



Transport Edinburgh
Trams for Edinburgh
Lothian Buses

MUDFA Sub Committee Report Papers For Meeting 1 August 2007

Distribution

Willie Gallagher
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John Ramsay
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Bill Campbell
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Agenda

Sub-Committee Meeting

to be held at Kingdom Brunel Room, Citypoint

on Wednesday 1 August at 11am

1. Actions from previous minutes.
2. Construction Director's Report
 - Executive Summary
 - Safety
 - Progress (period)
 - Commercial
 - Operations (next period)
 - Initiatives
 - Key Issues/Blockers
 - Recommendations
3. Appendices
 - Appendix 1: Construction Programme – 3 month look-ahead
 - Appendix 2: IFC Drawings due for issue by 31st August
 - Appendix 3: Primary Risk Register
 - Appendix 4: Programme Summary & Route Map
4. AOB



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Sub-Committee Meeting

AGENDA ITEM NO 1

Actions from Previous Minutes

tie Limited

Minutes of Sub-Committee Board Meeting

Date: 4 July 2007

Time: 14.00

Venue: Kingdom Brunel Room, Citypoint

| | | |
|---------------|---|--|
| In attendance | Willie Gallagher Matthew Crosse Graeme Barclay Suzanne Waugh Mike Connelly Steven Bell Steve Reynolds Tom Clark Bill Campbell Lorna Davis John Ramsay | WG MC GB SW MCN SB SR TCL BC LD JR |
| Apologies | Susan Clark Stewart McGarrity Steve Gorry Miriam Thorne Tom Condie Duncan Fraser Andrew Malkin | SC SM SG MT TC DF AM |
| Circulation | As above MUDFA Team | |

| 1.0 | ACTIONS | ACTION BY | DATE DUE |
|-----|--|-----------|----------|
| 1.1 | [1.2] Wide Area Signage scope of costs. Will be completed once AMIS programme finalised. Information should be with AM this week then forwarded to tie. | AM | 04.07.07 |
| 1.2 | [1.9] Constitution Street – works outside that street – will be done in two phases. Can we look at putting utilities into different ground and not back into the street? Ongoing. | AM | 04.07.07 |

| | | | |
|-------------|--|-------|----------|
| 1.3 | [1.10] Mabey Bridges – Look at normal solution of keeping traffic moving in key hotspots along the route. AMIS have a full schedule and this will be finalised with costs, optimised and put to the Traffic Management Panel. This to be presented within the next two to three weeks. | AM | 04.07.07 |
| 1.4 | [1.18] Incident Management Protocol has been agreed internally. Copies of incident cards to be distributed to Transport Scotland. | TC | 04.07.07 |
| 1.5 | Traffic Management. Development works in the area of Westfield Road/Stephenson Road junction) are a potential problem as they could clash with MUDFA works. More information on this to be obtained. | DF | 04.07.07 |
| 1.6 | GB to produce a detailed table showing the tram route and all sections with dates against each section. | GB | 01.08.07 |
| 1.7 | GB to give full view of performance status at next meeting as we will be one month into the first section. | GB | 01.08.07 |
| 1.8 | SR to update tie re delayed drawings. | SR | 01.08.07 |
| 1.9 | GB to arrange to speak with WG next week to update on Traffic Management. | GB/WG | 01.08.07 |
| 1.10 | Ingliston Temporary P&R – Paper to put proposal forward showing benefits of not going ahead with this. | GB | 20.07.07 |
| 1.11 | Structure of the sub-committee report to be changed. Basically require progress and big issues. Tracker is too detailed for this meeting. | GB/TE | 01.08.07 |
| 1.12 | GB and JR to arrange meeting. | GB/JR | 01.08.07 |
| 2.0 | Next Meeting to be held 1 August 2007 at 11am at Kingdom Brunel Room, Citypoint | | |



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AGENDA ITEM NO 2

Construction Director's Report

- **Executive Summary**
- **Safety**
- **Progress (period)**
- **Commercial**
- **Operations (next period)**
- **Initiatives**
- **Key Issues/Blockers**

Edinburgh TRAM Project

Paper to : **Utility Sub-Committee**

Subject : **Construction Director's Report**

Date : **1 August 2007**

Executive Summary

Construction works commenced this month, 9th July, along Ocean Drive, section 1A, 1 week later than programmed – presently 2 days behind programme. Conflicting utilities within the road crossings and consequential delays prime cause of initial delay. Subsequent sections 1B and 5A due to commence as per rev 05 programme dates, despite late issue of IFC drawings.

Trial holes along Leith Walk commenced 30th July, in advance of permanent works. Validation of ex service positions within critical locations. These works will continue in advance of main works at all key areas.

Works generally in line with rev 05 programme.

1.0 Safety

- There were no accidents reported this period.
The accident frequency rate (AFR) remains 0.00.
- The AMIS MUDFA Accident Frequency Rate (AFR) remains at zero. There was a utility strike (street lighting) at Gogar Depot and an incident report has been completed and actions assigned.
- Four site inspections were undertaken in the period.
Two inspections at utility diversion sites; Minor findings reported regarding personnel certification and training records, contractor site inspections, fuel storage and level of first aid kit provision.
Two inspections at Gogarburn depot; No findings and reported as a well run, organised site.
- Three safety tours were completed. One serious finding reported regarding the lack of a site traffic management plan at Gogarburn Depot Advance Works.

2.0 Progress Period (End July)

2.1 Construction

- Completed Trial Site at Casino Square.
- Commenced Section 1A/N (Tower Street to Rennie Isle Bridge).
- Commenced 9th July and running approximately 2 days behind schedule – due to unforeseen services.

- Embargo dates being complied with and completion on time is anticipated. All road crossings completed by 31st July as planned. Constitution Street road crossing to be carried out in September following lifting of Embargo.
- CCTV Sewer Surveys 90% complete (Remaining surveys in hand).

2.2 Design

- During the period SDS has re-submitted the following sections of utility design work to the Statutory Utility Companies (SUC's). The Sections delivered are as follows:
 - Section 5A on 16 July 2007 (Confirmation of gas governor position)
 - Section 5B on 13th July 2007 (Identification of services below guided busway)
 - Section 5B on 24th July 2007 (C4 response drawings to BT Openreach)
 - Section 6 on 20th July 2007 (Re-routing of water services around Gogar Depot)
 - Commercial issue has delayed up the delivery of SGN only, for Section 1B. At this moment three different options for gas proposals in Section 1B have been put forward for consideration. ~~tie~~ presently in discussion with SGN to conclude preferred option which will require approval by the Investment Approvals Committee. Drawings (one of the three options – required work) will be issued for the MUDFA Work Order Pack for the Construction start date of 6th August 2007. SGN utilities will be highlighted to verify options still under consideration.
 - IFC drawings for section 1B received Friday 27/7 (pm), excluding SGN and SW. 1 week later than stated by SDS. SW IFC's due weds 1/8/07. IFC drawings for sections 5A and 6 remain outstanding. Both due to commence 20/8/07.
 - IFC drawing release remains a major concern to programme targets and continuity of workstream.

2.3 Traffic Management

- The Traffic Management Proposals were received, reviewed and approved for the initial Works Section on Leith Walk, between Croall Place and Pilrig Street. The TM proposals for this section of the works were approved on the 16th July. The MUDFA construction works on this site are programmed to commence on the 6th of August. And the works are anticipated for a period of approximately 2 months.
- The Traffic Management proposals for the first week of Trial Holes required on Leith Walk, to determine the location and depth of the existing services have been agreed by the Stakeholders. These works shall commence the week starting the 30th of July. 83 trial holes are programmed along the length of Leith Walk; these works shall be completed by the end of August 07.
- AMIS have been instructed to undertake trial holes at the junction between Princes Street / Hanover Street and The Mound on the weekend of the 28th and 29th of July. These works are required to determine the location and depth of existing services. The Traffic Management required to undertake these tasks has been agreed by the Tram Project Stakeholders. The working activities shall be undertaken between 0700 and 1200 to avoid traffic delays; no noise shall occur as a result of the site activities before 0800.

- The works ongoing on the CCTV surveys required throughout the length of the tramline are almost complete. The remaining works are to be undertaken in Constitution Street. These works are programmed for completion by the 5th of August. The survey team were unable to undertake the survey of broken Scottish Water manholes on McDonald Road and Princes Street. SW have been informed and AMIS await confirmation of the replacement of these cover to allow them to undertake the required works in these location.
- The works ongoing on the CCTV surveys required throughout the length of the tramline are almost complete. The remaining works are to be undertaken in Constitution Street. These works are programmed for completion by the 5th of August. The survey team were unable to undertake the survey of broken Scottish Water manholes on McDonald Road and Princes Street. SW have been informed and AMIS await confirmation of the replacement of these cover to allow them to undertake the required works in these location.

2.4 Communications & Stakeholder

- A media briefing was arranged for 24 July to give journalists comprehensive details about the project going forward. Willie Gallagher, Graeme Barclay, Andy Malkin and Mike Connelly gave presentations. Phil Douglas escorted press on a bus tour of the tram route to Haymarket. Again, this was covered extensively and programme details are now in the public domain.
- Coverage has been positive and fairly factual (inaccuracies have been corrected individually) and the pressure is now on to deliver as promised.
- Work at Gogar Depot continues with no coverage this month. Hoardings and signage are being agreed for the site.

- **Customer Interaction Cycle**

Major activity is now in progress to communicate with the areas affected by the initial MUDFA works. The following customer packs have been issued:-

| <u>Work Area</u> | <u>Nos. of Packs</u> | <u>Date Issued</u> |
|---|----------------------|--------------------|
| Tower St. to Commercial Wharf | 300 | 28/6/07 |
| McDonald Road to Iona St. | 800 | 10/7/07 |
| Princes St./ The Mound (investigation work) | 50 | 18/7/07 |
| Russell Road to Balgreen Road | 700 | 23/7/07 |

- During the first three weeks of July, a total of 38 contacts have come through the Trams for Edinburgh MUDFA helpline and these can be broken down into the following categories:

| | |
|-------------------------------------|----|
| Public utilities | 4 |
| Access during construction | 5 |
| Traffic management issues | 2 |
| General tram and tram design issues | 27 |

3.0 Commercial

- Proposals to resolve the shortcomings and omissions in the MUDFA Contract documentation has been agreed in principle and require to be re-executed – the timing and co-ordination to be agreed with AMIS.

- Proposals for a negotiated commercial and contractual resolution to the delays in release of design are ongoing with AMIS.
- A proposal for incentivisation of the works orders and preliminaries has been discussed and agreed in principle with AMIS. A number of scenarios related to the incentivisation proposal are being discussed to define the process and ensure the parties are in agreement on the understanding and operation of the proposal – this process will be completed in period 4 with a view to have a formal legal agreement in place during period 5.
- Change orders and change notices are being issued to cater for contract additions (copy of master schedule attached).
- Weekly commercial meetings are taking place between tie and AMIS.
- A training session for tie site personnel on the use of the ARM risk software was held in the period, but additional 'hands on' training is required.
A joint project risk meeting and management of the tie /AMIS MUDFA project risks was held in the period to establish and agree joint risk owners and mitigation plans. Subsequent meetings are planned to monitor and review risk process's.
- Construction commenced 9th July 2007. The delay of the commencement of the construction works to date and a full review of the delays and associated costs to date will be carried out in the next period in conjunction with the review of a revised programme, Rev 6.
- A significant issue has arisen regarding service connections for Scotland Gas Network (SGN) within existing premises which are outwith the LOD. This issue is currently subject to discussions with SGN and will be updated in the next period.

4.0 Operations Next Period

4.1 Construction

- Continuation of works in section 1A on Ocean Drive within verges and footpaths.
- Commencement of works in section 1B, MacDonald Road to Iona St.
- Continuation of trial holes down Leith Walk (opposite side)
- Commencement of works in section 5A , Russell road to Balgreen Road.
- Commencement of Gogar Phase II pending successful negotiations with AMIS.
- Completion of CCTV surveys on route.

- Refer to Appendix 1 for 3 month look-ahead for construction and design outputs.

4.2 Design

Refer to Appendix 2 for IFC drawings that are due for issue by the 31st August.

4.3 Programme

- Review of rev 05 required to reflect the design rescheduling for sections 1A – Victoria Bridge to Newhaven
Section 1B – Constitution Street outside LOD
Section 7 – Airport link-up for TRAM requirements only.

4.4 Commercial

- Finalise incentivised scheme within formal legal agreement.
- Assessment of potential overhead recovery claim (AMIS) to be completed for discussion.
- Review of financial impact following realignment of programme with SDS revised design deliverables.

5.0 Initiatives

- Review of service utility diversions requirements based on revised depth and protection. Area of review 600 - 1200 depth range below FRL. Potential 10% saving in measured works (approx. £1M).
- Co-location of SDS designer at MUDFA offices to initiate prompt response to technical issues/ queries – minimise time delay.
- Maximise recovery of costs associated with SUC C4 estimates via specialist consultant advice/input (Berkeley/Corduroys).
- Provision of foam concrete in lieu of traditional backfill – additional costs of concrete off set against time savings in labour, plant and programme overall.
- Establish 'quick response' team SDS, AMIS, tie and SUC for all technical queries to mitigate standing time on site.
- Provision of independent survey team to carry out dilapidation survey along Tram route (SDS responsibility) – protect tie's position from potential 3rd party claims post MUDFA and INFRACO.

6.0 Key Issues/Blockers

- Refer to Appendix 3 for critical risks within Risk Register.

- Issue/release of Issued for Construction (IFC) drawings in line with programme requirements – programme and financial impact.
- Internal supply connections within premises outwith LOD (SGN) – programme and financial impact.
- NR requirements working over Leith walk bridge – contractor link up required. Potential facility within AMIS organisation.
- Design works outside LOD – Constitution Street.
- Section 1A utility redesign following Tram realignment – continuity of work in line with rev 05 programme.

7.0 Recommendations

DPD is requested to:

- Note the contents of this paper
- Note challenges and workload entailed in the delivery of the MUDFA Programme and associated works and actions/mitigation measures being implemented to minimise costs and delays.

| | | |
|--------------------|---|-----------------------------|
| Proposed | Graeme Barclay Construction Director | 1 st August 2007 |
| Recommended | Matthew Crosse Project Director | 1 st August 2007 |



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AGENDA ITEM NO 3

Appendices

- **Appendix 1: Construction Programme – 3 month look ahead**
- **Appendix 2: IFC Drawings due for issue by 31st August**
- **Appendix 3: Primary Risk Register**
- **Appendix 4: Programme Summary, Route Map & Key**



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Appendix 1

Construction Programme – 3 month look ahead

Appendix 1

Construction Programme - 3 month lookahead

| | W/C | W/C | W/C | W/C | W/C | W/C | W/C | W/C | W/C | W/C | W/C | W/C | W/C | Comments |
|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--|
| Section | 06-Aug | 13-Aug | 20-Aug | 27-Aug | 03-Sep | 10-Sep | 17-Sep | 24-Sep | 01-Oct | 08-Oct | 15-Oct | 22-Oct | 29-Oct | |
| 1A | | | | | | | | | | | | | | Re-design required following realignment |
| 1B | | | | | | | | | | | | | | Commencement start as planned |
| 1C | | | | | | | | | | | | | | No issues raised |
| 1D | | | | | | | | | | | | | | |
| 3A | | | | | | | | | | | | | | |
| 3B | | | | | | | | | | | | | | |
| 3C | | | | | | | | | | | | | | |
| 5A | | | | | | | | | | | | | | Awaiting IFC drawings |
| 5B | | | | | | | | | | | | | | No issues raised |
| 5C | | | | | | | | | | | | | | No issues raised |
| 6 | | | | | | | | | | | | | | Awaiting IFC drawings |
| 7A | | | | | | | | | | | | | | Re-design required for Tram only |

Key: On Programme
 At Risk



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Appendix 2

IFC Drawings due for issue by 31st August

Appendix 2 – IFC Drawings Due for Issue by 31st August

| Section | Drawings |
|---------|--|
| 1A | 13, 14, 15, 16, 17, 18, 19, 20, 21 |
| 1B | 22, 23, 24, 25, 26, 27, 28, 29, 30, 31 |
| 5A | 01, 02, 03, 04, 05 |
| 5B | 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20 |
| 5C | 21, 22, 23, 24, 25, 26 |
| 6 | 02 |
| 1C | 42, 43, 44, 45, 46 |
| 1D | 47, 48 |
| 2A | 01, 02, 03 |



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Appendix 3

Primary Risk Register

| ARM Risk ID | Risk Description | | | Risk Owner* | Significance | Black Flag | Treatment Strategy | Treatment Status | | Date Due | Action Owner |
|-------------|---|--|---|--------------|--------------|------------|---|------------------|--------------|-----------|--------------|
| | Cause | Event | Effect | | | | | Previous | Current | | |
| 21 | Design constraints e.g. presence of other utilities, proximity of LoD boundary, diversion technical requirements etc. | Design requires that Utilities are diverted outside of LoD | Additional design; additional land purchase required and consequent contact with landowners; design may result in increased work quantities due to extent of diversions; potential increased duration of works. | T Glazebrook | 19 | | SDS to aim to design diversions within LoD | On Programme | On Programme | 29-Jun-07 | T Glazebrook |
| | | | | | | | SDS to undertake design checks to ensure diversion in LoD | On Programme | On Programme | 29-Jun-07 | T Glazebrook |
| | | | | | | | GIS used to identify diversions outwith LoDs and respective landowners | On Programme | On Programme | 31-Aug-07 | E Cropley |
| | | | | | | | AMIS to seek to divert under Statutory Utility powers where outwith LoD | On Programme | On Programme | 28-Dec-07 | G Barclay |
| 139 | Utilities diversion outline specification only from plans | PROJECT PRIMARY Uncertainty of Utilities location and consequently required diversion work/ unforeseen utility services within LoD | Increase in MUDFA costs or delays as a result of carrying out more diversions than estimated | I Clark | 25 | | In conjunction with MUDFA, undertake trial excavations to confirm locations of Utilities | Behind Programme | On Programme | 31-Aug-07 | A Hill |
| | | | | | | | Identify increase in services diversions. MUDFA to resource/re-programme to meet required timescales. | Behind Programme | On Programme | 31-Aug-07 | G Barclay |
| 164 | Utilities assets uncovered during construction that were not previously accounted for; | PROJECT PRIMARY Unknown or abandoned assets or unforeseen/contaminated ground | Re-design and delay as investigation takes place and solution implemented; Increase in | I Clark | 25 | | Carry out GPR Adien survey | On Programme | On Programme | 31-Oct-07 | J Casserly |
| | | | | | | | Investigations in advance of work | On Programme | On Programme | 30-Nov-07 | J Casserly |
| 342 | Tram alignment at A8 crossing at Gogar co-incides BT data nests/cable (main coms link between Glasgow and Edinburgh) | A8 crossing tunnel requires special design or BT data nest/cables require to be moved | Capex cost to cover BT data nest/cable move; additional design costs; delay while works to undertake move are carried out; additional tunnelling costs. | I Clark | 23 | | Investigate the design of underpass such that duct banks are avoided by passing underneath | Behind Programme | On Programme | 31-Aug-07 | T Glazebrook |
| | | | | | | | Agree design with BT and SDS | On Programme | On Programme | 30-Aug-07 | J Casserly |
| | | | | | | | Ensure adequate protection of cables will be provided during construction | Pending | Pending | 31-Oct-07 | S Clark |
| | | | | | | | Undertake diversion and include costs in base estimate | Pending | On Programme | 30-Sep-08 | S Clark |

| ARM Risk ID | Risk Description | | | Risk Owner* | Significance | Black Flag | Treatment Strategy | Treatment Status | | Date Due | Action Owner |
|-------------|---|---|---|--------------|--------------|------------|---|------------------|--------------|-----------|--------------|
| | Cause | Event | Effect | | | | | Previous | Current | | |
| 911 | Scottish Power own and maintain a cable tunnel in the vicinity of Leith Walk that may or may not interfere with Tram construction and operation; exact location and depth of tunnel is unknown; condition of tunnel is unknown. | Presence of Scottish Power tunnel in Leith Walk requires radical solution | Tunnel may have to be decommissioned and re-laid in a more suitable location; tram alignment may require to be adjusted; special foundation solution e.g. cantilever may be required; increased capex; potential for tunnel collapse during operation and consequent disruption for tram. | M Blake | 24 | | Scottish Power to establish exact location of tunnel | Complete | Complete | 02-Apr-07 | J Casserly |
| | | | | | | | Scottish Power to undertake engineering feasibility study | Complete | Complete | 02-Apr-07 | J Casserly |
| 914 | Required approval/acceptance turnaround time does not reflect SUC standard practice; SUCs do not have enough resource or process capability to achieve 20 day turnaround | Statutory Utility Companies unable to meet design approval/acceptance turnaround time to meet programme | Additional period required for design approval/acceptance turnaround | T Glazebrook | 18 | | SUC liaison | Behind Programme | On Programme | 31-Oct-07 | G Barclay |



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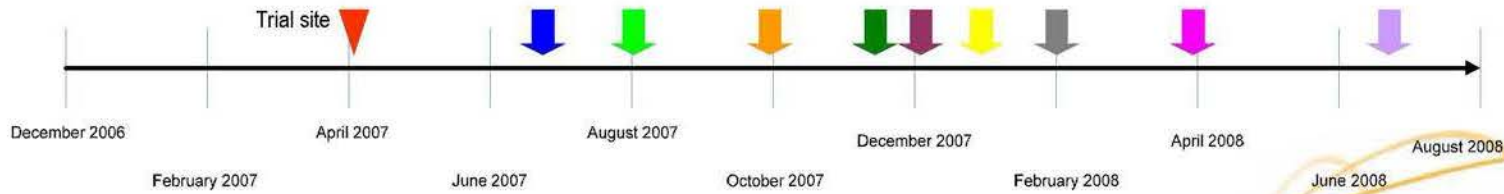
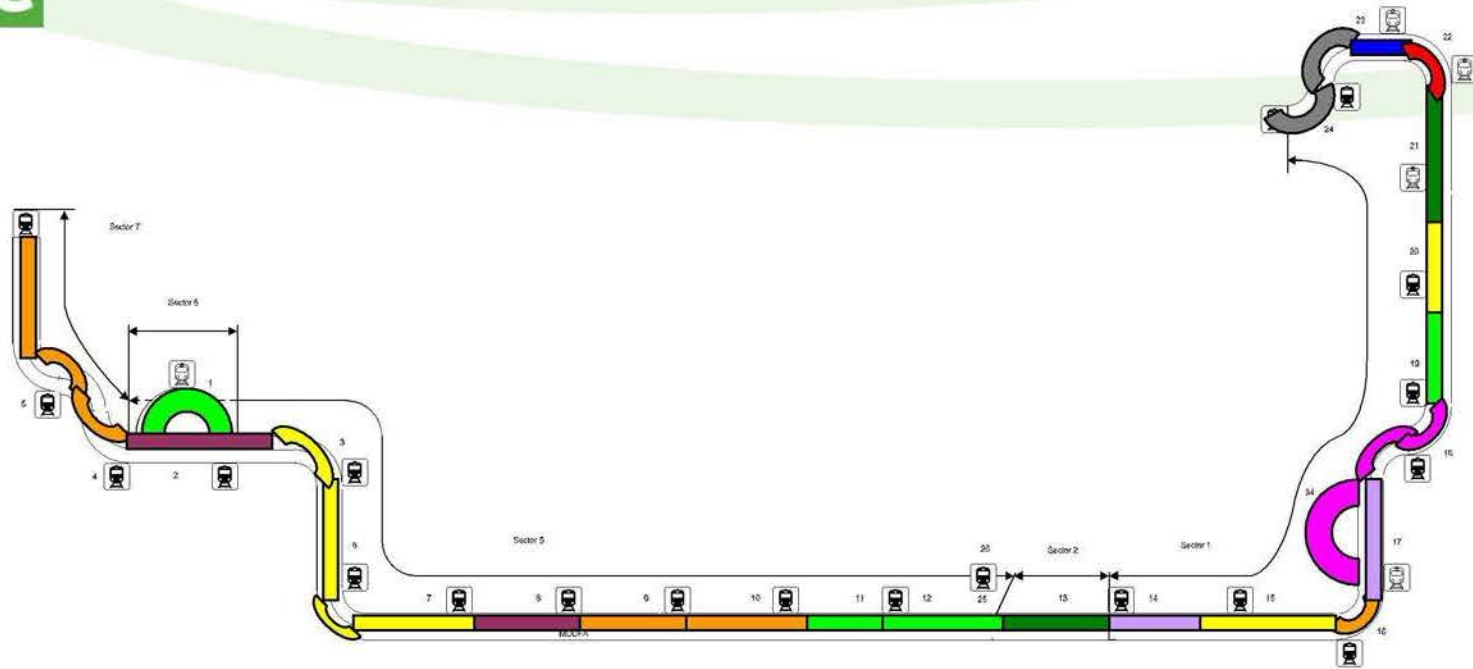
Appendix 4

Programme Summary, Route Map & Key



Programme

MUDFA Programme Summary (Start Dates)



Trams for Edinburgh
...connecting our Capital

Strictly Confidential

Key to Tram Route Map

| | | | |
|------------|---|-----|------|
| Section 1 | Gogar Depot | Aug | 2007 |
| Section 2 | Ingleston ~ Gogar Depot | Dec | 2007 |
| Section 3 | Gogar Depot ~ Gyle | Jan | 2008 |
| Section 4 | Ingleston ~ Gogar | Oct | 2007 |
| Section 5 | Airport ~ Ingleston | Oct | 2007 |
| Section 6 | Edinburgh Park ~ Gyle | Jan | 2008 |
| Section 7 | Edinburgh Park Station ~ Edinburgh Park | Jan | 2008 |
| Section 8 | South Gyle Access ~ Edinburgh Park | Dec | 2007 |
| Section 9 | Saughton Road Access ~ South Gyle | Oct | 2007 |
| Section 10 | Balgreen Road ~ Saughton Road Access | Oct | 2007 |
| Section 11 | Murrayfield ~ Balgreen Road | Aug | 2007 |
| Section 12 | Roseburn Junction ~ Murrayfield | Aug | 2007 |
| Section 13 | Haymarket ~ Roseburn | Nov | 2007 |
| Section 14 | Shandwick Place ~ Haymarket | Jul | 2008 |
| Section 15 | Princess Street West ~ Shandwick Place | Jun | 2008 |
| Section 16 | St. Andrews Square ~ Princess Street West | Oct | 2007 |
| Section 17 | Picardy Place ~ St. Andrews Square | Jul | 2008 |
| Section 18 | McDonald Road ~ Picardy Place | Apr | 2008 |
| Section 19 | Balfour Street ~ McDonald Road | Aug | 2007 |
| Section 20 | Foot of the Walk ~ Balfour Street | Jan | 2008 |
| Section 21 | Constitution Street ~ Foot of the Walk | Nov | 2007 |
| Section 22 | Ocean Drive ~ Constitution Street | Aug | 2007 |
| Section 23 | Ocean Terminal | Aug | 2007 |
| Section 24 | Ocean Terminal ~ Nehaven Road | Feb | 2008 |
| Section 25 | Roseburn ~ Roseburn Junction | Aug | 2007 |
| Section 26 | Roseburn ~ Ravelston Dykes | Aug | 2007 |