

Mr Alan Dolan
tie/SDS
Citypoint
1st Floor
65 Haymarket Terrace
Edinburgh
EH12 5HD

Our Ref: DEL.MUDFA.431.JJ.GB

Date: 26 April 2007

Dear Alan

**EDINBURGH TRAM PROJECT
Risk and Trade Off**

As you are aware we are greatly concerned about the delay to the initiation of the utility diversion work program. With this in mind we have decided to implement the AMIS proposal of a Risk and Trade off programme. We intend to begin the programme in Section 1; the two areas of work will be known to us as area 1a1 and 1a2. I have attached drawings for these.

Could you confirm that the detail on these drawings is consistent with your submission to the utility companies and you know of nothing at this time, including re-alignment of the track, which would lead to your design being changed?

We have received design approval for these work areas and will ultimately include the works in the AS built drawings.

An early response from you would be appreciated.

Yours sincerely,


Graeme Barclay
Construction Director – MUDFA

encs

tie limited

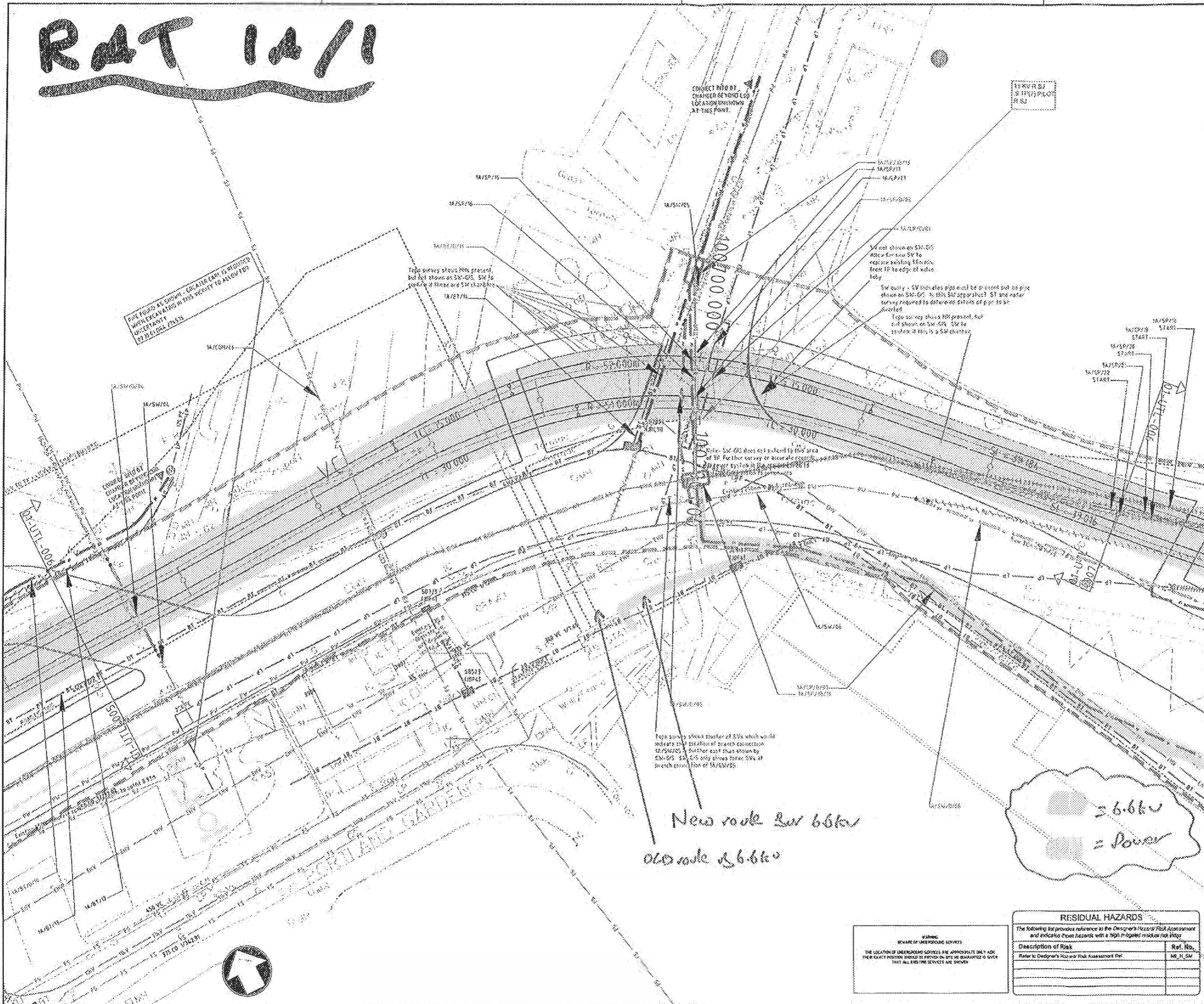
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e-mail: Graeme.Barclay@tieltd.uk
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delivering transport projects

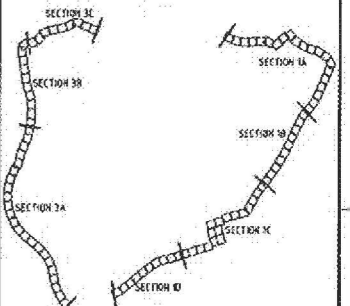
CEC01691204_0001

RAT 1A/1



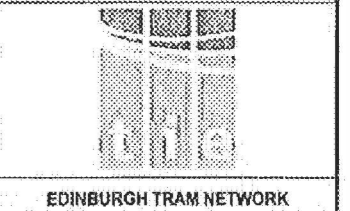
- NOTES**
- REFER TO SCHEDULE FOR SECTION 1A FOR DETAILS OF UTILITY DIVERSIONS.
 - SERVICES SHOWN ARE INDICATIVE ONLY BUT MAKE USE OF BEST INFORMATION AVAILABLE FROM UTILITIES COMPANIES AT TIME OF DRAWING ISSUE.
 - DATA RECEIVED FROM GPR SURVEYS HAVE BEEN ACCEPTED AS THE MOST ACCURATE INFORMATION AVAILABLE AND HAVE BEEN INCORPORATED WHEREVER POSSIBLE.
 - ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE SHOWN.
 - ALL DEPTH AND LEVELS IN METERS UNLESS OTHERWISE SHOWN.
 - DETAILS OF ASSUMED UTILITY DEPTHS TAKEN FROM NAJG-7 STANDARD ARRANGEMENT.
 - DATES OF FILES USED:
 - DR- 12/01/2007
 - DPL- 12/01/2007
 - TRM STOPS- 15/12/2006
 - ULE- 12/12/2006

- LEGEND**
- BRITISH TELECOM
 - CABLE & WIRELESS
 - TELEWEST
 - THOS
 - VERTON
 - LOW PRESSURE GAS
 - MEDIUM PRESSURE GAS
 - GRAVITY PIPE - COMBINED SEWER OVERFLOW
 - GRAVITY PIPE - COMBINED SEWER
 - GRAVITY PIPE - FOUR WATER
 - GRAVITY PIPE - NATURAL WATER
 - GRAVITY PIPE - SURFACE WATER
 - WATER MAINS - PRIMARY DISTRIBUTOR
 - WATER MAINS - SECONDARY DISTRIBUTOR
 - INTERCONNECTOR SUPPLY
 - SCOTTISH POWER - SUB STATION
 - SCOTTISH POWER - LV SWITCHING POINT (RAMP ROAD)
 - SCOTTISH POWER - HV / LV TRANSMISSION
 - SCOTTISH POWER - OHV
 - SCOTTISH POWER - 11KV / 22KV
 - SCOTTISH POWER - 20KV / 33KV
 - SCOTTISH POWER - LV SWITCHING POINT
 - SCOTTISH POWER - PEDESTAL / AUXILIARY
 - SCOTTISH POWER - PEDESTAL / AUXILIARY DISCONNECTED
 - FORTH PORTS ORANGE
 - SERVICES TO BE ABANDONED
 - COLLECT REFERENCE NUMBERS
 - PROPOSED DIVERSION REFERENCE NUMBERS
 - SCOTTISH POWER FOOT WAY REFERENCE NUMBERS
 - OLE SIDE POINTED FIVE
 - OLE CENTRE POINT
 - LOD
 - LOST OF LAND TO BE ACQUIRED OR USED
 - PROPOSED DIVERSION
 - ASSUMED UTILITY
 - LOCATION MAP



REV	DESCRIPTION	DATE	BY	CHECKED
1	ISSUED FOR EXTERNAL APPROVAL	12/01/2007	SMH	
2	LAYOUT UPDATE BY TALEN BUCHAN	08/01/2007	RR	SMH
3	LAYOUT AND UTILITY REVISIONS	22/04/2008	RR	SMH

ISSUED FOR EXTERNAL APPROVAL



EDINBURGH TRAM NETWORK

ALL UTILITIES
PROPOSED UTILITY DIVERSIONS
SECTION 1A
PAGE 6 OF 21

DATE	12/01/2007	SCALE	1:200 @ A1
DRIVING RANGE	ULE90130-01-UTL-09006		
DRAWN BY	RR	CHECKED BY	SMH
APPROVED BY	DS	DRUGAL OF PAVING SITE	A1

*New route for 6.6kv
old route of 6.6kv*

*6.6kv
= Power*

WARNING
BEWARE OF UNDERGROUND SERVICES
THE LOCATION OF UNDERGROUND SERVICES IS APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVED ON SITE AND GUARANTEED TO GIVE THAT ALL THE SERVICES ARE SHOWN

RESIDUAL HAZARDS	
The following table provides reference to the Designer's Hazard/Risk Assessment and indicates those hazards with a high or major residual risk rating.	
Description of Risk	Ref. No.
Refer to Designer's Hazard/Risk Assessment Ref	No. H, SM

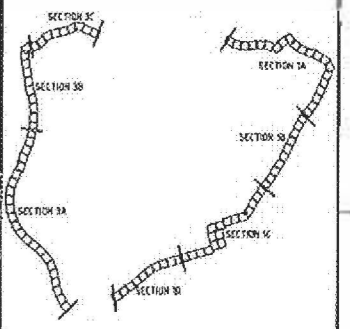
RAT 1A/1

RESIDUAL HAZARDS	
The following list provides reference to the Designer's Hazard/ Risk Assessment and indicates those hazards with a high risk/ residual risk index:	
Description of Risk	Risk No.
Refer to Designer's Hazard/ Risk Assessment Ref.	10_H_S1



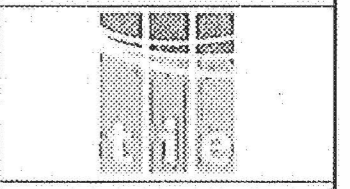
- NOTES**
- REFER TO SCHEDULE FOR SECTION 1A FOR DETAILS OF UTILITIES DIVERSIONS
 - SERVICES SHOWN ARE INDICATIVE ONLY BUT MAKE USE OF BEST INFORMATION AVAILABLE FROM UTILITIES COMPANIES AT TIME OF DRAWING ISSUES
 - DATA RECEIVED FROM GPS SURVEYS HAVE BEEN ACCEPTED AS THE MOST ACCURATE INFORMATION AVAILABLE AND HAVE BEEN INCORPORATED WHEREVER POSSIBLE
 - ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE SHOWN
 - ALL DEPTH AND LEVELS IN METERS UNLESS OTHERWISE SHOWN
 - DETAILS OF ASSUMED UTILITY DEPTHS TAKEN FROM AUG-7 STANDARD ARRANGEMENT.
 - DATES OF PRES USED
 - ONE - 17/11/2006
 - DPL - 17/11/2006
 - TRAM STOPS - 15/12/2006
 - OLE - 15/12/2006

- LEGEND**
- BRITISH TELECOM CABLE & WIRELESS TRENCH
 - TELEWEST TRENCH
 - VESTON TRENCH
 - LOW PRESSURE GAS
 - MEDIUM PRESSURE GAS
 - GRAVITY PIPE FORWARD COVER OVERFLOW
 - GRAVITY PIPE FORWARD WATER
 - GRAVITY PIPE SURFACE WATER
 - WATER MAIN - PRIMARY DISTRIBUTION
 - WATER MAIN - SECONDARY DISTRIBUTION
 - CONCRETE PIPE SINGLE SUPPLY
 - SCOTCH POWER - SUB STATION
 - SCOTCH POWER - LV SWITCHING POINT LOW BULK
 - SCOTCH POWER - HV 11KV TRANSMISSION
 - SCOTCH POWER - HV 11KV
 - SCOTCH POWER - HV 66KV
 - SCOTCH POWER - LV SWITCHING POINT
 - SCOTCH POWER - HV TELE/AUXILIARY
 - SCOTCH POWER - HV TELE/AUXILIARY
- (DISCONNECTED) FOR THE PORTS DRAINAGE SERVICES TO BE ASSUMED COMPLETE REVERSE IMPINGS APPROVED BY REFERENCE NUMBERS SCOTCH POWER JARBY BAY REFERENCE NUMBERS
- SEE SIDE MOUNTED POLE
- OLE CENTRE POLE
- 100
- 10M² OF LAND TO BE ACQUIRED OR USED
- PROPOSED DIVERSION
- ASSUMED UTILITY
- LOCATION MAP



1	LAYOUT UPDATE BY THE DESIGNER	DR	SMH	GS	17/01/2007
2	LAYOUT AND UTILITIES INFO UPDATED	DM	RB	SMH	15/12/2006

ISSUED FOR EXTERNAL APPROVAL

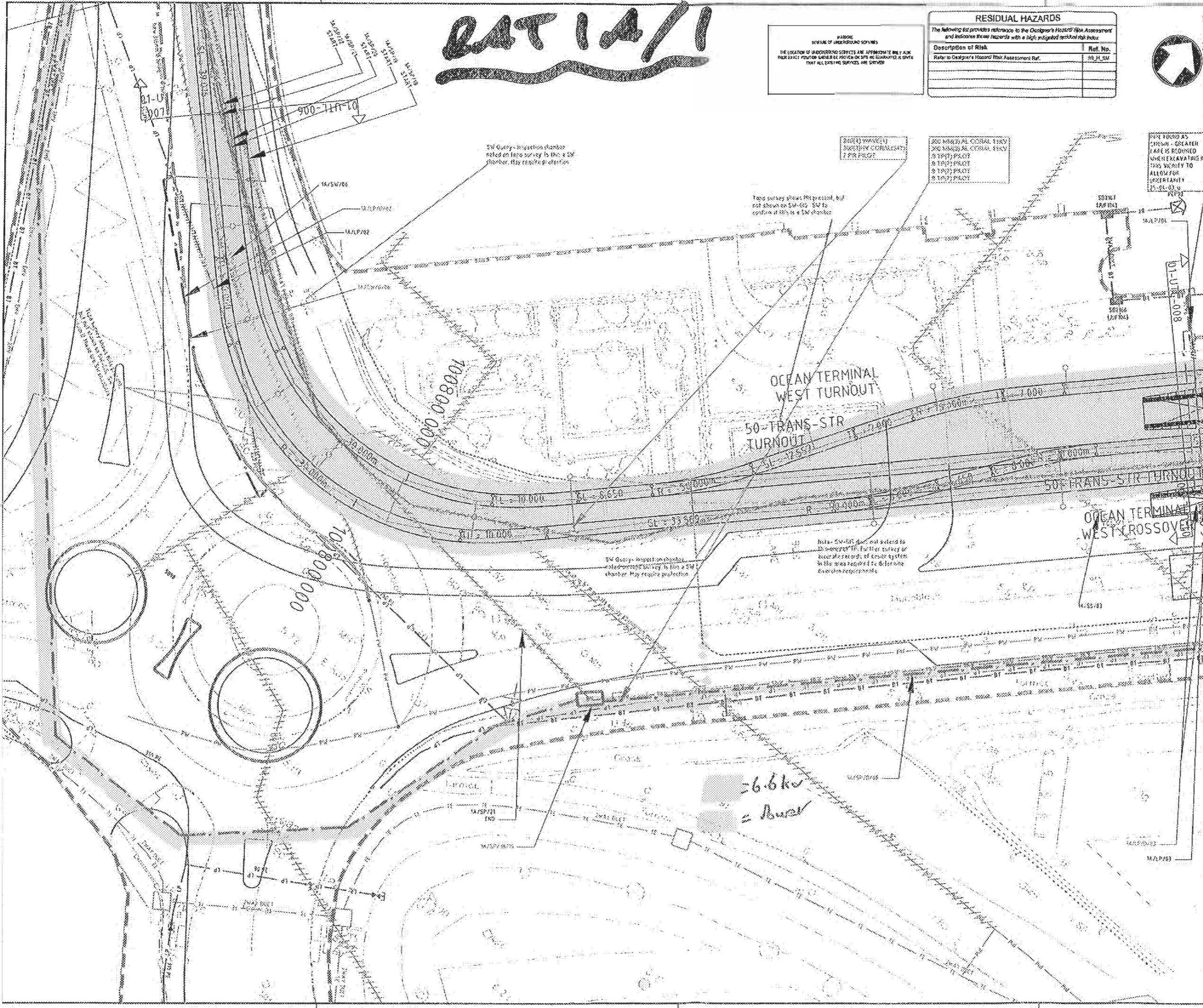


EDINBURGH TRAM NETWORK

Edinburgh Tram 305
149 Ford, 35 Haymarket Terrace
Edinburgh, EH1 3DG

ALL UTILITIES
PROPOSED UTILITIES DIVERSIONS
SECTION 1A
PAGE 7 OF 21

DESIGNED BY	RR	CHECKED BY	SMH
APPROVED BY	DS	ORIGINAL DRAWING SIZE	A1
DATE	12/01/2007	SECTION	1206 @ A1
DRAWING NUMBER	ULE90136-01-UTL-00007		2



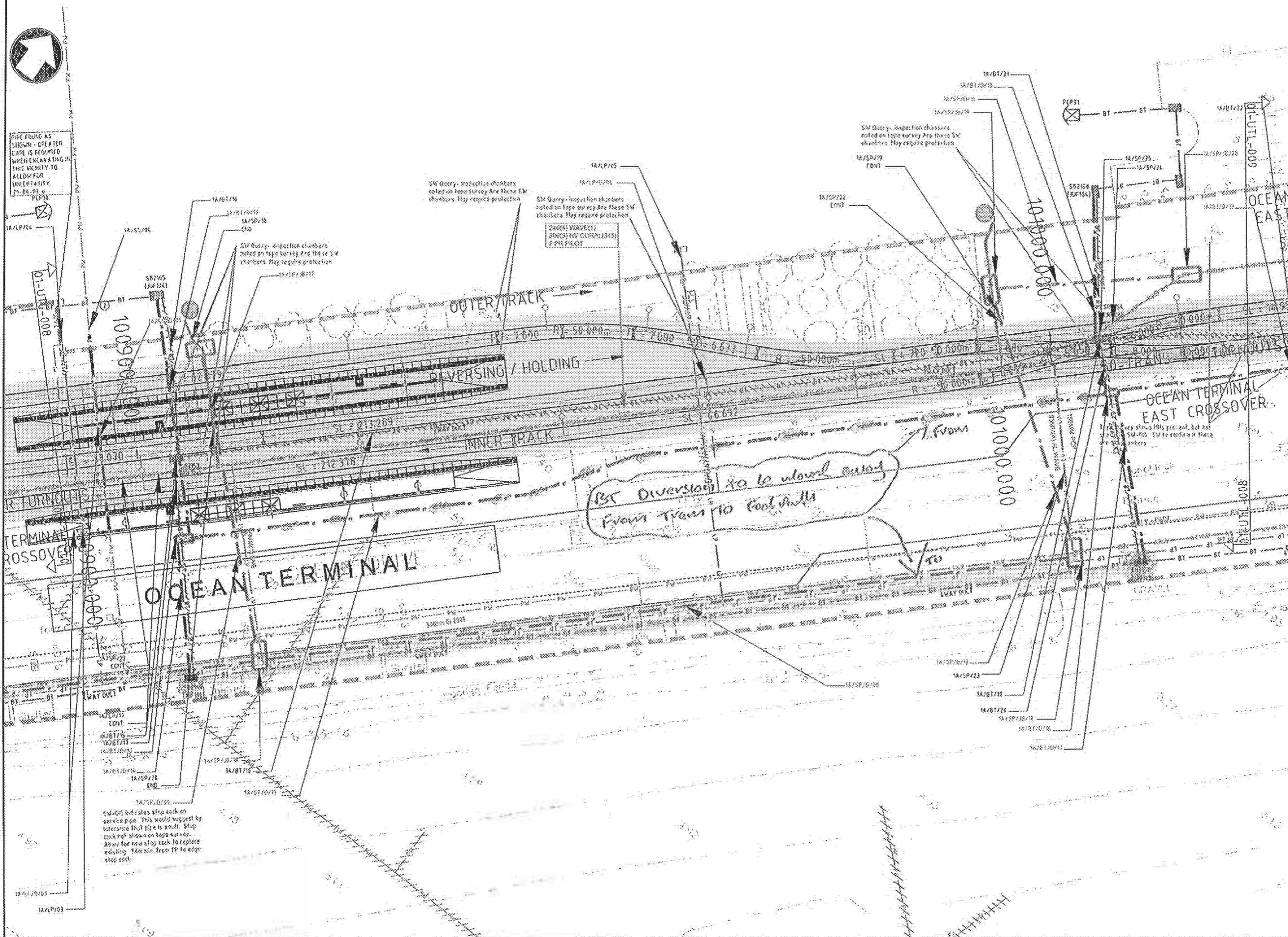
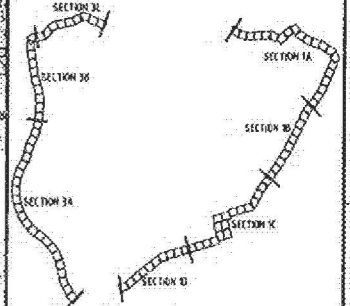
RAT 1A/1

WARNING
 REVEAL OF UNDERGROUND SERVICES
 THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVED ON SITE BY GUARANTEEING SURVEY THAT ALL CONDUIT SERVICES ARE EXPOSED

RESIDUAL HAZARDS	
The following list provides reference to the Designer's Hazard Risk Assessment and indicates those hazards with a high residual risk index.	
Description of Risk	Ref. No.

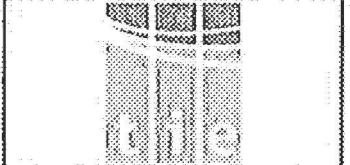
- NOTES**
- REFER TO SCHEDULE FOR SECTION 1A FOR DETAILS OF UTILITIES DIVERSIONS
 - SERVICES SHOWN ARE INDICATIVE ONLY BUT MAKE USE OF BEST INFORMATION AVAILABLE FROM UTILITIES COMPANIES AT TIME OF DRAWING ISSUE
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 - ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE SHOWN
 - ALL DEPTH AND LEVELS IN METERS UNLESS OTHERWISE SHOWN
 - DETAILS OF ASSUMED UTILITY DEPTHS TAKEN FROM N.J.S. 7 STANDARD ARRANGEMENT
 - DATES OF FILES USED:
 -DKE-17/11/2008
 -DPL-17/11/2008
 -TRAM STOPS-15/12/2008
 -OLE-13/12/2008

- LEGEND**
- BRITISH TELECOM
 - CABLE & WIRELESS
 - TELEWEST
 - BT
 - VERDIUM
 - LOW PRESSURE GAS
 - MEDIUM PRESSURE GAS
 - GRAVITY PIPE CONDENSED SEWER OVERFLOW
 - GRAVITY PIPE CONDENSED SEWER
 - GRAVITY PIPE SURFACE WATER
 - GRAVITY PIPE NATURAL WATER
 - GRAVITY PIPE SURFACE WATER
 - WATER MAINS PRIMARY DISTRIBUTOR
 - WATER MAINS SECONDARY DISTRIBUTOR
 - CONCRETE UNDERGROUND SUPPLY
 - SCOTTISH POWER - SUB STATION
 - SCOTTISH POWER - LV SWITCHING POINT (R&R BOX)
 - SCOTTISH POWER - 11/22KV TRANSFORMER
 - SCOTTISH POWER - EHV
 - SCOTTISH POWER - HV 11KV
 - SCOTTISH POWER - HV 6KV
 - SCOTTISH POWER - LV EMERGENCY POINT
 - SCOTTISH POWER - LV TELE/AUXILIARY
 - SCOTTISH POWER - PLANT/TELE/AUXILIARY
 - UNDESIGNED FOR IN PORTS DRAINAGE SERVICES TO BE ABANDONED
 - COMPLETE REFERENCE NUMBERS
 - PROPOSED DIVERSION REFERENCE NUMBERS
 - SCOTTISH POWER JOINT BAY REFERENCE NUMBERS
 - OLE SIDE MOUNTED POLE
 - OLE CENTRE POLE
 - LINE OF LAND TO BE ACQUIRED OR USED
 - PRODUCED DIVERSION
 - ASSUMED UTILITY



NO.	REVISION	DATE	BY	CHKD	APPD
1	ISSUED FOR EXTERNAL APPROVAL	12/08/2007	DS	SON	
2	LAYOUT UPDATE DETAILED DESIGN	12/08/2007	DS	SON	
3	LAYOUT UPDATE INFO. APPROVED	12/08/2007	DS	SON	

ISSUED FOR EXTERNAL APPROVAL



EDINBURGH TRAM NETWORK

PROJECT NO: ETR/01/0008
 DRAWING NO: ULE90130-01-UTL-00008
 DRAWING TITLE: ALL UTILITIES PROPOSED UTILITIES DIVERSIONS SECTION 1A

ALL UTILITIES PROPOSED UTILITIES DIVERSIONS SECTION 1A PAGE 8 OF 21

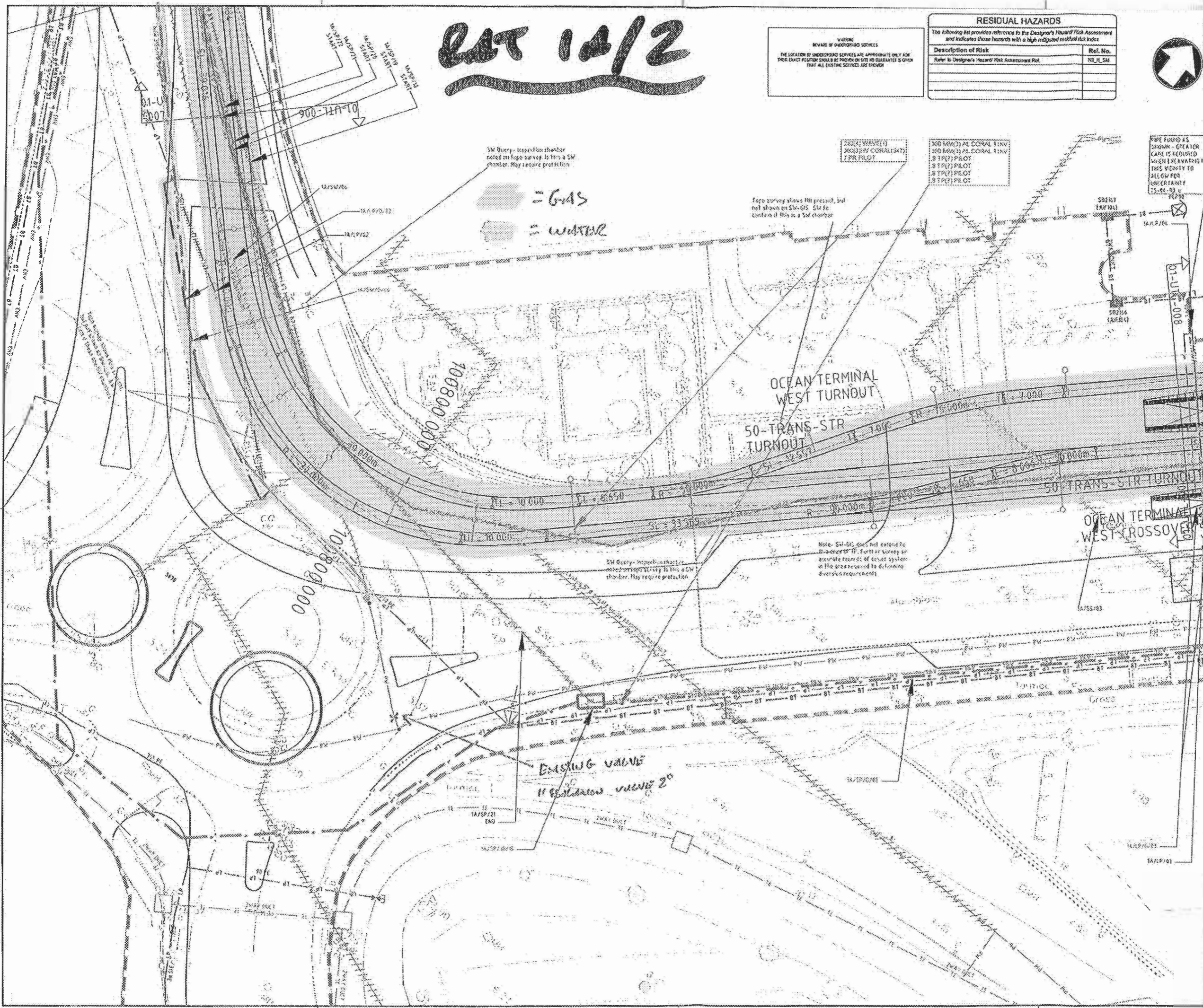
DESIGNED BY: RR	CHECKED BY: SON
APPROVED BY: DS	ORIGINAL DRAWING NO: A1
DATE: 12/01/2007	SCALE: 1:200 @ A1
DRAWING NUMBER: ULE90130-01-UTL-00008	2

REV 1A/2

RESIDUAL HAZARDS	
The following list provides reference to the Designer's Hazard Risk Assessment and indicates those hazards with a high assigned residual risk index.	
Description of Risk	Ref. No.
Refer to Designer's Hazard Risk Assessment Plot.	NS_IL_5M



- NOTES**
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 - ALL DEPTH AND LEVELS IN METERS UNLESS OTHERWISE SHOWN.
 - DETAILS OF ASSUMED UTILITY DEPTHS TAKEN FROM MS06-7 STANDARD ARRANGEMENT.
 - DATES OF FILES USED:
 - DCE-12/11/2006
 - DCL-17/11/2006
 - TRAM STOPS-15/12/2006
 - OLE-13/12/2006



- LEGEND**
- BRITISH TELECOM
 - CABLE & WIRELESS TELENET
 - PLUS
 - VEOLIA
 - LOW PRESSURE GAS
 - MEDIUM PRESSURE GAS
 - GRAVITY PIPE - CORRODED SLEWER OVERFLOW
 - GRAVITY PIPE - CORRODED SLEWER
 - GRAVITY PIPE - FOG WATER
 - GRAVITY PIPE - NATURAL WATER
 - GRAVITY PIPE - SURFACE WATER
 - WATER MAINS - PRIMARY DISTRIBUTOR
 - WATER MAINS - SECONDARY DISTRIBUTOR
 - CONCRETE EDWARDS SINGLE SUPPLY
 - SCOTISH POWER - SURF TANK
 - SCOTISH POWER - LV SWITCHING POINT (L.V. BOX)
 - SCOTISH POWER - LV SWITCHING POINT (L.V. BOX)
 - SCOTISH POWER - HV
 - SCOTISH POWER - HV 11kV
 - SCOTISH POWER - HV 4kV
 - SCOTISH POWER - LV
 - SCOTISH POWER - LV SWITCHING POINT
 - SCOTISH POWER - PHOTOTELECOMMUNICATIONS
 - SCOTISH POWER - PHOTOTELECOMMUNICATIONS
 - UNIDENTIFIED
 - FOUR PORTS DRAINAGE
 - SERVICES TO BE ABANDONED
 - CONCRETE REFERENCE NUMBERS
 - PROPOSED DIVERSION REFERENCE NUMBERS
 - SCOTISH POWER JOINT BAY REFERENCE NUMBERS
 - OLE SIDE MOUNTED POLE
 - OLE CENTRE POLE
 - 100
 - LIMIT OF LAND TO BE ASSUMED ON USED
 - PROPOSED DIVERSION
 - ASSUMED UTILITY
 - LOCATION MAP

NO.	REVISION	DATE	BY	CHECKED	SCALE	STATUS
1	ISSUE FOR EXTERNAL APPROVAL	12/01/2007	RR	SOM	A1	ISSUED
2	REVISION					

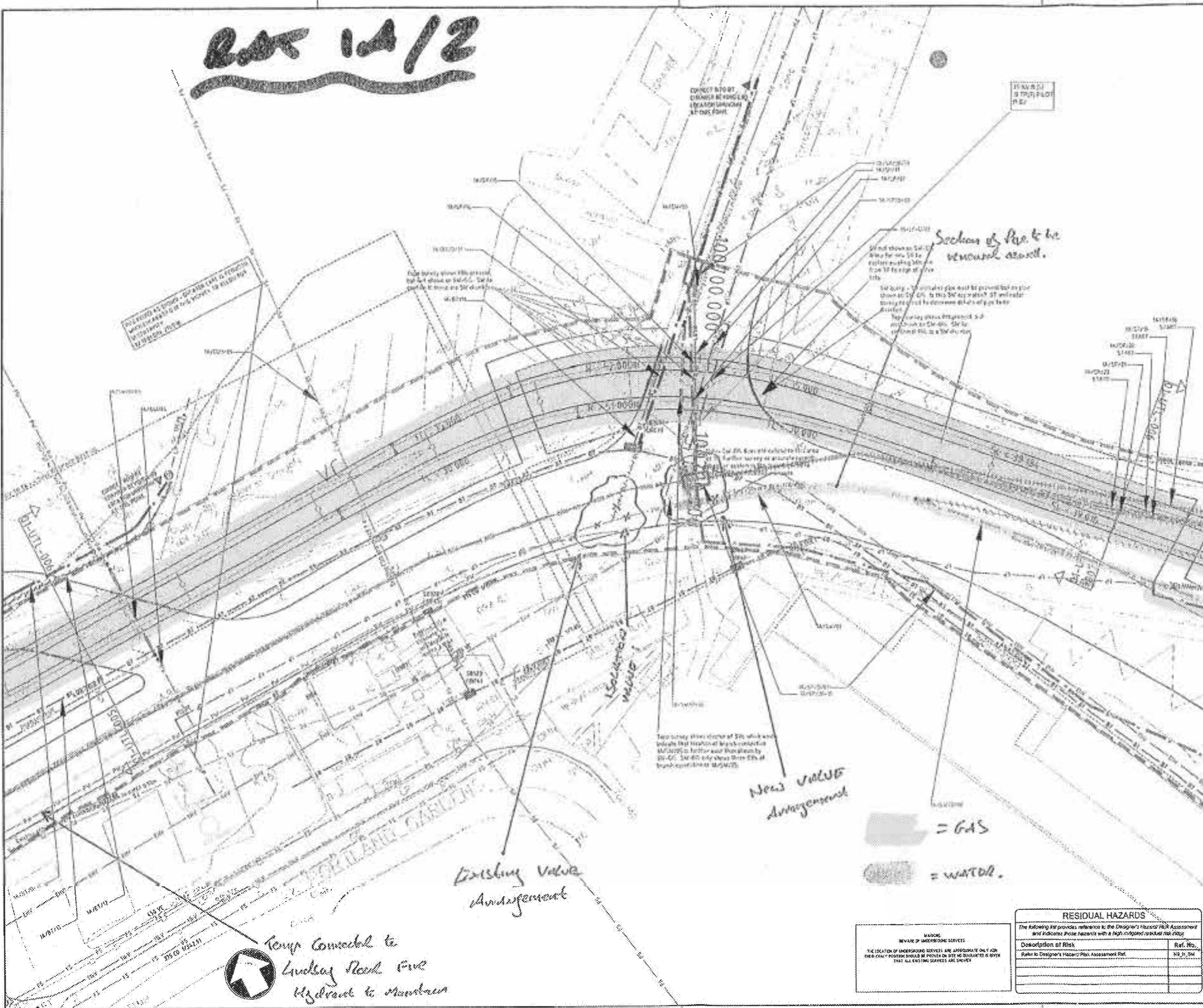
ISSUED FOR EXTERNAL APPROVAL

EDINBURGH TRAM NETWORK

ALL UTILITIES PROPOSED UTILITIES DIVERSIONS SECTION 1A PAGE 7 OF 21

DRAWN BY: RR
 APPROVED BY: DS
 DATE: 12/01/2007
 DRAWING NUMBER: ULE0130-01-UTL-00007
 CHECKED BY: SOM
 ORIGINAL DRAWING SIZE: A1
 SCALE: 1:200 @ A1
 SHEET NUMBER: 2

PLAN 1A/12



- NOTES**
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 - ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE STATED
 - ALL HEIGHTS AND LEVELS IN METERS UNLESS OTHERWISE STATED
 - DETAILS OF ASSIGNED UTILITY DEPT'S STANDARDS AND REG-7 STANDARDS ARRANGEMENT
 - DATES OF FILES USED:
 - 001-10/10/00
 - 002-11/10/00
 - 003-11/10/00
 - 004-11/10/00
 - 005-11/10/00

LEGEND

- UTILITY LINE
- PIPE
- VALVE
- NEW VALVE ARRANGEMENT
- EXISTING VALVE ARRANGEMENT
- CONJECTURE ABOUT EXISTING TRAM LINES UNDER ROAD
- TEMP CONNECT TO LINDSAY ROAD PIPE HYDRAULIC TO MAINTAIN PRESSURE
- SECTION OF PIPE TO BE REMOVED AS SHOWN
- SLOPED WATER MAIN
- LOCATION MAP

ISSUED FOR EXTERNAL APPROVAL

EDINBURGH TRAM NETWORK

ALL UTILITIES PROPOSED UTILITIES DIVERSIONS SECTION 1A PAGE 6 OF 21

DRAWN BY: RR	DESIGNED BY: SDM
APPROVED BY: DS	ORIGINAL DRAWING CODE: A1
DATE: 12/8/2001	SCALE: 1:200 @ A1
DRAWING NUMBER: ULE98130-01-UTL-00006	

RESIDUAL HAZARDS

The following table provides reference to the Designer's Hazard Risk Assessment and indicates those hazards with a high indicated residual risk status.

Description of Risk	Ref. No.
Refer to Designer's Hazard Risk Assessment Ref.	NR, H, SM



Temp Connect to Lindsay Road Pipe Hydraulic to maintain pressure

New VALVE Arrangement

Existing VALVE Arrangement

■ = GAS
 ■ = WATER

IA 1A/2 001/1A/2 006

2A 1A/2
[SGN]

IA 1A/2 001/1A/2 006
1A/2
2A 1A/2

250 MM
250 END GAS CONNECTION

SEE LIST POINTS?

24" x 250" PE PIPE
8 x 250" CORRUGATED
2 x 250" x 200" CORRUGATED
4 x 5" 110" CORRUGATED
3 x 250" 110" CORRUGATED
4 x 250" 110" CORRUGATED

4 x 75 x 250" TR
6 x 3" 110" CORRUGATED
6 x 250" CORRUGATED

250 PE

250 END GAS CONNECTION

← FLOW →

ALE: Not to scale	LP MAINS
ER ID: bannong	MP MAINS
TE: 20/12/2006	IP MAINS
TRACT DATE: 06/09/2006	LHP MAINS
IP REF: NT2676	MHP MAINS
NTRE: 326517, 676910		

Examples of Pipe Items:

Depth of	Diameter	Material
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This plan shows those pipes owned by Scotia Gas Networks plc in their role as a Licensed Gas Transporter (GT). Gas pipes owned by other GTs, or otherwise privately owned, may be present in this area. Information with regard to such pipes should be obtained from the relevant owners. The information shown on this plan is given without warranty, the accuracy thereof cannot be guaranteed. Service pipes, valves, syphons, stub connections, etc. are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Scotia Gas Networks plc or their agents, servants or contractors for any error or omission. Safe digging practices, in accordance with HS(G)47, must be used to verify and establish the actual position of mains, pipes, services and other apparatus on site before any mechanical plant is used. It is your responsibility to ensure that this information is provided to all persons (either direct labour or contractors) working for you on or near gas apparatus. The information included on this plan should not be referred to beyond a period of 28 days from the date of issue.

SEARCH OF EAST SIDE RECORDS TERMINAL
LOW 250" x 250" PE MAINS
ABANDONED 250" x 250" PE MAINS

MAPS Viewer Version 5.1.0.0

Local Machine

This plan is reproduced from or based on the OS map by Scotia Gas Networks plc, with the sanction of the controller of HM Stationery Office.