

Edinburgh TRAM Project

Paper to : Utility Sub-Committee

Subject : Construction Director's Report

Date : 9 April 2008

Executive Summary

High Level View

Progress

		Period 13 (01.03.08 to 28.03.08)			Overall Performance to Date		
		PLANNED	ACTUAL	Variance	PLANNED	ACTUAL	Variance
TOTAL	Metres	2358	2276	-82	12112	10081	-2031
	Chambers	25	10	-15	104	54	-50
BT/Comm	Metres	1050	1154	104	5390	4504	-886
SGN	Metres	192	168	-24	841	623	-218
Scot W	Metres	780	504	-276	4400	3673	-727
Scot P	Metres	336	450	114	1167	967	-200
Forth Ports	Metres	0	0	0	314	314	0
Gogar Comm	Metres	0	0	0	0	0	0
Gogar Scot P	Metres	0	0	0	0	0	0
Gogar Scot W	Metres	0	0	0	0	0	0

Safety

Post period end, the first reportable (RIDDOR) accident occurred on 2/4/08. An AMIS operative suffered a fractured ankle as a result of dislodged material within an excavation. An interim report has been received, any necessary remedial action taken, and a formal review is planned for 7/4/08 with the **tie** Project Director, the MUDFA Construction Director and the AMIS Project Director.

Implementation of Work Face Risk Assessment process will be rolled out within the next 2 weeks as an initial initiative following wednesdays accident.

2 no inspections carried out in the period :

TI/07/49 Shandwick place 1D. 1 x Observations, 2 x Actions Closed 07/03/08.

TI/07/50 Broomhouse Road 5B 2 x Observations, 5 x Actions closed 14/03/08.

There have been 6 X PU Strikes this period resulting in a utility strike rate of 2.64 compared with 2.8 for period 12. Yearly rate 1.52

The AFR at the end of Period 13 was 0.00

Progress to Revision 6 Programme

Works progressed in 6 areas:

- Constitution Street (1A)
- Leith Walk (1B)
- St Andrew's Square (1C)
- Princes Street (1C)
- Shandwick Place (1D)
- Gyle (5B)

Service diversions in the period were completed within 4% of the plan; however there has been no recovery of the previously reported slippage.

Cumulatively, the existing effect is a delay of ~ 6 weeks on the affected sections. The root causes of these delays are in 4 main categories:

- Greater congestion of existing utilities than anticipated (principally affecting Scottish Water diversions)
- Increased temporary diversion provision
- Slower than estimated chamber construction for BT chambers
- Incomplete supply of supervisory and operative resource to meet the full demands of the Revision 6 programme and the enabling works. (AMIS addressing)

Specific recovery plans are being finalised for each of the problem areas with early implementation starting to show evidence of recovery.

These plans are being completed on 8/4/08 and it will be necessary to confirm that acceptable actions are in place to meet any revised competent resource demand. This is likely to put further pressure on the supervisory and operative requirements from both AMIS and their subcontractor supply chain, particularly as additional work areas are programmed to commence in the next quarter. This will be reviewed realistically to ensure practical delivery is possible.

There is an opportunity to extend working hours (and recover lost production) within the Code of Construction Practice over the coming months with extended daylight hours. This is primarily in areas of low housing density or where businesses have been consulted and have voiced their support.

The summary impact on the REV 06 Programme critical path suggests that ~ 2 weeks delay is likely allowing for realistic implementation of the recovery plans to the MUDFA programme.

The effect of this, and any localised mitigation to avoid impacting on InfraCo, is being addressed as part of the detailed recovery planning.

1.0 Section 1A

1 – 12 (Lindsay rd – Ocean Drive)

Utility design IFC drawings awaited. Completion delayed whilst confirmation of final alignment of Tram through this section accepted and approved by Stakeholders. Works progressing on the basis of 'temporary' diversions at Rennie Isle and Tower Wharf bridge.

13-15 (Ocean Drive)

Works complete based on IFC issued in June 2007. Awaiting revised design for Sheet 15 following tram realignment to be issued by SDS

16-21 (Constitution Street)

Works outwith the LOD, around Constitution Street have commenced.

Planned Progress:

Construction of major BT chamber at the Foot of the Walk to commence in Foot of the Walk junction

Outside of LOD works

- Scottish Power – Phase 2 to commence on 24 March 2008 in conjunction with MUDFA TM arrangements for Foot of the Walk/Constitution Street
- SGN – commenced 28th January. Original completion due on 29 February 2008.
- Scottish Water: Design works to be completed
- Clarification of CDM responsibilities with SU's

Closure of Constitution Street and associated Traffic Management at the Foot of the Walk to go-live on Sunday 30 March

Actual Progress

Construction BTO chamber commenced w/c 17 March 2008 in revised location (footpath as opposed to middle of junction). Following investigation into more appropriate location, mitigating additional enabling and TM requirements.

Outside of LOD works

- Scottish Power – Works will commence on Monday 5 May 2008. Work start date delayed due to lack of available SP resources. Non critical to section programme.
- SGN works completed.
- SW – Design provided to **tie** on 20 March 2008.
- All CDM responsibilities clarified.
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Closure of Constitution Street implemented on 30/3/08.

Actions

Continuing assessment of all resources to ensure these are in line with programme needs.

1.1 Section 1B

Sheets 22-26 (Foot of the Walk to Balfour Street)

Traffic Management in place between Balfour Street and the Foot of the Walk to accommodate MUDFA works

Planned Progress

MUDFA diversions:

- 1780 lm of utility diversions comprising :180mm and 500mm Gas; 180mm Water; BT chambers and ducts; SP HV and other telecoms (Thus, Virgin Media and Cable and Wireless)

Actual Progress

MUDFA diversions:

- 45% of planned output achieved in the period. (808 lm)
- The installation of temporary traffic signals at Leith Walk/Manderston Street junction has deferred 6 no. diversions (SGN, BT, SW and SP) until MUDFA works at the Foot of the Walk are complete.

Actions

MUDFA diversions

- Required resources to achieve output not in line with programme demands.
- Temporary TM requirements has resulted in planned diversions being reschedule to latter period of section programme.
- Recovery plan to be developed in conjunction with AMIS

- tie/AMIS are evaluating options as to how Leith Walk road crossings can be completed. One option is to reduce Leith Walk to one way (Southbound) with the return flow being directed via Easter Road.

Sheets 27-31 (Balfour Street to McDonald Road)

Planned Progress

MUDFA diversions

- 3680 lm comprising :355mm Gas; 355mm and 180mm Water; BT chambers and ducts; and other telecoms (Thus, Virgin Media and Cable and Wireless)
- Trial holes on Southbound side of Leith Walk Rail Bridge

Actual Progress

MUDFA diversions:

- 81% output achieved in the period (2680 lm). SW temporary diversions and availability of resources impacting on output.
- Further trial holes carried out on the Leith Walk Railway Bridge to determine available depth of cover. Available provision over bridge for utility diversion very limited.

Actions

MUDFA diversions

- Assessment of current resource and required ongoing to develop recovery plan.
- Work Package Plan to be produced for utility diversions required to cross the Leith Walk Rail Bridge

1.2 Section 1C

Sheets 32-38 (McDonald Road to York Place)

- Awaiting issue of IFC drawings and schedules for this section. IFC drawings and schedules are being delayed by Scottish Power requirement to assess trackform relative to the Leith Walk Cable Tunnel.
- Traffic Management proposals for McDonald Road to Greenside Place (Sheets 32-35) being developed by Faber Maunsell. Likely to adopt a 3-phase approach to the works around London Road Roundabout – subject to TMRP approval

Sheets 39-41 (St Andrew Square)

Planned Progress

BT chamber and duct works in Dublin Street, York Place and St Andrew's Square.

Actual Progress

Cumulative actual metrage is 250m against a planned metrage of 538m with actual chamber completion of 44% against a planned chamber completion of 73%

Actions

- Recovery plan to be developed in conjunction with AMIS
- Ongoing enabling works in North St Andrew Street. As part of this Faber Maunsell are designing temporary pedestrian crossing facilities, approx. outside Harvey Nicholls. Objective is to use LUX temporary crossings, subject to CEC approval, at this location.

Section 1C Sheets 42-46 & Section 1D Sheets 47-48 (Princes Street)

- Diversions between the Mound and South St Andrew Street behind programme due to extent of existing services and requirements to alter/amend TM impacting on progress. Remaining works limited to:
 - Water – design issue related to requirement for vertically or horizontally acting valves
 - Waverley Bridge – 1 no. gas and 1 no. water crossing to be installed
- Diversions between The Mound and Castle Street are complete bar the need to connect 1 no. water main.
- Further trial excavation completed on the SGN MP main in Hanover Street to determine both the diameter and location of the main. Subsequently tie and SGN have agreed a technical solution for the diversion.

1.3 Phase 1 Shandwick Place Closure

Shandwick Place closure and traffic diversion route went live on Saturday 1 March '08 at 05:00. Enabling works were completed on schedule to enable the closure to be implemented. Utility diversionary works commenced on 3rd March '08.

1.4 Section 1D Sheets 49-53 (Shandwick Place)

All trial holes within the Public Highway complete. 2 no. trial holes within Network Rail land at Haymarket Station remain outstanding

Planned Progress

MUDFA diversions

- 400mm SGN; SP HV; BT chambers and ducts; and other telecoms (Thus, Virgin Media and Cable and Wireless)
- Snagging List
- Additional signs, lining and physical TM required

Actual Progress

Cumulative actual metreage is 350m against a planned metreage of 337m

Section 5A

All diversions identified in this section have been carried out or have been novated to Infraco as proposed works within Infraco are required in advance of the diversions due to present ground levels in relation to proposed finish levels.

1.5 Section 5B

Sheets 6-13

The diversions in this section are novated to the Infraco as proposed works within Infraco are required in advance of the diversions due to present ground levels in relation to proposed finish levels.

Sheets 14-20

Planned Progress

- The excavation for the BTO chambers in the junction of Bankhead Drive/South Gyle Access should have been completed and the chambers construction commenced.
- The transmission cable ducting and other power cable diversions on Bankhead Drive were planned to be 80% complete.
- 450mm DI water main due to be 90% complete.
- Virgin Media duct and chamber diversion at South Gyle Access due to be 90% complete.

Actual Progress

- Traffic Management proposal from AMIS was initially rejected by the TMRP. The trial hole on the main chamber located a MP gas main conflicting with the proposed BTO chamber; Revised location has now been confirmed.
- Initial TQs from AMIS relating to the transmission cables have been responded to, many referring to the IFC drawings and schedule, however work has not commenced due to lack of resources.
- Initial delay to 450 WM due to failure of the existing water main – excavation around pipeline confirmed no thrust blocks were

constructed (SW issue). The length of the diversion has been increased by 25m. Earlier design showed new main constructed through the proposed retaining wall

- Diversion not commenced - no resource allocated.

Actions

- AMIS to advise availability of resources and continue excavation. The critical path for the whole section is tied to this chamber and the subsequent 402 chamber in Phase 3 of the traffic management due to commence on 15th May 08.
- AMIS/tie to review any outstanding information and AMIS to confirm start date for the transmission cable crossings. These are not on the critical path.
- Completion of the water main is critical to completing Phase 1 of the traffic management. AMIS/tie to review the remaining work requirements.
- AMIS to programme suitable resource for this diversion in next period.

1.6 Section 5C

- Awaiting receipt of IFC drawings and schedules from SDS and this has significantly impacted the programme. Work was due to commence at the end of February 2008, however, the earliest start date is now 21 April 2008 in the Gyle Centre Car Park. MUDFA has carried out trial holes in the car park for the 33kv and 450mm water main diversion following the identification of existing petrol interceptor chambers on the route proposed by SDS. It is critical for the Gyle Centre that the works in the car park are completed by 23 May 2008 and the delay to the IFC documentation has put this at risk.
- The design of the BTO chamber encroaching onto the Gyle Broadway slip Road from the west bound A8 has been reviewed and commented on by MUDFA. We currently await re-issue of the cross section by SDS to demonstrate that the proposed diversion can be constructed. The chamber is for the critical 24-way diversion to the south of the A8 underpass.

1.7 Section 6 – Gogar Depot

- 800mm Water Main design is ongoing. Latest draft drawings have been issued to Scottish Water for comments anticipated 27 March 2008. Target acceptance 2 April 2008. Issue of IFC drawings thereafter is critical.
- The IP Gas Main diversion is currently forecast for completion by end April 2008.
- The programme for the BAA Fence removal was issued 20 March 2008 showing a completion date of 30 May 2008. Discussions are ongoing with BAA to discuss any potential acceleration to enable the earthworks to proceed earlier. The water main installation cannot be completed without the fence being moved

2.0 Traffic Management

Current

2.1 Section 1A

- Constitution Street - Closure (Phases A, C,E)

2.2 Section 1B

- Contraflow on the Northbound carriageway on Leith Walk between Dalmeny Street and Brunswick Street
- Contraflow on the southbound carriageway on Leith Walk between Balfour Street and Foot of the Walk
- Foot of the Walk - Closure Phase 1

2.3 Section 1C

- Lane 1 & Lane 2 closure southbound on the East side of St Andrew's Square between Princes Street and York Place
- Lane 1 closure eastbound on Princes Street between South St David's Street and South St Andrew's Street
- Closure of Lane 1 on York Place eastbound at North St Andrew's Street junction

2.4 Section 1D

- Shandwick Place – Closure

2.5 Section 5B

- Cultins Road - road narrows
- Bankhead Drive/South Gyle Access - southbound bus lane closed
- Bankhead Drive - westbound Lane 2 closed

Proposed

2.6 Section 1C

- Traffic Modelling and design for Leith Walk/London Road has been completed and approved in principal by the TMRP

2.7 Section 1C

- Enabling works due to commence 9th April for a period of 3 weeks which requires the reduction of the number of running lanes in Leith Walk to 2 & 1 that is Bus lane and 1 general traffic. Relocation of 2 bus stops
- York Place – existing restrictions to be altered to enable the ducts to be progressed towards St Andrew's Square – 3 phases of TM
- St Andrew's Square relocation of pedestrian crossing

2.8 Section 1D

- Traffic Modelling and design for Phase 2 City Centre works completed. TMRP approval has been given. Minor alterations to requirements for signage to be addressed
- Enabling works due to commence at Phase 2 City Centre April 7 – minimum disruption to traffic

2.9 Section 5C

- Morrison's Car park

2.10 Traffic Modelling

- City Centre Phase 1 – snagging works
- City Centre Phase 2 – completed – minor detail changes
- City Centre Phase 3 – commenced
- Foot of Walk / Constitution Street – snagging works
- Leith Walk / London Road – approved at TMRP – Minor changes
- Gyle Access/Gogar Roundabout – commenced
- South Gyle Access / Bankhead Drive - Commenced

3.0 Lothian Buses

4.0 CEC

5.0 Communications/Stakeholder

5.1 Achievements in the month:-

- Coverage on Shandwick Place included in Outlook Spring Publication - published end of March.
- Press briefing held for Constitution Street works
- Tram Construction Update 3 produced for Constitution Street. 5,000 printed and distributed to: local businesses, community councils, councillors, libraries, Lothian Bus Shops and garages. Also distributed by email to **tie** staff and partners.
- Production and distribution of March Fact Sheet
- Ongoing updates to Trams website

- 4,000 notification letters sent to residents and businesses in the London Road roundabout area.
- Confirmed sponsorship of 'Spirit of Leith' strand at the Leith Festival (30 May – 8 June 2008)
- Media coverage was featured in the Evening News, Scotsman, Herald, BBC, GMTV, Radio Forth and the trade press. This included: demolition of Caley Ale House, removal of taxi ranks, funding for Line 1B, archaeological surveys, development along the route and tram environmental benefits.

5.2 Planned activities in the month include:-

- Media coverage of contract signing and upcoming work sites
- Produce Update for London Road roundabout works starting end April
- Third Shandwick Place Update to be produced distributed to local businesses and residents.
- Events: Sponsorship of Chamber of Commerce Premier Dinner; Presentation to Institute of Civil Engineers; Exhibition at Telford College 'Green Day'.

5.3 Site works

- The Trams for Edinburgh website was updated during the month to reflect all MUDFA activity.

5.4 Customer Interaction Cycle

- Inbound demand continued to rise reflecting the increased notification send out and intensity of MUDFA operations. There were in excess of 150 inbound enquiries in the month, the second highest recorded. The analysis is shown in the report appendices.
- Proactive contact by Tram Construction Advisers remains at a high level and plans are at an advanced stage for further recruitment to reflect the increase in active work sites.

5.5 Stakeholder Engagement

- Business Support – The activity in this area continues to build reflecting the high intensity of the MUDFA programme. More than 130 business applications have been accepted and the cumulative support exposure now stands in excess of £500,000.

5.6 Enquiry and Engagement Activity Statistics

- Detailed results for the month are contained in the report appendices.

6.0 Initiatives

- Review of service utility diversions requirements based on revised depth and protection. Area of review 400 – 1200 depth range below FRL. Further review of latest detail of INFRACO proposed RHEDA CITY track system and potential reduced diversions ongoing. Overall construction depth to be of the order of 350 – 400mm. Protected services identified on 'as-builts' for informing SUC's/ INFRACO et al. Method of measurement may affect overall saving.
- Maximise recovery of costs associated with SUC C4 estimates via specialist consultant's advice/input. Awaiting Corduroys response to their initial formal proposal and in discussions with SUC's to have Berkeley's as their representative to reduce the number of interfaces. Telecom specialist has joined the MUDFA team to assist in the design/construction and C4 implications related to betterment/deferment etc. Agreement reached with SGN for whole of the works – retained within the allowance (excl. MP gas main at the Mound).
- Provision of an independent survey team to carryout dilapidation surveys along the tram route (SDS responsibility) – protect tie's position from potential 3rd Party claims post MUDFA & INFRACO – Commencement of dilapidation surveys by independent body on 10 December 2007. Expect these to be completed by end of April 2008, due to additional requirement to survey the route of the diversions.
- RAT's proposal put forward for section 7b and following discussions with BAA, principle to adopt process on less complex utility diversions accepted.
- Review of both MUDFA/INFRACO programmes to identify critical areas wherein synergies can be adopted through interface of programmes. Ongoing development. Revised design programme impacting on ability to obtain visibility of interfaces.
- Review of section 1A diversions – assess potential programme gains due to implementation of temporary diversions, thereby allowing earlier construction start to INFRACO works. Awaiting details of structures to verify alternative diversions.

7.0 Key Issues/Blockers

- SGN 30" gas main at the Mound – Ratifying commercial regarding minimum diversion.
- SP dead cables in Shandwick Place – resolution achieved regarding SP claim to berth and connectivity of existing dead cables – 50/50 split on actual costs.
- Leith Walk Cable Tunnel – require definition of trackform to enable SP to assess impact of tunnel and provide approval for utility diversion crossings above the tunnel – resolution required as a matter of urgency.
- Scottish Water acceptance of the Gogar 800 water main to enable issue of IFC documents
- Section 5C IFC drawings received 26 March 2008 these were reviewed and subsequent amendments required due to quality of submission.

- SGN: Service connection to existing tenements. AMIS reluctant to go into direct contract with SGN due to historical commercial disputes. We have requested that SGN add this to tender for works.
- Section 7B – procurement of D&B between AMIS/Carillion and Grontmij ongoing. Commencement of this section delayed. Earliest commencement in May.
- Change over in AMIS Project Director – concerns raised over impact on project progress and potential loss of support staff. AMIS/Carillion have confirmed their commitment to ensuring this does not affect the project.