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Edinburgh Tram Project
Full Progress Report No. 16
8th December 2012 to 5th January 2013
FINAL

CONFIDENTIAL – LEGALLY PRIVILEGED AND FOI(S)A EXEMPT
January 2013



CONTENTS

1	Executive Summary	3
2	Health, Safety & Environment	7
3	Programme	9
4	Risk	13
5	Commercial	17
6	On Street - Enabling Works & Utility Legacy Works	25
7	On Street - Main Works	26
8	Off Street Works	28
9	Trams	32
10	Assurance	36

Appendix 1 – Dashboards

Appendix 2 – Health, Safety & Environment and Consents Tracker

Appendix 3 – Cost Report

Appendix 4 – Change Log

Appendix 5 – Risk Register

Appendix 6 – On Street Schematic

Appendix 7 – Organisation Chart

Appendix 8 – Route Map

Appendix 9 – Acronyms

Rev	Originator	Approved	Date
0	Shirley-Anne Collin	Rob Leech	18 th January 2013
1	Shirley-Anne Collin	Rob Leech	21 st January 2013
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DOCUMENTS			

1 Executive Summary

This report covers progress made during the period from 8th December 2012 to 5th January 2013. It should be noted that it was agreed that Infraco would not submit a Progress Report for Period 5-9 in December. Period 5-9 is to be covered in a combined period report due after the cut off date of this report. Consequently this report is drawing on Turner & Townsend's analysis of progress in the Period. There was also no report provided by CAF; however a verbal update was given at the last Progress Meeting held 8th January 2012.

In discussion with CEC it was agreed that Rob Leech will take over from Julian Weatherley as Director of Project Delivery from 7th January 2013. Julian will remain on the project until the end of January part time and will then be available in a supporting role should the need arise. The organisation chart is currently being updated to reflect this change and will be included in Progress Report No.17.

During the last period there was a considerable emphasis placed on preparing the construction sites for the Christmas / New Year shut down. This included a general clean up of the sites, temporary reduction of compounds where possible and enhancements to the fencing to make them more robust during this holiday period. The work resulted in the project only receiving one On call notification during the holiday.

There were four health & safety incidents recorded during the period, none of which were identified as serious or significant.

A review has been undertaken of the Bilfinger & Siemens report regarding the incidents involving two road rail Mobile Elevated Working Platforms (MEWPs) on the mini test track. The report which was prepared by Edinburgh Trams has now been received, with comments passed back to CEC. It is envisaged that a set of actions for implementation will be agreed by the 18th of January 2013.

Erosion of the 22 week cost engineering programme saving remains unchanged at 14 weeks. Turner & Townsend currently estimate that a further erosion of up to two weeks will result from the need to keep the bus station operational during the York Place works although this is being monitored closely.

The Sectional completion date for Section B remains on target for 8th March 2013 (the contract programme date). Turner & Townsend are continuing to forecast an overall project completion date of 19 April 2014, including the impact of risk and opportunity with a 57% probability of the Master Schedule completion date of 2 March being achieved. The critical path remains through Section 5A (Roseburn Junction to Balgreen Road).

Infraco has informed Turner & Townsend that the two tamping visits on the remainder of the Off Street section (Haymarket to the Depot) envisaged in the Rev 5 programme are now going to be carried out in one visit. Concerns were raised by Turner & Townsend/CEC that this may have a detrimental impact on the sectional completion dates, in discussion with Siemens however it was established that the tamper has been provisionally booked for a window in June/July. Discussions are ongoing to confirm that a date in early June can be achieved which is broadly in line with the Rev 5 dates, thus significantly reducing any impact on Sectional completion. What's more, Siemens are also considering re-sequencing post tamper activities such that any time lost can be recovered. This will continue to be scrutinised by Turner & Townsend.

FINAL

Discussions are ongoing with Turner & Townsend, Infraco and CEC in relation to the scope of Section B. This is nearing completion and a Section B tracker is being developed by Turner & Townsend covering all aspects of the works.

Enabling and utility legacy works have progressed well during the period and works are being completed to meet dates agreed with Infraco. Similarly street services 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.

All On Street areas including York Place are now in the possession of Infraco with some minor exceptions agreed where residual works and/or street services conflict works are being carried out by McNicholas and/or Crummock. 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. Of particular note is the progress Infraco has made in York Place since the sites were handed back to them. All critical blinding work was completed by Christmas and 35% of track slab has been completed.

The delays to the commencement of construction of the Cathedral Lane substation due to a redesign of the retaining wall at the perimeter of the site are being mitigated although the programme makes no allowance for risk and is being monitored on a weekly basis in conjunction with Infraco.

The recent introduction of the weekly steering group meeting with senior SW management has made a positive impact in progressing the key issues between the parties. Turner and Townsend and CEC are now focusing on consolidating this progress to determine an effective close down plan for this problematic interface.

Regarding the legacy works in Leith Walk and Constitution Street CEC has requested that Turner & Townsend propose a reduced workscope of critical legacy utility items for agreement with SW. In parallel Turner and Townsend have approached McNicholas regarding delivery of the revised workscope. CEC and Turner and Townsend anticipate works commencing mid Feb 2013 assuming agreement with SW can be reached by mid January 2013. Turner & Townsend are discussing with CEC how these works will be resourced.

Section 7 infrastructure was complete for tram testing with the first tram travelling along the section on the 12th of December 2012. Platform edges will need to be adjusted as it was found that these interfered with the tram envelope. Subsequent checks are now being made on the other tram stops that have been installed.

At Edinburgh Gateway King Post Wall construction has continued and piling for the overhead line masts will start mid January 2013. The attenuation tank has been backfilled and water tests have been successfully completed.

Further to the last report the manhole at Murrayfield has been lowered to enable the embankment works to progress. There has been a noticeable development in the height on both structures S21 B and D. It is anticipated that the sewer diversion works will commence on 21st January 2013 subject to SRU granting the necessary consents. McNicholas have been chosen to undertake the sewer diversion works due to the cost being less than Bilfinger and their experience of utility diversions.

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.

All 27 trams have now been delivered to the Gogar depot with 25 having completed testing on the mini test track.

CAF have issued a letter to Turner & Townsend detailing potential additional project costs in excess of £2M, due to the delay to the completion date between Rev 2 and Rev 5. Turner & Townsend have written to CAF requesting a meeting to discuss Turner & Townsend's assessment of the forecast dates for key activities; to allow both parties to better understand activities and interdependencies and therefore any potential delay costs. This meeting is due to take place in January 2013.

The progress of the Fare Collection system has been delayed due to the delay in signature of the contract. Parkeon have submitted a Client Change Notice to delay the 'Planned Acceptance Date' by four weeks as a result. Turner & Townsend are working with Parkeon to limit any further risk to project delivery.

The re-organisation of project assurance, with a number of responsibilities transferring from Turner & Townsend to the Operator, is nearing completion. Turner & Townsend has worked closely with Edinburgh Tram in agreeing the split of responsibilities and it is envisaged this exercise will be complete before the end of January. As well as the formal meetings in relation to assurance Turner & Townsend, CEC and Edinburgh Tram are also meeting on a regular basis to ensure the transition of responsibilities is managed as efficiently as possible.

There have been a number of cracks found to the finished concrete track slabs which are visible on the road level surface. These appear to include cracks in the proximity of expansion joints and contraction joints. Discussions have been held with B&S regarding this issue. It has been agreed to identify a number of areas where the cracking is evident and hold a review between Turner & Townsend and B&S to enable B&S to further progress the issue and identify the actions that are to be undertaken.

The overall forecast has reduced by £177k in the period which is the result of a number of positive and negative movements. During the period, we have partially agreed the value for descope work around St Andrew Square. It had previously been reported that although road reconstruction savings would be lower than targeted, this is partly a result of some value being included within the St Andrew Square descope. The forecast now captures the likely saving of these combined value engineering items which are greater than previously reported.

There has been an increase in the risk allowance during the period which is the result of the latest QCRA. This is a modelled risk value based on a number of inputs. However, the main driver for the increase is a risk associated with Scottish Water's resources which have been maintained at a level higher than originally forecast. We are reviewing the required Scottish Water project requirements to identify where the resources can be reduced.

During the period, CAF submitted a letter which identifies prolongation costs for the difference between their contract programme (rev 2 from the mediation) and the Rev 5 programme. We have carried out an initial review of this correspondence and will meet with CAF to discuss the effects. At present, we believe the contract programme dates can be maintained although there

Progress Report No. 16 – 8th December to 5th January 2013

FINAL

is reference in the CAF contract to a service commencement date in September 2013 which conflicts with their contract programme.

FINAL

2 Health, Safety & Environment

2.1 Management of Health & Safety

During the last period there was a considerable emphasis placed on preparing the construction sites for the Christmas / New Year shut down. This included a general clean up of the sites, temporary reduction of compounds where possible and enhancements to the fencing to make them more robust during this holiday period. The work resulted in the project only receiving one On call notification during the holiday.

2.2 Incident Management

2.2.1 Incident Reporting

During the last period there were four incidents on the Edinburgh Tram Project. There were no incidents that were identified as serious / significant.

2.2.2 Record of Incidents

Incidents reported within this period comprise:

Serious / significant incident

none

Date	Location	Detail	Contractor	Classification
12/12/12	St Andrew square	Wheel of road sweeper in comms chamber after running over timber board covering the chamber.	Crummock	Service damage
14/12/12	Shandwick Place	Damage to a 2"dia gas. Pipe was encased in concrete. Scotland Gas Networks contacted and arrived on site within 1 hour	Lagan	Service damage
19/12/12	Scotrail Depot	Fibre optic cable connection to the depot damaged at fence line in ScotRail depot. Resolution - Location of damage identified and cable jointed 20/12/12.	Graham	Service damage
27/12/12	Abercrombie Place	Temporary lights were stuck on red. Resolution - T&T requested that the batteries for the temporary lights are replaced as they are flat.	B&S	Unsafe condition

2.2.3 Incident Progress

A review has been undertaken of the Bilfinger & Siemens report regarding the incidents involving two road rail Mobile Elevated Working Platforms (MEWPs) on the mini test track. The report which was prepared by Stuart Parson (Edinburgh Trams) has now been received, with comments passed back to CEC. It has envisaged that a set of actions for implementation will be agreed by the 18th of January 2013.

2.3 CDM Regulations

Turner & Townsend have received the revised Construction Phase Plan for the project from Bilfinger & Siemens. This document is currently being reviewed by Turner & Townsend.

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2.4 Environmental

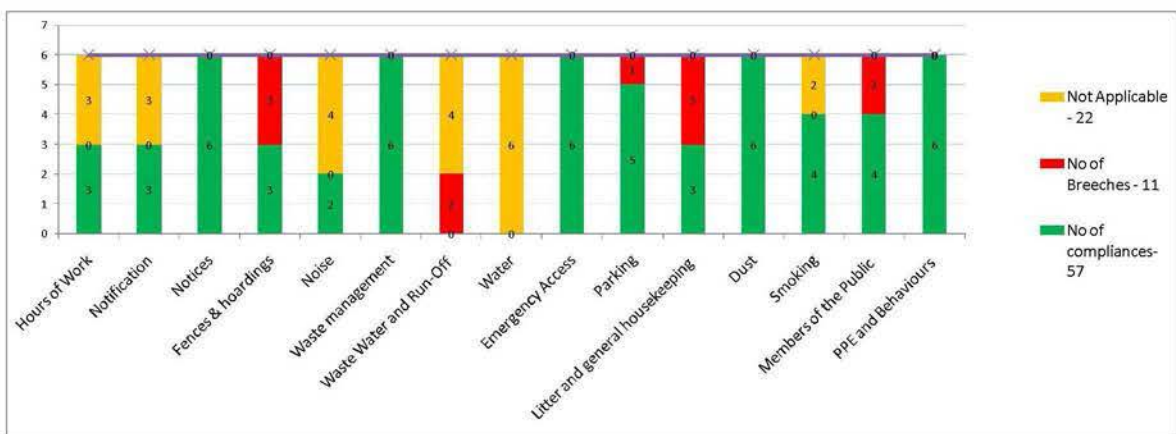
Edinburgh Airport has raised concerns regarding erosion of the Gogar Burn in the vicinity of the tram works. CEC has requested copies of photographs from the airport authority to assist with investigating this matter.

A meeting was held with John Lawson from CEC Archaeological Services and Sheena Smith the Environmental Compliance Manager from Edinburgh Trams. He has advised that further work / money will be required to progress the post excavation works to closure, specifically with regard to final reporting. This money is already accounted for in the original change budget as discussed with Mike McKenzie (Turner & Townsend Commercial). Full details are to be provided by John Lawson during the next period.

The removal of the waste from Baird drive has now been completed.

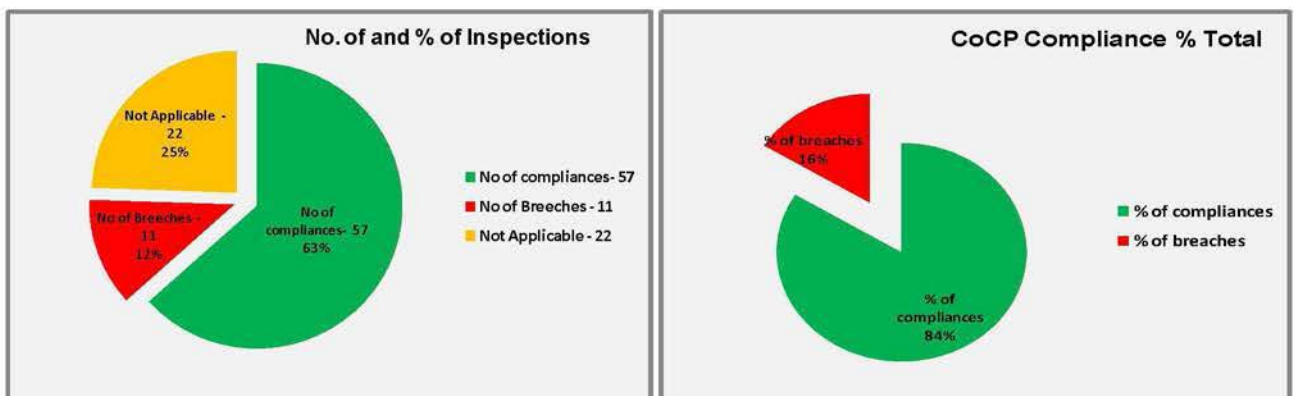
2.5 CoCP

CoCP compliance was recorded at 84% 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. Details of the breaches are included within the Deliver the Tram Safely report included within Appendix 2.



* There were 2 inspections in which Waste Water and run off were relevant. In both of these instances there were breaches. These breaches occurred in St Andrews Square and were rectified by the Christmas Shutdown.

Number of and % Compliance



3 Programme

For this reporting period it was agreed between all parties (CEC, Infraco, Turner & Townsend) that no progress update or report would be provided from Infraco. Therefore no progress has been recorded against the Master Schedule this period and the current data date remains the 10th November 2012. As such all forecast dates remain unchanged.

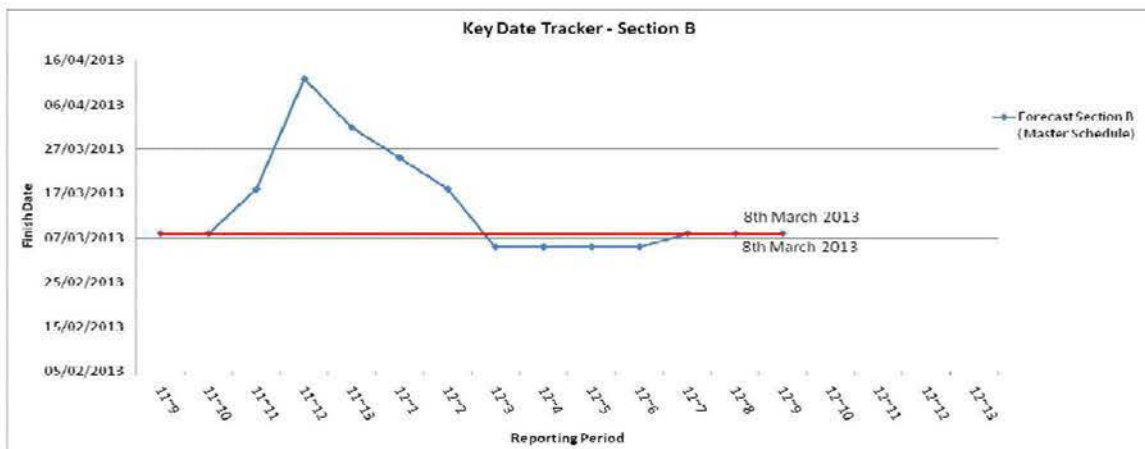
3.1 Programme Overview

Contract milestones C & D continue to remain on or earlier than the contractual dates, based upon progress up to 10th November 2012. These are forecast for the 21st of November 2013 and the 2nd of March 2014 respectively. Section B has not been affected this period and remains the 8th of March 2013. However, based upon discussions with Infraco this period, it is envisaged that there could be approximately one month additional slippage to the Section C and D completion dates, within the Turner and Townsend Master Schedule.

The primary factor for the forecast movement of Section C and D dates has been the long lead requirement for the single visit of the Off-Street tamper. Non-confirmation of the tamper date has resulted in the forecast slippage of one month to the forecast commencement, now believed to be in late June 2013 versus the current Master Schedule date of the 31st of May 2013. Further information is being sought from Siemens in relation to the programme dates for the Off-Street tamping.

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. All information and analysis contained in this Programme Section of the report is based upon the Master Programme, unless otherwise stated.

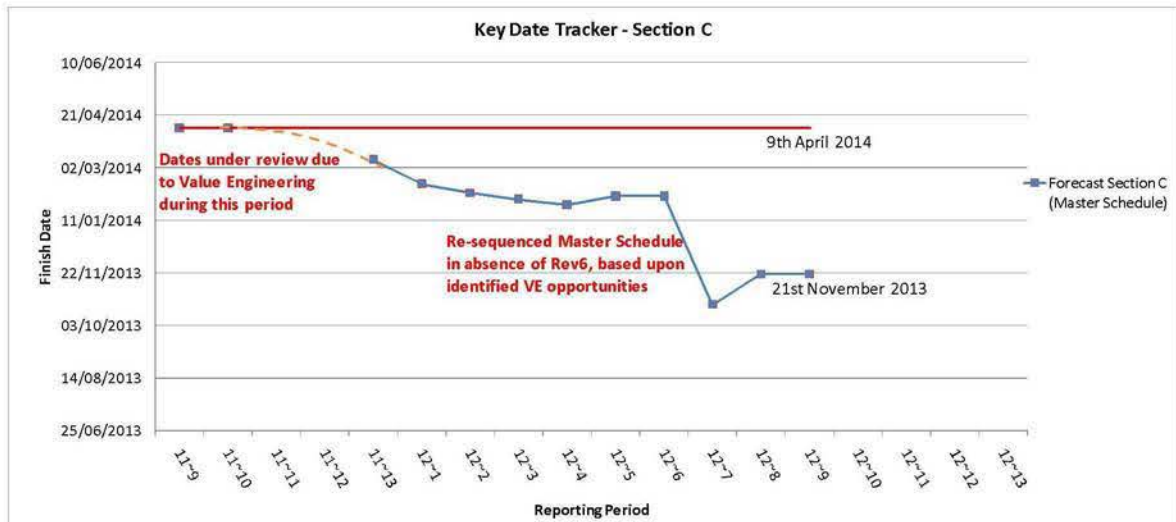
Section B; Test Track Complete



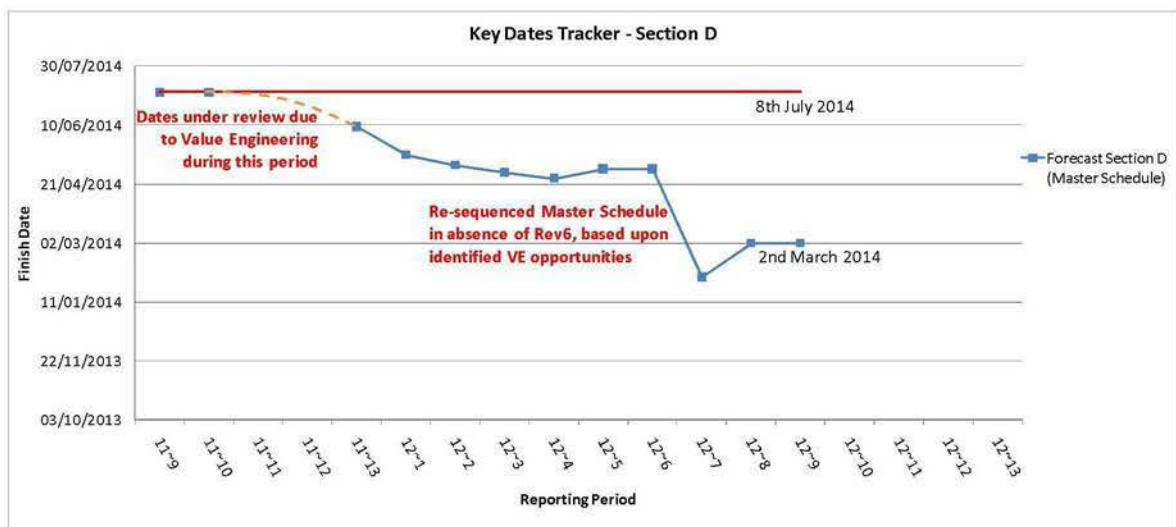
Note: All charts exclude the impact of risk & opportunity

FINAL

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



Section D; Open for Revenue



3.2 Progress this Period

There has been no change to the number of sections where works are progressing. Haymarket Yards is the only section where construction works have been completed. At both the Depot and along Princes Street overall construction progress remains at 99% with some final non critical items of works yet to be completed. E&M is still to commence along Murrayfield Corridor through to York Place (Sections 5A, 2A, 1D and 1C).

Murrayfield corridor continues to be a concern for slippage. This is a risk which is likely to be influencing Infracore's confirmation of the tamping date. This is primarily due to issues with progress at both Roseburn Street Viaduct (S21A) and the adjacent Murrayfield Retaining Wall (S21B) structures. Murrayfield Retaining Wall (S21D) has also been impacted but is not currently driving the critical path.

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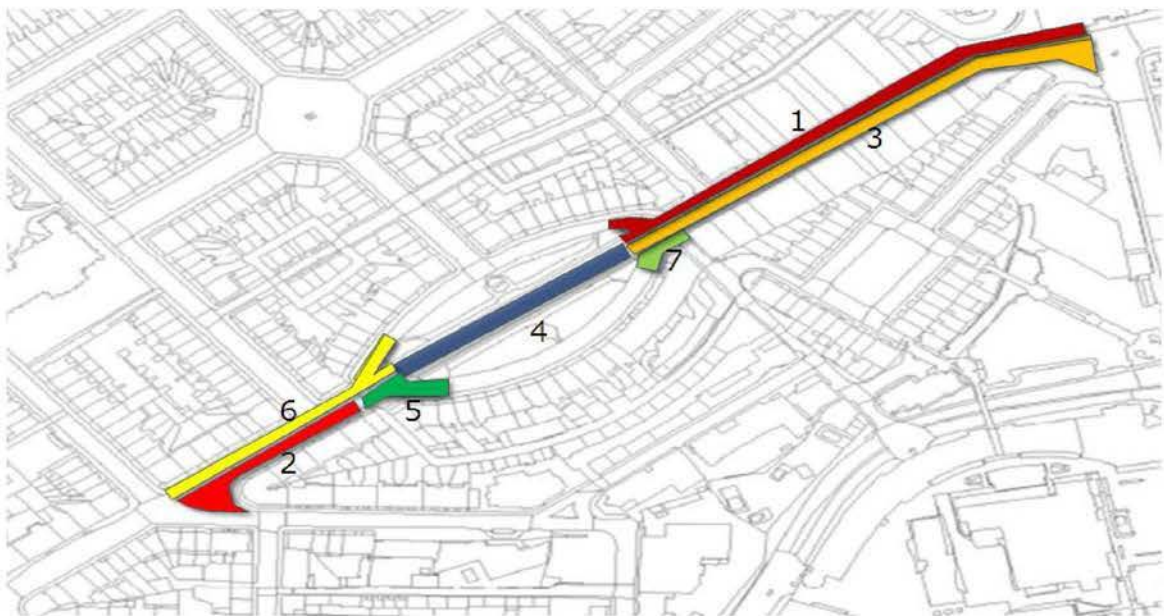
At Edinburgh Gateway, based upon Expanded's schedule of works, progress remains behind schedule by approximately 12 days, due to the King Post embankment works. As such Turner and Townsend continue to agree with Infraco's previous assessment for track laying to commence on the 26th of February 2013.

Section B completion remains on target for the 8th of March 2013. Infraco's latest progressed Rev5 schedule, submitted with the Infraco period report No 5/8 to the 10th November 2012, does not reflect the correct forecast of works remaining. This has resulted in the incorrect forecast completion date of the 1st April 2013 tabulated in their report.

Along York Place, the works west of the bus station entrance were handed back to Infraco on the 6th of November 2012. The remaining area, east of the bus station entrance was handed back on 29th of November 2012. The condition of each of the areas handed over has enabled Infraco to make good progress with track civils. This has helped to mitigate against the anticipated time impact to Infraco, due to the bus station's traffic management requirements.

Shandwick Place, works is configured into seven sub-sections, as shown in the diagram below. Works have progressed well at Shandwick Place, including the phase 2 utility works being progressed by McNicholas.

Shandwick Place Sub-sections (SP1-7)



At Palmerston Place traffic was switched on 14th December 2012, allowing utility investigations to commence prior to Christmas.

3.3 22 Week "Time Bank"

Erosion of the 22 week cost engineering programme saving remains at 14 weeks.

The draw down figure is based upon the Rev5C 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 currently forecasts Section D completion for the 13th of May 2014, approximately 10 weeks later than the current Master Schedule.

3.4 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. There has been no change as to which sections the Critical Path lies along this period:

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

Infraco intend only one visit by the tamper. The date of which is now being driven by the long lead requirement as per the Infraco contract schedule. The forecast commencement of tamping is the 31st of May 2013.

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 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 June 2013; and the planned sequence of cable laying, particularly fibre optics, does not align with the intended deferred tramstop fit-out schedule.

This first observation has resulted from the Infraco change from having two tamper visits to just one visit, thereby postponing the completion of OHLE works through Balgreen to Edinburgh Park Station. It is likely that the contract programme Finish-Finish relationships between OHLE and the tamping works is now not relevant and OHLE works could be completed before the tamper arrives. This would spread demand for E&M resources currently forecast for June 2013.

Integration of Infraco's proposed; deferred fit-out schedule continues to be reviewed. The focus of which is the dates for E&M cable laying and the remaining heavy civils along the track and whether the September completion date in the proposed deferred fit-out schedule is likely to drive the Section C and D dates.

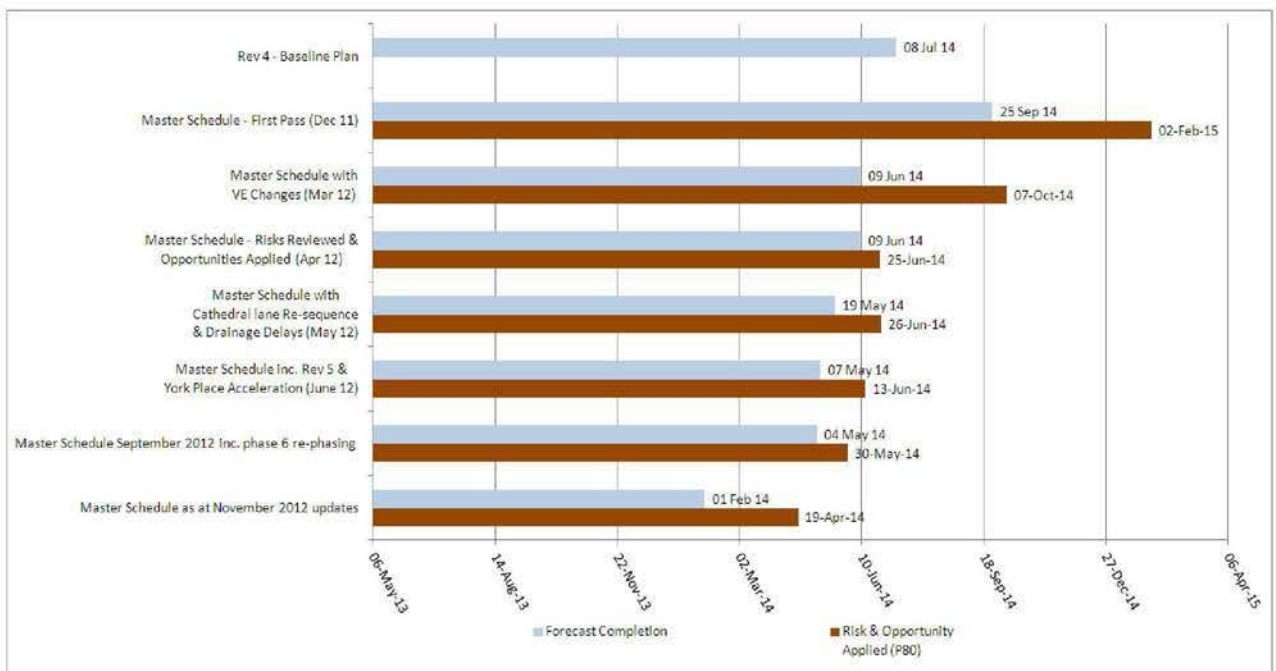
4 Risk

4.1 QSRA Tracker

The QSRA is run every quarter or when there are any new significant changes to programme or delivery strategy occurs. The risk profile used in the QSRA is made up of schedule related risks as detailed in the attached Master Risk Register. The last QSRA was run on the 15th of November 2012 on the Master Programme.

The next QSRA is currently being produced and the results will be published in due course. The chart below shows the forecast dates (before risks and opportunities are included) and the 'impacted' dates for all QSRA's:

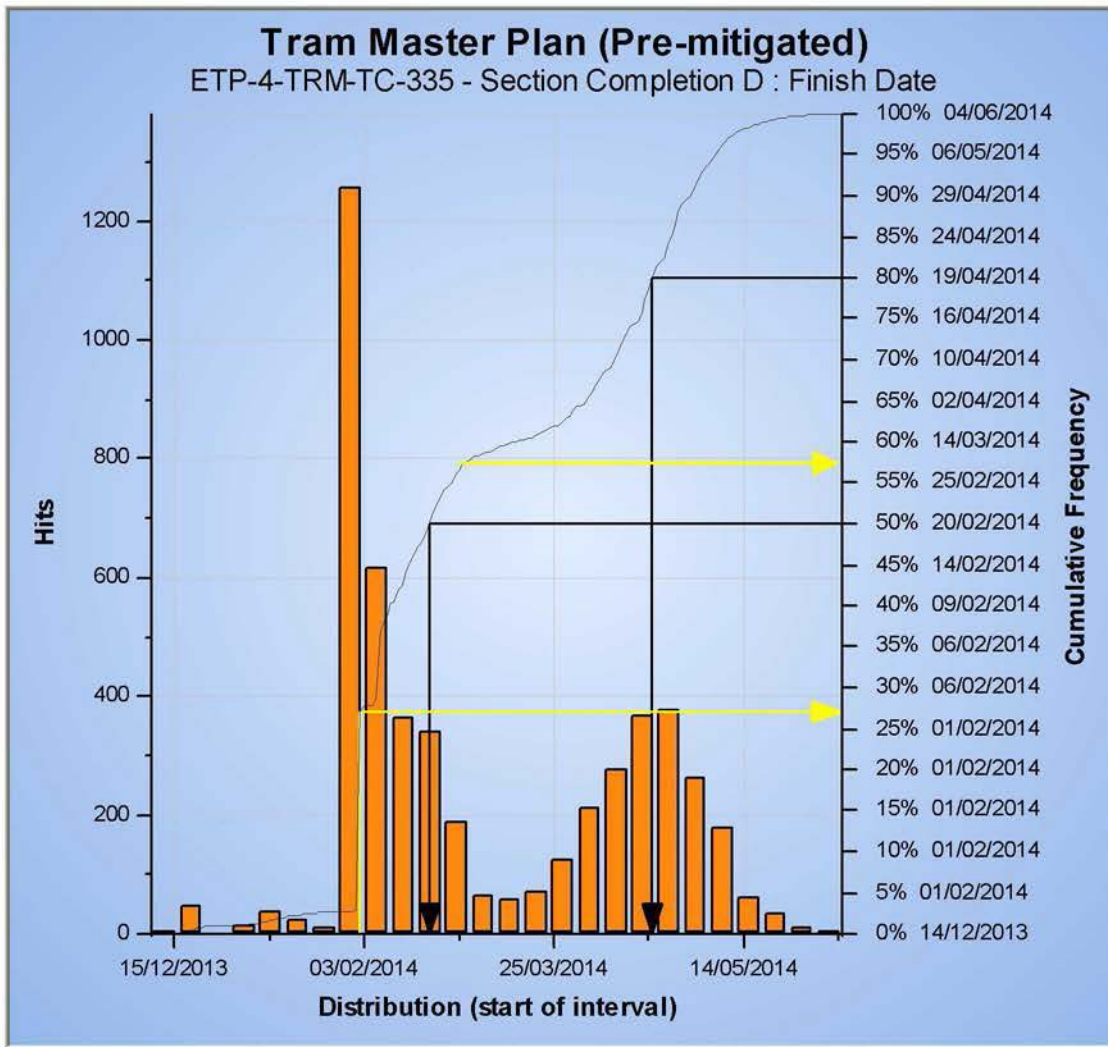
QSRA Trend Analysis



4.1.1 Risk Likelihood (P80)

The Master Schedule was analysed with the current Risk and Opportunity profile to calculate the milestone dates as shown below. The analysis predicts a **P80 Section D completion date of the 19th of April 2014** against the current risk and opportunity profile and there is approximately a 57% probability that the current schedule completion date of the 2nd March 2014 will be achieved.

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P80 represents an 80% likelihood of completing the milestone on that date, based on the current schedule and risk profile. 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.

4.2 Project Risk update

This section discusses the changes to the Master Risk Register (MRR) which contains risks against the Master Schedule. It does not discuss changes to the Collaborative Risk Register (CRR), which is maintained by Turner and Townsend in collaboration with B&S, detailing risks against the contract programme. Changes to the CRR are reported as part of the Programme & Risk meetings which are held every 4 weeks.

Each period the MRR 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 only been one new risk identified to be reported.

Risk	Cause
Additional costs may be claimed if CAF are asked to delay their programme in line with rev 5	CAF originally working to rev 2 programme in line with Marhall agreement which covered costs to those dates. Now been asked to work to rev 5 which pushes out completion times

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5 Commercial

5.1 Commercial Summary

5.1.1 Cost summary

	£M	Comment
Contract Sum	479.66	
Committed Costs		
approved change	23.70	Includes £6.46m 22 week cost engineering change and £1.4m for Rev 3A to Rev 4 programme change (made up of costs incurred during mobilisation period)
changes in progress	5.58	Includes £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	4.07	Changes required to complete, subject to approval
contributions	-7.69	Third party contributions received and anticipated
Total Committed	505.32	Budget £500.15m
Risk		
risk estimate	3.57	QCRA: CEC/T&T risk meeting 3 December 2012 plus January amendments. CEC position on Scottish Water MUDFA legacy costs adjusted to £213K in addition to budget of £750K. Note: payment of ex contract claims to Infraco is excluded as confirmed by CEC.
Risk adjusted forecast	508.89	Budget £500.15m
Opportunities		
utilities diversions	0.00	Ongoing monitoring of utility expenditure but no further opportunity identified at present.
rev 3A to rev4	0.00	Infraco have submitted a milestone schedule for balance of costs; £3.1M profiled Jan-13 to Dec-13. Discussions ongoing with Infraco regarding compliance with Independent Certifier's Opinion.
early programme completion	0.00	No agreement in place with Infraco to realise saving. This work covered by MoU (CEC/Infraco).
Total Opportunities	0.00	
Total Forecast	508.89	Budget £500.15m
Excluded risks		
Opportunities, rev 3A to Rev4	0.00	Refer comments in Opportunities section above
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
Total	0.00	
Forecast +Exclusions	508.89	
	505.79	Adjustment if costs associated with the Rev 3A and Rev 4 programme changes are not paid. Infraco can work to the Rev 4 dates. An example is Section 7A/5C where the sub-contractor is completing later than the Rev 3A date (equates to circa £158k of costs). Infraco have submitted a milestone schedule and do not believe further information needs to be provided. Discussions ongoing with CEC regarding compliance with the Independent Certifier's Opinion.

The forecast committed costs exceed the budget by £5,170k, principally as a result of the agreed position regarding the 22 week time buffer resulting from removal of traffic management constraints and programme embargoes and the scope of utilities diversions.

It should be noted that there are a number of assumptions agreed with CEC relating to payment of ex contract claims being excluded and CEC's position regarding Scottish Water's request for additional costs in excess of £750K associated with Scottish Water MUDFA legacy costs.

Opportunities are being sought to realise savings through de-scoping work, value engineering and changes to the execution of the work.

5.1.2 Movement from previous period

The overall forecast has **decreased** by £171k in the period. The principal movements are identified below.

The Infraco contract forecast has **decreased** by £572k from the previous forecast. Significant changes include:

- Forecast savings associated with the combined effects of St Andrew Square descope and Road Reconstruction have increased, **reducing** the overall forecast by £790k. This has been achieved through a number of negotiations with Bilfinger on both the scope of St Andrew Square West and the depths of construction allowed for in the contract price for roads. During this detailed review they have changed their position compared to earlier comments regarding the basis of the contract price and scope. The cost report reconciles the combined effect of these items and reapportions the savings to the respective tNCs (560 and 584). Savings associated with tNC 560 (St Andrew Square descope) have increased by £1,150k while savings associated with tNC 584 (road reconstruction) have decreased by £360k. This transfer of savings is in line with the report provided to CEC in October on this subject.
- Forecast savings associated with the excavation of track box by McNicholas have reduced, **increasing** the overall forecast by £100k. This has resulted from agreements with BS over the depths of construction allowed for in the contract price for track box.
- The forecast for the York Place direct contract has **increased** by £100k. This is the result of final completion of the work being pushed into 2013 which in turn has resulted from additional temporary works to allow transfer of bus running lanes and additional works associated with installation of drainage and ducting and in particular the Broughton Street manhole.

The forecast for utilities has **increased** by £13k from the previous forecast. There have been no significant movements in the period

The risk allowance has **increase** by £288k. This is the result of the latest QCRA which models all cost and schedule risks to project completion. The primary reason for the increase in this sum is the inclusion, within the uncertainty allowance of a sum of £400k for costs associated with Scottish Water's resource cost. Recent submissions by Scottish Water indicate an increase to the previously forecast cost of work done resulting from accruals not identified before and an ongoing level of management resources in excess of what is considered to be necessary to

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deliver the remaining work. These items are being queried and we will report on the status in the next period report.

The allowance for remedial work in Leith Walk is £900k. This has been confirmed by CEC and whether the project team will deliver the project or if it will be managed by another CEC department.

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. CEC confirmed the requirement to issue a change order for £4,541k and reference is made to the Certifier's opinion which requires that only costs incurred will be payable. £1,397k has been certified to date although Turner & Townsend have advised CEC that BBS have not provided sufficient information to demonstrate costs were incurred. Infraco have advised that they will not provide any further information to support this amount. Infraco have also issued a milestone schedule for the remaining £3,144k showing a draw commencing in January 2013. This issue is not resolved at this stage.

Prelims / Overhead Mark ups on change

Infraco have applied prelims and overhead and profit to OLE bases, section 1D drainage and Shandwick Place road reconstruction. This overlaps with the indirect costs/prelims included in the contract price. As the matter could not be resolved it was submitted to the escalation process and in this instance, CEC have confirmed that payment should be made. This was agreed *without prejudice* to future changes related to this issue, Turner & Townsend will seek to agree matters with Infraco and advise CEC accordingly.

During the period Infraco have submitted an estimate for Cathedral Lane substation which follows the same principles for calculating mark-up (i.e. prelim recovery is claimed on the full value of the work despite the contract already making some allowance for this scope). We have met Infraco to discuss this item and they have confirmed that they will not change their position. As we believe our position conforms to normal industry practice we suggest that this item will have to follow the escalation process.

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 has issued notes of the meeting and re-issued the Opinion paper. It is understood that Infraco do not agree with this paper. This matter requires clarification and resolution.

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Scottish Water

Scottish Water have recently issued a forecast for their resources which is significantly higher than the reported forecast, both in cost of work done and final forecast. This is in part a result of Scottish Water maintaining resources at a level higher than was originally allowed and higher than we believe is necessary at the current stage of the project. We have previously raised our concerns to Scottish Water and are currently reviewing this issue internally and will report our findings accordingly during the upcoming period.

A further review of the risk schedule is required to confirm the basis of scope included/scope excluded and agreements reached with Scottish Water at steering group meetings and executive meetings.

Tramco

Tramco have submitted a letter which identifies prolongation costs which would result from the difference between their contract programme (rev 2 from the mediation). The periods involved and costs are significant however there is not a significant gap between the contract programme and the forecast dates in the master schedule. There is an anomaly in the contract which identifies a qualifying compensation event resulting from failure to meet and end September 2013 passenger service date. This contradicts the contract programme which shows final activities in December 2013. We have invited Tramco to a meeting to discuss this matter and we will undertake a detailed comparison between the Tramco working programme, the contract programme and the master schedule to determine potential prolongation costs or any time savings.

Contributions

The forecast includes allowances for a number of contributions from Third Parties. Some of these contributions are not yet secured and are being negotiated by CEC. Specific items which fall into this category are:

- Transport Scotland for Edinburgh Gateway (£4,356k) (£944k paid to date);
- Henderson Global for the Cathedral Lane substation (£470k in current forecast although additional recovery to be sought for the revised scope of work);
- CEC for public realm costs in St Andrew Square (£921k excluding Scoutmoor paving);
- Insurance for the Grosvenor Street Sewer Collapse (£188k);
- Network Rail for Scottish Power cable diversion (£22k);
- Transport Scotland for the Tram Integration Manager (£300k).

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 £23,700k. This is an increase from the previous period of £741k.

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Infraco

The total value of approved changes in the Infraco contract is £8,704k. This is an increase of £741k from the previous period. Significant changes are as follows:

Description	Change Amount (£k)
22 week cost engineering change (previously partly reported in change in progress) (this will be amended?)	£539
Independent Certifiers Schedule Part 45 Period End Change Order to 10/11/2012	£195

* Increases from previously approved value

Utilities

The total value of approved changes in the Utilities budget section is £13,976k. This is unchanged from the previous period. A further drawdown paper is being developed for the coming quarter.

Tramco

The total value of approved changes in the Tramco budget section is £5k. This is unchanged from the previous period.

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 £5,579k, a decrease of £2,092k from last period.

Infraco

Change in progress associated with the Infraco contract is £5,544k. This is a decrease of £2,117k from last period. Significant changes include:

- tnc 560 – St Andrew Square descope: £-1,150k (reconciliation with road reconstruction and track excavation tnc)
- tnc584 – Road reconstruction specification: £-340 (previously -£700k in anticipated change)
- tnc 606 – On Street works estimate in St Andrew Square: £81k
- tnc 611 - Excavation of track slab by others £-100k (previously £-200k in anticipated change; anticipated saving reduced)
- tnc 717 – Cost engineering in respect of the Programme (22 week saving): £-539k (cost transferred to approved section)
- tnc 721 – Installation of section isolators on the MTT: £30k (previously in anticipated change)

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- tnc 729 - Princes Street Traffic Light Alterations: £40k
- tnc 735 - Additional walls at Queensferry Street / Hope Street junction: £40k

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 increased by £893k. The following describes the main items of change during the period.

Infraco

Anticipated change has increased by £880k which includes:

- Transfer of various saving items into approved change (refer above): £900k (saving moved to change in progress section)
- Transfer of change into change in progress section (refer above): £-120k (cost moved to change in progress section)
- Direct works contract for York Place, carried out by Crummock £100k. This has resulted from work extending into 2013 due to additional work, in particular the manhole at Broughton Street.

Utility Works – York Place to Haymarket

Anticipated change has increased by £13k which includes:

- Increases to the Scottish Water forecast. The Scottish Water resources have not been reduced as anticipated and despite the fact that work on Scottish Water assets has reduced significantly. Although the increase in the period is only £13k, there is a significant difference between Scottish Water's forecast and that included in the report which we are currently investigating.

Tramco

Anticipated changes are unchanged during the period.

5.2.4 Contributions

The forecast amount of contributions has increased by £7k in the period. as described below:

- Infraco have carried out additional design work, associated with the public realm at St Andrew square which has increased the contribution from CEC by £2k
- The amount for Gateway design work has been agreed with Transport Scotland at £944k an increase of £4k from the amount previously reported.

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 £3,571, an increase of 288k from the previous period. This is based on the outputs of the QRA which follows a review of all project risks, the increase is primarily the result of the risk associated with Scottish Water's forecast which is significantly higher than the reported project forecast due to the levels of resource Scottish Water still have on the project.

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 £13,602k. 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: The impact of utilities diversions have reduced the area of road which can be preserved however this is compensated by savings in pavements and footways. During the period we have reconciled savings associated with this item, St Andrew Square descope and Track box excavation resulting in a net increase in the overall saving although a reduction associated with this item.

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 dates (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

- 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.
- Scottish Water manhole in Princes Street Gardens
- 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.

5.6 Payments and Cashflow

A summary of the certified amounts are provided below.

	Certified £k	Planned £k	Comment
Infraco	357,552	357,000	Planned – based upon current forecast
Utilities	15,804	15,700	McNicholas plus SUC costs
Trams	61,731	61,731	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 street services 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

With all critical York Place enabling works completed and the main site handed over to Infraco, Turner & Townsend retains an island site at Broughton Street to construct a SW drainage manhole and a site at Dublin Street to complete final utility and street service works. These works are currently non critical to the Infraco programme and are scheduled to be commenced w/c 14th January 2013.

6.3 Scottish Water

The recent introduction of the weekly steering group meeting with senior SW management has made a positive impact in progressing the key issues between the parties. The main focus of the meeting is to minimise any delay and disruption to the Infraco contract while working through a significant number of legacy technical, commercial and legal issues. This focus has progressed key issues such as; the Murrayfield Sewer diversion, however there remains the risk of some significant commercial challenges in the resolution of the remaining issues. Turner and Townsend and CEC are now focusing on consolidating this progress to determine an effective close down plan for this problematic interface.

Regarding the legacy works in Leith Walk and Constitution Street CEC has requested that Turner & Townsend propose a reduced workscope of critical legacy utility items for agreement with SW. In parallel Turner and Townsend have approached McNicholas regarding delivery of the revised workscope. CEC and Turner and Townsend anticipate works commencing mid Feb 2013 assuming agreement with SW can be reached by the 16th of January 2013. Turner & Townsend are discussing with CEC how these works will be resourced.

6.4 Look Ahead

Turner & Townsend will remain reactive to utility discoveries by Infraco although this watching brief work is beginning to ramp down considerably as ground works are completed. Work will continue with CEC in seeking to limit the scope of Scottish Water legacy works. Street services works will also be ongoing in the period.

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7 On Street - Main Works

7.1 Progress in Period

All On Street areas including York Place are now in the possession of Infraco with some minor exceptions agreed where residual works and/or street services conflict works are being carried out by McNicholas and/or Crummock. 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.

Of particular note is the progress Infraco has made in York Place since the sites were handed back to them. All critical blinding work was completed by Christmas and 35% of track slab has been completed.



York Place

The delays to the commencement of construction of the Cathedral Lane substation due to a redesign of the retaining wall at the perimeter of the site are being mitigated. Currently Infraco are completing the piling works and are maintaining that the building will be weather tight for handover to Siemens at the beginning of April 2013 in line with the Rev 5 Programme. The programme however makes no allowance for risk and will need to be monitored on a weekly basis in conjunction with Infraco.

The completion date for St Andrew Street is now likely to be February 2013. This has slipped in the period due to the impact of December's weather on the critical set laying activities. The RBS vehicular access was switched to the north side of the Square in the period allowing the remainder of the track and carriageway works on the south side of the square to be completed. 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. Owner consents to attach OLE fixings to buildings in St Andrews Street have proved difficult to close out despite CEC's efforts. While this is not currently delaying the works, the issue is being monitored closely through regular meetings.

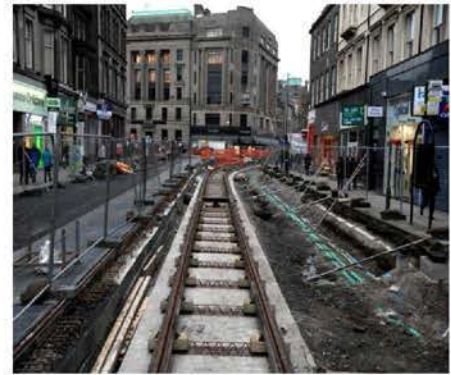


St Andrews St

Princes Street snagging continued throughout 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 in early 2013. Defect inspections commenced in the period.

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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. Track and Civils works in Shandwick Place south are now underway and the target date for completion is April 2013.



Shandwick Place

Between the Crescents Infraco is completing track laying and progress on the Tramstop has also continued during the period. In the same geographic location the tender documents for the rebuilding 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 and discussions are ongoing with CEC regarding the timing of the tender for these works.

Works between Haymarket and the Crescents have progressed well during the period and Infraco has made up some of the time lost due to having to break out approximately 60 linear metres of concrete on the north side of Coates Place. The traffic switch from Palmerston Place to Manor Place was completed on the 14th of December 2012. McNicholas now have possession of this area of the site for legacy utility works prior to handover to Infraco.



Haymarket

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8 Off Street Works

8.1 Progress in Period

8.1.1 Section 7

Section 7 infrastructure was complete for tram testing with the first tram travelling along the section on the 12th of December 2012. Platform edges did need to be adjusted as it was found that these interfered with the tram envelope. Subsequent checks are now being made on the other tram stops that have been installed. Snagging on the civil elements are progressing with the majority of snags being complete. Cracks on the platform track slabs along section 7 have been noted and are currently being investigated. The works to Eastfield Avenue Road crossing remain outstanding and requires scope definition for the crossing to be within Section B completion.

8.1.2 Edinburgh Gateway

Ducting is continuing to be installed in the area this will enable the radio mast to be connected and allow the Depot to be connected to the east side of the tram network.

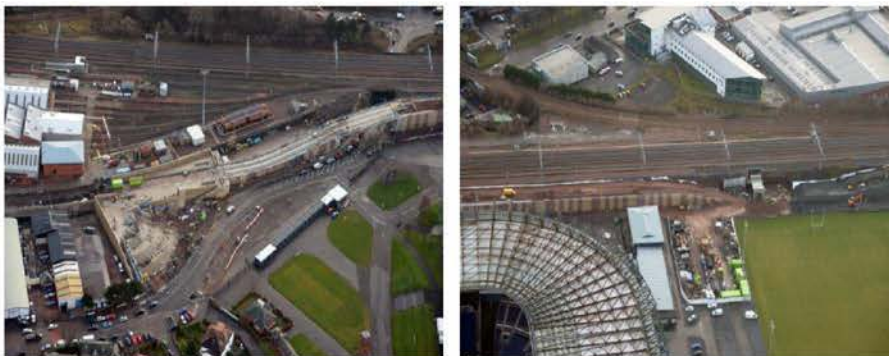
King Post Wall construction has continued and piling for the overhead line masts will start mid January 2013. The attenuation tank has been backfilled and water tests have been successfully completed.



Edinburgh Gateway

The project is supplying Scottish Water with method statements and risk assessments; the majority of which have been supplied and accepted. The remaining outstanding elements of work to be accepted by Scottish Water are; overhead line mast installation, the installation of the protection slab over the sewer and track laying.

8.1.3 Murrayfield



Murrayfield

Further to the last report the manhole at Murrayfield has been lowered to enable the embankment works to progress, there has been a noticeable development in the height on both structures S21 B and D.

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Turner & Townsend inspected the manhole over the festive period and no issues were reported. CCTV surveys are continuing every two weeks until the new sewer is in place.

The plan of the sewer diversion takes the sewer slightly outwith the tram Limits Of Deviation therefore permission is required from the SRU to construct within their land. SRU have not given this permission however CEC are in discussions with SRU and it is hoped that this permission shall be in place prior to the 21st January 2013.

McNicholas have been chosen to undertake the sewer diversion works due to the cost being less than Bilfinger and their experience of utility diversions. McNicholas have had the Technical Query for the diversion works accepted.

8.1.4 Tamper

Infraco has informed Turner & Townsend that the two tamping visits on the remainder of the Off Street section (Haymarket to the Depot) envisaged in the Rev 5 programme are now going to be carried out in 1 visit. Concerns were raised by Turner & Townsend/CEC that this may have a detrimental impact on the sectional completion dates, in discussion with Siemens however it was established that the tamper has been provisionally booked for a window in June/July. Discussions are ongoing to confirm that a date in early June can be achieved which is broadly in line with the Rev 5 dates, thus significantly reducing any impact on Sectional completion. What's more, Siemens are also considering re-sequencing post tamper activities such that any time lost can be recovered. This will continue to be scrutinised by Turner & Townsend.

8.1.5 Other Items of progress in this period;

- Gyle Broadway is substantially complete;
- Gyle to Edinburgh Park civils are substantially complete;
- Edinburgh Park Central Shelter installed;



Edinburgh Park Central Shelter

- Murrayfield embankment construction vertical levels at S21B&D have been progressed;



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- Baird Drive material removed;
- Roseburn structures waterproofing and transition slab works continuing;
- W3 reinforced earth construction continuing;
- ScotRail manhole relocation works ongoing;
- Drainage and ducting on W4 ongoing;
- Roseburn Street footpath and Murrayfield Tram Stop platform work on going;
- ScotRail access gate installed.

- Bankhead tracklaying continuing;



Bankhead tracklaying

8.2 Key Issues

The following issues are currently affecting the off street section;

- Completion of Eastfield Avenue Road in time for Section B handover, scope require to be agreed with Edinburgh Airport and defined by CEC;
- Murrayfield sewer permanent diversion access to be confirmed by SRU;
- An industrial property at Roseburn requires an extension to be reinstated, this was demolished to allow for Bilfinger's piling methodology, however the reinstatement has not been clearly defined within the original tie instruction. Discussions will be held with Bilfinger to establish a solution;
- A problem has been identified at the depot whereby the cable powering the trams overheats when more than four trams are powered up. This is not in accordance with the Employers Requirements and Infracore is investigating what remedial action can be taken;
- Platform edges require to be checked on the rest of the network due to the clash found on Section 7; and
- Cracking has been found on the platform track slabs on Section 7. This issue is currently being investigated and preliminary findings suggest the issue could be project wide. Turner & Townsend has arranged a joint inspection with Infracore and will be requesting a report on what remedial action is required.

8.3 Look Ahead

The following works will be progressed during the coming period;

- Bilfinger and Siemens are reporting that the majority of their Work Package Plans have been submitted to Network Rail and design packages are also being finalised Turner & Townsend have asked Network Rail to review their resources on the project. In addition the Third Party Representative's time on the project shall be substantially reduced.
- Tram testing continuing on Section 7;
- Wall construction continuing at the Gateway site;
- Piling commencing for OHLE masts at the Gateway site;
- Overhead line works commencing through Edinburgh Park;
- Edinburgh Park bridge plinths to be recast;
- Murrayfield sewer diversion shall commence subject to SRU agreement;
- W3 ducting and drainage continuing;
- Haymarket corridor track laying shall continue; and
- Tamper to be booked.

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9 Trams

9.1 Trams Progress in Period

All 27 trams have now been delivered to Gogar Depot; with 25 having completed testing on the Mini Test Track (MTT). MTT testing of the remaining 2 trams will be completed during the forthcoming period.



Tram Depot

CAF have completed routine testing of the four trams which are required for Section B Completion (to 70 kph) well ahead of schedule, with the fifth tram having already been awarded the required Interim Tram Commissioning Type Test Certificate.

The remainder of the Section B tram type and routine tests are scheduled to be completed immediately prior to the Systems Acceptance Test (T1), which is due to commence on the 8th of February 2013.

Turner & Townsend are now attending fortnightly Section B Test & Commissioning Control meetings, chaired alternately by CEC and Bilfinger & Siemens. The 'Section B Tracker', developed by Turner & Townsend to monitor the progress of significant test, commissioning and integration activities for Section B, will now be managed and published by Edinburgh Trams. Turner & Townsend shall continue to monitor the completion of tests and report on any issues identified by either ourselves, or Edinburgh Trams.

9.2 Vesting of Trams with CEC

Turner & Townsend and CAF have developed a procedure to define how trams are to be vested with CEC, in line with Tram Supply Agreement requirements.

Turner & Townsend are currently discussing requirements for the award of Certificates of Tram Commissioning (CoTC), which are a pre-requisite to the vesting of any tram with CEC, with the Tram Inspector. In particular, discussions are focussed around the Tram Inspector's requirement to ensure that Employer's Requirements have been met, before a CoTC can be issued.

Turner & Townsend will produce a paper detailing its understanding of the contractual requirements for the vesting of trams, whether there are any additional risks to CEC when trams are vested and how any vested trams could be managed to mitigate such risks. This paper is expected to be produced by w/e the 18th of January 2013.

9.3 Fare Collection System

The supply and maintenance contract for the Fare Collection system has now been awarded to Parkeon Transit, by CEC. Turner & Townsend will continue to project manage the development and implementation of the system on behalf of CEC.

The physical design and customisation specifications for the Ticket Vending Machines and Platform Validators have been agreed between Parkeon and CEC, with both documents having been developed prior to the supply agreement having been signed. This was done to allow manufacturing of the TVMs and PV to commence immediately upon signature of the contract.

The development of the remaining design and user interface specifications is ongoing, with all parties (Parkeon, Turner & Townsend, Edinburgh Trams and Lothian Buses) working toward their completion by the 21st of February 2013, in line with contract milestone payment requirements.

There is still some information to be provided to Bilfinger & Siemens on the installation requirements for Platform Validators and Hand Held Devices (HHD) and on the interface to the Siemens' RailCom Manager system. Turner & Townsend will arrange a discussion between Parkeon, Bilfinger and Siemens during this period, to ensure that all information required is understood and provided.

9.4 Key Issues

Following confirmation that Turner & Townsend have accepted B&S Project Programme Revision 5 as the current project programme, CAF have issued a letter to Turner & Townsend detailing potential additional project costs in excess of £2M, due to the delay to the completion date between Rev 2 and Rev 5.

Turner & Townsend have written to CAF requesting a meeting to discuss our assessment of the forecast dates for key activities; to allow both parties to better understand activities and interdependencies and therefore any potential delay costs. Turner & Townsend are currently awaiting a response to this letter from CAF.

The progress of the Fare Collection system has been delayed due to the delay in signature of the contract. Parkeon have submitted a Client Change Notice to delay the 'Planned Acceptance Date' by four weeks as a result. Turner & Townsend are working with Parkeon to limit any further risk to project delivery.

Parkeon are awaiting some outstanding decisions on equipment and functionality:

- 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 agreed.
- Dimensions of Platform Validator mounting poles – Information on the quantity, location and installation of the tramstop equipment has now been submitted to Bilfinger & Siemens formally, however 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 Bilfinger & Siemens.
- 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.

Turner & Townsend will continue to follow up on the above actions, as further delay may affect the delivery and installation of the system.

Turner & Townsend will use a tracker to monitor key test, commissioning and integration activities, and raise issues identified during fortnightly control meetings chaired by Bilfinger & Siemens. 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.

The water ingress into the depot building maintenance pits and Wheel Lathe remains to be resolved by Bilfinger & Siemens. Further action is now required as CAF have confirmed that this issue is affecting their operation. Turner & Townsend have developed a proposal for Bilfinger & Siemens consideration to resolve this issue.

The restriction on the number of pantographs that can be raised at any one time in the Depot is affecting CAF's ability to complete conservation maintenance. Turner & Townsend have asked CAF to quantify the delay, to better understand the issue.

9.5 Look Ahead

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

1 Test and Commissioning (end February 2013):

- All 27 trams have been delivered to Gogar Depot
- All 27 trams will have completed Routine Testing on the MTT

2 System Acceptance and Integration:

- Ride Quality Type Tests completed
- Dynamic EMC Measurement Tests completed
- Turner & Townsend tracker used to accurately report on test and commissioning activities and identify significant risks to Section B Completion

3 Vesting of Trams with CEC:

- Agreement on how and when additional Trams can be vested with CEC to be reached with the Tram Inspector, CAF and CEC

4 Fare Collection:

- Monthly reporting commenced
- Monthly progress meetings commenced
- Design and configuration specifications completed

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- Manufacturing of equipment started

10 Assurance

10.1 Resources

The re-organisation of project assurance, with a number of responsibilities transferring from Turner & Townsend to the Operator, is nearing completion. Turner & Townsend has worked closely with Edinburgh Tram in agreeing the split of responsibilities and it is envisaged this exercise will be complete before the end of January. As well as the formal meetings in relation to assurance Turner & Townsend, CEC and Edinburgh Tram are also meeting on a regular basis to ensure the transition of responsibilities is managed as efficiently as possible.

In broad terms the following split has been agreed:

Edinburgh Tram

- Safety Verification
- Technical Assurance
- System Acceptance (T1-T5)
- Managing the Technical Library
- Requirement Management
- Maintenance pre-operation.

CEC

- Environmental Assurance

Turner & Townsend

- Assurance monitoring
- Quality Assurance
- Health & Safety assurance
- Project Insurance monitoring
- CDM Coordinator
- Technical Assurance Trams (Tram Inspector)
- Fare Collection System

An Advice of Possible Non Compliance (ANC) 002 - Confirmation of 'Duty Holder' ability to deliver Safety Verification remains open. The December site visit was successful, with the majority of items closed out. Once the remaining drainage items are closed with Bilfinger & Siemens, this should allow the ANC to be closed.

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10.2 Requirements Management

Currently 169 out of 435 Requirements for Section A are deemed 'compliance confirmed', discussions are ongoing with Bilfinger & Siemens to provide the additional information required to close the remaining items to complete the Section A requirements. This is slower progress than expected for Section A, however all outstanding issues are in the process of being addressed. Care is being taken to ensure that this process is as robust as possible; the idea being that the remaining sectional handovers will be fully understood.

10.3 Project Insurance

The next Owner Controlled Insurance Programme (OCIP) project survey is due in January 2013, the date is still to be finalised as their surveyor is on leave at present.

10.4 Evidence File

The new IT team (Amor) is working with a software provider to facilitate the transfer of documentation to the new Sharepoint site. A successful test has now been carried out; CEC's approval to proceed is expected in January 2013.

10.5 Section B Testing & Commissioning

The dynamic testing of the 5 trams took place and was achieved ahead of programme. The remainder of the testing is anticipated to be ahead of programme, however at the time of writing an updated programme had not been received from Bilfinger & Siemens.

10.6 Key Issues

There have been a number of cracks found to the finished concrete track slabs which are visible on the road level surface. These cracks appear to include cracks in the proximity of expansion joints and contraction joints. Discussions have been held with B&S regarding this issue. It has been agreed to identify a number of areas where the cracking is evident and hold a review between Turner & Townsend and B&S to enable B&S to further progress the issue and identify the actions that are to be undertaken.

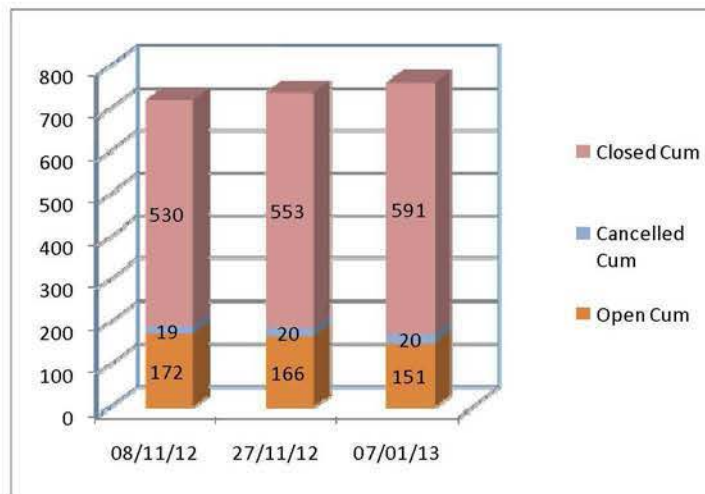
FINAL

10.7 Quality

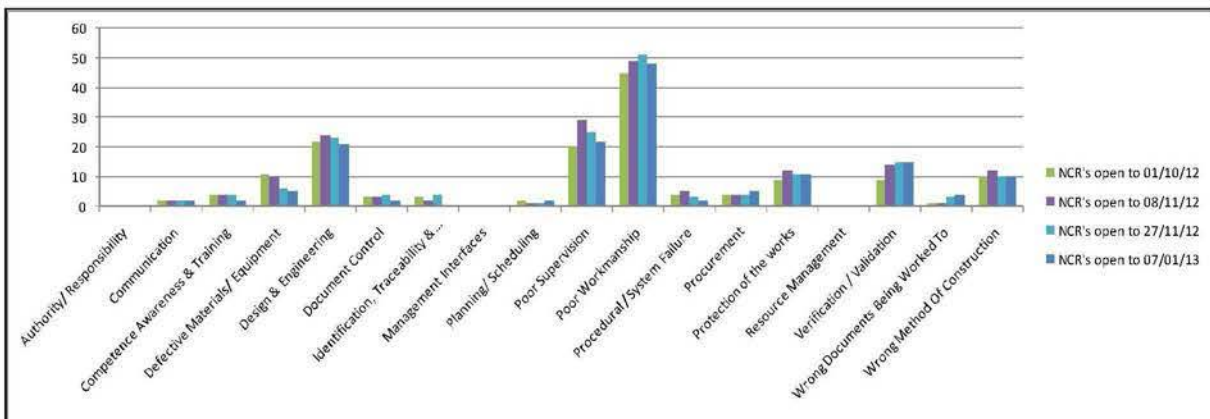
Monitoring by Turner & Townsend of the NCRs raised on the project continues. Details of the NCRs are included below:

- The number of NCRs raised to date is 762. 23 NCRs were raised during the period and 38 NCRs were closed out during the period.
- 49 open NCRs are greater than 6 months old. Further details may be found within Section 6 of Deliver a Safe Tram Report.
- 151 remain open.

Summary of non conformances



Breakdown of non conformances



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	21 st January 2013	REPORTING PERIOD	8 th December 2012 – 5 th January 2013	Project: Edinburgh Tram Network

Executive Summary

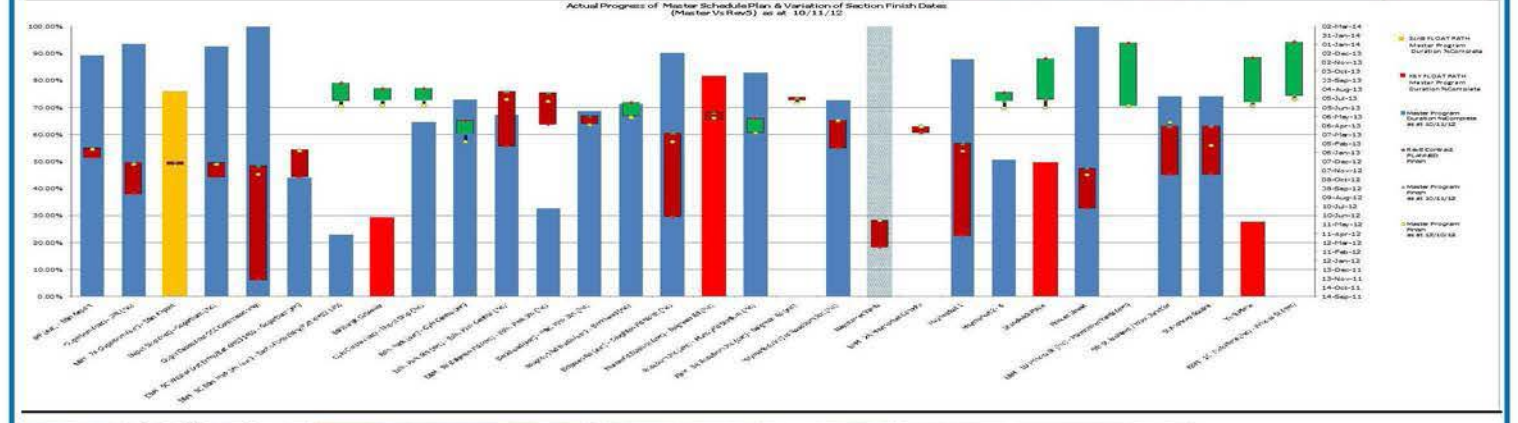
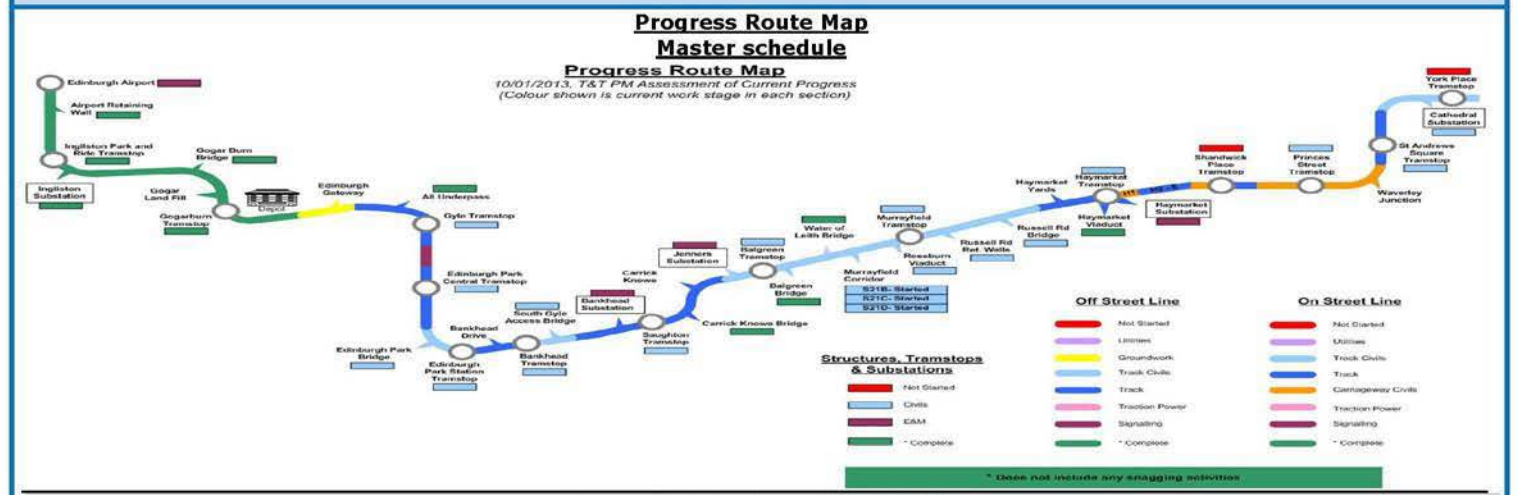
- Rob Leech will be taking over from Julian Weatherley as Director of Project Delivery from 7th January 2013.
- During the last period there was a considerable emphasis placed on preparing the construction sites for the Christmas / New Year shut down. The work resulted in the project only receiving one On call notification during the holiday.
- There were four health & safety incidents recorded during the period, none of which were identified as serious or significant.
- Erosion of the 22 week cost engineering programme saving remains unchanged at 14 weeks. Turner & Townsend currently estimate that a further erosion of up to two weeks will result from the need to keep the bus station operational during the York Place works although this is being monitored closely.
- The Sectional completion date for Section B remains on target for 8th March 2013 (the contract programme date).
- Infraco has informed Turner & Townsend that the two tamping visits on the remainder of the Off Street section (Haymarket to the Depot) envisaged in the Rev 5 programme are now going to be carried out in 1 visit.
- Infraco has informed Turner & Townsend that the two tamping visits on the remainder of the Off Street section (Haymarket to the Depot) envisaged in the Rev 5 programme are now going to be carried out in 1 visit. Concerns were raised by Turner & Townsend/CEC that this may have a detrimental impact on the sectional completion dates, in discussion with Siemens however it was established that the tamping has been provisionally booked for a window in June/July. Siemens are also considering re-sequencing post tamping activities such that any time lost can be recovered. This will continue to be scrutinised by Turner & Townsend.
- Discussions are ongoing with Turner & Townsend and Infraco and CEC in relation to the scope of Section B. This is nearing completion and a Section B tracker is being developed by Turner & Townsend covering all aspects of the works.
- Enabling and utility legacy works have progressed well during the period and works are being completed to meet dates agreed with Infraco.
- All On Street areas including York Place are now in the possession of Infraco with some minor exceptions agreed where residual works and/or street services conflict works are being carried out by McNicholas and/or Crummock. 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.
- The recent introduction of the weekly steering group meeting with senior SW management has made a positive impact in progressing the key issues between the parties.
- Section 7 infrastructure was complete for tram testing with the first tram travelling along the section on the 12th of December 2012. Platform edges did need to be adjusted as it was found that these interfered with the tram envelope.
- Further to the last report the manhole at Murrayfield has been lowered to enable the embankment works to progress, there has been a noticeable development in the height on both structures S21 B and D
- All 27 trams have now been delivered to the Gogar depot with 25 having completed testing on the mini test track.
- CAF have issued a letter to Turner & Townsend detailing potential additional project costs in excess of £2M, due to the delay to the completion date between Rev 2 and Rev 5. Turner & Townsend have written to CAF requesting a meeting to discuss Turner & Townsend's assessment of the forecast dates for key activities; to allow both parties to better understand activities and interdependencies and therefore any potential delay costs. This meeting is due to take place in January.

Executive Summary cont'd

- The progress of the Fare Collection system has been delayed due to the delay in signature of the contract. Parkeon have submitted a Client Change Notice to delay the 'Planned Acceptance Date' by four weeks as a result. Turner & Townsend are working with Parkeon to limit any further risk to project delivery.
- The re-organisation of project assurance, with a number of responsibilities transferring from Turner & Townsend to the Operator, is nearing completion. Turner & Townsend has worked closely with Edinburgh Tram in agreeing the split of responsibilities and it is envisaged this exercise will be complete before the end of January. As well as the formal meetings in relation to assurance Turner & Townsend, CEC and Edinburgh Tram are also meeting on a regular basis to ensure the transition of responsibilities is managed as efficiently as possible.
- There have been a number of cracks found to the finished concrete track slabs which are visible on the road level surface. These cracks appear to include cracks in the proximity of expansion joints and contraction joints. Discussions have been held with B&S regarding this issue. It has been agreed to identify a number of areas where the cracking is evident and hold a review between Turner & Townsend and B&S to enable B&S to further progress the issue and identify the actions that are to be undertaken.

NOTE: It should be noted that it was agreed that Infraco would not submit a Progress Report for Period 5-9 in December. Period 5-9 is to be covered in a combined period report due after the cut off date of this report. Consequently this report is drawing on Turner & Townsend's analysis of progress in the Period.

CEC ACTIONS / DECISIONS	
1.	Scottish Water - Buildover agreements require to be progressed.
2.	Network Rail - Operational and Bridge agreements require to be progressed.
3.	Network Rail - Verity House - Commercial position to be decided and agreed with Network Rail.
4.	Haymarket Wayleave - Close out of the wayleave with Scottish Power and Network Rail at Haymarket.
5.	Shandwick Place Walls - Strategy
6.	Scottish Water - overarching terms
7.	OLE Building Fixings - Legal Agreement with landowners (some progress made during the period)
8.	Concession Cards - Acceptance of Transport Scotland concession cards on trams (CEC Action)
9.	Requirements - Information on any requirements for approval by user bodies (CEC Action)
10.	Evidence File - The transfer the files from the old Sharepoint to the new system has yet to be completed.



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	21 st January 2013	REPORTING PERIOD	8 th December 2012 – 5 th January 2013	Project:	Edinburgh Tram Network	
KEY MILESTONES								
Section	Description	Rev 5 Schedule Date	Forecast/Actual Date	Var. (d's)	Mvmt in Period	Complete	Crit. Path	Comments
Section Completions								
ALL	Section B; Test Track complete	08-Mar-13	08-Mar-13	0	→		Y	
ALL	Section C; All construction complete	09-Apr-14	21-Nov-13	139	↓		Y	1mth mvmt to Section C date as a result of long lead requirement for ordering tamper
ALL	Section D; open for revenue	08-Jul-14	02-Mar-14	128	↓		Y	1mth mvmt to Section C date as a result of long lead requirement for ordering tamper
On Street								
Haymarket								
On-Street	Civil Works complete (H1 to H3B)	17-May-13	22-Apr-13	25	↓		N	H1 - Limited progress with track laying in and out bound, along with pavement construction over the tracks.
On-Street	All Remaining Works Complete (H4 to H6)	25-Jul-13	27-Jun-13	28	↓		N	H3 - Limited progress with track laying in and out bound, but good progress with pavement construction over track. Impact from SP6 rail rework. Remains non critical.
Shandwick Place								
On-Street	Civil Works Complete Palmerston Place to Crescents (SP2 & SP6)	18-Oct-13	19-Apr-13	182	↑		N	Mitigation measures following track laying rework in SP6 ahead of schedule.
On-Street	Civil Works Complete Crescents including Atholl West Tie-in (SP4 & SP5)	05-Jun-13	05-Jun-13	0	↓		N	Track works progressing SP4 but no progress has been made with tramstop civils
On-Street	Civil Works Complete Crescents to Lothian Road (SP1 & SP3)	25-Mar-13	24-Apr-13	-30	↓		N	Traction Ducting in SP3 delayed due to utilities. Issues now resolved.
On-Street	All Remaining Works in Shandwick Place Complete (SP1 to SP7) (incl. commissioning & testing)	04-Dec-13	11-Jul-13	146	↓		N	Critical slippage is as a result of less than planned progress within SP4, including the tram stop civils works
Princes Street								
On-Street	Princes St Tram Stop Complete	04-Oct-12	02-Apr-13	-180	↓		N	No progress in the period non critical activity
On-Street	Commence M&E Works	07-Oct-13	21-Mar-13	200	↑		N	M&E works definition re-assessed. M&E commencement date is earliest expected date when Infracore will claim for progress against OHLE 10
On-Street	All Remaining Works complete	22-Nov-13	31-May-13	175	→		N	
South St Andrews St / Waverley Junction								
On-Street	Remaining Civil Works Complete	03-Oct-12	23-Jan-13	-112	↓		N	Continuing concentration of resource on works at 'Plug' resulting in knock on delay in other areas. Activity remains non critical.
On-Street	All Remaining Works Complete (incl. Commissioning & testing)	25-Oct-12	05-Apr-13	-162	↑		N	
St Andrews Square & St Andrews St North								
On-Street	Civil Works Complete	15-Oct-12	20-Feb-13	-128	↓		N	Civil resource redistributed to concentrate in "Plug" opening. Activity remains non critical.
On-Street	All Remaining Works Complete (incl. Commissioning & testing)	26-Oct-12	05-Apr-13	-161	↑		N	
York Place								
On-Street	Complete Enabling Works	N/A	29-Nov-12	N/A	↓	✓	N	York Place handed over to Infracore is two stages (West/East of bus station entrance).
On-Street	Commence Main Works	22-Nov-12	09-Nov-12	13	↑	✓	Y	
On-Street	Civils Works Complete	29-Oct-13	14-May-13	168	↓		Y	Completion of Enabling works has impacted on overall forecast completion date.
On-Street	All Remaining Works Complete (incl. Commissioning & testing)	18-Nov-13	25-Jun-13	146	↓		Y	
On-Street	York Place Tram Shelter installed	08-Mar-13	14-Mar-13	-6	↓		Y	Dates not yet adjusted to follow proposed BBS fitout solution to TCN 651 & 656 (02Sep13)
Off Street								
Off-Street	W4, 19-29; Russell Rd. Retain Complete	29-Oct-12	25-Jan-13	-88	↓		N	Final Finishes remaining
Off-Street	S21A Roseburn St. (501-505 Viaduct) ready for Track Civils	27-Sep-12	16-Jan-13	-111	↓		Y	A further 16d lost progressing Reinforced Earth and Blockwork.
Off-Street	S21B Murrayfield Retaining Wall ready for Track Civils	11-Oct-12	23-Jan-13	-104	↓		Y	A further 12d lost progressing Reinforced Earth and Blockwork. Is driving Track Laying along Murrayfield Corridor
Off-Street	Water of Leith Bridge Complete	31-Aug-12	28-Feb-13	-181	↓		N	Currently using this to access S21D. Final Finishes remaining
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	05-Mar-13	-27	↓		Y	S21B continues to drive this phase of works
Off-Street	5B Track Ready for Tamping	31-Oct-12	29-May-13	-210	↓		N	Track laying resources prioritised to 5A
Off-Street	Tamping Ballast Section 5B Complete	21-Nov-12	20-Jun-13	-211	↓		Y	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	23-Apr-13	-29	↓		N	Further slip is as a result of poor progress at S21B
Off-Street	5C Track Ready for Tamping	19-Jun-13	10-May-13	40	↓		N	Slip is as a result of poor progress against Expanded programme regarding the Embankment works at Gateway
Off-Street	Tamping Ballast Section 5A (&5C) Complete	16-Apr-13	20-Jun-13	-65	↓		Y	Long lead requirement of ordering 5A(&5C) Tamper is driving earliest date for this works
Off-Street	Full Line Pre-Stressing and Grinding	16-Sep-13	23-Aug-13	24	↓		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	06-Aug-13	48	↓		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	19-Jul-13	-346	↓		N	Wider E&M logic prevents from following proposed BBS fitout solution to TCN 651 & 656 (29Apr13)
Off-Street	Saughton Tram Shelter installed	13-Dec-11	05-Jul-13	-570	↓		N	Wider E&M logic prevents from following proposed BBS fitout solution to TCN 651 & 657 (09Apr13)
Off-Street	Bankhead Tram Shelter installed	19-Mar-13	21-Jun-13	-94	↓		N	Wider E&M logic prevents from following proposed BBS fitout solution to TCN 651 & 658 (19Mar13)
Off-Street	Gyle Tram Shelter installed	21-Jan-13	03-Jun-13	-133	↓		N	Wider E&M logic prevents from following 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	20-Dec-12	-78	↓	✓	N	BBS Rev5 has shown closer alignment to TT assessment. TT using this activity to show this
Off-Street	Gateway Post Embankment Drainage Complete	08-Jan-13	11-Feb-13	-34	↓		N	Expanded works shows further 12d slip against their schedule. TT using this activity to show this
Off-Street	Gateway Track laying underway	22-Feb-13	26-Feb-13	-4	↓		N	12d slip due to progress of heavy civils
Depot & Test facilities								
Depot & Test Facilities	Gogar Burn Tram Stop Complete	17-Oct-12	04-Dec-12	-48	↓	✓	N	
Depot & Test Facilities	AIR Tram Stop Complete	21-Dec-12	21-Jan-13	-31	↓		N	E&M fitout continues
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	16-Nov-12	10	↓	✓	Y	OHLE works now completed
Depot & Test Facilities	Rail Systems 7A Complete	17-Sep-12	23-Nov-12	-67	↓	✓	N	Points Machine set-up remaining
Tram Test & Commission								
Section B	OCS Energised (IP1.0)	06-Dec-12	05-Dec-12	1	→	✓	Y	
Section B	AIR-Depot Test Track available (post IR1.0)	14-Dec-12	12-Dec-12	2	→	✓	Y	
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

Produced by	Graeme Walker, Hazel Kennedy & Shirley-Anne Collin	SECTION	HEALTH & SAFETY 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	21 st January 2013	REPORTING PERIOD	8 th December 2012 to 05 th January 2013	Project:	Edinburgh Tram Network

PROGRESS

SUMMARY

During this period there was a considerable emphasis on preparing the construction sites for the Christmas / New Year shut down. This included a general clean up of the sites and enhancements to the fencing to make them more robust.

During this period Turner & Townsend have continued work with the contractors to seek assurance of compliance with best practice in a number of areas including

- Working at height.
- Safe operation of RRVs.

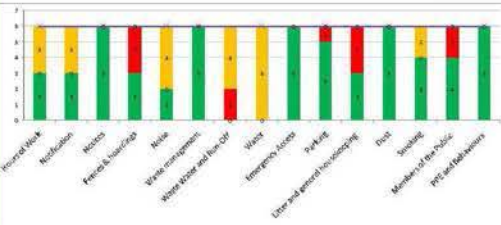
A review has been undertaken of the Bilfinger & Siemens incident report regarding the incidents involving two road rail, Mobile Elevated Working Platforms (MEWPs) on the mini test track. The report to be prepared by Stuart Parson (Edinburgh Trams) has been received. Turner & Townsend will undertake a formal peer review.

CoCP

CoCP & Key

1. CoCP compliance for Period 10 was recorded at 84%
2. 11 issues required action. These comprised:

- Q4 Fencing & hoarding – 3no.
- Q7 Waste water and run off – 2no.
- Q10 Parking – 1no.
- Q11 Litter and house keeping – 3no.
- Q14 members of the public – 2no.



CDM Regulations

Turner & Townsend have received the revised Construction Phase Plan for the project for review. This action is ongoing.

Initiatives

Initiatives this period have focused on working at height and the movement of plant on site. Data for these initiatives will be published in the next report.

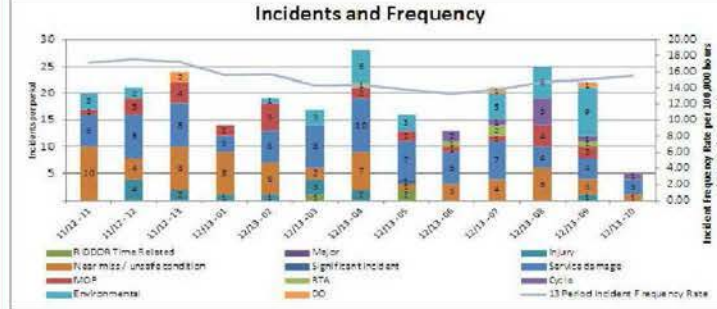
HEALTH & SAFETY

Incidents

There were 4 incidents reported during the period. A summary is provided below. The rolling 13 Period AFR is 0.19

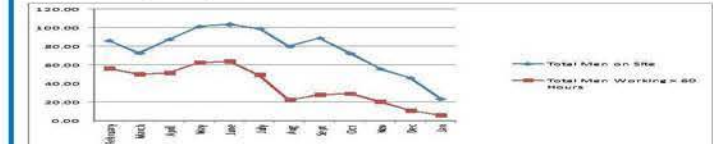
Classification	Number	Major incident	Serious / significant incident	Incident	RIDDOR Reportable
Member of public					
Service damage	3			3	
Environmental					
Major					
Injury > 7day					
Injury < 7 day					
Dangerous occurrence					
Road traffic accident					
Near miss / unsafe condition	1			1	
Other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

TREND

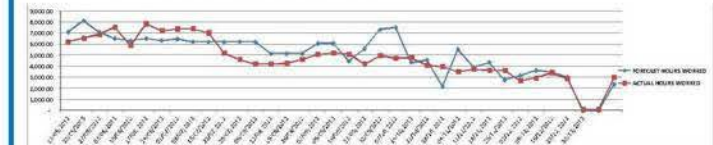


McNicholas

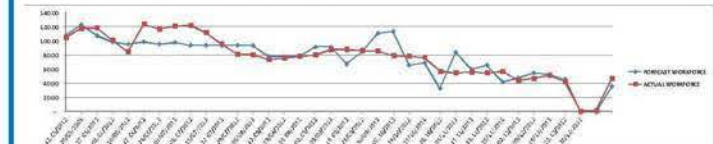
Labour exceeding 60hrs per week



Forecasted Hours Worked V Actual Hours Worked

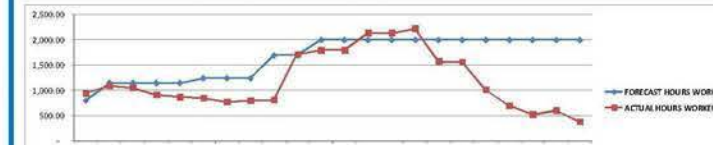


Forecast Workforce Vs Actual Workforce

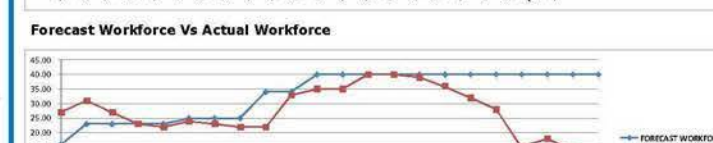


Crummock

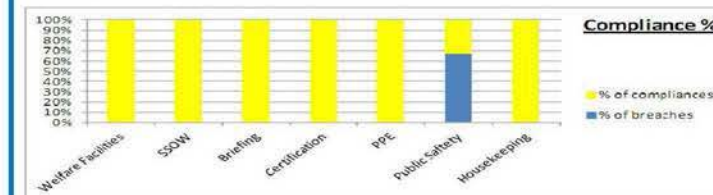
Forecasted Hours Worked V Actual Hours Worked



Forecast Workforce Vs Actual Workforce



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	21 st January 2013	REPORTING PERIOD	8 th December 2012 to 05 th January 2013	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, the site visit took place in December 2012, closing a number of the actions, arrangement are currently being made to close the last items relation to drainage with B&S.
- Requirements Management –39% of requirements relating to Section A handover deemed as 'Compliance Confirmed'.
- Evidence File – The IT provider (Amor) have successfully carried out a test of the updated software, CEC are due to approve the migration in January 2013.
- Section B – Testing and Commissioning is currently ongoing, with the successful completion to the tram dynamic testing. 34 out of the 90 required have now been completed.
- Total No of NCRs raised is 762. 23 NCRs were raised during the period, with 151 NCR remaining open.

QUALITY

NCRs by Period

Total number of Non Conformance Reports raised - 762

- Total number of Non Conformance Reports raised in period 10 - 23
- Total number of Non Conformance Reports closed in period 10- 38
- Number of Non Conformance Reports greater than 6 months old -49



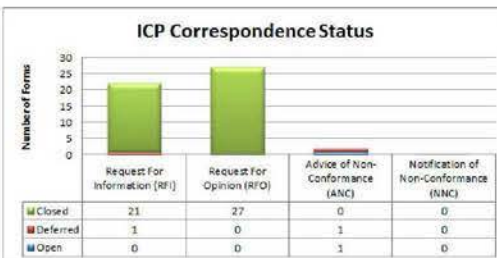
ENVIRONMENT

Environmental

- Edinburgh Airport has raised concerns regarding erosion of the Gogar Burn in the vicinity of the tram works. Alastair Sim form CEC has requested copies of photographs from the airport authority to assist with investigating this matter – currently progressing issue of photos.
- 3 Environmental incidents were recorded during period 10 relating to noise and spillage. Inspections to concentrate on noise mitigation during next period.
- Meeting held with John Lawson CEC Archaeological Services. He has advised that further work / money will be required to progress the post excavation works to closure. This money is already accounted for. Full details to be provided by John Lawson during the next period.
- The removal of the waste from Baird drive has now been completed.

INDEPENDENT CERTIFIED PERSON

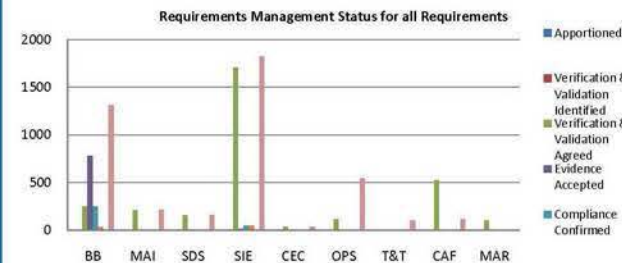
- B&S provided evidence at the meeting on 12th December 2012 to confirm the new infrastructure from the depot to the airport was complete, allowing the trams to start their dynamic testing.
- Advice of Possible Non Compliance (ANC) 002 – Due to cancellation of Safety Verification (SV) audits SVS Audit TSA/12/03 and InfraCo to support the current format – remains open.
- Request for Opinion (RFO) number 27 (tramway signage) has now been closed and submitted to the ORR for approval. The ORR have now requested further information, this request has been passed to Edinburgh Trams.



REQUIREMENT MANAGEMENT

Progress

- The review of Employer Requirements is currently focusing on items associated with Section A handover. Currently 169 out of 435 for Section A requirements are deemed 'compliance confirmed', discussions are ongoing with B&S to provide the additional information required to complete Section A.
- In total 316 requirements for the project are now deemed 'compliance confirmed'.



Assurance - Section B

- The track grinding operation started on the 10th December 2012.
- Track clearance walk out took place on 12th December 2012.
- Tram dynamic testing has been completed.
- Testing progress is shown below:

No. TESTS TO COMPLETE	87
No. TESTS COMPLETE	45
No. TESTS OUTSTANDING THIS PERIOD	19



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	0	5
Planning Consents	38	15	0	23
Other Approvals	13	0	2	11
Legal Agreements	15	0	9	6

- The Key area remains 3rd party Consents, (Build over agreements and Building fixings).

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.

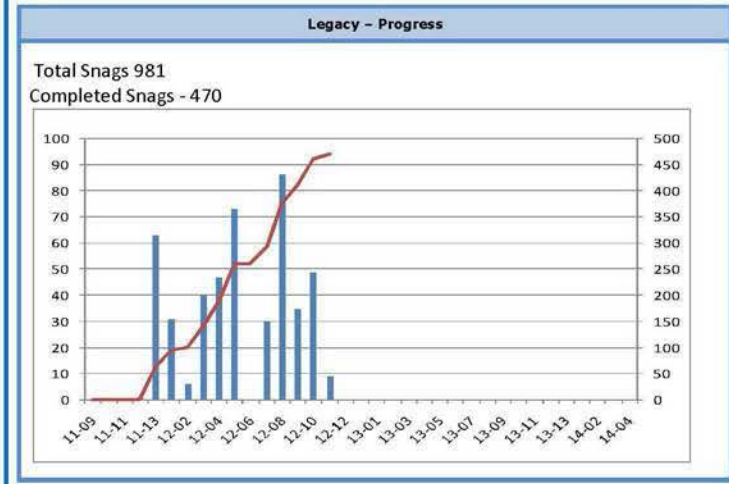
THREATS

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

Produced by	Andy Scott & Shirley-Anne Collin	SECTION	ON STREET DASHBOARD REPORT 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	21 st January 2013	REPORTING PERIOD	6 th December 2012 – 5 th January 2013	Project:	Edinburgh Tram Network

PERIOD
PROGRESS
<ol style="list-style-type: none"> York Place handed over to Infracore – Good progress being made All critical 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 York Place Cathedral Lane sub-station – Delays being mitigated Number of challenges in St Andrew Street but critical path not at risk Haymarket / Manor Place TM switch completed 14th December 2012. Access available to final area of trackslab for utility proving. Type 2 utility conflicts progressing well and metrics now finalised Scottish Water relationship remains fragile but steering group makes positive early progress. Leith Walk – Turner & Townsend re-engaged in reduced scoping exercise. Tender documents for works at the crescents complete – Strategy being finalised

LOOK AHEAD
<ol style="list-style-type: none"> Track slab, track laying and carriageway reconstruction will continue in all On Street areas Continue with Type 2 conflicts Commence Broughton Street manhole Turner & Townsend will continue to react to utility discoveries by Infracore. 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 Monitor Cathedral Lane sub-station works on a weekly basis



PHOTOGRAPHS	
Princes Street / St Andrews St	St Andrews Street
Haymarket	Shandwick Place
York Place	Princes Street Plug

KEY ISSUES
<ol style="list-style-type: none"> Scottish Water relationship generally Type 2 conflicts and SW Legacy issues – Possible delays. Legacy works North of York Place. Cathedral Lane - Monitor Works programme Time Bank Recovery.

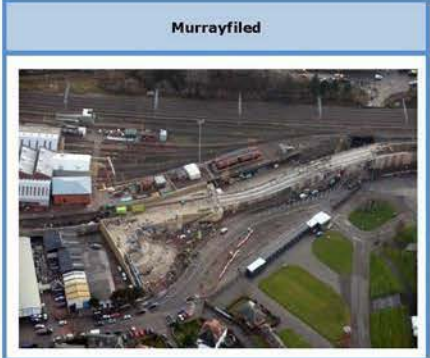
CEC ACTIONS / DECISIONS
<ol style="list-style-type: none"> Scottish Water overarching terms OLE Building Fixings – Legal Agreements with landowners (some progress made during the period) Shandwick Place Walls - Strategy

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

Produced by	Shirley Musher & Shirley-Anne Collin	SECTION	OFF STREET DASHBOARD REPORT 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	21 st January 2013	REPORTING PERIOD	9 th December to 5 th January 2013	Project:	Edinburgh Tram Network

PROGRESS IN PERIOD	PHOTOS	KEY ISSUES
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PROGRESS IN PERIOD
<ol style="list-style-type: none"> Tram testing commenced on Section 7; Majority of civil snagging completed on Section 7; Wall construction continuing at Edinburgh Gateway; Gateway attenuation tank backfilling completed; Gyle Broadway substantially complete; Gyle to Edinburgh Park civils substantially complete; Edinburgh Park Central Shelter installed; Baird Drive material removed; Murrayfield embankment construction vertical levels at S21B&D have been progressed; Roseburn structures waterproofing and transition slab works continuing; W3 reinforced earth construction continuing ScotRail manhole relocation works ongoing; Drainage and ducting on W4 ongoing; Roseburn Street footpath and Murrayfield Tram Stop platform work on going; Bankhead tracklaying ongoing; and ScotRail access gate installed.



LOOK AHEAD
The following items will be progressing during the coming period:
<ol style="list-style-type: none"> Tram testing continuing on Section 7; Wall construction continuing at the Gateway site; Piling for OHLE masts at the Gateway site; Overhead line works through Edinburgh Park; Edinburgh Park bridge plinths to be recast; Murrayfield sewer diversion shall commence; ScotRail manhole construction to complete; W3 ducting and drainage ongoing; Haymarket corridor track laying shall continue; and Tamper to be booked.

KEY ISSUES
<ol style="list-style-type: none"> Completion of Eastfield Avenue in time for Section B handover; scope requires to be defined. Murrayfield sewer permanent diversion; access to be confirmed from SRU; Mr Kahlii's extension at Roseburn requires to be reinstated, it is not clear that this was part of the settlement agreement. Power draw at the depot an issue; unable to power up any more than 4 vehicles in the Depot yards area. Infracore to propose a solution. Platform edges require to be checked throughout the network; and Cracking has appeared on Section 7 track slabs, this is currently being investigated.

CEC ACTIONS / DECISIONS
<ol style="list-style-type: none"> Close out of the wayleave with Scottish Power and Network Rail at Haymarket. Scottish Water buildover agreements require to be progressed. Verity House commercial position to be decided and agreed with Network Rail. Network Rail operational and bridge agreements require to be progressed.

SOFT ANALYSIS					
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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	21 st December 2013	REPORTING PERIOD	8 th December 2012 to 5 th January 2013	Project:
						Edinburgh Tram Network

PROGRESS IN PERIOD

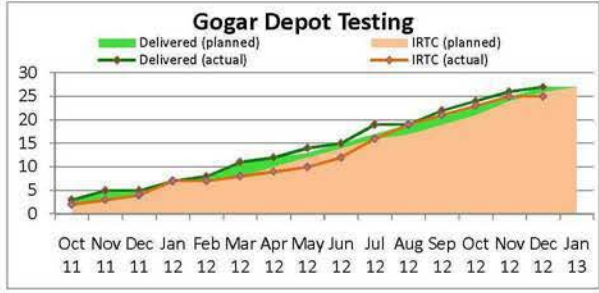
PROGRESS IN PERIOD

- Test and Commissioning – Delivery of Trams and testing on the Mini Test Track (MTT) continues to progress ahead of schedule:
 - All trams have now been delivered to Gogar Depot
 - 25 have completed Interim Routine Testing on the MTT
- Tram Test & Commissioning (Section B) – 4 Trams completed Routine Testing on Section B (to 70 kph) with 1 Tram already having been awarded its Interim Type Test Certificate, in accordance with Section B Completion requirements
- System Acceptance and Integration – Turner & Townsend are now attending fortnightly Section B Test & Commissioning Control meetings (chaired alternately by CEC and B&S).
The 'Section B Tracker', developed by Turner & Townsend to monitor the progress of significant test, commissioning and integration activities for Section B, with now be managed and published by Edinburgh Trams.
- Vesting of Trams with CEC – Turner & Townsend and CAF have developed a procedure to define how trams are to be vested with CEC, in line with Tram Supply Agreement requirements.
Turner & Townsend are currently discussing requirements for the award of Certificates of Tram Commissioning with the Tram Inspector, as these are a pre-requisite to vesting with CEC.
- Fare Collection – The contract for the supply and maintenance of the Fare Collection System has now been awarded to Parkeon Transit, by CEC. Turner & Townsend will continue to Project Manage the development and implementation of the system on behalf of CEC.
Parkeon will produce a monthly report, extracts of which will be included in the Turner & Townsend monthly reports.
Design specification development is well underway, with Edinburgh Trams and Lothian Buses heavily involved in the development and acceptance of requirements, which are due for completion on the 21st of February 2013.
Turner & Townsend is awaiting confirmation on the dimensions of the CCTV poles to be used in city centre tramstops from B&S, before additional information on Platform Validator (PV) installation can be provided.
- 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.

LOOK AHEAD

- The following items will be progressed during the coming period(s):
- Test and Commissioning (end February 2013):
 - All 27 trams have been delivered to Gogar Depot.
 - All 27 trams will have completed Routine Testing on the MTT.
 - System Acceptance and Integration:
 - Ride Quality Type Tests completed.
 - Dynamic EMC Measurement tests completed.
 - Turner & Townsend tracker used to accurately report on test and commissioning activities and identify significant risks to Section B Completion.
 - Vesting of Trams with CEC:
 - Agreement on how and when additional Trams can be vested with CEC to be reached with the Tram Inspector, CAF and CEC.
 - Fare Collection:
 - Monthly reporting commenced.
 - Monthly progress meetings commenced.
 - Design and configuration specifications completed.
 - Manufacturing of equipment started.

PHOTOGRAPHS / KPIs



Trams scheduled for testing next period	Date
Tram 26 (#256) to complete MTT testing	15/01/2013
Tram 27 (#269) to complete MTT testing	18/01/2013



KEY ISSUES

KEY ISSUES

- CAF have issued a letter detailing potential additional project costs in excess of £2M, due to the delay to the completion date between Rev 2 and Rev 5 of the project programme.
Turner & Townsend have responded to this letter requesting a meeting with CAF, to better understand the potential costs involved and their justification.
 - The delay to the signature of the Fare Collection system contract has delayed the 'Planned Acceptance Date' by four weeks. A Client Change Notice (CCN) has been issued by Parkeon (as agreed with CEC) to delay the date until 18/01/2013.
 - Parkeon are awaiting some outstanding decisions on equipment and functionality:
 - Acceptance of Transport Scotland concession cards on trams (CEC Action)
 - Information on any requirements for approval by user bodies (CEC Action)
 - Dimensions of Platform Validator mounting poles (B&S Action)
 Turner & Townsend will continue to follow up on the above actions, as they may impact the installation of the system.
 - Turner & Townsend will use the tracker which is being managed by Edinburgh Trams to monitor key test, commissioning and integration activities, and raise issues identified during fortnightly control meetings chaired by B&S.
- OPERATIONAL ISSUES**
- The water ingress into the depot building maintenance pits remains to be resolved by B&S. Further action is now required as CAF have confirmed that this issue is affecting their operation.
 - The restriction on the number of pantographs that can be raised at any one time in the Depot is affecting CAF's ability to complete conservation maintenance. Turner & Townsend have asked CAF to quantify the delay, to better understand the issue.

CEC ACTIONS / DECISIONS

- Acceptance of Transport Scotland concession cards on trams (CEC Action)
- Information on any requirements for approval by user bodies (CEC Action)

SOFT ANALYSIS

SUCCESSES	OPPORTUNITIES
<ol style="list-style-type: none"> Tram delivery and testing continues ahead of schedule. CAF intend to complete testing ahead of the scheduled end of January date. The Tram Ticketing Agreement has now been awarded to Parkeon Transit. A press release has been drafted by Parkeon and submitted to CEC for approval. 	<ol style="list-style-type: none"> 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).
<p>FAILURES None identified.</p>	<p>THREATS</p> <ol style="list-style-type: none"> Following a 4 week delay in the signature of the Tram Ticketing Agreement, any further delay could risk the delivery of the system prior to passenger service.

Produced by	Shirley Collin, Mike Mackenzie & Craig Forson	Function	COMMERCIAL CONFIDENTIAL – LEGALLY PRIVILEGED AND FOI(S)A EXEMPT			Employer	City of Edinburgh Council
Approved by	Gary Easton	Issued By:	Turner & Townsend Project Management Limited 9 Lochside Avenue, Edinburgh Park			Address	Waverley Court, Edinburgh, EH8 8BG
Status	FINAL	Issue date	21 st January 2013	Reporting Period	8 th December to 5 th January 2013	Project	Edinburgh Tram Network

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<p>1. Embargoes and TM – total value initial based on 22 week saving. This is no longer recognised as an opportunity by the project team.</p> <p>2. York Place Tramstop – amended design complete; agreement on revised price to be established between BBS and Turner & Townsend.</p> <p>3. Road reconstruction depth – Opportunity to reduce road reconstruction offset by foam concrete and extent of dig required to resolve utilities..</p>																																																																																																																																																											

RISK - Significant Movement in Period (Dec 12/Jan 13):					
Risk ID	Risk Description	Old Level	Movement	New Level	Comments
ED128	Additional costs may be claimed if CAF are asked to delay their programme in line with rev 5	NEW	↑	RED	New Risk - CAF originally working to rev 2 programme in line with Marshall agreement which covered costs to those dates. Now been asked to work to rev 5 which pushes out completion times
Additional Comments:					
Risks reviewed, actions updated and added and amendments to probabilities and impacts made. Above is the only significant change in the period.					

Commercial Issue		
Issue	Status	Action
Mark-ups on change: BBS are proposing a mark-up which results in double recovery of prelims and is contrary to the principles of the contract.	RED	CEC have instructed Turner & Townsend to certify the additional markup for work carried out to date. Future issues over markups to be agreed on a case by case basis.
Off Street Utilities; BBS claim certain utilities (principally SGN diversion in NIL land) are excluded from their price.	RED	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.	RED	BBS have refused to provide any further information to demonstrate incurred costs. IC to provide further guidance.
Claims for disruption; BBS have stated that there is a cost for disruption in section 1C	RED	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)
CAF have submitted a cost for delay versus the Rev 2 programme.	RED	The contract programme does not appear to support the claim although contract amendments conflict with this.
Scottish Water resource forecast	RED	Forecast is higher than currently allowed. Resource review to be undertaken with a view to reduce headcount.

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’ process to deliver Safety Verification remains open, Currently remains open pending resolution of TSA/12/03 – Section 1C Slips, Trips, Falls (Two wheel vehicles); this audit is currently being progressed a formal report will be issued by 31st January 2013.
- **Requirements Management** –39% of requirements relating to Section A handover are now deemed ‘Compliance Confirmed’. The rise in the period of 1%. Weekly meeting are held with B&S to ensure there is a common understanding of the requirements to achieve compliance confirmed and to push B&S for the provision of the information, to facilitate closure of remaining Section A item as well as agreement of the items required for Section B.
- **Evidence File** - A test migration of information from the old site to SharePoint is planned for period 11. The SharePoint test has now been successful. The IT supplier is now awaiting final approval to be processed from CEC.
- **Safety Verification Scheme Audits** –Safety Verification audit TSA/12/01 – Progressing to closure. TSA/12/03 – Section 1C Slips, Trips, Falls (Two Wheel Vehicles) site visit carried out 13th December 2012, no major issues identified.
- **Tram** - All 27 trams have now been delivered to the depot.
- **Infrastructure** – Testing and Commissioning of Section B progressed this period with including the running of trams from the depot to the airport and successfully completed the dynamic testing of the five trams required for section B.
- **Non Conformance Reports** – This section has been removed from the Deliver a Safe Tram Report and will now be reported in the Deliver the Tram Safely Report.

2.0 Safety Verification Scheme (SVS)

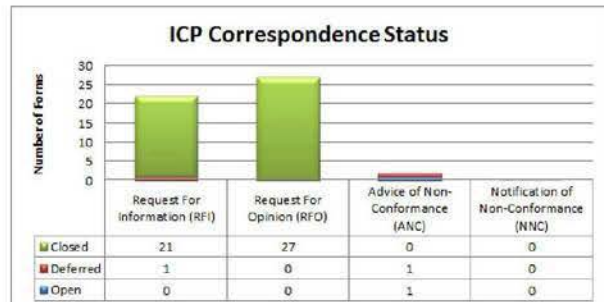
- Evidence File – A test migration of information from the old site to SharePoint is planned for period 11. The SharePoint test has now been successful. The IT supplier is now awaiting final approval to be processed from CEC.
- Safety Verification Audit (SV) Audit TSA/12/03 – Section 1C - Slips, Trips, Falls (2 Wheel Vehicles); a site inspection was carried out at Princes Street 13/12/12 in order to address outstanding queries. A formal report is to be compiled. No major issues were identified during the site inspection however not all items could be inspected and so the audit remains open. These items will be noted as findings in the formal report.
- SVS Audit TSA/12/01 – Operator currently progressing findings.
- SVS Audit TSA/12/02 – Findings 001 and 002 were formally closed during the period.
- Review of SVS Audits, including development of new schedule to take place during period 12.
- It is proposed that the SV function be managed by ET from January 2013.

3.0 Independent Competent Person

ICP Issues

- The PSCC scheduled for the 12th December 2012 did not take place, the next PSCC meeting will be held on the 23rd Jan 2013.
- 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) – remains open.
- Request for Opinion (RFO) number 27 (tramway signage) DEL.HSQE.4085 is now closed.
- Request for Information (RFI) number 22 is deferred to post construction as it is relevant to the DKE. The RFI was discussed prior to the dynamic testing of section B due to clearance issues raised following the structural gauging check. The gauging check noted DKE infringements in various locations including the platforms on all three stops and six poles. During the dynamic testing it was seen the clearances were greater than expected. B&S are to revert, date to be agreed, following a review of the calculations advising why there was a significant difference between the theoretical and actual measurements.

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



4.0 BBS Design Construction and Testing & Commissioning Assurance

Design

Electromagnetic Compatibility (EMC)

- B&S 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 B&S correspondence reference INF CORR 8492 sent 6th August 2012. The response is still outstanding.
- B&S stated that results for Rail Conductance for Princes St do not meet the contract criteria of being five times better than standard. B&S will produce a rationale in support of a concession to this requirement. A follow up meeting was held week commencing 22nd October 2012. It is expected that the results for Princes Street will not reach the contract levels and so B&S 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 B&S argument. This is still ongoing, submission awaited from B&S.
- B&S Correspondence ETN(BBS)CEC&TEE&ABC#060100 SIT Procedure - Immunisation Measurements (10 2.0) - A meeting was held with NWR to discuss the above submission. Key actions arising were:
 - NWR to refamiliarise themselves with the documents due to the significant time lapse since the matter was last discussed with them.
 - B&S are to provide a schedule including dates when the tests are required.

Trackform

- The draft maintenance ware limits were forwarded to TSS for review. The review noted that the limits are not out of keeping but the maintenance strategy is required to put the limits in context. The final track gauge is also required to before the ware limits can be finalised.
- A site walk attended by TSS was held on 10th December. No significant issues were noted however it was agreed B&S would provide the snag list they raised against BAM rail for review.

Testing & Commissioning

- It is proposed from January 2013 the coordination of the testing and commissioning including technical support is managed by ET. To note that it is only the co-ordination ET will responsible for and not the delivery of the results.

Trams

- All 27 trams have now been delivered to the depot. Five trams have now completed testing and commissioning relevant to section B. The remaining trams are currently undergoing static and dynamic testing.

Infrastructure

- Testing and commissioning of Section B is ongoing including the electrification of the overhead line

allowing the successful completion of the dynamic gauging run on the 12th December. This allowed CAF Tram testing and commissioning to commence following a two day driver familiarization period.

- A status of the proposed tests is shown below:

No. TESTS TO COMPLETE	90
No. TESTS COMPLETE	34
No. TESTS OUTSTANDING THIS PERIOD	9

- The permit to work system for entry to the CDM site was brought into operation to allow for a tram and construction activities to occur on the route at the same time. The permit to work system is supported by a Track Occupancy Schedule.

5.0 Metrics

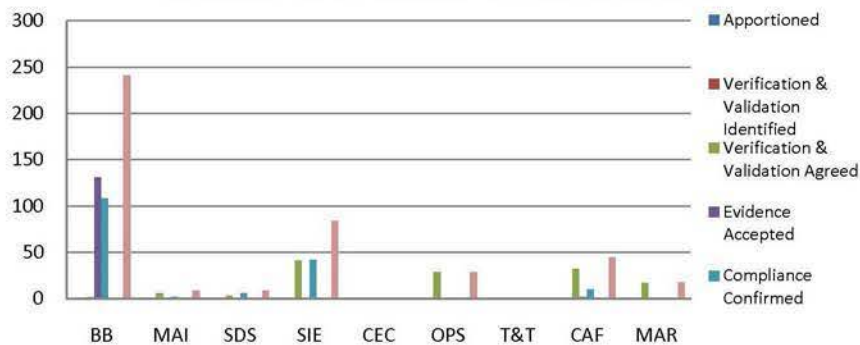
- Graeme Walker of the Turner & Townsend Assurance Team is currently reviewing the metrics process in order to restart and improve the process – this is currently ongoing.

6.0 Requirements Management

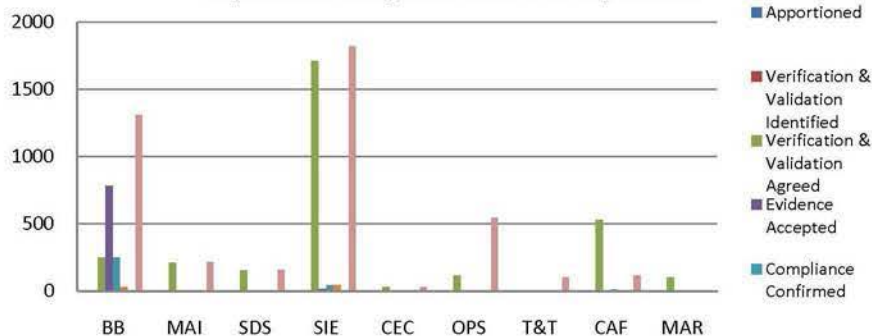
Progress

- Review of requirements is currently focusing on requirements associated with Section A handover. Currently 169 out of 435 Section A requirements are deemed 'compliance confirmed' – 39%, discussions are ongoing with BS regarding the remaining Section A requirements.
- In total 316 requirements are now deemed 'compliance confirmed'.
- Weekly meetings are held with B&S to ensure there is a common understanding of the requirements to achieve compliance confirmed and to push B&S for the provision of the information.
- A review was carried out with CAF in relation to a number of their requirements. Agreement was reached to change to the V&V Method for 14 requirements. In addition CAF will now submit concessions for eight requirements.
- The review of concessions associated with requirements is progressing well with three remaining concessions to be agreed. It is likely that further concessions will be applied for.
- It is proposed from January 2013 the requirements management process is controlled by ET.

Requirements Management Status for Section A Requirements



Requirements Management Status for all Requirements



7.0 Deliver a Safe Tram – Required Actions

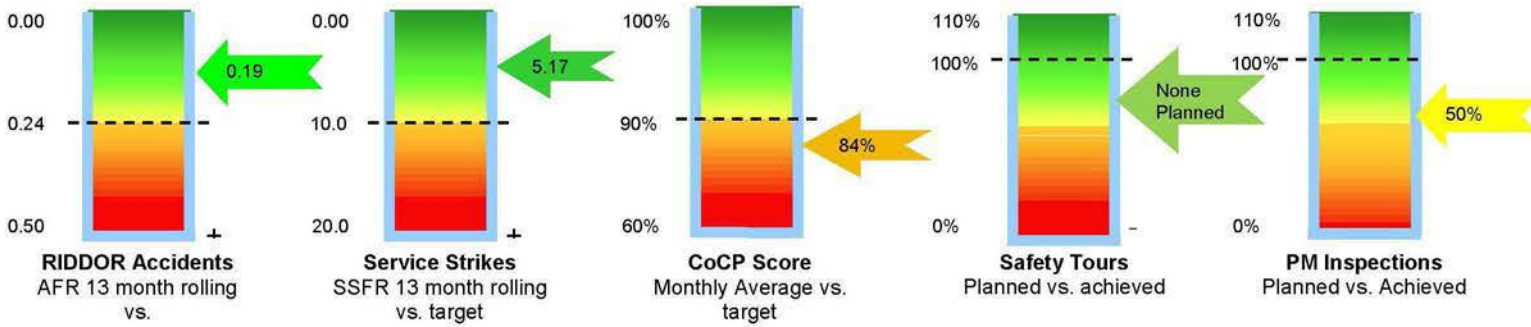
- Formal report for audit reference TSA/12/03 to be compiled
- Requirements for section A to be progressed to Compliance Confirmed
- Agreement on the revised project roles and responsibilities with respect to SV, testing and commissioning and requirements management.

Project Report – Period 10

Project	12/13 - 10	Period	Hours	Time Related RIDDOR	Major RIDDOR	Other injuries	Near miss / unsafe condition	Service damage	Significant Incident	Environmental	RTA	MOP	AFR	SFR	EFR
		Period	60,575	0	0	0	1	3	0	0	0	0	0	0	0.00
YTD	1,251,790	3	0	10	41	60	1	33	5	19	0.24	4.79	2.64		
13 period rolling	1,586,853	3	0	16	63	82	1	38	5	27	0.19	5.17	2.39		

Infra	12/13 - 10	Period	Hours	>3 day RIDDOR	Major RIDDOR	Other injuries	Near miss / unsafe condition	Service damage	Significant Incident	Environmental	RTA	MOP	AFR	SFR	EFR
		Period	47,149	0	0	0	1	3	0	0	0	0	0	0.00	6.36
YTD	934,037	2	0	10	30	36	0	18	5	12	0.21	3.85	1.93		
13 period rolling	1,180,100	2	0	16	43	44	0	23	5	18	0.17	3.73	1.95		

Other (Tram)	12/13 - 10	Period	Hours	>3 day RIDDOR	Major RIDDOR	Other injuries	Near miss / unsafe condition	Service damage	Significant Incident	Environmental	RTA	MOP	AFR	SFR	EFR
		Period	7,426	0	0	0	0	0	0	0	0	0	0	0.00	0.00
YTD	209,753	1	0	0	11	23	1	15	0	7	0.48	10.97	7.15		
13 period rolling	262,753	1	0	0	20	37	1	15	0	9	0.38	14.08	5.71		



EXECUTIVE SUMMARY

There were 4 incidents since the last report (3 service damages, and 1 near miss/unsafe conditions). See Appendix A for details.

The rolling 13 Period AFR is at 0.19, better than the benchmark KPI of 0.24 for the project.

CoCP compliance was recorded at 84% during Period 10. See Appendix B for details.

50% of planned PM joint inspections have been carried out during Period 10.

There were no planned Safety Tours scheduled to be carried out in Period 10.

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	0	6
Number achieved	0	3

HSQ&E KEY ACHIEVEMENTS

The rolling 13 Period AFR is at 0.19, better than the benchmark KPI of 0.24 for the project.

Key Issues – Points to Note

During this period there was a considerable emphasis on preparing the construction sites for the Christmas / New Year shut down. This included a general clean up of the sites and enhancements to the fencing to make them more robust.

During this period Turner & Townsend have continued work with the contractors to seek assurance of compliance with best practice in a number of areas including

- Working at height.
- Safe operation of RRVs.

A review has been undertaken of the Bilfinger & Siemens incident report regarding the incidents involving two road rail, Mobile Elevated Working Platforms (MEWPs) on the mini test track. The report to be prepared by Stuart Parson (Edinburgh Trams) has been received.

ENVIRONMENTAL SUMMARY

List any significant environmental events, initiatives, breaches etc

Edinburgh Airport has raised concerns regarding erosion of the Gogar Burn in the vicinity of the tram works. Alastair Sim from CEC has requested copies of photographs from the airport authority to assist with investigating this matter – currently progressing issue of photos.

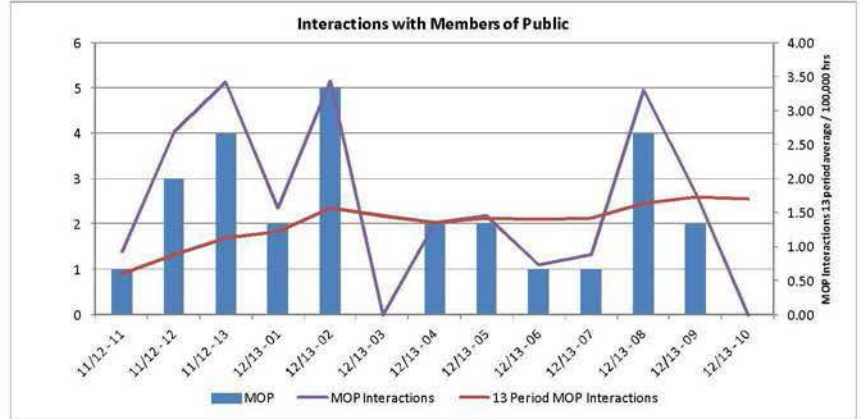
Meeting held with John Lawson CEC Archaeological Services. He has advised that further work / money will be required to progress the post excavation works to closure. This money is already accounted for. Full details to be provided by John Lawson during the next period.

The removal of the waste from Baird drive has now been completed.

Member of Public Interaction Summary

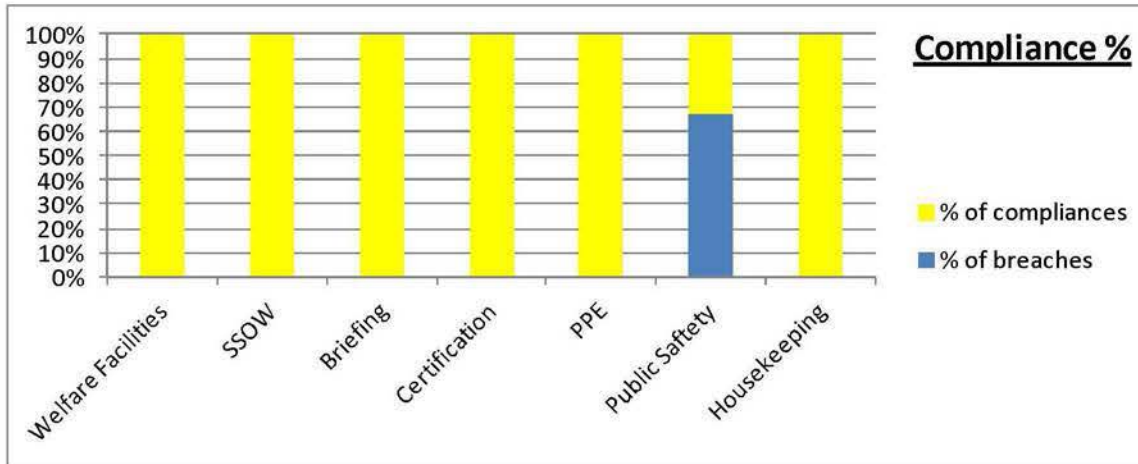
List any significant interactions with members of the public, including RTA's, alleged incidents

There were no incidents which involved members of the public during Period 10.



Leading Indicators

Include details of compliance against leading indicators



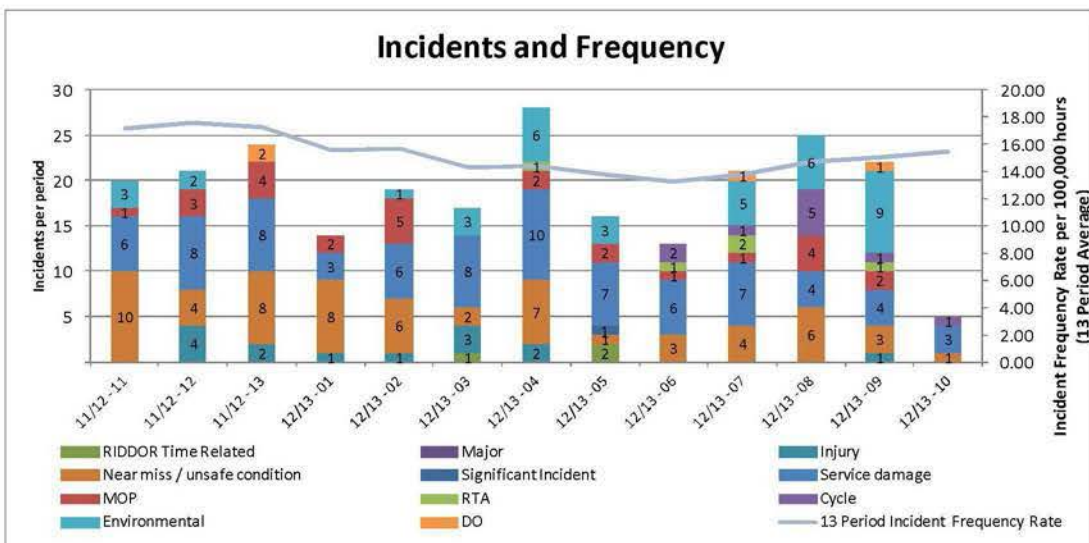
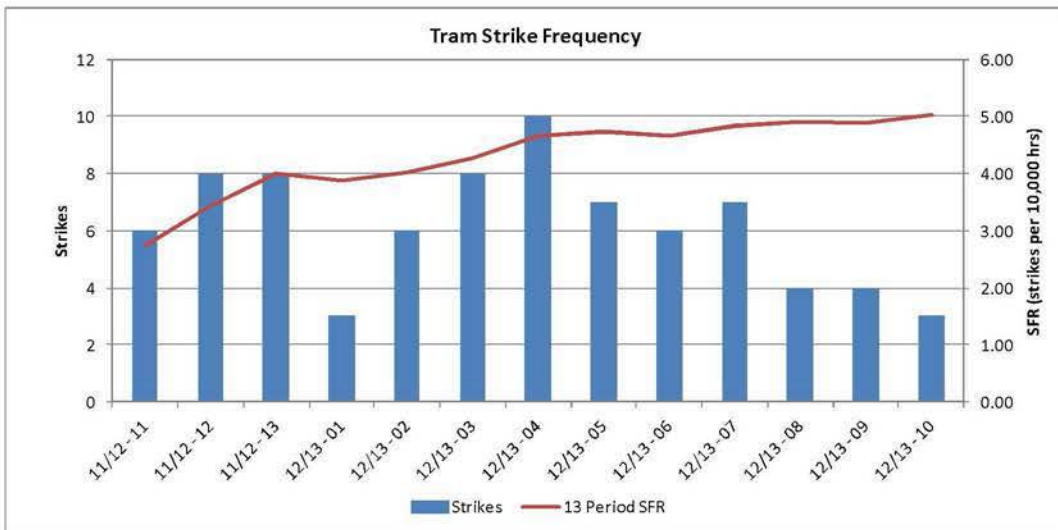
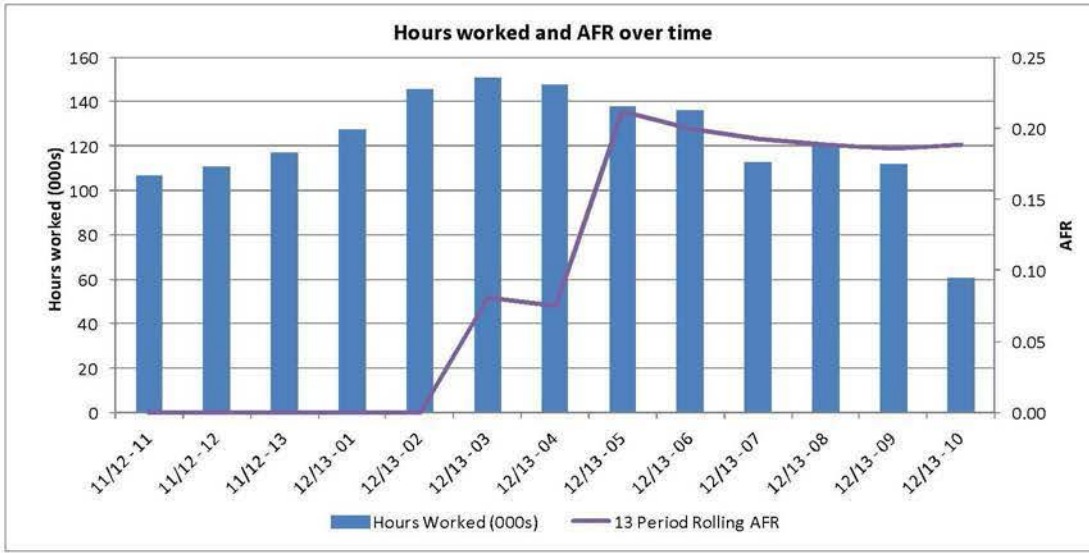
CDM Compliance

List any significant quality events, initiatives, breaches etc

Turner & Townsend have received the revised Construction Phase Plan for the project for review. This action is ongoing.

Project Report – Period 10

GRAPHS



APPENDIX A

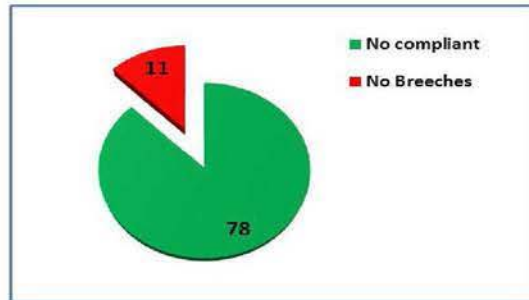
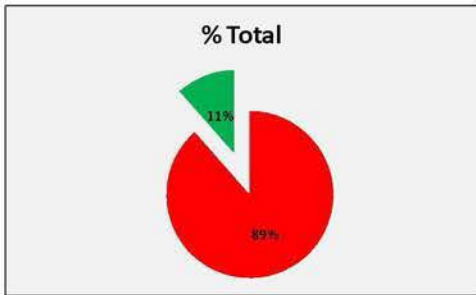
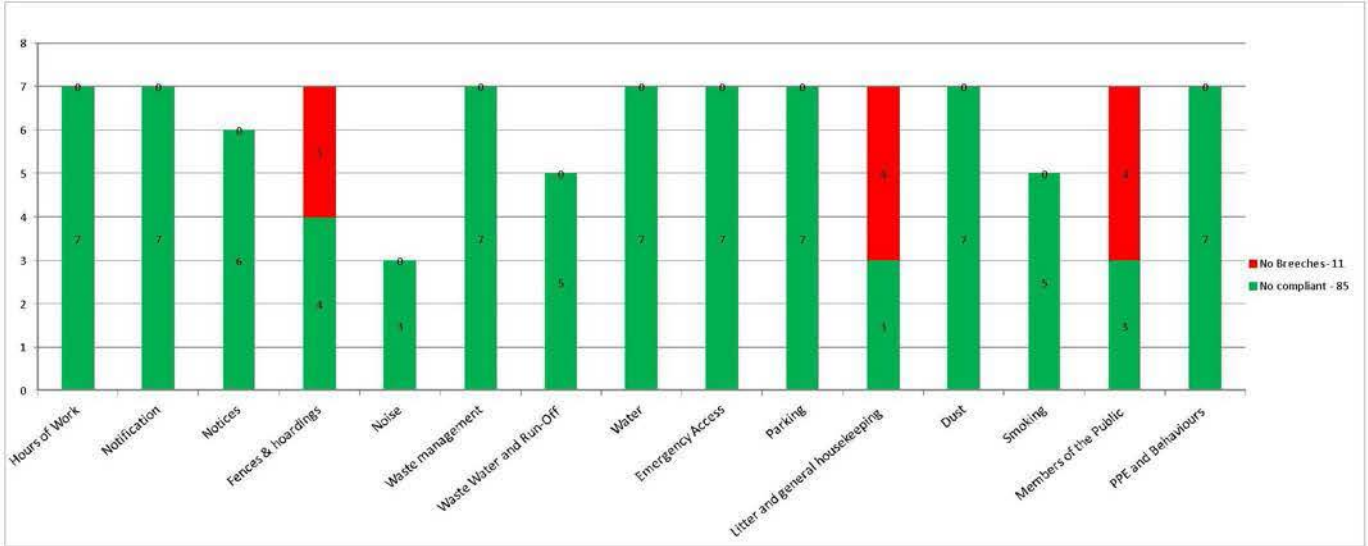
There have been 4 incidents in total since the issue of the last DtTS.

No incidents have been identified as serious / significant incidents.

AIR number	Date of event	Location description	Initial description	Contractor involved	Classification	Significant
AIR1845	12/12/12	St Andrew square	Wheel of road sweeper in comms chamber after running over timber board covering the chamber.	Crummock	Service damage	No
AIR1847	14/12/12	Shandwick Place	Damage to a 2" dia gas. Pipe was encased in concrete. Scotland Gas Networks contacted and arrived on site within 1 hour	Lagan	Service damage	No
AIR1848	19/12/12	ScotRail Depot	Fibre optic cable connection to the depot damaged at fence line in ScotRail depot. Location of damage identified and cable jointed 20/12/12.	Grahams	Service damage	No
AIR1849	27/12/12	Abercrombie Place	Temporary lights were stuck on red. T&T requested that the batteries for the temporary lights are replaced as they are flat. Class One attended site to turn off lights to allow traffic to flow. Text received from Peter Widdowson at 0921 hrs 27/12/12 confirming lights were now in working order.	BBS	Near miss / unsafe condition	No

APPENDIX B – COCP INSPECTIONS

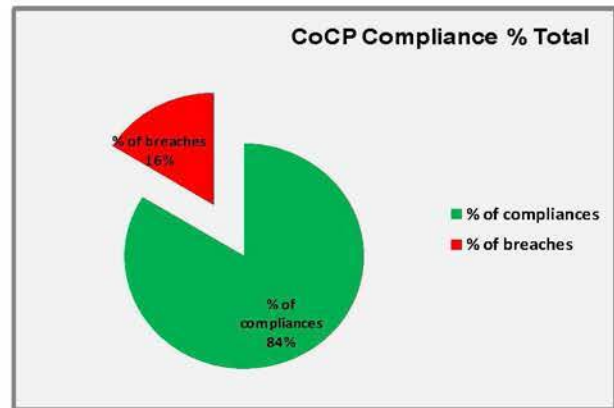
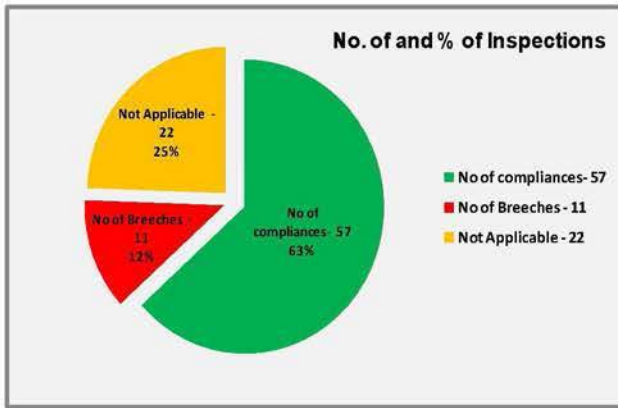
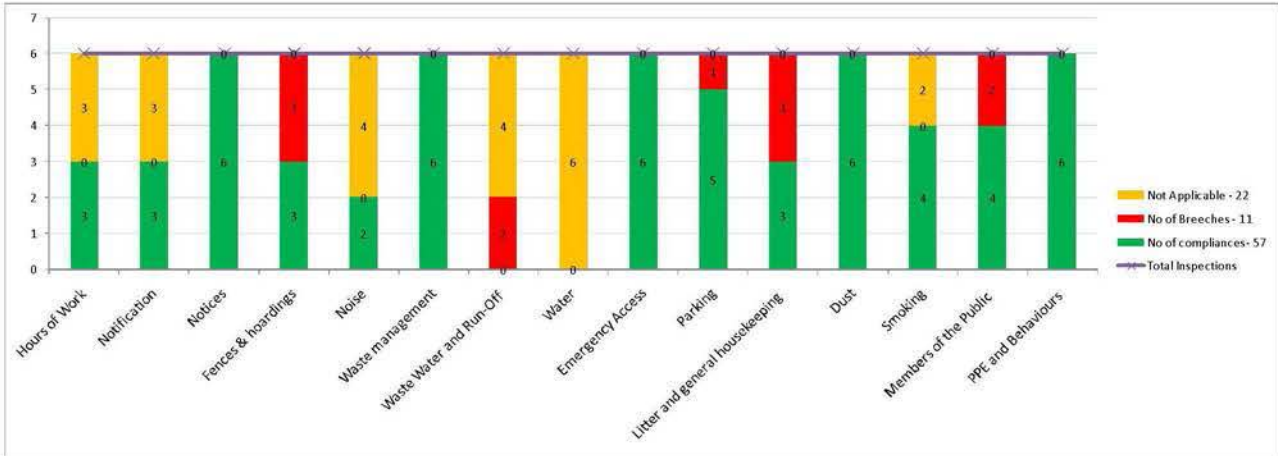
COCP Inspections / Issues Period 9 (previous period)



Project Report – Period 10

COCP Inspections / Issues Period 10

CoCP compliance was recorded at 84% During Period 10



<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	

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
4	Fencing & Hoarding	St Andrew St	Crummock	Contractor has finalised the perimeter fencing including padlocked gates for the Christmas and New Year lockdown.	Finalised on 21.12.12 Inspection 14.12.12, 20.12.12
7	Waste Water and Run Off	St Andrew St	Crummock	This has now been overcome by the Christmas and New Year holiday lockdown.	Currently stopped 19.12.12 Inspection 14.12.12, 20.12.12
10	Parking	Busgate – 5B	B&S/ Crummock	Contractor to brief not to park on footway. Parking of vehicles to be included in induction/re-induction.	January 2013
11	Litter & General House Keeping	St Andrew St	Crummock	The contractor rolled out a complete site programme to tidy the site for the Christmas and New Year holiday lockdown.	Finalised on 21.12.12 Inspection 14.12.12 20.12.12
11	Litter & General House Keeping	S504 Roseburn St	Graham	Bridgedeck requires general tidy up	Completed 13.12.12
14	MOP	St Andrew St	Crummock	Walkways (width) Contractor making efforts to rectify.	Finalised on 21.12.12 Inspection 14.12.12 20.12.12



Agreement Document	Area of Interest	Items to be addressed in Document	Current Status	Current Activities Plan	Risks if not resolved	Action Owner	Action with	Target Date to Close Out
<p>Required to be resolved before operations: Critical for construction between Airport and York Place Not critical for construction or commencement of operations</p>								
3rd Party Consents								
Network Rail - Asset Protection Agreement	Construction	This document governs the design approvals and permits to work controls along the Railway	The existing APA period expired on 30 June 2011. It is requested an extension as is permitted under the Agreement and NR have requested additional funding confirmation, and have indicated they may wish to review the obligations of this agreement. At present the revised APA has not been executed, but access to the site is available to BS.	Revised documentation now issued to NR for acceptance, NR have now responded with comments and revised fee schedule. Signed document now back with Network Rail.	Possible delay risk if NR refuse BS access to the site. To date the Contractor's VVFs have not consistently been submitted to the required standard expected of NR, so the risk remains that NR may seek to revise the APA terms to refer to an Outside Party Role, rather than a Third Party Role. This affords NR greater control over activities on or near the railway network.	Alistair Sim	Network Rail	Jan 13
Substation Wayleaves - Haymarket	Construction	Substation lease agreement between CEC and leaseholder of NR owned land	No physical blockers to the substation construction. Documents now under review by all parties.	CEC to enter into lease drawdowns with NR and then sublease to SP. Working now agreed with SPD.	Potential BSBS design change and delay to construction if not resolved.	Alistair Sim	Scottish Power	Jan 13
Substation Wayleaves - Cathedral Lane	Construction	Standard substation lease agreement	Final if C's issued by BSBS. CEC can now progress substation lease with SPD.	Draft lease agreement now with SPD.	Design delay risk if not resolved.	Alistair Sim	CEC	Jan 13
Network Rail - Bridge Agreement	Operations	Agreement to define responsibilities in relation to the Carrick Knowe and Edinburgh Park Bridges	This agreement is currently on hold. CEC have concerns in regard to an unratified indemnities which are implied within the current drafting. CEC have considered progressing communication with ORR to seek advice in this regard. Needs re-engage in the process.	CEC to re-engage with NR, using the TQRBR Bridge Agreement template as a starting position. HBJOW have been approved to provide advice.	BS cannot operate passenger services without an executed Bridge Agreement (Carrick Knowe and Edinburgh Park)	Alistair Sim	CEC	Aim to move negotiations forward during 2013.
Network Rail - Operating Agreement	Operations	An agreement setting out the areas of communication and responsibilities between the tram operations and the national rail network	This agreement is currently on hold. CEC have concerns in regard to an unratified indemnities which are implied within the current drafting. CEC have considered progressing communication with ORR to seek advice in this regard. Needs re-engage in the process.	Action on CEC to re-engage with NR.	BS cannot operate passenger services without an executed Operating Agreement	Alistair Sim	Network Rail	Aim to move negotiations forward during Q1 2013.
Network Rail - EMC and Minimisation approval			Testing and report to be issued on completion.		BS cannot operate passenger services without an Network Rail Approval	Colin Kier	BSB Michael Wilson	Mid 2013
Edinburgh Airport L35 - EMC approval			Testing and report to be issued on completion.		BS cannot operate passenger services without an LAL approval	Colin Kier	BSB Michael Wilson	Mid 2013
Network Rail & First Scot Rail Car Park Compensation Agreement	Compensation	Payment to indemnify FSR and NR against loss of car parking at Haymarket Station Car Park	Within available budget allowances. No of parking spaces affected is agreed with NR and FER.	The matter cannot be completely closed out until BSBS complete the works and the timeline over which compensation applies can be determined. The programme is now 18 months overdue in this area.	No construction risk as this is a compensation matter.	Alistair Sim	CEC	Unknown at this point. Construction programme not agreed completed.
Network Rail - Servitudes	Land	Various servitude arrangements to be entered into between CEC and NR. These are all agreed and set out in the Framework agreement.	HBJOW appointed, work can get underway in registering these servitudes.	HBJOW are ready to submit documents to NR - awaiting Robert Little to confirm NR legal advice.	HBJOW have forwarded servitude documents to NR's legal advisor.	Alistair Sim	Network Rail	Mid 2013
Compensation - HIL	Land	Compensation as a result of CPO of land	Negotiations underway between the former landowner and CEC.	CEC have initiated the SAAD process in West Edinburgh.	No project risk as this is a compensation matter.	Alistair Sim	CEC	Unknown - depends on claimant.
110c Building Works	Construction	Modified building works agreements for 75 Princes St 78 Princes St and House of Fraser.	All three agreements have been modified with BSBS consent. Currently with the relevant owners advisors for final review and issue for signature.	Awaiting response from building owners, agreement imminent.	If not resolved, CEC will seek a Sheriff Court decision.	Alistair Sim	CEC	Unknown - depends on claimant. Jan 13
North Leith Storage Site Lease Extension	Construction	Storage area in Leith Docks for rail - site currently occupied by Siemens	Lease has expired, and CEC seeking extension to end 2013. CEC legal and owner's agent exchanging draft legal drafting in progress.	CEC Legal and the Licensor exchanging drafting at present. No showstoppers envisaged.	CEC Legal discussing some drafting points with Bridge Systems.	Alistair Sim	CEC	Risk of delay to Siemens if not resolved. Close out by mid Jan 2013.
Site Sharing Licence at Edinburgh Castle	Operations	This agreement is for a licence to permit the installation of radio equipment on Edinburgh Castle (required by Siemens)	CEC Legal and the Licensor exchanging drafting at present. No showstoppers envisaged.	CEC Legal discussing some drafting points with Bridge Systems.	Risk of delay to Siemens if not resolved.	Alistair Sim	CEC	Close out by mid Jan 2013.
Section 21 Agreements - SW Haymarket	Construction	Scottish Water approval	Review been under take of all sewer crossing along the off street section of the route 2 required.	Draft working for Edinburgh gateway with Scottish water, draft working for Haymarket with Network Rail. Both nearing completion. Systemwide SW to provide a bid for agreement.	Delay to formal approval from Scottish water.	Alistair Sim	SWRR	Mid August 13
Technical Informatives								
13thm signage location	Design	Location drawings to be provided.	Comment 4856	Framework Signage has now been agreed, with Clean copy sent to ICP for HMR approval, informative closed December 2012. ORR approval awaited. Comments received from ORR, description required for each sign. Informative can now be closed.	Final agreement will not be obtained if not resolved.	Robin Goodwin	ICP	Closed
72 Lighting and Bonding Details	Design	Full details of all earthing and bonding requirements that impact on CEC infrastructure needs to be provided for review and approval.	Comment 11244 to be closed. Comment 11500 to be closed.	Design with BSBS, mock up of lamp column installation to be considered, attention should be given to Princes Street interface. CEC have commissioned informative for E&S consent. Letter required from CEC to close out Lighting element. To close the deal document, the street lighting details should be completed early 2013. Informative to be closed, technical issues to be resolved on site.	Construction delay risk if not resolved.	Robin Goodwin	BSB Michael Wilson	Closed
Other Approvals								
Notification of Development By Laws	Construction	Letter to be issued to third party	Notice required for New Ingestion	Notice of completion to be provided to CEC planning, by CEC following section B completion.	None	Andy Conroy	CEC Bob McCafferty	Apr 13
By Laws	Operations	System wide	Document currently being drafted.	Bye laws to be agreed, and submitted to Council meeting in November 2012. Bye Laws agreed at CEC meeting now with M	Operational running.	Andy Conroy	CEC Bob McCafferty	Mar 13
Legal Agreements								
Program Software Escrow Agreement	Clause 10.1.18	Within 30 days of accepting the program that infraCo will provide under the infraCo Contract, infraCo must place the source code in escrow with the NCC (Crown of Manchester Technology for	TO BE SIGNED WITHIN 30 DAYS OF THE ACCEPTING THE INFRACO SOFTWARE - Siemens are to clarify these position.	Siemens to provide details of agreement. By April 12. Draft due at the end of October 2012.		CEC, infraCo and escrow provider.	Patrick Gouy	Jul 14
ISA Reliability Bond	On the certification of the twenty seventh certificate of Train Compensation CAF must provide a reliability bond for 5% of the Aggregate Train Price (approx £2,798,000,000)	Clause 44.3 and part A of Schedule 10	NA/CEC	With rider to be delivered to CEC before 20th November 2012, until date agreed at Market according to BSBS programme review 15.05.13, rider to an ulterior date shall be agreed. Bond Now received until 19th May 2013	THE BOND SHOULD BE PROVIDED ON THE ISSUE OF THE TWENTY SEVENTH CERTIFICATE OF TRAIN COMPENSATION	CEC, CAF and escrow provider.	Alexandro Urtica	May 13
ISA Train Supplier Collateral Warranty	A collateral warranty to be granted by the Train Supplier to the CEC, Transport Scotland, TEL and any other reasonably party at the request of the Client.	Clause 44.5	CAF, BS/CEC, Transport Scotland, TEL and any other parties receiving the collateral warranty	Contractual document signed by CAF on may 2008	STATUS OF THE COLLATERAL WARRANTIES TO BE CONFIRMED BY CEC/TET.	CEC, CAF and escrow provider.	CEC	Feb 13
ISA Escrow Agreement	Within 30 days of accepting software provided by CAF under the TSA, CAF must place the source code in escrow with the NCC (Crown of Manchester Technology for another escrow agent. He is required to enter into a standard escrow agreement for the escrow services. All costs will be met by the client.	Clause 41.19.3 and Schedule 9	CAF, BS/CEC and NCC	Positive feedback from Acta and Kope. Awaiting answer from Sapsa. If E F already and signed.	TO BE SIGNED WITHIN 30 DAYS OF THE ACCEPTING SOFTWARE FROM CAF. SEE PREVIOUS NOTE ON THIS ISSUE RELATIVE TO THE INFRACO CONTRACT.	CEC, CAF and escrow provider.	CAF	Feb 13
ISA Sub-Contractor Direct Agreement	Specification (see the Train Employer's Requirements) indicates that a Sub-Contractor Direct Agreement is required, the CAF must obtain a Sub-Contract Direct	Clause 69.6 and Schedule 19	Sub-Contractor, BS/CEC and CAF	CAF awaits an answer to e-mail dated 11 June 2012 with the proposal given by Kiepe, in order to proceed with outstanding agreements (Giese, Sopran, and IPE). Comments returned to CAF.	DEPENDENT ON SUB-CONTRACTING ARRANGEMENTS. TET TO CONFIRM WHAT IS SPECIFIED IN THE TRAM EMPLOYER'S REQUIREMENTS.	CEC, CAF and escrow provider.	CEC	Feb 13
TMA Performance Bond	In the event that any part of the TMA is assigned, novated or otherwise transferred by the contractor after the date of commencement of the operation of the tram by Transfer (see Train Employer's Requirement)	Clause 45.1 and part 1 of Schedule 23	NA	Not applicable to be checked	ONGOING OBLIGATION. DEPENDENT ON RELEVANT ASSIGNMENT OCCURRING. THE CEC TO NOTE IN THE CONTEXT OF POTENTIAL FUTURE INVOLVEMENT OF THE OPERATOR.	CEC, CAF and escrow provider.	CEC	Feb 13
TMA Train Manufacturer Collateral Warranty	Collateral warranties to be granted at the be is required by CAF in favour of CEC, Transport Scotland, TEL and any other party reasonably requested by the client.	46.4 and part 2 of Schedule 23	CAF, BS/CEC, Transport Scotland, TEL and any other parties receiving the collateral warranty	Contractual document signed by CAF on may 2008	STATUS OF THE COLLATERAL WARRANTIES TO BE CONFIRMED BY CEC/TET.	CEC, CAF and escrow provider.	CEC	Jul 14
TMA Escrow Agreement	Within 30 days of accepting software provided by CAF under the TSA, CAF must place the source code in escrow with the NCC (Crown of Manchester Technology for another escrow agent. He is required to enter into a standard escrow agreement for the escrow services. All costs will be met by the client.	Clause 50.21 and Schedule 8 (of the Train Supplier Agreement)	CAF, BS/CEC and NCC	See TSA	TO BE SIGNED WITHIN 30 DAYS OF THE ACCEPTING SOFTWARE FROM CAF. SEE PREVIOUS NOTE ON THIS ISSUE RELATIVE TO THE INFRACO CONTRACT.	CEC, CAF and escrow provider.	Alexandro Urtica	Jul 14
TMA Sub-Contract Direct Agreement	Specification (see the Train Employer's Requirements) indicates that a Sub-Contractor Direct Agreement is required, the CAF must	Clause 57.6 and Schedule 6	Sub-Contractor, BS/CEC and CAF	See TSA	DEPENDENT ON SUB-CONTRACTING ARRANGEMENTS. TET TO CONFIRM WHAT IS SPECIFIED IN THE TRAM EMPLOYER'S REQUIREMENTS.	CEC, CAF and escrow provider.	CEC	Feb 13

Appendix 3 – Cost Report

Edinburgh Trams
City of Edinburgh Council



Reporting Period: 12-10 - Rev 0 - 05/01/2013

Page 1 of 1

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
Edinburgh Tram Programme	500,154	0	500,154	479,660	23,700	503,360	5,579	4,069	0	3,571	516,579	-7,696	508,883	8,729	2%	455,269	48,091
1 Infraco - Off Street	360,060	5,910	365,970	362,501	5,910	368,411	6,314	430	0	0	375,155	-5,814	369,341	3,371	1%	336,223	32,188
2 Infraco - On Street	38,817	2,794	41,611	47,384	2,794	50,178	-770	323	0	0	49,731	-1,394	48,337	6,726	16%	27,966	22,212
3 Infraco - Other	3,218	0	3,218	3,218	0	3,218	0	0	0	0	3,218	0	3,218	0	0%	675	2,543
2.1 York Place Direct Works	0	0	0		1,015	1,015		325			1,340		1,340	1,340		935	80
4.1 Utilities (Post Mediation)	1,812	13,665	15,477	1,812	13,665	15,477	0	1,791	0	0	17,268	-188	17,080	1,603	10%	15,147	330
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%	1,411	0
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	300	0	0	63,985	-300	63,685	1,280	2%	72,912	-9,262
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	-22,685	10,062	0	0	0	0			3,571	3,571		3,571	-6,491	-65%	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:
No allowance included for ex-contract payments

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

Infracost 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
Infracost Contract	402,095	8,704	410,799	413,103	8,704	421,807	5,544	753	0	0	428,104	-7,208	420,896	10,097	4.21%	364,864	56,943
Off Street	360,060	5,910	365,970	362,501	5,910	368,411	6,314	430	0	0	375,155	-5,814	369,341	3,371	2.51%	336,223	32,188
00 Preliminaries and Other Items	150,408	5,745	156,153	150,409	5,745	156,154	5,835	200	0		162,189	0	162,189	6,036	3.87%	131,797	24,357
01 Newhaven Road to Haymarket	85,368	-3,215	82,153	87,738	-3,215	84,523	120	0	0		84,643	-318	84,325	2,172	3.03%	87,490	-2,967
02 Haymarket Corridor	8,692	-10	8,682	8,692	-10	8,682	117	0	0		8,799	-13	8,786	104	1.35%	8,107	575
05 Roseburn Junction to Gogar	80,035	3,409	83,444	80,105	3,409	83,514	104	230	0		83,848	-4,383	79,465	-3,979	0.48%	74,393	9,121
06 Depot	19,979	260	20,239	19,979	260	20,239	83	0	0		20,322	0	20,322	83	0.41%	19,141	1,098
07 Gogar to Edinburgh Airport	15,578	-279	15,299	15,578	-279	15,299	55	0	0		15,354	-1,100	14,254	-1,045	0.36%	15,295	4
On Street	38,817	2,794	41,611	47,384	2,794	50,178	-770	323	0	0	49,731	-1,394	48,337	6,726	19.51%	27,966	22,212
00 Preliminaries and Other Items	21,837	95	21,932	21,837	95	21,932	21	0	0		21,953	0	21,953	21	0.10%	11,249	10,683
01 Newhaven Road to Haymarket	16,980	2,699	19,679	25,547	2,699	28,246	-791	323	0		27,778	-1,394	26,384	6,705	41.16%	16,717	11,529
Other	3,218	0	3,218	3,218	0	3,218	0	0	0	0	3,218	0	3,218	0	0.00%	675	2,543
00 Maintenance & Mobilisation	2,205	0	2,205	2,205	0	2,205	0	0	0		2,205	0	2,205	0	0.00%	675	1,530
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 infracost 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

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	134,947	133,075	1,871	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

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	180,000	180,000	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

Infracost 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
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	-4,608	-4,608	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	Descoping 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
589	Descoping airport tramstop kiosk and canopy	-150,000	-150,000	0		07	01

Infracost Report Section 2A - Approved Change - Clause 80

TNC No.	Description	Forecast Amount	Previous Period	Change from Previous Period	Notes	Section Code	Change Code
591	Diversion of Scottish Power Cable at Haymarket Viaduct	21,789	21,789	0	NR contribution	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
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
610	Edinburgh Gateway - Siemens Long Lead Items	0	0	0	Costs included in tNC 643	05	01
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

Infracost Report Section 2A - Approved Change - Clause 80

TNC No.	Description	Forecast Amount	Previous Period	Change from Previous Period	Notes	Section Code	Change Code
622	LV power for sub-station and Tramstop.	-1,000	-1,000	0	Power bills paid by CEC to be recovered from Infracost	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
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	37,152	37,152	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
655	Revise CCTV & PA coverage at Murrayfield tram stop	38,158	38,158	0		05	01
657	Drainage As Built Drawings - Princes Street	3,271	3,271	0		00	01
662	Eastfield Avenue Topographical Survey	2,587	2,587	0		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.	4,906	4,906	0		05	01

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
667	Call off service to respond to Network Rail TQs and interface issues	20,000	15,000	5,000		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	16,064	0		07	03
670	SDS Response to Road Safety Audit for Princes St	1,611	1,611	0		01	01
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	0	0		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	938	0	Potential opportunity to recharge to CAF contract	06	01
685	Provide technical information on Lindsay Road works	7,681	7,090	591		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	76,413	0		05	01
691	Cathedral Lane re-design	35,000	35,000	0		01	01
694	Traffic Light de-scope to West St Andrew St	-189,460	-189,460	0		01	01
702	Eastfield Avenue Pedestrian Crossing	24,562	24,562	0		07	01
703	Repair Switch Rail at Depot	831	831	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

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
709	ScotRail Car park landscaping	0	0	0	No cost impact	05	01
717	Cost Engineering in respect of the Programme (22 week saving)	3,768,223	3,229,905	538,318	Instructed by CEC. Refer to T&T letter dated 31/10/2012	00	01
Total		5,910,672	5,364,892	545,780			

Edinburgh Trams
City of Edinburgh Council



Reporting Period: 12-10 - Rev 0 - 05/01/2013

Page 9 of 26

Infraco Cost Report Section 2B - Approved Change - Schedule 45

IC Ref No	Description	Agreed Amount	Previous Period	Change from Previous Period	Notes	Section Code
001	Independent Certifiers Schedule Part 45 Period End Change Order to 15/10/2011	8,593	8,593	0	Includes TNC 513, TNC 543, TNC 521	01
002	Independent Certifiers Schedule Part 45 Period End Change Order to 12/11/2011	102,135	102,135	0	Includes TNC513, TNC 521, TNC 528, TNC 535, TNC 543, TNC 547, TNC 548, TNC 549	01
003	Independent Certifiers Schedule Part 45 Period End Change Order to 10/12/2011	357,140	357,140	0	Includes TNC535, TNC543, TNC548, TNC549, TNC551	01
004	Independent Certifiers Schedule Part 45 Period End Change Order to 6/1/2012	158,870	158,870	0	Includes TNC535, TNC543	01
005	Independent Certifiers Schedule Part 45 Period End Change Order to 4/2/2012	332,812	332,812	0	Includes TNC535, 543, 551, 554, 596, 598	01
006	Independent Certifiers Schedule Part 45 Period End Change Order to 3/3/2012	244,645	244,645	0	Includes TNC543, 547, 554, 600, 604, 606	01
007	Independent Certifiers Schedule Part 45 Period End Change Order to 31/3/2012	209,363	209,363	0	Includes TNC 543, 547, 554, 600, 604, 606, 629, 630	01
008	Independent Certifiers Schedule Part 45 Period End Change Order to 28/4/2012	235,258	235,258	0	Includes TNC 543, 554, 590, 596, 600, 604, 606, 629, 630, 631	01
009	Independent Certifiers Schedule Part 45 Period End Change Order to 26/5/2012	-33,988	-33,988	0	Includes TNC 543, 547, 549, 554, 570, 584, 590, 596, 600, 604, 606, 629, 630, 635, 645	01
010	Independent Certifiers Schedule Part 45 Period End Change Order to 23/6/2012	286,757	286,757	0	Includes TNC 547, 549, 554, 596, 599, 600, 606, 613, 629, 630, 635, 637, 639, 645	01
011	Independent Certifiers Schedule Part 45 Period End Change Order to 21/7/2012	169,141	169,141	0	Includes TNC 543, 547, 554, 583, 600, 606, 629, 630, 635, 639, 645	01
012	Independent Certifiers Schedule Part 45 Period End Change Order to 18/8/2012	129,875	129,875	0	Includes TNC 547, 554, 600, 606, 639, 645, 698	01
013	Independent Certifiers Schedule Part 45 Period End Change Order to 15/9/2012	286,456	286,456	0	Includes tNC 554, 584, 596, 599, 600, 606, 639, 641, 645, 693	01
014	Independent Certifiers Schedule Part 45 Period End Change Order to 13/10/2012	111,120	111,120	0	Includes tNC 543, 554, 584, 596, 599, 600, 604, 606, 639, 641, 681, 693	01
015	Independent Certifiers Schedule Part 45 Period End Change Order to 10/11/2012	195,887	0	195,887	Includes tNC 543, 547, 554, 564, 583, 584, 599, 600, 606, 637, 639, 641, 665, 678, 680, 682, 687, 693	01
		0				
		0				
Total		2,794,063	2,598,176	195,887		

Infraco Cost 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 Infraco, 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
605	Depot - Sub-Station Switching	80,000	80,000	0	Includes allowance up to Section B completion date (8/3/13)	06	03
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
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	0	2,587	-2,587		07	01
675	Remove concrete around the water meter at the ScotRail Depot.	12,507	12,507	0		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

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
701	Reinstatement works at the Airport	20,000	20,000	0		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	34,762	34,762	0		05	01
713	Haymarket - construction works outwith LOD	117,347	110,000	7,347		02	01
714	Edinburgh Park Central - Amend design to utilise CEC control panel	10,000	10,000	0		05	01
715	Amend cladding on Edinburgh Park Viaduct North abutment	0	0	0	nil cost impact	05	01
717.1	Cost Engineering in respect of the Programme (22 week saving)	2,691,588	3,229,905	-538,318	Instructed by CEC. Refer to T&T letter dated 31/10/2012	00	01
719	Clarification of requirements for installation of fare collection equipment	0	0	0		05	01
720	Resolution of clash between security gate and trash compactor gate - ScotRail Depot	2,000	2,000	0		05	01
721	Installation of section isolators on the MTT.	29,825	0	29,825		07	01
723	Princes Street road safety audit for release of full Princes St plug	5,000	5,000	0		01	01
724	Murrayfield SW pipe - provide design calculations	0	0	0		05	01
725	Provision of DWG drainage drawings for handover to Scottish Water	1,000	1,000	0		05	01
726	Remove Murrayfield Thistle	-10,000	-10,000	0		05	01
727	Remove maintenance staircase to Roseburn Viaduct	-6,000	-6,000	0		05	01
731	Murrayfield SW pipe - provide CAD drawing to allow McNicolas to mark up the position on the sewer	0	0	0		05	01
732	Roseburn Street road build up - descope	0	0	0		05	01
Total		6,315,280	6,819,013	-503,733			

Infraco Cost Report Section 3A - Change in Progress - Clause 80

TNC No.	Description	Forecast Amount	Previous Period	Change from Previous Period	Notes	Section Code	Change Code
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Infracost 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	685	271,386	272,070	271,659	412	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	12,022	12,022	26,015	-13,993		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	14,383	259,502	273,885	266,109	7,776	Refer to Revised issue of TNC	01	02
560	St. Andrew Square - Omit work North South & West St Andrew Square and St David Street	-2,050,000	0	-2,050,000	-900,000	-1,150,000	Includes all descope works	01	02

Infracost 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
564	Worksite Modelling - (TM)	0	6,023	6,023	6,023	0		01	03
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	-70,588	50,588	-20,000	-20,000	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	-418,161	78,161	-340,000	0	-340,000	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	24,767	-6,644	18,123	-6,644	24,767		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	249,361	250,639	500,000	500,000	0	Bilfinger have agreed to deduct risk allowance and add actual scope only. Final detailed scope and price agreed with Siemens	01	01
600	Shandwick place - OLE bases affecting utilities (Piling)	0	338,509	338,509	338,509	0		01	02
604	St Andrew Sq - OLE bases affecting utilities (Piling)	0	43,429	43,429	43,429	0		01	02
606	York Place - Waverley Bridge - Works Delayed and disrupted as a result of works carried out by Third parties	122,585	216,110	338,695	257,401	81,294		01	02
611	Excavation of Track Slab to be carried out by McNicholas	-100,000	0	-100,000	0	-100,000	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)	5,915	35,417	41,331	35,417	5,915		01	02
630	Utilities affecting Track Excavation at Shandwick Place (S2)	0	26,867	26,867	26,867	0		01	02

Infracost 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	Costs included in OSWE - allocated to other tNCs	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	5,213	5,213	5,213	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	58,654	167,084	225,738	225,737	0		01	01
641	Cathedral Lane substation - scope change to suit Henderson Global requirements. Excludes demolition.	621,588	3,413	625,000	625,000	0	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	22,880	0		01	01
645	Princes Street Outstanding Works	0	238,136	238,136	238,136	0		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	0	0	0	0	0	Costs covered elsewhere in OSWE	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 descope 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

Infracost 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"	8,227	1,612	9,840	6,612	3,227	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	3,669	10,515	14,185	10,515	3,669		01	01
680	Coates Crescent - Bus running single lane	8,105	1,895	10,000	10,000	0	Feasibility study	01	01
681	Hoarding design for York Place	0	0	0	0	0		01	01
682	Descope work associated with street lighting, road signage & traffic signals	-500,000	3,213	-496,787	-496,787	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	44,062	16,642	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	3,081	21,799	24,880	22,016	2,864		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	0	61,619	61,619	61,619	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
718	De-Scope High Friction Surfacing on Waverley Bridge	-5,654	0	-5,654	-5,654	0		01	01
722	De-scope bus shelters, bus trackers and associated power supplies	0	0	0	0	0		01	01
728	Pedestrian management requirements over Christmas shutdown	5,000	0	5,000	0	5,000		01	01

Infracost 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
729	Princes St/South St Andrew St - Traffic Light Alterations	40,000	0	40,000	0	40,000		01	01
730	De-scope tram duct crossing at Haymarket	-5,000	0	-5,000	0	-5,000		01	01
733	Palmerston Place/West Maitland St/Torphichen Pl - Tactile Paving	0	0	0	0	0		01	01
734	West Maitland Street / Manor Place traffic signals	4,000	0	4,000	0	4,000		01	01
735	Additional walls required at Queensferry Street/Hope St Junction	40,000	0	40,000	0	40,000		01	01
Total		-769,113	2,794,063	2,024,950	3,415,019	-1,390,069			

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 included in OSW Estimate	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	-80,000	0	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	0	-200,000	200,000	Refer to tNC 611 for costs associated with this change	01	01
27	Amend road reconstruction depth from Contract Requirements	0	-700,000	700,000	Refer to tNC 584 for costs associated with this item	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
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
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	0	30,000	-30,000	Ducts now lowered. Costs incurred in McNicholas contract	01	01
45	TVM Installation - Off Street	125,000	125,000	0	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

Infraco Cost Report Section 4 - Anticipated Change

Ref No	Description	Forecast Amount	Previous Period	Change from Previous Period	Notes	Section Code	Change Code
46	TVM Installation - On Street	30,000	30,000	0	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	0	50,000	-50,000	Now included in tNC 721	07	01
48	Additional track drainage boxes in St Andrew Square as per BS PMC 231	10,000	10,000	0	Notified on BBS letter ref 060288 dated 13/11/12	01	02
49	Rescoping of work included in York Place Crummock contract	75,000	75,000	0	This is likely to include excavation of road outside of area excavated by Crummock and any fill required to make up levels not carried out as part of the Crummock contract	01	01
50	Rework Waverley Bridge Junction for pedestrian safety	0	40,000	-40,000	Now included in tNC 729	01	01
Total		752,778	-27,222	780,000			

Edinburgh Trams
City of Edinburgh Council



Reporting Period: 12-10 - Rev 0 - 05/01/2013

Page 20 of 26

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
01	Remove embargoes and revised TM	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	-20,000	0	-788,600	-808,600	0	-808,600	-1,000,000	Funded by separate CEC budget (added to contributions register)
04	De-scope public realm at St Andrew Sq	0	-2,050,000	0	0	-2,050,000	0	-2,050,000	-700,000	Instructed
05	Contributions 3rd Party Agreements	0	0	0	-3,002,533	-3,002,533	0	-3,002,533	-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		-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	0	0	0	0	0	-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	Infracost 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 Infracost budget provision
18	Roseburn Viaduct Cladding	-308,004	0	0	0	-308,004	0	-308,004	-300,000	Instructed

Edinburgh Trams
City of Edinburgh Council



Reporting Period: 12-10 - Rev 0 - 05/01/2013

Page 21 of 26

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
19	Delete Crew Relief Facility	-74,001	0	0	0	-74,001		-74,001		Instructed
Total		-4,175,005	-2,070,000	-150,000	-7,207,143	-13,602,148	0	-13,602,148	-22,040,000	

Infracost Cost Report Section 6 - Credits & 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	861,943	82,944	0		944,887	940,000	4,887	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	237,008	621,588	-344,000	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		134,947	0		134,947	133,075	1,871	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	788,600	0	0		788,600	788,600	0		Setts funded by CEC. Saving based on spreadsheet issued to CEC (MM to AC 20/11/12).	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		3,024,160	3,905,396	621,588	-344,000	7,207,143	7,200,385	6,758	979,213			

Edinburgh Trams
City of Edinburgh Council



Reporting Period: 12-10 - Rev 0 - 05/01/2013

Page 23 of 26

Infraco Cost Report Section 7 - Change Summary

Change Code	Description	Approved Change	Change in Progress	Anticipated Change	Contributions	Total
01	Scope Change	5,392,152	4,672,187	522,778		10,587,117
02	PAVs (Utilities, etc)	1,489,441	-2,349,770	230,000		-630,329
03	Miscellaneous Client Risk Items	155,228	80,000	0		235,228
04	Time Delay	1,397,409	3,143,752	0		4,541,161
05	Project Contributions	0	0	0	-7,207,143	-7,207,143
Total		8,434,230	5,546,169	752,778	-7,207,143	7,526,034

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.

Infraco Cost Report Section 8 - Period Movement

Ref No.	Description	Approved Off	Approved On	In Progress Off	In Progress On	Total
543	Haymarket H1 - Utilities affecting the construction of OHLE foundations	0		0	412	412
547	Haymarket H1 - Third Party (McNicholas) affecting ability to progress the works	0		0	-13,993	-13,993
554	St Andrew Square & Shandwick Place - Traffic Management Requirements	0		0	7,776	7,776
560	St. Andrew Square - Omit work North South & West St Andrew Square and St David Street	0		0	-1,150,000	-1,150,000
584	Road Reconstruction specification	0		0	-340,000	-340,000
596	Section 1D - Costs associated with amended drainage design	0		0	24,767	24,767
606	York Place - Waverley Bridge - Works Delayed and disrupted as a result of works carried out by Third parties	0		0	81,294	81,294
611	Excavation of Track Slab to be carried out by McNicholas	0		0	-100,000	-100,000
629	Utilities affecting Track Excavation at Shandwick Place (S1)	0		0	5,915	5,915
665	Removal of Princes Street "plug"	0		0	3,227	3,227
667	Call off service to respond to Network Rail TQs and interface issues	5,000		0	0	5,000
674	Topographical survey at Eastfield avenue - DESIGN	0		-2,587	0	-2,587
678	Temporary traffic management design at York Place to keep bus station access open	0		0	3,669	3,669
685	Provide technical information on Lindsay Road works	591		0	0	591
693	Footway and kerbing reinstatement in Shandwick Place	0		0	2,864	2,864

Edinburgh Trams
City of Edinburgh Council



Reporting Period: 12-10 - Rev 0 - 05/01/2013

Page 25 of 26

Infraco Cost Report Section 8 - Period Movement

Ref No.	Description	Approved Off	Approved On	In Progress Off	In Progress On	Total
713	Haymarket - construction works outwith LOD	0		7,347	0	7,347
720	Resolution of clash between security gate and trash compactor gate - ScotRail Depot	0		0	0	0
727	Remove maintenance staircase to Roseburn Viaduct	0		0	0	0
728	Pedestrian management requirements over Christmas shutdown	0		0	5,000	5,000
729	Princes St/South St Andrew St - Traffic Light Alterations	0		0	40,000	40,000
733	Palmerston Place/West Maitland St/Torphichen PI - Tactile Paving	0		0	0	0
734	West Maitland Street / Manor Place traffic signals	0		0	4,000	4,000
Total		5,591	0	4,760	-1,425,069	-1,414,718
Anticipated Change				-50,000	830,000	780,000
Opportunities				0	0	0
Change to Anticipated Final Cost		5,591	0	-45,240	-595,069	-634,718
Contributions				4,887	1,871	6,758

Edinburgh Trams
City of Edinburgh Council



Reporting Period: 12-10 - Rev 0 - 05/01/2013

Page 26 of 26

Infraco Cost Report Section 8 - Period Movement

Ref No.	Description	Approved Off	Approved On	In Progress Off	In Progress On	Total
	Change to Anticipated Final Project Cost	5,591	0	-50,127	-596,940	-641,476

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	2,691	0	0	19,579	-188	19,391	2,503	14.8%	16,558	330
McNicholas	1,812	13,310	15,122	1,812	13,310	15,122	0	969	0	0	16,091	-188	15,903	781	5.2%	14,725	397
01 Conflicts	1,812	4,066	5,878	1,812	4,066	5,878		635			6,513		6,513	635	10.8%	6,513	-635
01A Drainage		2,543	2,543		2,543	2,543		-218			2,325		2,325	-218	-8.6%	2,325	218
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		161			2,720		2,720	161	6.3%	1,951	608
01F Public Realm Works		67	67		67	67		15			82		82	15	22.4%	82	-15
02 Legacy Works		1,411	1,411		1,411	1,411		0			1,411		1,411	0	0.0%	1,411	0
03 Standby Team		0	0		0	0		0			0		0	0		0	0
04 Management Team		1,064	1,064		1,064	1,064		367			1,431		1,431	367	34.5%	982	82
05 Design Team		1,213	1,213		1,213	1,213		18			1,231		1,231	18	1.5%	1,116	97
06 Accomodation		30	30		30	30		29			59		59	29	96.7%	26	4
Statutory Utility Companies	0	1,766	1,766	0	1,766	1,766	0	822	0	0	2,588	0	2,588	822	46.5%	1,833	-67
01 Scottish Power		126	126		126	126		35			161		161	35	27.8%	118	8
02 Scottish Gas Networks		55	55		55	55		-20			35		35	-20	-36.4%	22	33
03 Scottish Water		943	943		943	943		523			1,466		1,466	523	55.5%	850	93
04 Virgin Media		184	184		184	184		75			259		259	75	40.8%	212	-28
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%	84	-35
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%	457	-318
09 Siemens		0	0		0	0		4			4		4	4		4	-4
12 Contributions (all companies)		0	0		0	0		-163			-163		-163	-163		-102	102
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

Tramco Cost Report 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	300	0	0	63,985	-300	63,685	1,280	2.53%	72,912	-9,262
CAF		62,400	5	62,405	63,581	5	63,586	35	300	0	0	63,921	-300	63,621	1,216	2.43%	72,848	-9,262
01	Trams	55,042	0	55,042	55,042	0	55,042	0	0			55,042	0	55,042	0	0.00%	64,289	-9,247
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	300			340	-300	40	35	6700.00%	180	-175
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

Tramco Cost Report Section 5 - Credits & Contributions

TNC No.	Description	Forecast Amount	Previous Period	Change from Previous Period	Notes	Change Code
1	Tram Integration Manager	-300,000	-200,000	-100,000	Assumed contribution from Transport Scotland	10
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
Total		-300,000	-200,000	-100,000		

Appendix 4 – Change Log

TNC No.	PRAC No.	TCO No.	Location	Description	Reason for Change	On Street / Off Street	Clause 40 / Schedule 45 Provision	T&E Change Owner	Change Category (C/C/UC/IR)	Date TNC Issued	Letter Ref	Date Estimate Due	Estimate Received N/Y	Date Estimate Received	Estimate Change Value (Design)	Estimate Change Value (Construction)	Time Implications	Date Issued to CEC	Approved By CEC/T&E	Date Assessed or Approved	Agreed Cost for Approved Contract Changes	Date TCO Issued	TCO Letter Ref	TCO RETURNED N/Y/CLOSED	Comments	
640	140	145	Stu Wade - Insurance of Urmig	Agreement on Method of Recovery for Urmig Insurance	Method of Recovery for Insurance Premiums	Off Street	Clause 80	SE	UC	30/05/2012	RP CORR 8942	06/06/2012	N	15/06/2012	N/A	TBA	None	28/05/2012	CEC	28/05/2012	TCO FOR CEC APPROVAL 3.7.12	11/05/2012	RP CORR 8945	CO	CONF TRANSFER BETWEEN CEC AND B&S, CEC APPROVED TCO.	
641	142, 124	632	On Street - Cathedral Lane	Over-Reluctance and Change of Use to Train Installation of Existing Pavement at Cathedral Lane	Construction TNC	On Street	Schedule 45	RL	DC	12/09/2012	RP CORR 8940	N/A	N	SCHEDULE 46 NOW CLAUSE 80	N/A	SCHEDULE 46 NOW CLAUSE 80	TBA	12/09/2012	CEC	11/06/2012	TCO FOR CEC APPROVAL 06.11.12	07/11/2012	RP CORR 8790	Y		
641.1	142, 124	630 Rev A	On Street - Cathedral Lane	TCO 630 Rev A Progress and status of works associated with the reconstruction of the Cathedral Lane Road Station (proportion of the Building Structure)	Construction TNC	On Street	Schedule 45	RL	DC	See TNC 641	See TNC 641	N/A	N	SCHEDULE 46 NOW CLAUSE 80	N/A	SCHEDULE 46 NOW CLAUSE 80	TBA	09/12/2012	CEC	04/12/2012	TCO FOR CEC APPROVAL 04.12.12	04/12/2012	RP CORR 8802	Y		
642	174		On Street - York Place Temporary Tram Stop	Over-Approach to mid-suburban tracks and associated temporary traffic management, site signage, site materials, road and pavement reconstruction, drainage, site lighting, traffic signals to provide access for Temporary Tram Stop	Change of Scope for York Place	On Street	Schedule 45	RL	DC	14/09/2012	RP CORR 8906	N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45	N/A	SCHEDULE 45	TBA	13/09/2012	CEC	11/09/2012		N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45		
				Add - Construct temporary Tram Stop and associated site lighting, site materials, road and pavement reconstruction, drainage, road materials, temporary traffic management and traffic signals to create York Place Temporary Tram Stop in accordance with T&E Design																						
643	148	171	Off Street - Edinburgh Gateway	Edinburgh Gateway Construction	Construction TNC	Off Street	Clause 80	ML	DC	15/09/2012	RP CORR 8984	06/07/2012	N	SEE 177 REV B	SEE 177 REV B	SEE 177 REV B	TBA	16/06/2012	CEC	16/06/2012	SEE 177 REV B	13/06/2012	RP CORR 8984	Y	Change 80.15 TCO issued.	
643.1	148	170.1	Off Street - Edinburgh Gateway	Edinburgh Gateway Construction	Construction TCO	Off Street	Clause 80	ML	DC	08/06/12 TCO	08/06/12 TCO	08/06/12 TCO	N	SEE 177 REV B	SEE 177 REV B	SEE 177 REV B	TBA	25/06/2012	CEC	25/06/2012	SEE 177 REV B	25/06/2012	RP CORR 8989	Y	Change 80.15 TCO issued.	
643.2	148	170.2	Off Street - Edinburgh Gateway	Edinburgh Gateway Construction	Construction TCO	Off Street	Clause 80	ML	DC	08/06/12 TCO	08/06/12 TCO	08/06/12 TCO	Y	15/06/2012	£136,050.00	£3,388,824.40	N/A	27/08/2012	CEC	27/08/2012	£3,434,025.40	28/08/2012	RP CORR 8536	CO	Now includes Design Costs from previous TNC's	
644	99	163	On Street - On Street Gull covers	Gull covers for On Street gull covers	Construction TCO - Finish as part of Schedule 8 Exclusions	On Street	Clause 80	RL	DC	22/09/2012	RP CORR 8911	N/A - already provided	Y	23/09/2012	N/A	£25,451.00	N/A	25/09/2012	CEC	25/09/2012	£25,451.00	27/09/2012	RP CORR 8911	CO	APPROPRIATE TO BE IN PLACE, ANTICIPATE NO ISSUES, ALTHOUGH WILL NEED TO BE REVISED DUE TO PROBLEMS ON CLASH WITH WEST INDIAN ROAD	
645	165, 161, 162, 163, 165, 195, 202	N/A	On Street - Princess St	Outstanding Works	Client Instruction to meet 2014 Access deadline	On Street	Schedule 45	RL	CR	06/06/2012	RP CORR 8964	N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45	TBA	11/06/2012	CEC	11/06/2012		N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45	URGENT ISSUE TNC, EMAIL ISSUED 14/12 UNDER COVER LETTER 6/06/2012.	
646	149	N/A	On Street - Princess St	General Fixation For Street Lighting - Construction	Design Change	On Street	Schedule 45	RL	DC	12/09/2012	RP CORR 8983	N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45	TBA	11/06/2012	CEC	11/06/2012		N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45		
647	156	177	On Street	Design work for V&L on Glasgow Reconstruction & Area Realignments	Design Change	On Street	Clause 80	RL	DC	12/09/2012	RP CORR 8976	06/07/2012	Y	SEE 647 REV B	SEE 647 REV B	N/A	TBA	11/06/2012	CEC	11/06/2012	INCLUDED 177 REV D	27/06/2012	RP CORR 8978	Y		
647.1	150	177.1	On Street	Design work for V&L on Glasgow Reconstruction & Area Realignments Rev A - Specific requirements for St Andrew Square North Cycle Way to north of West Register Street	Design Change	On Street	Clause 80	RL	DC	20/07/2012	RP CORR 8978	03/08/2012	Y	SEE 647 REV B	SEE 647 REV B	N/A	TBA	06/07/2012	CEC	26/07/2012	INCLUDED 177 REV D	26/07/2012	RP CORR 8918	Y		
647.2	150	177.2	On Street	REV B Design work for V&L on Glasgow Reconstruction & Area Realignments Rev A - Specific requirements for St Andrew Square North Cycle Way to north of West Register Street revised to include the Utility Trial of various cross sections	Design Change	On Street	Clause 80	RL	DC	06/08/2012	RP CORR 8988	30/08/2012	Y	28/08/2012	See Issues for TCO 177.3	N/A	TBA	30/07/2012	CEC	30/07/2012	INCLUDED 177 REV D	06/08/2012	RP CORR 8488	Y		
647.3	150	177.3	On Street	Review of Road Design - west side of South St Andrew Street	Design Change	On Street	Clause 80	RL	DC	14/09/2012	RP CORR 8908	07/09/2012	Y	see TCO 177 Rev D	see TCO 177 Rev D	N/A	TBA	06/08/2012	CEC	06/08/2012	INCLUDED 177 REV D	14/08/2012	RP CORR 8908	Y		
647.4	150	177.4	On Street	Review of Road Design - west side of South St Andrew Street - TCO to agree estimate later to date	Design Change	On Street	Clause 80	RL	DC	14/09/2012	RP CORR 8908	07/09/2012	Y	24/09/2012	£25,886.70	N/A	TBA	06/08/2012	CEC	06/08/2012	£25,886.70	11/09/2012	RP CORR 8908	CO		
647.5	150	177.5	On Street	Further Development of Design for West side of St Andrew Square	Design Change	On Street	Clause 80	RL	DC	14/11/2012	RP CORR 8914	30/11/2012	Y	SEE TCO 177 Rev F	SEE TCO 177 Rev F	N/A	TBA	04/11/2012	CEC	11/11/2012		14/11/2012	RP CORR 8762	Y		
647.6	150	177.6	On Street	Further Development of Design for West side of St Andrew Square TCO to confirm agreement of estimate	Design Change	On Street	Clause 80	RL	DC	14/11/2012	RP CORR 8914	30/11/2012	Y	04/12/2012	£27,677.40	N/A	TBA	20/01/2013	CEC	20/01/2013		08/01/2013	RP CORR 8801	N		
648	121	178	On Street - Princess St	General Fixation For Street Lighting - Design	Design Change	On Street	Clause 80	RL	DC	12/09/2012	RP CORR 8983	06/07/2012	N			N/A	TBA	11/06/2012	CEC	11/06/2012		28/06/2012	RP CORR 8938	Y		
649				Blank TNC, number not to be used in future																						
650	152		On Street - Princess St Bridge	Construction	Client Instruction to meet 2014 Access deadline	On Street	Schedule 45	RL	CR	18/06/2012	RP CORR 8964	N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45	TBA	18/06/2012	CEC	18/06/2012		N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45		
651	153		Off Street - Transcona	Transcona Shelter Installation and Fix-out elements	Reduce Risk of Damage	Off Street	Clause 80	SM	CR	22/06/2012	RP CORR 8988	12/07/2012	N		N/A	TBA	18/06/2012	CEC	18/06/2012					SEE TCO 645		
651.1	153	625	On and Off Street - Transcona	Transcona Shelter Installation and Fix-out elements - Progress of elements	Reduce Risk of Damage	On & Off Street	Clause 80	SM	CR						N/A	TBA	22/06/2012	CEC	22/06/2012		11/20/2012	RP CORR 8750	Y			
652	127	163	Off Street - Depot	Maintenance of The Depot Workshop Equipment	Depot Maintenance Services do not form part of the Infrastructure Maintenance Services	Off Street	Clause 80	CL	CR	20/09/2012	RP CORR 8908	N/A	Y	N/A	N/A - Maintenance Cost	N/A - Maintenance Cost	None	25/09/2012	CEC	25/09/2012	£98,633.41	26/09/2012	RP CORR 8908	CO		
653	156	163	On Street - York Place	Provide TCO Drawings in DWG CAD format	Funding Requirements	On Street	Clause 80	RL	DC	22/09/2012	RP CORR 8906	10/07/2012	N	06/08/2012	£1,933.56	N/A	TBA	18/06/2012	CEC	18/06/2012		22/06/2012	RP CORR 8906	Y	TNC & TCO withdrawn, to bring a requirement.	
654			On Street - Princess St	Develop enhanced working	Avoidance potential Maintenance Issues	On Street	Schedule 45	RL	DC																	
655	184	632	Off Street - Murrayfield Train Stop	Additional CCTV & PA coverage - Installation Cost Only	Following installation 3 No. TNC's received from contractor platform to the ground floor to reach 1st and other CCTV to be placed to cover PA's	Off Street	Clause 80	CL	DC	20/01/2013	RP CORR 8939	04/08/2012	Y	12/09/2012	N/A	£18,124.00	TBA	04/07/2012	CEC	04/07/2012		04/11/2012	RP CORR 8939	N	GRANT TCO with B&S for comment awaiting with CCTV and PA's Assessed	
656	154		On Street - Transcona	Transcona Shelter Installation and Fix-out elements - REFER TO TNC 651	Reduce Risk of Damage	On Street	Clause 80	RL	CR	22/06/2012	RP CORR 8988	02/07/2012	N	SEE TNC 651	N/A	SEE TNC 651	SEE TNC 651	25/06/2012	CEC	25/06/2012	SEE TNC 651	24/06/2012	RP CORR 8908	N	REFER TO TNC 651, DEFERRING FOR DRY AND ON STREET TRAM STOP NOW UNDER TNC 651.	
657	155	162	On Street - Princess St	North Water As Built Drawings	Client Instruction to meet 2014 Access deadline	On Street	Clause 80	RL	CR	22.02.12	RP CORR 8900	12/01/2012	Y	SEE TCO 162 Rev A	SEE TCO 162 Rev A	N/A	TBA	25/06/2012	CEC	25/06/2012	SEE TCO 162 Rev A	22/06/2012	RP CORR 8900	CO		
657.1	155	162.1	On Street - Princess St	Scottish Water As Built Drawings - TCO 162 Rev A, raised to agree exchange supported under TNC	Client Instruction to meet 2014 Access deadline	On Street	Clause 80	RL	CR	22.02.12	RP CORR 8900	12/01/2012	Y	24/08/2012	£3,271.30	N/A	TBA	04/10/2012	CEC	04/10/2012	£3,271.30	11/09/2012	RP CORR 8900	CO		
658	180		On Street - Strathclyde Place	Strathclyde Place Way - Device	Transfer Works to others	On Street	Schedule 45	RL	UC	15/09/2012	RP CORR 8930	N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45	TBA	13/08/2012	CEC	13/08/2012		N/A - Schedule 45	N/A - Schedule 45	N/A		

TRC ID#	PRAC No.	ICD No.	Location	Description	Reason for Change	On Street / Off Street	Class 60 / Schedule 45 Intersection	T&E Change Owner	Change Category (C/U/C/CR)	Date TRC Issued	Letter Ref	Date Estimate Due	Estimate Returned N/Y	Date Estimate Received	Estimate Change Value (Design)	Estimate Change Value (Construction)	Time Implications	Date Issued to CEC	Approved By CEC/ETB	Date Approved or Rejected	Agreed Cost for Approved Contract Change	Date ICD Issued	ICD Letter Ref	ICD RETURNED N/Y/CLOSED COST	Comments		
605	175		On Street - Princeton	Road Signage - Junction Major Plaza/Minerva St	Road Closure Ahead	On Street	Schedule 45	RL	CR	10/23/2022	RF CORR 8407	N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45	None	10/05/2022	CEC	10/05/2022	N/A - Schedule 45	N/A - Schedule 45	N/A				
660	176		On Street - Princeton St	Princeton St - Traffic Management	Traffic Management Update	On Street	Schedule 45	RL	CR	10/12/2022	RF CORR 8414	N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45	03/07/2023	CEC	03/07/2023		N/A - Schedule 45	N/A - Schedule 45	N/A			
660.1	176		On Street - Princeton St	Princeton St - Traffic Management. Rev A maintenance of temporary CAT posts at Princeton St/Minerva	Maintenance Requirements for Temporary CAT posts.	On Street	Schedule 45	RL	CR	14/06/2022	RF CORR 8511	N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45	06/08/2022	CEC	06/08/2022		N/A - Schedule 45	N/A - Schedule 45	N/A			
660.2	176		On Street - Princeton St	Princeton St - Traffic Management. Rev B Removal of Princes to Warning Signal Box Cylinders	Maintenance Requirements for Temporary CAT posts.	On Street	Schedule 45	RL	CR	02/22/2023	RF CORR 8637	N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45	01/20/2023	CEC	01/20/2023		N/A - Schedule 45	N/A - Schedule 45	N/A			
662			Off Street - Signal Roundabout Signage	Work off the Road Deed out of signage associated with the Signal Roundabout AS/Temporary Road Interchange		Off Street	Class 60	SM										03/07/2023							ON HOLD, NEED FURTHER INFORMATION ON REASON		
662	168	183	Off Street - Section 2A	Leifield Avenue - Topograph Survey	Carry out stakes on tracks.	Off Street	Class 60	SM	CR	11/09/2021	RF CORR 8410		03/08/2022	Y	06/30/2022	SEE ICD 140 Rev A	N/A	18A	06/07/2022	CEC	06/07/2022	SEE ICD 140 Rev A	11/07/2022	RF CORR 8410	CO	ICD ISSUED WITH AGREED VALUE, ALSO COWS TRC 018	
662	168	180 Rev A	Off Street - Section 2A	Leifield Avenue - Topograph Survey	Carry out stakes on tracks.	Off Street	Class 60	SM	CR	11/09/2021	RF CORR 8410		03/08/2022	Y	See TRC 662	\$2,186.83	N/A	18A	03/21/2022	CEC	10/12/2022	\$2,186.83	11/12/2022	RF CORR 8610	CO	ICD ISSUED WITH AGREED VALUE, ALSO COWS TRC 018	
668	121	183	Off Street - Depot	Purchase of New Fencing surrounding Mini Road to East of Depot	Prevent access to Mini Road track during Train Working and Commissioning.	Off Street	Class 60	SM	UC	10/07/2021	RF CORR 8054	N/A		Y	11.5.2022	N/A	\$8,728.88	None	03/07/2022	CEC	03/07/2022	\$8,728.88	16/07/2022	RF CORR 8054	Y		
664	109	181	Off Street - Signal Access Road	Additional Area of High Friction Surfacing	Construction Works following Road Safety Audit	Off Street	Class 60	CL	UC	06/06/2022	RF CORR 8563		03/20/2022	Y		SEE ICD 188 Rev A		03/08/2022	CEC	03/08/2022	SEE ICD 188 Rev A	06/08/2022	RF CORR 8562	N			
664.1	109	181 Rev A	Off Street - Signal Access Road	Additional Area of High Friction Surfacing. ICD 188 Rev A Canceled to Agree Change	Construction Works following Road Safety Audit	Off Street	Class 60	CL	UC	see TRC 664	see TRC 664	see TRC 664	see TRC 664	see TRC 664	see TRC 664	N/A	\$1,885.34		12/05/2022	CEC	12/05/2022	\$1,885.34	06/11/2022	RF CORR 8756	CO		
660	184		On Street - Princeton St	Removal of Princeton Street "Jug"	Additional work required for decommissioning equipment required to facilitate the sign.	On Street	Schedule 45	RL	UC	14/08/2022	RF CORR 8504	N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45	N/A	13/08/2022	CEC	13/08/2022		N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45			
665.1	184		On Street - Princeton St	Removal of Princeton Street "Jug" - Rev B Advisory provision signage for the location of the Point should be installed to reflect that the signal is controlled from Queen St. will be a Newbyburn St Drive Signal at Princeton St.	Additional work required for decommissioning equipment required to facilitate the sign.	On Street	Schedule 45	RL	UC	11/08/2022	RF CORR 8538	N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45	N/A	30/08/2022	CEC	03/09/2022		N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45			
665.2	184		On Street - Princeton St	Removal of Princeton Street "Jug" - Rev B Further work required signage for the sign.	Additional work required for decommissioning equipment required to facilitate the sign.	On Street	Schedule 45	RL	UC	10/06/2022	RF CORR 8636	N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45	N/A	30/08/2022	CEC	13/08/2022		N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45			
666	179	181	Off Street - Section 5A	Provide a Pedestrian Gateway to the vehicle access gate at the Signal Depot	Request to Provide Pedestrian Access	Off Street	Class 60	SM	UC	10/07/2021	RF CORR 8468		14/08/2022	Y	08/25/2022	N/A	\$3,806.64	18A	10/07/2021	CEC	10/07/2021		15/07/2021	RF CORR 8468	Y	RF CORR 168 (80) IS ICD	
666	179	181 Rev A	Off Street - Section 5A	Provide a Pedestrian Gateway to the vehicle access gate at the Signal Depot	Request to Provide Pedestrian Access	Off Street	Class 60	SM	UC	10/07/2021	RF CORR 8468		14/08/2022	Y	08/25/2022	N/A	\$3,806.64	18A	10/12/2022	CEC	10/12/2022		18/12/2022	RF CORR 8892	N		
667	135	184	Off Street - Side Walk	Call Off Service to respond to Network Rail Technical Queries and Interface Issues on the ETN	Set up call off service to deal with ongoing Network Rail Technical Queries and Interface Issues	Off Street	Class 60	SL	UC	11/07/2021	RF CORR 8446	TIME CHANGE TRC	Y	03/09/2022	\$8,436.48	N/A	18A	06/07/2021	CEC	06/07/2021		11/07/2021	RF CORR 8446	Y	TRC/ICD for Call Off Service to deal with Network Rail Queries, some items that need to be allocated, estimate should be reduced to £ 6k remainder re-allocated to TRC 615.		
667.1	135	184.1	Off Street - Side Walk	Call Off Service to respond to Network Rail Technical Queries and Interface Issues on the ETN. Rev A - Update proposed value to £ 15k	Set up call off service to deal with ongoing Network Rail Technical Queries and Interface Issues	Off Street	Class 60	SL	UC	06/06/2022	RF CORR 8563	TIME CHANGE TRC	N		N/A	18A	03/08/2022	CEC	13/08/2022		06/06/2022	RF CORR 8563	Y	Not to exceed value increased to £ 15k.			
667.2	135	184.2	Off Street - Side Walk	Call Off Service to respond to Network Rail Technical Queries and Interface Issues on the ETN. Rev B - Additional scope items to move traffic light.	Set up call off service to deal with ongoing Network Rail Technical Queries and Interface Issues	Off Street	Class 60	SL	UC			TIME CHANGE TRC	Y	06/12/2022	\$8,083.97	N/A	18A	12/08/2022	CEC	12/08/2022					Y		
668	171	185	On Street - Foot Path	Demolishing of bridge works for footpaths to Crossmoor	Programme Mitigation and Cost Engineering proposal	On Street	Class 60	RL	CR	11/07/2021	RF CORR 8447	N/A - AGREED	Y	N/A - AGREED	N/A	\$1,011,133.80	18A	10/07/2021	CEC	10/07/2021		\$1,011,133.80	11/07/2021	RF CORR 8447	CO	ORIGINAL TRC/ICD FOR SIGN PLACE, CEC APPROVED TO ISSUE	
668	138	622	Off Street - Section B	SOA Remedial Works - scaffold at Newington Lane	Rebuild following SOA remedial work	Off Street	Class 60	SL	UC	13/07/2021	RF CORR 8418		13/08/2022	Y	13/20/2022	N/A	\$3,064.85	18A	10/07/2021	CEC	10/07/2021		10/09/21	RF CORR 8617	N		
670	177	182	On Street - Princeton St Road Safety Audit	SOA Response to RSA for Princeton St	Request to remove CEC to complete Road Safety Audit	On Street	Class 60	RL	CR	06/08/2021	RF CORR 8448		30/08/2022	Y	SEE ICD 182 Rev A	SEE ICD 182 Rev A	N/A	18A	13/07/2021	CEC	13/07/2021		06/08/2021	RF CORR 8448	Y	9/10/21 AS CANCEL 80 IS ICD	
670.1	177	182.1	On Street - Princeton St Road Safety Audit	SOA Response to RSA for Princeton St. ICD 182 Rev A or agree estimate and/or update to include TRC	Request to remove CEC to complete Road Safety Audit	On Street	Class 60	RL	CR	06/08/2021	RF CORR 8448		30/08/2022	Y	06/08/2022	\$1,630.71	N/A	18A	08/10/2022	CEC	08/10/2022		\$1,630.71	11/10/2022	RF CORR 8662	CO	
675			Off Street - Scotland	Scottish Rail Car Park Safety Fence	Investment on and for road access to car park	Off Street	Class 60	SM	UC	11/07/2021								13/07/2022								TRC AND ICD IN DRAFT CURRENTLY UNDER DISCUSSION	
672	207	608	On Street - Drainage Design	Review and revise Sign UL0021W-BE-DRE 00056, 17, 18, 21, 23 and 24 to show the layout required to avoid vehicle	Sign layout to be included within the area showing the current proposed design	On Street	Class 60	RL	UC	06/06/2022	RF CORR 8537		02/10/2022	N		N/A	18A	13/08/2022	CEC	13/08/2022		ICD for CEC Approval on 10.11.22	06/08/2022	RF CORR 8537	Y		
672.1	207	608.1	On Street - Drainage Design	Review and revise Sign UL0021W-BE-DRE 00056, 17, 18, 21, 23 and 24 to show the layout required to avoid vehicle. Rev A ICD with a reduced value of £ 15k.	Sign layout to be included within the area showing the current proposed design	On Street	Class 60	RL	UC	See TRC 672 + ICD 668	See TRC 672 + ICD 668	See TRC 672 + ICD 668	N		N/A	18A		ICD for CEC Approval on 8.10.22	11/10/2022			11/10/2022	RF CORR 8075	Y			
672.2	207	608.2	On Street - Drainage Design	Review and revise Sign UL0021W-BE-DRE 00056, 17, 18, 21, 23 and 24 to show the layout required to avoid vehicle. Rev B ICD with a reduced value of £ 15k, to take to Phase 2	Sign layout to be included within the area showing the current proposed design	On Street	Class 60	RL	UC	See TRC 672 + ICD 668	See TRC 672 + ICD 668	See TRC 672 + ICD 668	N		N/A	18A	12/11/2022	CEC	11/12/2022			14/12/2022	RF CORR 1768				
671	76	181	Side Walk	Cancel order for GLE poles required for section Secondary Phase 2a	Track no longer open requires Work Place	Off Street	Class 60	SE	CR	13/08/2021	RF CORR 8303	N/A - Estimate already cancelled	N/A	25.7.2022	N/A	\$41,789.50	None	13/07/2021	CEC	13/07/2021		\$41,789.50	13/08/2021	RF CORR 8302	CO		
674	168	180 Rev A	Off Street	Topog survey at Leifield Avenue - DEMON	Provide CAD and self drawings	Off Street	Class 60	SL	UC	06/08/2021	RF CORR 8490		30/08/2022	Y	08/20/2022	SEE TRC 662	N/A	18A	30/07/2022	CEC	10/07/2022		SEE TRC 662	SEE TRC 662	SEE TRC 662	CO	ICD ISSUED WITH AGREED VALUE, ALSO COWS TRC 662
675	182		Side of Depot	Remove the concrete around the water meter at the foot of depot	Organise Scottish Water removal and sign off the meter	Off Street	Class 60	SL	UC	14/08/2022	RF CORR 8533		30/08/2022	Y	12/12/2022	N/A	\$11,507.33		06/08/2022	CEC	06/08/2022				N		
676	184		On Street - Foot Path	Provide Drawing to accommodate works at Lord Botsford	Site cleared internal improvement works to Lord Botsford	On Street	Class 60	RL	CR	13/08/2021	RF CORR 8337		14/08/2022			N/A		06/08/2022	CEC	06/08/2022							
677	183		Issues on Larnburne Crescent	Phase 2 works of New Demons (re)placed on Larnburne Crescent	Advisory 20 mph speed restriction	On Street	Schedule 45	RL	CR	13/08/2021	RF CORR 8338	N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45	N/A	06/08/2022	CEC	06/08/2022		N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45			
678	182		Foot Path BM	Temporary Traffic Management (ATM) of 20mph Bus Station Access Gate	Advisory impact on Tram project of setting access to the Bus Station gate	On Street	Schedule 45	RL	CR	14/08/2021	RF CORR 8305	N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45	N/A	13/08/2022	CEC	13/08/2022		N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45			

TRC No.	PRAC No.	ICO No.	Location	Description	Reason for Change	On Street / Off Street	Class 60 / Schedule 45 Intersection	T&E Change Owner	Change Category (C/L/C/C/W)	Date TRC Issued	Letter Ref	Date Estimate Due	Estimate Received N/Y	Date Estimate Received	Estimate Change Value (Design)	Estimate Change Value (Construction)	Time Implications	Date Issued to CEC	Approved by CEC/781	Date Approved or Rejected	Agreed Cost for Approved Contract Change	Date ICO Issued	ICO Letter Ref	ICO RETURNED N/Y/CLOSED CLOS	Comments		
713	228		GR Street	Removal Construction work outside LOO	Construction work outside LOO	On Street	Class 60	SM	CR	15/09/2012	RP CORR 8203	15/11/2012	Y	05/11/2012	N/A	1127,346.38	BA	15/09/2012	CEC	15/09/2012							
714	232		GR Street	Edinburgh Park Central - Lights	Additional street to be installed between the new control panel at the R/S and the existing SWPN	On Street	Class 60	SM	CR	05/11/2012	RP CORR 8208	26/11/2012	N				15/10/2012	CEC	15/10/2012								
715			GR Street	Edinburgh Park Walked North abutment	Change in existing fence	On Street	Class 60	SM	QC						N/A			22/09/2012	CEC	22/09/2012					DRAFT TRC issued to B&S 22/09/2012		
716	211	TRC Schedule 45	On Street	On Street Building Finings	On Street Structure Erection	On Street	Schedule 45	RL	QC	10/02/2012	RP CORR 8207	N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45	BA	22/09/2012	CEC	22/09/2012					N/A - Schedule 45 N/A - Schedule 45 N/A - Schedule 45		
717	208	022	1st View	Cost Engineering - In-scope of the Programme	Cost Engineering	1st View	Class 60	C	CR	N/A - T&E for reference only	N/A	N/A	N/A	N/A	N/A	15,478,823.45	Y	N/A	N/A	N/A	15,478,823.45	CEC Letter	CEC Letter	Y	Refer to CEC letter to 781 ref: reference 05/10/2012 885CE11512, dated 18th October 2012.		
718	238		High Station Surfacing De Scope Waverley Bridge	High Station Waverley Bridge to become under separate Contract	Cost Engineering	On Street	Schedule 45	RL	CR	07/12/2012	RP CORR 8206	N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45	BA	06/11/2012	CEC	06/11/2012					Approved to issue to avoid delay to works.		
719	172	027	1st View	Para Collector Equipment - Confirmation of requirements	Installation of Para Collector Equipment	1st View	Class 60	WD	QC	20/11/2012	RP CORR 8192	14/12/2012	N				12/11/2012	CEC	12/11/2012						20/11/2012 RP CORR 8192		
720			1st View	Coordination with Signal Design	Coordination with Signal Design	On Street	Class 60	SM	QC									12/11/2012	CEC						TNC under review.		
721	234	028	Street to Airport	Installation of section sections on the M11	Check the starting and other operational requirements of both CAP and following Trams (ST) can be integrated with B&S Test & Commissioning requirements.	On Street	Class 60	CL	UC	18/11/2012	RP CORR 8190	14/12/2012	N				BA	18/11/2012	CEC	18/11/2012	80 IS ICO issued	18/11/2012	RP CORR 8190	Y	80 IS ICO		
721	234	028.1	Street to Airport	Installation of section sections on the M11	Check the starting and other operational requirements of both CAP and following Trams (ST) can be integrated with B&S Test & Commissioning requirements.	On Street	Class 60	CL	UC	18/11/2012	RP CORR 8190	14/12/2012	Y				BA	09/01/2013	CEC						ICD by CEC 09/01/2013		
722			On Street	De-scope Bus Shelters, Bus Trainers and associated power supplies	De-scope as set out by others	On Street	Schedule 45	RL	UC	14/12/2012	RP CORR 8208	N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45	BA	17/12/2012	CEC	17/12/2012					N/A - Schedule 45 N/A - Schedule 45 N/A - Schedule 45		
723	236		On Street	Traffic Management - Priority 3c Road Safety Audit for release of 3c Priority Signal	Road Safety Audit to enable Priority 3c to be released	On Street	Schedule 45	RL	CR	18/11/2012	RP CORR 8206	N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45	BA	18/11/2012	CEC	18/11/2012					N/A - Schedule 45 N/A - Schedule 45 N/A - Schedule 45		
724	235	028	GR Street	Mutualised SW plan - provide design calculations	SW have rejected the plan which currently sits under the emergency	On Street	Class 60	SM	UC	13/11/2012	RP CORR 8204	17/12/2012	N				BA	18/11/2012							22/11/2012 RP CORR 8204	Y	
724	234	028.4	GR Street	Mutualised SW plan - provide design calculations - TNC with own BS 11.2	SW have rejected the plan which currently sits under the emergency	On Street	Class 60	SM	UC	04/11/2012	RP CORR 8204	04/11/2012	N												04/11/2012 RP CORR 8204	Y	TNC with own agreement made that design is emergency
725	631		On Street	Provision of O&S drawings - Drainage	As B&S for Parkway to South Water	On Street	Class 60	RL	UC	27/11/2012	RP CORR 8208	20/12/2012	N				N/A									26/12/2012 RP CORR 8208	Y
726	243		GR Street	Mutualised Drain	Removal of Drain for common car parking	On Street	Class 60	SM	CR	07/12/2012	RP CORR 8206		N					09/12/2012	CEC	09/12/2012							
727			GR Street	Re-scope bus stop	Re-scope of bus stop with associated bus stop furniture	On Street	Class 60	SM	CR				N														04/11/2012 04/11/2012
728			On Street	Prevention Management Closure	Prevention Management Closure	On Street	Schedule 45	RL	CR	13/11/2012	RP CORR 8214	N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45	BA	20/11/2012	CEC	13/11/2012						N/A - Schedule 45 N/A - Schedule 45 N/A - Schedule 45	
729			On Street	Priority 3c/4c M Andrew St - Traffic Light Alterations	Traffic Light Control with Pedestrian Crossing	On Street	Schedule 45	RL	CR	13/11/2012	RP CORR 8215	18/09/2012	N					10/12/2012	CEC	10/12/2012							
730			On Street	De-scope Tram Queue Crossing at Parliament	Works over the last 12 months with High level of complexity	On Street	Schedule 45	RL	CR	11/02/2012	RP CORR 8212	N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45	N/A - Schedule 45	BA	10/12/2012	CEC	10/12/2012						N/A - Schedule 45 N/A - Schedule 45 N/A - Schedule 45	
731	633		GR Street	Manufacturing Network - CO2 charging or slow delivery as to there is no position on the street	Work over the last 12 months with High level of complexity	On Street	Class 60	SM	UC				N					10/12/2012	CEC	10/12/2012						80 IS ICO approved by CEC BUT no origin required to NOT issue	
732			GR Street	Roadwork Street Road build up - de-scope	Work over the last 12 months with High level of complexity	On Street	Class 60	SM	CR				N					13/12/2012	CEC	13/12/2012						80 IS ICO approved by CEC BUT no origin required to NOT issue	
733			On Street	Parliament Park/West Main Road Station area P - Traffic Parking	Define Edge of Car-parking	On Street	Schedule 45	RL	CR	06/02/2013	RP CORR 8218	N/A - Schedule 45	N					09/01/2013	CEC	09/01/2013						N/A - Schedule 45 N/A - Schedule 45 N/A - Schedule 45	
734			On Street	West Main Road Station/Parliament Park Traffic Signals	Signal Box 27th Redesign with location of signal cabinet	On Street	Schedule 45	RL	CR	06/02/2013	RP CORR 8213	N/A - Schedule 45	N					09/01/2013	CEC	09/01/2013						N/A - Schedule 45 N/A - Schedule 45 N/A - Schedule 45	
735			On Street	Section 53, Wall at Bonbrake Corner/Row St - Materials	As there is no evidence of approval at each location	On Street	Schedule 45	RL	CR				N					14/01/2013									
736			On Street	Road Markings for Bus Stops and Loading Bays on Main Street Park	As there is no evidence of approval at each location	On Street	Schedule 45	RL	CR				N														
737	635		GR Street	Lower 83 Chambers at South Gate to 1st High with signal and level	Transfer of work to B&S Test & Commissioning	On Street	Class 60	SM	CR				N													14/01/2013	
738			On Street	De-scope the Category Items	De-scope work	On Street	Schedule 45	RL	CR				N														14/01/2013

Appendix 5 – Risk Register

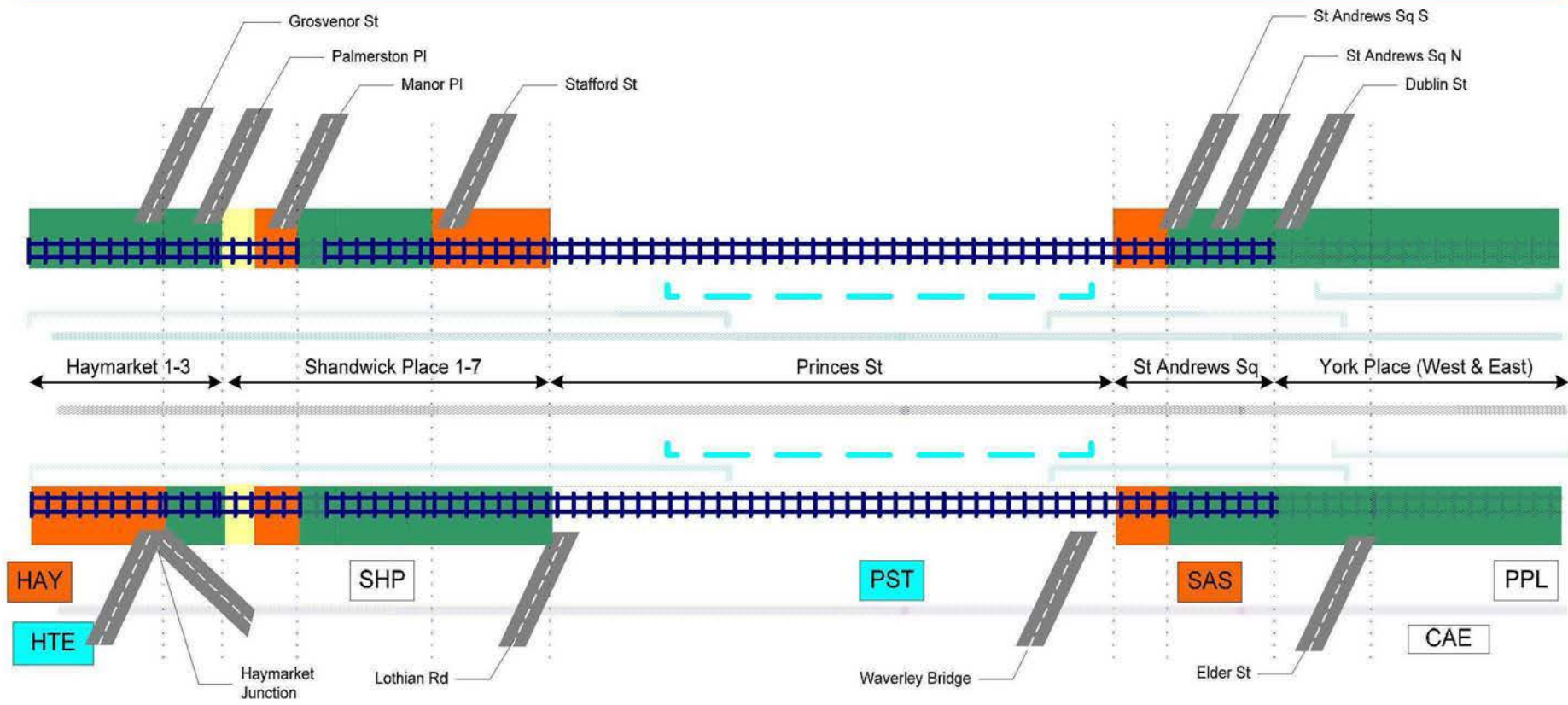
ID	Title	Risk Description	What? Impact	Risk Category	Risk Owner	Status	RISK ANALYSIS - Post Mitigation										RISK RESPONSE PLANNING									
							Probability		Risk Impact		Priority		Risk Level		Mitigation Strategy		Risk Level		Mitigation Strategy		Risk Level		Mitigation Strategy			
							Prob	Impact	Prob	Impact	Prob	Impact	Prob	Impact	Prob	Impact	Prob	Impact	Prob	Impact	Prob	Impact	Prob	Impact		
64700	Measurement or miscommunication and poor communication between client & contractor	Poor internal communication between project teams and client	Loss of confidence in delivery of the project, undue program control escalation	C&C	Scottish Rail	Active	Client	4	1	1	1	6	26	High	Regular communication & clearly define early within contract	C&C	2	1	1	1	4	6	Medium			
64707	Website and program control, email and dissemination	Major and sustained damage against the project with potential for public safety	Website, escalation, emergency	C&C	Scottish Rail	Active	Client	3	1	4	1	5	13	High	Project team members take well-considered view of information with other stakeholders Project team to ensure co-ordination maintained	C&C	3	1	3	1	4	8	Medium			
64713	Delay to technical agreed formal variation instructions	Reschedule without risk to all elements	Delay to critical work and Programme	TR1	Julian Woodhouse	Active	Non Construction	4	2	1	1	2	8	High	Weekly PMG meetings	Partial resolutions required by Variations identified to date Partial required to facilitate slow change units to programme completion		3	3	1	1	3	4	Medium		
65116	Torrsen, Vandalsen, Troopae, Anon	Security incident	Delay to work due to time lost or damage, not as a result of a security incident Environmental impact and sabotage safety	BBS/CEC/TAT	Julian Woodhouse	Active	Don't action	3	5	2	0	2	9	High	(1) Appropriate site security to be in place based on security hazard assessment (2) In-house materials or works to be protected (3) Effective cut-out and emergency response plan to be in place and rehearsed	CEC/TAT to review overall likelihood of Torrsen, Vandalsen, Troopae and Anon risks to overall Project	On-going	3	1	1	0	2	6	Medium		
65211	Efficiency in site labour force or a spillage of off works progress of delivery	Industrial Action	Loss of site due to efficiency of delivery activity	BBS	Julian Woodhouse	Active	Don't action	1	2	2	0	0	2	Low	(1) Effective workforce controls, restrictions, follow. Using leading safety practice working process (2) Use of materials & b-contractors and know a.s. options (3) Adeq. site site stocks of vulnerable materials and identify alternative suppliers	TAT to manage McHale activities	On-going	3	1	2	0	0	6	Medium		
65212	Removal of CAF team to rely offering as part of settlement agreement. Infraco as not take on integration responsibility	Team (CAF) / Infraco, no Infraco integration risk. Risk that Infraco, CAF and Team meet the employers requirements but are incompatible such that system is operable	Delay for commissioning	CEC	Martin Ayles	Active	Don't action	4	4	1	1	5	29	High	Team integration manager appointed CAF Infraco manager advised to start from mid-January 2012 Infraco testing ongoing Programmed testing of control units prior to project completion Review of other Train projects commissioning issues completed Detailed risk register has been approved for the completion of dynamic testing for sections B & C and formally issued to BBS Programme integrated section B and programming Ongoing meetings with BBS to develop integration strategy and CAF will provide integration document for testing and commissioning (1) Map on programme interfaces between Infraco and CAF programme. Develop detailed integration strategy for programme integration to test points (2) CEC to confirm liabilities resulting from settlement agreement	Train integration manager appointed CAF Infraco manager advised to start from mid-January 2012 Infraco testing ongoing Programmed testing of control units prior to project completion Review of other Train projects commissioning issues completed Detailed risk register has been approved for the completion of dynamic testing for sections B & C and formally issued to BBS Programme integrated section B and programming Ongoing meetings with BBS to develop integration strategy and CAF will provide integration document for testing and commissioning (1) Map on programme interfaces between Infraco and CAF programme. Develop detailed integration strategy for programme integration to test points (2) CEC to confirm liabilities resulting from settlement agreement	On-going	3	1	2	0	0	6	Medium		
65224	Construction applied to work areas to satisfy stakeholders is not aligned with the programme in the infraco contract (Non approval of TM proposals)	Additional traffic management and enabling works are required to meet Stakeholder requirements (e.g. Glasgow, Glasgow, Glasgow, Glasgow)	Additional costs and programme impacts	CEC	Shirley Munday & Rob Leach	Active	Don't action	3	2	2	1	3	9	High	CEC to complete TM staff working closely with existing TM control process Ensure that any impact of external changes is notified to Client and Infraco for a suitable environment Early working from stakeholders regarding constraints	Rob Leach	On-going	2	3	0	1	3	6	Medium		
65276	Delayed provision of permit from Utility Companies	Delay to achieving a Utility consents & a permission requirements for work increase	Delay to complete work and Programme	CEC	Shirley Munday	Active	Don't action	4	4	4	1	4	16	High	Close working relationship with Utility companies developed with the exception of SW (1) Map on I consent requirements		2	3	5	3	6	Medium				
65284	Construction works	Site and party permits for safety property damage from works	Additional costs	CEC	Gary Eason	Active	Non Construction	3	5	1	1	1	15	High	Utility permits processed on site SW property works included in forecast Time to start site off process with utility companies		2	3	1	1	2	6	Medium			
65291	(1) Late or inaccurate design submission (2) Risk to design to meet constraints (3) Extended design approval periods	Delay in Design Approval	(1) Failure by BBS to issue complete design submissions (2) Failure by BBS to issue design submissions are completed (3) Failure by BBS to issue design submissions are completed (4) Failure by CEC/TAT to issue design submissions are completed (5) Failure by CEC/TAT to issue design submissions are completed	BBS	Martin Ayles	Active	Don't action	2	3	0	0	0	6	High	(1) and (2) Risk at design management by BBS (3) and (4) Detailed monitoring of approval process by BBS (5) BBS to issue design submissions are completed (6) BBS to issue design submissions are completed (7) BBS to issue design submissions are completed (8) BBS to issue design submissions are completed (9) BBS to issue design submissions are completed (10) BBS to issue design submissions are completed (11) BBS to issue design submissions are completed (12) BBS to issue design 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65297	Loss of chain of command / consents prior to programmed start date	Third Party Consents not obtained	Delay to complete work and Programme	CEC/TAT	Julian Woodhouse	Active	Don't action	3	4	4	3	4	12	High	(1) BBS to assist CEC/TAT on this risk	(1) CEC/TAT to ensure closure of any outstanding agreements / consents. Moved forward to better way of working established (2) CEC/TAT have assigned a dedicated resource to deal with Scottish Water issues	Rob Leach	2	3	2	3	3	8	Medium		
65297	Use to design of OLE tower locations	OLE tower conflict with existing unknown and known utilities	Infraco stop work or work further with design change to remove conflict	CEC	Shirley Munday	Active	Don't action	5	5	5	1	5	25	High	Finalisation with enabling works contractor installing pile caps or alternative design Site or Pile design completed and implemented		2	3	2	3	6	Medium				
65298	CEC provided on permit	Modification or incompatibility of free issue requirement with CAF/Infraco on permit	Delay, repair costs	CEC	Martin Ayles	Active	Don't action	3	3	3	1	3	9	High	Investigate potential for early testing of system integration	Rob Leach	On-going	2	2	3	2	6	Medium			
65308	Loss of coordination with site workers and loss of timing with Critical path	Overlapping work scheduling and heavy choice of items to deliver (e.g. concrete)	Production delays to Client and Project wide timing impact work	C&C	Scottish Rail	Active	Client	3	3	1	1	3	11	High	Julian Woodhouse to take responsibility for site working with key stakeholders Define strategy for managing communications activity, including auditing	C&C	2	2	1	1	3	6	Medium			
65310	2 No. Building Permit Agreements (BPA) have not been signed to date	OLE cannot be attached to the buildings if BPA are not signed in time	OLE supports cannot be attached to the buildings in operation	CEC	Rob Leach	Active	Don't action	2	2	3	0	0	1	6	High	(1) Alternative solutions of being OLE would have to be considered (date) (2) CEC would seek legal enforcement by the Sheriff's Court	On-going	2	3	0	0	1	6	Medium		
65314	Client failure to provide relevant consents to Infraco	Delayed Infraco construction and/or settlement of Contract team	Loss of time and cost to recovery of work to Infraco	C&C	Julian Woodhouse	Active	Non Construction	3	1	1	1	3	6	High	Ensure that all agreed variations are understood and agreed within Contract framework		3	1	1	1	3	6	Medium			
65347	Spillage from discharge to ground and/or into drainage Leakage from drainage trays	Hydrocarbon contamination of the ground, groundwater and drainage network (McHale/CEC)	Costing in additional damage, pollution, legal action, delay and/or clean-up costs	TAT	Rob Leach	Active	Don't action	2	1	5	3	3	6	High	Planning of public access to be carried out in low risk locations, using appropriate equipment Consult with OLE Storage Requirements Storage away from sensitive receptors and/or drainage systems Ensure spill kits available for minor spillage		2	1	2	4	3	6	Medium			
65377	Financial issues not controlled or impact	CAF fail to deliver on items due to financial issues and external expertise	Non delivery of items, delays and costs to work items	C&C	Julian Woodhouse	Active	Non Construction	1	5	1	1	2	3	High			1	4	1	1	3	3	Medium			
65379	Not working in not intended to give more facilities a chance and/or to be damaged during remedial works	Risk that non-tracked work may be damaged or lost or broken on land replaced	Design delay, program additional costs	BBS	Rob Leach	Active	Don't action	1	3	3	1	5	5	High	Testing ongoing Remedial works ongoing through work prior to live events		1	3	3	3	3	3	Medium			
65382	Project controls not maintained methods Lack of clarity or level of communication	Risk that project delivery team fails to communicate the existing situation to the risks within the client team	Damage to the early site works / re-iteration / escalation	TR1	Paul Robinson	Active	Non Construction	4	2	3	1	5	29	High	CEC/TAT to ensure closure of any outstanding agreements / consents. Moved forward to better way of working established (2) CEC/TAT have assigned a dedicated resource to deal with Scottish Water issues	(1) Staff clarity of their current delivery team governance and decision (2) Review of project governance / management arrangements (3) Project resolution plan (ensure a review outcome)	(1) Martin Ayles (2) Andrew Mack (3) Paul Robinson	1	2	3	3	3	5	2	Medium	
65383	Wall/floor surveys and final take out	Information given, not conditions required, additional work, escalation, till out	Additional costs, work and programme impacts	CEC	Julian Woodhouse	Active	Don't action	3	2	2	1	6	High	Supporting enabling works to identify		2	2	2	2	1	4	3	Medium			
65387	(1) Failure by designer to carry out verification inspections (2) Failure by site team to ensure verification inspections are carried out in priority and monitor results	Failure of Designer to verify works completion in accordance with design	(1) Verification not Assured & Evidence Provided as such, resulting in delay to handover to system contractor or operator (2) CEC/TAT or CIP not given a suitable level of confirmation that the works have been completed to role and standards	BBS	Julian Woodhouse	Active	Don't action	2	4	4	0	0	3	8	High	(1) Increased monitoring by Quality team to verify that proper checks are being carried out and records held - under review for improvement (2) Additional SDR extended Contractor to support Roles/roles have been deployed to the Project	On-going	2	2	2	0	0	1	4	Medium	
65391	(1) Failure by site staff to follow (TPs and report as daily progress (2) Poor performance (e.g. delay in reporting, poor workmanship)	Failure of Contractors / b-b Contractors to self-verify completion, clear out of NCRs and other contracts, delay as only	(1) Self Certification of Works not Assured & Evidence Provided as such, resulting in delay to handover to system contractor or operator (2) CEC/TAT or CIP not given a suitable level of confirmation that the works have been completed to role and standards	BBS	Julian Woodhouse	Active	Don't action	2	4	4	0	0	3	8	High	(1) Increased monitoring by Quality team to verify that proper checks are being carried out and records held in accordance with TPs - under review for improvement (2) Additional BBS Quality Team Resources have been deployed to the Project	On-going	2	2	2	0	0	2	4	Medium	

Risk ID	Risk Title	Risk Description	Risk Category	Risk Status	Risk Level	RISK ANALYSIS - The Mitigation						RISK RESPONSE PLANNING						RISK ANALYSIS - Post Mitigation							
						Probability	Consequence	Time to Occur	Frequency	Severity	Mitigation	Residual	Risk Level	Mitigation	Residual	Risk Level	Probability	Consequence	Time to Occur	Frequency	Severity	Mitigation	Residual	Risk Level	
																									Overall
ED026	On going safety utility works continue to be implemented prior to infrastructure commissioning	Additional utility works encountered across Palmerton St	CEC	Andy Scott	Planned - On Street	3	2	2	0	1	2	6	AMBER	<ul style="list-style-type: none"> Coordinate works to be implemented in a planned manner Engage contractor to negotiate and seek agreement on a revised site handover condition Engage CEC to negotiate on a diversion if restrictions in line with phasing of works Minimize impacts on TfR based on a revised program of works High level stakeholder management of utility companies 	<ul style="list-style-type: none"> 1. Andy Scott 2. Section PMs 3. Section PMs 4. Andy Scott 	2	2	2	0	1	2	4	GREEN		
ED027	QPCoM provided frequency that aligns with National Air Traffic Control (NATS). QPCoM has to provide a clear programme for Gagar flights that don't interfere with NATS	Impact on Tram commissioning due to meeting from noise avoidance	BBS/CEC/TAT	Martyn Joyce & Shirley Mustard	Active	Don't Know	3	1	2	0	1	1	6	AMBER	<ul style="list-style-type: none"> (1) Apply for new frequencies from Ofgem (2) Consider alternative options if no alternative frequencies available (3) Temporary solution to be implemented to achieve Section 8 Compliance by alternative means of communication (4) After receiving NATS have confirmed that there are no interference issues with their operations when operating with road and tram and handover coordination 	(1) Assist BBS in meeting from noise / requirement with QPCoM / NATS	<ul style="list-style-type: none"> 1. Ongoing 2. Ongoing 3. Ongoing 4. Ongoing 	2	1	2	0	1	1	4	GREEN
ED028	Tram system issues	Fail of key Tram testing during commissioning	CAF	Martyn Joyce	Active	Don't Know	3	1	2	2	2	6	AMBER	<ul style="list-style-type: none"> Tram inspector agreement signed, inspections being carried out in line with contract, all requirements and good progress to date 		<ul style="list-style-type: none"> 1. Ongoing 2. Ongoing 3. Ongoing 4. Ongoing 	2	1	2	2	4	GREEN			
ED013	Major Local UK events	Disruption due to security increases or accommodation of major local or UK events (e.g. Olympics etc)	CEC	Julian Woodroffe	Active	Don't Know	3	1	1	1	1	2	4	GREEN	<ul style="list-style-type: none"> Monitor potential events & security levels 		<ul style="list-style-type: none"> 1. Ongoing 2. Ongoing 3. Ongoing 4. Ongoing 	2	1	1	1	2	4	GREEN	
ED048	General delay to programme caused by BBS in contractor	Delay to completion of project due to BBS in contractor underperformance	BBS	Julian Woodroffe	Active	Don't Know	4	3	3	3	3	12	RED	<ul style="list-style-type: none"> (1) Close monitoring of contractor performance, create status etc (2) Ongoing BBS management of contractor performance etc 	<ul style="list-style-type: none"> 1. Ongoing 2. Ongoing 3. Ongoing 4. Ongoing 	2	1	2	0	0	1	4	GREEN		
ED052	Network that cannot passadeers, inefficient set of passadeers or other rail	Delay to completion of project due to Network that cancellation of Passadeers or BBS set, n/a or inefficient set of passadeers	BBS/CEC/TAT	Shirley Mustard	Active	Don't Know	3	2	2	2	2	6	AMBER	<ul style="list-style-type: none"> (1) BBS to manage coordination to avoid any permit passadeers (2) Alternative design - carry out methodology being investigated to avoid N1 passadeers 	<ul style="list-style-type: none"> 1. Ongoing 2. Ongoing 3. Ongoing 4. Ongoing 	2	1	2	2	1	4	GREEN			
ED011	CEC do not agree timing and contingency on line	Not timing and contingency not available on line to meet required milestones	CEC	Julian Woodroffe	Active	Don't Know	2	8	8	4	10	AMBER			<ul style="list-style-type: none"> 1. Ongoing 2. Ongoing 3. Ongoing 4. Ongoing 	1	4	4	4	4	GREEN				
ED018	Order over 21 days when to agree variation time will cost	How the contract is moved to start release cash	CEC	Julian Woodroffe	Active	Don't Know	8	8	1	0	0	6	28	RED	<ul style="list-style-type: none"> Monitor, Coordinate and report management status to avoid 	<ul style="list-style-type: none"> 1. Ongoing 2. Ongoing 3. Ongoing 4. Ongoing 	1	4	1	4	1	4	GREEN		
ED020	How to manage of different organisations	How the organisations do not integrate and stop	CEC	Paul Howarth	Active	Don't Know	3	3	4	3	3	13	RED	<ul style="list-style-type: none"> Request Master Schedule (revised) Ongoing being used OMA on the programme 		<ul style="list-style-type: none"> 1. Ongoing 2. Ongoing 3. Ongoing 4. Ongoing 	1	3	3	4	1	4	GREEN		
ED014	Network	Change of total safety by Network	CEC	Paul Howarth	Active	Client	2	2	2	2	4	8	AMBER	<ul style="list-style-type: none"> Network communication strategy already with board 	CEC	<ul style="list-style-type: none"> 1. Ongoing 2. Ongoing 3. Ongoing 4. Ongoing 	1	1	1	4	4	GREEN			
ED001	Contract Programme Narrative Assurances do not reflect actual available on site	How the project delivery team fails to deliver against the Contract Programme Narrative Assurances	CEC	Julian Woodroffe	Active	Don't Know	8	8	6	6	6	28	RED	<ul style="list-style-type: none"> Automated review conducted 	<ul style="list-style-type: none"> 1. Mitigation plan to be developed for each assurance 2. Contract Narrative to be updated 3. Master Schedule to be updated against a fact the Programme Narrative Assurances are defined 4. Ensure organisations and activities are accommodated in the Narrative programme 	<ul style="list-style-type: none"> 1. Section Leads 2. Contract Narrative 3. Paul Howarth 4. Paul Howarth 	1	3	3	3	3	3	GREEN		
ED012	UK or other jurisdiction (installation materials) (hardware & control) Site Activities held up	Equipment procurement to meet timeline requirements	BBS	Martyn Joyce	Active	Don't Know	3	3	3	3	3	9	AMBER	<ul style="list-style-type: none"> Review project progress (including delivery schedule documents) 2. Review project progress (including delivery schedule documents) 	<ul style="list-style-type: none"> 1. Ongoing 2. Ongoing 3. Ongoing 4. Ongoing 	<ul style="list-style-type: none"> 1. Ongoing 2. Ongoing 3. Ongoing 4. Ongoing 	1	3	3	3	3	3	GREEN		
ED035	Landowner access	Risk that access to land party land is delayed or denied	CEC	Shirley Mustard	Active	Don't Know	3	3	4	0	0	3	12	RED	<ul style="list-style-type: none"> Plan to review meetings with key stakeholders 		<ul style="list-style-type: none"> 1. Ongoing 2. Ongoing 3. Ongoing 4. Ongoing 	1	3	3	0	0	3	3	GREEN
ED020	Old Tram system	Delivery of old Tram tracks and infrastructure	CEC	Julian Woodroffe	Active	Client	2	3	3	3	3	6	AMBER			<ul style="list-style-type: none"> 1. Ongoing 2. Ongoing 3. Ongoing 4. Ongoing 	3	3	3	3	3	GREEN			
ED012	Old Tram system	Delivery of old Tram tracks and infrastructure	CEC	Rob Looch	Active	Don't Know	5	4	3	3	3	20	RED	<ul style="list-style-type: none"> Specialist removal of old tram structures Tracing of old Tram path 	<ul style="list-style-type: none"> Specialist removal of old tram structures Tracing of old Tram path Nicholas Stand by teams on site 	<ul style="list-style-type: none"> 1. Ongoing 2. Ongoing 3. Ongoing 4. Ongoing 	1	3	3	3	2	3	3	GREEN	
ED012	Old Tram system	Delivery of old Tram tracks and infrastructure	BBS/CEC/TAT	Martyn Joyce	Active	Don't Know	2	3	4	0	0	3	8	AMBER	<ul style="list-style-type: none"> (1) Comply with defined process to achieve progressive area, track in good time (2) Develop verification and sign-off process for work in good time (3) BBS have shared their Working Document of the Bus with CEC/TAT 	CEC/TAT to ensure that they comply with requirements to satisfy ICP and HMRV to obtain acceptance to commence Works in Service	<ul style="list-style-type: none"> 1. Ongoing 2. Ongoing 3. Ongoing 4. Ongoing 	1	3	3	0	0	3	3	GREEN
ED019	Discovery of artefacts archaeological or human remains during excavation	Archaeological or human remains	CEC/TAT	Rob Looch	Active	Don't Know	1	3	0	0	0	3	3	GREEN	<ul style="list-style-type: none"> (1) Training briefing for BBS site operators, on recognition and action plan 	<ul style="list-style-type: none"> (1) Check carrying out pre-excavation based on archaeological assessment of higher probability areas (2) CEC/TAT to make provision (budgets) for archaeological findings 	<ul style="list-style-type: none"> 1. Ongoing 2. Ongoing 3. Ongoing 4. Ongoing 	1	3	0	0	0	3	3	GREEN
ED028	Height obstacle for BBS system and its tracks to be less than 1,200mm due to crossing of utilities or other underground obstacles	Risk that system envelope of TfR system clear than 1,200 mm on street	BBS/CEC/TAT	Julian Woodroffe	Active	Don't Know	3	3	3	3	3	9	AMBER	<ul style="list-style-type: none"> (1) Create special track improvement layer with low and/or tram track layer (2) Coordinate works to be implemented in a planned manner (3) Coordinate works to be implemented in a planned manner 	<ul style="list-style-type: none"> (2) Utility to be instructed to mitigate in as much as far as reasonable possible, CEC/TAT have to seek to secure as much information, (TAT Utility contractor retaining utilities ongoing) 	<ul style="list-style-type: none"> 1. Ongoing 2. Ongoing 3. Ongoing 4. Ongoing 	1	1	3	3	3	3	GREEN		
ED029	Excavation, piling and design on contaminated land (based on contamination to receptors - land use, water)	Release of pollution from contaminated land or land not previously identified as contaminated	BBS	Shirley Mustard	Active	Don't Know	2	2	3	3	0	3	6	AMBER	<ul style="list-style-type: none"> (1) Carry out Phase 1 and Phase 2 investigation and then remediation proceeds as appropriate with this level of activity (2) Establish control procedures for contamination area, indicator (3) Ensure compliance with contamination, and reporting requirements 	<ul style="list-style-type: none"> 1. Ongoing 2. Ongoing 3. Ongoing 4. Ongoing 	<ul style="list-style-type: none"> 1. Ongoing 2. Ongoing 3. Ongoing 4. Ongoing 	1	1	3	2	0	3	3	GREEN
ED024	(1) Failure to locate apparatus prior to excavation (2) Failure to locate cables by area not known apparatus (3) Failure to protect apparatus during works or backfilling	Damage to Utility Apparatus	BBS/CEC/TAT	Shirley Mustard	Active	Don't Know	2	2	2	0	4	3	6	AMBER	<ul style="list-style-type: none"> (1) Risk at Point to Dig proceeds (2) Coordinate works to be implemented in a planned manner (3) Additional work package contribution by SP in December 2011 	<ul style="list-style-type: none"> 1. Ongoing 2. Ongoing 3. Ongoing 4. Ongoing 	<ul style="list-style-type: none"> 1. Ongoing 2. Ongoing 3. Ongoing 4. Ongoing 	2	1	1	0	2	1	2	GREEN
ED028	Water runoff from exposed surface	SE pollution of watercourse or drainage	BBS	Shirley Mustard	Active	Don't Know	2	2	3	3	0	3	6	AMBER	<ul style="list-style-type: none"> (1) Strict adherence of CAF licence conditions (2) Strict adherence of work activities, including assessment of pollution risk in WWP development, e.g. place of exposed earth shall be temporarily stored away from the vicinity of watercourse (3) Installation of silt fencing as a control measure where appropriate 	<ul style="list-style-type: none"> 1. Ongoing 2. Ongoing 3. Ongoing 4. Ongoing 	<ul style="list-style-type: none"> 1. Ongoing 2. Ongoing 3. Ongoing 4. Ongoing 	2	1	1	2	0	1	2	GREEN
ED022	Groundwater major impacts in Edinburgh	Water major impact conflicts with some existing existing WPs	CEC	Shirley Mustard	Active	Don't Know	3	2	2	2	2	6	AMBER	<ul style="list-style-type: none"> CEC tracking external projects 		<ul style="list-style-type: none"> 1. Ongoing 2. Ongoing 3. Ongoing 4. Ongoing 	1	2	2	2	2	2	GREEN		

Risk ID	Cause	Risk Description	Risk Cause Programme	Risk Owner	Status	Level	RISK ANALYSIS - Pre Mitigation						Risk Level	Mitigation Action / Control / Risk Measures	Action Owner	Due Date	RISK ANALYSIS - Post Mitigation					Risk Level						
							Probability	Consequence	Exposure	Severity	Frequency	Impact					Detectability	Avoidability	Reversibility	Residual	Probability		Consequence	Exposure	Severity	Frequency	Impact	
																												1
R002	(1) Failure to provide works correctly (2) Failure to install or maintain lighting, lighting signs, TM, temporary roads and paths (3) Failure to inform the public of works	Death, injury or damage to third parties (people or property) during construction		SSS/CEC/TAT	John Woodforay	Active	Domestic	2	5	4	1	4	3	3	AMH-F	(1) Control risks at Construction Health & Safety management system (2) Safety rules at Work Package Plan stage and mitigate in method planning and appropriate control measures (3) Ensure works are carried out in compliance with WPP and that WPP is provided in advance of implementation, if works methodology change is necessary	TAT Implementing appropriate H&S Management System to monitor performance (Notified - see risk E0116)	John Woodforay	2024-01-15	1	2	2	1	3	2	2	AMH-F	
E0127	VF available to inform ahead of arrival to connect to other On-Street sections which also require resources	SSS/CEC/TAT to fully assess risk in VF during the initial phase of works		SSS	Andy Scott	Active	Priority - On-Street	3	2	2	0	1	2	6	AMH-F	Controlled access to joint working group	Engage contractor on key works across multiple On-Street sections	Andy Scott	2024-01-15	1	2	2	0	1	2	2	AMH-F	
E0094	Unknown condition of utilities	Failure of Utility assets which impacts on infraco works (i.e. power to pylon, fault at joint etc)		CEC	John Woodforay	Active	Domestic	2	2	3			4	3	AMH-F	Delay to infraco works	Close liaison with utility companies		2024-01-15	1	1	2			2	3	AMH-F	
R003	Construction methodology, including use of plant and equipment, may be a cause of vibration noise level exceeded	Failure to plan works methodology or plant utilization to minimise noise impact or failure to implement mitigation measures, via use of noise level exceeded work stoppage, ability and/or additional costs, penalties, noise abatement		SSS	John Woodforay	Active	Domestic	3	2	2	2	3	3	3	AMH-F	(1) mitigate noise generation by selection of appropriate methodology (at point of WPP stage) (2) Use appropriate, well maintained equipment, ensuring equipment is operated correctly and is used when not in use (3) Implement appropriate mitigation (noise barriers, acoustic screens, etc)	TAT to manage Mitigation activities		2024-01-15	1	1	2	1	1	2	2	AMH-F	
R005	(1) Leakage from discharge in the filling & filling (2) Leakage from storage tanks	Hydrocarbon Soil & Ring filling/recharging		SSS/CEC/TAT	John Woodforay	Active	Domestic	2	1	3	3	0	3	6	AMH-F	(1) Prevention of mobile equipment to be carried out in low risk locations, using appropriate equipment (2) Storage away from sensitive receptors and/or drainage systems (3) Risk to soil and surface for noise abatement	TAT to manage Mitigation activities		2024-01-15	1	1	1	2	0	2	2	AMH-F	
R006	Failure to protect earth or injury of protected areas, amphibians etc. Higher vegetation material placed down watercourse, use of construction, disturbance of existing sites, damage to wetland areas	Death or injury of protected wildlife or damage to plants and/or damage to wildlife habitats		SSS	Shayla Mullan	Active	Domestic	2	2	3	4	0	2	4	AMH-F	(1) Earth to be covered within method statements (2) Check Ecology who is the licence holder for conditions - ensure wildlife surveys are complete and suitable to site team (3) Training for site team (habitat take ongoing)	TAT to manage Mitigation activities		2024-01-15	1	1	2	3	0	2	2	AMH-F	
R020	Extreme weather or with normal weather pattern	Exposure to adverse weather		SSS/CEC/TAT	John Woodforay	Active	Domestic	3	2	2	0	0	6	6	AMH-F	(1) Pre planning for weather mitigation (flocc covers, lighting, water spray etc) (2) Suspension of work in adverse weather conditions (3) Plan using suitable weather forecast information for high risk activities (e.g. wind sensitive areas etc)	TAT to manage Mitigation activities		2024-01-15	1	1	2	0	0	0	2	AMH-F	
R014	Lack of QA control of construction information	Failure to implement rigorous QA control of information for construction		SSS	Martin Ayres	Active	Domestic	1	3	3	0	0	2	3	AMH-F	(1) Establish roles at each month register (internal and/or external) (2) Establish roles at each month for release of information for construction (3) Publish procedures, processes and control monitoring of compliance through audits	TAT to manage Mitigation activities		2024-01-15	1	1	1	0	1	1	1	1	AMH-F

Appendix 6 – On Street Schematic

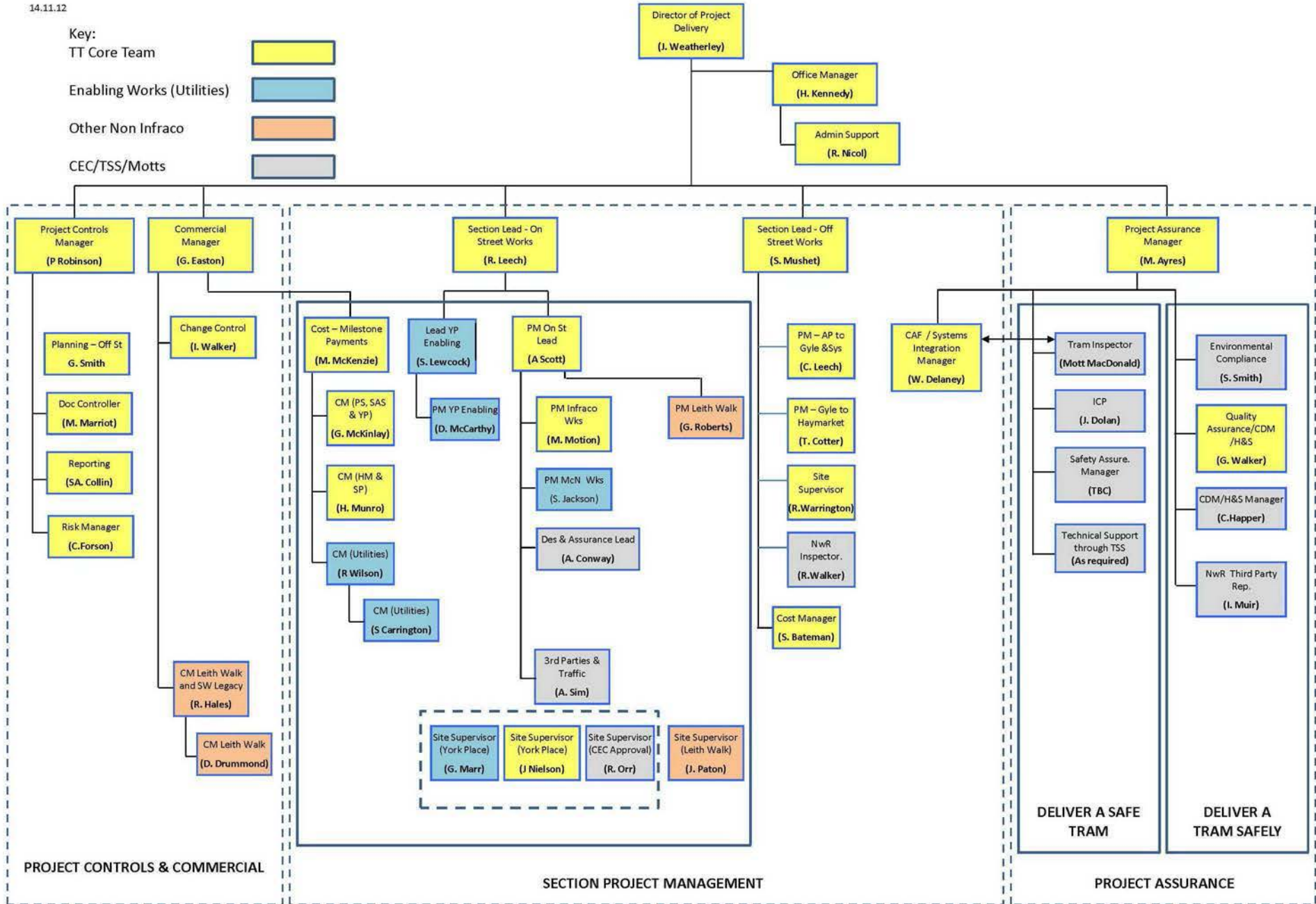
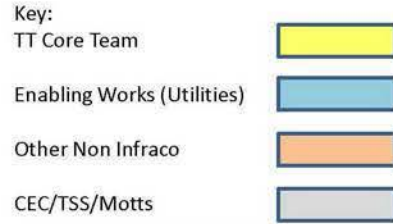
On Street Schematic



Legend			
Utilities Works		Rail Systems	
Track Civils		OHLE / E&M	
		Carriageway/Civils	
		Signalling	
		Comms	
		Stop/Station Complete	

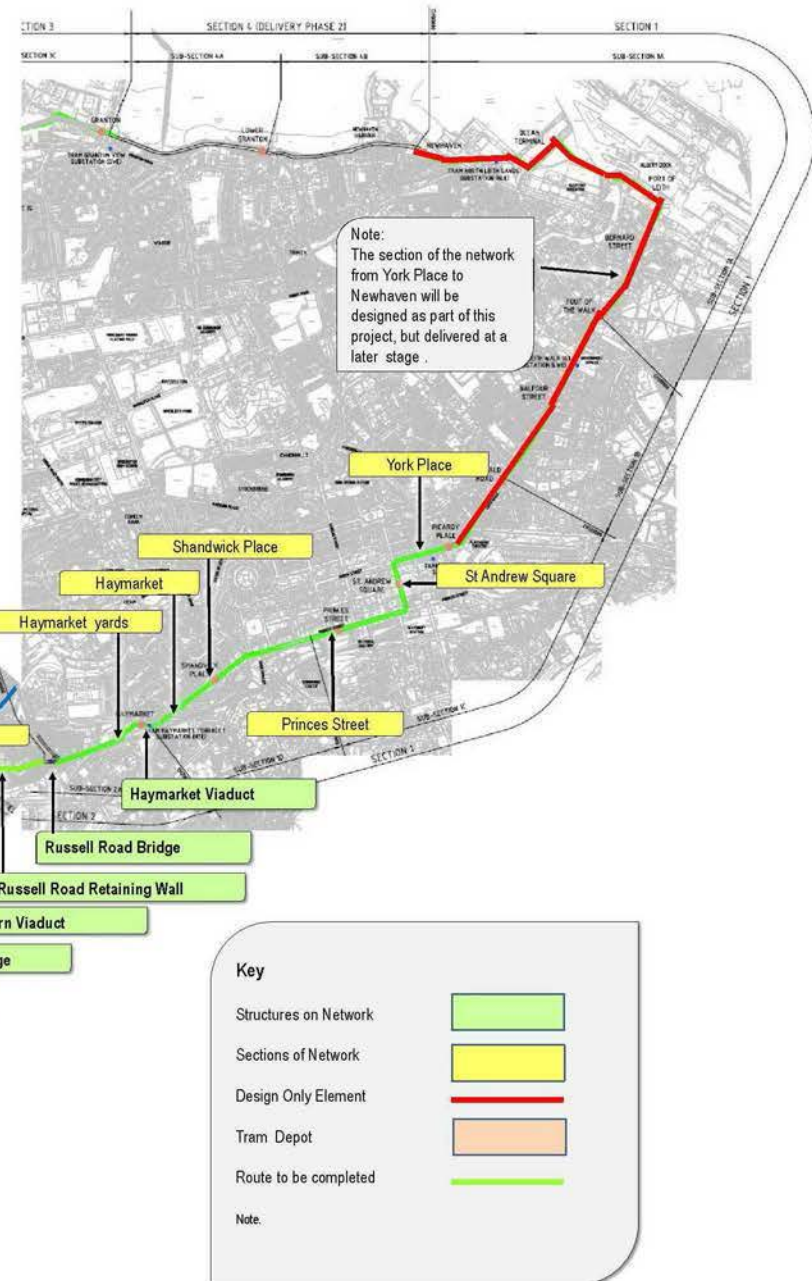
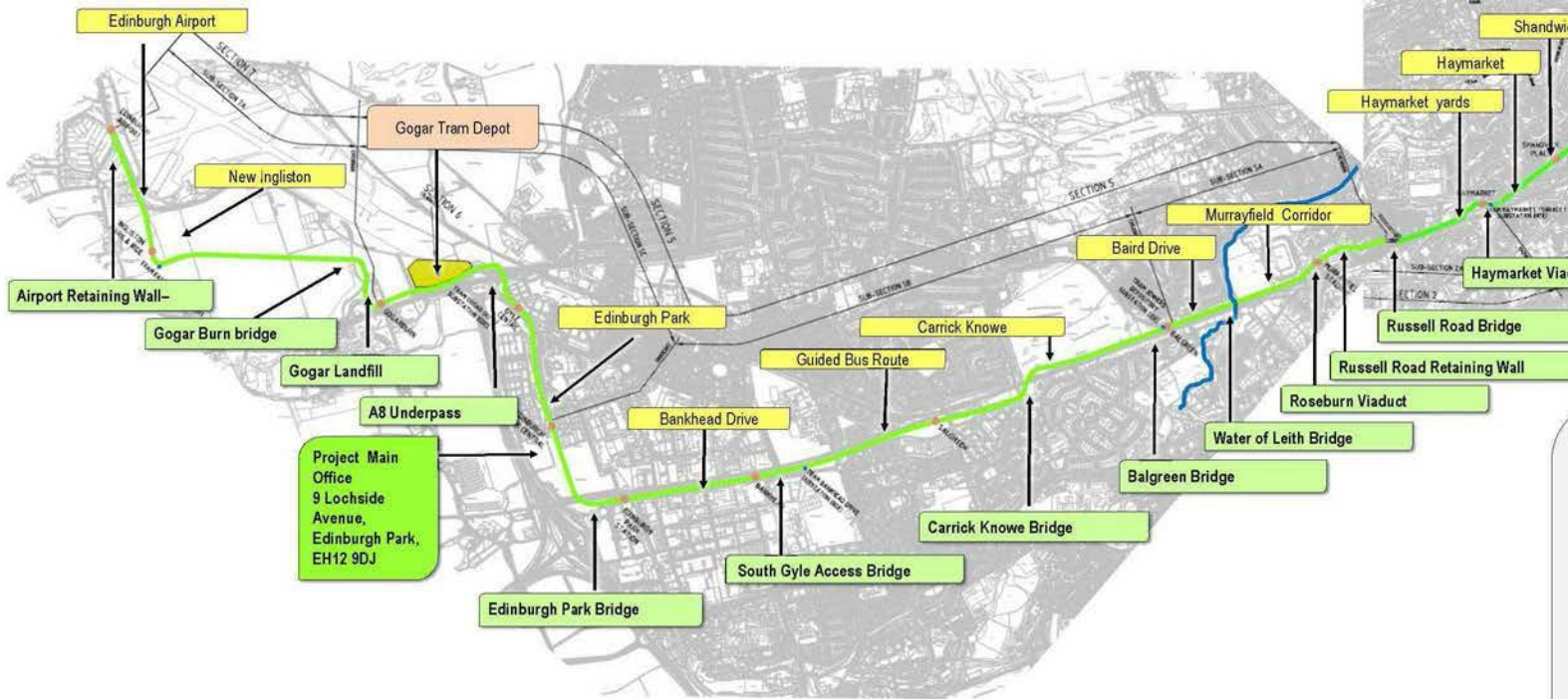
Appendix 7 – Organisation Chart

14.11.12



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.

Drawn by: Martyn Ayres
Date: 10/11/11
Revision: 0

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