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Edinburgh Tram Project
Full Progress Report No. 7
24th March to 28th April 2012
FINAL

CONFIDENTIAL – LEGALLY PRIVILEGED AND FOI(S)A EXEMPT

May 12



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Rev	Originator	Approved	Date
0	Shirley-Anne Collin	Julian Weatherley	03-05-2012
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DOCUMENTS			

1 Executive Summary

This report covers progress made during the period from 24th March to 28th April 2012. It incorporates progress reported within Infraco and CAF Progress Reports No. 4-14 to 31st March 2012.

There were 22 incidents recorded during the period. Five incidents were identified as Serious / Significant and 17 reported as either Member of the Public, Service Damage, Minor Injury or Near Miss/ Unsafe Condition. These included two Lower voltage cable strikes, two members of the public falling and one Scottish water compliance issue.

A number of Health & Safety concerns have been identified in relation to the working and management practices of McNicholas. Remedial actions have been identified and are being implemented. A "Think Before You Act" health & safety review is to be held with the project's contractors on 10th of May.

Discussions continue between Infraco and SEPA in relation to soil removed from Baird Drive. Further information is to be provided by Infraco to enable conclusion.

Twelve days of the 22 week cost engineering saving have been confirmed as being eroded. Further erosion has occurred during the reporting period but this has yet to be reported by Infraco and therefore has not yet been agreed.

The On Street drainage has now been re-designed to meet Scottish Water's approval requirements. The scope of On Street works undertaken by Infraco and McNicholas has been reviewed as a result, with McNicholas completing drainage works as well as track slab excavation where this results in overall programme improvement.

Significant progress has been made with the detailed planning of the York Place works. Preparation works for Cathedral Lane substation and York Place utilities diversions will commence during the coming period. A CEC instruction on the overall approach to York Place is anticipated.

Good progress is being made in relation to the identification and scoping of Scottish Water legacy works within the On Street Section although a number of items remain for which a solution has yet to be determined. The scope of legacy works is significantly greater than previously envisaged. The tender for the Leith Walk legacy works has been produced and submitted to CEC for comment prior to tender issue. Close out works have now commenced at Tower Place Bridge and Lindsey Road.

Infraco have commenced track slab works within Shandwick Place and St Andrew Street. Princes Street remedial works are progressing ahead of programme and the remaining areas of Princes Street, previously occupied by McNicholas, were handed back to Infraco on the 30th of April 2012.

Retaining wall works adjacent to the Gogar Burn at the airport remain marginally behind programme however it is anticipated that this slippage will be recovered.

The works to the Eastfield Avenue Crossing and the A8 Roundabout have been completed during this period. The SGN works to the gas main at New Ingliston remain on programme for completion by the 18th of May 2012.

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The progressions of works through the Off Street rail corridor have been impacted by localised ground movements during sheet piling operations. This has resulted in the need to re-sequence sheet piling operations and change construction methods in order to allow works to progress.

Twelve trams have now been delivered to the depot with three vested with CEC. Nine trams have been issued with Interim Tram Routine Test Certificates.

Submissions have been made to the Independent Certifier (IC) regarding Infraco's entitlement to a Pricing Assumption Variation (PAV) for the revised drainage design. The IC has advised that in his opinion, a PAV has occurred and this will be confirmed. Meetings have been held with Infraco to confirm the basis of the omission to the contract sum and the additions based upon the drainage works Infraco are to complete. (Note: McNicholas are undertaking some drainage works to expedite the programme). A further meeting will be held when the drainage design is substantially complete to agree measure and financial evaluation. These principles will be agreed and distributed to enable clarity on the approach.

A Quantative Schedule Risk and Cost Risk Analysis review will be held on the 3rd of May and a Cost Report Review will be held on the 9th of May 2012. The purpose of these meetings is to confirm alignment between the Master Schedule, the cost savings from the 22 week programme saving and reporting of risk, opportunity and contingency.

2 Health, Safety & Environment

During this period, the performance of the On Street Utility contractor, McNicholas has been scrutinised. Comments have now been received from the Health and Safety Executive regarding the investigation into the 11kV incident at South St Andrew Street. The Health and Safety Executive (HSE) have drawn attention to the effectiveness for the current management arrangements and have requested that information is provided to illustrate an improvement in the current policies and procedures. Turner and Townsend are developing a response on behalf of CEC.

This safety initiative will be supported by the 'Think before you Act' session with the project's senior management; this session is now planned for the 10th of May 2012. The agenda for the meeting has now been agreed with CEC and invitations issued.

2.1 Incident reporting

During week commencing 23rd of April 2012 and following a meeting on site between Turner & Townsend and McNicholas a number of safety issues were identified. These included:

1. Inadequate site supervision and management – Despite the increase in work scope to carry out the drainage and track box works McNicholas had not increased its site resources sufficiently to cope with the additional work.
2. Written task sheets introduced following a strike on an 11kV cable were not being issued in all instances to operatives despite the process being formally rolled out by McNicholas.
3. The construction Health & Safety plan was inadequate and updates previously identified had not been carried out.
4. A lack of control on additional working hours.
5. The inspection of excavations highlighted a number of safety issues and works were suspended pending the outcome of a review and the introduction of additional temporary works. The maintenance of emergency access through sites was also being compromised.

A 12 point plan was immediately put in place by Turner & Townsend and meetings were arranged between CEC, Turner & Townsend and McNicholas at a senior level. Turner & Townsend were also formally requested to review the safety breaches and advise CEC on the most appropriate way forward in relation to tram works and the impending legacy works tender.

During the last period there were 22 incidents on the Edinburgh Tram Project, 5 incidents were identified as Serious / Significant and 17 reported as Member of the Public, Service Damage, Minor Injury, Near Miss/ Unsafe Condition. These included 2 Lower voltage cable strikes, 2 Members of the public falling and 1 Scottish water compliance issue.

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Incident Table:

Incidents reported within this Period:

Date	Location	Detail	Contractor	Classification
26/03/2012	South St Andrew Street	Damage to live LV cable that was located within a lump of concrete that was removed whilst backfilling excavation. Affected external 3 rd Party.	McNicholas	Service damage
30/03/2012	Eastfield Avenue	Damage to a LV cable that supplied power to the gas governor kiosk at Edinburgh Airport.	Farrans	Service damage
27/03/2012	Princes Street / Shandwick Place	Member of Public fell tripped on steel plate on temporary walkway on 19/02/12.	Crummock	Member of the public
18/04/2012	Princes Street	MOP was injured when she slipped on a metal plate forming part of the pedestrian diversion route.	McNicholas	Member of the public
29/03/2012	South St Andrew Street	Breach of DOMS documentation regarding the Go Live Pack for a 90mm main.	McNicholas	Near miss / Unsafe condition
27/03/2012	Princes Street	Damage to a stone coping that covered a buried manhole.	Lagan Construction	Service damage
13/04/2012	West Maitland Street	Damage to a domestic water supply for 3 West Maitland Street	McNicholas	Service damage
17/04/2012	Haymarket Yards	Disconnected BT cable was crushed.	Grahams	Service damage
26/04/2012	Gyle	Damage to street lighting cable.	Coffey	Service damage
25/04/2012	St Andrew Square	Construction of a Scottish Water manhole without ATC process being followed.	McNicholas	Service damage
12/04/2012	Haymarket	During relocation of a bus stop a pole was allowed to fall damaging a Member of the Public's bag.	Class One	Member of the public
21/03/2012	Bankhead Drive	Operative whilst de-nailing wooden travellers slipped and fell forward causing a cut to his nose from a duct box.	Crummock	Minor injury
25/04/2012	Haymarket Yards	Electric shock due to contact with disconnected street lighting cable that was directly beneath paving slab.	Grahams	Minor injury
26/03/2012	Bankhead Drive	Graffiti drawn on the external wall to the substation building.	Siemens	Near miss / Unsafe condition

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Date	Location	Detail	Contractor	Classification
30/03/2012	Roseburn Street	Access into manhole for CCTV survey without ATC being in place.	Grahams	Near miss / Unsafe condition
02/04/2012	Balgreen Rd – Carrick Knowe	Theft of a band saw	Land & Building	Near miss / Unsafe condition
16/04/2012	Carrick Knowe	Arson event at Carrick Knowe. Dozer set on fire.	Bilfinger Berger	Near miss / Unsafe condition
20/04/2012	Carrick Knowe	An excavator was broken into and damaged on site.	Crummock	Near miss / Unsafe condition
19/04/2012	Shandwick Place	Generator within site accommodation was left running out of site working hours.	McNicholas	Near miss / Unsafe condition
20/03/2012	ScotRail Depot	A lorry moved across the pedestrian access path directly in front of ScotRail persons. No warning was given and no banksman was visible.	Expanded	Near miss / Unsafe condition
03/04/2012	Waverley Bridge	Temporary traffic lights at Waverley bridge were stuck on red.	Crummock	Near miss / Unsafe condition
06/04/2012	Princes Street	Reported that the service lane on Princes Street was too narrow at the locations where work was being carried out on BT chambers.	Crummock	Near miss / Unsafe condition

Top 5 Significant Incidents

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2.2 Safety Initiatives

The agenda for the 'Think before you act' session has been agreed with CEC and initiatives issued to BBS, CAF and McNicholas. This is planned for the 10th of May 2012.

The Turner & Townsend Project Delivery Safety Meeting was held on the 25th of April, a renewed emphasise was placed on the joint monitoring being undertaken on the project, to strengthen the project's safety culture.

2.3 CDM Regulations

The Safety Team and Construction Design Management Co-ordinator (CDMC) have been working closely with the On Street procurement team to provide Pre construction information for the Leith Utility works tender over the last period.

2.4 Environmental

BBS continue to have discussions with SEPA regarding the classification of soil being excavated on site at Baird Drive. A follow up meeting was held on the 27th of April and further chemical analysis of the samples were agreed with SEPA.

A Joint environmental inspection has been carried out with BBS and Turner & Townsend with Coffey on section 5 (Edinburgh Park). Issues regarding waste control and drip trays were raised. A final report is still to be issued by Infraco.

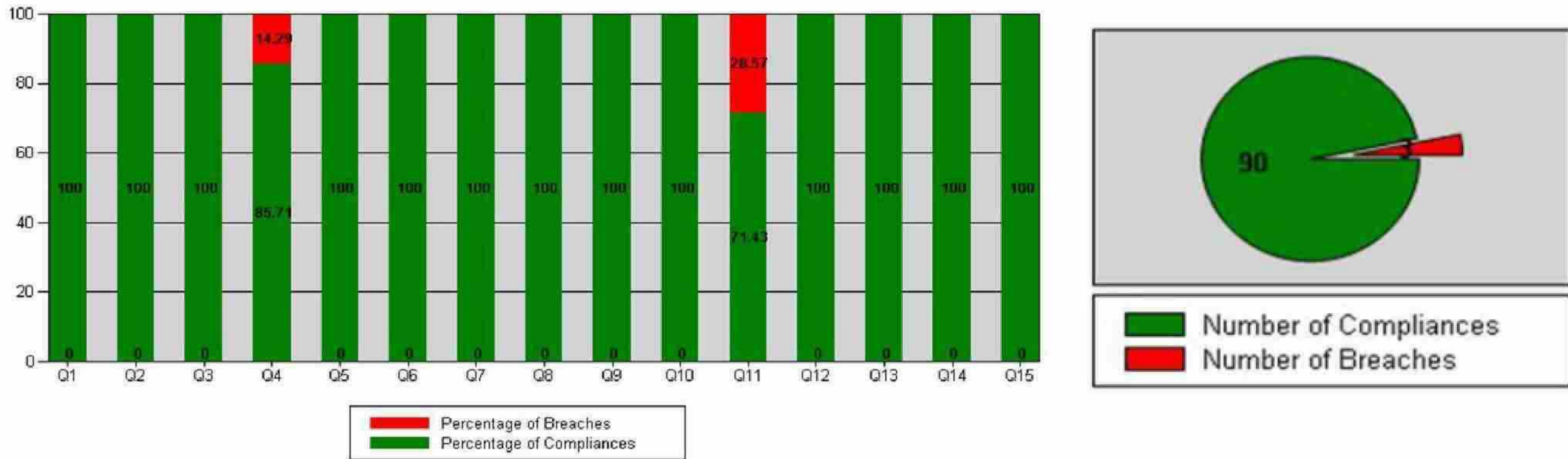
Infraco Environmental Forum was held on the 25th of April 2012. Representatives from all of Infraco contractors were present. A review of Non conformances has been raised by Infraco external auditors. This is in relation with to cross contamination of waste, the European waste codes, waste duty of care, diesel leaks and oil storage.

Turner & Townsend have a planned Inspection of the historical monuments being stored by Land Engineering. This is planned for week commencing the 7th of May. The monuments being stored are The Hearts Memorial Statue, The Conon Doyle Statue and The Ocean Terminal Monument.

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CoCP

CoCP compliance was recorded at 97% during Period 1. The results of the CoCP monitoring have been passed to CEC Communication Team to be uploaded to the project web site. Details of these are contained in Appendix 2.



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

3 Programme

At the request of CEC, Turner & Townsend's programme challenge has now been stood down. Focus is now being turned to maximising the benefits of potential improvements to the York Place programme. An overall strategy, with programme targets, is awaited from CEC.

Based on Infraco's programme update contained within their period 4-14 progress report, twelve days of the 22 week cost engineering programme saving have been eroded as a result of utilities works and the re-design of the On Street drainage. Further erosion has taken place since the last Infraco report however this has yet to be agreed.

According to the Rev4c programme, the critical path currently runs through Shandwick Place track slab and highway works construction. This assessment ignores the impact of utilities enabling works. Turner & Townsend's Master Schedule, which includes the impact of utilities works, shows the critical path to run through the York Place works.

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4 Commercial

4.1 Cost Summary

Contract/Cost Head	Original Budget	AFC 23 March	AFC 28 April	Movement
Infraco – Off Street	360,060	362,668	362,618	-50
Infraco – On Street	38,817	45,449	43,019	-2,430
Infraco – Maintenance	3,218	3,218	3,218	0
Utilities Diversions (Hay-YP)	1,812	12,834	14,658	1,824
Utilities Legacy (Hay-YP)	0	308	1,254	946
Utilities Legacy (YP-New)	1,100	1,100	2,700	1,600
Balance of Risk Forecast	32,747	10,927	9,037	-1,890
TOTAL	500,154	500,154	500,154	0

- The Infraco forecast is based upon the Rev4C target date of 5th February 2014 less 12 days as confirmed in the time bank certificate. It does not allow for further delays beyond this.
- Infraco Off-Street change includes the impact delay in signing contract.
- Infraco On-Street incorporates final contract price and impact of On-Street Works changes (Piling to OLE bases, delays from Utilities and Princes St Dec-11 reinstatement).
- Utilities Diversions - includes resolution of c. 1,500 Nr conflicts, Infraco track box, duct excavation and drainage works transferred from Infraco works.
- Utilities legacy (Haymarket-York Place) – the scope has been developed since mid February 2012 when agreement has been reached with Scottish Water regarding the corrective action that is required. Work is being carried out at the same time as the conflict resolution work where possible. The scope includes 357 Nr SW defects, ranging from correcting valves to separating water mains from gas mains.
- Utilities legacy (York Place-Newhaven) – This work is subject to a separate contract currently being tendered. The scope includes 375 Nr SW defects, ranging from correcting valves to separating water mains from gas mains. The forecast is based on an approximate cost per snag type.

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The detailed Cost Report is attached at Appendix 3 and a summary of the key movements are provided below.

(Note: all figures £K)

Reporting Date:	23 March 12	28 April 12	Movement
Original Contract Amount	479,660	479,660	0
Add: Approved Changes	72	3,546	3,474
Add: Changes in Progress	9,602	9,462	-140
Add: Anticipated Changes	15,902	13,917	-1,985
Less: Funding contributions	-8,699	-8,716	-17
Less: Opportunities to secure	-7,310	-6,752	558
TOTAL: Forecast cost	489,227	491,117	1,890
Original Budget	467,407	467,407	0
Variance	21,820	23,710	1,890
Original forecast risk allowance	32,747	32,747	0
Less: Variance (from above)	-21,820	-23,710	-1,890
Forecast balance of risk allowance	10,927	9,037	-1,890
Anticipated Final Cost	500,154	500,154	0

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4.2 Infraco

4.2.1 Approved Changes (Movement in the Period)

The changes approved this period at the CEC/Turner & Townsend weekly change meetings are provided below.

Approved Change	Amount (£K)
Approved to 23 March reporting date	72
UNC 002: Utilities work to June 2012	3,061
tNC 516: Additional Water main requirement at Depot and Mini Test Track	51
tNC 534: SP Insurance Ducts - Install Insurance ducts at various locations	6
tNC 572: Cathedral Lane substation retaining wall design	26
tNC 591: Diversion of Scottish Power Cable at Haymarket Viaduct	22
tNC 613: Temporary Bus Station at St Andrew Square/Waterloo Place - design	50
tNC 615: Haymarket Viaduct - design wall for blocking off void under the bridge deck as a result of the crew relief facility being omitted	3
tNC 616: Haymarket Viaduct - construct wall for blocking off void under the bridge deck as a result of the crew relief facility being omitted	10
ICCO006: Independent Certifiers Schedule Part 45 Period End Change Order to 3/3/2012 relating to the following PAV's and On Street Works Estimates	245
	£ 3,546

4.2.2 Changes in Progress

Changes in Progress include items which cannot be mitigated and the change is agreed in principle. New items included in this section of the cost report during the period are:

- tNC 605: Depot - Sub-Station Switching £80k (note: discussions are ongoing to define requirements and resourcing options for switching power on in advance of the SCADA becoming operational following Section B completion);
- tNC 606: Waverley Bridge to York Place £26K - works delayed and disrupted as a result of works carried out by Third parties (Scottish Water drainage works being undertaken by McNicholas);
- tNC 607: Delete 110v sockets on the On Street Tram Stops £-5k;
- tNC 608: Delete 110v sockets on Off Street Tram Stops £-17k;

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- tNC 609: completion of Traffic Management provision in the Forth Ports / Leith Walk area £130k, period September 2011 to June 2012 (previously provision made in the Anticipated Change section);
- tNC 610: Edinburgh Gateway - Siemens Long Lead Items £0k (covered within the Gateway costs);
- tNC 611: Excavation of Track Slab to be carried out by McNicholas £0k (included within Anticipated Change);
- tNC 612: Tram stops branding changes. Requirement for etched glass is not included £0k
- tNC 614: Rothesay Place Traffic Management Amendment £10k

4.2.3 Anticipated Changes

The movements in the period are provided below:

Anticipated Change to 27 February reporting date		£15,902K
Infraco Works		
Pricing Assumptions - 6.4.2.4 Cathedral Lane Substation	Cost adjusted to reflect current assessment of building requirements for the Tram project and Henderson Global requirements.	-350
Piled OLE base in lieu of utility diversion	Costs transferred to Changes in progress section.	-195
H1 delay costs associated with utilities	Programme delays accounted for in the QSRA. Opportunity for programme savings to be adjusted in accordance with agreed reduction to time bank.	-847
Delayed commencement to St Andrew Square (from 7/2/12)	Programme delays accounted in the QSRA. Opportunity for programme savings to be adjusted in accordance with agreed reduction to time bank.	-636
Roseburn Delta - non DDA footpath	Cost adjusted to reflect current assessment of "like for like" temporary footpath to suit existing levels.	-270
Ongoing traffic management at Lindsay Road	Transferred to Changes in Progress.	-90
Further design changes to OLE resulting from utilities (York Place)	Costs transferred to Changes in progress section.	-150
Sub station switching - Provision of competent resource to carry undertake	Costs transferred to Changes in	-25

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sub-station switching and equipment monitoring. Allowed for 20 weeks	progress section.	
Additional Siemens supervision as a result of accelerated programme rev 4C	Costs associated with this item incorporated into rev 4c programme shared saving calculation.	-155
Remove excavation of track box from Infraco's contract	Work transferred to McNicholas	-500
Remove ducting in Cathedral Lane from Infraco's contract	Work transferred to McNicholas	-75
Utility Diversions		
Utility works generally	Transfer of utility works to June 2012 to Approved section	-3,061
Adjusted forecast for utility conflict resolution resulting from emerging scope	Amended forecast as a result of emerging design and current conflict numbers	226
Excavation of track box	Work transferred from Infraco contract	500
Cathedral Lane	Installation of ducts transferred from Infraco contract plus further site investigations work improving scope understanding	250
Drainage	Work transferred from Infraco scope. Drainage more extensive than identified in original contract as a result of drainage redesign.	797
SUCs	Amended forecast as a result of emerging design and current conflict numbers	51
Legacy Works - York Place to Airport	Scope definition improved. Original budget replaced by current forecast	1,600
Legacy Works - Leith Walk	Scope definition improved. Original budget replaced by current forecast	946
		£13,917K

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4.2.4 Contributions Register

Contributions from 3rd party, stakeholder or other CEC budgets are being developed in order that the amounts can be finalised. The current position is as follows.

Works	£K	Status / Action
Edinburgh Gateway – legacy design and project management	940	TS have been provided with details and agreement of expenditure is agreed each period
New Ingliston – ducts & crossings	540	This element is included in the agreement with NIL for land compensation and construction works. This cost is for construction only, CEC to advise any adjustment to the method of reporting.
Cathedral Lane Sub-station	400	Costs submitted to Henderson Global (HG) amounting to £470K for design and the amended construction scope resulting from HG's requirements. £400K is included in the cost report to provide tolerance should the full amount not be recoverable from RBS.
RBS Tramstop	500	The final design and scope has now been confirmed and the estimate has been submitted by CEC to RBS. The estimate is £618K and £500K is included in the cost report to provide tolerance should the full amount not be recoverable from RBS.
St Andrew Sq Public Realm design	130	Contribution received from separate CEC budget
CEC miscellaneous (George St)	320	Contribution received from separate CEC budget
Haymarket Station redevelopment	35	NR have agreed to undertake removal of staircase and parapet, NR to fund costs of sub-station plinth amendments and re-routing of Scottish Power cable.
Setts in On-Street Works	1,000	Setts areas confirmed, the specification for the "tram" areas to be confirmed (Sika pave or equivalent). Specification and scope confirmed in principle for non-setted areas. Instruction to be issued. Meetings held with Infraco to review adjustments to
Edinburgh Gateway	4,850	A final construction estimate on the agreed scope is currently being prepared by BBS. Costs will be funded by Transport Scotland.
Total	8,715	

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4.2.5 Risk and Contingency Analysis

The Quantative Schedule Risk Analysis (QSRA) has been developed using the Master Schedule, the Risk Register and has been submitted to CEC for comment.

The Quantative Cost Risk Analysis (QCRA) has been developed using the risk register and is being amended to reflect CEC's confirmation to limit works within York Place to single lane on the south side which then avoids the need to amend the kerb line and the requirement to strengthen the basements.

In addition the Anticipated Change section of the Cost Report has been updated to reflect the scope of the changes which are likely to arise and to ensure consistency with the QCRA.

The Utilities Diversion Costs and Scottish Water Legacy Costs have been revised on the basis of the emerging scope of the Scottish Water Legacy Works (Haymarket to York Place), the tender scope for the Scottish Water Legacy Works (York Place to Leith) and the resource plans for the utility diversion works.

These cost report updates enable the QCRA to be concluded and to show the impact of required change and risk. The revised QSRA/QCRA report will be issued week commencing on the 30th of April 2012.

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4.2.6 Opportunities and Baseline Project Instructions

The cost engineering work stream identified a number of value improvements and benefits to the project. These are summarised in the Baseline Project Instructions Report January 2012. The contract provides for a 50/50 share (client/contractor) for Off - Street value engineering savings and CEC and the Independent Certifier confirmed the basis of the share mechanism with Infraco. A summary of the items within the design and construction project scope are provided below. *Note: all figures are net*

Item	£K	Status
Remove embargoes and revised TM	5,902	Time bank certificate confirms 12 days slippage in 22 week time saving identified in the Rev 4C programme. The Utilities diversion works required in advance of these works will utilise some of this time. Work is ongoing to mitigate this and optimise the Infraco start and finish dates.
Edinburgh Gateway		Instructed, covered in contribution section.
Setts (separate CEC budget)	1,000	Part <i>de-scope and setts funded</i> by separate CEC budget. Initial setts estimate under discussion with BBS and specification solution required for non-setted areas
De-scope public realm at St Andrew Sq	700	Instructed
Contributions 3rd Party Agreements	2,870	Note: this is the amount for some contributions in the Cost Engineering report. This amount is not carried forward, refer Contribution Register 1.2.4
De-scope works at Forth Ports	2,440	Instructed
Omit Airport Tram Kiosk and Canopy	150	Instructed, Tramstop equipment t.b.c.
Temporary tram stop at York Place	150	Designs in progress
Redeployment of Trams	CEC	Included in CEC budget code
Cancel track York Place to Newhaven	1,100	Instructed
Omit Siemens works at Tower Place	100	Instructed
Turner & Townsend / CEC resources		Ongoing
Shared recovery vehicle		Not taken forward
Road re-construction depth	700	Principles instructed, saving subject to site conditions
Design freeze north of York Place	t.b.c	Infraco design costs expended
Reduced requirement for storage		Included in CEC budget code
Lay off TM at Forth Ports/Leith Walk	t.b.c	TM not included in Infraco budget provision
Roseburn Viaduct Cladding	300	Instructed
De-scope crew relief facilities (Haymarket)	70	Instructed
Opportunities secured	8,730	
Opportunities to secure	6,750	

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4.2.7 On Street – Schedule 45 Pricing Assumption Variations and Commercial Issues

Previous Progress Reports, refer Nr 4 27th January 2012 section 4.2.7, have described issues that have arisen regarding interpretation of Infraco’s proposal prior to mediation, “the Phoenix Proposal”, the Heads of Terms following the mediation and the scope of work deemed to be included in the Settlement Agreement. It has been agreed that each issue will be examined individually to determine what technical solution is in the best interests of the project and then cost liability, contractor or client.

The On-Street Works Estimate (to period end 31 March 2012) and Commercial issues are included below. The ‘RAG’ status indicates: Green – variation principle and amount agreed; Amber – variation principle agreed and amount to be agreed; Red – variation principle not agreed. Please note that in the case of some On-Street Pricing Assumption Variations the final amount will only be determined when the work in all sections are completed, e.g. changes to OLE foundations resulting from utilities will be completed when the final foundations are completed in York Place.

Turner & Townsend adopts the tie Notice of Change as the referencing system to facilitate change requests and approval from CEC. Schedule 45 On Street Works entitles Infraco automatically to Pricing Assumptions Variations without the need for a tie Notice of Change. Infraco attach a PMC reference to all Pricing Assumption Variations. The Change Register tracks tNC’s, PMC’s and approved Change Orders which account for the agreed final costs.

PMC	Description	(£K)
	On - Street	
15	Utility conflicts – investigation	20
25, 72 & 87	OLE foundations resulting from discovery of utilities	699
28	Temporary accommodation for utilities contractor	2
29	Road re-construction protocol (opportunity to reduce depth)	0
30	Additional CBR/Plate testing – ground strength	0
32	Utilities affecting site clearance - disconnect power to bus trackers	-15
35,79	Utilities contractor affecting Infraco progress	34
36	BT Fibre Optic affecting progress	85
37	Slit trench to validate utilities	9
38	Move 3 OLE foundations (St Johns Church)	12
40	Scottish Water diversion Princes St	251
43	Christmas embargo – temporary infill Princes St	218
44	BT diversion – Princes St (included PMC 040)	Inc
52	Install Traffic Management early Shandwick and St Andrew sq	163

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68	Utilities affecting track drainage	13
69	Geotextile liner to Clifton Terrace void	3
	Total On-Street Works Estimate	1,494
	Off – Street	
t.b.c	Payment for Utility diversions Off Street outwith BBS’s scope	340
61	Temporary footpath and drainage - Roseburn Viaduct	30
t.b.c.	Low voltage supplies to Airport Tramstop cabinet	30
	General	
	Rev3A to Rev 4 programme – evidence of delay costs (BB only, Siemens t.b.c)	600
	TOTAL	2,494

The issues are discussed at the valuation meetings to progress matters.

4.3 Utilities

4.3.1 Budget

The approved budget is now £7,773K which covers the following:

- the original budget provision of £2,912K which included £1,812K for utilities diversions Haymarket to York Place and £1,100K for correcting defects in the MUDFA works, York Place to Newhaven;
- drawdown for track form, OLE and drainage conflict resolution in St Andrew Sq and Shandwick Place to the 30th of June;
- track box and track duct excavation transferred from Infraco to the utilities diversion contract;
- drainage works transferred from Infraco to the utilities diversion contract;
- £500k for the emerging scope of the correcting defects to Scottish Water assets, Haymarket to York Place resulting from the MUDFA contract. (Note: the scope and estimate is under development and requires validation and agreement with Scottish Water).

4.3.2 Contract

The contractor has offered a 2% saving from the 11.48% management fee on the basis that as the contract is NEC Option E, cost reimbursable, the costs are audited and concluded on a quarterly basis. A condition of this proposal is that the client takes the risk of the £10K excess should any claims arise from Public Liability Claims. A final proposal is being concluded for approval with CEC.

In addition savings of 5% to 10% in labour, plant and material costs have been secured for the cost reimbursable elements.

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4.3.3 Approved Changes

It has been agreed that owing to scope refinement and development that budget commitments will be made on a quarterly basis through approval of change requests for the defined scope of work on a quarterly basis. The following change requests have been approved:

- UCO Nr 1 dated period 1st January to 31st March 2012
- UCO Nr 2 dated period 1st April to 30th June 2012

In addition the following change requests have been approved in principle by CEC:

- Drainage works to expedite programme and minimise impact to Infraco;
- Track box excavation;
- Track duct excavation;
- Cathedral Lane track power duct excavation;

Change request papers have been compiled and CEC's sign off will be requested in accordance with the change process.

4.3.4 Changes in Progress

The contract form is NEC Option E – Cost Reimbursable. The contract is being administered by an NEC change management system which tracks orders/changes for specific items of work. This enables control over commitments and managing expenditure.

4.3.5 Anticipated Change

The cost estimate was originally developed on the basis of a cost per conflict type. Given a greater understanding of the nature of the diversions required a programme with resources to suit the scope and programme sequence. This resource plan has been used to form the basis of the estimate. This estimate is under continual review, comparing actual progress against planned and actual resources against planned. The sequence of work is as follows.

Priority	Original strategy	Revised strategy
Priority 1: works in advance of Infraco	Overhead Line Bases Road Level Conflicts Tram Ducting Chambers Tram Ducting Track Construction	Overhead Line Bases Road Level Conflicts Tram Ducting Chambers Tram Ducting Track Construction Drainage – some new manholes and removal of some utilities Drainage gulley's Track box excavation Tram duct excavation Duct excavation Cathedral Lane Some kerb realignment
Priority 2: works in parallel with Infraco through call off or isolated work areas	Traffic Signal Pole Street Lighting Column Road Sign Base Kerb Re-alignment Drainage Drainage Gulley	Traffic Signal Pole Street Lighting Column Road Sign Base Remaining kerb re-alignment

The key issues being addressed in the estimate include:

- There is a high degree of variability in work scope for each conflict, for example: removal of foam concrete, steelwork within the road construction, abortive excavations owing to utilities not in the locations shown on the drawings.
- The unit cost per conflict included in the original cost estimate may not account for inefficiencies resulting in the accelerated programmes for Shandwick and St Andrew Sq.
- Scottish Water has submitted a proposal for management and supervision costs for On-Street, Off-Street and Legacy Works for the project until 2014. These costs are being challenged; however they are in excess of the forecast allowance. It is unlikely that these costs will be agreed in advance of the historical issues associated with betterment and cost share. These potential additional costs have not crystallised and are not included in the cost report and will be reviewed at a meeting with CEC to be held on the 9th of May 2012. Following this review, additional costs will either be included in the Anticipated Change section of the Cost Report or provision made in the QCRA.

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4.3.6 Legacy “snags” / defect correction Scottish Water assets Haymarket to York Place

The scope of work is being developed through evaluation of the “snagging” lists and engagement with Scottish Water.

The current estimated cost is £1,254K however the scope and costs are being developed to determine the most cost effective solution.

4.3.7 Legacy “snags” / defect correction Scottish Water assets York Place to Newhaven

These works are subject to separate procurement and programme arrangements. Similarly the scope of work is being developed through evaluation of the “snagging” lists and engagement with Scottish Water.

The current estimated cost is £2,700K however the scope and costs are being developed to determine the most cost effective solution.

4.3.8 Utilities Off – Street

To date a total of £340K has been invoiced by Utility Companies for diversions and supervision on the Off Street section. These works were not excluded from Infraco’s Off Street Contract Price and discussions are ongoing regarding the correct allocation of these costs.

At this stage these costs have not been included in the Anticipated Change Section of the Cost Report.

4.3.9 Legacy works constructed under MUDFA

Following the handover of the tie cost forecasts for utilities works and the respective utility company costs (supervision costs and cost contribution for cost share, betterment, etc), a commercial position paper was submitted to Scottish Water.

Scottish Water has now submitted revised costs for supervision costs and calculations in relation to cost share. These costs are being reviewed and a meeting is proposed for the 9th of May 2012 to review findings with CEC.

Further discussions or meetings have also been held with Scottish Power, the telecoms companies and also Scottish Gas Networks to progress resolution of cost share and betterment.

4.4 Tram Vehicles

The budget for Tram Vehicles is £62.4M which is lower than the contract sum at £63.6m.

There are no changes to the forecast during the period.

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4.5 Payments and Cash flow

A summary of the certified amounts are provided below.

	Certified £M	Planned £M	Comment
Infraco	£277.4	£278.2	Planned – based upon Rev 3A programme
Utilities	£4.6	£4.5	McNicholas only plus SUC costs
Trams	£56.8	£56.1	Payments in accordance with milestone schedule.

5 On Street - Enabling Works & Utility Legacy Works

5.1 General

It was reported previously that as a consequence of manhole connections being rejected by Scottish Water the tram drainage system has been redesigned to accommodate the requirements of Scottish Water. The redesign has progressed well and in order to facilitate Infraco, a decision was taken during the period to de-scope elements of the drainage works from Infraco and to instruct McNicholas to carry out the work to reduce the impact of delay on the overall programme. The primary reason for this relates to the fact that McNicholas are required to clear additional conflicts arising as a consequence of the drainage redesign, once the drain runs are cleared and proved it is appropriate that McNicholas lay the pipes and construct chambers whilst they have possession of the site.

In reaching a decision to instruct McNicholas to carry out the drainage works a decision was also taken to instruct McNicholas excavate the "track box" to provide Infraco with the opportunity to commence track slab works as early as possible once sites are handed back. This has proved successful.

The commercial impacts of the approach to drainage and track box have been discussed with Infraco and it has been agreed in principle how these matters will be dealt with. A meeting was held with Infraco on the 25th of April and it has been agreed that going forward this will be held weekly to ensure all matters are captured and dealt with in a timely manner.

There have continued to be instances during the reporting period where Turner & Townsend has had to take remote areas of sites to deal with residual utilities issues that were either not completed prior to handover or which were discovered after the sites were handed back to Infraco. These instances have, however, reduced.

5.2 York Place Planning

Detailed planning of works in York Place commenced in the period and a number of opportunities have been identified. These include carrying out some works ahead of the October date for closing York Place including Scottish Water manholes, ducting to the Cathedral Lane sub-station and demolition of the Cathedral Lane sub-station. Some of these works are dependent upon traffic constraints at Princes Street and the Mound being lifted although the team is seeking to maximise any opportunities and is exploring ways of carrying out works with some traffic constraints still in place. Planning of relocation of the bus depot has commenced and Infraco has been instructed to carry out a design relocating the depot to St Andrew Square. In parallel, CEC are progressing discussions with Infraco to identify potential Infraco programme opportunities. CEC are seeking internal notification prior to advising Turner & Townsend. Following advice Turner & Townsend will update the overall Project Master Schedule.

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5.3 Legacy Works

There remain some key water issues that have the potential to cause significant difficulty for the project. These include apparatus falling within the tram Dynamic Kinematic Envelope and the tram DKE+2m that cannot be diverted and apparatus without the necessary separation distance from other utilities as a consequence of congested areas. Good progress is being made with Scottish Water on how to best deal with these issues although, as reported last month, this has been delayed somewhat as resources have been re-directed in the short term to deal with the drainage re-design.

Regarding the legacy works north of York Place the Invitation to Tender was issued on 30 April in line with the agreed programme. The tender is progressing on the basis of an amended Option C under the NEC form of contract. This has been agreed with CEC. . The target date for commencement of the works is early July with completion in October, tenderers will be asked to bid on this basis.

Work has commenced at Tower Place Bridge and Lindsay Road with McNicholas retained to complete the reinforced concrete works at Tower Place Bridge. The remainder of the works will be carried out by CECs term contractor Tarmac and are expected to be completed by the end of June.

5.4 McNicholas Safety

During week commencing the 23rd of April 2012 and following a meeting on site between Turner & Townsend and McNicholas a number of safety issues were identified and these are discussed in more detail in Section 2 of the report. These safety issues had an impact on the drainage works programme although these delays were minor delaying the works by no more than a week in Haymarket and less in other areas.

5.5 Look Ahead

Focus will be on completing the drainage works and handing back all sites to Infraco. Planning at York Place needs to conclude with some works commencing at Cathedral Lane. Turner & Townsend will also continue to react to utility discoveries by Infraco and will work with Infraco in planning any "type 2" conflict works not diverted prior to sites being handed back, these include conflicts in footpaths under sign and signal bases that are best dealt with as Infraco carries out its works.

6 On Street - Main Works

6.1 Progress in Period.

OLE piling works have been completed and Infraco has commenced track slab construction in areas not affected by the drainage redesign.

Works have been stalled in Haymarket 1 due to the re-design and construction of the tram drainage. Works in Princes Street continue to progress well and it is likely all civil engineering works will be completed early ahead of the Rev 4 programme July completion date. The Electrical & Mechanical Works, including the overhead wires, are then due to commence in early November 2012. St Andrew Street north to Waverley junction was handed back to Infraco at the end of April and sites at Haymarket 2-5 and Shandwick Place are currently due to be handed back to Infraco in mid May.

Third party approvals and consents for the Princes Street OLE re-design and York Place single lane running were progressed during the period and permissions were granted by CEC. The decision in relation to York Place is important and allows the project to finalise detailed planning through the area. . The pre-planning consultation period was launched by CEC during the period in relation to Dublin Street Steps, this is due to conclude on the 10th of May 2012 which will allow the formal planning application to be made. The current target date for the planning committee is the 20th of June 2102.

6.2 Key Issues

6.2.1 Scottish Water Manhole Connections

Good progress has been made during the period in redesigning the tram drainage and resolving the manhole connection issues with Scottish Water. The flow modelling work which posed a risk to early resolution was agreed in good time and a significant amount of the drainage is not only redesigned but has been installed, tested and handed back to Infraco. (See above 6.1).

In parallel with the re-design and drainage works Turner & Townsend prepared a briefing note setting out the history of the manhole connections issue; and a commentary on the possible apportionment of responsibility. The matter was referred to the Independent Certifier during the period and a decision is expected imminently. The overall impact is currently being quantified and will be reported in the next full period report.

6.3 Look Ahead

6.3.1 Haymarket 1

It is anticipated the Haymarket 1 area will be handed back to Infraco on the 18th of May 2012. The drainage has delayed works in this area but it is not anticipated that the overall sectional completion of these works will be delayed.

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6.3.2 Haymarket 2-5

Turner & Townsend took possession of this site on the 28th of March 2012. It had been agreed with Infraco that the utility conflict works through the area would take in the region of 10 weeks. Despite increasing the scope of works to include the drainage works and track box excavation the site is due to be handed back early in mid May ahead of programme.



- Haymarket

6.3.3 Shandwick Place

It is anticipated that Shandwick Place will be handed back to Infraco on the 14th of May 2012. The drainage has delayed works in this area but it is not anticipated that the overall completion of these works will be delayed.



- Shandwick Place

6.3.4 Princes Street

Track remedial works by Infraco will continue in Princes Street.



- Princes Street

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6.3.5 St Andrew Square including Waverley Junction

In order to complete drainage works in the area Turner & Townsend took back a large proportion of the site through St Andrew Street. This was handed back to Infraco on the 30th of April 2012 with some areas handed back earlier to allow Infraco works on the outbound track slab to commence. As reported previously this area is on the tram project critical path and the closure of York Place is dependent on St Andrew Street and the east end of Princes Street being completed. Early indications suggest that the delays through this area as a consequence of drainage can be mitigated to a large extent although Infraco is reporting a two week delay to completion and anticipates commencing in York Place at the beginning of November. Turner & Townsend will be working with Infraco and CEC over the coming weeks to explore ways of improving on this date.



- St Andrew Square

6.3.6 York Place

Planning is well underway and the target is to commence some ducting work at Cathedral Lane in May.

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7 Off Street Works

7.1 Progress in Period

7.1.1 Airport

The retaining wall construction has commenced along the Gogar Burn following the line of the secant wall. The secant piling has been affected by operative absence however the parallel working of these two activities should minimise any further delay to the programme.

Eastfield Avenue crossing works have been completed, the airport have highlighted that issues may exist with the gradients between the two tram lines. The works on site shall be checked against the design tabled and agreed to the Airport the design process shall ensure that the road conforms to the relevant design standards for a 30mph road. A stage 3 road safety audit shall also be conducted when the junction construction is finished in its entirety; this is programmed for the last quarter in 2012.

Daily coordination and weekly meetings are being held with the airport in line with the agreed protocol. The weekly meetings are recorded by the use of an Issues Log.

The remaining scope following deletion of the kiosk and canopy has been defined by CEC. Marked up drawings and an instruction shall be submitted to Infraco to allow the continuation of these works.

7.1.2 Edinburgh Gateway

Infraco have produced a draft design for the slope option; this consists of a gabion basket solution in place of the permanent retaining structure that had been proposed. This solution negates the need for temporary works in relation to the 33kV electrical cable. A programme for the works is due from Infraco on the 8th of May 2012.

CEC are responsible for achieving the approvals related to the design and this has been discussed with CEC and Turner & Townsend. Any changes to planning shall be addressed through a letter advising the planning department of the temporary situation. CEC have an action to speak to the Building department to discuss any affect that leaving the project in a temporary state would have on the building warrant.

Infraco have agreed that they shall submit the design for CEC technical approval. The Scottish Water temporary build-over agreement is being progressed by CEC however this needs to be enabled by the agreement from Transport Scotland to Scottish Water via Network Rail to a permanent diversion being undertaken. A meeting was held with Scottish Power and Turner & Townsend as the works are adjacent to their 33kV cable and they have agreed that no formal approval is required however the project should keep them informed of the design.

A meeting shall be arranged with the Network Rail project team to define scope. A further meeting shall then be required to define the boundary of their site and the timeline by which Network Rail and Scottish Water can access the area.

CEC have requested that equipment and materials are procured to allow the completion of the Gateway stop to tie in with the other stops on the route. Turner & Townsend have produced a list of materials to assist CEC and Transport Scotland to decide the items that are to be purchased in advance.

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A letter has been received from Infracore stating that due to the delay to Edinburgh Gateway a temporary radio mast would be required for Section B completion. Through discussions with Siemens the aerial that currently exists within the depot could be used by increasing the wattage to it. Siemens require to undertake tests to this aerial to ensure that this would provide the necessary coverage. Siemens stated that these tests could be undertaken prior to the need for instruction for the temporary mast.

7.1.3 Scottish Gas Network Diversion

The works to divert the gas pipeline at Ingliston are progressing well, with the specialist subcontractor due to arrive on the 5th of May 2012 to tie the diversion into the live pipeline. Works are being undertaken to meet the original completion date of the 18th of May 2012.

7.1.4 Other items of progress:

- Scottish Power completed the High Voltage connection to the Ingliston Park and Ride substation.
- Ingliston substation fit out completed.
- Soil reinforcement is being installed at the Gogar Landfill; progress is slower than anticipated however; growing familiarity with the method of work should see an increase in the rate of work.



- Soil Reinforcement – Gogar Landfill Site

- The A8 was reopened to two lanes of traffic in both directions on the 25th of April 2012 following the successful excavation and formation of the underpass.
- Progression of the Gyle Broadway crossing.
- Overhead Line Mast foundations have commenced along Edinburgh Park Corridor.
- Baird Drive soil reinforced wall continuing.

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- Baird Drive – reinforced earth embankment



- West Abutment S504

- Interface issues between the sewer and piling location at Carricknowe has been agreed with Scottish Water and the sewer diversion now underway. This allows track laying to progress.
- Crew Relief wall construction and Scottish Power cable diversion costs are now agreed with Network Rail, these works have been instructed to Infracore for construction shall be undertaken by Infracore.
- Russell Road earth retaining structures are being installed around the junction at the Roseburn Corridor.
- The laying of track from Haymarket Yards to Balbirnie continues.

7.2 Key Issues

7.2.1 Railway Corridor

Sheet piling works commenced along the Murrayfield corridor adjacent to Network Rail infrastructure. This is to enable access for the ground improvement methodology. As the sheet piling operations have advanced, movement of a Network Rail overhead line mast (shunt line and Fife lines) were recorded by the monitoring team. Works ceased adjacent to the area where movement has occurred while an alternative methodology for the area was established. An alternative system of work utilising a hydraulic ram which pushes the piles into the ground has been proposed and accepted by Network Rail. This reduces the amount of vibration induced into the embankment. Works may re-commence following the completion of a survey of the overhead line height and stagger by Infracore.

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Movement has also occurred within the ScotRail depot adjacent to the construction of wall structure 4 (W4). ScotRail has reported signs of movement between concrete slabs within the depot on the crest of where sheet piling and soil nailing operations are taking place. Further monitoring was installed in the area and further movement was recorded. Operations were stopped and the methodology reviewed and similarly to the Murrayfield works a hydraulic ram method proposed.

Both sites shall be carefully monitored during the start of the alternative methods of work.

The ScotRail interface remains an area of sensitivity with construction works taking place on all sides of their Depot. The recent movements that have occurred within the depot have caused ScotRail concern. Turner & Townsend have daily communications with the ScotRail staff to ensure they are aware of the measures put in place to mitigate against any further movement.

7.2.2 Edinburgh Gateway

A boundary and timeline needs to be established with Infracore to allow access for the purposes of the permanent sewer diversion. Scottish Water may use the non instruction of the permanent diversion as a reason not to issue a temporary build over for the tram alignment.

7.3 Look Ahead

- Secant and retaining wall construction continuing along the Gogar Burn
- Completion of the SGN/NIL diversion
- Continuation of Gogar Landfill earthwork reinforcement
- Continuation of Gyle Broadway crossing and Edinburgh Park Corridor
- Bankhead Drive earthworks and drainage continuing
- Water of Leith centre pier construction continuing with west abutment excavation
- Ground Improvements being undertaken on Murrayfield Corridor S21B and S21C
- Track continuing to be laid at Balbirnie and Carrick Knowe



- Carrick Knowe to Balgreen Bridge

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- Murrayfield Tram Stop Light weight Aggregate Fill

- Continuation of construction for the Roseburn Structures and Murrayfield Tram Stop
- Continuation of the Russell Road Retaining wall (W4)
- Equipment to Haymarket substation being installed early May
- Continuation of the cladding works on Haymarket Viaduct

8 Trams

8.1 Progress in Period

Twelve trams have now been delivered, with three having been vested with CEC. Nine trams have been issued with Interim Tram Routine Test Certificates, having successfully completed the required level of testing on the Mini Test Track.

8.2 Key Issues

The process for the valuation of Milestone Payment requirements has been agreed with CAF; however there are still some difficulties with the collection of evidence to support this valuation. Evidence requirements will now be agreed monthly in advance, such that no further misunderstanding of requirements occurs.

Two technical concerns were identified during the period;

- The incorrect placement of pedals in the cabs of all trams.
- The detachment of a roof panel on tram 252.

Action has been taken to address the immediate risks, with both issues currently being investigated further by CAF.

An initial proposal to modify the Tram Wash Plant to allow all areas of tram to be washed has been accepted by all stakeholders and is due to be closed in May.

8.3 Look Ahead

Tram Delivery, Test & Commissioning:

A workshop has been arranged with all parties; Lothian Bus, CAF and Turner & Townsend to develop an Engineering Change Control process. This is to allow technical issues identified during the initial operation of trams to be recorded and managed to completion.

There is one tram due to be delivered to Gogar Depot in the next period (tram 257 – due the 4th of May 2012), with three trams scheduled to complete Routine Testing on the Mini Test Track.



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9 Assurance

9.1 Progress in Period

Further discussions have been held with BBS to develop the System Testing & Commissioning for section B Completion. A draft Testing and Commissioning Plan is due to be issued by Infracore during week commencing 30th of April 2012.

Good progress has been made with the Employer's Requirements Management Process. A number of workshops have now taken place. Verification and Validation method has now been agreed for 83% of the requirements.

The technical support services contractor has been on site to inspect the installation of the first electrical substations. The electrical functionality exceeded the employer requirements; however some workmanship issues were raised to Infracore for rectification.

During this period Technical support services (TSS) have completed their review on the Section A submission. Two key concerns were noted; the level of detail provided within each document and the section A documents containing system wide information. These comments have now been submitted to BBS for response.

The Overhead Line Equipment building fixings have now been agreed with the property owners the Princes Street areas, this is currently the last area requiring such approval.

9.2 Consents

The Overhead Line Equipment building fixings have now been agreed with the building owners; however formal fixing contracts are now being signed for the last 3 properties.

Planning approval was granted on the 18th of April 2012 for the York Place Tram Stop.

Table below is a summary of the current outstanding consents required for the project.

Combined Consents required				
	Total Required	Total On Hold	Total Outstanding	Total Closed
Third party	18	4	12	2
Technical Informatives	6	1	1	4
Planning Consents	38	15	13	10
Other Approvals	12	0	10	2
Legal Agreements	15	0	10	5

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

1. Network Rail Asset Protection Agreement.
2. Earthing and Bonding technical informative.
3. Planning consent for Hearts memorial Relocation.
4. Road safety audit approval for Section 1C.

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9.3 Quality

Infraco have undertaken further survey works on the levels for the rail road interface on Princes Street. They have indicated that there are some sections that are out of tolerance which may require an NCR to be raised.

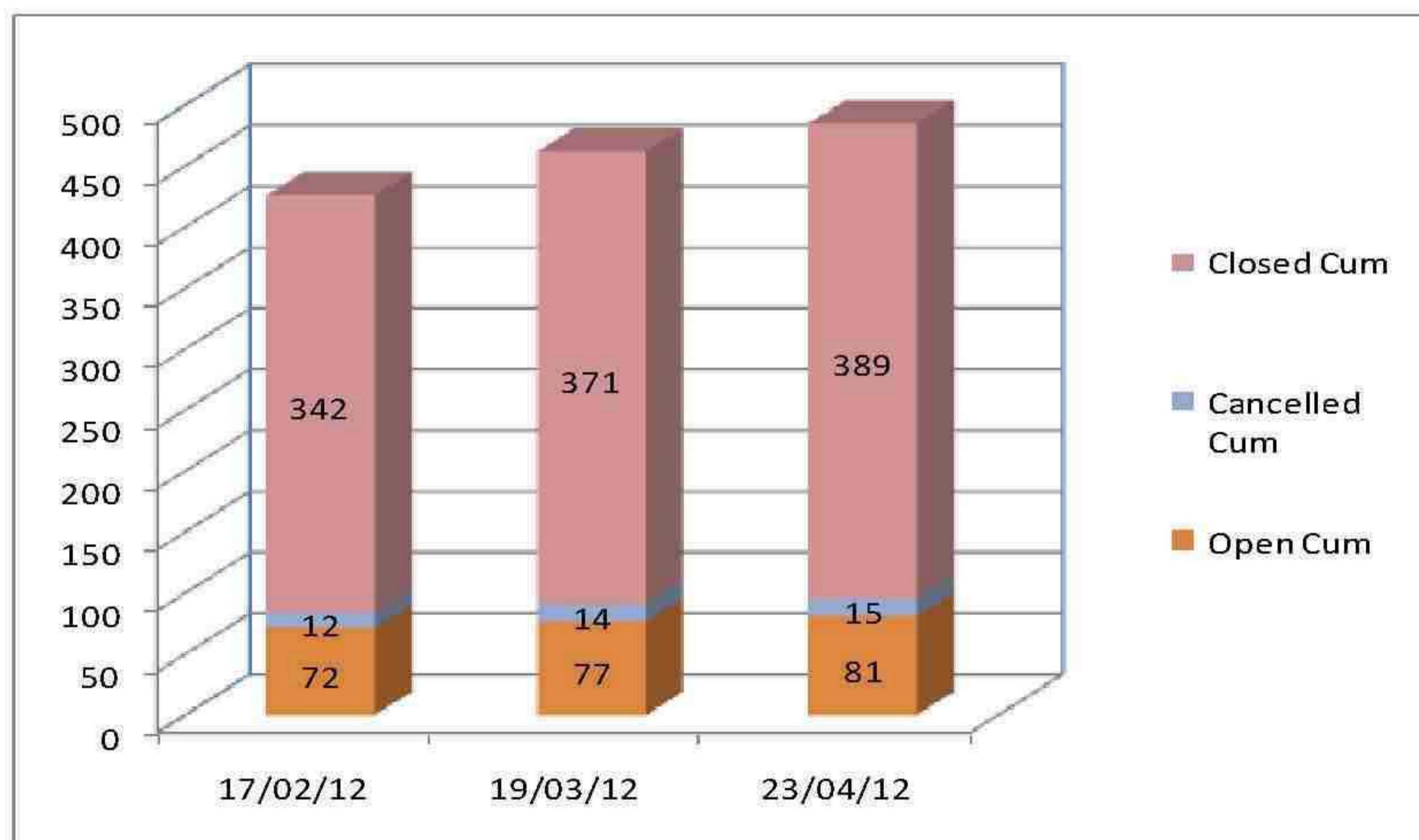
BBS have undertaken a survey of the rails and concrete works in Princes Street to quantify the workmanship issues; the report is now overdue and is anticipated for week commencing 30/04/12.

There are 36 Depot snagging items still to be resolved. 12 of which are to be monitored until the end of June 2012. The remaining items are being resolved on a weekly basis.

The total No of NCRs raised to date is 485.

23 NCR's were raised during the period and 18 NCR's were closed out during the period.

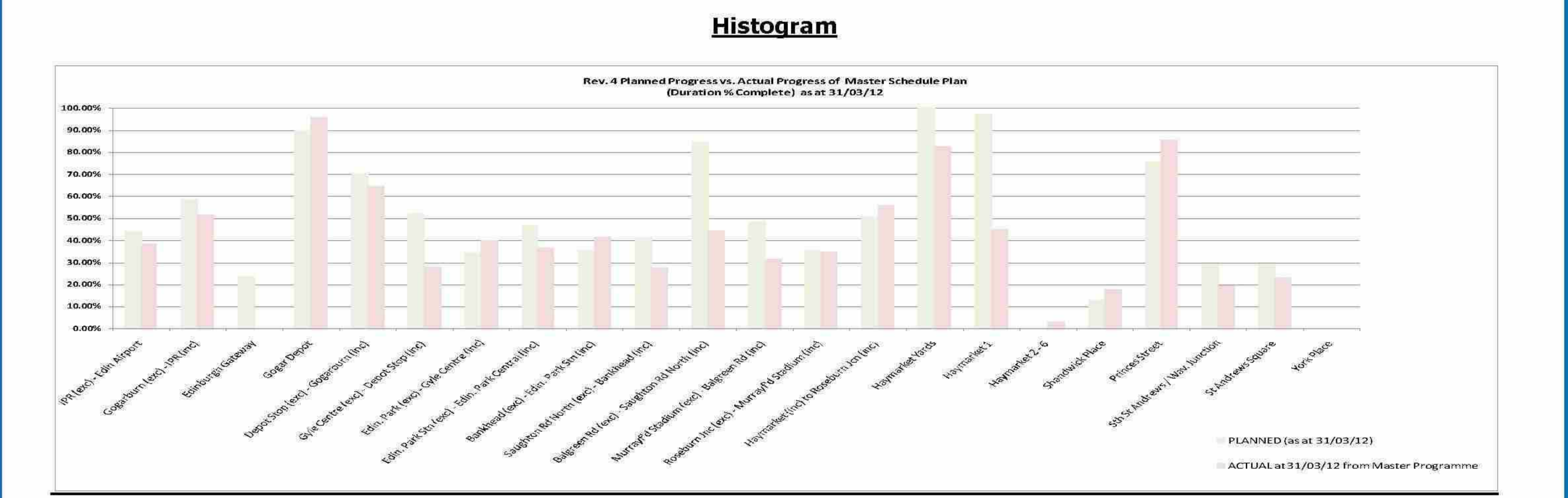
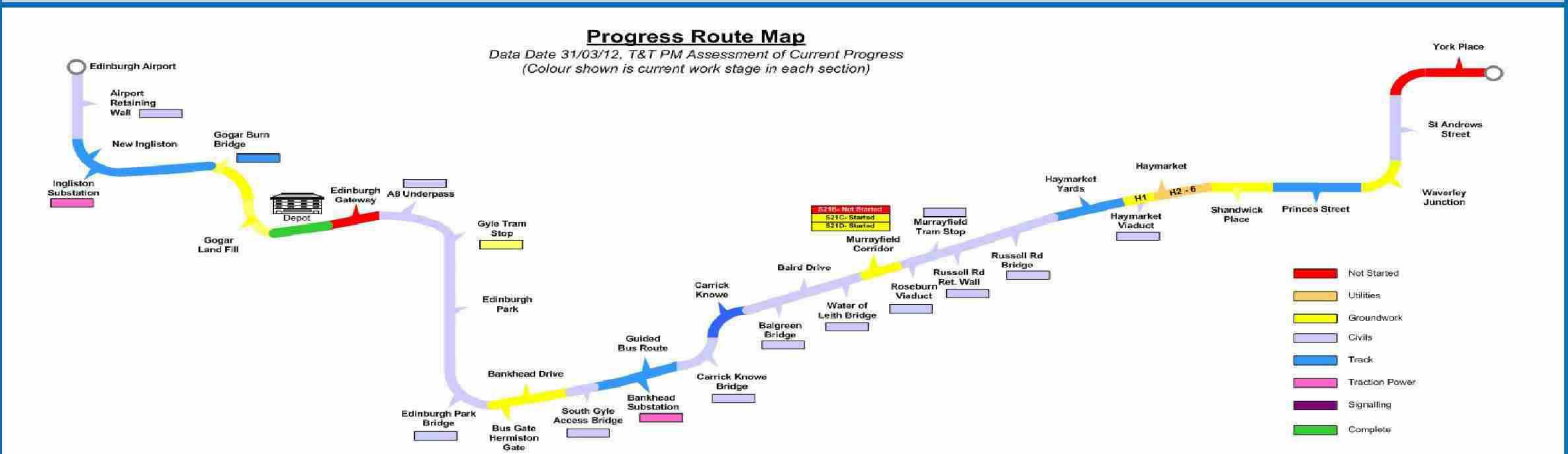
13 no open NCR's are greater than 6 months old. Details may be found within Section 6 of Deliver a Safe Tram (See Appendix 2).



Appendix 1 – Dashboards

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	09-05-2012	REPORTING PERIOD	24 th March to 28 th April 2012	Project:	Edinburgh Tram Network

Executive Summary:	CEC Actions / Decisions
<ol style="list-style-type: none"> There were 22 incidents recorded during the period. Five of which were identified as Serious / Significant. Remedial actions have been identified and are being implemented following concerns raised in relation to McNicholas' health & safety practices. A "Think Before You Act" health & safety review is to be held with the project's contractors on 10th of May. Discussions continue between Infracore and SEPA in relation to soil removed from Baird Drive. Twelve days of the 22 week cost engineering saving have been confirmed as being eroded. Further erosion if forecast for the coming period. The On Street drainage has now been re-designed to meet Scottish Water's approval requirements and McNicholas have been instructed to construct drainage and formation works instead of Infracore in order to optimise the overall project programme. Significant progress has been made with the detailed planning of the York Place works. Enabling works to Cathedral Lane substation and York Place utilities diversions will commence during the coming period. Good progress is being made in relation to the identification and scoping of Scottish Water legacy works although the scope of works is significantly greater than previously envisaged. The tender for the Leith Walk legacy works has been produced and submitted to CEC for comment prior to tender issue. Close out works have now commenced at Tower Place Bridge and Lindsey Road. Infracore have commenced track slab works within Shandwick Place and St Andrew Street. Princes Street remedial works are progressing ahead of programme. Retaining wall works adjacent to the Gogar Burn at the airport remain marginally behind programme. The works to the Eastfield Avenue Crossing and the A8 Roundabout have been completed during this period. The SGN works to the gas main at New Ingliston remain on programme for completion by the 18th of May 2012. The progression of works through the Off Street rail corridor have been impacted by localised ground movements during sheet piling operations. Twelve trams have now been delivered to the depot. Submissions have been made to the Independent Certifier (IC) regarding Infracore's entitlement to a Pricing Assumption Variation (PAV) for the revised drainage design. The IC has advised that in his opinion, a PAV has occurred. A Quantitative Schedule Risk and Cost Risk Analysis review will be held on the 3rd of May and a Cost Report Review will be held on the 9th of May 2012. The purpose of these meetings is to confirm alignment between the Master Schedule, the cost savings from the 22 week programme saving and reporting of risk, opportunity and contingency. 	<ol style="list-style-type: none"> Wayleave Haymarket – Progress the wayleave with Scottish Power and Network Rail. Haymarket. Progress temporary build-over at Haymarket. Bus Tracker. Decision to be made on whether Bus Tracker equipment is to be fitted to trams. York Place - Confirmation of approach to programme at York Place. Dublin Street Steps – Support in obtaining permissions at Dublin Street Steps. Advance Purchase of Equipment - Definition from Transport Scotland on equipment to be advanced purchased for Edinburgh Gateway and subsequent approval from CEC. Asset Protection Agreement - Close out of Asset Protection Agreement.



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	09-05-2012	REPORTING PERIOD	24 th March to 28 th April 2012	Project:	Edinburgh Tram Network

KEY MILESTONES

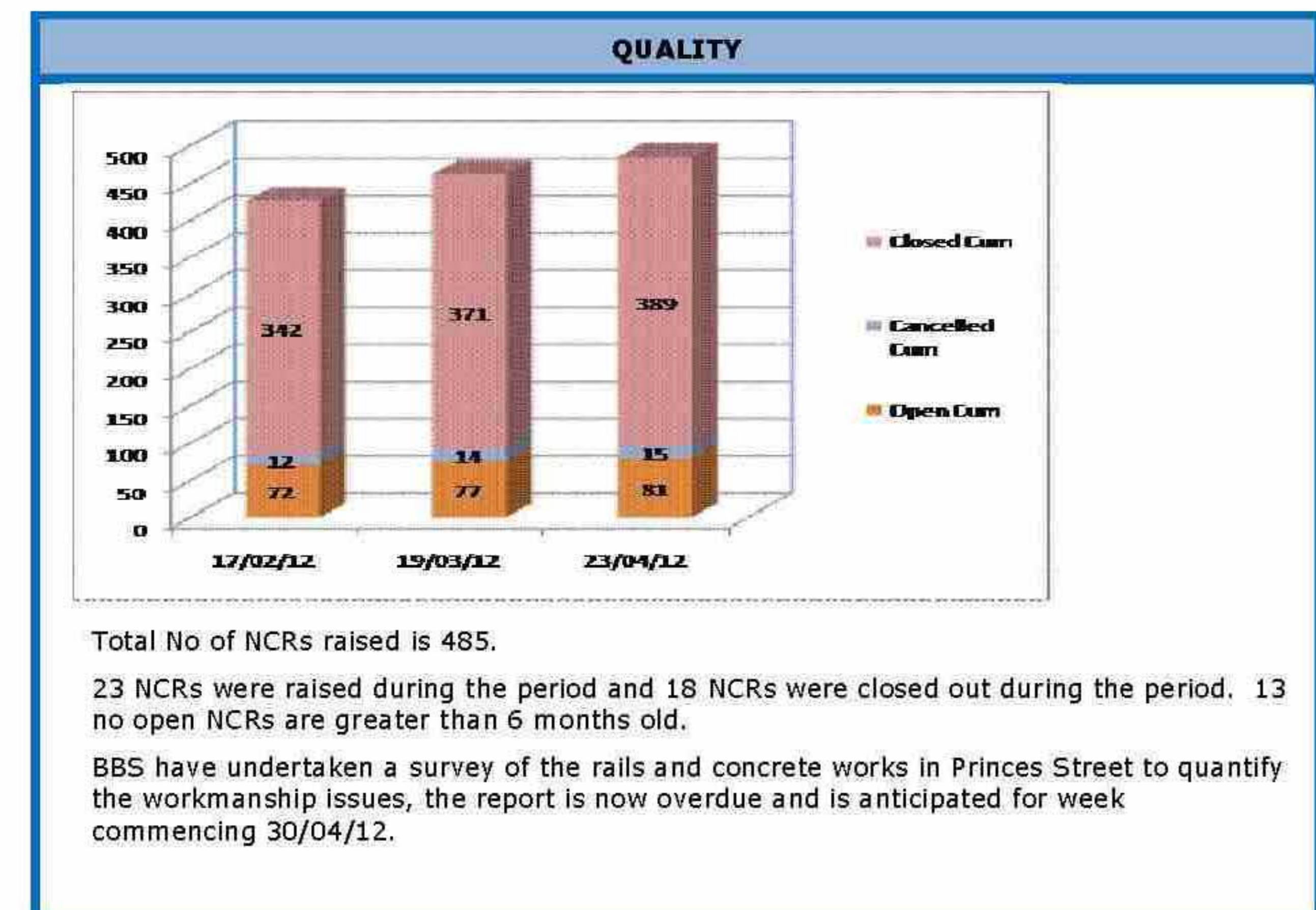
		A	B	B – A = C			
Section	Description	Rev 4 Schedule Date	Forecast/ Actual Date	Var. (d's)	Completed	Crit. Path	Comments
Section Completions							
ALL	Section A; Depot complete	16-Dec-11	16-Dec-11	0	✓	Y	
ALL	Section B; Test Track complete	08-Mar-13	20-Mar-13	12		Y	Due to current delays in Off-Street construction, measures are being put in place by Infracore to recover delays.
ALL	Section C; All construction complete	09-Apr-14	10-Mar-14	-30		Y	
ALL	Section D; open for revenue	08-Jul-14	09-Jun-14	-29		Y	
On Street							
Haymarket							
On-Street	Haymarket 1 – Utility moves in advance of Infracore Works Complete	28-Oct-11	16-Dec-11	49	✓	N	Access to site was granted to Infracore on 18-Nov-11, with only minor utilities works remaining. Full hand back was 16 Dec 11
On-Street	Haymarket 1 Complete	04-Apr-12	14-Aug-12	132		N	Further delay to H1 due to Scottish Water manhole and drainage connection issues. N.B. Delay to H1 completion does not affect overall project completion date.
On-Street	Haymarket Phase 2 Utilities Work Complete	N/A	08-Jun-12	N/A		N	All Haymarket Utilities works to be carried out in advance of construction works.
Shandwick Place							
On-Street	Start Shandwick Place Traffic Management	07-Mar-12	14-Jan-12	-53	✓	N	Complete
On-Street	Start Shandwick Place Utilities Moves	N/A	03-Jan-12	N/A	✓	N	Complete
On-Street	Shandwick Place Utility Moves Complete	N/A	15-Feb-12	N/A	✓	N	Complete
St Andrews Square & St Andrews St North							
On-Street	St Andrews Sq Traffic Management	14-Feb-12	07-Jan-12	-38	✓	N	Complete
On-Street	Start St Andrews Square Utility Moves	N/A	09-Jan-12	N/A	✓	N	Complete
On-Street	St Andrews Square Utilities Work Complete	N/A	14-Feb-12	N/A	✓	N	Complete
On-Street	St Andrews Square Civils Complete	15-Oct-12	10-Oct-12	-5		N	
South St Andrews St / Waverley Junction							
On-Street	Start Utilities Works South St Andrew St / Waverley St Junction	N/A	09-Jan-12	N/A	✓	Y	Complete
On-Street	Utilities Works South St Andrew St / Waverley St Junction Complete	N/A	26-Mar-12	N/A	✓	Y	Complete
On-Street	Start Civil Work South St Andrews/Waverley Junction St.	08-Feb-12	26-Mar-12	47	✓	Y	Complete
On-Street	South St Andrews/Waverley Junction St. Civils Complete	15-Oct-12	16-Oct-12	1		Y	On-Street works have been re-sequenced in line with Cost Engineering initiatives
York Place							
On-Street	Start York Place Utility Moves	N/A	29-Oct-12	N/A		Y	On-Street works have been re-sequenced in line with Cost Engineering initiatives. Traffic light at SAS/Waverley are required to be commissioned before starting this phase.
Princes Street							
On-Street	Princes St Highway Re-instatement and non-M&E works Complete	05-Jul-12	06-Jun-12	-29		N	Discussions ongoing with BBS indicate that works in PST area may be completed ahead of Rev.4 date.
Off Street							
Off-Street	Murrayfield ground improvements Complete	25-Mar-12	13-Jun-12	80		N	Sheet Piling Commenced 16th April Problems with Sheet Piling causing movement to NR OHLE mast. Full impact still to be determined.
Off-Street	Haymarket Yards Complete	27-Feb-12	12-Jun-12	106		N	Delay accom'd within float, no effect on forecast completion of AIR-HAY route
Off-Street	South Gyle Beam Installation Complete	11-Jul-12	28-Nov-12	140		N	Ground Improvement Works being finalised by SDS
Off-Street	Water of Leith Bridge Complete	31-Aug-12	21-Nov-12	82		Y	Delay due to reverting back to original construction methodology in lieu of design for ground improvements. However, ongoing review of construction programme, in conjunction with BBS, may result in improvement to to current forecast.
Off-Street	W4, 19-29; Russell Rd. Retain Complete	29-Oct-12	04-Dec-12	36		N	Sheet Piling Commenced however Problems with Sheet Piling causing movement to Scotrail Structures. Full impact still to be determined.
Off-Street	S21A Roseburn St. Complete	19-Sep-12	12-Oct-12	23		N	Delay accom'd within float, no effect on forecast completion of AIR-HAY route
Off-Street	S22A Balgownie Road Bridge Complete	18-Sep-12	08-Jan-13	112		N	Delay accom'd within float, no effect on forecast completion of AIR-HAY route
Depot & Test facilities							
Depot & Test Facilities	Mini Test Track available	02-Dec-11	12-Dec-11	10	✓	N	Complete
Depot & Test Facilities	Soil nails, test, @ Gogar Landfill Complete	16-Jan-12	08-Feb-12	23	✓	N	Complete
Depot & Test Facilities	Reinf'd Earth Embank't Gogar Landfill Complete	16-Mar-12	25-May-12	70		N	Delay is presently accom'd within float. So far, no effect on forecast AIR-Depot test track availability. However, further slippage noted and being monitored.
Depot & Test Facilities	Eastfield Avenue Complete	21-Feb-12	22-May-12	91		N	Delay accom'd within float, no effect on forecast AIR-Depot test track available Road returned to Airport by end of April.
Depot & Test Facilities	Ingliston Gas Mains Diversion Construction Complete	N/A	18-May-12	N/A		N	Delayed Start due to wayleave agreement. SGN to submit programme with aspirations to recover to original programme.
Depot & Test Facilities	A8 Underpass Completion & Traffic Back	13-Jun-12	25-Apr-12	-49	✓	N	Anticipated completion was 31-Mar-12, however delay in confirmation of streetlighting location with knock on effect to the completion of concrete pouring and footpath works. Still ahead of Rev.4 completion date
Depot & Test Facilities	Gogar Burn Tram Stop Complete	17-Oct-12	14-Sep-12	-33		N	Ahead of Schedule
Depot & Test Facilities	IPR-GBN Interim Test Track available		18-Sep-12	N/A		N	The interim test track, IPR-GBN, is a proposed milestone
Depot & Test Facilities	AIR-Depot Test Track available	07-Dec-12	20-Dec-12	13		Y	Delay due to late start of the retaining wall at the Airport, Infracore feel this is recoverable.

Produced by	Martyn Ayres & Shirley Collin	SECTION	HS&E, 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	09-05-2012	REPORTING PERIOD	24 th March to 28 th April 2012	Project:
						Edinburgh Tram Network

PROGRESS

SUMMARY

- Health and Safety** - The team have remained focused on the incidents that have occurred and McNicholas continue to develop their site management team, their Managing Director have given assurances that he will oversee the ongoing improvements on site.
- The "Think before you Act" meeting has been arranged for the 10th of May 2012.
- Environmental** - Continuing discussions are ongoing with Scottish Environmental Protection Agency regarding the classification of material from Baird Drive.
- Assurance** - Technical Support Services have been on site to inspect the electrical substation, good progress reported.
- The verification of the Employers requirements is progressing well, with regular workshops being attended by all parties.



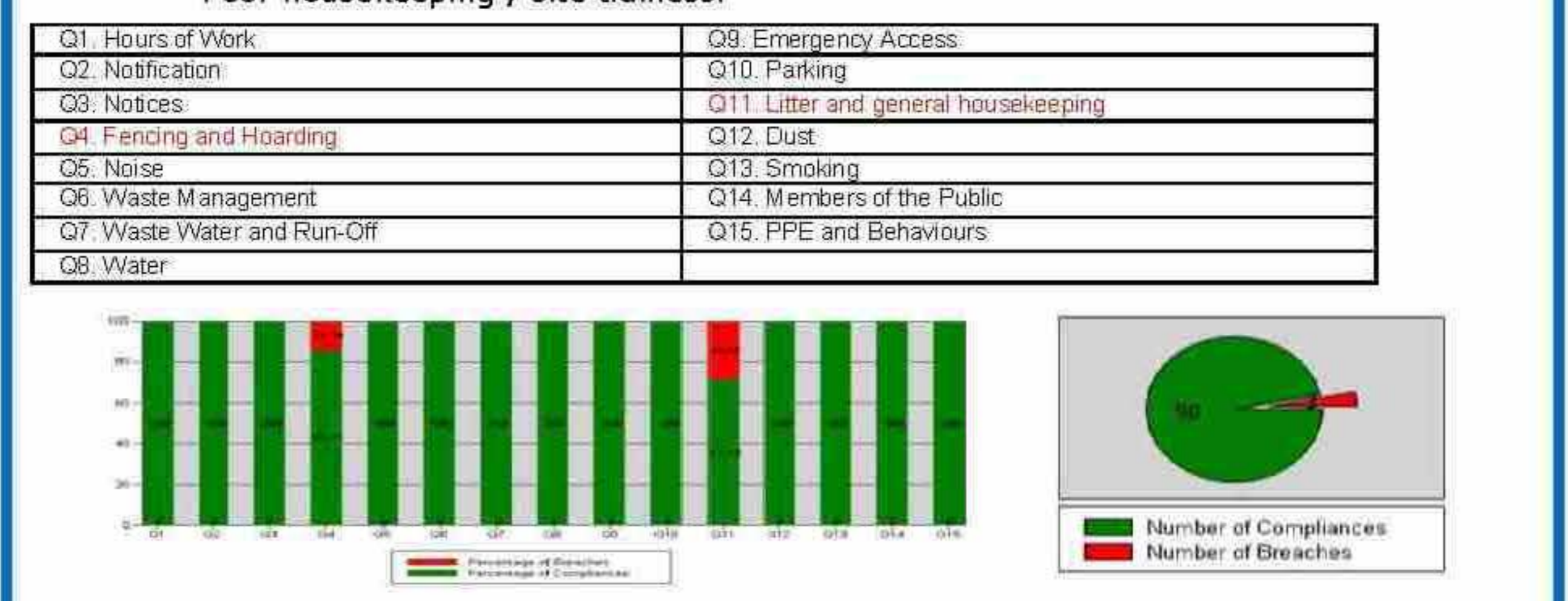
ENVIRONMENT

Environmental

- BBS continue to have discussions with SEPA regarding the classification of soil being excavated. On site meeting to be held on the 27th of April 2012 BBS continue to have discussions with SEPA regarding the classification of soil being excavated on site at Baird Drive, There is a follow up meeting planned for the 27th of April to close out SEPA's concerns.
- A Joint environmental inspection carried out with BBS and Turner & Townsend with Coffey's on section 5. Issues regarding waste control and drip trays were raised, final report still to be issued.
- BBS Environmental Forum held on the 25th of April 2012. Representative from all of BBS's contractors were present. Review of Non Conformances raised by BBS's external auditors, relating to cross contamination of waste, European waste codes, waste duty of care, diesel leaks and oil storage.
- Inspection of monuments currently held in storage by Land Engineering will be arranged for week commencing 7th of May 2012.

CoCP & Key

- CoCP compliance for period 1 was recorded at 97%.
- 3 issues required action. These comprised:
 - Site fencing to be moved.
 - Poor housekeeping / site tidiness.

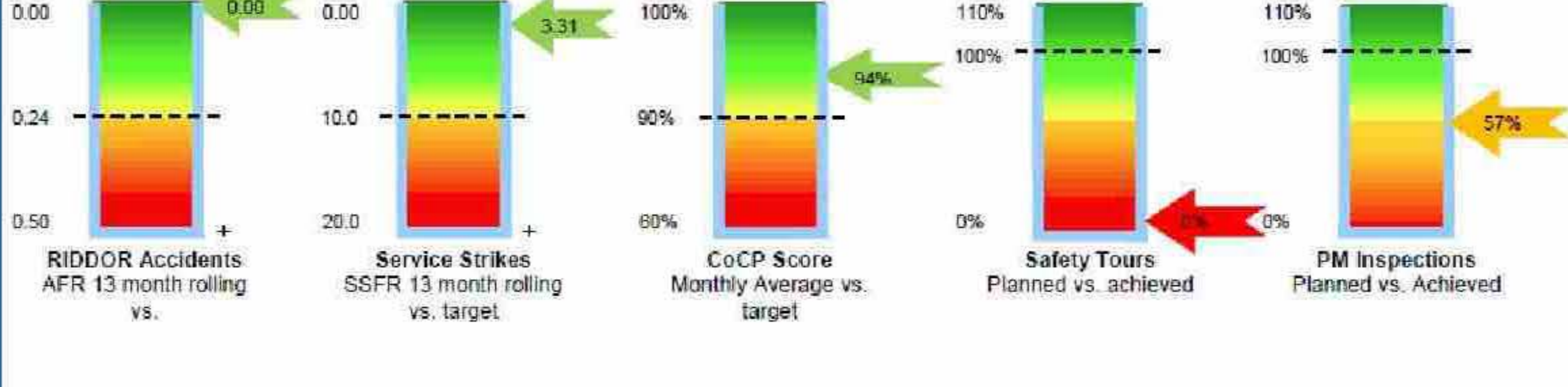
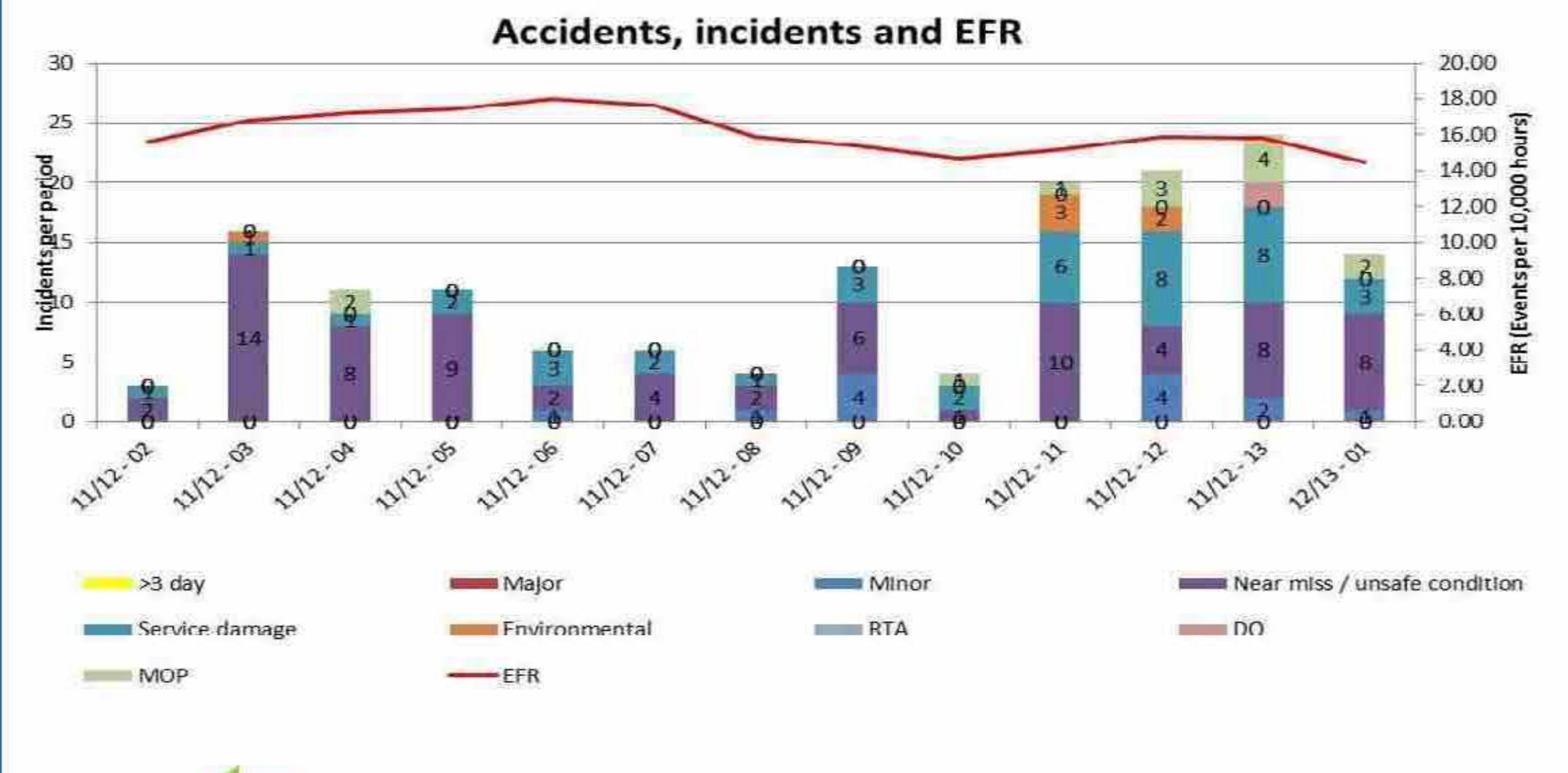


HEALTH & SAFETY

- There were 22 incidents reported during the period since the last dashboard. 5 were classified as serious / significant incidents. A summary is provided below; full details can be obtained on page 6 of the Progress Report.
- The five serious / significant incidents relate to two falls by a member of the public and two lower voltage cable strikes. The other incident involved a procedural Scottish Water.
- Turner and Townsend continue to work with McNicholas to close out the actions related to the 11kV cable strike in South St Andrews Street. Once the improved processes and procedures have been implemented this information will be sent to the Health and Safety Executive (HSE) in response to the comments received on the incident investigation.
- The 'Think before you act' safety focus session has now been agreed for the 10th of May, formal invitations are now to be sent.
- The rolling 14 Period AFR remains at 0.00, better than the benchmark KPI of 0.23 for the project.

Classification	Number of incidents	Major incidents	Serious / significant incidents	Other incidents	RIDDOR Reportable incidents
Member of public	3	0	2	1	0
Service damage	7	0	2	5	0
Environmental	0	0	0	0	0
Major	0	0	0	0	0
Injury > 3day	0	0	0	0	0
Injury < 3 day	2	0	0	2	0
Dangerous occurrence	0	0	0	0	0
Road traffic accident	0	0	0	0	0
Near miss / unsafe condition	10	0	1	9	0
TOTAL	23	0	5	17	0

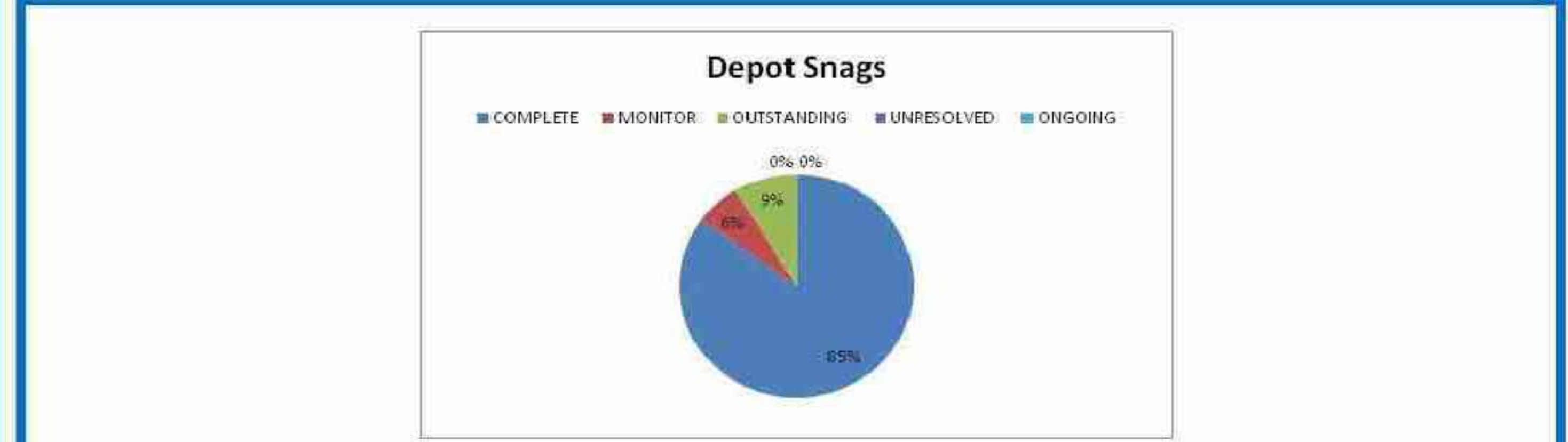
TREND



PROJECT INITIATIVES

- Deliver the Tram Safely**
- The Turner & Townsend Project Delivery Safety Meeting was held on the 25th of April, a renewed emphasis was placed on the joint monitoring being undertaken on the project, to strengthen the project safety culture.
 - Investigation has now commenced into initiatives to support the local community information has been passed to CEC communication team for discussions with the contractors, they have agreed to sponsor a local school.

DEPOT SNAGS



- Key snags to be closed are;**
- Castell key sockets modification, BBS to complete remedial work by the 11th of May.
 - Water ingress to the wheel lathe due to be closed by the 18th of May.
 - Sealing of Depot shed door, Tie Notice of Change to be drafted and issued by the 18th of May.
 - Work shop tool air supply piping, Tie Notice of Change to be drafted and issued by the 18th of May.
 - Depot pit drainage resolution, proposal to be agreed with CAF and Lothian Buses by the 25th of May.

CONSENTS

Combined Consents required	Total Required	Total On Hold	Total Outstanding	Total Closed
Third party	18	4	12	2
Technical Informatives	6	1	1	4
Planning Consents	38	15	13	10
Other Approvals	12	0	10	2
Legal Agreements	15	0	10	5

- Key Consents due in the next period, with full list in the appendix.**
- Network Rail Asset Protection Agreement
 - Earthing and Bonding technical informative
 - Planning consent for Hearts memorial Relocation
 - Road safety audit approval for Section 1C.

SOFT ANALYSIS

- | | |
|---|--|
| <p>SUCCESSSES</p> <ol style="list-style-type: none"> Targeted inspection of excavations completed. All stakeholders are cooperating well at the depot. New assurance system implemented for Tram delivery 'Think before you act' session | <p>OPPORTUNITIES</p> <ol style="list-style-type: none"> Increased monitoring of onsite activities. Project Management resources are will become part of integral assurance process. Safety seminars to be arranged for project manager. Review of supervisor competencies Lack of availability of GIS information from Scottish Water. Introduction of additional staff and working patterns |
|---|--|

- | | |
|--|--|
| <p>FAILURES</p> <ol style="list-style-type: none"> No Safety Tours were carried out within the Period. | <p>THREATS</p> <ol style="list-style-type: none"> Statuary bodies co-operation. Late issue of documentation by BBS. Potential gaps between contracted maintenance responsibilities Visibility of BBS design and assurance documentation. Concerns have been raised that site safety is potentially being compromised by inadequate resources to meet Programme. Continuing issues with regard to service strikes and compliance with statutory utility body procedures. |
|--|--|

Produced by	Willie Delaney & Martyn Ayres	SECTION	TRAMS 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	09-05-2012	REPORTING PERIOD	24 th March to 28 th April 2012	Project: Edinburgh Tram Network

PROGRESS IN PERIOD

PROGRESS IN PERIOD

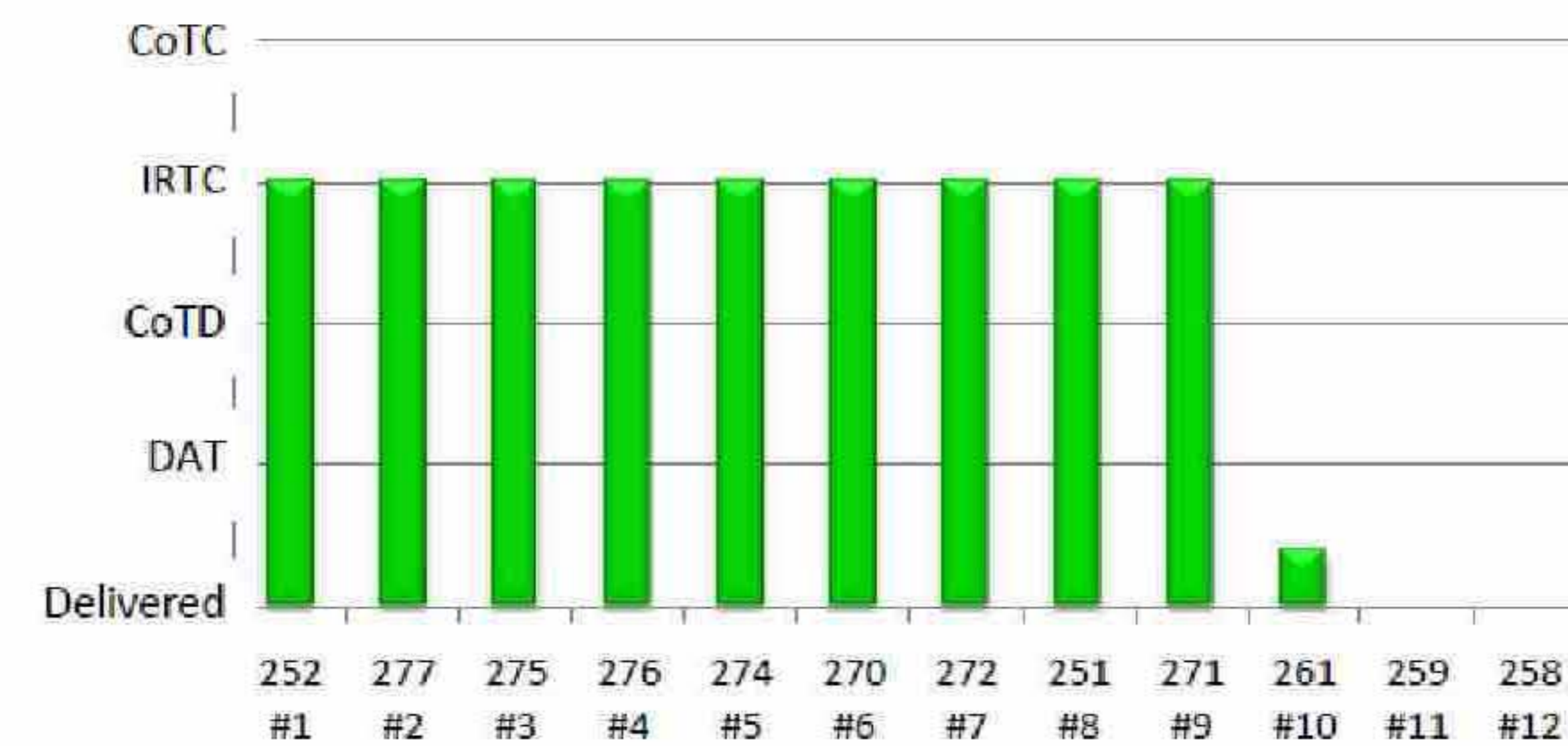
- Tram Inspector now fulfilling all requirements and attending 100% of Routine Testing at Gogar Depot
- Tram commissioning continues to be completed in line with the commissioning plan:
 - Twelve trams now delivered to Gogar Depot.
 - 9 have completed Interim Routine Testing.
 - 3 to be coupled and tested.
 - Next tram (#257) due delivery on 4th May 2012.
- Tram Test and Commissioning workshop held to discuss commissioning procedure.
 - All parties now agreed on test and commissioning requirements.
 - Turner & Townsend procedure issued as a formal document.
 - Procedure now being followed for all tram testing.
- Two additional trams vested with CEC
 - Total of three trams now vested (#252, #276 and #277)
- Information on CAF requirements for Systems Integration Testing provided to BBS – awaiting issue of BBS Systems Integration Plan.

LOOK AHEAD

The following items will be progressing during the coming period:

- Workshop arranged (1st May 2012) with all stakeholders to develop an Engineering Change Control procedure for Trams – may also be used for changes to Gogar Depot.
- Tram Commissioning Plan;
 - Thirteenth tram (#257) due to be delivered on 4th May 2012.
 - Routine Testing scheduled to be completed on three trams in next period.

Tram Commissioning Progress



CoTC - Certificate of Tram Commissioning
 IRTC - Interim Routine Test Certificate (MTT)
 CoTD - Certificate of Tram Delivery
 DAT - Delivery Acceptance Test

Awaiting Test Reports
 Tests Completed

PHOTOGRAPHS



Tram arrival at Gogar Depot



Tram Cab



Tram fleet at Gogar Depot

KEY ISSUES

KEY ISSUES

- Lothian Buses have yet to take full operational responsibility for the Depot. Negotiations are on going with CEC.
- Process required to manage the identification, investigation and rectification of issues raised during tram operation – workshop arranged with all relevant stakeholders (LB, CAF, Turner & Townsend).
- Process for the collection of verification evidence for Milestone Payments has been agreed, but collection of evidence to validate Milestone Payment still difficult – evidence requirements to be agreed monthly in advance, as part of the valuation process.
- Two major technical issues were identified during the period; the incorrect placement of pedals in the cabs of all trams and the detachment of a roof panel on tram 252 - action has been taken to address the immediate risks, with both issues currently being investigated further by CAF.

OPERATIONAL ISSUES

- Ticket Vending Machines (TVM's) – Lothian Buses are currently reviewing the contract to complete the procurement. This report is due on the 4th of May 2012.

CEC ACTIONS / DECISIONS

- Decision to be made on whether Bus Tracker equipment is to be fitted to trams.

SOFT ANALYSIS

SUCCESSSES

- Role of Tram Inspector (Mott MacDonald) now clear. Tram Inspector now attending all Tram commissioning at Gogar Depot
- Tram commissioning now progressing smoothly in accordance with new procedures
- BBS now clear on Tram System Integration requirements for Section B

OPPORTUNITIES

- 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)

FAILURES

None identified

THREATS

- Relationship between BBS (primarily Siemens) and CAF needs to be strengthened, to avoid any affect on integration and coordination of testing.
- Need to convert plan to handover responsibility of depot operations from ETL to Lothian Buses
- Valuation process must be managed to ensure evidence is obtained and invoices processed in line with contract requirements

Produced by	Rob Leech & Shirley Collin	SECTION	ON STREET DASHBOARD REPORT			Employer	City of Edinburgh Council
Approved by	Julian Weatherley	Issue By:	CONFIDENTIAL – LEGALLY PRIVILEGED AND FOI(S)A EXEMPT			Address	Waverley Court, Edinburgh, EH8 8BG
Status	FINAL	Issue Date	09-05-2012	REPORTING PERIOD	24 th March to 28 th April 2012	Project:	Edinburgh Tram Network

PERIOD

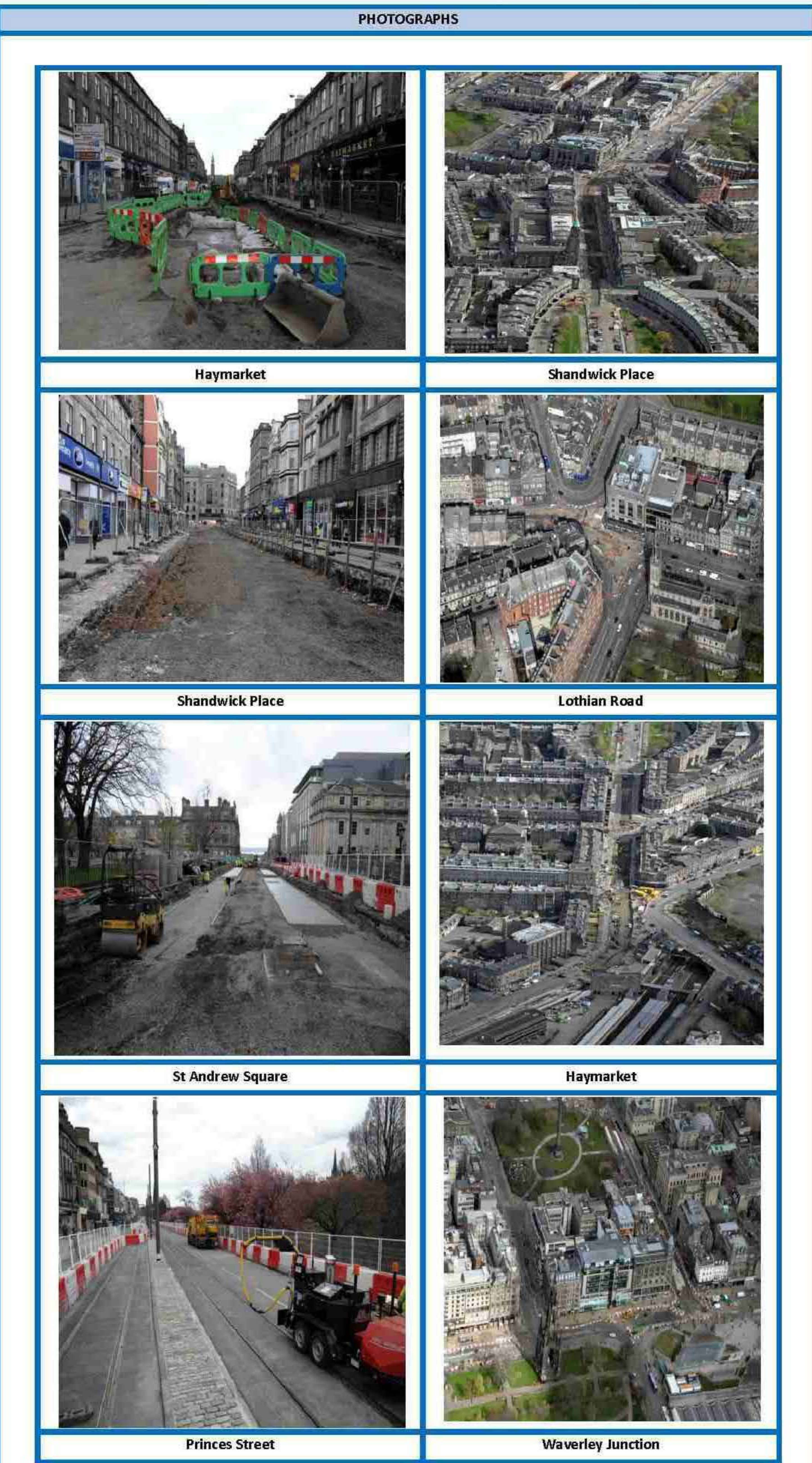
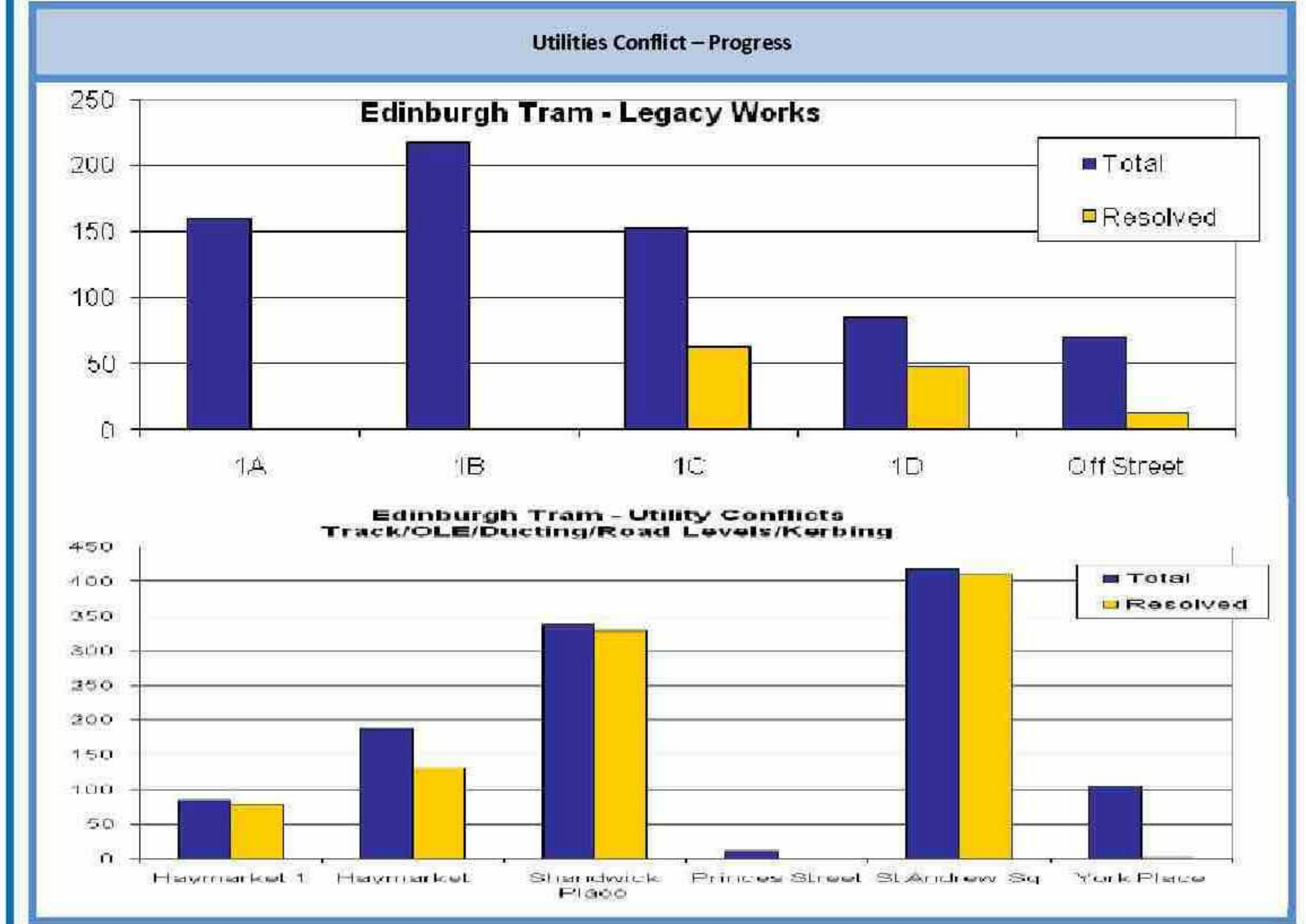
PROGRESS

- Majority of OLE piling works have been completed and Infraco has commenced track slab construction in areas not affected by the drainage redesign.
- St Andrew Street to Waverley junction has been handed back to Infraco allowing main works to resume and works in Princes Street are due to be completed early ahead of July.
- Drainage redesign has progressed well and decision was taken to de-scope elements of the drainage works from Infraco to reduce the impact of delay on the overall programme. Track box construction has also been de-scope in some areas to benefit programme.
- The commercial impacts of the approach to drainage and track box have been discussed with Infraco and it has been agreed in principle how these matters will be dealt with.
- Detailed planning of works in York Place has commenced and a number of opportunities have been identified. These include carrying out some works ahead of the October date for closing York Place.
- The Invitation to Tender for Leith walk legacy works was issued on 30 April on the basis of an amended NEC Option C form of contract.
- Third party approvals and consents for the Princes Street OLE re-design and York Place single lane running were progressed during the period and permissions were granted by CEC.
- Work has commenced at Tower Place Bridge and Lindsay Road with works expected to be completed by the end of June.

LOOK AHEAD

The following items will be progressing during the coming period:

- Focus will be on completing the drainage works and handing back all sites to Infraco by mid May.
- Planning at York Place needs to conclude with some works commencing at Cathedral Lane.
- Turner & Townsend will continue to react to utility discoveries by Infraco and will work with Infraco in planning any "type 2" conflict works not diverted prior to sites being handed back.
- Work will continue on dealing with legacy works, including issues of the tender for the legacy works north of York Place.
- Planning approval for Dublin Street Steps will continue to be monitored.
- Support will be provided to CEC in delivering the Forth Ports remedial works.
- Close out of commercial issues arising as a consequence of the drainage and track box re-scoping.



KEY ISSUES

- McNicholas Safety issues.
- Infraco drainage connections and finalisation of outstanding commercial/programme issues.
- Scottish Water relationship generally.
- Legacy works within tram worksites – Possible delays, categorisation being finalised.
- Legacy works at North of York Place.

CEC ACTIONS / DECISIONS

- Support in obtaining permissions at Dublin Street Steps.
- Confirmation of approach to programme at York Place.

SOFT ANALYSIS

<p>SUCCESSSES</p> <ol style="list-style-type: none"> Working relationships with BBS remains good, particularly on site Speedy reaction to drainage issues 	<p>OPPORTUNITIES</p> <ol style="list-style-type: none"> Optimize revised traffic phasing Close out works at Forth Ports & Lindsay Road Look to accelerate some enabling works in York Place ahead of the October traffic management
<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"> McNicholas safety issues Infraco drainage connections although this threat is reducing significantly Legacy works at Leith Walk Legacy works within tram worksites Scottish Water relationship Unknown utilities Approval of Dublin Street Steps Infraco delay to Rev 4 due to utilities Infraco non-conformance in Princes Street

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Produced by	Shirley Mushet & Shirley Collin	SECTION	
Approved by	Julian Weatherley	Issue By:	
Status	FINAL	Issue Date	09-05-2012

REPORTING PERIOD	24 th March to 28 th April 2012
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PROGRESS IN PERIOD

PHOTOS

KEY ISSUES

PROGRESS IN PERIOD

1. Retaining and secant wall construction continued at the Airport.
2. Eastfield Avenue crossing completed.
3. Daily and weekly coordination meetings with the airport continuing.
4. Scottish Gas Networks diversion at Ingliston progressing well.
5. Scottish Power completed the High Voltage diversion to the Ingliston Park and Ride substation.
6. Soil reinforcement of the Gogar landfill continuing.
7. Draft design produced for Edinburgh Gateway.
8. A8 reopened to two lanes of traffic in both directions.
9. Progression of the Gyle Broadway crossing.
10. OHLE mast foundations commenced along Edinburgh Park Corridor.
11. Edinburgh Park station construction continuing.
12. Baird Drive soil reinforced wall continuing.
13. Roseburn Street structures progressing well.
14. W3 wall soil nails complete and bored piling commenced.
15. Interface issue between sewer and piling location at Carricknowe agreed with Scottish Water with the sewer diversion underway.



Eastfield Avenue Crossing



Edinburgh Park Stop



W3 Piling Operations



Balgreen Abutment

KEY ISSUES

1. Movement due to piling works at the ScotRail depot and on Network Rail's track assets.
2. Airport have raised concern over the gradients between the two trams lines and that this may affect the operation of their road.
3. Edinburgh Gateway late design change by SDS; king post wall now being progressed.

CEC ACTIONS / DECISIONS

1. Close out the temporary buildover at Haymarket.
2. Close out of the wayleave with Scottish Power and Network Rail.
3. Definition from Transport Scotland on equipment to be advanced purchased for Edinburgh Gateway and subsequent approval from CEC.
4. Close out of Asset Protection Agreement.

LOOK AHEAD

- The following items will be progressing during the coming period:
1. Secant and retaining wall construction continuing along the Gogar Burn.
 2. Completion of the SGN/NIL diversion.
 3. Continuation of Gogar Landfill earthwork reinforcement.
 4. Continuation of Gyle Broadway crossing and Edinburgh Park Corridor.
 5. Bankhead Drive earthworks and drainage continuing.
 6. Water of Leith centre pier construction continuing with west abutment excavation.
 7. Ground Improvements being undertaken on Murrayfield Corridor S21B and S21C.
 8. Continuation of construction for the Roseburn Structures and Murrayfield Tram Stop.
 9. Installation of bridge beams across Roseburn Street.
 10. Continuation of the Russell Road Retaining walls (W3 and W4).
 11. Equipment to Haymarket substation being installed mid May.
 12. Continuation of the cladding works on Haymarket Viaduct.

SOFT ANALYSIS

- SUCCESSSES**
1. Signed SGN/NIL wayleave.
 2. Working with SGN to produce a programme to maintain the completion date for the diversion.
 3. A8 reopened to two lanes of traffic in both directions.
 4. Maintaining a good relationship with ScotRail despite damage to their assets.
 5. There is a good working relationship with Network Rail.
 6. Off Street BBS and T&T relationship positive.
 7. Timely installation of HV meters into substations shall save on capacity charge.

- OPPORTUNITIES**
1. Early diversion of the Edinburgh Gateway sewer.
 2. OHL masts purchased for the on street section, investigation into whether these can be utilised off street.
 3. Purchase of the temporary mast maybe negated by using the current aerial within the depot.

- FAILURES**
1. Continued utility strikes.

- THREATS**
1. Movement of Network Rail and ScotRail assets may lead to programme and cost implications.
 2. Eastfield Avenue gradients may be raised as an issue by the airport.

Produced by	Shirley Collin, Mike Mackenzie & Peter Smith	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	09-05-2012	Reporting Period	24 Mar to 28 Apr 2012	Project	Edinburgh Tram Network

SUMMARY				VALUE ENGINEERING		CHANGE		
Reporting Date:	23-Mar-12	28-Apr-12	Movement	Cost Engineering Instructions	£K	BBS On-Street Works Estimate (Period end 31 March) and Commercial Issues		
Original Contract Amount	479,660	479,660	0	Remove embargoes and revised TM	5,902		On - Street	
Add: Approved Changes	72	3,546	-1,032	Setts (separate CEC budget)	1,000	15	Utility conflicts – investigation	20
Add: Changes in Progress	9,602	9,462	6,009	De-scope public realm at St Andrew Sq	700	25, 72 & 87	OLE foundations resulting from discovery of utilities	699
Add: Anticipated Changes	15,902	13,917	675	Contributions 3rd Party Agreements	2,870	28	Temporary accommodation for utilities contractor	2
Less: Funding contributions	-8,699	-8,716	-4,931	De-scope works at Forth Ports	2,440	29	Road re-construction protocol (opportunity to reduce depth)	0
Less: Opportunities to secure	-7,310	-6,752	0	Omit Airport Tram Kiosk and Canopy	150	30	Additional CBR/Plate testing – ground strength	0
TOTAL: Forecast cost	489,227	491,117	721	Temporary tram stop at York Place	150	32	Utilities affecting site clearance - disconnect power to bus trackers	-15
Original Budget	467,407	467,407	0	Redeployment of Trams	CEC	35,79	Utilities contractor affecting Infracore progress	34
Variance	21,820	23,710	721	Cancel track York Place to Newhaven	1,100	36	BT Fibre Optic affecting progress	85
				Omit Siemens works at Tower Place	100	37	Slit trench to validate utilities	9
Original forecast risk allowance	32,747	32,747	0	Road re-construction depth	700	38	Move 3 OLE foundations (St Johns Church)	12
Less: Variance (from above)	-21,820	-23,710	-1,890	Design freeze north of York Place	t.b.c	40	Scottish Water diversion Princes St	251
Forecast balance of risk allowance	10,927	9,037	-1,890	Reduced requirement for storage	CEC	43	Christmas embargo – temporary infill Princes St	218
				Lay off TM at Forth Ports/Leith Walk	t.b.c	44	BT diversion – Princes St (included PMC 040)	Inc
				Roseburn Viaduct Cladding	300	52	Install Traffic Management early Shandwick and St Andrew sq	163
				De-scope crew relief facilities	70	68	Utilities affecting track drainage	13
				Opportunities secured	8,730	69	Geotextile liner to Clifton Terrace void	3
				Opportunities to secure	6,750		Total On-Street Works Estimate	1,494
							Off – Street	
						t.b.c	Payment for Utility diversions Off Street outwith BBS's scope	340
						61	Temporary footpath and drainage - Roseburn Viaduct	30
						t.b.c.	Low voltage supplies to Airport Tramstop cabinet	30
							General	
							Rev3A to Rev 4 programme – evidence of delay costs (BB only, Siemens t.b.c)	600
							TOTAL	2,494

1. Embargoes and TM – subject to actual time saving vs 22 weeks, current position 22.1 weeks however programme requirement for utilities diversions in York Place under review.

2. York Place Tramstop – design principles established, cost check in progress

3. Road reconstruction depth – McNicholas undertaking track box and tram ducting excavation. Residual saving from not reconstructing existing road way being established.

RISK - Significant Movement in Period (Mar/Apr 12):

Risk ID	Risk Description	Old Level	Movement	New Level	Comments
R034	Delayed NR approvals as applicable	RED	Time Impact reduction	RED	Time impact mitigated down so reduction from 4 to 3. NR co-operating within specified time frames and Relationship improved in recent weeks
ED074	Design approvals milestones are not met in line with rev4 programme and construction is delayed as a consequence	RED	↓	AMBER	Reduced as project de-scopes
ED112	Discovery of old Tram tracks and equipment	RED	↓	AMBER	Time and cost impacts not as high as initially assessed
ED084	Late 3rd party claims for utility/property damages from works	RED	↓	AMBER	Reducing as works progress (Not a top Red risk)
R032	Utilities encountered during BBS Construction Works	AMBER	Merged	CLOSED	Merged with ED072
ED063	Scotrail stop works at depot	AMBER	Probability Increased	AMBER	Probability raised to 3 as Scotrail have again voiced concerns over working practices around the depot.
R066	Approval/consent for remaining wayleaves associated with Scottish Power works	AMBER	Probability Increased	AMBER	Probability raised to 3 due to SP wayleave issue at Haymarket
R021	Industrial Action	GREEN	↑	AMBER	Fuel Strikes forecast, potential to cause disruption. Probability Increased
R041	Approval of plans for Edinburgh Gateway.	RED	Potential	RED	Once full approval received this risk will dramatically decrease and possibly close. Potential opportunity to save time on current plan.
ED115 (New)	Risk that the scope and extent of the Leith walk utility works will increase	NEW	NEW	RED	

1. Drainage – Infracore consider that Scottish Water have changed the approvals process and papers have been submitted to the Independent Certifier for determination.
2. Utility diversions Off – Street: Infracore consider SGN diversion is out of scope and a compromise is required since additional costs have also been incurred for other diversions.
3. LV supplies to Tramstop Cabinets – Infracore considers that as these were excluded from the price submitted at mediation, however it is not a Settlement Agreement exclusion.
4. Rev3A to Rev 4 programme delay 2nd September to 3rd of October – further evidence required to demonstrate cost incurred, Infracore consider that Independent Certifiers opinion authorises costs submitted in full i.e. £4.5M

Appendix 2 – Health, Safety & Environment

Deliver the Tram Safely / Deliver a safe Tram

1.0 Executive Summary

- Independent Competent Person (ICP) – 1 open Advice of Non Compliance (ANC), RFO 021 closed during period; RFI 022 raised during the period.
- A number of Requirements Management workshops have now taken place – Verification and Validation method now agreed for 83% of the requirements.
- Record of Review for the Section A handover documentation to be issued to BBS 27/4/12
- **Signalling & Traffic** - Reversing Strategy – the design has now been considered by all parties. Report to be updated and presented to the ICP at the next ICP liaison meeting on the 9th May 2012
- **OLE Building Fixings** - All locations have now been agreed and consultations have taken place with the property owners, Now agreed.
- **NCR's** - 23 NCRs were raised during the period and 18 NCRs were closed out during the period.

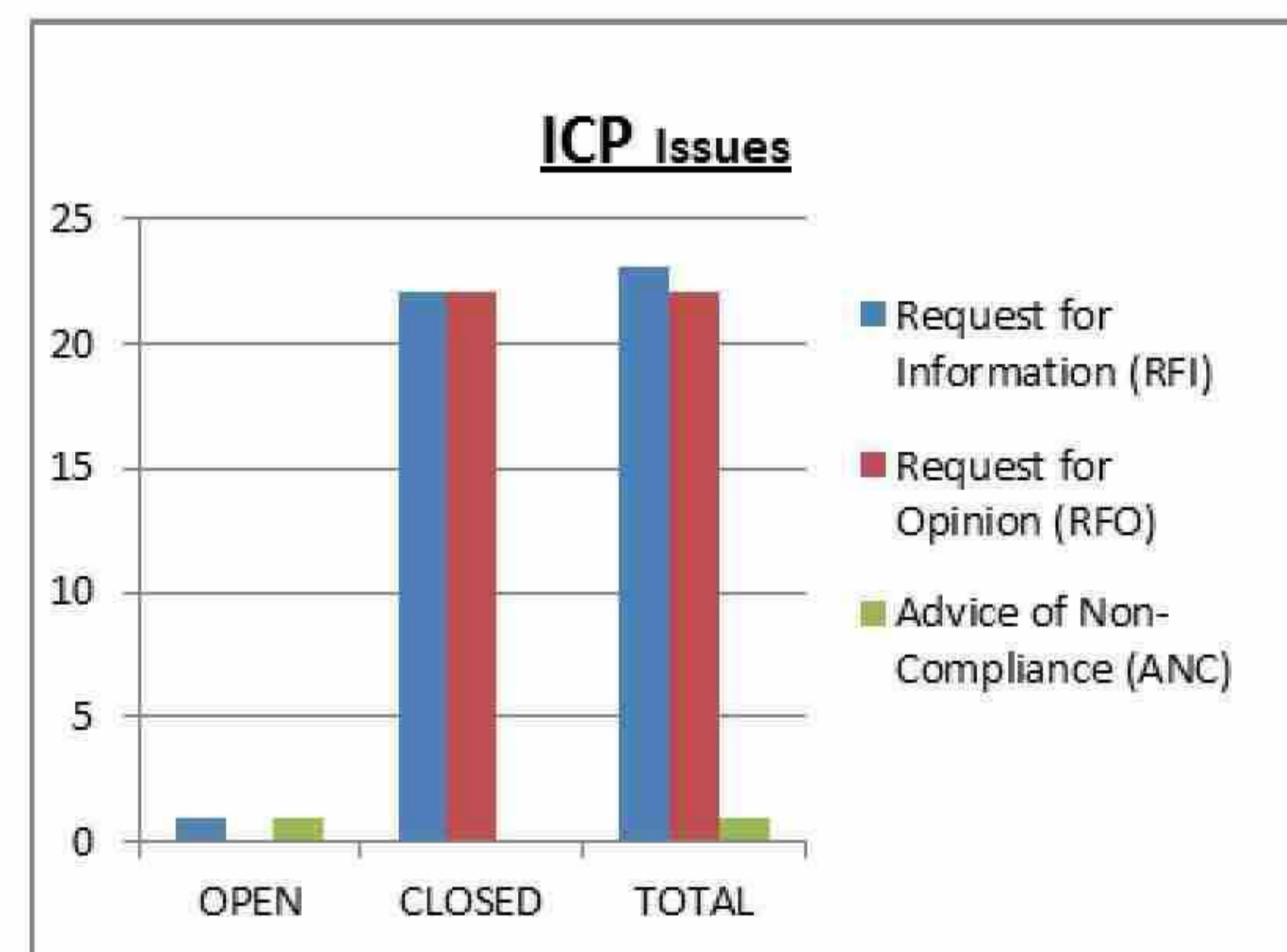
2.0 Safety Verification Scheme (SVS)

System Assurance

- SVS Audit (Maintenance SMS) was carried out at the depot 19th April 2012. Evidence is currently being reviewed and a report will be issued during the next period.
- Evidence File - Currently no information is being uploaded to the evidence file as the section 6 information has not been transferred over to the new SharePoint site.
- A Record of Review of the Section A handover documents will be sent to BBS 27/4/2012.
- A number of requirements management workshops have now taken place with good progress being made towards agreeing the Verification and Validation method for each requirement. Process is now 85% complete
- Next SVS Audit TSA 12/002 Scheduled for 30th May 2012 – Section 5 Electrocutation Sub Station Earthing and Bonding failure Jenners.

ICP Issues

- PSCC meeting held 11th April 2012, next PSCC meeting to be held 6th June 2012
- Next ICP Liaison meeting to be held 9th May 2012 – 3 topics Reversing Strategy; Change Management and Requirements Management
- RFO 021 was closed during the period
- A new RFI; RFI 022 was raised during the period regarding measurements of the OLE poles potentially infringing the DKE.



3.0 BBS Design Construction and T&C Assurance

Electromagnetic Compatibility (EMC)

- No EMC issues to report this period

Trackform

- A survey has been undertaken of the rail and concrete levels along Princes Street to quantify the differences in levels across the trackform. A report is due to be issued week commencing the 30th of April.

OLE Building Fixings

- Locations of additional building fixings at Princess Street now agreed. Consultations have taken place with property owners; Agreements now in place.

Signalling and Traffic signals

- Reversing Strategy – the design has now been considered by all parties. Report to be updated and presented to the ICP at the next ICP liaison meeting on the 9th May 2012
- Meetings held to agree preferred option for communication connections between UTC, Junctions and the control Room with fail over. Integrated solution discussed which will look at the most cost effective data provision for CCTV and Emergency fall back provision at Annandale Street as well. Meeting has been held with BT, CEC and BBS to agree connections, formal proposal now expected from BBS.

SCADA and Comms

- No issues to report this period.

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

- Depot and mini-test track operations continue. 12 vehicles have now been delivered and are undergoing static and dynamic testing.
- Edinburgh Trams and CAF have introduced a forum to track and close out vehicle design, construction, ergonomic and driver familiarisation issues which are emerging during this testing.
- A protocol for visitors to the depot has been introduced, which has taken into account the comments of other project partners.
- Current procedures for depot work safety assessments, access and isolation permits and movement control are under review to ensure the safety and security risks continue to be robustly controlled, but with the minimum amount of bureaucracy and inconvenience.
- An operations, recruitment and training plan for test track operations to the airport has been produced. This also details the infrastructure, systems and vehicle functionality required for safe and efficient test operations and identifies key tasks, including safety verification, advice of energisation and liaison with key stakeholders and regulators.
- Familiarisation visits for the emergency services continue, as do schools liaison and road safety partnership visits.
- A successful visit from HMRI and the ICP took place on the 22nd March.
- A Safety Management Group has been set up involving the maintenance and operations teams from Edinburgh Trams, Siemens, CAF and Bilfinger Berger.
- The Quality Management System, Maintenance Management System and Testing and Commissioning Plan have been reviewed and updated to reflect the transfer of responsibility for operations from Edinburgh Trams Ltd. to Edinburgh Trams as part of Lothian Buses. Other key documents, such as those covering Work on or Near the Tramway and System Assurance, are under review to ensure they reflect the requirements of the emerging organisation.

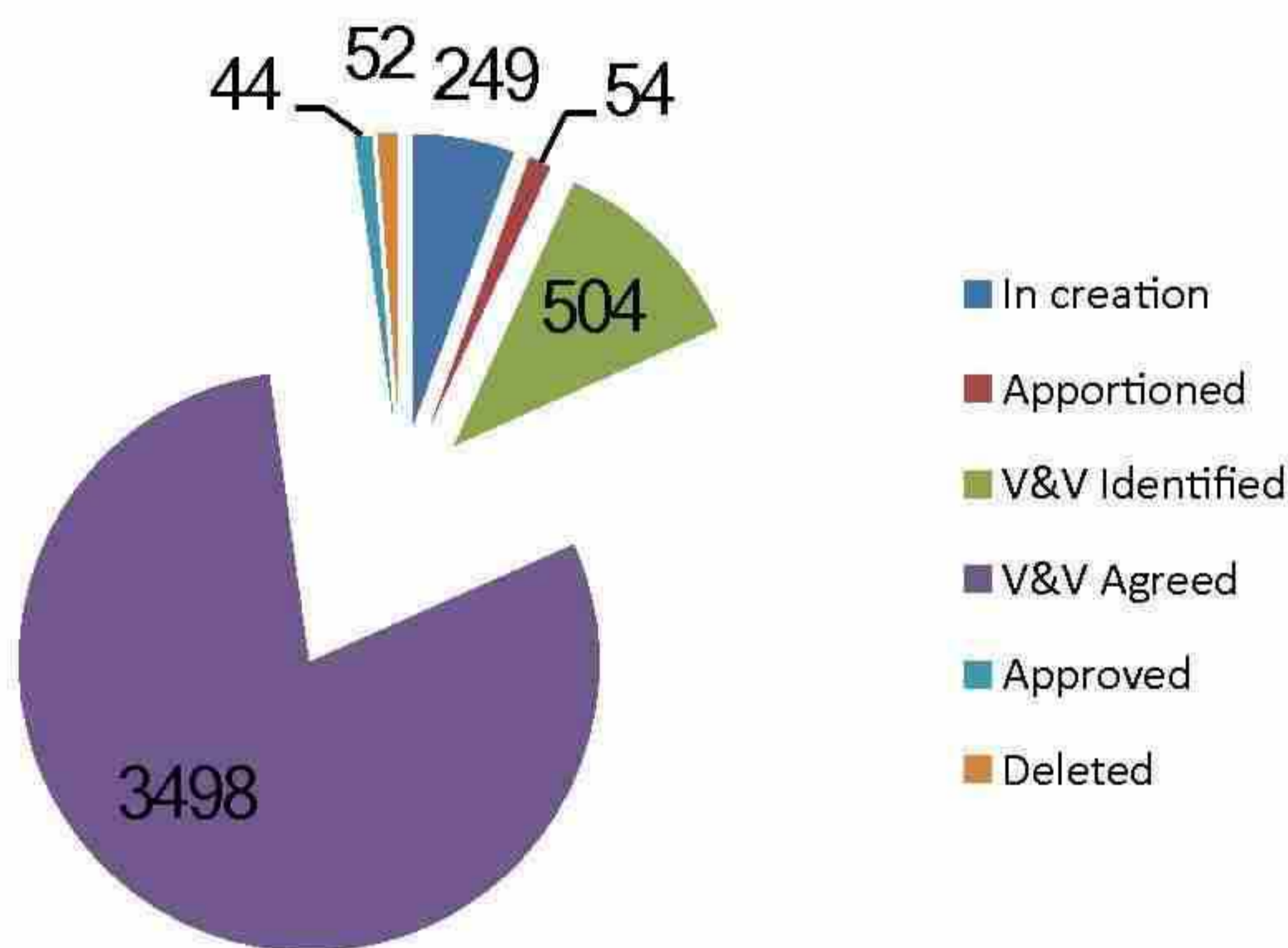
5.0 Metrics

- No progress to report during period

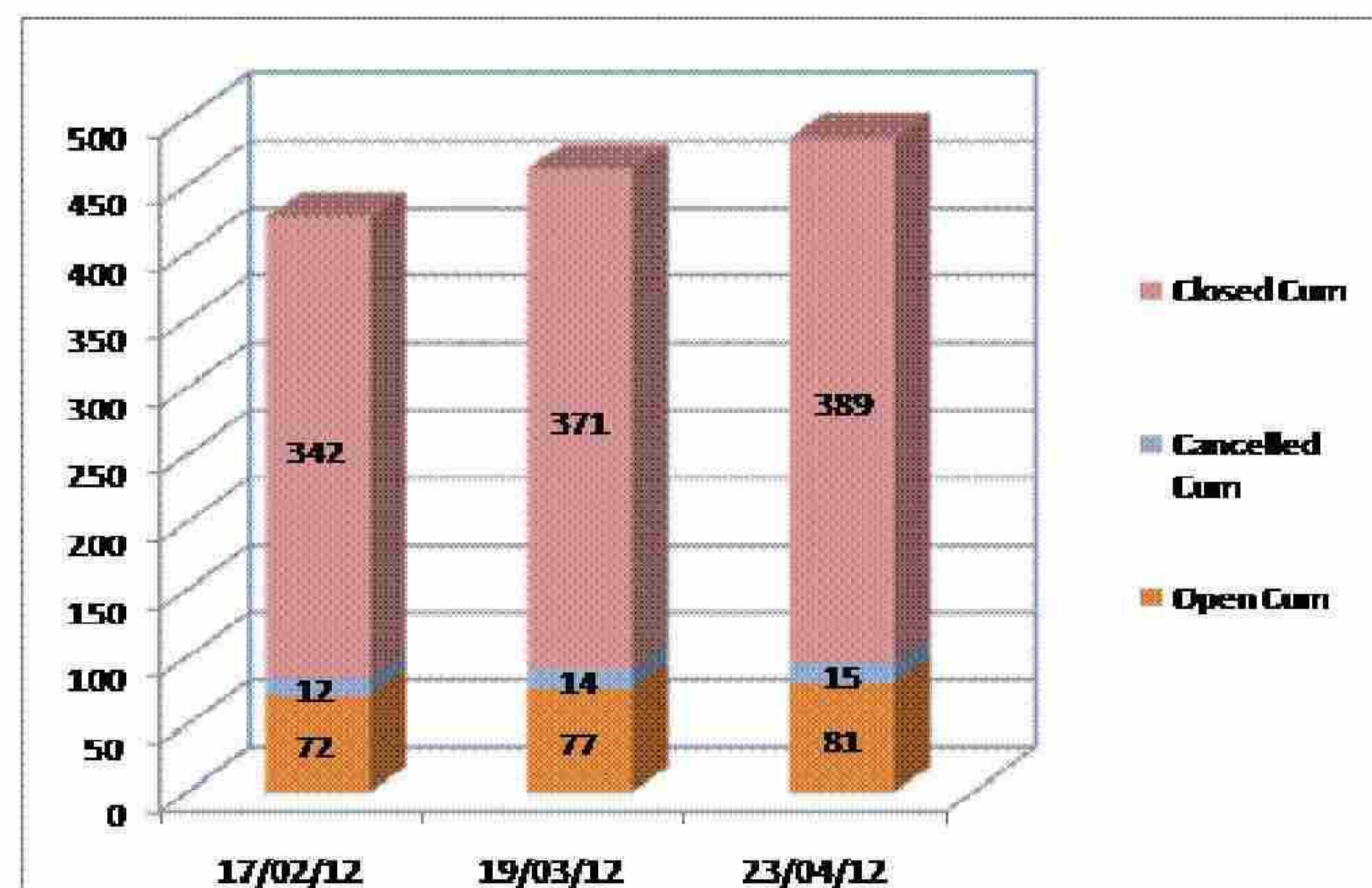
6.0 NCR's

- Total No of NCRs raised is 485.
- 23 NCRs were raised during the period and 18 NCRs were closed out during the period.
- 13 no open NCRs are greater than 6 months old.

Requirements Management Progress



Non Conformance Reports (NCR)



Project Report – Period 1

7.0 Deliver a Safe Tram – Required Action

- Record of review on section A handover to be issued to BBS 27/4/2012
- Metrics inspections QM73 and QM 78 to be progressed to closure.
- Next ICP liaison meeting to be held 9th May 2012, 3 subjects – reversing strategy; change management and requirements management.