



Transport Edinburgh
Trams for Edinburgh
Lothian Buses

MUDFA Sub Committee Report Papers For Meeting 21 November 2007

Distribution

Willie Gallagher
Matthew Crosse
Tom Condie
Steven Bell
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Mike Connelly

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Duncan Fraser
Tom Clark
Miriam Thorne
Keith Rimmer
Bill Campbell
Bill Nicholls

Jason Chandler
Alan Dolan
Andy Malkin



Agenda

Sub-Committee Meeting

to be held at Isambard Room, Citypoint II

on Wednesday 21 November 2007 at 2pm

1. Actions from previous minutes.

2. Construction Director's Report
 - Executive Summary
 - Progress (period)
 - Operations (next period)
 - Initiatives
 - Key Issues/Blockers
 - Recommendations

3. Appendices
 - Appendix 1: Trend Analysis
 - Appendix 2: Programme; Key Performance Indicators
 - Appendix 3: Design Tracker
 - Appendix 4: Traffic Management Proposals
 - Appendix 5: Communications - Enquiries by Contact/
Stakeholder Engagement Analysis
 - Appendix 6: Risk Register
 - Appendix 7: Forecast Design Issue

4. AOB



MUDFA Sub-Committee Meeting

AGENDA ITEM 1

Actions from Previous Minutes

tie Limited

Minutes of Sub-Committee Board Meeting

Date: 24 October 2007

Time: 14.00

Venue: Kingdom Brunel, CityPoint II

In Attendance	Willie Gallagher	WG
	Steven Bell	SB
	Graeme Barclay	GB
	Steve Gorry	SG
	Mike Connelly	MC
	Stan Honeyman	SH
	Tom Clark	TCL
	Duncan Fraser	DF
	Bill Campbell	BC
	Andy Malkin	AM
	Alan Dolan	AD
	Steve Reynolds	SR

Apologies	Matthew Crosse	MC
	Keith Rimmer	KR
	Tom Condie	TC
	Pat Diamond	PD
	Bill Nicholls	BN
	Jason Chandler	JC

Circulation As Above
MUDFA Team

	ACTIONS	ACTION BY	DATE DUE
1.1	[1.2] Programme Revision 6 – Meeting to be arranged for walk through of Revision 6 Programme (week after next), all sections to be covered but with emphasis on road sections (junctions). Meeting to be arranged with CEC and Lothian Buses for walk through of programme (next week).	GB GB	Complete Ongoing
1.3	[1.6] Issue with Traffic Management on S1C (St Andrew's Square) – this action to be closed out – GB to meet with TC/KR to confirm TRO implications or not.	GB/TC/KR	Ongoing

1.4	[1.8] Trench Reinstatement – potential to use foam concrete as backfill. Plan of action to be agreed. A report is required outlining benefits of foam concrete together with comprehensive list of alternative options. GB to speak to GS re report. Meeting to be arranged with GB, DF and AM.	GB GB/DF/AM	Ongoing Complete
1.5	BT Chamber – Paper to be submitted to the Tram Project Board for resolutions of Picardy Place design. Required next Wednesday.	DF	05.11.07
1.7	Section 6 - Gogar Depot – Issue with diversion BAA/CEC. Proposal to SDS is to go ahead on the basis of what is required for tram. SB to check legal requirements. If there are no legal issues then go ahead. If there are legal issues then SB/GB to speak to Barry Cross.	SB SB/GB	Complete
1.8	S5A – remaining works to be done are SGN/SW and these will move across to Infracore. Area completion certificate to be put together to show what remains to be done. We should have confirmation at the next meeting that the process has been implemented and confirmed by tie, SDS and AMIS. All relevant information from contractors should then be put together ready to go to Infracore.	GB	Ongoing
1.9	Gogar Depot – Potential Heavy Rail Issues. WG confirmed that the scope of work is exactly what is related to tram and does not include any anticipation of additional works that should occur because of the proposed utility works. This is also to be minuted at the Tram Project Board. SB to add to TPB agenda.	SB	31.10.07
1.10	Data collection from tram helpers and stakeholder team is required in order for tie to give a more balanced argument to the press. Subjective view required of footfall on businesses. All data to be included in the monthly sub-committee report.	MC/SG	21.11.07
1.11	DKE – element to be addressed as to how utilities gain emergency access to services. TCL has been trying to get in touch with Steven Williamson (SW) regarding legislation currently in place. TCL to arrange meeting with GB and SW.	TCL	09.11.07
1.12	TQ Process – SDS confirm agreement of process. However Brian McCrear (BM) not of that understanding. AD/SR to discuss with BM. Once Revision 6 is complete a TQ review to be held between tie, SDS and AMIS.	AD/SR AM/AD	09.11.07 16.11.07

1.13	Work Section Approval Process Review – the way forward require a minor amalgamation of the SDS process. Allan Hill (AH) and Jim Johnston (JJ) to meet with AD and agree process.	AH/JJ/AD	02.11.07
1.14	Retrospective Review – This is part of a managed process but does depend on experience of site staff. Also more time is required. SB/GB to look at this. Need to concentrate on issue of how we get maximum value by working smarter and how to demonstrate that this has been done. Project Managers (Ian Clark & Michael Blake) to attend the next sub-committee to give presentation. GB to arrange.	SB/GB/AM GB	Ongoing 21.11.07
Next Meeting: 21 November 2007 at 2pm			



MUDFA Sub-Committee Meeting

AGENDA ITEM 2

Construction Director's Report

Edinburgh TRAM Project

Paper to : Utility Sub-Committee

Subject : Construction Director's Report

Date : 21 November 2007

Executive Summary

High Level View

- Progress

		Period 8 - 13/10/2007 to 10/11/2007			Overall Performance to Date		
		PLANNED	ACTUAL	Variance	PLANNED	ACTUAL	Variance
TOTAL	Metres	1009	831	-178	3722	3915	193
	Chambers	8	14	6	18	28	10
BT/Comm	Metres				1904	2165	+261
SGN	Metres				86	86	0
Scot W	Metres				1441	1371	-70
Scot P	Metres				291	293	2

BT chamber at Jane street services – delay in SP outage delayed BT works at early stage of period.

- **Costs** - Overall MUDFA Utility costs for the TRAM Project are currently on target and in line with current final account expectations. Cash flow forecast however has been re-profiled to align with the Rev 06 Programme spend.
- **H&S** – There were two accidents reported in this period:
 - 16/10/07 (AIIR 00025) Operative sustained cut finger resulting in 6 x stitches. No time lost. Result of material falling into excavation.
 - 31/10/07 (AIIR 00028) Elderly lady pulled over by her dog when plastic barrier fell over. No injury detailed in report.

Two incident reports carried out this period:

- 19/10/07 (A11R 00026) LV cable within a clay-tile trough was damaged. Summary report submitted to tie Limited.
- 30/10/07 (AIIR 00027) Damage to SL Cable at Depot Incident Investigation Review, ongoing

See Appendix 1 – Trend Analysis

- **Programme** - Revision 06 of the MUDFA Programme is currently being finalised by tie/AMIS

There are a number of key issues under review which affect the overall philosophy and logic behind the Rev 06 Programme particularly around the central part of the city diversionary works :

- BT design and cabling programme – working with BT to explore ways of reducing the impact including BT working 24/7.
- TM interface between works in St Andrews sq, the Mound and Lothian road junction.
- Key Stakeholder Issues related to St. Andrews Sq streetscape works and Picardy Place final alignment

See Appendix 2 – Key Performance Indicators

- **Key Stakeholder Issues:**

- Revision 06 of the MUDFA Programme is currently being finalised – BT design, St. Andrews Sq streetscape works and Picardy Place final alignment are major issues which may affect the delivery to the Rev 06 Programme
- Removal of central reserve along Leith Walk is ongoing
- Jane Street Road closure commenced 15/10/07 for 12 weeks
- Princes St utility crossings at Fredrick & Castle St will be carried out between 12/11/07 and 30/11/07
- Trial holes are approved by the Traffic Management Panel for the East bound carriageway on Shandwick Place
- Access agreements for SUC's apparatus which remains within the DKE to be agreed between SUC and with both TEL and CEC for Constitution St, Shandwick Place and Haymarket.

Section 1B

The centre reservation along Leith Walk is being removed and temporary road reinstatement installed to provide a greater working area for the utility diversions and greater flexibility with traffic management along Leith Walk to facilitate achieving the Rev 06 Programme. Removal of the centre reservation is required for INFRACO works. All the proposals have been discussed and agreed with the Traffic Management Panel prior to implementation with local business' and stakeholders informed.

Jane Street road closure commenced on the 15th October 2007 for twelve weeks to accommodate major exchange BT chamber.

Actual Progress in this area is 16% against a planned 29% due to issues related to accommodating the utilities and the congestion of existing utilities. The resources in this area are being increased by 50% to recover the programme. No overall impact expected on final completion of the Leith Walk diversions.

Section 1C

A series of 34 No trial hole investigations along Princes Street were undertaken in the period to inform construction and potentially reducing any delays to programme.

The utility road crossings (5 No) in Princes Street at the junctions of Fredrick Street and Castle Street will commence week beginning 12th November with completion prior to the embargo at start of December. Remaining 4 No to be carried out subsequent to Christmas embargo.

Section 1D

A series of trial holes requested by EICC in Morrison Street will commence on the 19th November – these are non-MUDFA works which will not impact on the MUDFA programme.

45No trial holes to inform construction along Shandwick Place were undertaken in the period. The remaining 31No planned trial holes will be completed in the next period.

Section 5A, 5B & 5C

The MUDFA works available within Section 5A were completed on the 5th October 2007 this amounted to 70% of the utility diversions required in this area. The remaining 30% of utility diversions are being transferred to the INFRACO Contractors scope.

Section 5B and 5C IFC utility drawings awaited for review by **tie** to confirm these works are to be novated into the INFRACO contract. (as suggested by SDS)

Section 6 (Utilities)

Diversion of the 33kv SP cable completed and energised. 250mm watermain diversion 50% complete (RATs) (Risk And Trade off). 800mm watermain diversion final levels under design. Main will be within the anticipated profile of the adjacent road embankment.

These works will be carried out under a RATs proposal – early discussions underway with SW to this effect.

Section 6 (Gogar)

Earthwork operations completed as far as practicably possible. Completion of both the SGN and SW diversions required to release area 'locked – in'. Both are anticipated for completion by end March latest. BAA fence requires realigned into BAA ground – this is due end November. Handover of 'Gogar depot' site will be concluded on satisfactory inspection of area by **tie** team.

Section 7A & 7B

AMIS have submitted proposals for the utility diversions associated with the above two sections to be commenced as RATs. The submissions are currently under review and **tie** has arranged meetings with the affected SUC's and BAA to discuss and agree.

2.0 Progress Period (End of September)

2.1 Construction

- Works progressing on 6 no fronts – Sections 1A (connections in verges), 1B, 1C, 1D, 6 (Depot) and 6 (Utilities).
- Trial Holes ongoing in Section 1B, 1C and 1D.

2.2 Design

See Appendix 3 – Design Tracker for current status of design development.

2.3 Traffic Management

- The MUDFA works are continuing on Lane 1 Northbound between McDonald Rd and Pilrig Street. A contra-flow on the southbound side of the carriageway was installed through this works section on Tuesday the 30th of October. These works are progressing towards Pilrig Street. AMIS propose to reinstate a length of the completed works this week.
- The majority of the Central Reserve has been removed between Balfour St and McDonald Rd. AMIS were unable to complete the removal of the CR prior to installation of the contra-flow. Contingency works have been undertaken to gain the Stakeholder approval of the TM provision. Works are ongoing by AMIS to allow the removal of the remaining CR by the end of the week starting the 12th of November. AMIS propose to progress the removal of the CR towards the Picardy Place Roundabout prior to the Christmas embargo.
- Trial Holes on Shandwick Place, between South St, Charlotte Street and Atholl/Coates Crescents, are progressing and will continue until 30 November. The Christmas embargo is instigated from this date until 5 January. There has been a need to revise the programme following the need to increase the term of each Trial Hole to two dates on Health & Safety grounds.
- The cross carriageway ducting operations on Princes Street between Castle Street and The Mound will commence for a period of 3 weeks from the 12th of November. The works will be completed prior to the Christmas embargo.

See Appendix 4 - TM proposals for the next 4 week period

2.4 Communications & Stakeholder

2.4.1 Media

- No adverse media to report in period.

2.4.2 Site works

- Communications and Stakeholder Management activity remains on going in support of both live and planned work.
- Enabling works (SW mains) and 33kv SP diversions carried out over weekend in Leith Walk – works were completed satisfactorily. Both operations required a shutdown of the relevant supply. This was briefed out by the Comms team to the affected residents/businesses, well in advance and continually updated prior to the works commencing.

2.4.3 Incident Response

- Communications and Stakeholder staff have been on call 24/7 since the start of the MUDFA works. Summary of issues to be provided from team.

See Appendix 5 – Enquiries by Contact/Stakeholder Engagement Analysis

2.5 Commercial

- All the potential issues related to the delayed commencement of the AMIS MUDFA utility diversion works have been discussed in detail with AMIS resulting in an agreed way forward and agreement in principle between the parties.
- The potential issue associated with the access to the SU apparatus which will remain within the DKE, specifically along Constitution Street and Shandwick Place is being progressed. **tie** met with TEL representative to define access parameters and these are being communicated to the affected SU for approval/comment prior to incorporation into formal legal agreements. Awaiting confirmation from CEC re working hours for planned maintenance
- Road reinstatement issue and potential revised specification based performance. AMIS/CEC/**tie** issue.
- The cash forecast for the MUDFA works has been amended to reflect the revised spend profile as indicated by AMIS for Rev 06 Programme. There is the potential to increase the spend in this financial year and the next by accelerating the BT related works to allow the cabling works to commence as soon as possible in all areas but particularly in St Andrews Square – Picardy Place.

See Appendix 6 – Risk Register

3.0 Operations Next Period

3.1 Construction

- Continuation of works along Leith Walk – North Macdonald road down to Balfour St.
- Trial holes on Network Rail bridge to be carried out (Leith Walk)
- Road crossings (5no) on Princes St. Completion prior to Xmas embargo.
- 37no trial holes to be carried out prior to Xmas embargo along Shandwick place.
- Completion of SW road crossings (3no) and connection of FPA water supply into new – programme of these works have been discussed and agreed in principle with FPA.
- Completion of 250mm WM at Gogar.
- Commencement of 800mm WM at Gogar pending release of pipeline design.

3.2 Design

See Appendix 7 – Forecast Design Issuance

3.3 Programme

- Revision 06 has been produced in draft and be reviewed jointly by tie/AMIS and key stakeholders and finalised 16/11/07.
- Continued development of Key Performance Indicators for individual sections.
- Complete production of detailed construction programmes – sections 1B, 1C, 1D, 6, 7A, 7B and Morrison Street (EICC) trial holes.

4.0 Initiatives

- Review of service utility diversions requirements based on revised depth and protection. Area of review 400 – 1200 depth range below FRL. Review of current detail of INFRACO rail construction of 385mm total depth and implications on potential reduced diversions underway. Detail to be confirmed by INFRACO.
- Co-location of SDS designer at MUDFA offices to initiate prompt response to technical issues/queries – minimise time delay. In place 13 August 2007.
- 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. Also considering a BT specialist to join the MUDFA team for a short period of time to assist in the design and C4 implications related to betterment/deferment etc.
- 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 – contracts to be let by 21/11/2007.
- RAT's proposal put forward for section 7
- Review of construction and related process' including site assurance issues, hand over, testing etc
- Work section approval process review.
- Retrospective review of work sections to be undertaken

5.0 Key Issues/Blockers

- SGN technical and commercial issues resolved with the exception of a 30" gas main at the Mound – options reviewed.
- Stake holder help/issues – BAA fence etc
- BT issue re programme
- MUDFA/INFRACO programme interfaces

6.0 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

21 November 2007

Recommended

Matthew Crosse
Project Director

21 November 2007



MUDFA Sub-Committee Meeting

AGENDA ITEM 3

Appendices



MUDFA Sub-Committee Meeting

APPENDIX 1

Trend Analysis

Utility Damage data

The following Tables/Graphs provide details of the utility damage that has occurred since the commencement of MUDFA works.

Hours to date 104180, Metreage of all diversions Based on information received from AMIS 7592m as period 8 end.

This information allows tie to report on the utility damage against man hours and metreage.

This information should allow tie to forecast utility damage based on supplied figures

10 x Damages per 7592m = 1 per 759.2 m

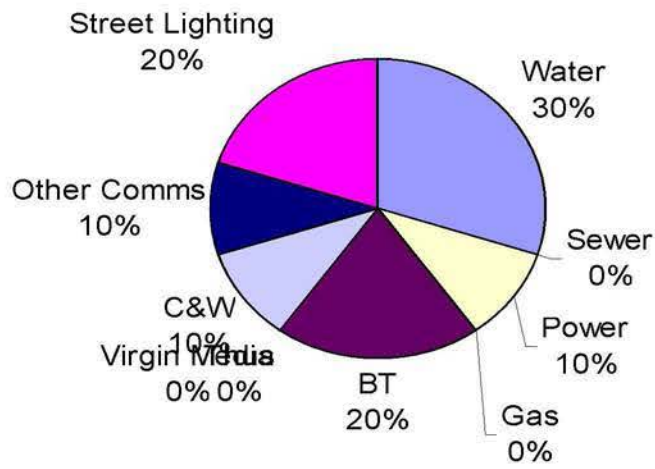
10 x Damages 104,180 hrs = 1 per 10,4180hrs

Utility	Rolling Number of Strikes
Water	3
Sewer	0
Power	1
Gas	0
BT	2
Virgin Media	0
Thus	0
C&W	1
Other Comms	1
Street Lighting	2

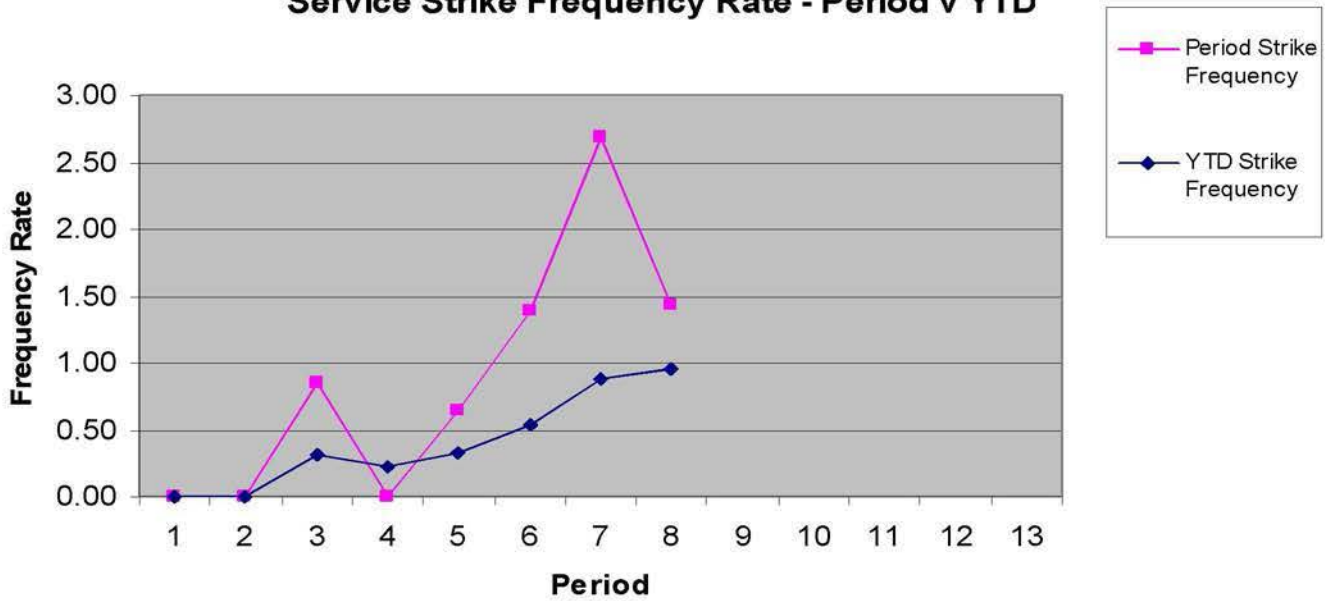
Period	Period Strike Frequency	YTD Strike Frequency
1	0.00	0.00
2	0.00	0.00
3	0.86	0.32
4	0.00	0.22
5	0.64	0.33
6	1.38	0.53
7	2.68	0.89
8	1.43	0.96
9		
10		
11		
12		
13		

<u>Year to Date Service Strike Information</u>	
Hours Expended in Period =	14000
Hours Expended year to date =	104180
Service strikes in period =	2
Service Strikes Year to date =	10
<u>Period Service Strike Frequency Rate (per 10000hrs) =</u>	<u>1.43</u>
<u>Year to date Service Strike Frequency Rate (per 10000hrs) =</u>	<u>0.96</u>

Year to Date Number of Strikes



Service Strike Frequency Rate - Period v YTD





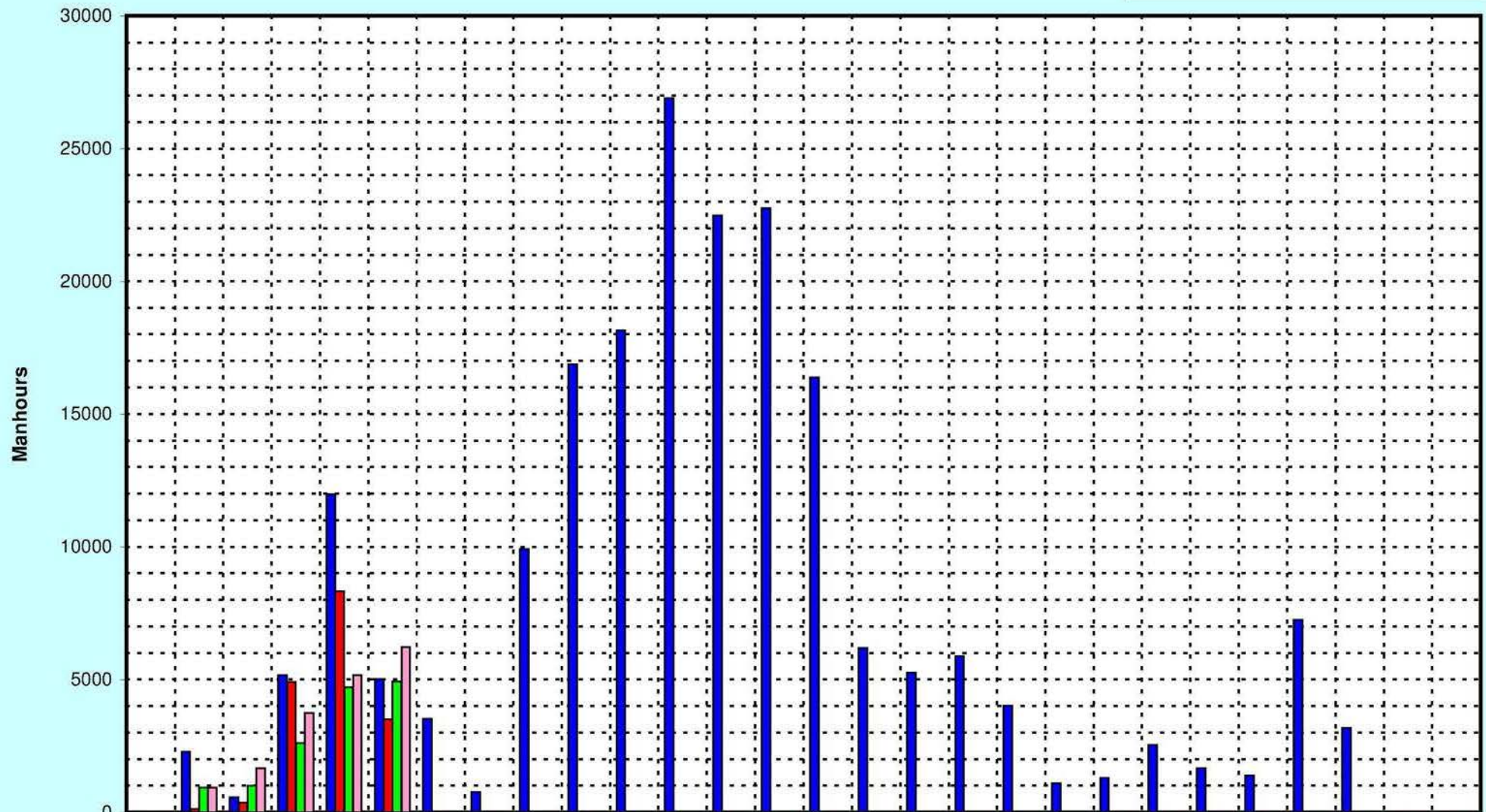
MUDFA Sub-Committee Meeting

APPENDIX 2

Key Performance Indicators

Edinburgh Tram Project MUDFA - Overall Manhour Period Progress Histogram (Baseline based on Approved WO Measure + AFA)

- Current Budget Hours AFA + Approved WO
- Earned Value Hours
- WO Actual Hours
- WO + Trial Holes Actual Hours



	2007-08 Period 03	2007-08 Period 04	2007-08 Period 05	2007-08 Period 06	2007-08 Period 07	2007-08 Period 08	2007-08 Period 09	2007-08 Period 10	2007-08 Period 11	2007-08 Period 12	2007-08 Period 13	2008-09 Period 01	2008-09 Period 02	2008-09 Period 03	2008-09 Period 04	2008-09 Period 05	2008-09 Period 06	2008-09 Period 07	2008-09 Period 08	2008-09 Period 09	2008-09 Period 10	2008-09 Period 11	2008-09 Period 12	2008-09 Period 13	2009-10 Period 01	2009-10 Period 02	2009-10 Period 03	2009-10 Period 04
■ Current Budget Hours AFA + Approved WO	0	2273	560	5158	11965	5009	3512	761	9917	16875	18139	26904	22486	22756	16366	6178	5245	5882	4008	1098	1283	2537	1656	1386	7236	3179	0	0
■ Earned Value Hours	0	123	355	4908	8318	3500																						
■ WO Actual Hours	0	927.5	996.5	2599	4697.5	4917.5																						
■ WO + Trial Holes Actual Hours	0	927.5	1663.5	3737	5155.5	6214.5																						

4 Week Period

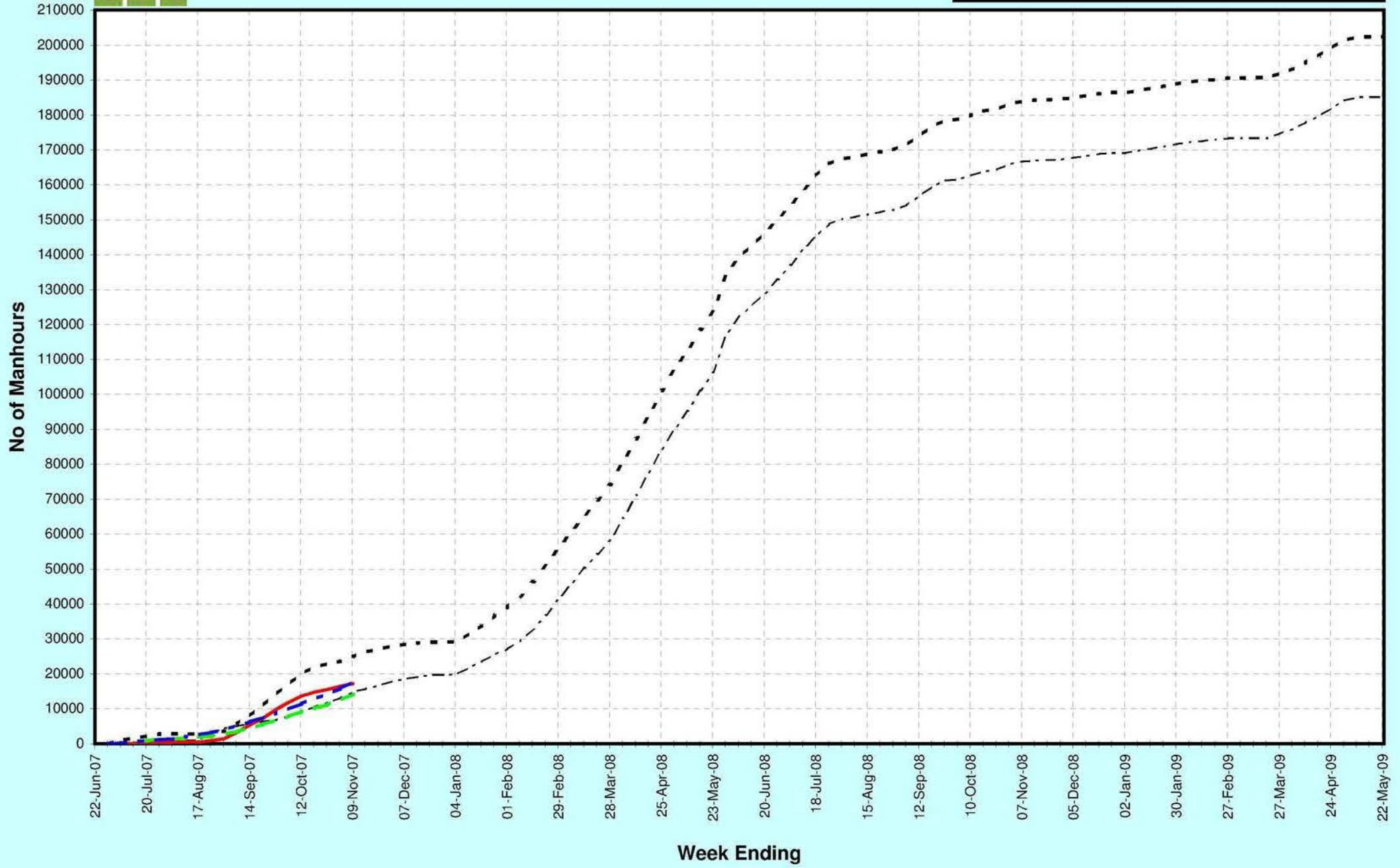


Edinburgh Tram Project

MUDFA - Overall Manhour Progress

(Baseline based on Approved WO Measure + AFA)

- - - Cum Original Budget Hours AFA
- - - Cum Current Budget Hours AFA + Approved WO: 23670
- Cum Earned Value Hours: 17204
- WO Cum Actual Hours: 14138
- - - WO + Trial Holes Cum Actual Hours: 17698



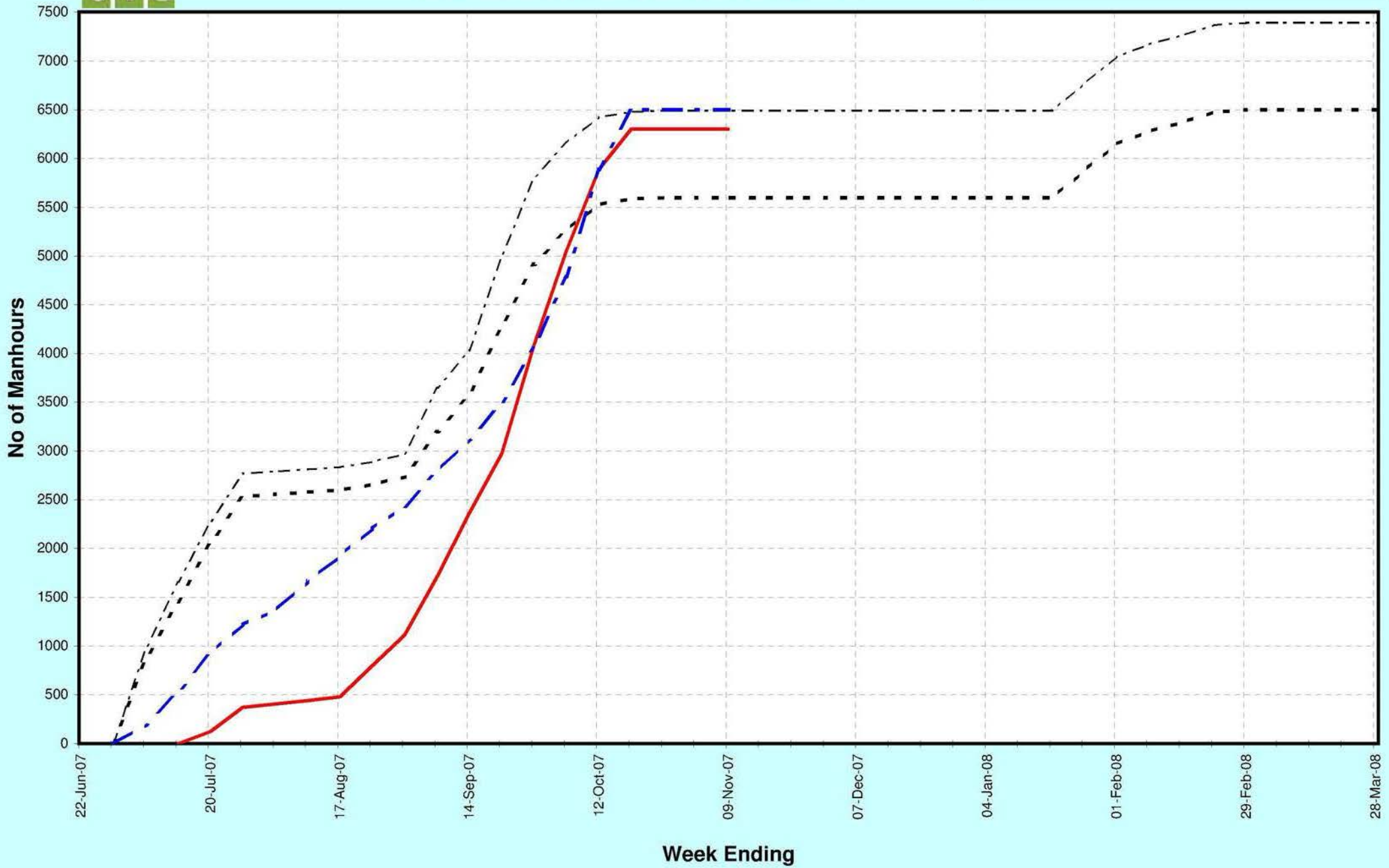


Edinburgh Tram Project

MUDFA - WO 1AWSI003/001 - Tower Street to Rennie's Isle Bridge

(Baseline based on Approved WO Measure)

- - - Cum Original Budget Hours: 7389
- - - Cum Current Budget Hours: 5596
- Cum Earned Value Hours: 6299
- - - Cum Actual Hours: 6497



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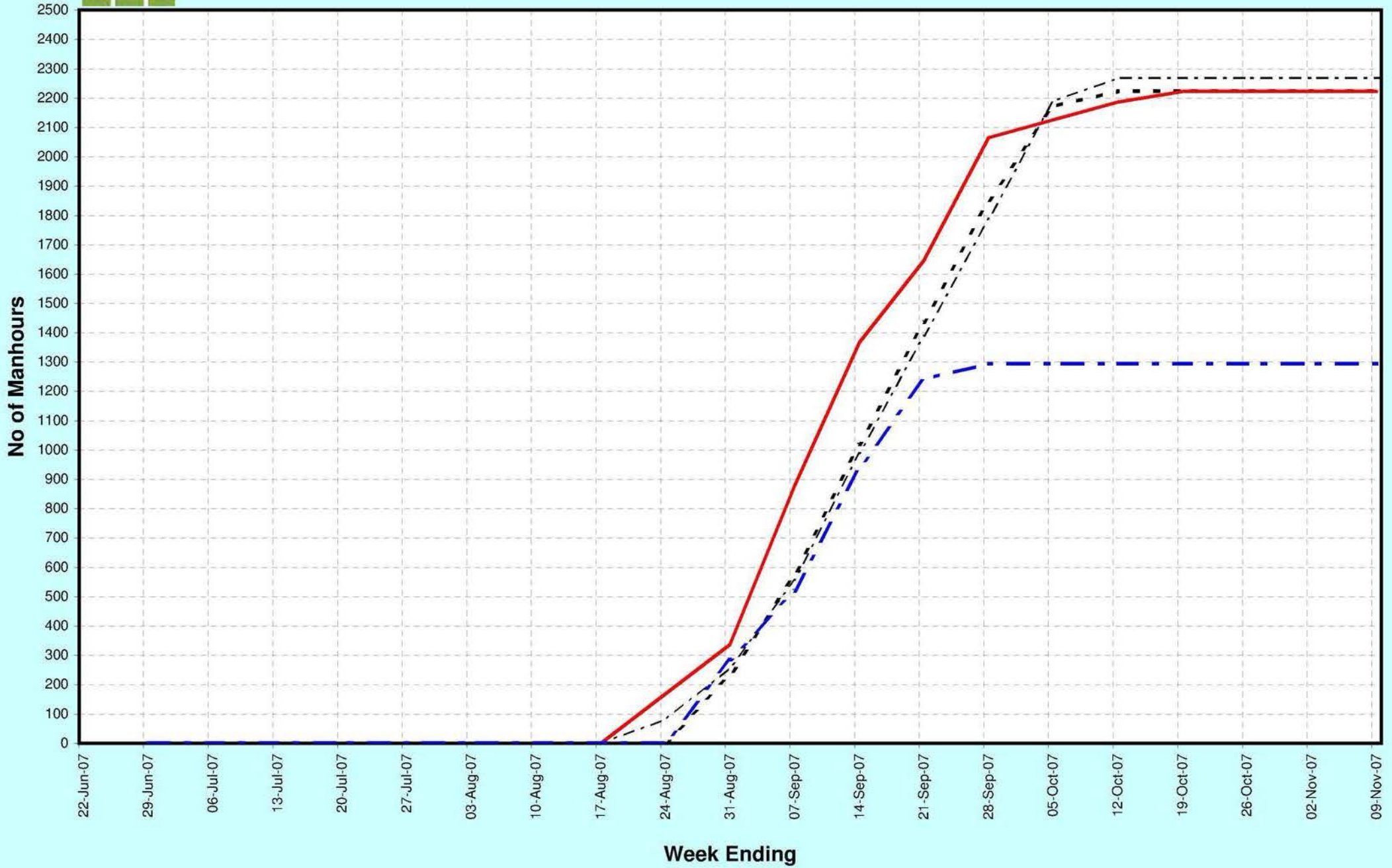


Edinburgh Tram Project

MUDFA - WO 5AWSI008/002 - Russell Road to Roseburn Street

(Baseline based on Approved WO Measure)

- - - Cum Original Budget Hours: 2269
- - - Cum Current Budget Hours
- Cum Earned Value Hours: 2223
- - - Cum Actual Hours: 1294



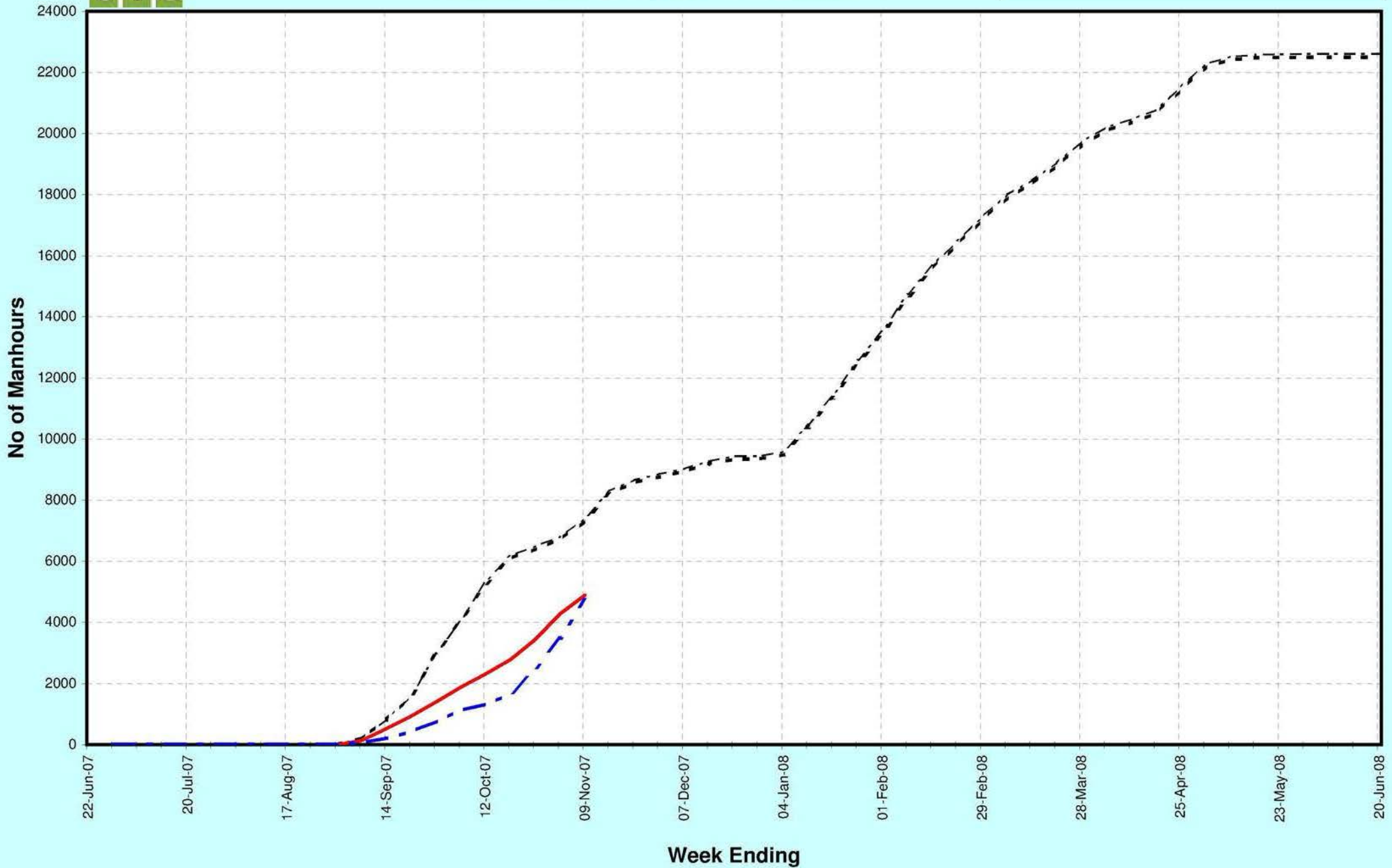


Edinburgh Tram Project

MUDFA - WO 1BWSI001/001 - McDonald Road to Balfour Street

(Baseline based on Approved WO Measure)

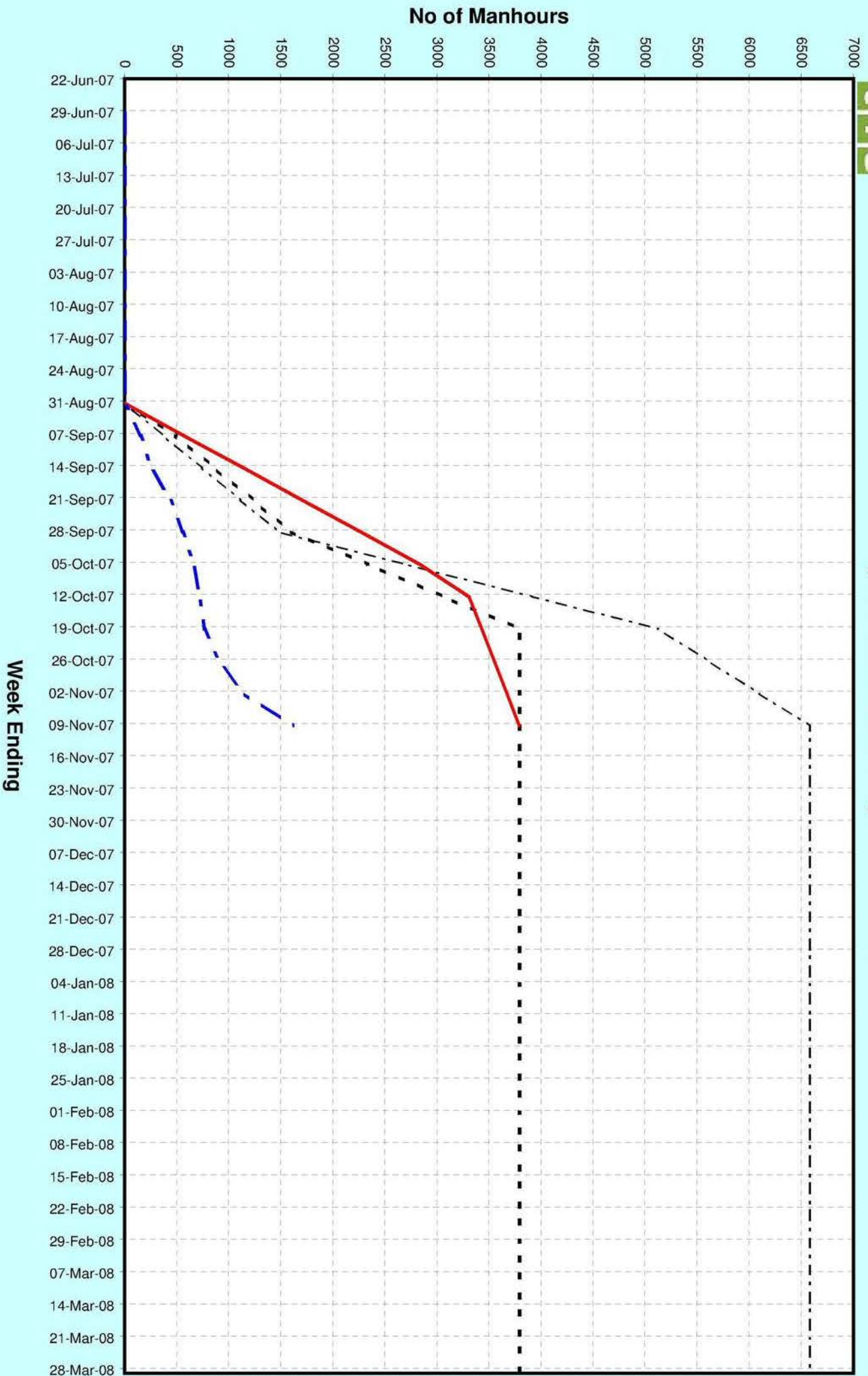
- - - Cum Original Budget Hours: 22597
- - - Cum Current Budget Hours: 6711
- Cum Earned Value Hours: 4887
- - - Cum Actual Hours: 4736.5





**Edinburgh Tram Project
MUDFA - Gogar Depot
(Baseline based on AFA)**

- - - - Cum Original Budget Hours: 6581
 - - - - Cum Current Budget Hours
 - - - - Cum Earned Value Hours: 3792
 - - - - Cum Actual Hours: 1610.5





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APPENDIX 3

Design Tracker

MUDFA Design Tracker
 SDS Design Status @ 12th November 2007

Section	Drawing Nos	Issue to SUC's for Approval			SUC Approval			Issue Approved IFC Package			IFC to Const'n Start	MUDFA Revision 06 1st Draft Construction Start		Remarks
		PLANNED	SDS F'CAST	ACTUAL	PLANNED	F'CAST	ACTUAL	PLANNED	F'CAST	ACTUAL		DAYS	PLANNED	
1A	plates 1-12	26-Oct-07	11-Jan-08		09-Nov-07	25-Jan-08		23-Nov-07	22-Feb-08		11	04-Feb-08		Revised Road & track alignment issued. Requires formal agreement with Forth Ports & CEC before Road & Tram Alignment design (5 weeks) & Utility design (6 weeks) can commence. Requires re-programme of construction works. Potential for utility design to be commenced on plates 05-09 (tie to instruct SDS).
1A	plates 13-15	04-May-07	01-Jun-07	01-Jun-07	11-May-07	25-Jun-07	23-Jun-07	25-May-07	03-Jul-07	03-Jul-07	8	03-Jul-07	03-Jul-07	Works commenced on the 10th July 2007 after political approval for 7thm Project. SWF Sewer Manhole & Surveys (Programmed 7th & 25th October 2007) awaiting to be finished. Design (1) is completed.
1A	plates 16-21	14-Sep-07	02-Nov-07	29-Oct-07	21-Sep-07	12-Nov-07		05-Oct-07	26-Nov-07		77	11-Feb-08		BT C4 for outside LOD not due from BT until 05th Oct 2007. Alignment Changes in plates 16 & 17 will effect plate 15. **Diversion currently underway plate 15!** As-built drawings for plate 14 & 15 required to be submitted to SDS by 05th Oct 2007 at the latest. SDS issued to SUC for Approval on 29-Oct-07. Status of Approvals: SGN - Option 3 design selected. SP - SP required to provide designs outside LOD. SW-C - SW to design outside LOD & provide C4 designs to allow connections inside LOD to be designed. SW-F - Information outside LOD & Manhole surveys (CCTV Survey Programmed 28-Oct-07) awaited. BT - BT C4 design issued to SDS on 05-Oct-07. C&W - Verbal Approval received. Awaiting written confirmation. Thus - Awaiting written confirmation. VM - Approval Outstanding. Geo-Networks - Design Available.
1B	plates 22-26	21-Aug-07	05-Sep-07	09-Sep-07	07-Sep-07	01-Oct-07	11-Oct-07	21-Sep-07	12-Oct-07	12-Oct-07	101	21-Jan-08		
1B	plates 27-31	06-Jul-07	09-Jun-07	09-Jun-07	13-Jul-07	21-Aug-07	21-Aug-07	21-Jul-07	21-Aug-07	21-Aug-07	8	06-Sep-07	06-Sep-07	
1C	plates 32-38	12-Oct-07	31-Oct-07	05-Nov-07	19-Oct-07	19-Nov-07		02-Nov-07	03-Dec-07		84	25-Feb-08		Status of Approvals: SGN - SP - SP have already approved plates 32-36. Will re-submit full approval letter for 32-38. SW-C - BT - C&W - Thus - VM - Verizon -
1C	plates 39-41	12-Oct-07	12-Nov-07		19-Oct-07	26-Nov-07		02-Nov-07	10-Dec-07		112	31-Mar-08		SDS have re-forecast issue to SUC's for Approval from 12-Oct-07 to 02-Nov-07 SDS Update of 07-Nov-07 now re-forecasts issue to SUC's to 12-Nov-07
1C	plates 42-44	14-Sep-07	12-Sep-07	12-Sep-07	21-Sep-07	06-Oct-07	12-Oct-07	05-Oct-07	19-Oct-07	17-Oct-07	12	29-Oct-07		
1C	plate 44	14-Sep-07	08-Oct-07	14-Sep-07	21-Sep-07	26-Oct-07	12-Oct-07	05-Oct-07	09-Nov-07	15-Oct-07	42	07-Jan-08		
1C	plates 45-48	11-Aug-07	01-Sep-07	04-Sep-07	07-Sep-07	28-Sep-07	01-Oct-07	11-Sep-07	05-Oct-07	09-Oct-07	120	14-Feb-08		
1D	plates 49-51	28-Sep-07	19-Oct-07	22-Oct-07	05-Oct-07	05-Nov-07		19-Oct-07	19-Nov-07		46	04-Jan-08		Status of Approvals: SGN - Approval Outstanding. SP - Approved 01-Nov-07. SW-C - Verbal Approval to SDS. BT - Approval Outstanding. C&W - Approval Outstanding. Thus - Approval Outstanding. VM - Approval Outstanding. Verizon - Approval Outstanding. SDS will issue to SUC for Approval on 08-Nov-07.
1D	plates 52-56	28-Sep-07	08-Nov-07		05-Oct-07	22-Nov-07		19-Oct-07	06-Dec-07		200	23-Jun-08		Status of Approvals: SGN - SP - SW-C - BT - C&W - Thus - VM - Verizon -

MUDFA Design Tracker
SDS Design Status @ 12th November 2007

Section	Drawing Nos	Issue to SUC's for Approval			SUC Approval			Issue Approved IFC Package			IFC to Const'n Start	MUDFA Revision 06 1st Draft Construction Start		Remarks
		PLANNED	SDS F'CAST	ACTUAL	PLANNED	F'CAST	ACTUAL	PLANNED	F'CAST	ACTUAL		DAYS	PLANNED	
2A	plates 1-3	14-Sep-07	30-Nov-07		21-Sep-07	14-Dec-07		05-Oct-07	11-Jan-08		136	26-May-08		IFC date dependent on outcome of BT design. BT Design now scheduled to complete 16th November 2007. Forecast based on this design date.
4A	plates 1-3	01-Jan-07	12-Jul-07	17-Sep-07	01-Aug-07	16-Aug-07	10-Aug-07	16-Aug-07	19-Aug-07	16-Aug-07	10	20-Aug-07	20-Aug-07	
5A	plates 4-6	10-Aug-07	14-Sep-07	28-Sep-07	24-Aug-07	26-Oct-07		17-Sep-07	09-Nov-07		31	10-Dec-07		SDS INDICATE NO DIVERSIONS FOR MUDFA. (SP diversion (INFRACO) & BT (Poles to be cut - BT Survey 20th Sep 2007)). IFC package will be issued 09-Nov-07 (low priority - no diversions) tie ROR required by SDS for end of first week November. Status of Approvals: SGN - Approval Outstanding NO CONFLICTS. SP - Approved 16-Oct-07. SW-C - Approved 15-Oct-07. BT - Approved 16-Aug-07. NO APPARATUS C&W - No Assets in Area. Blanks to be issued for approval. Thus - Approved 09-Aug-07. VM - Approved 11-Aug-07.
5B	plates 10-14	23-Jun-07	23-Jun-07	22-Jun-07	19-Aug-07	05-Oct-07	14-Oct-07	14-Sep-07	15-Oct-07	16-Oct-07	18	26-Nov-07		
5B	plates 14-20	03-Aug-07	09-Nov-07	01-Nov-07	17-Aug-07	16-Nov-07		14-Sep-07	30-Nov-07		66	04-Feb-08		Status of Approvals: SGN - Issued for Approval 02-Nov-07. SP - Approved 05-Nov-07 (excluding Transmission cables which will be issued to SP on 12-Nov-07 for approval) SW-C - Not issued BT - Issued for Approval 04-Oct-07. C&W - Not issued Thus - Issued for Approval 02-Nov-07. VM - Issued for Approval 02-Nov-07. Design of works outside LOD at Gyle is causing SDS problems. SDS are aiming to issue to SUC's on 16-Nov-07.
5C	plates 21-24	13-Jul-07	16-Nov-07		27-Jul-07	30-Nov-07		10-Aug-07	14-Dec-07		52	04-Feb-08		Status of Approvals: SGN - SP - SW-C - BT - C&W - Thus - VM -
8A	plates 1-2	28-Sep-07	18-Nov-07		19-Oct-07	18-Nov-07		02-Nov-07	17-Nov-07			03-Sep-07	03-Sep-07	CRITICAL ISSUE: SDS have re-forecast SW design for issue to SUC for approval to 19-Nov-07 from 25-Oct-07 in previous update. IFC will not be available until 17-Dec-07, previous update showed IFC available 22-Nov-07. This will have a serious impact on Depot programme. Line & Level of 800mm water main was issued 26-Oct-07. Utility diversion works commenced on 03-Sep-07 for temporary stow of C&W diversion & SW 250 main removal & capping, all of which is now completed.
7A	plates 1-7 (demarcation splits plate 7)	24-Aug-07	02-Nov-07		07-Sep-07	16-Nov-07		21-Sep-07	30-Nov-07			29-Oct-07		Status of Approvals: SGN - Verbal Approval. NO ASSETS designed by SDS. SP - Written approval obtained. Will require re-design based on depot move. SW-C - Horizontal Alignment of Scottish Water pipes confirmed acceptable by SW 11-Oct-07. MUDFA Topo survey awaited electronically and to correct coordinates. 250mm valves positions to be confirmed by coordinate. Road alignment being designed vertical alignment design 29-Oct-07. SW main to be designed with road alignment in mind. BT - Approval given to 1 conflict being abandoned. C&W - SDS received survey info from list 12-Oct-07. Design to be amended. **AMIS propose RATS initiative for this area.** SDS will report back on AMIS RATS Proposal at Critical Issues Meeting on 09-Nov-07. Status of Approvals: SGN - Utility design to be defined following new alignment (Now Finalised) & levels (SDS forecast 3-4 weeks time). SP - Utility design to be defined following new alignment (Now Finalised) & levels (SDS forecast 3-4 weeks time). SW-C - Utility design to be defined following new alignment (Now Finalised) & levels (SDS forecast 3-4 weeks time). BT - SDS received BT C4 design on 23-Oct-07. C&W - CW have confirmed they have no assets in the area. Thus - Thus have no apparatus in this section. VM - VM have no assets in the area although they have requested an additional crossing. Additional crossing not in SDS section, SDS to re ask for approval on 1-7 only as per drawings previously issued.
7B	plates 7-9 AMIS / JE	01-Feb-07	01-Feb-07		15-Feb-08	15-Feb-07		29-Feb-08	29-Feb-08			31-Mar-08		AMIS Outline Programme of Design is Prelim. Design Nov-Dec 2007 & 2 stage Detailed Design period of Jan-Apr 2008. Construction programmed Non critical diversions April to May 2008 & Critical Systems May to August 2008.
3A		26-Oct-07	30-Nov-07	18-Aug-07	02-Nov-07	14-Dec-07		16-Nov-07	11-Jan-08		220	18-Aug-08		
3B		09-Nov-07	30-Nov-07	30-Dec-06	16-Nov-07	14-Dec-07		30-Nov-07	11-Jan-08		311	17-Nov-08		
3C		09-Nov-07	30-Nov-07	23-Feb-07	16-Nov-07	14-Dec-07		30-Nov-07	11-Jan-08		325	01-Dec-08		

tie Forecast dates are based on 2 weeks for SUC approval from SDS Issue to SUC's.

tie Forecast dates are based on 2 weeks for Issue Approved IFC Package from SUC approval.

YELLOW indicates October IFC targets, GREEN complete or ahead of programme, AMBER missed target, RED Critical Issue

IFC to Construction Start days: - Less than 28 days critical RED, 28-42 days AMBER



MUDFA Sub-Committee Meeting

APPENDIX 4

Traffic Management Proposals

Schedule Of Approved Future Traffic Management Works - Appendix C				<p>BLUE - Out of Normal Working Hours YELLOW - Reprogrammed Works Required RED - Awaits approval ORANGE - TM Not Required</p>			
Day	Date	Time	Location	Type Of Works	Trial or Man Hole Reference	tie Work Supervisor	AMIS Front Line Managers
Mon	12-Nov-07	24 Hrs	Sect 1D Princes St - Cross Carriageway Ducting	MUDFA Works	Lane 1 E/B - 1, 5, 6A & Lane 1 W/B - 6, 2	JP	JM
Mon	12-Nov-07	24 Hrs	Sect 1B : Leith Walk / McDonald Rd to Balfour St Conta-flow S/B	MUDFA Works		NH	GB & SM
Mon	12-Nov-07	24 Hrs	Sect 1B : Leith Walk / Jane St Closure	MUDFA Works		NH	GB & SM
Mon	12-Nov-07	0930 - 1600	Sect 1D Shandwick Place	Trial Holes	23 & 24 (SP)	JP	JM
Mon	12-Nov-07	0700 - 1900	Sect 1B : Leith Walk	Trial Hole	TBC	NH	GB & SM
Mon	12-Nov-07	0930 - 1600	Sect 5C - Morrison Car Park and Lane 2 A8 into city	CCTV Surveys	7601 & 5601	NH	DH
Tue	12-Nov-07	0930 - 1600	Sect 3A - East Drylaw Drive & Crew Toll	CCTV Surveys	6602 & 7702	NH	DH
Tue	13-Nov-07	24 Hrs	Sect 1D Princes St - Cross Carriageway Ducting	MUDFA Works	Lane 1 E/B - 1, 5, 6A & Lane 1 W/B - 6, 2	JP	JM
Tue	13-Nov-07	24 Hrs	Sect 1B : Leith Walk / McDonald Rd to Balfour St Conta-flow S/B	MUDFA Works		NH	GB & SM
Tue	13-Nov-07	24 Hrs	Sect 1B : Leith Walk / Jane St Closure	MUDFA Works		NH	GB & SM
Tue	13-Nov-07	0930 - 1600	Sect 1D Shandwick Place	Trial Holes	23 & 24 (SP)	JP	JM
Tue	13-Nov-07	0700 - 1900	Sect 1B : Leith Walk	Trial Hole	TBC	NH	GB & SM
Tue	13-Nov-07	0930 - 1600	Sect 5A - Russel Rd	CCTV Surveys	1901 & 2901	NH	DH
Tue	13-Nov-07	0930 - 1600	Sect 3A - Crew Toll	CCTV Surveys	9703	NH	DH
Wed	14-Nov-07	24 Hrs	Sect 1D Princes St - Cross Carriageway Ducting	MUDFA Works	Lane 1 E/B - 1, 5, 6A & Lane 1 W/B - 6, 2	JP	JM
Wed	14-Nov-07	24 Hrs	Sect 1B : Leith Walk / McDonald Rd to Balfour St Conta-flow S/B	MUDFA Works		NH	GB & SM
Wed	14-Nov-07	24 Hrs	Sect 1B : Leith Walk / Jane St Closure	MUDFA Works		NH	GB & SM
Wed	14-Nov-07	0930 - 1600	Sect 1D : Shandwick Place	Trial Holes	19 & 20 (SP)	JP	JM
Wed	14-Nov-07	0700 - 1900	Sect 1B : Leith Walk	Trial Hole	TBC	NH	GB & SM
Wed	14-Nov-07	0930 - 1600	Sect 2 : Devon Place	CCTV Surveys	6103 & 4915	NH	DH
Wed	14-Nov-07	0930 - 1600	Sect 3A : Groat Rd South / Groat Hill Avenue	CCTV Surveys	3701 & 4608	NH	DH
Thu	15-Nov-07	24 Hrs	Sect 1D Princes St - Cross Carriageway Ducting	MUDFA Works	Lane 1 E/B - 1, 5, 6A & Lane 1 W/B - 6, 2	JP	JM
Thu	15-Nov-07	24 Hrs	Sect 1B : Leith Walk / McDonald Rd to Balfour St Conta-flow S/B	MUDFA Works		NH	GB & SM
Thu	15-Nov-07	24 Hrs	Sect 1B : Leith Walk / Jane St Closure	MUDFA Works		NH	GB & SM
Thu	15-Nov-07	0930 - 1600	Sect 1D Shandwick Place	Trial Holes	19 & 20	JP	JM
Thu	15-Nov-07	0700 - 1900	Sect 1B : Leith Walk	Trial Hole	TBC	NH	GB & SM
Thu	15-Nov-07	0930 - 1600	Sect 3A : Craigleith Drive	CCTV Surveys	5004, 5102, 6105 & 4004	NH	DH
Thu	15-Nov-07	0930 - 1600	Sect 1B - Leith Walk / Crown Place	CCTV Surveys		NH	GB & SM

Schedule Of Approved Future Traffic Management Works - Appendix C				BLUE - Out of Normal Working Hours YELLOW - Reprogrammed Works Required RED - Awaits approval ORANGE - TM Not Required			
Day	Date	Time	Location	Type Of Works	Trial or Man Hole Reference	tie Work Supervisor	AMIS Front Line Managers
Thu	15-Nov-07	2000 - 0600	Sect 1B : Foot of the Walk	CCTV Surveys	9808, 9904, 9915, 9908, 9903, 9909, 9928, 9814, 9905, 9811 & 0806	NH	GB & SM
Fri	16-Nov-07	24 Hrs	Sect 1D Princes St - Cross Carriageway Ducting	MUDFA Works	Lane 2 E/B - 1, 5, 6A & Lane 2 W/B - 6, 2	JP	JM
Fri	16-Nov-07	24 Hrs	Sect 1B : Leith Walk / McDonald Rd to Balfour St Conta-flow S/B	MUDFA Works		NH	GB & SM
Fri	16-Nov-07	24 Hrs	Sect 1B : Leith Walk / Jane St Closure	MUDFA Works		NH	GB & SM
Fri	16-Nov-07	0700 - 1900	Sect 1B : Leith Walk	Trial Hole		NH	GB & SM
Fri	16-Nov-07	2000 - 0600	Sect 1B : Foot of the Walk	CCTV Surveys	9808, 9904, 9915, 9908, 9903, 9909, 9928, 9814, 9905, 9811 & 0806	NH	GB & SM
Fri	16-Nov-07	0930 - 1600	Sect 3A : Coltbridge Avenue / Coatbridge Gardens	CCTV Surveys	0405, 9301, 0409, 1402, 0410, 0311	NH	DH
Sat	17-Nov-07	24 Hrs	Sect 1D Princes St - Cross Carriageway Ducting	MUDFA Works	Lane 2 E/B - 1, 5, 6A & Lane 2 W/B - 6, 2	JP	JM
Sat	17-Nov-07	24 Hrs	Sect 1B : Leith Walk / McDonald Rd to Balfour St Conta-flow S/B	MUDFA Works		NH	GB & SM
Sat	17-Nov-07	24 Hrs	Sect 1B : Leith Walk / Jane St Closure	MUDFA Works		NH	GB & SM
Sat	17-Nov-07	0700 - 2400	Sect 1B : Leith Walk / Duke St	Trial Hole	85 (LW)	NH	GB & SM
Sat	17-Nov-07	0800 - 1900	Sect 1D : Shandwick Place (Princes St)	Trial Holes	1, 3 & 6 (SP)	JP	JM
Sun	18-Nov-07	24 Hrs	Sect 1D Princes St - Cross Carriageway Ducting	MUDFA Works	Lane 2 E/B - 1, 5, 6A & Lane 2 W/B - 6, 2	JP	JM
Sun	18-Nov-07	1000 - 1800	Sect 1A : Constitution St / Queen Charlotte St	CCTV Surveys		NH	GB & SM
Sun	18-Nov-07	1000 - 1800	Sect 1D : Shandwick Place (Princes St)	Trial Holes	1, 3 & 6 (SP)	JP	JM
Sun	18-Nov-07	0700 - 2400	Sect 1B : Leith Walk / Duke St	Trial Hole	85 (LW)	NH	GB & SM

Phone Numbers - tie

- Phil Douglas (Construction Manager) - 07 [REDACTED]
- Brian McCall (Traffic Management) - 07 [REDACTED]
- Neil Hobson - 07 [REDACTED]
- George Patterson - 07 [REDACTED]
- Ronnie Black - 07 [REDACTED]
- Jackie Paton - 07 [REDACTED]

Phone Numbers - AMIS

- Simon Phillips (Traffic Management) - 07 [REDACTED]
- Mick Cunningham (Sect 5A - 5C) - 07 [REDACTED]
- Dan Hood (Gogar) - 07 [REDACTED]
- John McStravock (Sect 1C & 1D) - 077 [REDACTED]
- Gary Black (Sect 1B : Water/Gas/Power) - 079 [REDACTED]
- Steve McLeod (Sect 1B : BT / VM) - 07 [REDACTED]
- Dennis Hitchcock (CCTV) - 07 [REDACTED]

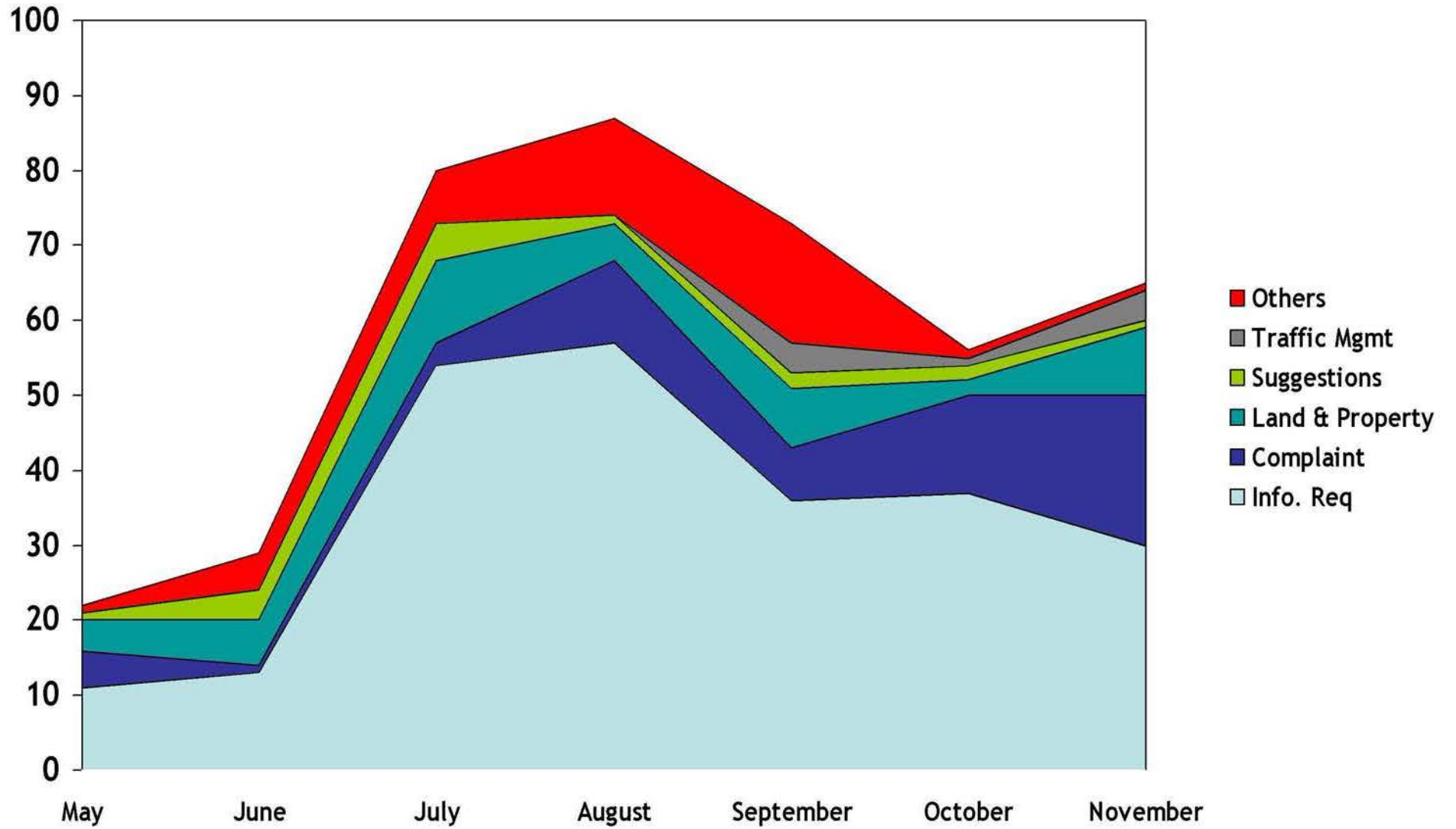


MUDFA Sub-Committee Meeting

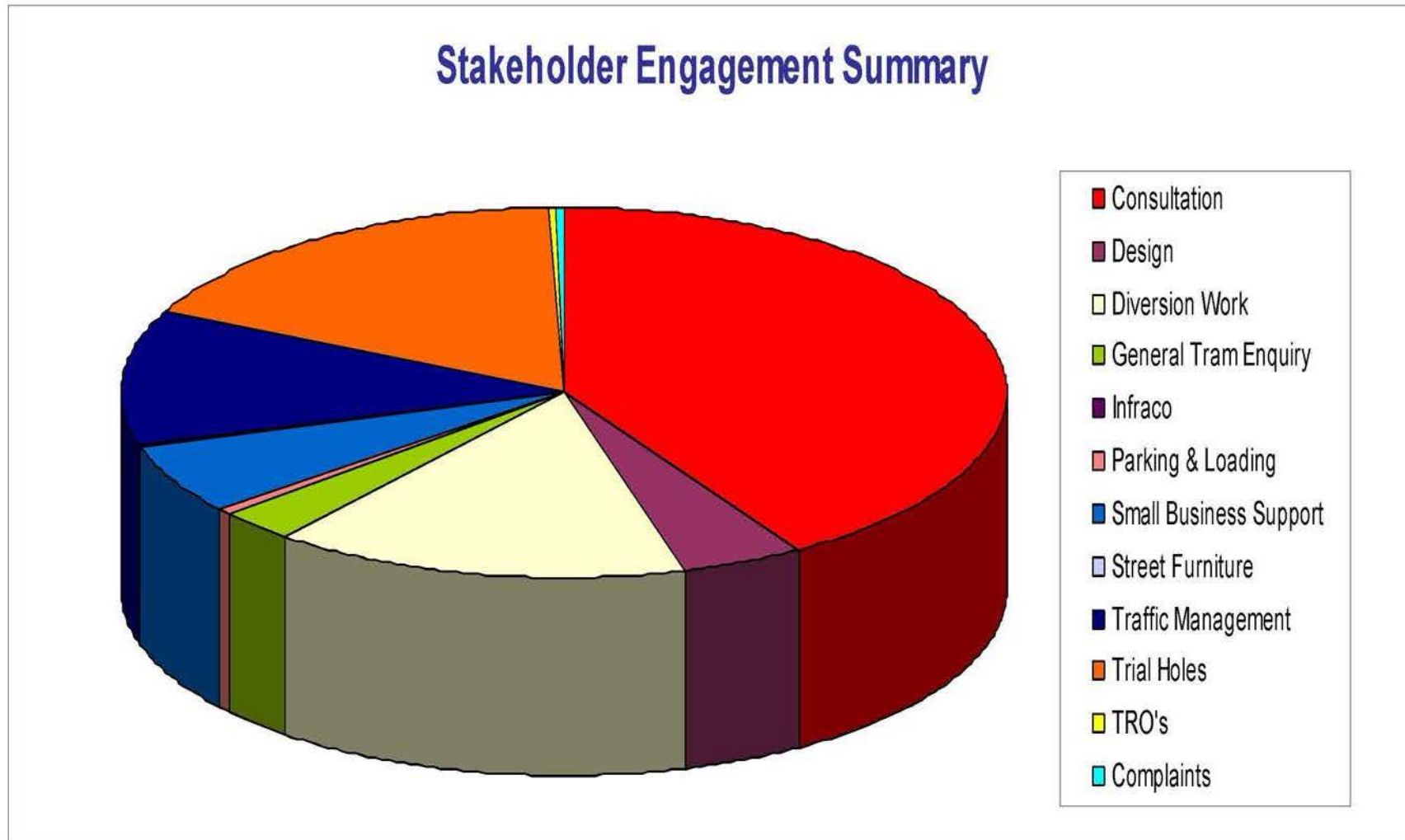
APPENDIX 5

Communications:
Enquiries by Contact\
Stakeholder Engagement Analysis

Enquiries by Contact Reason – (tie and AMIS) – period ended 11/11/07



Stakeholder Engagement Analysis – Cumulative to 11/11/07





MUDFA Sub-Committee Meeting

APPENDIX 6

Risk Register

MUDFA RISK REGISTER - NOV 07

Risk Description											
ARM Risk ID	Cause	Event	Effect	Risk Owner	Significance	Black Flag	Treatment Strategy	Previous Status	Current Status	Due Date	Action Owner
139	Utilities diversion outline specification only from plans	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	G Barclay	High - 25.00		Carry out GPR Adien survey	Complete	Complete	31-Oct-07	J Casserly
							Identify increase in services diversions. MUDFA to resource/re-programme to meet required timescales.	On Programme	On Programme	23-Nov-07	J McAloon
							In conjunction with MUDFA, undertake trial excavations to confirm locations of Utilities and inform designer	On Programme	On Programme	31-Jan-08	A Hill
164	Utilities assets uncovered during construction that were not previously accounted for; unidentified abandoned utilities assets; asbestos found in excavation for utilities diversion; unknown cellars and basements intrude into works area; other physical obstructions; other contaminated land	Unknown or abandoned assets or unforeseen/contaminated ground conditions affect scope of MUDFA work	Re-design and delay as investigation takes place and solution implemented; Increase in Capex cost as a result of additional works.	I Clark	High - 25.00		Carry out GPR Adien survey	Complete	Complete	31-Oct-07	J Casserly
							Identify increase in services diversions. MUDFA to resource/re-programme to meet required timescales.	On Programme	On Programme	23-Nov-07	J McAloon
							In conjunction with MUDFA, undertake trial excavations to confirm locations of Utilities and inform designer	On Programme	On Programme	31-Jan-08	A Hill
342	Tram alignment at A8 crossing at Gogar coincides 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	High - 24.00		Confirmation of BT requirements to tie	On Programme	On Programme	15-Oct-07	I Clark

MUDFA RISK REGISTER - NOV 07

Risk Description											
ARM Risk ID	Cause	Event	Effect	Risk Owner	Significance	Black Flag	Treatment Strategy	Previous Status	Current Status	Due Date	Action Owner
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	High - 24.00		Scottish Power to establish exact location of tunnel	Complete	Complete	2-Apr-07	I Clark
							SDS to try and ensure tram alignment footprint is outwith Scottish Power alignment - confirmation via thumbnails due 16th November	On Programme	On Programme	28-Dec-07	T Glazebrook
							tie to undertake engineering feasibility study	Complete	Complete	2-Apr-07	J Casserly
926	Major single safety incident during construction	Safety incident during MUDFA Diversions - Gas/Power/Water	Injury to employee. Delay (potentially critical) due to HSE investigation and rework. PR risk to tie and stakeholders.	G Barclay	High - 22.00						
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	High - 20.00		SDS to obtain consent for design in accordance with programme requirements - Scottish Water and all Telecoms	Complete	Complete	31-Dec-07	I Clark
							SDS to obtain consent for design in accordance with programme requirements - SGN and Scottisk Power	On Programme	On Programme	30-Dec-07	M Blake

MUDFA RISK REGISTER - NOV 07

Risk Description											
ARM Risk ID	Cause	Event	Effect	Risk Owner	Significance	Black Flag	Treatment Strategy	Previous Status	Current Status	Due Date	Action Owner
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	High - 19.00		AMIS to seek to divert under Statutory Utility powers where outwith LoD	Complete	Complete	28-Dec-07	G Barclay
							GIS used to identify diversions outwith LoDs and respective landowners	On Programme	On Programme	31-Aug-07	E Cropley
							SDS to aim to design diversions within LoD	On Programme	On Programme	28-Dec-07	T Glazebrook
							SDS to undertake design checks to ensure diversion in LoD	On Programme	On Programme	28-Dec-07	T Glazebrook



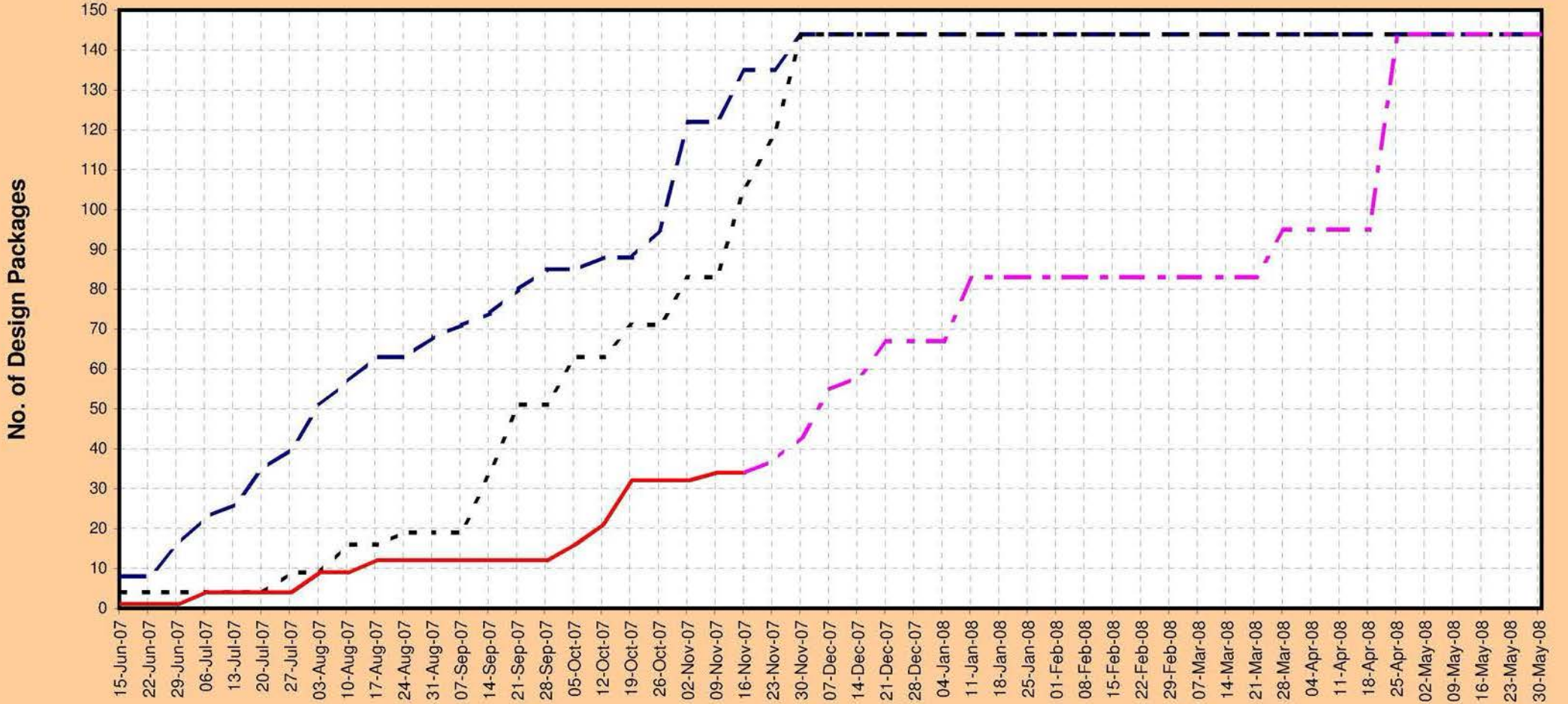
MUDFA Sub-Committee Meeting

APPENDIX 7

Forecast Design Issuance



MUDFA
Issue of IFC Design Package for Construction
 (Current Planned Dates based on SDS Planned @ 17th August 2007)



	15-Jun-07	22-Jun-07	29-Jun-07	06-Jul-07	13-Jul-07	20-Jul-07	27-Jul-07	03-Aug-07	10-Aug-07	17-Aug-07	24-Aug-07	31-Aug-07	07-Sep-07	14-Sep-07	21-Sep-07	28-Sep-07	05-Oct-07	12-Oct-07	19-Oct-07	26-Oct-07	02-Nov-07	09-Nov-07	16-Nov-07	23-Nov-07	30-Nov-07	07-Dec-07	14-Dec-07	21-Dec-07	28-Dec-07	04-Jan-08	11-Jan-08	18-Jan-08	25-Jan-08	01-Feb-08	08-Feb-08	15-Feb-08	22-Feb-08	29-Feb-08	07-Mar-08	14-Mar-08	21-Mar-08	28-Mar-08	04-Apr-08	11-Apr-08	18-Apr-08	25-Apr-08	02-May-08	09-May-08	16-May-08	23-May-08	30-May-08						
ORIGINAL PLANNED CUM	8	8	16	23	26	35	40	51	57	63	63	68	71	74	80	85	85	88	88	95	122	122	135	135	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	
CURRENT PLANNED CUM	4	4	4	4	4	4	9	9	16	16	19	19	19	34	51	51	63	63	71	71	83	83	106	118	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	
ACTUAL CUM	1	1	1	4	4	4	4	9	9	12	12	12	12	12	12	12	16	21	32	32	32	34	34																																		
LATEST FORECAST CUM																							34	37	43	55	58	67	67	67	83	83	83	83	83	83	83	83	83	83	83	83	83	83	95	95	95	95	144	144	144	144	144	144	144		

Week Ending