals being in place. CEC have written to Network Rail over the unacceptable actions and stating their position.

CEC ACTIONS / DECISIONS

1. Close out of the wayleave with Scottish Power and Network Rail at Haymarket.
2. Scottish Water buildover agreements require to be progressed.
3. Verity House commercial position to be decided and agreed with Network Rail.
4. Network Rail operational and bridge agreements require to be progressed.

SOFT ANALYSIS

SUCCESSSES

1. Key milestone of the tamper has been met and completed.
2. IPR substation powered up successfully.
3. Edinburgh Gateway progressing well.

OPPORTUNITIES

1. Two work fronts on track installation at Murrayfield would improve the programme.
2. Edinburgh Gateway could be delivered earlier than the Rev 5 programme.

FAILURES

1. Siemens have not engaged in the Network Rail meetings to agree and finalise WPPs.
2. Murrayfield sewer diversion under the embankment construction now needs to be moved.

THREATS

1. Perception of what is included within the Off Street fixed price has changed.

LOOK AHEAD

The following items will be progressing during the coming period:

1. Completion of cable installation in Section 7;
2. First tram on Section 7;
3. Edinburgh Gateway wall construction;
4. Snagging on the civil items within Section 7 to continuing;
5. Edinburgh Park bridge plinths being formed;
6. Bankhead OHLE pad foundations formation;
7. Tracklaying along Bankhead;
8. Track installation at ScotRail depot continuing;
9. Tensar wall construction at S21B Murrayfield continuing; and
10. W3 wall construction continuing.



<b>Produced by</b>	Shirley Collin, Mike Mackenzie & Craig Forson	<b>Function</b>	<b>COMMERCIAL</b> CONFIDENTIAL – LEGALLY PRIVILEGED AND FOI(S)A EXEMPT			<b>Employer</b>	City of Edinburgh Council
<b>Approved by</b>	Gary Easton	<b>Issued By:</b>	Turner & Townsend Project Management Limited 9 Lochside Avenue, Edinburgh Park			<b>Address</b>	Waverley Court, Edinburgh, EH8 8BG
<b>Status</b>	FINAL	<b>Issue date</b>	20 <sup>th</sup> November 2012	REPORTING PERIOD	14 <sup>th</sup> October to 10 <sup>th</sup> November 2012	<b>Project</b>	Edinburgh Tram Network

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This is no longer recognised as an opportunity by the project team.</li> <li>York Place Tramstop – amended design complete; agreement on revised price to be established between BBS and Turner &amp; Townsend.</li> <li>Road reconstruction depth – Opportunity to reduce road reconstruction depth being identified on site.</li> </ol>	Item	£K	Comment	Remove embargoes and revised TM	0	22 week saving reduced to 16.6 at period end 28/4/12	Setts (separate CEC budget)	980	£88k CEC contribution (SAS) and £95K for revised specification.	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Revised Forecast			509,024																																																																																																																																																																							
Budget			500,154																																																																																																																																																																							
Item	£K	Comment																																																																																																																																																																								
Remove embargoes and revised TM	0	22 week saving reduced to 16.6 at period end 28/4/12																																																																																																																																																																								
Setts (separate CEC budget)	980	£88k CEC contribution (SAS) and £95K for revised specification.																																																																																																																																																																								
De-scope public realm at St Andrew Sq	700	Instructed, monitored through changes in progress																																																																																																																																																																								
Contributions 3rd Party Agreements	2,996	Miscellaneous 3 <sup>rd</sup> party contributions																																																																																																																																																																								
De-scope works at Forth Ports	2,443	Instructed, approved change																																																																																																																																																																								
Omit Airport Tram Kiosk and Canopy	150	Instructed, monitored through changes in progress																																																																																																																																																																								
Temporary tram stop at York Place	150	Instructed, monitored through changes in progress																																																																																																																																																																								
Redeployment of Trams	CEC	Included in CEC budget code																																																																																																																																																																								
Cancel track York Place to Newhaven	1,100	Instructed, approved change																																																																																																																																																																								
Omit Siemens works at Tower Place	100	Instructed, approved change																																																																																																																																																																								
Road re-construction depth	700	Instructed, monitored through changes in progress																																																																																																																																																																								
Design freeze north of York Place	0	No saving obtained																																																																																																																																																																								
Lay off TM at Forth Ports/Leith Walk	0	Works now complete - all TM costs finalises																																																																																																																																																																								
Roseburn Viaduct Cladding	308	Instructed, monitored through changes in progress																																																																																																																																																																								
De-scope crew relief facilities (Haymarket)	74	Instructed, monitored through changes in progress																																																																																																																																																																								
<b>Opportunities secured</b>	<b>8,850</b>																																																																																																																																																																									
<b>Opportunities to secure</b>	<b>850</b>																																																																																																																																																																									
Description	ICC Certificates to Date (£k)	Action																																																																																																																																																																								
Disruption and other costs associated with utilities	968	Ongoing monitoring of costs and mitigation of risks																																																																																																																																																																								
Temporary accommodation for utilities contractor	2	Complete																																																																																																																																																																								
Road re-construction protocol (opportunity to reduce depth)	35	Opportunities to be valued once scope established																																																																																																																																																																								
Scottish Water diversion Princes St	253	Complete																																																																																																																																																																								
Christmas embargo – temporary infill Princes St	204	Complete																																																																																																																																																																								
Traffic Management costs for amended programme constraints	384	Ongoing review and mitigation of costs being carried out																																																																																																																																																																								
Revised drainage design	140	Ongoing agreement on value of amended scope																																																																																																																																																																								
Geotextile liner to Clifton Terrace void	2	Complete																																																																																																																																																																								
Additional Scope	270	Agreement of final total costs currently being undertaken																																																																																																																																																																								
Schedule E Exclusion	139	Ongoing –refer to Schedule E of contract for full list																																																																																																																																																																								
Setts Changes	28	Ongoing assessment through contract																																																																																																																																																																								
Contaminated Materials	62	Ongoing																																																																																																																																																																								
Cathedral Lane	1	Initial site investigations																																																																																																																																																																								
<b>Total ICC Value to date</b>	<b>£2,488k</b>																																																																																																																																																																									
Issue	Status	Action																																																																																																																																																																								
Mark-ups on change: BBS are proposing a mark-up which in Turner & Townsend's view results in double recovery and is contrary to the principles of the contract.		Turner & Townsend require instruction from the independent certifier on the mark-ups to be applied to omissions and negative changes as the BBS proposal is a departure from the contract.																																																																																																																																																																								
Off Street Utilities; BBS claim certain utilities (principally SGN diversion in NIL land) are excluded from their price.		Turner & Townsend require instruction from the independent certifier as acceptance would be a departure from the settlement agreement																																																																																																																																																																								
Rev 3a to 4 Prolongation costs; BBS have not justified the costs incurred to T&T's satisfaction		BBS have refusing to provide any further information to demonstrate incurred costs. IC to provide further guidance on resolution																																																																																																																																																																								
Rev 4 to Rev4c Cost Engineering; BBS have argued that amount which had previously been considered a saving opportunity is actually a cost.		Turner & Townsend have provided recommendation of action to CEC. CEC now finalising their position.																																																																																																																																																																								
Claims for disruption; BBS have stated that there is a cost for disruption in section 1C		Schedule part 45 makes no provision for claims for delay and disruption beyond what is included in the period end estimate (i.e. any claim should form part of period end estimate)																																																																																																																																																																								

**RISK - Significant Movement in Period (Oct/Nov 12):**

Risk ID	Risk Description	Old Level	Movement	New Level	Comments
ED124	SDS reviewing entitlement for prelims associated with design changes	RED	CLOSED	CLOSED	A claim was made and has now been paid
ED125	Track Laying along Murrayfield Corridor delayed	AMBER	NEW	AMBER	Progress at S21B has consistently been less than planned each period. Risk to schedule only
ED126	Additional Utility works encountered across Palmerston St	GREEN	NEW	GREEN	On going legacy utility works continue to be implemented prior to Infracore works commencing. Risk to schedule only
ED127	BBS unable to fully resource in YP during the initial phase of works	GREEN	NEW	GREEN	YP available to Infracore ahead of schedule concurrent to other On-Street sections which also requiring resources. Risk to schedule only
Additional Comments: Risks reviewed, actions updated and added and amendments to probabilities and impacts made. Above are the significant changes in the period.					



## Appendix 2 – Health, Safety Environment and Consents Tracker

### 1.0 Executive Summary

#### Executive Summary

- **Independent Competent Person** – Advice of Possible Non Compliance (ANC) 002 - Confirmation of ‘Duty Holder’ ability to deliver Safety Verification remains open, Currently remains open pending resolution of TSA/12/03 – Section 1C Slips, Trips, Falls (2 wheel vehicles); the ICP has now completed his initial review of the evidence provided. A site visit is now to be arranged with BBS to close the remaining items.
- **Requirements Management** –Requirements requiring concessions are being progressed. Total of 62 concessions, 27 have now been agreed. The review of requirements being verified by a ‘Process Audit’ has commenced for the project office deliverables.
- **Evidence File** – Ongoing issues relating to the migration of the evidence file to the new SharePoint system. Amor (IT consultant) are currently developing a proposal for CEC to migrate the documents manually.
- **Safety Verification Scheme Audits** –Safety Verification audit TSA/12/01 – Maintenance of Depot Workshop Equipment and track; findings are to be formally signed off during next period with Edinburgh Tram.
- **Design** – 2 building fixing approvals remain outstanding. All owners requested further information. A formal agreement has now been sent to each owner, a **response** is still awaited.
- **Tram** - 25 trams have now been delivered to the depot and are undergoing static and dynamic testing on the mini test track.

#### Non Conformance Reports

- Total No of NCRs raised is 721.
- 55 NCRs were raised during the period and 31 NCRs were closed out during the period. 31 no open NCRs are greater than 6 months old.

### 2.0 Safety Verification Scheme (SVS)

- Evidence File – IT are currently experiencing a number of issues relating to the migration of the Evidence file to the new SharePoint system. At this time the likelihood is that the evidence file will need to be transferred manually.
- Safety Verification Audit (SV) Audit TSA/12/03 – Section 1C - Slips, Trips, Falls (2 Wheel Vehicles); a response to the initial supply of information has been collated and is currently being reviewed internally. It is expected this will be closed following a site visit to verify construction details on site.
- SVS Audit TSA/12/01 – All findings have been agreed. Finding forms to be finalized and signed off by the operator during period 9.

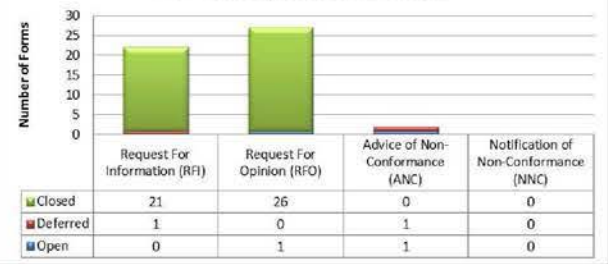
### 3.0 Independent Competent Person

#### ICP Issues

- Project Safety Certification Committee (PSCC) meeting took place 24<sup>th</sup> October 2012.
- Advice of Possible Non Compliance (ANC) 002 – Due to cancellation of Safety Verification (SV) audits SVS Audit TSA/12/03 and InfraCo to support the current format – a way forward has been agreed with regard to SV audits, as detailed opposite. The ANC currently remains open.
- Request For Opinion (RFO) numbers 25 relating to design departure from RSP2 for 2 wheeled vehicles at The Mound; 26 relating to design departure from RSP2 for 2 wheeled vehicles at Haymarket; 27 relating to the proposed tramway signage suite, raised during the period. RFO 25 and 26 were also closed during the period.

ICP Correspondence	Open	Deferred	Closed	Total
Request For Information (RFI)	0	1	21	22
Request For Opinion (RFO)	1	0	26	27
Advice of Non-Conformance (ANC)	1	1	0	2
Notification of Non-Conformance (NNC)	0	0	0	0

ICP Correspondence Status



### 4.0 BBS Design Construction and Testing & Commissioning Assurance

#### Design

##### Electromagnetic Compatibility (EMC)

- BBS Correspondence (Ref. ETN (BBS) CEC&TEE&ABC#054959) System Integration Test (SIT) Procedure - Overall Magnetic and Radiated Emissions (IO 1.0) was submitted for information during the period 2. The document has been reviewed and comments have been passed to BBS correspondence reference INF CORR 8492 sent 6<sup>th</sup> August 2012. Awaiting response from BBS.
- BBS stated that results for Rail Conductance for Princes St do not meet the contract criteria of being 5 times better than standard. BBS will produce a rationale in support of a concession to this requirement. A follow up meeting is to be held week commencing 22<sup>nd</sup> October 2012. It is expected that the results for Princes Street will not reach the contract levels and so BBS are likely to seek a concession. It is not expected that the measured values will pose a significant risk for accelerated corrosion to buried metallic infrastructure; however the independent stray current expert will have to accept BBS argument.
- BBS Correspondence ETN(BBS)CEC&TEE&ABC#060100 SIT Procedure - Immunisation Measurements (10 2.0) was submitted for review. The document has been reviewed internally and also by Network Rail (NWR). Comments have been returned under letter INF CORR 8636.

##### Trackform

- Rheda City Track two site visits between TSS and BBS have now been undertaken on 25<sup>th</sup> September at the depot and the 6<sup>th</sup> November for section 7. A number of minor observations were raised with BBS regarding workmanship details. A draft copy of the planned maintenance levels has now been received for information.

##### Building Fixings

- 2 building fixing approvals remain outstanding. All owners requested further information. A formal agreement has now been sent to each. Currently awaiting approval / return. This action remains outstanding. BBS have now appointed a contractor to carry out the fixing installation.

#### Testing & Commissioning

- Depot and mini-test track operations continue. 25 trams have now been delivered and are undergoing static and dynamic testing. Next tram due 20<sup>th</sup> November 2012 and final tram due 4<sup>th</sup> December 2012.



## Project Report – Period 8

### 5.0 Operator/Maintainer Safety Management System (inc. T&C)

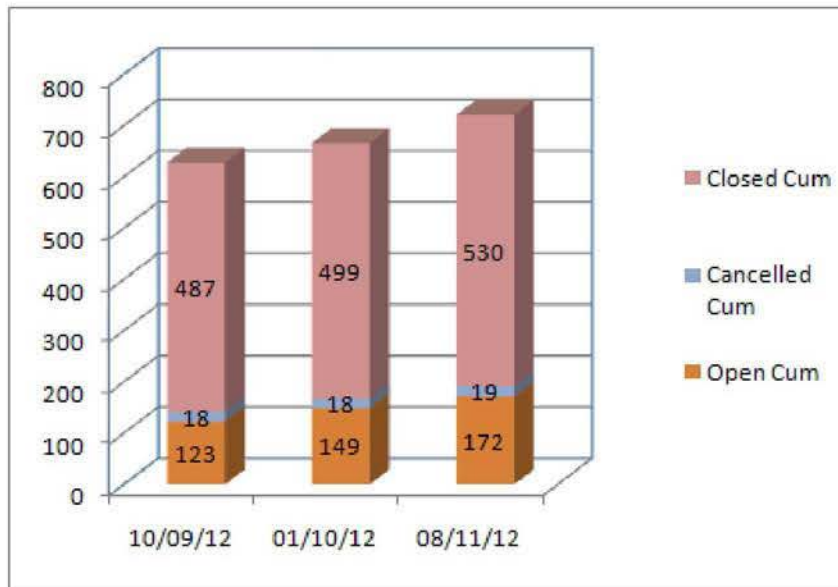
- The operator are now submitting their own report to CEC thus this section of the DaST will now be removed.

### 6.0 Metrics

- Currently progressing with QM 73 Section 6 Electrocution; and QM 78 Section 6 Depot Machinery however these metrics inspections cannot be closed until all relevant Verification and Validation evidence is reviewed and accepted / approved. This process is progressing as part of the requirements management review with close out of the depot evidence not expected to be complete until December 2012. BBS have updated the requirements management spreadsheet with references to all relevant evidence for the closure of Section A requirements. This is currently being reviewed in conjunction with Turner & Townsend.

### 7.0 NCR's

- Total number of Non Conformance Reports raised - 721
- Total number of Non Conformance Reports raised in period 8 - 55
- Total number of Non Conformance Reports closed in period – 31
- Number of Non Conformance Reports greater than 6 months old –31.

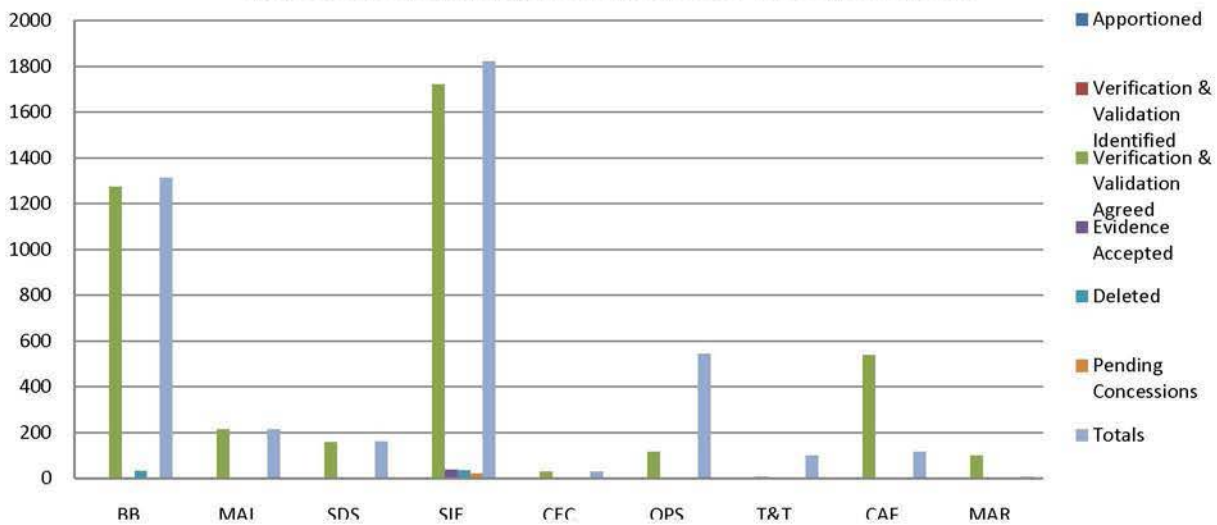


### 8.0 Requirements Management

#### Progress

- Verification and Validation Agreed Status 100% complete.
- Review of requirements where the Verification and Validation has been agreed to be 'Process Audit' or include 'Process Audit' has commended. An inspection of the project offices took place on the 6<sup>th</sup> November 2012 in order to close their requirements relating to the office set up.
- BBS have issued an export of the DOORS system detailing the evidence being provided to close out the requirements for Section A Handover. This information is currently being reviewed by Technical Support Services; CEC and the Operator. Upon completion of the review a formal response will be sent to BBS. It is expected that this response will be issued week commencing 12<sup>th</sup> November 2012.

**Requirements Management Status for all Requirements**



### 9.0 Deliver a Safe Tram – Required Actions

- Resolution to the issue regarding
- TSA/12/03 – Site meeting to be arranged with BBS.
- Commercial review of outstanding issued requirement concessions to be finalized.



## Project Report – Period 8

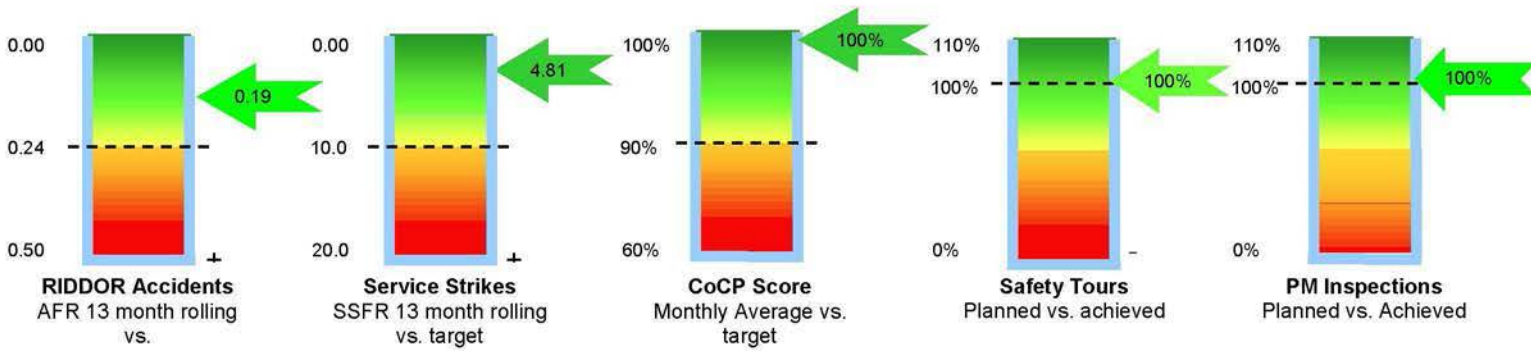
Project	12/13 - 08	Period	Hours	Time Related RIDDOR	Major RIDDOR	Other injuries	Near miss / unsafe condition	Service damage	Significant Incident	Environmental	RTA	MOP	AFR	SFR	EFR
		Period	127,337	0	0	0	5	4	0	5	0	3	0.00	3.14	3.93
YTD	1,081,481	3	0	7	36	51	1	23	4	16	0.28	4.72	2.13		
13 period rolling	1,593,544	3	0	17	65	78	1	28	4	25	0.19	4.89	1.76		

Infra	12/13 - 08	Period	Hours	>3 day RIDDOR	Major RIDDOR	Other injuries	Near miss / unsafe condition	Service damage	Significant Incident	Environmental	RTA	MOP	AFR	SFR	EFR
		Period	101,000	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00
YTD	813,141	2	0	7	19	27	0	10	4	7	0.25	3.32	1.23		
13 period rolling	1,204,204	2	0	17	38	39	0	15	4	14	0.17	3.24	1.25		

Other (Tram)	12/13 - 08	Period	Hours	>3 day RIDDOR	Major RIDDOR	Other injuries	Near miss / unsafe condition	Service damage	Significant Incident	Environmental	RTA	MOP	AFR	SFR	EFR
		Period	14,337	0	0	0	0	0	0	0	0	0	1	0.00	0.00
YTD	178,340	1	0	0	11	19	1	8	0	7	0.56	10.65	4.49		
13 period rolling	243,340	1	0	0	21	34	1	8	0	9	0.41	13.97	3.29		



### EXECUTIVE SUMMARY

There were 18 incidents (4 service damage's, 5 environmental, 3 MOP's, 5 near miss/unsafe conditions and 1 Other. See Appendix A for details.

The rolling 13 Period AFR is at 0.19, better than the benchmark KPI of 0.23 for the project.

CoCP compliance was recorded at 89% during Period 8. See Appendix B for details.

100% of planned PM joint inspections have been carried out during Period 8.

100% of planned Safety tours were carried out during Period 8.

## Project Report – Period 8

**HS&E INSPECTIONS SUMMARY** (a summary of significant inspection findings can be found in appendix B)

Project Running Totals	HS&E Tours (Directors)	HS&E PM Inspection
Number planned	1	12
Number achieved	1	12

### HSQ&E KEY ACHIEVEMENTS

The rolling 13 Period AFR is at 0.19, better than the benchmark KPI of 0.23 for the project.

### Key Issues – Points to Note

During the last period Turner & Townsend have been working to implement a number of initiatives regarding health and safety on the project. These have comprised undertaking targeted monitoring comprising:

- Housekeeping on sites with a continued emphasis where there is joint occupancy by contractors.
- Fencing of worksites. There has been an improvement with the condition of the fencing during the period.
- Working at height.
- Reversing vehicles.

### ENVIRONMENTAL SUMMARY

List any significant environmental events, initiatives, breaches etc

Edinburgh Airport has raised concerns regarding scouring of the Gogar Burn in the vicinity of the tram works. This is currently being investigated and discussed with the Infraco contractor.

Crummock, who are currently carrying out works for CEC are removing material from Tram site to a site on Shrub Hill Lane, east Edinburgh. The material is being processed and returned to the tram project or retained at Shrub hill Lane. A reviewed on these works is currently underway to confirm that the appropriate licences are in place. This matter is now being discussed with SEPA.

Gerardo Austria the appointed Environmental Adviser for the Infraco contractor left the project on the 7<sup>th</sup> November 2012. Edinburgh Trams have not yet been advised who will take over Gerardo's duties.

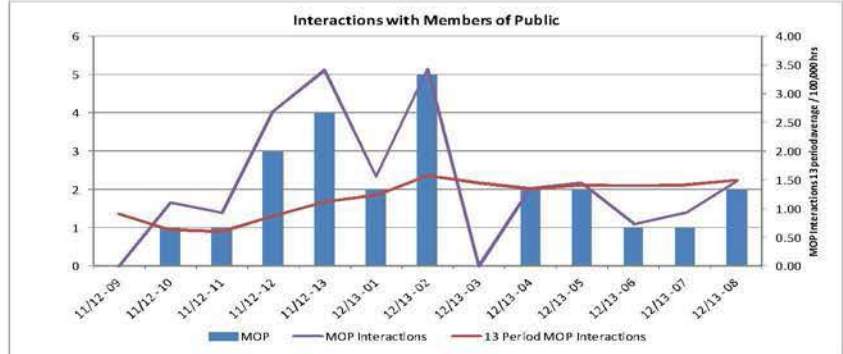
Five Environmental Incidents were reported during the period all relating to diesel/fuel spills or oil spills. This area will be targeted during the next period inspections.



### Member of Public Interaction Summary

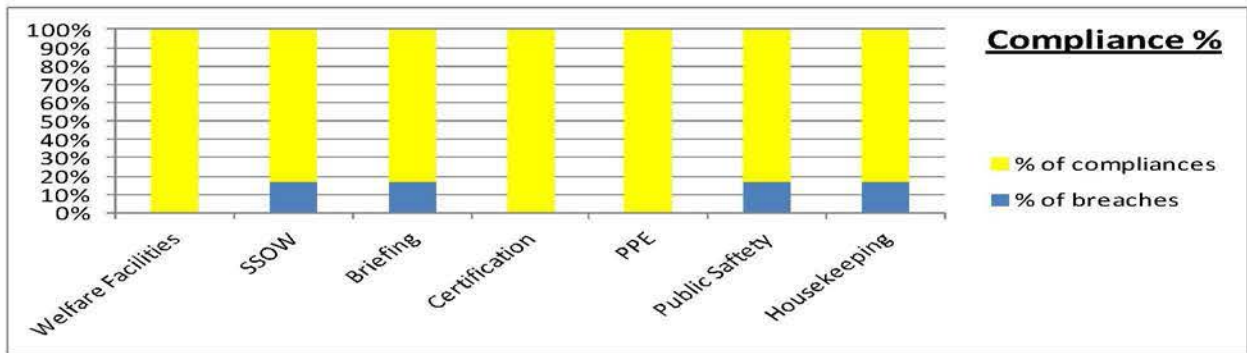
List any significant interactions with members of the public, including RTA's, alleged incidents

There were 2 incidents which involved members of the public.



### Leading Indicators

Include details of compliance against leading indicators



### CDM Compliance

List any significant quality events, initiatives, breaches etc

BBS have been requested to review the Construction Phase Plan for the project to ensure that it adequately addresses management arrangements for the revised risk profile for the project.

The arrangements for accessing Section 7 now that the OLE works are underway and the IP&R substation will be energised, have been issued by BBS.

The updated safety arrangements for the test and commissioning of section B infrastructure and tram vehicle interface have been reviewed. Lothian and Borders Police have contacted BBS with regard to the development of their Incident Plan for the tram operations. A meeting is planned for the 16<sup>th</sup> November.

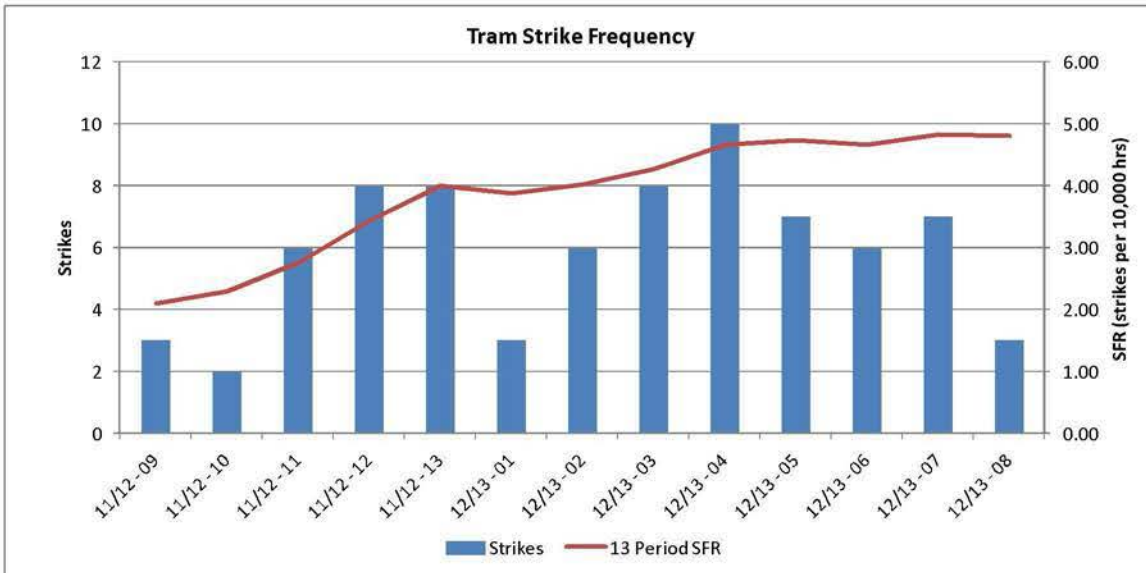
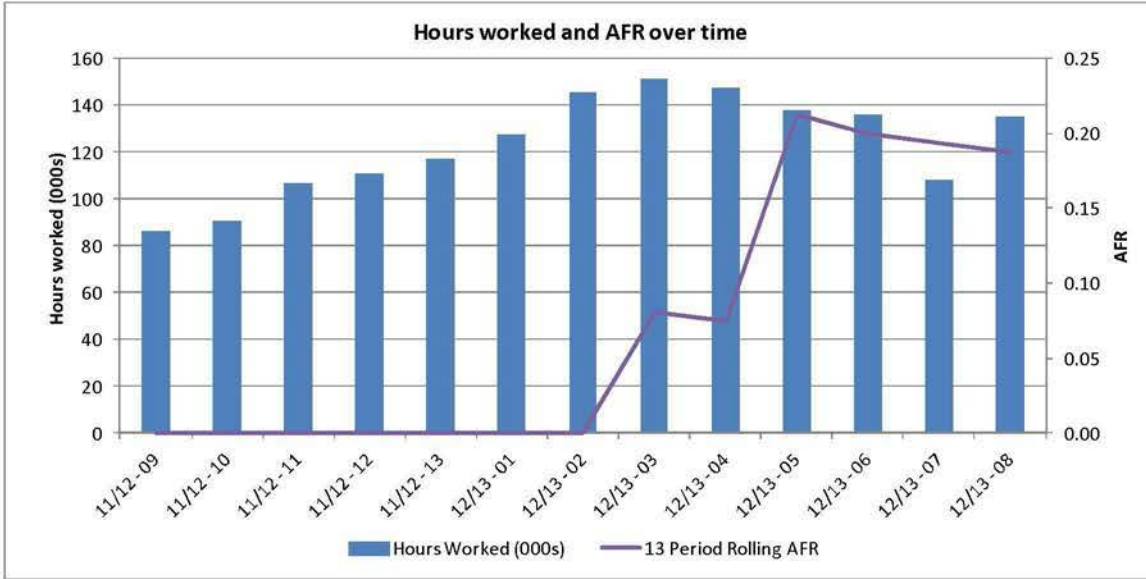
The first section of the York Place enabling works has been handed over to BBS from Crummock.

McNicholas have appointed Ian Wood as the health & safety inspector for the project.

A review has been undertaken of the requirements spreadsheet to close out the items relating to health and safety in relation to section A.

**Project Report – Period 8**

**GRAPHS**





## Project Report – Period 8

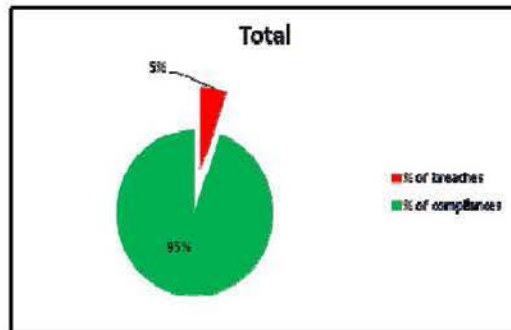
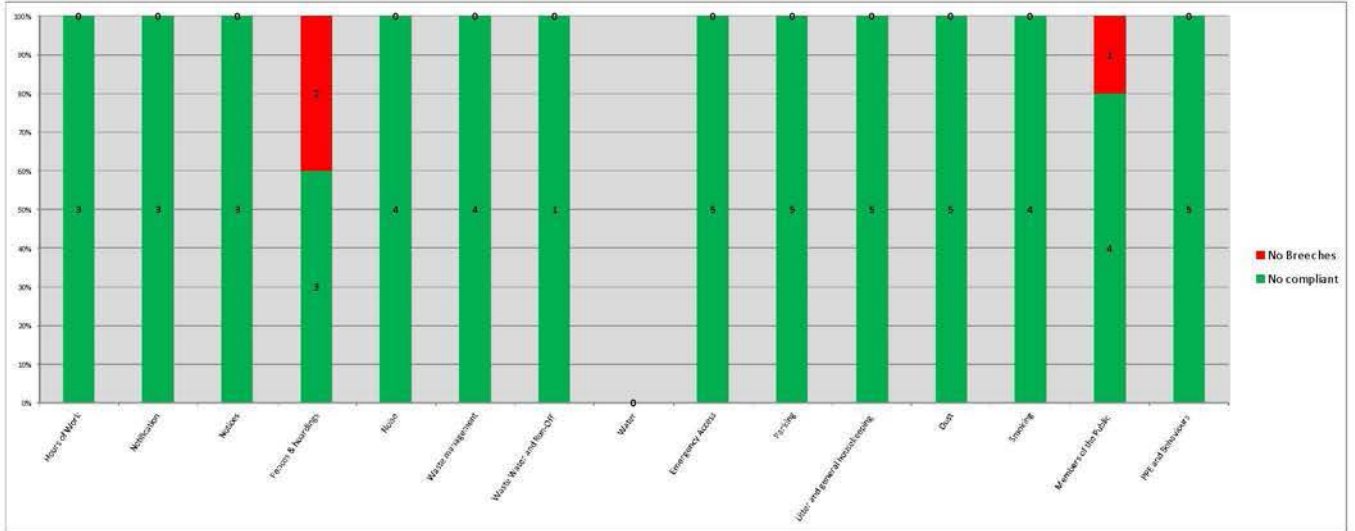
### APPENDIX A

There have been 18 incidents in total since the issue of the last DtTS.

AIIR number	Period	Date of event	Location description	Initial description	Contractor involved	Type
AIIR01792	12/13 08	16/10/12	Haymarket / Dalry Road	MOP injured by construction vehicle driving into heras fence and colliding with leg.	McNicholas	MOP
AIIR01793	12/13 08	19/10/12	South Gyle Broadway	Whilst operating the excavator the operator scraped the insulation of an existing cable. Scottish Power was informed and placed a casing on the cable.	Coffey	Service damage
AIIR01794	12/13 08	24/10/12	Abercrombie Place/York Place	The battery on traffic lights between Abercrombie Place and York Place failed resulting in the traffic facing light being stuck on red.	BBS	Near miss / unsafe condition
AIIR01795	12/13 08	18/10/12	Ingliston Park & Ride Tram Stop – Disabled Parking Bay	Diesel fuel spillage from jerry cans carried from pickup parked at disabled parking bay	BBS	Environmental
AIIR01796	12/13 08	19/10/12	Gogarburn Tram stop	D.R. Security vehicle parked off track and off road at Gogarburn Tram Stop had a fuel leak.	BBS	Environmental
AIIR01797	12/13 08	23/10/12	Ingliston Park and Ride Tram Stop to Airport Stop	Hydraulic oil leak from ruptured brake slave servo sealing kit	BBS	Environmental
AIIR01798	12/13 08	23/10/12	Ingliston Park and Ride to Airport – Out Bound	Hydraulic oil leak from servo valve unit – ruptured oil seal.	BBS	Environmental
AIIR01799	12/13 08	24/10/12	Ingliston Park and Ride to Airport - Outbound	Hydraulic oil leak from main servo valve unit – ruptured oil seal.	BBS	Environmental
AIIR01800	12/13 08	28/10/12	York Place	The traffic lights from York Place into the bus station have been blown/knocked over. There are exposed wires which may cause harm.	BBS	Near miss / unsafe condition
AIIR01801	12/13 08	28/10/12	Shandwick Place	The site fencing at Shandwick Place had been knocked/blown over and was blocking the footway.	BBS	Near miss / unsafe condition
AIIR01802	12/13 08	24/10/12	Depot	On the evening of 24th October 2012 the Edinburgh trams depot controller - Kevin Slater, reported some rail 'marking' on the Mini Test Track to our Alan Horton, Kevin believes this was done by the BAM trailers the evening before. An ongoing investigation is being carried out to establish the causes. On speaking with our Steve Westwood (who is leading said investigation), he is of the opinion that this is an incident within the boundaries of the operator hence it was not reported through the 'project' channels but is reported using the operator's system.	BBS	Near miss / unsafe condition
AIIR01804	12/13 08	01/11/12	South St Andrew Square	Damage to a cable and wireless cable whilst undertaking excavation works at chainage 121300	Crummock	Service damage
AIIR01805	12/13 08	02/11/12	Gogarburn Tram stop	RBS contractor undertaking cabling works which have encroached on BBS site. BBS have stopped RBS contractor working as BBS have no knowledge of these works	BBS	Other
AIIR01806	12/13 08	01/11/12	St Andrew Square	Lack of street lighting on North and East Side of St Andrew Square. Dangerous hazard for pedestrian's due to tram-works affecting street lights	BBS	MOP
AIIR01807	12/13 08	20/10/12	Balgreen Road	Cable and Wireless cable damaged by JCB bucket.	Landon Building	Service damage
AIIR01809	12/13 08	04/11/12	Dublin Street	Temporary traffic lights at Abercromby Place and Dublin Street were not working.	BBS	Near miss / unsafe condition
AIIR01810	12/13 08	04/11/12	Elder Street	Damage to Gas main whilst undertaking excavation works at water main.	McNicholas	Service damage
AIIR01811	12/13 08	28/10/12	St Andrew Square/South St Andrew Street	MOP was crossing over and fell into a rather large hole/gap in the pavement allegedly for Tram works - she commented that lighting is extremely bad in this area and that there was no cones or signage making people aware of this manhole	Crummock	MOP

### APPENDIX B – COCP INSPECTIONS

#### COCP Inspections / Issues Period 7 (previous period)

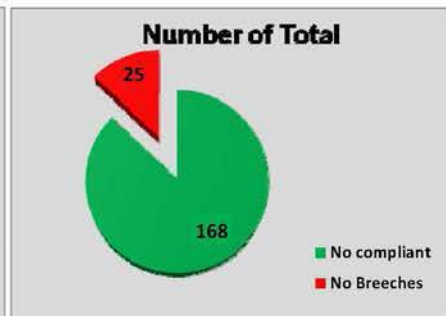
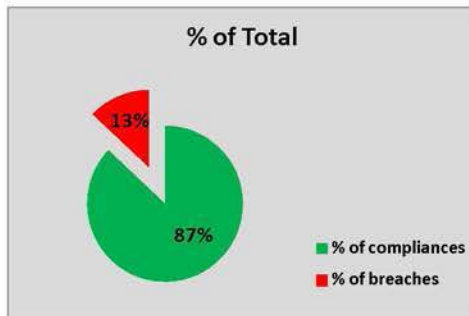
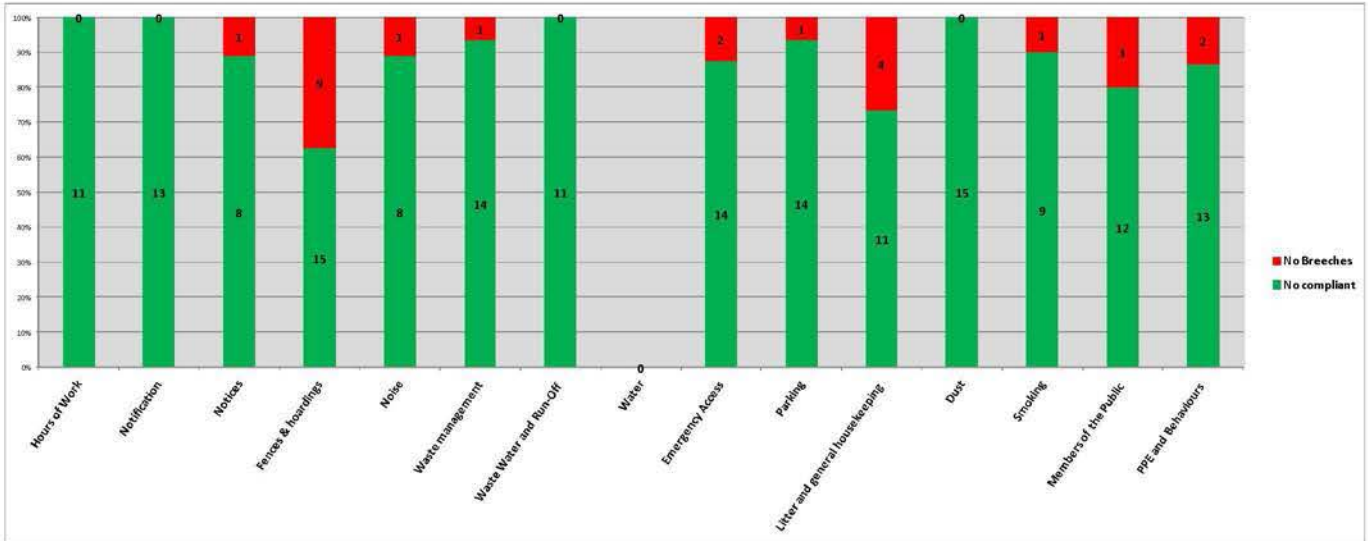




## Project Report – Period 8

### COCP Inspections / Issues Period 8

CoCP compliance was recorded at 87% During Period 8



<input type="radio"/> Q1. Hours of Work	<input type="radio"/> Q9. Emergency Access
<input type="radio"/> Q2. Notification	<input type="radio"/> Q10. Parking
<input type="radio"/> Q3. Notices	<input type="radio"/> Q11. Litter and general housekeeping
<input type="radio"/> Q4. Fencing and Hoarding	<input type="radio"/> Q12. Dust
<input type="radio"/> Q5. Noise	<input type="radio"/> Q13. Smoking
<input type="radio"/> Q6. Waste Management	<input type="radio"/> Q14. Members of the Public
<input type="radio"/> Q7. Waste Water and Run-Off	<input type="radio"/> Q15. PPE and Behaviours
<input type="radio"/> Q8. Water	

## Project Report – Period 8

### Summary of issues identified during Turner & Townsend CoCP inspections and action taken

Question No	Subject	Location	Contractor	Action taken or required to be taken by contractor	Date to rectify or rectified
3	Notices	St Andrew St	Crummock	Notices not provided by Contractor but by CEC	
4	Fencing & Hoarding	St Andrew St	Crummock	Reverse bolts and clips	18/10/2012
4	Fencing & Hoarding	St Andrew St	Crummock	Double up clips as per manufacturer's specifications	22/10/12
4	Fencing & Hoarding	St Andrew St	Crummock	Tool box talks to reiterate the importance of public safety	18/10/2012 and ongoing
4	Fencing & Hoarding	St Andrew St	Crummock	Move fencing to overlap hazard/s	18/10/2012 and ongoing
4	Fencing & Hoarding	St Andrew St	Crummock	Double up clips as per manufacturer's specifications	30/10/12 ongoing
4	Fencing & Hoarding	St Andrew St	Crummock	Tool box talks to reiterate the importance of public safety	25/10/12 ongoing
4	Fencing & Hoarding	St Andrew St	Crummock	Double up clips as per manufacturer's specifications	ASAP and ongoing
4	Fencing & Hoarding	St Andrew St	Crummock	Tool box talks to reiterate the importance of public safety	Urgent and ongoing
4	Fencing & Hoarding	Balburnie Place	Graham	Closed gates whilst passing.	08/11/12
5	Noise	Coates Crescent	BBS	Siemens to investigate alternatives including use of eco generator	08/11/12
6	Waste Management	St Andrew St	Crummock	The contractor to roll out a continuous programme to improve on the general housekeeping on site	Ongoing from 18/10/2012
9	Emergency Access	West Maitland St, Haymarket	Lagan	Barriers to be installed	01/11/12
9	Emergency Access	West Maitland St, Haymarket	Lagan	Replaced footboard with steel plate	01/11/12
10	Parking	St Andrew St	Crummock	The contractor has started to take steps to regulate the number of vans, cars, etc. which are appearing on the periphery of the site compound as well as the number of machines parked up the side streets	18/10/2012 and ongoing
11	Litter & General House Keeping	St Andrew Sq	Crummock	The contractor to roll out a continuous programme to improve on the general housekeeping on site	Ongoing from 18/10/2012
11	Litter & General House Keeping	St Andrew St	Crummock	The contractor needs to roll out a continuous programme to improve general housekeeping on site	25/10/12 and ongoing
11	Litter & General House Keeping	St Andrew St	Crummock	The contractor needs to roll out a continuous programme to improve general housekeeping on site	Urgent and ongoing
11	Litter & General House Keeping	W18 Russell Road	Graham	Steven Campbell HSE arranged for road sweeper to clean road	25/10/12 rectified
13	Smoking	St Andrew Sq	Crummock	Contractor needs to review policy and set out approved locations reasonably located to encourage responsible smoking	
14	MOP	St Andrew St	Crummock	Refer to rows 1 - 4	18/10/12 and ongoing
14	MOP	St Andrew St	Crummock	Refer to rows 5 - 6	25/10/12 and ongoing



## Project Report – Period 8

Question No	Subject	Location	Contractor	Action taken or required to be taken by contractor	Date to rectify or rectified
14	MOP	St Andrew St	Crummock	Tool box talks to reiterate the importance of safety	Urgent and ongoing
15	PPE & Behaviours	Manor Place	McNicholas	Operative reminded of requirements re safe excavation and use of PPE.	01/11/12
15	PPE & Behaviours	Murrayfield Corridor	Graham	B Walker informed driver to wear seat belt when driving dumper. Driver complied right away	01/11/12







## Appendix 3 – Cost Report

**Section 1 - Project Summary**

	Budget Information			Committed			Forecast					Third Party Contributions		Variance		Actuals	
	A	B	C=A+B	D	E	F=D+E	G	H	I	J	K=F+G+H+I+J	L	M=K-L	N=M-C	O=M/C-1	P	Q
	Original Budget	Budget Variation	Current Budget	Original Contract Value	Approved Contract Changes	Current Contract Value	Changes in Progress	Anticipated Change	Opportunities	Risk / Mitigated	Anticipated Final Cost	Estimated Contribution Value	Anticipated Final Project Cost	Budget Variance (Value)	Budget Variance (%)	COWD to Date	Outstanding Amount
<b>Edinburgh Tram Programme</b>	500,154	0	500,154	479,660	19,569	499,229	11,273	2,855	0	3,357	516,714	-7,690	509,024	8,870	2%	428,600	70,629
1 Infraco - Off Street	360,060	2,086	362,146	362,501	2,086	364,587	3,636	480	0	0	368,703	-5,809	362,894	748	0%	324,342	40,245
2 Infraco - On Street	38,817	2,487	41,304	47,384	2,487	49,871	7,602	-552	0	0	56,921	-1,493	55,428	14,124	34%	25,640	24,231
3 Infraco - Other	3,218	0	3,218	3,218	0	3,218	0	0	0	0	3,218	0	3,218	0	0%	676	2,542
2.1 York Place Direct Works	0	0	0		1,015	1,015		225			1,240		1,240	1,240		750	265
4.1 Utilities (Post Mediation)	1,812	13,665	15,477	1,812	13,665	15,477	0	1,602	0	0	17,079	-188	16,891	1,414	9%	14,513	964
4.2 Legacy Utilities (Revised Tram Route)	0	1,411	1,411	0	1,411	1,411	0	0	0	0	1,411	0	1,411	0	0%	1,351	60
4.3 Legacy Utilities (Leith Walk)	1,100	-1,100	0	1,100	-1,100	0	0	900	0	0	900	0	900	900		0	0
5 Tram vehicles	62,400	5	62,405	63,645	5	63,650	35	200	0	0	63,885	-200	63,685	1,280	2%	61,328	2,322
6 Project Management (refer to CEC Report)		0	0			0					0		0	0			
7 Preparing for Operations (refer to CEC Report)		0	0			0					0		0	0			
8 Specified Risk Allowance	32,747	-18,554	14,193	0	0	0	0			3,357	3,357		3,357	-10,836	-76%	0	0

**Comments:**  
Report excludes Enabling work packages reported under T19 and utilities reported under T18  
Contributions include amounts relevant to reported budgets only. Any further contributions are reported by CEC.  
Includes changes issued to 15/9/12

**Risk:**  
BBS portion of program saving, £6.5m not included.

**Actions**  
Ongoing risk mitigation of major risks.  
Realisation of opportunities associated with specification reductions (road surfacing) and time (York Place)

**Infraco Cost Report Section 1 - Commercial Summary**

	Budget Information			Committed			Forecast					Third Party Contributions		Variance		Actuals	
	A	B	C = A + B	D	E	F = D + E	G	H	I	J	K = F + G + H + I + J	L	M = K - L	N = M - C	O = M / C - 1	P	Q
	Original Budget	Budget Variation	Current Budget	Original Contract Value	Approved Contract Changes	Current Contract Value	Changes in Progress	Anticipated Change	Opportunities	Risk / Provision	Anticipated Final Cost	Estimated Contribution Value	Anticipated Final Project Cost	Budget Variance (Value)	Budget Variance (%)	COWD to Date	Outstanding Amount
Infraco Contract	402,095	4,573	406,668	413,103	4,573	417,676	11,238	-72	0	0	428,842	-7,302	421,540	14,872	5.45%	350,658	67,018
Off Steet	360,060	2,086	362,146	362,501	2,086	364,587	3,636	480	0	0	368,703	-5,809	362,894	748	1.81%	324,342	40,245
00 Preliminaries and Other Items	150,408	1,977	152,385	150,409	1,977	152,386	3,144	200	0		155,730	0	155,730	3,345	2.20%	124,133	28,253
01 Newhaven Road to Haymarket	85,368	-3,203	82,165	87,738	-3,203	84,535	115	0	0		84,650	-318	84,332	2,167	3.02%	88,590	-4,055
02 Haymarket Corridor	8,692	-4	8,688	8,692	-4	8,688	110	0	0		8,798	-13	8,785	97	1.27%	7,958	730
05 Roseburn Junction to Gogar	80,035	3,359	83,394	80,105	3,359	83,464	131	230	0		83,825	-4,378	79,447	-3,947	0.52%	69,531	13,933
06 Depot	19,979	260	20,239	19,979	260	20,239	83	0	0		20,322	0	20,322	83	0.41%	19,155	1,084
07 Gogar to Edinburgh Airport	15,578	-303	15,275	15,578	-303	15,275	53	50	0		15,378	-1,100	14,278	-997	0.67%	14,975	300
On Street	38,817	2,487	41,304	47,384	2,487	49,871	7,602	-552	0	0	56,921	-1,493	55,428	14,124	37.81%	25,640	24,231
00 Preliminaries and Other Items	21,837	93	21,930	21,837	93	21,930	6,481	0	0		28,411	0	28,411	6,481	29.55%	13,304	8,626
01 Newhaven Road to Haymarket	16,980	2,394	19,374	25,547	2,394	27,941	1,121	-552	0		28,510	-1,493	27,017	7,643	47.16%	12,336	15,605
Other	3,218	0	3,218	3,218	0	3,218	0	0	0	0	3,218	0	3,218	0	0.00%	676	2,542
00 Maintenance & Mobilisation	2,205	0	2,205	2,205	0	2,205	0	0	0		2,205	0	2,205	0	0.00%	676	1,529
00 Spare Parts	1,013	0	1,013	1,013	0	1,013	0	0	0		1,013	0	1,013	0	0.00%	0	1,013

**Comments:**

Summary sheet values in £k. All other sheet values in £.  
 Opportunities include for time saving based on current QSRA.  
 Excludes £3.2m phase 1b payment (refer to budget T19.C)

**Risk**

Refer to Risk register for risks identified against infraco programme  
 All risk is held at programme level. This section of the cost report makes no allowance for risk.  
 Refer to the outputs of the QCRA/QSRA for further information on risk.

**Actions**



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**Infracost Report Section 2A - Approved Change - Clause 80**

TNC No.	Description	Forecast Amount	Previous Period	Change from Previous Period	Notes	Section Code	Change Code
501	Hawthornevale Cycle Link - Change the design to widen the footway alongside the south side of Lindsay Road	20,021	20,021	0		01	01
502	Amend the design of Ocean Drive to reinstate the footpath to the north of Ocean Drive	10,231	10,231	0		01	01
503	OLE temporary portals at depot access bridge to allow finalisation without Edinburgh Gateway	67,646	67,646	0	Edinburgh Gateway funding	05	01
504	Review of the banned right turn into Blenheim Place as part of the design for Section 1C2 roads	46,247	46,247	0		01	01
505	York Place Terminal Point - Production of a feasibility report, initial feasibility design for option ii), run time modelling etc	228,653	228,653	0		01	01
506	Design for providing a new cycleway from the Mound to Princes Street	9,437	9,437	0		01	01
506.1	Design for providing a new cycleway from the Mound to Princes Street	1,669	1,669	0		01	01
507	Provide a clarification report and completion of the St. Andrew's Square Public Realm design	133,075	133,075	0	Included within contributions	01	01
508	Obtain EAL approval for the highways design drawings at Eastfield Avenue tram crossing	10,025	10,025	0		07	01
509	Design of Cathedral Lane Substation	233,596	233,596	0		01	01
511	Storm Water Connection from Gogar Lodge to the landowners new septic tank	5,750	5,750	0		05	01
512	Re-design of Ocean Terminal Bypass Road	53,685	53,685	0		01	01
513	Revised design to minimise utility diversions / conflicts - used for slit trenching and trial holes	156,870	156,870	0		01	02
514	Utility Mapping	92,756	92,756	0	Time chargeable costs. L&M Surveys and Class One. Complete	01	02
516	Additional Water main requirement at Depot and Mini Test Track	51,282	51,282	0		06	01
517	Additional BT Ducts at Depot and Mini Test Track	2,996	2,996	0		06	01
520	Valve chamber access and alteration works to 800mm water main at the Depot	105,326	105,326	0		06	01
524	Airport to Gyle - NIL Design Finalisation (also includes Construction)	-40,559	-40,559	0		07	01
526	Airport to Gyle - Tram Delivery Temporary Works	6,878	6,878	0		07	01
529	Design Gogar Castle Access Road tram crossing and approaches	31,308	31,308	0		05	01

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**Infracost Report Section 2A - Approved Change - Clause 80**

TNC No.	Description	Forecast Amount	Previous Period	Change from Previous Period	Notes	Section Code	Change Code
530	Amend the design of the Depot Road turning head as per RDC191. Option 2	30,458	30,458	0		06	01
531	Edinburgh Gateway - Advance Temporary Works design	9,349	9,349	0		05	01
534	SP Insurance Ducts - Install Insurance ducts at various locations	5,637	5,637	0		07	01
536	System Wide - Tramstop Cabinets - reduction in 10 years maintenance liability	0	0	0	No saving to contract	01	01
538	Depot - Tramwash Continuous Mode - Requirement for additional hand lances washers	0	0	0	Change rejected - included within contract	06	01
539	System Wide - Delay in signing - impact on commencement and completion - costs incurred at front end of programme	1,397,409	1,397,409	0	Amount relates to costs incurred by BBS due to delay in contract signing for early mobilisation. T&T have requested further evidence of these costs. However, BBS have refused to provide any further information.	00	04
540	Section 7 - Plot 304 - Omit Landscaping works	-201,120	-201,120	0		07	01
541	Princes Street - City Chamber - Annandale Street Communication Links. Usage of CEC available BT-Lines to avoid provision of direct FO link from Princes Street to City Chambers	184,125	184,125	0	Off and on street combined under Clause 80. Returned estimate £165,642.28. However, this excludes spares which need to be added	01	01
544	Extension to Edinburgh Park Office to accommodate CEC / Transport Scotland	159,900	159,900	0		00	01
550	Shandwick Place OLE & Landscape Design Revision	0	0	0	Design costs to be grouped under tnc 562 (BBS PMC 045)	01	01
553	SDS to provide the services of Matt Fell until August 2012	145,000	145,000	0		00	02
555	Haymarket - OLE 196B design revision to avoid main sewer	0	0	0	Design costs to be grouped under tnc 562 (BBS PMC 045)	01	02
557	Haymarket 1 - OLE Base Relocations (Design mods)	0	0	0	Design costs to be grouped under tnc 562 (BBS PMC 045)	01	02
558	Site Wide - Provision of a CAD Technician	1,693	1,693	0		01	02
559	Detailed Design of York Place	56,438	56,438	0	tnc issued - awaiting BBS estimate	01	01
561	Omit all works at the Forth Ports area	-2,443,000	-2,443,000	0	Work deleted from scope.	01	01
562	On Street Generally - OLE Design Changes for On Street Section (PMC 045) - SIEMENS DESIGN WORKS	160,000	160,000	0	Includes original tNC 550, 555, 563	01	02

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**Infraco Cost Report Section 2A - Approved Change - Clause 80**

TNC No.	Description	Forecast Amount	Previous Period	Change from Previous Period	Notes	Section Code	Change Code
563	On Street - Amend pile caps from square / rectangular to circular	0	0	0	Design costs to be grouped under tnc 562 (BBS PMC 045)	01	02
564	Worksite Modelling - (TM)	10,000	10,000	0		01	03
565	Advanced design works for Edinburgh Gateway Minimum Option	2,599	2,599	0		05	01
565.1	Advanced design works for Edinburgh Gateway Minimum Option	3,350	3,350	0		05	01
566	On Street Generally - Ducting Design Changes Due to Utilities Conflicts	60,000	60,000	0		00	02
567	On Street Generally - Drainage Design Changes Due to Utilities Conflicts	125,000	125,000	0		00	02
568	On Street Generally - Trackform Design Changes Due to Utilities Conflicts	30,000	30,000	0		00	02
569	Additional Running Costs associated with the extension to the Edinburgh Park offices	79,200	79,200	0		00	01
571	Hope Street Junction Design	22,061	22,061	0		01	01
572	Cathedral Lane Substation - Retaining Wall Design	34,459	34,459	0		01	01
574	Haymarket Station - Delete viaduct cladding	-5,571	-5,571	0		02	01
576	Depot - Reinstatement to 250mm Water main Remedial Works	36,788	36,788	0		07	01
577	Haymarket Viaduct - Deletion of Sub Station Retaining Wall and Plinth	1,580	1,580	0		02	01
578	SI Provisional Sum Allowance	-57,984	-57,984	0		01	02
580	Cancellation of trackwork materials York Place to Newhaven	-1,100,000	-1,100,000	0	Change resulting from value engineering exercise	01	02
581	Omit Siemens work to Tower Place and Victoria Dock bridges	-100,000	-100,000	0	Change resulting from value engineering exercise	01	02
582	Delete proposed cladding installation costs on Roseburn Viaduct Structures	-308,004	-308,004	0	Change resulting from value engineering exercise	05	01
585	Descope of Service Vehicle	-21,565	-21,565	0		00	01
586	St Andrew Square - tie in detail	15,228	15,228	0	Change resulting from value engineering exercise	01	01
587	Revise design for amendments to setts areas and specification	15,512	15,512	0	Subject to separate CEC budget	01	01



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**Infraco Cost Report Section 2A - Approved Change - Clause 80**

TNC No.	Description	Forecast Amount	Previous Period	Change from Previous Period	Notes	Section Code	Change Code
589	Descoping airport tramstop kiosk and canopy	-150,000	-150,000	0		07	01
591	Diversion of Scottish Power Cable at Haymarket Viaduct	21,789	21,789	0	NR contribution	05	01
595	Haymarket Viaduct - Deletion of fitting out of Crew Relief Facility	-74,001	-74,001	0		05	01
597	Section 1D - Omit disconnection of Bus Tracker	-14,928	-14,928	0		01	01
601	Clarification on length of shelter to RBS tram stop (8m)	27,863	27,863	0		05	01
602	Omit purchase of poles for PIDs North of York Place	-23,740	-23,740	0		01	01
603	Bus Tracker Interface Specification	11,535	11,535	0	Cost based on option 2	01	01
607	Delete 110v sockets on On Street Tram Stops	-6,154	-6,154	0		01	01
608	Delete 110v sockets on Off Street Tram Stops	-36,851	-36,851	0		05	01
609	Traffic Management provision in section 1A	133,140	133,140	0		01	03
615	Haymarket Viaduct - design wall for blocking off void under the bridge deck as a result of the crew relief facility being omitted	1,900	1,900	0		05	01
616	Haymarket Viaduct - construct wall for blocking off void under the bridge deck as a result of the crew relief facility being omitted	10,798	10,798	0		05	01
617	Tram stops branding changes. Requirement for etched glass to be confirmed	0	0	0	Value TBC	05	01
618	Gogar Depot 1800 mm Diameter Manhole - TQ736	6,176	6,176	0		06	01
619	Omit Track Welding Equipment	-14,420	-14,420	0		06	01
620	Airport Tram Stop Design	17,784	17,784	0		05	01
621	Amend the dates of the HV meter installation at substations	12,507	12,507	0		05	01
622	LV power for sub-station and Tramstop.	0	0	0		05	01
623	Repair minor damage to Depot (Intercom, fence panel and broken slabs)	1,867	1,867	0		07	01
624	Compressed Air Supply to Depot Gantry Road and workshop	5,576	5,576	0		07	01

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**Infraco Cost Report Section 2A - Approved Change - Clause 80**

TNC No.	Description	Forecast Amount	Previous Period	Change from Previous Period	Notes	Section Code	Change Code
627	Delete pedestrian guardrail in the area outside St John's Church (Design)	0	0	0	No costs related to tNC	01	01
632	Resolve Depot Building water ingress	0	0	0	Assumed to be BBS liability	06	01
636	Twin Crossing at Lochside Avenue	31,500	31,500	0	Includes abortive cost of work carried out to date. Full forecast £140k as assumed work will no longer be carried out.	05	01
640	Unimog Insurance	-1,000	-1,000	0		00	01
643	Edinburgh Gateway Construction	3,416,010	3,416,010	0	Construction costs; excludes fees and OLE Poles (refer to tNC 594 & 610). Excludes any contingency which is reported separately by Transport Scotland	05	01
647	Design work to support VE on carriageway reconstruction & kerb realignment	50,000	50,000	0		01	01
648	Cabinet Position For Street Lighting - design	10,000	10,000	0	Provision of as-built drawings	01	01
652	Maintenance of The Depot Workshop Equipment	49,633	49,633	0		06	01
653	Provision of IFC Drawings in DWG CAD format	4,924	4,924	0		01	01
657	Drainage As Built Drawings - Princes Street	3,271	5,000	-1,729		00	01
662	Eastfield Avenue Topographical Survey	2,587	2,857	-270		07	01
663	Heras fencing at depot	6,424	6,424	0		06	01
664	Gogar Castle Access Road - Additional High Friction Surfacing	3,186	3,186	0	Requirements being investigated	07	01
666	Pedestrian gate next to the vehicle access gate at the ScotRail Depot.	2,213	2,213	0		05	01
667	Call off service to respond to Network Rail TQs and interface issues	15,000	15,000	0		05	01
668	De-scoping of Infraco works in York Place to be undertaken direct by Crummock.	-1,015,156	-1,015,156	0		01	01
669	SGN Remedial Works - backfill at New Ingliston Land	16,064	16,063	1		07	03
670	SDS Response to Road Safety Audit for Princes St	1,611	3,000	-1,389		01	01

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**Infraco Cost Report Section 2A - Approved Change - Clause 80**

TNC No.	Description	Forecast Amount	Previous Period	Change from Previous Period	Notes	Section Code	Change Code
671	ScotRail car park security fence	10,000	10,000	0	Contribution from ScotRail to be reviewed	05	01
672	Amend drainage drawings to incorporate changes introduced through redesign process	15,000	15,000	0	Not to be provided by Infraco	06	01
673	Cancel order for OLE poles required for Secondary Phase 1a	-41,789	-41,789	0		01	01
679	Works to prevent water stagnation at Depot (L8 Compliance)	0	2,500	-2,500		06	01
683	Carry out trial holes to locate 125mm diameter pipe at Depot	5,000	5,000	0		06	01
684	Repair works to utility trough cover slabs damaged by tram deliveries	938	0	938	Potential opportunity to recharge to CAF contract	06	01
685	Provide technical information on Lindsay Road works	7,090	7,090	0		01	01
689	CAD resource and engineering support to revise drawings to show the layout required for Road Sign Bases, Street Light Columns, Traffic Signal Poles, Ducting and Chambers to avoid utilities	50,000	50,000	0		01	01
690	Remedial work to repair West Shunt line at Haymarket Depot	76,413	75,000	1,413		05	01
691	Cathedral Lane re-design	35,000	0	35,000		01	01
694	Traffic Light de-scope to West St Andrew St	-189,460	-189,460	0		01	01
703	Repair Switch Rail at Depot	1,000	1,000	0		06	01
705	Re-design works due to NWR fence encroaching into the LoD	13,669	13,669	0		05	01
708	RailCom Software Interface	0	0	0	No cost impact	00	01
709	Scotrail Car park landscaping	0	0	0	No cost impact	05	01
<b>Total</b>		<b>2,085,406</b>	<b>2,053,942</b>	<b>31,464</b>			

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**Infracost Report Section 3A - Change in Progress - Clause 80**

TNC No.	Description	Forecast Amount	Previous Period	Change from Previous Period	Notes	Section Code	Change Code
525	Airport to Gyle - Site Access for Remedial Works	0	0	0	all costs associated with this change allocated to TNC 576	07	01
527	Ingliston - Reimbursement of Costs paid directly to SGN for the diversion of approximately 120m of 10" steel IP gas main to accommodate the new Edinburgh Tram at Ingliston	0	0	0	Saving from Infracost, not included during the period as cost not shown in utility budget	07	01
539.1	System Wide - Delay in signing - impact on commencement and completion - prolongation costs at end of programme	3,143,752	3,143,752	0	Amount relates to delay at end of Rev 3c programme.	00	04
556	Track Work Materials York Place to Newhaven - Price Fixing for Rheda City C and D	0	0	0	Included in VE register	01	01
573	Roseburn Delta - Non DDA Compliant Footpath	0	0	0	Item mitigated resulting in zero cost.	05	01
575	Haymarket Station - Take Down Viaduct Staircase and Parapet. TNC now withdrawn - Network Rail carrying out work	0	0	0	Work to be carried out by Network Rail	02	01
592	Haymarket Yards - Realign kerbs at Car Park Entrance	0	0	0	Currently on hold pending A. Sim review.	05	01
593	Secondary Phase 1a - Cessation of Design Work North of York Place	0	0	0	Saving opportunity being investigated in relation to future ownership of design etc prior to finalising value.	01	01
594	Edinburgh Gateway slope option - design costs	0	0	0	Costs included in tNC 643	05	01
605	Depot - Sub-Station Switching	80,000	80,000	0	Includes allowance up to Section B completion date (8/3/13)	06	03
610	Edinburgh Gateway - Siemens Long Lead Items	0	0	0	Costs included in tNC 643	05	01
625	Engineering attendance on site at Cathedral Lane.	0	0	0	All costs captured against tNC 566	01	01
626	Advanced procurement of Edinburgh Gateway Materials and Equipment.	0	0	0	Costs included in tNC 643	05	01
628	Prepare MUDFA As Built drawings	100,000	100,000	0	Requirements to be confirmed	01	01
649	Princes Street Blister - Design Works	0	0	0	No cost impact	01	01
651	Defer Off Street Tramstop Shelter Installation and Fit-out	50,000	50,000	0		05	01
655	Revise CCTV & PA coverage at Murrayfield tram stop	38,158	75,000	-36,842		05	01
661	Blank off signage to Depot	10,000	10,000	0	On hold - may not be required	05	01
674	Topographical survey at Eastfield avenue - DESIGN	2,587	5,000	-2,413		07	01

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**Infracost Report Section 3A - Change in Progress - Clause 80**

TNC No.	Description	Forecast Amount	Previous Period	Change from Previous Period	Notes	Section Code	Change Code
675	Remove concrete around the water meter at the ScotRail Depot.	12,507	1,000	11,507		05	01
676	Design associated with work to Lord Bodo's Bar	0	0	0	BBS confirmed that the design work associated with this has been incorporated into PMC46 (tNC566). (25.1.201/SN/9826)	01	01
695	Tanker Access Edinburgh Airport	2,500	2,500	0		07	01
696	SGN as Builts for New Ingliston Limited	3,000	3,000	0		07	01
701	Reinstatement works at the Airport	20,000	20,000	0		07	01
702	Eastfield Avenue Pedestrian Crossing	24,562	30,000	-5,438		07	01
704	Redesign of St Andrew Square - East	15,000	15,000	0		01	01
710	Gogar Depot - Repair areas of damaged flooring	3,000	3,000	0		06	01
711	Delete fence at Murrayfield tramstop and installation of fence at Royal Mail and ScotRail car park.	0	0	0	nil cost impact forecast - to be agreed with BBS	05	01
712	New fence and ramp at Murrayfield Wanderers FC	10,000	0	10,000		05	01
713	Haymarket - construction works outwith LOD	110,000	0	110,000		02	01
714	Edinburgh Park Central - Amend design to utilise CEC control panel	10,000	0	10,000		05	01
715	Amend cladding on Edinburgh Park Viaduct North abutment	0	0	0	nil cost impact	05	01
<b>Total</b>		<b>3,635,065</b>	<b>3,538,252</b>	<b>96,814</b>			

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**Infraco Cost Report Section 3B - Change in Progress - Schedule 45**

TNC No.	Description	In Progress	Certified	Total Forecast	Previous Period	Change from Previous Period	Notes	Section Code	Change Code
513.1	Revised design to minimise utility diversions / conflicts - used for slit trenching and trial holes	0	17,210	17,210	17,210	0		01	02
521	Haymarket - Temporary Accommodation	0	1,543	1,543	1,543	0		01	02
522	Haymarket 1 - Road Reconstruction	0	0	0	0	0	Included in VE register	01	02
523	Haymarket 1 - Additional CBR / Plate Testing	0	0	0	0	0	Included within on street priority works (contract milestones)	01	02
528	Haymarket 1 - Slit trench excavation to validate utilities	0	6,565	6,565	6,565	0	Included within on street priority works (contract milestones)	01	02
532	Princes Street - Temporary traffic management design - WITHDRAWN	0	0	0	0	0	No costs	01	02
533	Princes Street - 500mm Water Main Diversion	0	0	0	0	0	Costs contained within 535	01	02
535	Princes Street - 500mm Water Main Diversion - rev 3 dwg	0	252,986	252,986	252,986	0		01	02
537	Haymarket 1 - Additional visit of Tar planer to facilitate slewing of BT ducts - WITHDRAWN	0	0	0	0	0	Withdrawn	01	02
543	Haymarket H1 - Utilities affecting the construction of OHLE foundations	3,627	257,147	260,774	257,147	3,627	Only covers section H1. H2 to YP included in item 7 of Anticipated Change.	01	02
545	Site Wide - Power to bus trackers affecting the ability to remove site clearance items	0	0	0	0	0	McNicholas to remove. Contra charge BBS; allowance included for BBS attendance	00	02
546	Increased number of drainage boxes including installation	21,482	0	21,482	21,482	0		00	02
547	Haymarket H1 - Third Party (McNicholas) affecting ability to progress the works	0	9,710	9,710	11,088	-1,378		00	02
548	Haymarket H1 - BT Fibre Optic Service requires diverting	0	83,053	83,053	83,053	0		00	02
549	Princes Street - Amend the design of the St. Johns Church OLE bases	0	32,642	32,642	32,642	0		01	02
551	Princes Street - 2011 Christmas Embargo - Temporary Surfacing of Track Infills	0	203,511	203,511	203,511	0		01	02
552	Princes Street - BT diversion @ junction of Princes Street and South St. David Street	0	0	0	0	0	Costs included within TNC 535	01	02
554	St Andrew Square & Shandwick Place - Traffic Management Requirements	33,255	234,488	267,743	267,706	37	Refer to Revised issue of TNC	01	02
560	St. Andrew Square - Omit £0.7m of repairs to road surface finishing	-700,000	0	-700,000	-700,000	0		01	02

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**Infraco Cost Report Section 3B - Change in Progress - Schedule 45**

TNC No.	Description	In Progress	Certified	Total Forecast	Previous Period	Change from Previous Period	Notes	Section Code	Change Code
570	Omit the Removal of Trees in Shandwick Place	-9,066	3,299	-5,767	-5,767	0		01	02
579	Removal of embargo and revised traffic management	0	0	0	0	0	Change resulting from value engineering exercise	01	02
583	Ordering setts for on street works	-118,329	28,329	-90,000	-90,000	0	Saving based on spreadsheet issued to CEC (GE to AC 22/05/2012). Final value still to be agreed with BBS	01	02
584	Road Reconstruction specification	-35,234	35,234	0	201	-201	Change resulting from value engineering exercise	01	02
588	Stafford St Return of Parking Spaces	0	0	0	0	0		01	02
590	New cycleway from The Mound into Princes Street	0	30,375	30,375	30,375	0		01	02
596	Section 1D - Costs associated with amended drainage design	-154,915	127,761	-27,154	131,933	-159,087		01	02
598	Section 1D - Incorporate geotextile liner into Clifton Terrace void in accordance with requirements from Archaeologist	0	1,760	1,760	1,760	0		01	02
599	Floating track slab	633,451	116,549	750,000	750,000	0	Forecast reduced on the basis that BBS have £109k in their On Street Price for civils work. Remaining allowance for Siemens work plus contingency for extra oover civils costs	01	01
600	Shandwick place - OLE bases affecting utilities (Piling)	428	321,493	321,922	321,493	428		01	02
604	St Andrew Sq - OLE bases affecting utilities (Piling)	0	37,550	37,550	37,550	0		01	02
606	York Place - Waverley Bridge - Works Delayed and disrupted as a result of works carried out by Third parties	50,401	133,477	183,877	159,758	24,120		01	02
611	Excavation of Track Slab to be carried out by McNicholas	0	0	0	0	0	Refer to Anticipated change section for costs	01	01
612	Tram stops branding changes. Requirement for etched glass to be confirmed (cost excluded)	0	0	0	0	0	Value TBC	00	01
613	Temporary Bus Station at St Andrew Square/Waterloo Place - design	40,293	8,885	49,178	49,178	0		01	01
614	Rothesay Place Traffic Management Amendment	10,000	0	10,000	10,000	0		01	01
629	Utilities affecting Track Excavation at Shandwick Place (S1)	0	35,417	35,417	35,417	0		01	02
630	Utilities affecting Track Excavation at Shandwick Place (S2)	0	26,867	26,867	26,867	0		01	02

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**Infraco Cost Report Section 3B - Change in Progress - Schedule 45**

TNC No.	Description	In Progress	Certified	Total Forecast	Previous Period	Change from Previous Period	Notes	Section Code	Change Code
631	Third parties affecting progress at Shandwick Place (S2)	0	7,161	7,161	7,161	0		01	02
633	Ponding on Princes St at junctions of Frederick St/Castle St	0	0	0	0	0		01	01
634	Descope duct installation at Cathedral Lane	0	0	0	0	0	Part of York Place descope	01	01
635	Amend on street drainage scope	0	9,044	9,044	9,044	0		01	02
637	St Andrew Square Pedestrian Crossing	0	3,027	3,027	3,027	0		01	01
638	Remove pedestrian guardrail outside St John's Church	5,000	0	5,000	5,000	0		01	01
639	York Place - Traffic Management Design	77,282	137,216	214,498	216,551	-2,053		01	01
641	Cathedral Lane substation - scope change to suit Henderson Global requirements. Excludes demolition.	579,011	989	580,000	450,000	130,000	This allowance is for the extra over cost included in the contract for construction of the new tram substation. It includes allowances for the revised substation and associated retaining wall.	01	01
642	York Place temporary Tram Stop	944,000	0	944,000	944,000	0	Excludes design work (see tNC 505) and sheet piling work to strengthen basement (included in risk allowance).	01	01
644	Finials for On Street Poles	0	22,880	22,880	30,000	-7,120		01	01
645	Princes Street Outstanding Works	0	238,136	238,136	231,868	6,268		01	01
646	Cabinet Position For Street Lighting	20,000	0	20,000	20,000	0	Relates to locations only - assume no additional work	01	01
650	Princes Street Blister	10,000	0	10,000	10,000	0		01	01
654	De-scope coloured high friction surfacing at Princes / Sth St David Street Jctn	0	0	0	0	0	Savings contained in tNC 560	01	01
656	Defer On Street Tramstop Shelter Installation and Fit-out	10,000	0	10,000	10,000	0		01	01
658	Clarification of scope to Shandwick Place Wall	0	0	0	0	0	Work to be descoped from BBS. No adjustment as work will be carried out by others.	01	01
659	Road signage at Junction of Manor Place / Melville Street	2,000	0	2,000	2,000	0		01	01
660	Princes Street Traffic Management	10,000	0	10,000	10,000	0		01	01

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**Infraco Cost Report Section 3B - Change in Progress - Schedule 45**

TNC No.	Description	In Progress	Certified	Total Forecast	Previous Period	Change from Previous Period	Notes	Section Code	Change Code
665	Removal of Princes Street "plug"	5,000	0	5,000	5,000	0	Current requirements to be established	01	02
677	Install 20mph roundels on Lansdowne Crescent	1,500	0	1,500	1,500	0		01	01
678	Temporary traffic management design at York Place to keep bus station access open	10,000	0	10,000	10,000	0		01	01
680	Coates Crescent - Bus running single lane	10,000	0	10,000	10,000	0	Feasibility study	01	01
681	Hoarding design for York Place	5,000	0	5,000	5,000	0		01	01
682	Descope work associated with street lighting, road signage & traffic signals	-500,000	0	-500,000	-500,000	0	Previously included in anticipated change section	01	01
686	Alter kerbs next to CEC Connection Manhole	1,000	0	1,000	1,000	0		01	01
687	Relaxation of specification Appendix 11/1 to allow new in lieu of recovered whin kerbs	60,705	0	60,705	60,705	0		01	01
688	Descope footways outside Atholl & Coates Crescent	0	0	0	0	0	Included in forecast for road reconstruction saving	01	01
692	Installation of additional traffic management measures around St. James Centre car park	15,000	0	15,000	15,000	0		01	01
693	Footway and kerbing reinstatement in Shandwick Place	16,985	1,133	18,118	10,000	8,118		01	01
697	Remedials to Clifton Terrace kerb and footway	10,000	0	10,000	10,000	0		01	01
698	Removal of Contaminated Material in SP4	30,000	61,619	91,619	91,619	0		01	01
699	Pedestrian walkway from Haymarket Station	5,000	0	5,000	5,000	0		01	01
700	Hope Street Junction Works	30,000	0	30,000	30,000	0		01	01
707	Traffic Management adjacent Apple store (Princes St)	10,000	0	10,000	10,000	0		01	01
716	On Street Building Fixings	0	0	0	0	0	Schedule E Exclusion form the contract	01	02
717	Cost Engineering in respect of the Programme (22 week saving)	6,459,810	0	6,459,810	0	6,459,810	Instructed by CEC. Refer to T&T letter dated 31/10/2012	00	01
718	De-Scope High Friction Surfacing on Waverley Bridge	0	0	0	0	0		01	01
<b>Total</b>		<b>7,602,685</b>	<b>2,487,056</b>	<b>10,089,741</b>	<b>3,627,171</b>	<b>6,462,570</b>			

**Infraco Cost Report Section 3B - Change in Progress - Schedule 45**

TNC No.	Description	In Progress	Certified	Total Forecast	Previous Period	Change from Previous Period	Notes	Section Code	Change Code
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**Infraco Cost Report Section 4 - Anticipated Change**

Ref No	Description	Forecast Amount	Previous Period	Change from Previous Period	Notes	Section Code	Change Code
4	Pricing Assumptions - 6.4.2.6 Dublin Street	70,000	70,000		0 Excludes piling if required. Includes allowance for works to adjacent properties.	01	02
6	Track Lowering - bridging trackform over utilities in St Andrew Square	150,000	150,000		0 Requirement for 30m section in St Andrews Square. Costs will come through On Street Works estimates	01	02
7	Piled OLE base in lieu of utility diversion	80,000	80,000		0 Allowance for remaining scope at 23/06/2012. 1 OLE base at Shandwick Place; 2 piles, 3 bases. Costs will come through On Street Works estimates	01	02
14	Roseburn Delta - non DDA footpath	30,000	30,000		0 No design required. Temporary footpath alignment to be agreed on site. Potential modifications to surface water drainage resulting from revised earthworks and Scottish Water approvals.	05	01
24	Remove drainage from Infraco scope	-80,000	-200,000	120,000	Section 1D now included in tNC 68. Remaining allowance for section 1C to be finalised	01	01
25	Remove excavation of trackbox from Infraco's contract	-200,000	-200,000		0 Value to be determined by detailed site measure and application of Schedule 45 rates. Quantification to be agreed with BBS. Note that this value has been reduced as BBS are disputing the method of calculating the deduction. Reduced in period as York Place removed	01	01
27	Amend road reconstruction depth from Contract Requirements	-700,000	-700,000		0 Principles instructed, saving subject to site conditions	01	01
28	Opportunity to reduce cost associated with the temporary tram stop at York Place	-150,000	-150,000		0 Design optimisation - still to be realised	01	01
30	Schedule Part E, Item 8. Trackside Signage	37,320	37,320		0 Includes allowance for additional signage requirements identified during the testing and commissioning	01	01
31	Schedule Part E, Item 10. OLE Change: Grosvenor Street Pole Movement	0	12,440	-12,440	Design costs incorporated into PMC45. No further construction impact	01	01
32	Schedule Part E, Item 11. Unsuitable building fixings Section 1A	118,258	118,258		0 Initial verbal quote received from Siemens indicating that cost will be within this total	01	01
33	Schedule Part E, Item 12. SDS Lighting Design update impacts OLE combined poles	62,200	62,200		0 Current requirements to be established	01	01



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**Infraco Cost Report Section 4 - Anticipated Change**

Ref No	Description	Forecast Amount	Previous Period	Change from Previous Period	Notes	Section Code	Change Code
34	Schedule Part E, Item 14. SDS alignment update to match built structures	0	124,400	-124,400	Confirmation from Siemens that this work is no longer required	01	01
35	Defer tram stop construction	0	30,000	-30,000	Now included in tNC 651/656	00	01
36	Install fencing to mini test track	0	20,000	-20,000	assume no longer required	05	01
37	Redesign of OLE bases along Roseburn corridor where they are sited outside of the LOD	0	10,000	-10,000	Now included in tNC 705	05	01
41	Additional SDS Preliminaries (25.65%)	200,000	200,000	0	Final total to be reviewed, based on agreed base values.	00	01
42	Re ballast shunt line	75,000	75,000	0		05	01
43	Road level modifications in St Andrew Square resulting from comms ducts	30,000	30,000	0	Design cost included in tNC 704. Final solution to be developed	01	01
44	Construction costs associated with LOD conflicts at Network Rail boundary	0	100,000	-100,000	Confirmation form IC that costs associated with this work should be borne by the Client. Now included in tNC 713	05	01
45	TVM Installation - Off Street	125,000	0	125,000	Includes allowance for additional TVM's from contract requirements, relocating power and comms supplies as required to accommodate design and provision of bases.	05	01
46	TVM Installation - On Street	30,000	0	30,000	Includes allowance for additional TVM's from contract requirements, relocating power and comms supplies as required to accommodate design and provision of bases.	01	01
47	Isolation of mini test track from section 7 to allow tram commissioning	50,000		50,000		07	01
Total		-72,222	-100,382	28,160			

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**Infraco Cost Report Section 5 - Opportunities**

Ref No	Description	Approved Changes	Changes in Progress	Anticipated Changes	Contributions	Secured	To be secured	Total Opportunity	Value per CS report Jan 2012	Notes
01	Remove embargoes and revised TM	0	0	0	0	0	0	0	-6,460,000	Subject to completion of sections in advance of contract dates. Initial opportunity based on 22 week time saving assumed in the Rev 4C programme. Current master programme indicates 4 week saving as a result of York Place
02	Edinburgh Gateway	0	0	0	-3,416,010	-3,416,010	0	-3,416,010	0	Awaiting instruction from Transport Scotland
03	Setts (separate CEC budget)	0	-90,000	0	-890,000	-980,000	0	-980,000	-1,000,000	Funded by separate CEC budget (added to contributions register)
04	De-scope public realm at St Andrew Sq	0	-700,000	0	0	-700,000	0	-700,000	-700,000	Instructed
05	Contributions 3rd Party Agreements	0	0	0	-2,995,775	-2,995,775	0	-2,995,775	-2,500,000	Refer to contributions register
06	De-scope works at Forth Ports	-2,443,000	0	0	0	-2,443,000	0	-2,443,000	-2,450,000	Instructed
07	Omit Airport Tram Kiosk and Canopy	-150,000	0	0	0	-150,000	0	-150,000	-150,000	Approved, replacement materials t.b.c
08	Temporary tram stop at York Place	0	0	-150,000	0	-150,000	0	-150,000	-150,000	Design optimisation
09	Redeployment of Trams	0	0	0	0	0	0	0	-5,000,000	Included in CEC budget code
10	Cancel track York Place to Newhaven	-1,100,000	0	0	0	-1,100,000	0	-1,100,000	-1,100,000	Instructed
11	Omit Siemens works at Tower Place	-100,000	0	0	0	-100,000	0	-100,000	-100,000	Instructed
12	Turner & Townsend / CEC resources	0	0	0	0	0	0	0	0	Ongoing
13	Shared recovery vehicle	0	0	0	0	0	0	0	0	Not taken forward
14	Road re-construction depth	0	0	-700,000	0	-700,000	0	-700,000	-700,000	Principles instructed, saving subject to site conditions
15	Design freeze north of York Place	0	0	0	0	0	0	0	-250,000	Infraco design costs expended
16	Reduced requirement for storage	0	0	0	0	0	0	0	-1,000,000	Included in CEC budget code
17	Lay off TM at Forth Ports/Leith Walk	0	0	0	0	0	0	0	-180,000	TM not included in Infraco budget provision
18	Roseburn Viaduct Cladding	-308,004	0	0	0	-308,004	0	-308,004	-300,000	Instructed

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**Infracost Report Section 5 - Opportunities**

Ref No	Description	Approved Changes	Changes in Progress	Anticipated Changes	Contributions	Secured	To be secured	Total Opportunity	Value per CS report Jan 2012	Notes
19	Delete Crew Relief Facility	-74,001	0	0	0	-74,001		-74,001		Instructed
Total		-4,175,005	-790,000	-850,000	-7,301,785	-13,116,790	0	-13,116,790	-22,040,000	

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## Infracost Report Section 6 - Credits &amp; Contributions

Ref No	Description	Included in Contract Sum	Approved Changes	Changes in Progress	Anticipated Changes	Total Forecast	Previous Period	Change from Previous	Contribution Received	Notes	Section Code	Change Code
01	Edinburgh Gateway Feasibility	860,000	82,944	0		940,000	940,000	0	528,000	£1.2m in total. Remainder of the costs included in CEC sections of the project budget.	05	01
02	New Ingliston Future Proof measures	540,000	0	0		540,000	540,000	0		Construction works element of overall settlement with NIL. Remaining amount contained in Land budget	07	01
03	Henderson Global - Cathedral Lane substation	-44,596	234,584	579,011	-299,000	470,000	470,000	0		Full extent of agreement with Henderson Global to be established. Allowance assumes all design costs and proportion of construction costs associated with future substation will be borne by Henderson Global. Cost of £470k has been submitted to Henderson Global	01	01
04	RBS Tramstop	560,000	0	0		560,000	560,000	0		Agreement reached with RBS 11/06/2012	07	01
05	St Andrew Square Public Realm design		133,075	0		133,075	133,075	0	133,000	As per agreed change value. Assumed to be recovered from separate budget	01	01
06	Forth Ports		0	0		0	0	0		Forth Ports work removed from scope - no further contribution from Forth Ports assumed	01	01
07	CEC Miscellaneous. Mainly George Street CEC costs (£298k)	318,213	0	0		318,213	318,213	0	318,213	CEC finance have confirmed that a credit has been received in the amount shown. The extent of the workscope associated with this credit is not clear.	01	01
08	Network Rail - Haymarket station refurbishment	0	12,698	0		12,698	12,698	0		Majority of this work now being carried out by Network Rail. Remaining allowance for wall to crew relief facilities	02	01
09	Contribution from CEC for public realm work (granite setts) at St Andrews Square	890,000	0	0		890,000	890,000	0		No change in scope allowed for - setts funded by CEC. Saving based on spreadsheet issued to CEC (GE to AC 22/05/2012).	01	01
10	Network Rail - Scottish Power Cable diversion - Haymarket Station (TNC 591)		21,789	0		21,789	21,789	0			05	01
11	Edinburgh Gateway Construction		3,416,010	0		3,416,010	3,416,010	0		Cost based on agreed TCO. No contingency included (TS carrying their own contingency)	05	01
Total		3,123,617	3,901,101	579,011	-299,000	7,301,785	7,301,785	0	979,213			

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**Infraco Cost Report Section 7 - Change Summary**

Change Code	Description	Approved Change	Change in Progress	Anticipated Change	Contributions	Total
01	Scope Change	1,469,476	8,917,351	-372,222		10,014,605
02	PAVs (Utilities, etc)	1,409,957	-903,352	300,000		806,605
03	Miscellaneous Client Risk Items	159,204	80,000	0		239,204
04	Time Delay	1,397,409	3,143,752	0		4,541,161
05	Project Contributions	0	0	0	-7,301,785	-7,301,785
<b>Total</b>		<b>4,436,046</b>	<b>11,237,751</b>	<b>-72,222</b>	<b>-7,301,785</b>	<b>8,299,790</b>

**Notes:**

Some CE's have costs which relate to more than one change code. In such instances they have been allocated to the predominant reason.

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**Infraco Cost Report Section 8 - Period Movement**

Ref No.	Description	Approved Off	Approved On	In Progress Off	In Progress On	Total
541	Princes Street - City Chamber - Annandale Street Communication Links. Usage of CEC available BT-Lines to avoid provision of direct FO link from Princes Street to City Chambers	184,125		-184,125	0	0
543	Haymarket H1 - Utilities affecting the construction of OHLE foundations	0		0	3,627	3,627
547	Haymarket H1 - Third Party (McNicholas) affecting ability to progress the works	0		0	-1,378	-1,378
554	St Andrew Square & Shandwick Place - Traffic Management Requirements	0		0	37	37
584	Road Reconstruction specification	0		0	-201	-201
596	Section 1D - Costs associated with amended drainage design	0		0	-159,087	-159,087
600	Shandwick place - OLE bases affecting utilities (Piling)	0		0	428	428
603	Bus Tracker Interface Specification	11,535		-11,535	0	0
606	York Place - Waverley Bridge - Works Delayed and disrupted as a result of works carried out by Third parties	0		0	24,120	24,120
607	Delete 110v sockets on On Street Tram Stops	-6,154		6,154	0	0
608	Delete 110v sockets on Off Street Tram Stops	-36,851		36,851	0	0
639	York Place - Traffic Management Design	0		0	-2,053	-2,053
641	Cathedral Lane substation - scope change to suit Henderson Global requirements. Excludes demolition.	0		0	130,000	130,000
644	Finials for On Street Poles	0		0	-7,120	-7,120

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**Edinburgh Trams**  
**City of Edinburgh Council**



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**Infraco Cost Report Section 8 - Period Movement**

Ref No.	Description	Approved Off	Approved On	In Progress Off	In Progress On	Total
645	Princes Street Outstanding Works	0		0	6,268	6,268
655	Revise CCTV & PA coverage at Murrayfield tram stop	0		-36,842	0	-36,842
657	Drainage As Built Drawings - Princes Street	-1,729		0	0	-1,729
662	Eastfield Avenue Topographical Survey	-270		0	0	-270
669	SGN Remedial Works - backfill at New Ingliston Land	16,064		-16,063	0	1
670	SDS Response to Road Safety Audit for Princes St	-1,389		0	0	-1,389
674	Topographical survey at Eastfield avenue - DESIGN	0		-2,413	0	-2,413
675	Remove concrete around the water meter at the ScotRail Depot.	0		11,507	0	11,507
679	Works to prevent water stagnation at Depot (L8 Compliance)	-2,500		0	0	-2,500
684	Repair works to utility trough cover slabs damaged by tram deliveries	938		0	0	938
690	Remedial work to repair West Shunt line at Haymarket Depot	1,413		0	0	1,413
691	Cathedral Lane re-design	35,000		0	0	35,000
693	Footway and kerbing reinstatement in Shandwick Place	0		0	8,118	8,118
694	Traffic Light de-scope to West St Andrew St	-189,460		189,460	0	0
702	Eastfield Avenue Pedestrian Crossing	0		-5,438	0	-5,438

**Infraco Cost Report Section 8 - Period Movement**

Ref No.	Description	Approved Off	Approved On	In Progress Off	In Progress On	Total
705	Re-design works due to NWR fence encroaching into the LoD	13,669		-13,669	0	0
712	New fence and ramp at Murrayfield Wanderers FC	0		10,000	0	10,000
713	Haymarket - construction works outwith LOD	0		110,000	0	110,000
714	Edinburgh Park Central - Amend design to utilise CEC control panel	0		10,000	0	10,000
717	Cost Engineering in respect of the Programme (22 week saving)	0		0	6,459,810	6,459,810
<b>Total</b>		<b>24,392</b>	<b>0</b>	<b>103,886</b>	<b>6,462,570</b>	<b>6,590,848</b>
<b>Anticipated Change</b>				15,000	13,160	28,160
<b>Opportunities</b>				0	0	0
<b>Change to Anticipated Final Cost</b>		24,392	0	118,886	6,475,730	6,619,008
<b>Contributions</b>				0	0	0
<b>Change to Anticipated Final Project Cost</b>		24,392	0	118,886	6,475,730	6,619,008

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Utilities Cost Report: Section 1 - Utilities Summary

	Budget Information			Committed			Forecast					Third Party Contributions		Variance		Actuals	
	A	B	C = A + B	D	E	F = D + E	G	H	I	J	K = F + G + H + I + J	L	M = K - L	N = M - C	O = M / C - 1	P	Q
	Original Budget	Budget Variation	Current Budget	Original Contract Value	Approved Contract Changes	Current Contract Value	Changes in Progress	Anticipated Change	Opportunities	Risk / Provision	Anticipated Final Cost	Estimated Contribution Value	Anticipated Final Project Cost	Budget Variance (Value)	Budget Variance (%)	Cost of Work Done	Outstanding Amount
Post Settlement Utilities	2,912	13,976	16,888	2,912	13,976	16,888	0	2,502	0	0	19,390	-188	19,202	2,314	13.7%	15,864	1,024
McNicholas	1,812	13,310	15,122	1,812	13,310	15,122	0	792	0	0	15,914	-188	15,726	604	4.0%	14,019	1,103
01 Conflicts	1,812	4,066	5,878	1,812	4,066	5,878		0			5,878		5,878	0	0.0%	5,853	25
01A Drainage		2,543	2,543		2,543	2,543		-111			2,432		2,432	-111	-4.4%	2,432	111
01B Grosvenor St / Haymarket Sewer Collapse		178	178		178	178		0			178	-188	-10	-188	-105.6%	178	0
01C Tower Place Bridge		71	71		71	71		0			71		71	0	0.0%	71	0
01D Princes Street Outstanding Works		108	108		108	108		-38			70		70	-38	-35.2%	70	38
01E Priority 2 Works		2,559	2,559		2,559	2,559		507			3,066		3,066	507	19.8%	1,911	648
01F Public Realm Works		67	67		67	67		0			67		67	0	0.0%	67	0
02 Legacy Works		1,411	1,411		1,411	1,411		0			1,411		1,411	0	0.0%	1,351	60
03 Standby Team		0	0		0	0		0			0		0	0		0	0
04 Management Team		1,064	1,064		1,064	1,064		223			1,287		1,287	223	21.0%	910	154
05 Design Team		1,213	1,213		1,213	1,213		180			1,393		1,393	180	14.8%	1,152	61
06 Accomodation		30	30		30	30		31			61		61	31	103.3%	24	6
Statutory Utility Companies	0	1,766	1,766	0	1,766	1,766	0	810	0	0	2,576	0	2,576	810	45.9%	1,845	-79
01 Scottish Power		126	126		126	126		35			161		161	35	27.8%	105	21
02 Scottish Gas Networks		55	55		55	55		-20			35		35	-20	-36.4%	19	36
03 Scottish Water		943	943		943	943		511			1,454		1,454	511	54.2%	921	22
04 Virgin Media		184	184		184	184		75			259		259	75	40.8%	197	-13
05 Verizon		20	20		20	20		-14			6		6	-14	-70.0%	0	20
06 Cable & Wireless		49	49		49	49		84			133		133	84	171.4%	71	-22
07 Fibrenet		250	250		250	250		-62			188		188	-62	-24.8%	188	62
08 BT		139	139		139	139		360			499		499	360	259.0%	443	-304
09 Siemens		0	0		0	0		4			4		4	4		4	-4
12 Contributions (all companies)		0	0		0	0		-163			-163		-163	-163		-103	103
00 Legacy Works	1,100	-1,100	0	1,100	-1,100	0		900			900		900	900		0	0

Comments:  
All values are in £k.

Risk  
Refer to Risk register for risks identified against McNicholas

Actions



Section 1 - Tramco Commercial Summary

	Budget Information			Committed			Forecast					Third Party Contributions		Variance		Actuals	
	A	B	C = A + B	D	E	F = D + E	G	H	I	J	K = F + G + H + I + J	L	M = K - L	N = M - C	N = M / C - 1	O	P
	Original Budget	Budget Variation	Current Budget	Original Contract Value	Approved Contract Changes	Current Contract Value	Changes in Progress	Anticipated Change	Opportunities	Risk / Provision	Anticipated Final Cost	Estimated Contribution Value	Anticipated Final Project Cost	Budget Variance (Value)	Budget Variance (%)	COWD to Date	Outstanding Amount
Trams	62,400	5	62,405	63,645	5	63,650	35	200	0	0	63,885	-200	63,685	1,280	2.37%	61,328	2,322
CAF	62,400	5	62,405	63,581	5	63,586	35	200	0	0	63,821	-200	63,621	1,216	2.27%	61,264	2,322
01 Trams	55,042	0	55,042	55,042	0	55,042	0	0			55,042	0	55,042	0	0.00%	52,730	2,312
02 Tram Maintenance Mobilisation	2,276	0	2,276	2,276	0	2,276	0	0			2,276	0	2,276	0	0.00%	2,116	160
03 Depot Equipment	740	0	740	740	0	740	0	0			740	0	740	0	0.00%	740	0
04 Miscellaneous	73	0	73	73	0	73	0	0			73	0	73	0	0.00%	73	0
05 Modification 1 - Interior Layout	300	0	300	300	0	300	0	0			300	0	300	0	0.00%	300	0
06 Modification 2 - Delivery First Tram	38	0	38	38	0	38	0	0			38	0	38	0	0.00%	38	0
07 Phoenix and Prioritised Works	3,931	0	3,931	5,112	0	5,112	0	0			5,112	0	5,112	1,181	30.04%	5,112	0
10 Post Mediation Change		5	5		5	5	35	200			240	-200	40	35	4700.00%	155	-150
Non CAF	0	0	0	64	0	64	0	0	0	0	64	0	64	64	#DIV/0!	64	0
01 Miscellaneous Costs		0	0	64		64					64		64	64	#DIV/0!	64	0

Comments:  
Miscellaneous costs were expended prior to mediation and have been allocated to this budget

Risk  
Refer to Risk register for risks identified against infraco programme  
All risk is held at programme level. This section of the cost report makes no allowance for risk.  
Refer to the outputs of the QCRA/QSRA for further information

Actions

## Appendix 4 – Change Log



Item No.	Req No.	Req Title	Location	Change Description	Reason for Change	On Street / Off Street	Classified / Un-Classified	1st Change Category	Date TNC Issued	Date Estimated Over	Estimate Reference (NY)	Estimate Change Value (Commission)	Time Implications	Date Issued / NY / CEC	Approved By	Agreed Cost for Approval	Over NY Items	TOO Letter Ref	Comments	
501	001	502	501	502	501	502	501	502	501	502	501	502	501	502	501	502	501	502	501	
502	002	503	502	503	502	503	502	503	502	503	502	503	502	503	502	503	502	503	502	503
503	003	504	503	504	503	504	503	504	503	504	503	504	503	504	503	504	503	504	503	504
504	004	505	504	505	504	505	504	505	504	505	504	505	504	505	504	505	504	505	504	505
505	005	506	505	506	505	506	505	506	505	506	505	506	505	506	505	506	505	506	505	506
506	006	507	506	507	506	507	506	507	506	507	506	507	506	507	506	507	506	507	506	507
507	007	508	507	508	507	508	507	508	507	508	507	508	507	508	507	508	507	508	507	508
508	008	509	508	509	508	509	508	509	508	509	508	509	508	509	508	509	508	509	508	509
509	009	510	509	510	509	510	509	510	509	510	509	510	509	510	509	510	509	510	509	510
510	010	511	510	511	510	511	510	511	510	511	510	511	510	511	510	511	510	511	510	511
511	011	512	511	512	511	512	511	512	511	512	511	512	511	512	511	512	511	512	511	512
512	012	513	512	513	512	513	512	513	512	513	512	513	512	513	512	513	512	513	512	513
513	013	514	513	514	513	514	513	514	513	514	513	514	513	514	513	514	513	514	513	514
514	014	515	514	515	514	515	514	515	514	515	514	515	514	515	514	515	514	515	514	515
515	015	516	515	516	515	516	515	516	515	516	515	516	515	516	515	516	515	516	515	516
516	016	517	516	517	516	517	516	517	516	517	516	517	516	517	516	517	516	517	516	517
517	017	518	517	518	517	518	517	518	517	518	517	518	517	518	517	518	517	518	517	518
518	018	519	518	519	518	519	518	519	518	519	518	519	518	519	518	519	518	519	518	519
519	019	520	519	520	519	520	519	520	519	520	519	520	519	520	519	520	519	520	519	520
520	020	521	520	521	520	521	520	521	520	521	520	521	520	521	520	521	520	521	520	521
521	021	522	521	522	521	522	521	522	521	522	521	522	521	522	521	522	521	522	521	522
522	022	523	522	523	522	523	522	523	522	523	522	523	522	523	522	523	522	523	522	523
523	023	524	523	524	523	524	523	524	523	524	523	524	523	524	523	524	523	524	523	524
524	024	525	524	525	524	525	524	525	524	525	524	525	524	525	524	525	524	525	524	525
525	025	526	525	526	525	526	525	526	525	526	525	526	525	526	525	526	525	526	525	526
526	026	527	526	527	526	527	526	527	526	527	526	527	526	527	526	527	526	527	526	527
527	027	528	527	528	527	528	527	528	527	528	527	528	527	528	527	528	527	528	527	528
528	028	529	528	529	528	529	528	529	528	529	528	529	528	529	528	529	528	529	528	529
529	029	530	529	530	529	530	529	530	529	530	529	530	529	530	529	530	529	530	529	530
530	030	531	530	531	530	531	530	531	530	531	530	531	530	531	530	531	530	531	530	531
531	031	532	531	532	531	532	531	532	531	532	531	532	531	532	531	532	531	532	531	532
532	032	533	532	533	532	533	532	533	532	533	532	533	532	533	532	533	532	533	532	533
533	033	534	533	534	533	534	533	534	533	534	533	534	533	534	533	534	533	534	533	534
534	034	535	534	535	534	535	534	535	534	535	534	535	534	535	534	535	534	535	534	535
535	035	536	535	536	535	536	535	536	535	536	535	536	535	536	535	536	535	536	535	536
536	036	537	536	537	536	537	536	537	536	537	536	537	536	537	536	537	536	537	536	537
537	037	538	537	538	537	538	537	538	537	538	537	538	537	538	537	538	537	538	537	538
538	038	539	538	539	538	539	538	539	538	539	538	539	538	539	538	539	538	539	538	539
539	039	540	539	540	539	540	539	540	539	540	539	540	539	540	539	540	539	540	539	540
540	040	541	540	541	540	541	540	541	540	541	540	541	540	541	540	541	540	541	540	541
541	041	542	541	542	541	542	541	542	541	542	541	542	541	542	541	542	541	542	541	542
542	042	543	542	543	542	543	542	543	542	543	542	543	542	543	542	543	542	543	542	543
543	043	544	543	544	543	544	543	544	543	544	543	544	543	544	543	544	543	544	543	544
544	044	545	544	545	544	545	544	545	544	545	544	545	544	545	544	545	544	545	544	545
545	045	546	545	546	545	546	545	546	545	546	545	546	545	546	545	546	545	546	545	546
546	046	547	546	547	546	547	546	547	546	547	546	547	546	547	546	547	546	547	546	547
547	047	548	547	548	547	548	547	548	547	548	547	548	547	548	547	548	547	548	547	548
548	048	549	548	549	548	549	548	549	548	549	548	549	548	549	548	549	548	549	548	549
549	049	550	549	550	549	550	549	550	549	550	549	550	549	550	549	550	549	550	549	550
550	050	551	550	551	550	551	550	551	550	551	550	551	550	551	550	551	550	551	550	551
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553	053	554	553	554	553	554	553	554	553	554	553	554	553	554	553	554	553	554	553	554
554	054	555	554	555	554	555	554	555	554	555	554	555	554	555	554	555	554	555	554	555
555	055	556	555	556	555	556	555	556	555	556	555	556	555	556	555	556	555	556	555	556
556	056	557	556	557	556	557	556	557	556	557	556	557	556	557	556	557	556	557	556	557
557	057	558	557	558	557	558	557	558	557	558	557	558	557	558	557	558	557	558	557	558
558	058	559	558	559	558	559	558	559	558	559	558	559	558	559	558	559	558	559	558	559
559	059	560	559	560	559	560	559	560	559	560	559	560	559	560	559	560	559	560	559	560
560	060	561	560	561	560	561	560	561	560	561	560	561	560	561	560	561	560	561	560	561
561	061	562	561	562	561	562	561	562	561	562	561	562	561	562	561	562	561	562	561	562
562	062	563	562																	



























TRC No.	POC No.	Location	Description	Reason for Change	On Hold / Off Street	Overall B / C / Subtotal B / C / Instruction	T & E Change / Overall	Change Category / B / C / D / E / F / G / H / I / J / K / L / M / N / O / P / Q / R / S / T / U / V / W / X / Y / Z	Date TNC Issued	Letter Ref	Date Estimate Received	Estimate Received (NY)	Estimate Change / Value (Dollar)	Time Implications	Date Issued / In CEC	Approved By / CEC / TRC	Date Approval / Received	Agreed Cost for Approved / Contract Change	Date PO / Issued	PO Letter Ref	PO RETURNED / M / P / O / S / B / D / O / T	Comments
275		103 Street	Lighting Pole (South North Movement)	Change in existing items	On Street	Street B / C	IM	D							22/20/2022	CEC	22/20/2022				SWMT TNC issued 19/09/22/2022	
276	233	On Street	On Street Building Works	On Street Structural Excavation	On Street	Structure B / C	SL	D	20/10/2022	NY C0811977	N/A - Structure B / C	N/A - Structure B / C	N/A - Structure B / C	TEA	22/20/2022	CEC	22/20/2022	N/A - Structure B / C	N/A - Structure B / C	N/A - Structure B / C		
277	820	14th Water	Cost Engineering in respect of the Programme	Cost Engineering	On Hold	Street B / C	CS	CS	N/A - TNC Exp reference only	N/A	N/A	N/A	14,459,832.48	Y	N/A	N/A	14,459,832.48	CEC letter	CEC letter	Y	Order in CEC letter to address reference C55/20/21/009 (MCE1212) to CEC letter 18/10/2022.	
278		14th Water Building Deception (working Bridge)	14th Water Building Deception (working Bridge)	Cost Engineering	On Street	Structure B / C	SL	CS							09/10/2022							

## Appendix 5 – Risk Register





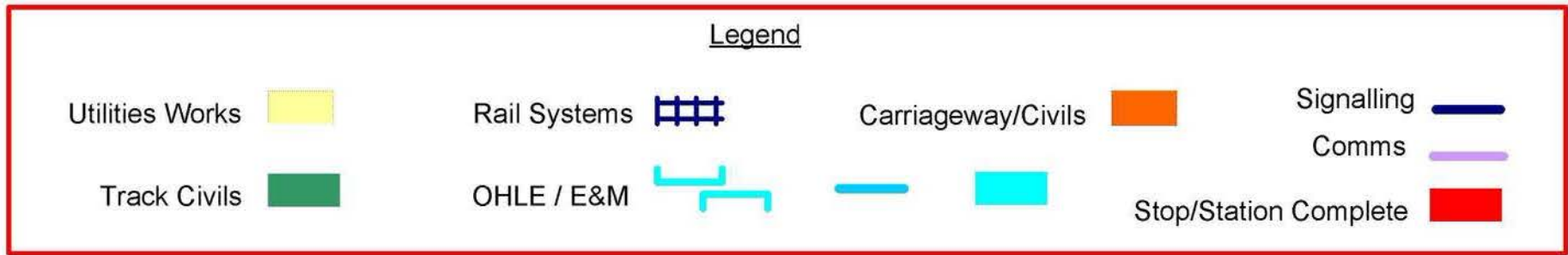
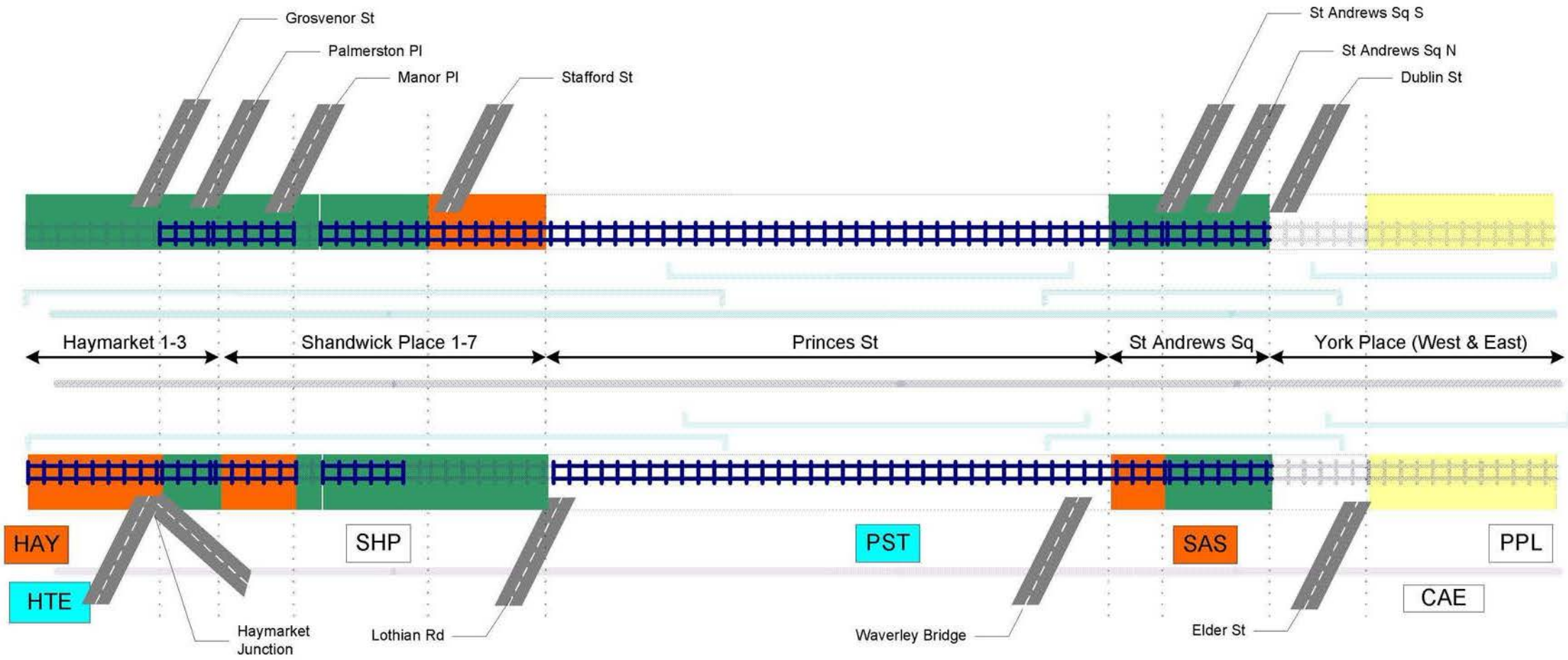




Risk ID	Risk Description	Risk Category	Risk Status	Risk Owner	Risk Analysis - PM Required										Risk Analysis - PM Required									
					Risk L1					Risk L2					Risk L1					Risk L2				
					Score	Impact	Frequency	Control	Residual	Score	Impact	Frequency	Control	Residual	Score	Impact	Frequency	Control	Residual	Score	Impact	Frequency	Control	Residual
R001	Programme at risk if it is not managed by the team from day one.	Programme	Active	Project Mgr	4	2	0	1	2	8	Active	4	2	0	1	2	8	Active	4	2	0	1	2	8
R002	Additional utility works or construction in the area of the site.	Construction	Active	Project Mgr	3	2	0	1	2	6	Active	3	2	0	1	2	6	Active	3	2	0	1	2	6
R003	Weather conditions may affect the construction programme.	Construction	Active	Project Mgr	3	2	0	1	2	6	Active	3	2	0	1	2	6	Active	3	2	0	1	2	6
R004	Excavation works may affect the construction programme.	Construction	Active	Project Mgr	3	2	0	1	2	6	Active	3	2	0	1	2	6	Active	3	2	0	1	2	6
R005	Excavation works may affect the construction programme.	Construction	Active	Project Mgr	3	2	0	1	2	6	Active	3	2	0	1	2	6	Active	3	2	0	1	2	6
R006	Excavation works may affect the construction programme.	Construction	Active	Project Mgr	3	2	0	1	2	6	Active	3	2	0	1	2	6	Active	3	2	0	1	2	6
R007	Excavation works may affect the construction programme.	Construction	Active	Project Mgr	3	2	0	1	2	6	Active	3	2	0	1	2	6	Active	3	2	0	1	2	6
R008	Excavation works may affect the construction programme.	Construction	Active	Project Mgr	3	2	0	1	2	6	Active	3	2	0	1	2	6	Active	3	2	0	1	2	6
R009	Excavation works may affect the construction programme.	Construction	Active	Project Mgr	3	2	0	1	2	6	Active	3	2	0	1	2	6	Active	3	2	0	1	2	6
R010	Excavation works may affect the construction programme.	Construction	Active	Project Mgr	3	2	0	1	2	6	Active	3	2	0	1	2	6	Active	3	2	0	1	2	6



## Appendix 6 – On Street Schematic



CEC01932700\_0109

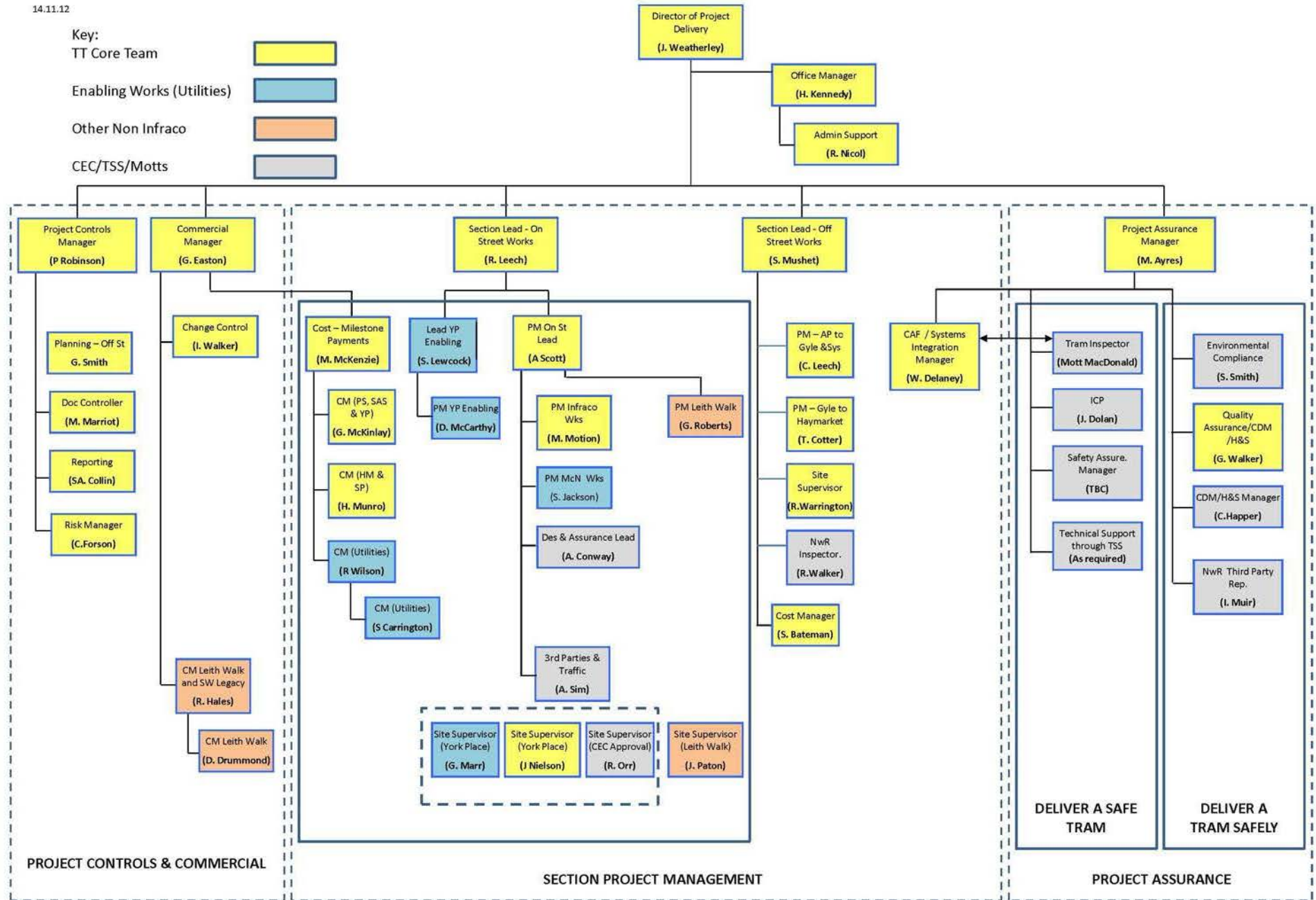
## Appendix 7 – Organisation Chart



14.11.12

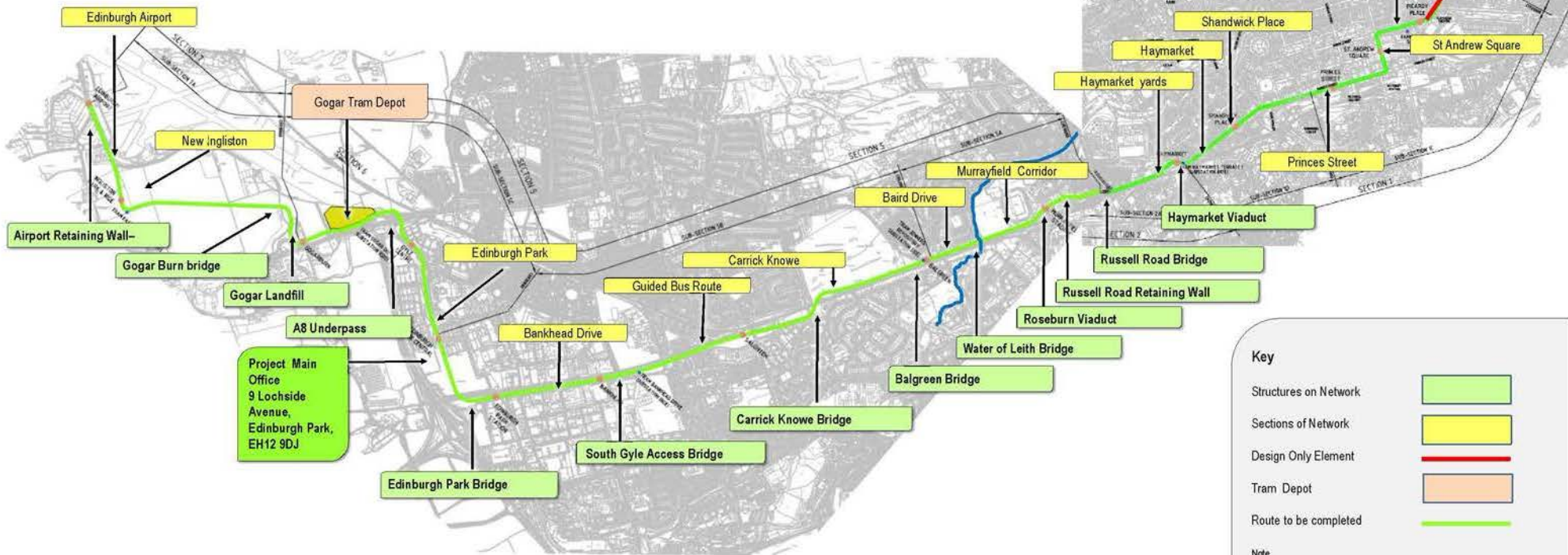
Key:

- TT Core Team
- Enabling Works (Utilities)
- Other Non Infraco
- CEC/TSS/Motts



## Appendix 8 – Route Map

# Edinburgh Tram Network – Route Map & Key Locations



**Key**

- Structures on Network
- Sections of Network
- Design Only Element
- Tram Depot
- Route to be completed
- Note.

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## Appendix 9 – Acronyms

## ACRONYMS

ACCB	Accommodation and Boundary Works
AiP	Approval in Principle
ANC	Advice of Non Compliance
APPP	Prior Approvals – Detail Design
APPR	Approvals
APPT	Technical Approvals – Detail Design
ARCH	Architecture
AUXI	Auxilliary Power
BAA	British Airports Authority
BBS	Bilfinger Berger Siemens
BLDS	Buildings
BRDG	Bridges
BSC	Bilfinger Berger / Siemens / CAF - previous consortium
CAF	Tram Provider - (Construcciones y Auxiliar de Ferrocarriles)
CAR	Corrective Action Request
CAR	Water Environment (Controlled Activities) Regulations 2011
CDM	Construction (Design and Management) Regulations 2007
CEC	City of Edinburgh Council
CECS	CEC Services
CfS	Case for Safety
CHAR	Charette Changes
COCP	Code of Construction Practice
COMM	Commissioning
CVI	Confirmation of Verbal Instruction
DAS	Design Assurance Statement
DASB	Design – As Built
DaST	Deliver a Safe Tram
DDAP	Detailed Design Assurance Plan
DEMO	Demolition
DEPO	Depot
DKE	Dynamic Kinetic Envelope
DoC	Declaration of Conformity
DRAN	Drainage
DtTS	Deliver the Tram Safely
E&M	Electrical & Mechanical
EAL	Edinburgh Airport Limited
EART	Earthworks / Embankments
ELEC	Electricity
EMC	Electromagnetic Compatability
ENVI	Environmental
ER's	Employers Requirements
ESM	Engineering Safety Management
FAT	Factory Acceptance Test
FATs	Factory Acceptance Tests
GASS	Gas
GEOT	Geotechnical
HAZID	Hazard Identification Study
HAZOP	Hazard and Operability Study
HIGH	Highways
HIRA	Hazard Identification and Risk Assessment
HMRI	Railway Inspectorate
HS	Historic Scotland
HSE	Health and Safety Executive
HV	High Voltage
ICCO	Independent Certifiers Change Order
ICP	Independent Competent Person

IDC	Inter Disciplinary Check
IDR	Inter Disciplinary Review
Infraco	Infrastructure contract
ISA	Independent Safety Assessor
ISRP	Infrastructure Safety Review Panel
ITP	Inspection and Test Plan
JNCS	Junctions
KPI	Key Performance Indicator
LAND	Landscaping
LIGH	Lighting
LOLER	Lifting Operations and Lifting Equipment Regulations 1998
MANA	Management
MECH	Mechanical
MILE	Milestones
MISC	Miscellaneous
MODL	Modelling
MUDFA	Multi-Utility Diversions Framework Agreement
MUDFA	Multi Utility Diversions Framework Agreement
MULT	Multi-Discipline
NCR	Non Conformance Report
NR	Network Rail
NWR	Network Rail
O&M	Operation and Maintenance
OCC	Operational Control Centre
OCIP	Owner Controlled Insurance Policy
OCL	Overhead Catenary Line
OLE	Overhead Line Equipment
ORA	Operational Risk Assessment
ORR	Office of Rail Regulation
ORS	Operational Radio System
OTHW	Other Works
PHA	Preliminary Hazard Analysis
PLAT	Platforms
PM	Planned Maintenance
POWR	Power (Traction)
PSCC	Project Safety Certification Committee
QCRA	Quantified Cost Risk Analysis
QRA	Quantified Risk Analysis
QSRA -	Quantative Schedule Risk Analysis
RAIB	Rail Accident Investigation Branch
RAM	Reliability Availability Maintainability
REL	Railway Electrification
RFI	Request for Information
RFO	Request for Opinion
RIDDOR	Reporting of Injuries, Diseases and Dangerous Occurences Regulations 1995
ROGS	The Railway and other Guided Transport System (Safety) Regulations 2006
RSA	Road Safety Audit
RSAR	Road Safety Audit Report
S&T	Signalling and Telecoms
SAC	Safety Application Condition
SAT	System Acceptance Test
SATs	Site Acceptance tests
SCADA	Supervisory Control and Data Acquisition
SDS	System Design Services
SEPA	Scottish Environmental Protection Agency
SEWR	Sewerage
SFAIRP	So Far As Is Reasonably Practicable
SGN	Scotland Gas Networks
SI	Site Instruction
SIGN	Signalling
SIT	System Integration Test
SMS	Safety Management System
SNH	Scottish Natural Heritage
SP	Scottish Power
STAK	Stakeholder
STRL	Street Lighting
STRU	Structures / Retaining Structures
SUBM	Submissions
SUBS	Sub-Stations
SURV	Surveys



SW	Scottish Water
TPS	Traction Power Supply
T&T	Turner & Townsend
TCO	Tie Change Order
TM	Traffic Management
TNC	Tie Notice of Change
TS	Transport Scotland
TSS	Technical Support Services
UCO	Utilities Change Order
UNC	Utilities Notice of Change