

Our ref: **25.1.201/KDR/2645**

15 May 2009

Bilfinger Berger – Siemens – CAF
Consortium

9 Lochside Avenue
Edinburgh Park
Edinburgh
EH12 9DJ
United Kingdom

tie limited
CityPoint
65 Haymarket Terrace
Edinburgh
EH12 5HD

Phone: +44 (0) 131 4 [REDACTED]

For the attention of Steven Bell – Tram Project Director

Dear Sirs,

Edinburgh Tram Network Infraco

Infraco Contract – EOT Entitlement Programme - 31 March 2009 – Revision 0

The actual progress of the Infraco Works does not conform to the current Programme (Revision 1) due to circumstances beyond Infraco's control, for example MUDFA Delays, the inordinate volume of Changes etc.

Therefore, in accordance with the requirements of Clause 60.3 of the Infraco Contract, we hereby submit and enclose our EOT Entitlement Programme - 31 March 2009 along with the supporting narrative and request your acceptance, in accordance with Clause 60.4 of the Infraco Contract.

As previously agreed we are available to discuss the details of the programme at your convenience.

Yours faithfully,

[REDACTED]
M Foerder
Project Director
Bilfinger Berger Siemens CAF Consortium

Encl. EOT Entitlement Programme - 31 March 2009 (41 pages)
Narrative to EOT Entitlement Programme - 31 March 2009 (4 pages)

cc M. Berrozpe (Siemens)
 A. Urriza (CAF)
 J. Donaldson
 S. Sharp

EDINBURGH TRAM NETWORK

Infraco Contract

Narrative to accompany EOT Entitlement Programme – 31 March 2009

This analysis considers the effect of the various delays which have impacted on the Revision 1 Programme. It considers issues and events which have occurred up to 31 March 2009. This is an interim analysis which will be updated by future submissions as and when the effect of the various issues impacting on the works becomes fully apparent.

Design Delays

The IFC dates in the Revision 1 Programme (which originate from V31 of the SDS design programme) have been replaced by the corresponding milestone dates from V42 of the SDS design programme. However this does not completely provide a true analysis of the delays incurred resulting from the provision of late issue for construction drawings for the following reasons:

- The IFC dates quoted by SDS show when drawings started to be issued for an individual package and do not necessarily represent when a complete set of IFC drawings were issued.
- Subsequent to the first issue of IFC drawings a large number of drawing revisions have been issued, many of which show significant changes to the first drawing issue.
- V42 does not show a date for the reissue of South Gyle Access Bridge. This analysis assumes a date of 4 August 2009 for this activity.
- The programme effects of the following INTC's are assumed to be included in V42 of the SDS design programme and hence taken account of in this analysis:
26,27,28,30,32,33,34,38,39,40,43,44,45,46,47,48,56,57,58,65,66,67,68,71,72,
,77,78,79,80,81,84,89,91,93,95,96,97,98,99,100,101,122,123,127,129,130,13
7,138,
139,140,141,143,145,157,163,164,165,171,179,182,196,197,198,226,227,22
8,229,242,243,244,246,247,248,249,257,259,269,271,273,275,277,278,280,2
81,285,287,299,319,320,321,325,343.

A full evaluation of the late issue of IFC drawings, taking the above factors into account will be subject to a further submission at a later date.

MUDFA Delays

The revision 1 Programme contains a milestone date for the completion of MUDFA works in each Intermediate Section of the site. These milestones act as a start constraint for the INFRACO work in the corresponding Intermediate Section.

This analysis considers delays impacting on the Programme up to 31 March 2009. The MUDFA programme current at the time and issued to INFRACO was revision 7.9. However MUDFA's actual progress on site was not reflected in this programme. Therefore assumed dates for MUDFA completion in each Intermediate Section have been taken from the following documents:

- A schedule of Carillion completion dates provided by Tom Hickman to Steve Sharp to assist in the production of the proposed Revision 2 Programme.

- An informal copy of a Detailed Topics Map Haymarket to Edinburgh Airport provided by tie for the off street sections.

However this information provides far from conclusive detail as to the anticipated completion of the MUDFA works (e.g. for part of Section 7 (Inglinton to Airport) the above documents state that tie are "currently procuring a contractor for the utility works in this section" and no date for completion is stated).

A more accurate analysis will be possible once a realistic programme is received from tie of the remaining MUDFA works.

Transfer of MUDFA Works to INFRACO

The works in areas 5A, 5B and 5C that have been transferred from MUDFA to INFRACO have been included in this analysis.

In addition an allowance has been made for dealing with the utilities abandoned by the MUDFA works and being located within the formation of the track bed. The solution assumed in the programme is an additional excavation of the track bed to a depth of 1200mm followed by backfilling with suitable material to the underside of the track slab.

Other Delays

This analysis considers events up to 31 March 2009. Therefore the first 350 INTC's have been considered along with the first 28 TCO's.

It is not currently possible to fully analyse the effect of all the INTC's, because either they have not been instructed (e.g. GRIP at the Depot site) or the implications of the INTC are not yet fully known (e.g. addition requirements imposed by Network Rail).

Therefore the following INTC's have not been added to the analysis because of the aforementioned reason or because they either have no programme effect or that they have been deleted / not issued

2,3,4,5,6,7,8,13,18,20,22,23,31,35,36,37,41,42,49,50,55,61,62,63,64,74,76,82,83,87,88,90,92,102,103,124,126,128,132,133,134,135,136,142,144,149,150,152,153,154,156,159,161,162,166,168,169,170,172,175,176,177,178,180,181,186,192,200,202,203,206,207,209,211,212,213,214,215,232,233,237,245,251,252,253,254,255,356,258,261,264,266,270,272,274,276,279,288,289,290,291,293,294,295,298,300,301,302,303,304,305,307,308,309,310,313,314,322,323,324,332,334,337,338,339,340,342,344,345,346,347,348,349,350.

The dominant delay in Intermediate Section 1B is the late completion of the MUDFA works. Therefore the INTC's associated with the attempted and aborted mitigation of this delay have not been included in the analysis. The INTC's effected are; 151,174,183,184,185,189,190,191,193,194,195,208,216,217,218,219,220,221,222,223,225,250,260,306,326,327,328,329,330.

Generally the effect of the increased scope of works brought about by the issue of IFC drawings has been included in the analysis. This is shown as activity bars which summarise the detail shown in the proposed "revision 2" Programme.

Similarly the tender/contract alignment issues for the on street works has been included by introducing activity summary bars for the road works extracted from the

proposed revision 2 Programme. However the track work activities retain their original sequence and logic.

No IFC drawings currently exist for the structures at South Gyle Access and Roseburn Viaduct due to redesign. Therefore assumed durations have been shown. The programme for W14 and W15 remain as the Revision 1 Programme due to late issue of IFC drawings.

A large number of IFC drawings have now been issued. This analysis attempts to identify the critical changes that have occurred. However a full analysis can only be undertaken once all the final IFC drawings have been received and revised bills of quantities produced.

Analysis

In general the Revision 1 Programme logic, resources and outputs have been retained.

However, as a result of the numerous delays impacting on the project a number of amendments to the programmes logic have had to be made to provide a realistic analysis of their effect as follows.

For the on street sections of the track work the "Finish Start" links between set track and establish traffic management have been removed and replaced by links between OLE foundations and set track. (Ch 265 – 425, Ch 425 – 475, Ch 475 – 600, Ch 600 – 700, Ch 700 – 850, Baltic Street to Queen Charlotte Street, Queen Charlotte Street to Foot of the Walk, 1B Ch 0 – 100 phase 1, York Place 700 – 800, York Place 850 – 1000, Leith Walk Ch 0 -375 phase 1.

The Revision 1 Programme is resourced with 3 track gangs progressing in a fixed sequence. If the Revision 1 logic is totally retained this results in a section D completion date of 20 May 2013. By rescheduling the sequence of these gangs, and thus mitigating the delay, the section D completion is brought forward to 20 January 2013.

Baselines

To provide a clearer understanding of the effects of each class of delay, a programme base line has been drawn after the addition of each of the following classes of delay:

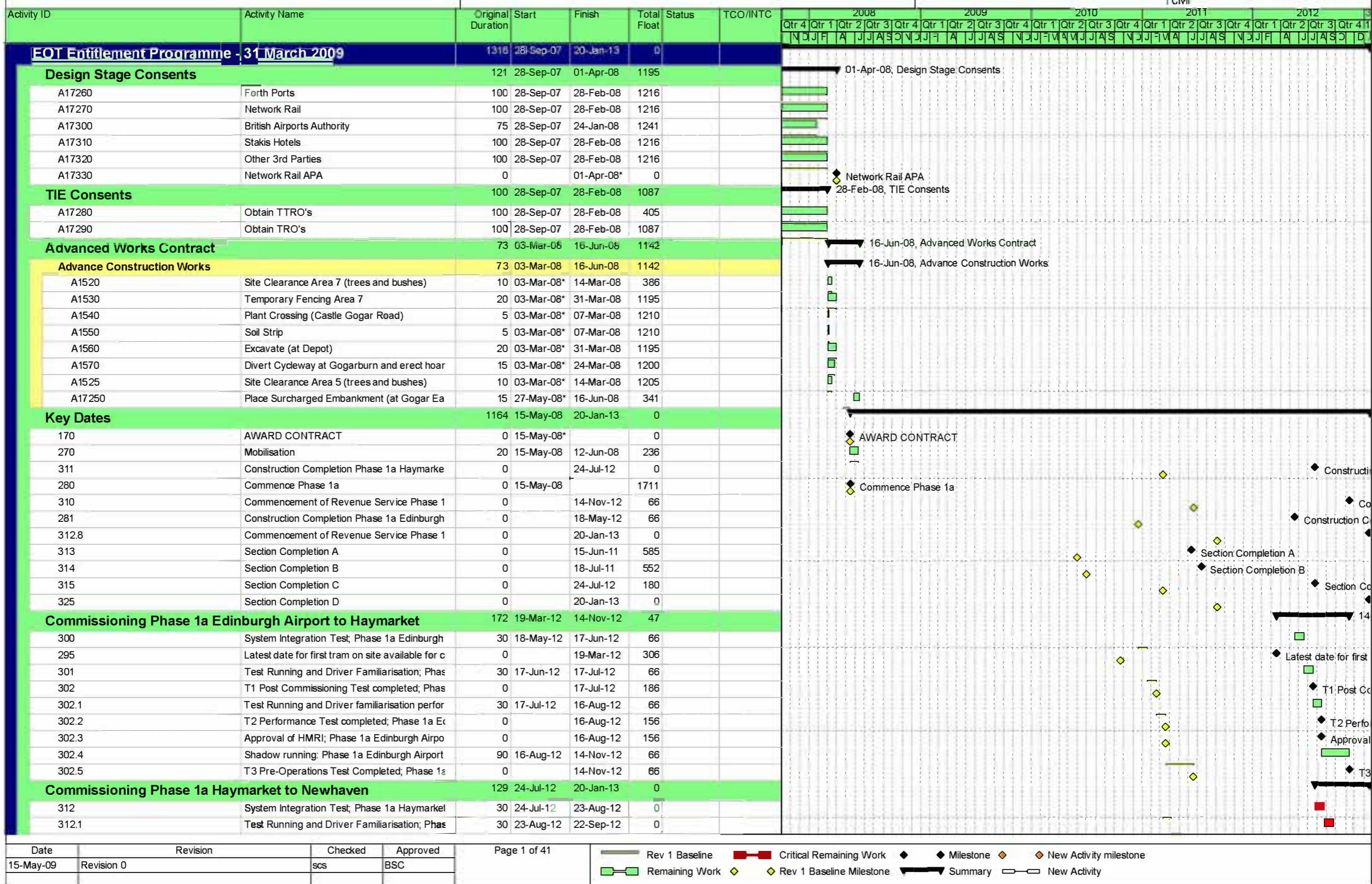
- V42 SDS design programme
- MUDFA progress
- MUDFA transfer to INFRACO
- Increased Depot earthworks.

Results of the Analysis

Following the incorporation into the Revision 1 Programme of the aforementioned delays that have impacted on the works and re sequencing to mitigate the effect the revised section completions for the EOT Entitlement Programme – 31 March 2009 are as follows;

A	(Depot)	15 June 2011
B	(Test Track)	18 July 2011
C	(Construction)	24 July 2012
D	(Revenue Service)	20 January 2013

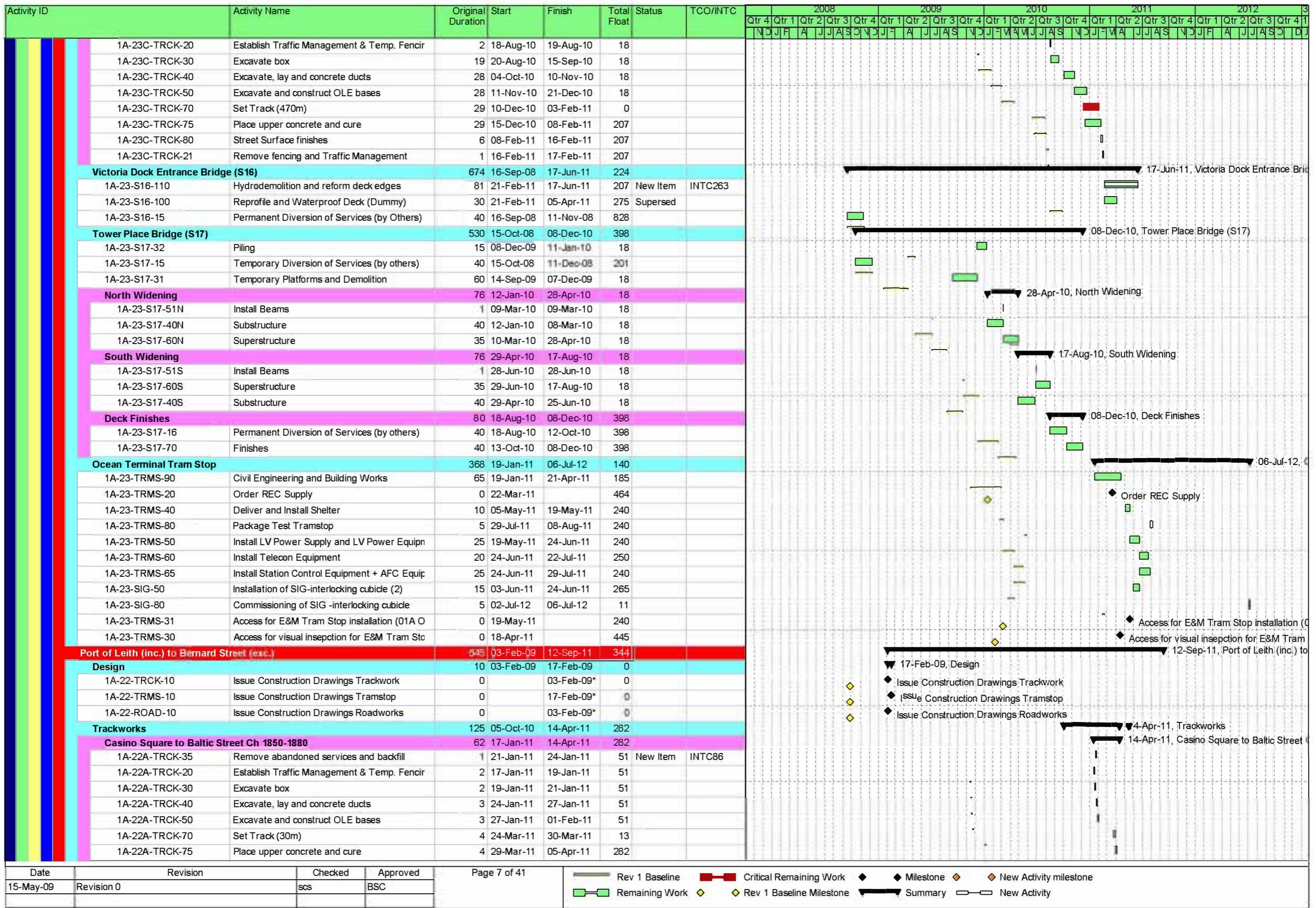
EOT Entitlement Programme - 31 March 2009
EDINBURGH TRAM NETWORK
BILFINGER BERGER
Civil

SIEMENS


Date	Revision	Checked	Approved
15-May-09	Revision 0	scs	BSC

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	Status	TCO/INTC	2008				2009				2010				2011				2012			
								Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3
	Design		138	19-Aug-08	16-Mar-09	0																					
1A-24-ROAD-10	Issue Construction Drawings Roadworks	0		16-Mar-09*	0																						
1A-24-TRCK-10	Issue Construction Drawings Trackwork	0		16-Mar-09*	0																						
1A-24-TRMS-10	Issue Construction Drawings Tramstop	0		17-Feb-09*	0																						
1A-24-W1-10	Issue Construction Drawings W1	0		01-Oct-08*	0																						
1A-24-W1-05	SDS Design Complete W1	0		19-Aug-08*	0																						
	Change - Estimate & Approval	10	04-Mar-09	18-Mar-09	-109																						
1A-24-W1-15	W1 submit estimate	0		04-Mar-09*	-109	Estimate	INTC 85																				
1A-24-W1-20	W1 tie approve estimate	0		18-Mar-09*	-109	Not Apprc	approval d																				
	Lindsay Road Retaining Walls (W1)	474	14-Sep-09	18-Aug-11	83																						
1A-24-W1-93	Wall W1B, W1C, W1D	55	17-Nov-09	11-Jan-10	19	New Item	INTC85																				
1A-24-W1-94	Wall W1A	229	13-Sep-10	18-Aug-11	83	New Item	INTC85																				
1A-24-W1-92	Wall B Contiguous Bored Piles	100	14-Sep-09	15-Feb-10	347	supersedes																					
1A-24-W1-91	Wall A Reinforced Earth	50	16-Feb-10	27-Apr-10	347	supersedes																					
	Roadworks	477	12-Jan-10	08-Dec-11	153																						
1A-24A-ROAD-101	Newhaven Road	170	12-Jan-10	10-Sep-10	19	New Item	INTC93																				
1A-24A-ROAD-100	CH 0000 to 0300	50	28-Sep-11	08-Dec-11	153																						
1A-24B-ROAD-100	CH 0300 to 0700	50	08-Apr-11	21-Jun-11	273																						
1A-24C-ROAD-100	CH 0700 to 0850	203	13-Sep-10	12-Jul-11	19																						
	Trackwork	502	14-Sep-09	28-Sep-11	75																						
Ch 0-265		88	25-May-11	28-Sep-11	75																						
1A-24A-TRCK-20	Establish Traffic Management & Temp. Fencir	2	25-May-11	26-May-11	83																						
1A-24A-TRCK-30	Excavate box	11	27-May-11	13-Jun-11	83																						
1A-24A-TRCK-40	Excavate, lay and concrete ducts	16	14-Jun-11	05-Jul-11	83																						
1A-24A-TRCK-50	Excavate and construct OLE bases	16	06-Jul-11	27-Jul-11	83																						
1A-24A-TRCK-70	Set Track (265m)	25	10-Aug-11	14-Sep-11	75																						
1A-24A-TRCK-75	Place upper concrete and cure	25	15-Aug-11	19-Sep-11	75																						
1A-24A-TRCK-80	Street Surface finishes	6	19-Sep-11	27-Sep-11	75																						
1A-24A-TRCK-21	Remove fencing and Traffic Management	1	27-Sep-11	28-Sep-11	75																						
1A-24A-TRCK-69	Set Track (265m) Demob 1D / Remob 1A	3	05-Aug-11	10-Aug-11	75																						
Ch 265-425		157	16-Aug-10	08-Apr-11	115																						
1A-24B-TRCK-35	Remove abandoned services and backfill	8	26-Aug-10	07-Sep-10	115	New Item	INTC86																				
1A-24B-TRCK-20	Establish Traffic Management & Temp. Fencir	2	16-Aug-10	18-Aug-10	115																						
1A-24B-TRCK-30	Excavate box	6	18-Aug-10	26-Aug-10	115																						
1A-24B-TRCK-40	Excavate, lay and concrete ducts	9	07-Sep-10	20-Sep-10	115																						
1A-24B-TRCK-50	Excavate and construct OLE bases	9	20-Sep-10	01-Oct-10	115																						
1A-24B-TRCK-70	Set Track (160m)	11	09-Mar-11	24-Mar-11	13																						
1A-24B-TRCK-75	Place upper concrete and cure	11	14-Mar-11	29-Mar-11	115																						
1A-24B-TRCK-80	Street Surface finishes	6	29-Mar-11	07-Apr-11	115																						
1A-24B-TRCK-21	Remove fencing and Traffic Management	1	07-Apr-11	08-Apr-11	115																						
Ch 425-475		39	21-Jun-10	16-Aug-10	115																						
1A-24C-TRCK-35	Remove abandoned services and backfill	3	25-Jun-10	30-Jun-10	21	New Item	INTC86																				
1A-24C-TRCK-20	Establish Traffic Management & Temp. Fencir	2	21-Jun-10	23-Jun-10																							

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	Status	TCO/INTC	2008				2009				2010				2011				2012										
								Qtr 4		Qtr 1		Qtr 2		Qtr 3		Qtr 4		Qtr 1		Qtr 2		Qtr 3		Qtr 4		Qtr 1		Qtr 2		Qtr 3		Qtr 4		
								N	D	J	F	A	J	J	A	S	N	D	J	F	A	J	J	A	S	N	D	J	F	A	J	J	A	S
								Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4		
	1A-23-S16-10	Issue Construction Drawings S16	0	11-Nov-08*	0																													
	1A-23-S16-05	SDS Design Complete S16	0	04-Sep-08*	0																													
	1A-23-S17-10	Issue Construction Drawings S17	0	11-Dec-08*	0																													
	1A-23-S17-05	SDS Design Complete S17	0	01-Oct-08*	0																													
	1A-23C-TRCK-10	Issue Construction Drawings Trackwork	0	17-Aug-09*	0																													
	Roadworks		193	20-Aug-10	07-Jun-11	245																												
	Ocean Terminal Ch 850-1080		66	19-Jan-11	22-Apr-11	184																												
	1A-23A-ROAD-90	Road Reconstruction	66	19-Jan-11	22-Apr-11	178	New Item																											
	1A-23A-ROAD-30	Excavate for new channel and kerb line / remc	12	19-Jan-11	04-Feb-11	203	Supersed																											
	1A-23A-ROAD-40	Construct Kerb lines	14	24-Jan-11	11-Feb-11	203	Supersed																											
	1A-23A-ROAD-50	Reset Gullies	28	07-Feb-11	17-Mar-11	203	Supersed																											
	1A-23A-ROAD-60	Surface new channel	6	17-Mar-11	25-Mar-11	203	Supersed																											
	1A-23A-ROAD-70	Pavement Works	28	11-Feb-11	23-Mar-11	205	Supersed																											
	1A-23A-ROAD-80	Street Lighting / Traffic Signals / Road Signs	7	11-Feb-11	22-Feb-11	226	Supersed																											
	Ocean Terminal to Rennies Isle Ch 1080-1410		73	21-Feb-11	07-Jun-11	245																												
	1A-23B-ROAD-90	Road Reconstruction	73	21-Feb-11	07-Jun-11	239	New Item																											
	1A-23B-ROAD-30	Excavate for new channel and kerb line / remc	14	21-Feb-11	11-Mar-11	265	Supersed																											
	1A-23B-ROAD-40	Construct Kerb lines	17	24-Feb-11	21-Mar-11	265	Supersed																											
	1A-23B-ROAD-50	Reset Gullies	34	10-Mar-11	28-Apr-11	265	Supersed																											
	1A-23B-ROAD-60	Surface new channel	6	28-Apr-11	09-May-11	265	Supersed																											
	1A-23B-ROAD-70	Pavement Works	33	21-Mar-11	09-May-11	265	Supersed																											
	1A-23B-ROAD-80	Street Lighting / Traffic Signals / Road Signs	7	21-Mar-11	30-Mar-11	291	Supersed																											
	Rennies Isle to Casino Square Ch 1410-1880		97	20-Aug-10	18-Jan-11	335																												
	1A-23C-ROAD-90	Road Reconstruction	97	20-Aug-10	18-Jan-11	335	New Item																											
	1A-23C-ROAD-30	Excavate for new channel and kerb line / remc	19	20-Aug-10	15-Sep-10	250	Supersed																											
	1A-23C-ROAD-40	Construct Kerb lines	24	25-Aug-10	27-Sep-10	250	Supersed																											
	1A-23C-ROAD-50	Reset Gullies	48	08-Sep-10	12-Nov-10	257	Supersed																											
	1A-23C-ROAD-60	Surface new channel	6	15-Nov-10	22-Nov-10	257	Supersed																											
	1A-23C-ROAD-70	Pavement Works	47	28-Sep-10	02-Dec-10	250	Supersed																											
	1A-23C-ROAD-80	Street Lighting / Traffic Signals / Road Signs	7	28-Sep-10	06-Oct-10	290	Supersed																											
	Trackwork		409	18-Aug-10	17-Apr-12	32																												
	Ocean Terminal Ch 850-1080		113	17-Jan-11	28-Jun-11	140																												
	1A-23A-TRCK-20	Establish Traffic Management & Temp. Fencir	2	17-Jan-11	19-Jan-11	62																												
	1A-23A-TRCK-30	Excavate box	12	19-Jan-11	04-Feb-11	62																												
	1A-23A-TRCK-40	Excavate, lay and concrete ducts	17	04-Feb-11	01-Mar-11	62																												
	1A-23A-TRCK-50	Excavate and construct OLE bases	17	04-Feb-11	01-Mar-11	62																												
	1A-23A-TRCK-70	Set Track (280m)	28	04-May-11	14-Jun-11	3</td																												



Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	Status	TCO/INTC	2008					2009					2010					2011					2012										
								Qtr 4		Qtr 1			Qtr 2		Qtr 3		Qtr 4		Qtr 1		Qtr 2			Qtr 3		Qtr 4		Qtr 1		Qtr 2			Qtr 3		Qtr 4			
								N	D	J	F	A	J	J	A	S	O	N	D	J	F	A	J	J	A	S	N	D	J	F	A	J	J	A	S			
	1A-22A-TRCK-80	Street Surface finishes	6	05-Apr-11	13-Apr-11	282																																
	1A-22A-TRCK-21	Remove fencing and Traffic Management	1	13-Apr-11	14-Apr-11	282																																
	Casino Square to Baltic Street Ch 1880 - 2110		63	05-Oct-10	17-Jan-11	51																																
	1A-22B-TRCK-35	Remove abandoned services and backfill	6	21-Oct-10	29-Oct-10	60	New Item	INTC86																														
	1A-22B-TRCK-20	Establish Traffic Management & Temp. Fencir	2	05-Oct-10	07-Oct-10	51																																
	1A-22B-TRCK-30	Excavate box	10	07-Oct-10	21-Oct-10	60																																
	1A-22B-TRCK-40	Excavate, lay and concrete ducts	14	29-Oct-10	18-Nov-10	60																																
	1A-22B-TRCK-50	Excavate and construct OLE bases	14	29-Oct-10	18-Nov-10	60																																
	1A-22B-TRCK-70	Set Track (230m)	15	18-Nov-10	10-Dec-10	0																																
	1A-22B-TRCK-75	Place upper concrete and cure	15	23-Nov-10	15-Dec-10	57																																
	1A-22B-TRCK-80	Street Surface finishes	6	23-Dec-10	14-Jan-11	51																																
	1A-22B-TRCK-21	Remove fencing and Traffic Management	1	14-Jan-11	17-Jan-11	51																																
	Roadworks		54	07-Oct-10	23-Dec-10	57																																
	Casino Square to Baltic Street Ch 1880 - 2110		54	07-Oct-10	23-Dec-10	57																																
	1A-22-ROAD-90	Road Reconstruction	54	07-Oct-10	23-Dec-10	51	New Item																															
	1A-22-ROAD-30	Excavate for new channel and kerb line / remc	10	07-Oct-10	21-Oct-10	70	Supersed																															
	1A-22-ROAD-40	Construct Kerb lines	12	12-Oct-10	28-Oct-10	70	Supersed																															
	1A-22-ROAD-50	Reset Gullies	24	26-Oct-10	30-Nov-10	70	Supersed																															
	1A-22-ROAD-60	Surface new channel	4	30-Nov-10	06-Dec-10	70	Supersed																															
	1A-22-ROAD-70	Pavement Works	23	28-Oct-10	01-Dec-10	73	Supersed																															
	1A-22-ROAD-80	Street Lighting / Traffic Signals / Road Signs	7	28-Oct-10	08-Nov-10	89	Supersed																															
	Port of Leith Tram Stop		261	20-Aug-10	12-Sep-11	344																																
	1A-22-TRMS-90	Civil Engineering and Building Works	65	20-Aug-10	18-Nov-10	259																																
	1A-22-TRMS-20	Order REC Supply	0	27-Apr-11		439																																
	1A-22-TRMS-40	Deliver and Install Shelter	10	10-Jun-11	24-Jun-11	215																																
	1A-22-TRMS-80	Package Test Tramstop	5	05-Sep-11	12-Sep-11	215																																
	1A-22-TRMS-50	Install LV Power Supply and LV Power Equipn	25	24-Jun-11	29-Jul-11	215																																
	1A-22-TRMS-70	Install Telecon Equipment	20	29-Jul-11	29-Aug-11	225																																
	1A-22-TRMS-60	Install Station Control Equipment + AFC Equip	25	29-Jul-11	05-Sep-11	215																																
	1A-22-TRMS-31	Access for E&M Tram Stop installation (01A C	0	24-Jun-11		227																																
	1A-22-TRMS-30	Access for visual inspection for E&M Tram Sto	0	25-May-11		432																																
	Bernard Street (inc.) to Foot of the Walk (exc.)		765	03-Feb-09	13-Mar-12	224																																
	Design		10	03-Feb-09	17-Feb-09	0																																
	1A-21-TRMS-10	Issue Construction Drawings Tramstop	0		17-Feb-09*	0																																
	1A-21-TRK-10	Issue Construction Drawings	0</td																																			

Date	Revision	Checked	Approved	Page 11 of 41	Legend:
15-May-09	Revision 0	scs	BSC		 Rev 1 Baseline  Critical Remaining Work  Milestone  New Activity milestone  Remaining Work  Rev 1 Baseline Milestone  Summary  New Activity

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	Status	TCO/INTC	2008				2009				2010				2011				2012					
								Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	
	1B-20ABC-ROAD-80	Street Lighting / Traffic Signals / Road Signs	7	18-Aug-09	26-Aug-09	116	Supersed																						
	1B-20ABC-ROAD-20	Establish Traffic Management & Temp. Fencir	2	22-Jul-09	23-Jul-09	110																							
	1B-20ABC-ROAD-21	Remove fencing and Traffic Management	1	04-Sep-09	04-Sep-09	110																							
	Leith Walk Ch 350-600		46	07-Sep-09	09-Nov-09	110																							
	1B-20FG-ROAD-90	Road Reconstruction	43	09-Sep-09	06-Nov-09	110	New Item	INTC210																					
	1B-20FG-ROAD-30	Excavate for new channel and kerb line / remc	10	09-Sep-09	22-Sep-09	125	Supersed																						
	1B-20FG-ROAD-40	Construct Kerb lines	13	14-Sep-09	30-Sep-09	125	Supersed																						
	1B-20FG-ROAD-50	Reset Gullies	13	21-Sep-09	07-Oct-09	126	Supersed																						
	1B-20FG-ROAD-60	Surface new channel	6	08-Oct-09	15-Oct-09	126	Supersed																						
	1B-20FG-ROAD-70	Pavement Works	12	01-Oct-09	16-Oct-09	125	Supersed																						
	1B-20FG-ROAD-80	Street Lighting / Traffic Signals / Road Signs	7	01-Oct-09	09-Oct-09	130	Supersed																						
	1B-20FG-ROAD-20	Establish Traffic Management & Temp. Fencir	2	07-Sep-09	08-Sep-09	110																							
	1B-20FG-ROAD-21	Remove fencing and Traffic Management	1	09-Nov-09	09-Nov-09	110																							
	Balfour Street (inc.) to McDonald Road (exc.)		924	16-Jul-08	19-Apr-12	197																							
	Design		40	16-Jul-08	11-Sep-08	0																							
	1B-19-TRCK-10	Issue Construction Drawings Trackwork	0		11-Sep-08*	0																							
	1B-19-ROAD-10	Issue Construction Drawings Roadworks	0		11-Sep-08*	0																							
	1B-19-TRMS-10	Issue Construction Drawings Tramstop	0		16-Jul-08*	0																							
	Trackwork		229	17-May-11	19-Apr-12	0																							
	Balfour Street Ch 600-850		76	17-May-11	02-Sep-11	19																							
	1st half		40	17-May-11	13-Jul-11	15																							
	1B-19A-TRCK-80	Street Surface finishes	5	06-Jul-11	13-Jul-11	15	Increased	INTC210																					
	1B-19A-TRCK-35	Remove abandoned services and backfill	7	26-May-11	07-Jun-11	0	New Item	INTC86																					
	1B-19A-TRCK-20	Establish Traffic Management & Temp. Fencir	2	17-May-11	19-May-11	0																							
	1B-19A-TRCK-30	Excavate box	5	19-May-11	26-May-11	0																							
	1B-19A-TRCK-40	Excavate, lay and concrete ducts	8	07-Jun-11	17-Jun-11	0																							
	1B-19A-TRCK-50	Excavate and construct OLE bases	8	07-Jun-11	17-Jun-11	0																							
	1B-19A-TRCK-70	Set Track (250m)	10	17-Jun-11	01-Jul-11	0																							
	1B-19A-TRCK-75	Place upper concrete and cure	10	22-Jun-11	06-Jul-11	15																							
	2nd half		36	13-Jul-11	02-Sep-11	19																							
	1B-19B-TRCK-80	Street Surface finishes	5	25-Aug-11	01-Sep-11	19	Increased	INTC210																					
	1B-19B-TRCK-35	Remove abandoned services and backfill	7	15-Jul-11	26-Jul-11	15	New Item	INTC86																					
	1B-19B-TRCK-30	Excavate box	2	13-Jul-11	15-Jul-11	15																							
	1B-19B-TRCK-40	Excavate, lay and concrete ducts	8	26-Jul-11	08-Aug-11	15																							
	1B-19B-TRCK-70	Set Track (250m)	10	08-Aug-11	22-Aug-11	15																							
	1B-19B-TRCK-75	Place upper concrete and cure	10	11-Aug-11	25-Aug-11	19																							
	1B-19B-TRCK-21	Remove fencing and Traffic Management	1	01-Sep-11	02-Sep-11	19																							
	Pilrig / Iona Street Ch 850 to 950		64	02-Sep-11	02-Dec-11	0																							
	1st half		27	02-Sep-11	11-Oct-11	15																							
	1B-19C-TRCK-80	Street Surface finishes	5	04-Oct-11	11-Oct-11	15	Increased	INTC210																					
	1B-19C-TRCK-35	Remove abandoned services and backfill	3	08-Sep-11	13-Sep																								

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	Status	TCO/INTC	2008				2009				2010				2011				2012					
								Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	
Balfour Street Tram Stop	1B-19EF-ROAD-21	Remove fencing and Traffic Management	1	25-May-10	25-May-10	239																							
	1B-19-TRMS-20	Order REC Supply	105	19-May-11	17-Oct-11	319																							
	1B-19-TRMS-90	Civil Engineering And Building Works	65	19-May-11	22-Aug-11	190																							
	1B-19-TRMS-40	Deliver and Install Shelter	10	15-Jul-11	29-Jul-11	190																							
	1B-19-TRMS-80	Package Test Tramstop	5	10-Oct-11	17-Oct-11	190																							
	1B-19-TRMS-50	Install LV Power Supply and LV Power Equipn	25	29-Jul-11	05-Sep-11	190																							
	1B-19-TRMS-70	Install Telecon Equipment	20	05-Sep-11	03-Oct-11	200																							
	1B-19-TRMS-60	Install Station Control Equipment + AFC Equip	25	05-Sep-11	10-Oct-11	190																							
	1B-19-TRMS-31	Access for E&M Tram Stop installation (01B B)	0	29-Jul-11		202																							
	1B-19-TRMS-30	Access for visual inspection for E&M Tram Sto	0	29-Jun-11		407																							
01C McDonald Road (inc.) to Princess Street West (exc.)			983	29-Jul-08	24-Jul-12	129																							
E & M Installations			86	16-Mar-12	17-Jul-12	134																							
McDonald Road (inc.) to Picardy Place (exc.)	1C-16/17/18-OHLE-60	Overhead Catenary Line	36	08-May-12	27-Jun-12	0																							
	1C-16/17/18-ELEC-60	Install Electrical Cables	20	22-May-12	19-Jun-12	0																							
	1C-16/17/18-TELC-60	Install Fibre Optic Cables	20	22-May-12	19-Jun-12	25																							
	1C-16/17/18-SGNW-60	Install Signalling Wayside Equipment	20	19-Jun-12	17-Jul-12	0																							
	1C-16/17/18-OHLE-50	Installation of poles and building fixings	15	17-Apr-12	08-May-12	0																							
	1C-16/17/18-OHLE-31	Access for E&M wayside installation (01C)	0	17-Apr-12		199																							
	1C-16/17/18-ELEC-31	Access to cable pits for cable laying (01C)	0	22-May-12		174																							
	1C-16/17/18-OHLE-30	Access for visual inspection for E&M wayside i	0	16-Mar-12		220																							
	1C-16/17/18-ELEC-30	Access for visual inspection to cable pits for ca	0	20-Apr-12		195																							
McDonald Road (inc.) to Picardy Place (exc.)			864	02-Sep-08	12-Mar-12	224																							
Design			71	02-Sep-08	11-Dec-08	0																							
McDonald Road Tram Stop	1C-18-TRMS-10	Issue Construction Drawings Tramstop	0		02-Sep-08*	0																							
	1C-18-TRCK-10	Issue Construction Drawings Trackwork	0		11-Dec-08*	0																							
	1C-18-ROAD-10	Issue Construction Drawings Roadworks	0		11-Dec-08*	0																							
	McDonald Road Tram Stop		291	08-Nov-10	25-Jan-12	258																							
	1C-18-TRMS-90	Civil Engineering And Building Works	65	08-Nov-10	16-Mar-11	260																							
	1C-18-TRMS-20	Order REC Supply	0	06-Jul-11		391																							
	1C-18-TRMS-40	Deliver and Install Shelter	10	14-Sep-11	28-Sep-11	129																							
	1C-18-TRMS-50	Install LV Power Supply and LV Power Equipn	25	28-Sep-11	07-Nov-11	129																							
	1C-18-TRMS-80	Package Test Tramstop	5	18-Jan-12	25-Jan-12	129																							
Trackworks			325	08-Nov-10	12-Mar-12	33																							
Leith Walk Ch 0-375			258	08-Nov-10	24-Nov-11																								
1st Half (Dummy)			203	08-Nov-10	08-Sep-11	0																							
Leith Walk Ch 0-375	1C-18A-TRCK-80	Street Surface finishes	5	04-Aug-11	08-Sep-11	0	Increased																						
	1C-18A-TRCK-35	Remove abandoned services and backfill	10	22-Nov-10	12-Jan-11	114	New Item	INTC86																					
	1C-18A-TRCK-20	Establish Traffic Management & Temp. Fencir	2	08-Nov-10	09-Nov-10	114																							
	1C-18A-TRCK-30	Excavate box	8	10-Nov-10	19-Nov-10	114																							
	1C-18A-TRCK-40	Excavate, lay and concrete ducts																											

Activity ID		Activity Name	Original Duration	Start	Finish	Total Float	Status	TCO/INTC	2008				2009				2010				2011				2012									
									Qtr 4		Qtr 1		Qtr 2		Qtr 3		Qtr 4		Qtr 1		Qtr 2		Qtr 3		Qtr 4		Qtr 1		Qtr 2		Qtr 3		Qtr 4	
									N	D	J	F	A	J	J	A	S	O	N	D	J	F	A	J	J	A	S	C	D	J				
		1C-17E-TRCK-35	Remove abandoned services and backfill	8	09-Jan-12	19-Jan-12	32	New Item	INTC86																									
		1C-17E-TRCK-20	Establish Traffic Management & Temp. Fencir	2	21-Nov-11	23-Nov-11	32																											
		1C-17E-TRCK-30	Excavate box	6	23-Nov-11	09-Jan-12	32																											
		1C-17E-TRCK-40	Excavate, lay and concrete ducts	9	19-Jan-12	01-Feb-12	32																											
		1C-17E-TRCK-50	Excavate and construct OLE bases	9	19-Jan-12	01-Feb-12	32																											
		1C-17E-TRCK-70	Set Track (150m)	16	01-Feb-12	23-Feb-12	32																											
		1C-17E-TRCK-75	Place upper concrete and cure	16	06-Feb-12	28-Feb-12	66																											
		1C-17E-TRCK-80	Street Surface finishes	3	28-Feb-12	02-Mar-12	66																											
		1C-17E-TRCK-21	Remove fencing and Traffic Management	1	02-Mar-12	05-Mar-12	66																											
	York Place Ch 700-850			71	01-Jun-11	09-Sep-11	153																											
		1C-17H-TRCK-35	Remove abandoned services and backfill	8	13-Jun-11	23-Jun-11	26	New Item	INTC86																									
		1C-17H-TRCK-100	Dummy	44	01-Jun-11	02-Aug-11	33																											
		1C-17H-TRCK-20	Establish Traffic Management & Temp. Fencir	2	01-Jun-11	03-Jun-11	26																											
		1C-17H-TRCK-30	Excavate box	6	03-Jun-11	13-Jun-11	26																											
		1C-17H-TRCK-40	Excavate, lay and concrete ducts	9	23-Jun-11	06-Jul-11	26																											
		1C-17H-TRCK-50	Excavate and construct OLE bases	9	06-Jul-11	19-Jul-11	26																											
		1C-17H-TRCK-70	Set Track (150m)	11	19-Jul-11	03-Aug-11	26																											
		1C-17H-TRCK-75	Place upper concrete and cure	11	22-Jul-11	05-Sep-11	134																											
		1C-17H-TRCK-80	Street Surface finishes	3	05-Sep-11	08-Sep-11	134																											
		1C-17H-TRCK-21	Remove fencing and Traffic Management	1	08-Sep-11	09-Sep-11	134																											
		1C-17H-TRCK-69	Track Laying Demob 5A / Remob 1C	3	15-Jun-11	20-Jun-11	48																											
	York Place Ch 850-1000			79	05-Oct-11	08-Feb-12	98																											
		1C-17J-TRCK-35	Remove abandoned services and backfill	8	17-Oct-11	27-Oct-11	27	New Item	INTC86																									
		1C-17J-TRCK-100	Dummy	44	05-Oct-11	17-Jan-12	114																											
		1C-17J-TRCK-20	Establish Traffic Management & Temp. Fencir	2	05-Oct-11	07-Oct-11	27																											
		1C-17J-TRCK-30	Excavate box	6	07-Oct-11	17-Oct-11	27																											
		1C-17J-TRCK-40	Excavate, lay and concrete ducts	9	27-Oct-11	14-Nov-11	27																											
		1C-17J-TRCK-50	Excavate and construct OLE bases	9	14-Nov-11	25-Nov-11	27																											
		1C-17J-TRCK-70	Set Track (150m)	11	13-Jan-12	30-Jan-12	19																											
		1C-17J-TRCK-75	Place upper concrete and cure	11	18-Jan-12	02-Feb-12	56																											
		1C-17J-TRCK-80	Street Surface finishes	3	02-Feb-12	07-Feb-12	56																											
		1C-17J-TRCK-21	Remove fencing and Traffic Management	1	07-Feb-12	08-Feb-12	56																											
		1C-17J-TRCK-69	Set Track (150m) Demob 5C / Remob 1C	3	10-Jan-12	13-Jan-12	19																											
	Picardy Place Tram Stop			124	21-Sep-11	28-Mar-12	212																											
		1C-17-TRMS-90	Civil Engineering And Building Works	65	21-Sep-11	01-Feb-12	69																											
		1C-17-TRMS-20	Order REC Supply	0	06-Oct-11		326																											
		1C-17-TRMS-40	Deliver and Install Shelter	10	21-Nov-11	11-Jan-12	83																											
		1C-17-TRMS-80	Package Test Tramstop	5	22-Mar-12	28-Mar-12	83																											
		1C-17-TRMS-50	Install LV Power Supply and LV Power Equipn	25	11-Jan-12	15-Feb-12	83																											

The figure displays a comprehensive project timeline and activity log. The main table on the left tracks activities by Activity ID, Name, Original Duration, Start Date, Finish Date, Total Float, Status, and TCO/INTC. The Gantt chart on the right visualizes these activities over time, color-coded by location and type. A legend at the bottom right defines symbols for milestones, remaining work, and new activities.

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	Status	TCO/INTC	2008				2009				2010				2011				2012											
								Qtr 4		Qtr 1		Qtr 2		Qtr 3		Qtr 4		Qtr 1		Qtr 2		Qtr 3		Qtr 4		Qtr 1		Qtr 2		Qtr 3		Qtr 4			
								N	D	J	F	A	J	J	A	S	O	N	D	J	F	A	J	J	A	S	N	D	J	F	A	J	J	A	S
Phase 5 1C-17F-ROAD-100	Dummy	40	05-Mar-12	30-Apr-12	149																														
	Phase 6 1C-17G-ROAD-100	Dummy	40	05-Mar-12	30-Apr-12	149																													
		York Place Ch 700-850		89	01-Jun-11	05-Oct-11	30																												
			Phase 1 1C-17H-ROAD-100	Dummy	69	01-Jun-11	07-Sep-11	26																											
				Phase 2 1C-17I-ROAD-100	Dummy	20	07-Sep-11	05-Oct-11	30																										
					York Place Ch 850-1000		89	05-Oct-11	22-Feb-12	108																									
						Phase 1 1C-17J-ROAD-100	Dummy	69	05-Oct-11	25-Jan-12	108																								
							Phase 2 1C-17K-ROAD-100	Dummy	20	25-Jan-12	22-Feb-12	108																							
								Cathedral SubStation		242	04-Aug-11	24-Jul-12	129																						
									1C-17-SUBS-90	Civil Engineering and Building Works	65	21-Sep-11	01-Feb-12	69																					
1C-17-SUBS-20									Order REC supply from Scottish Power	0	04-Aug-11		108																						
1C-17-SUBS-40	Power Infeed from Public Net available inc HV								0	24-Nov-11		108																							
1C-17-SUBS-60	Installation of TPS Equipment	30							16-Jan-12	24-Feb-12	92																								
1C-17-SUBS-50	Install LV Power Supply and LV Power Equipn	15	24-Nov-11						20-Jan-12	92																									
1C-17-SUBS-80	Testing and Commissioning	14	27-Feb-12	15-Mar-12					92																										
1C-17-SUBS-70	Install Telecom and Scada	15	06-Feb-12	24-Feb-12	92																														
1C-17-SIG-50	Installation of SIG-interlocking cubicle	10	16-Jan-12	27-Jan-12	121																														
1C-17-SIG-80	Commissioning of SIG -interlocking cubicle	5	17-Jul-12	24-Jul-12	0																														
1C-17-SUBS-31	Access for E&M substation installation (01C C)	0	24-Nov-11		119																														
1C-17-SUBS-30	Access for visual inspection forE&M substation	0	25-Oct-11		323																														
St. Andrews Square (inc.) to Princes Street West (exc.)		983	29-Jul-08	24-Jul-12	126																														
Design		38	15-Dec-08	19-Feb-09	0																														
1C-1C-TRCK-10	Issue Construction Drawings Trackwork	0		15-Dec-08*	0																														
1C-16-TRCK-10	Issue Construction Drawings Roadworks	0		15-Dec-08*	0																														
1C-16-TRMS-10	Issue Construction Drawings SAS Tramstop	0		19-Feb-09*	0																														
1C-16A-TRMS-10	Issue Construction Drawings PSW Tramstop	0		19-Feb-09*	0																														
Change - Estimate & Approval		97	29-Jul-08	15-Dec-08	0																														
1C-16-TRCK-60	Roadworks submit estimate	0		29-Jul-08*	0	Estimate	INTC54																												
1C-16-TRCK-90	Roadworks tie approval	0		15-Dec-08*	0	Not Apprc	approval d																												
Trackworks		229	12-Jul-10	17-Jun-11	274																														
St Andrews Square to Waverley Bridge Ch 1000-1360		229	12-Jul-10	17-Jun-11	274																														
1C-16-TRCK-100	Dummy	80	12-Jul-10	10-Nov-10	362	Supersed																													
1C-16-TRCK-20	Establish Traffic Management & Temp. Fencir	2	12-Jul-10	14-Jul-10	117																														
1C-16-TRCK-30	Excavate box	15	14-Jul-10	08-Sep-10	117																														
1C-16-TRCK-40	Excavate, lay and concrete ducts	22	08-Sep-10	08-Oct-10	117																														
1C-16-TRCK-50	Excavate and construct OLE bases	22	08-Oct-10	11-Nov-10	117																														
1C-16-TRCK-70	Set Track (360m)	24	06-Apr-11	11-May-11	31																														
1C-16-TRCK-75	Place upper concrete and cure	23	11-Apr-11	13-May-11	195																														
1C-16-TRCK-80	Street Surface finishes	3	13-May-11	18-May-11	195																														
1C-16-TRCK-21	Remove fencing and Traffic Management	1	16-Jun-11	17-Jun-11	174																														
Roadworks		601	12-Jan-09	16-Jun-11	230																														
St Andrews Square to Waverley Bridge Ch 1000-1360		601	12-Jan-09	16-Jun-11	230																														
1C-16-ROAD-160	St Andrews Square North	72	12-Jan-09*	23-Apr-09	386	New Item	INTC54																												
1C-16-ROAD-170	St Andrews Square South	75	23-Apr-09	11-Aug-09	386	New Item	INTC54																												
1C-16-ROAD-180	St Andrews Square East	183	14-Jul-10	16-Jun-11	174	New Item	INTC54																												
1C-16-ROAD-190	Princes Street	183	14-Jul-10	16-Jun-11	174	New Item	INTC54																												
1C-16-ROAD-100	Dummy	60	12-Jul-10	10-Nov-10	317	Supersed																													
Princes Street West Tram Stop		435	10-Jul-09	20-Apr-11	444																														
Date	Revision	Checked	Approved	Page 17 of 41				Rev 1 Baseline				Critical Remaining Work				Remaining Work				Rev 1 Baseline Milestone				Milestone				New Activity milestone							
15-May-09	Revision 0	scs	BSC					N	D	J	F	A	J	J	A	S	N	D	J	F	A	J	J	A	S	N	D	J	F	A	J	J	A	D	

