Castledawson

Magherafelt

A6

A31 Castledawson Road

TOBERMORE ROAD

DESERTMARTIN ROAD

HOSPITAL ROAD

MULLAGHBOY HILL ROAD

COOLSHINNEY ROAD

AUGHRIM ROAD

BALLYRONAN ROAD

KILLYFADDY ROAD

Irish Hill

Nicholas Hill

Donnelly's Hill

Quarry

Recycling Centre

Station Road Industrial Estate

Petrol Station

Bridewell Building

Sperrin College

Mullaghboy Hill

Windmill Hill

Farm Hill

Bells Hill

Castle Hill

Sewage Works

Meadowbank Sports Arena

Golf Course

Crockthomas Hill

Killowen Hill

Spires Integrated Primary School

Undesignated Watercourse

Designated Castle Hill drain

Designated Killyneese Drain

Designated Coppies River

Designated Polepatrick Drain

Designated Ballymoghan Drain

Designated Coppies Drain

Designated Burnburiey

Designated Derrygarve Ext

Designated Caraloan

Undesignated Watercourses

Concrete Works

Designated Killyfaddy Road Drain

Designated Coolshinney Road Drain

A31 Moneymore Road

Key Plan (Not To Scale)

Key

Existing Sewers

Existing Watermains

Existing Watercourses

Ver	Amendment	By	Checked	Approved	Date

Drawn	Date	Checked	Date	Approved	Date
VH	11/01/08	MK	11/01/08	JCM	11/01/08

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mouchel

Client: ROADS Service

Project: A31 Magherafelt Bypass

Title: Existing Situation Magherafelt

Scale @ A1: 1:10,000

Ver.: A

Drawing No.: 720336.D.D.2326

0 0.1 0.2 0.4 0.6 0.8 Kilometres

H:\720336\08 Documents\05 Drawings\02 Phase B\2000\

Figure 2-1

© Mouchel

N

TOBERMORE ROAD

Rosgarran Drain

DESERTMARTIN ROAD

Polepatrick Drain

Irish Hill

70

Nicholas Hill

70

Donnellys Hill

80

Coppies River

MULLAGHBOY HILL ROAD

Mullaghboy Hill

110

60

MAGHERAFELT

Windmill Hill

70

Ballymoghan Drain

Coppies Drain

CASTLEDAWSON ROAD

Killyneese Drain

Farm Hill

60

60

Castle Hill Drain

Bells Hill

30

Castle Hill Drain

Castle Hill

40

Coppies River

Coppies River

Coppies River

AUGHRIM ROAD

Coppies Branch

Eastern Corridor

Killyfaddy

80

100

Coolshinney Rd Drain

Killyfaddy Rd Drain

Killowen Hill

110

KILLYFADDY ROAD

BALLYRONAN ROAD

MONEYMORE ROAD

0 0.1 0.2 0.4 0.6 0.8 Kilometers

Key

- Water Courses
- Hills
- 80 Spot Heights
- Direction of water flow

Ver	Amendment	By	Checked	Approved	Date
C	Corridors Removed	JR	MK	ALN	25/03/09
B	Ammendments to text made	CMcG	LE	JM	05/09/07

Drawn	Date	Checked	Date	Approved	Date
CM	10/05/07	MJ	18/07/07	DLT	20/07/07

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Client: ROADS Service

Project: A31 Magherafelt Bypass

Title: Topography and Hydrology

Scale @ A1: 1:10,000

Ver.: C

Drawing No.: 720336.C.D.5627

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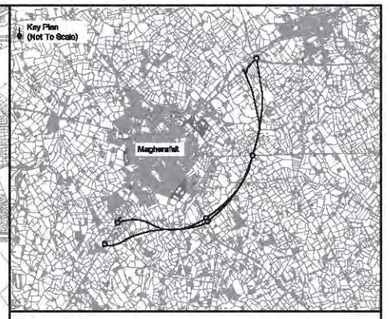
Figure 2.2



Key

- Earthworks - Cut Progressed Route from Stage 2 - Option A
- Earthworks - Fill Progressed Route from Stage 2 - Option A
- Earthworks - Cut
- Earthworks - Fill
- NIE Pylons

Additional items in dark grey are updates to the OS Map

Ver	Amendment	By	Checked	Approved	Date

Drawn	Date	Checked	Date	Approved	Date
AMI	31/12/07	LE	31/12/07	JCM	31/12/07

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Client: ROADS Service

Project: **A31 Magherafelt Bypass**

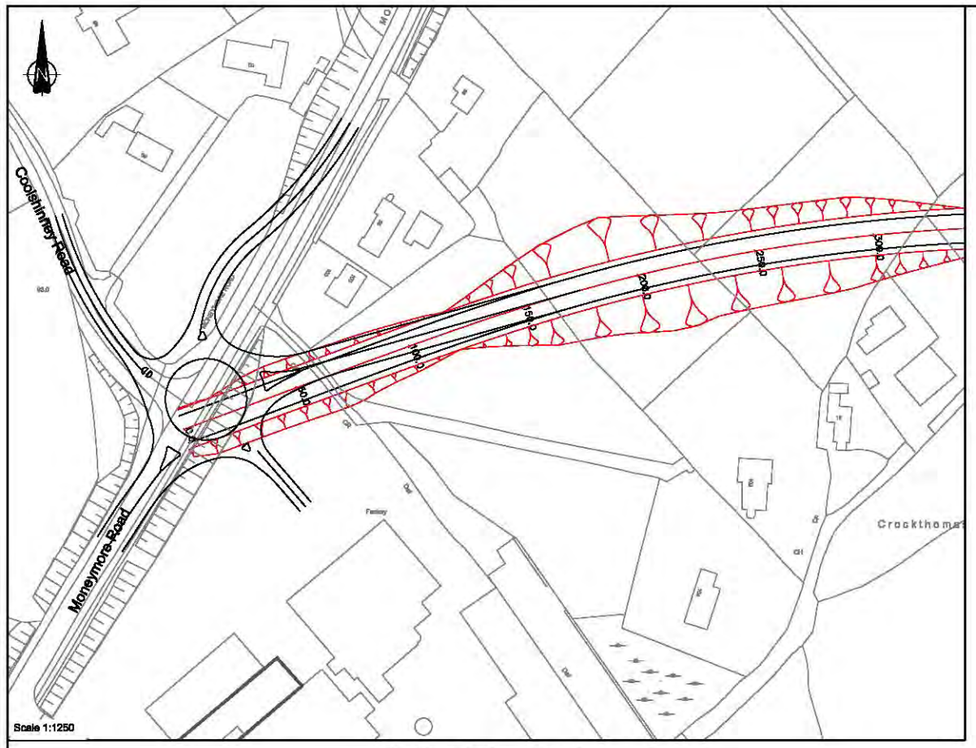
Title: **Preliminary Route Options**

Scale @ A1	1:10000	Ver.
Drawing No.	720336.C.D.2088	A

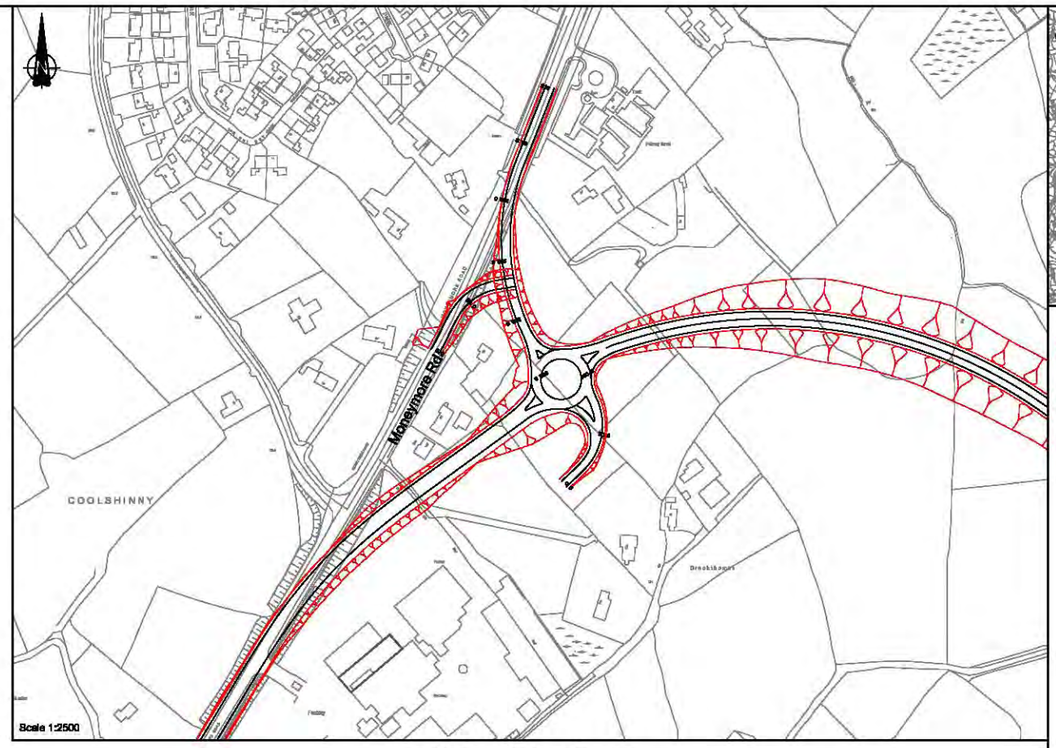
R:\720336\09 Documents\05 Drawings\04 Phase 0\2000\

© Mouchel

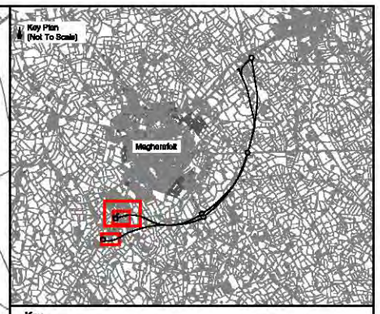
Figure 3.1



Option A Junction 1



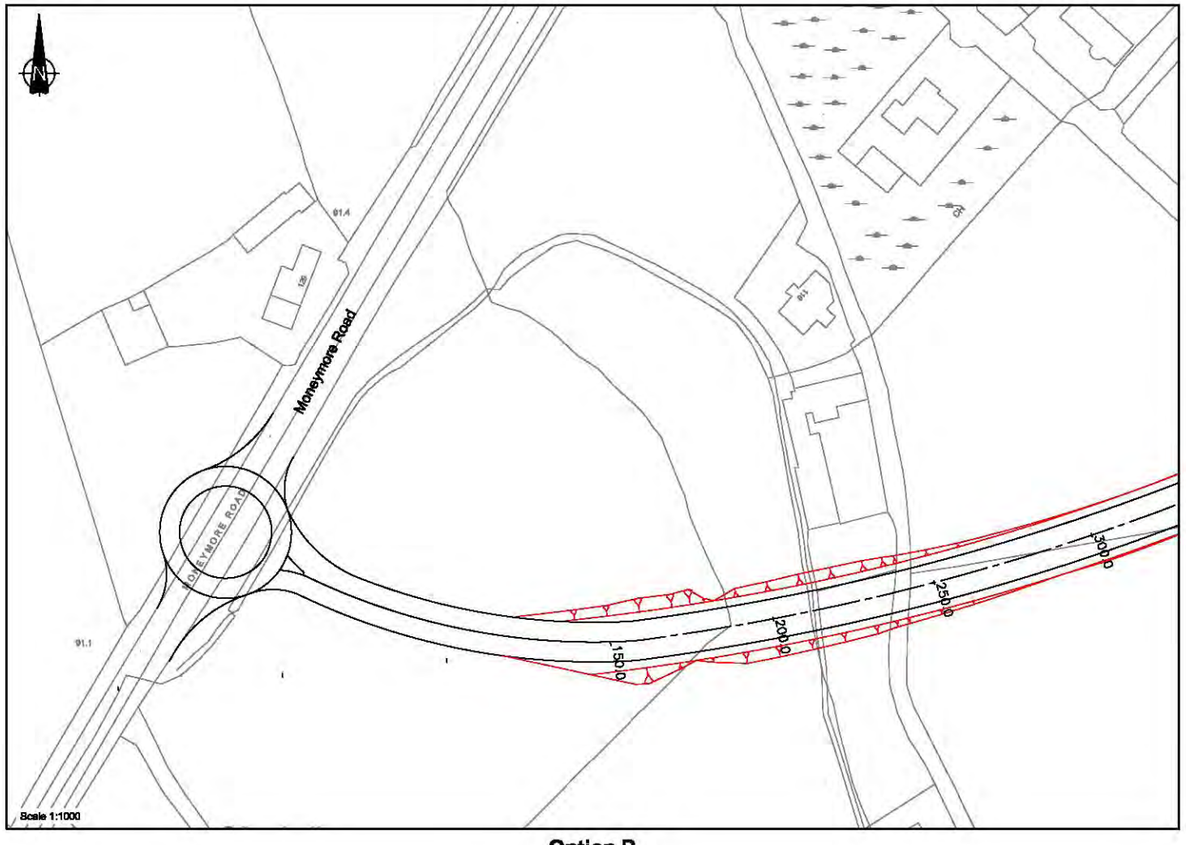
Option A Junction 2



Key

Earthworks - Cut
Earthworks - Fill

Note:
Additional items in dark grey are updates to the OS Map



Option B

Ver	Amendment	By	Checked	Approved	Date

Drawn	Date	Checked	Date	Approved	Date
SMG	26/03/09	LE	26/03/09	ALN	26/03/09

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mouchel

Client: ROADS Service

Project: **A31 Magherafelt Bypass**

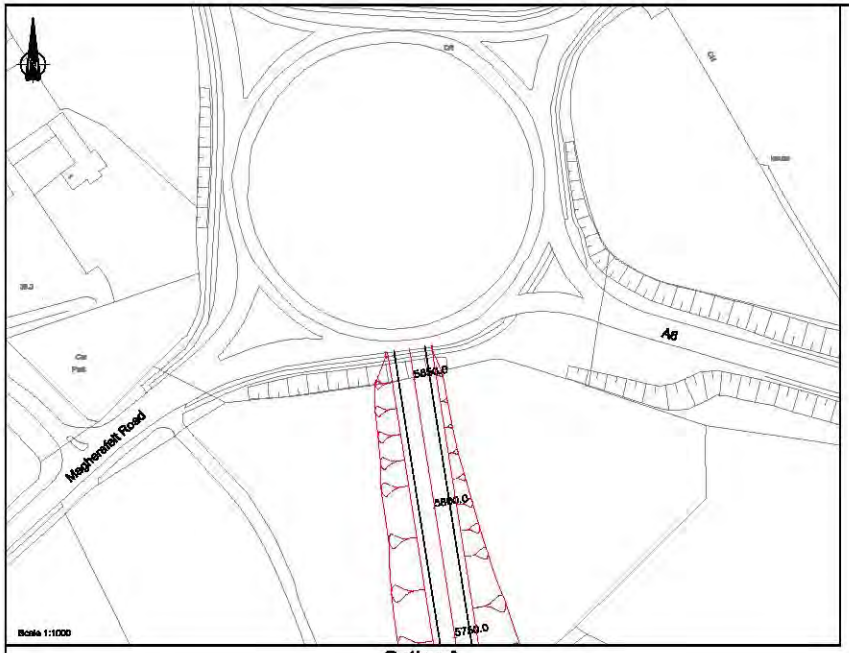
Title: **Southern Tie-ins Preliminary Junctions**

Scale @ A1: **As Shown** | Ver.: **A**

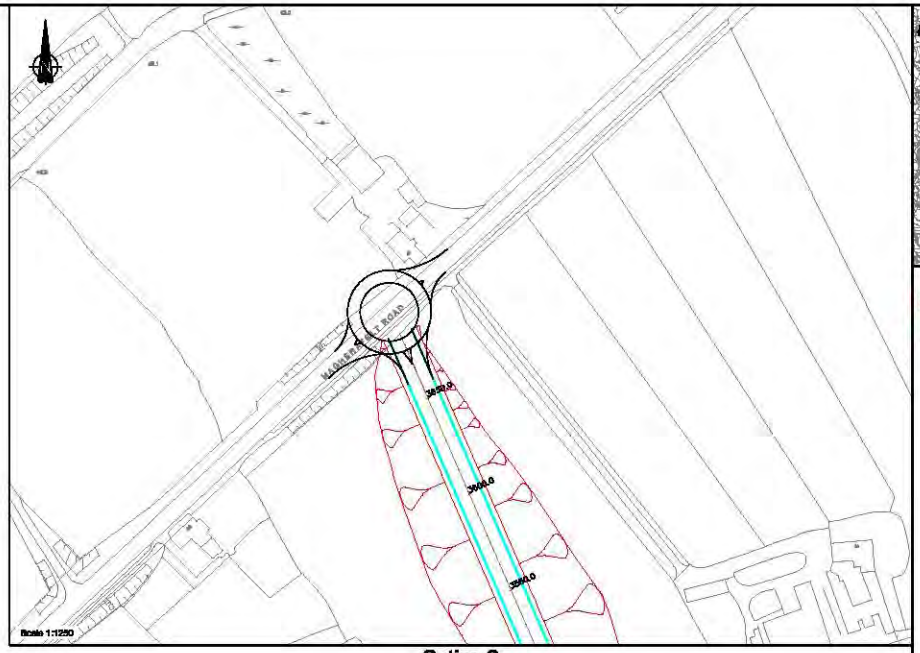
Drawing No.: **720336.C.D.2316**

H:\720336\09 Documents\05 Drawings\04 Phase 02\2000\

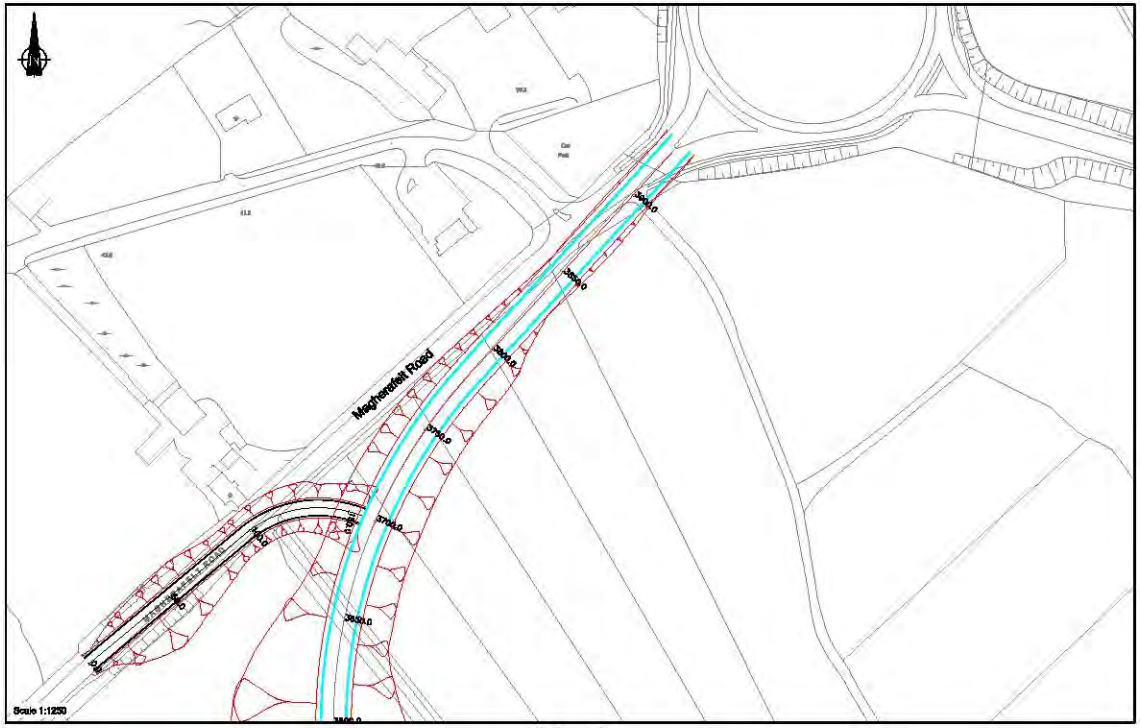
Figure 3.2



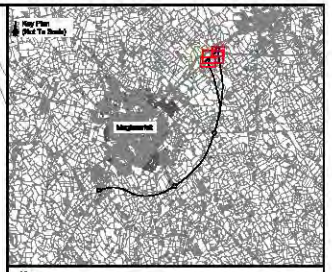
Option A



Option C



Option D



Key

Earthworks - Cut
Earthworks - Fill

Note:
Additional items in dark grey are updates to the OS Map

Ver	Amendment	By	Checked	Approved	Date

Drawn	Date	Checked	Date	Approved	Date
SMG	25/03/09	MK	26/03/09	ALN	26/03/09

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Client: ROADS Service

Project: **A31 Magherafelt Bypass**

Title: **Northern Tie-Ins**
Preliminary Junctions

Scale @ A1: As Shown

Ver.: A

Drawing No.: 720336.C.D.2317

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Castledawson

A6

A6

A31 Castledawson Road

TOBERMORE ROAD

HOSPITAL ROAD

DESERTMARTIN ROAD

MULLAGHBOY HILL ROAD

AUGHRIM ROAD

Magherafelt

COOLSHINNEY ROAD

BALLYRONAN ROAD

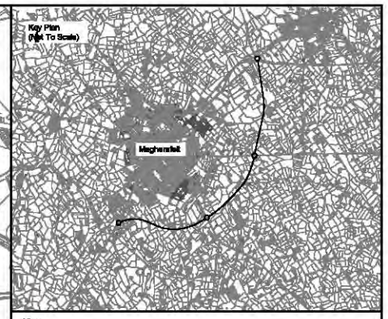
BALLYRONAN ROAD

BALLYFADDY ROAD

A31 Moneymore Road

H:\720336\09 Documents\05 Drawings\03 Phase C\2000\

Key Plan
(Not To Scale)



Key

Earthworks - Cut
Earthworks - Fill

Note: Additional items in dark grey are updates to the OS Map

Ver	Amendment	By	Checked	Approved	Date

Drawn	Date	Checked	Date	Approved	Date
AMI	08/01/08	MK	08/01/08	JCM	08/01/08

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Client: ROADS Service

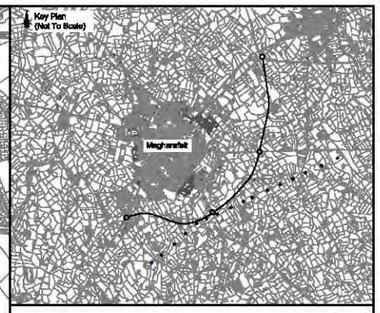
Project: **A31 Magherafelt Bypass**

Title: **Emerging Preferred Route Location Plan**

Scale @ A1	1:10,000	Ver.
Drawing No.	720336.C.D.2133	A

Figure 3.4

© Mouchel



Key

- Earthworks - Cut
- Earthworks - Fill
- Vesting Line
- Pylons

Note: Additional items in dark grey are updates to the OS Map

Ver	Amendment	By	Checked	Approved	Date

Drawn	Date	Checked	Date	Approved	Date
LE	26/11/07	MK	25/03/09	ALN	25/03/09

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Client: ROADS Service

Project: **A31 Magherafelt Bypass**

Title: **Preferred Route Location Plan**

Scale @ A1	1:10000	Ver.
Drawing No.	720336.C.D.2093	A

H:\720336\08 Documents\03 Drawings\03 Phase C\2000\

Figure 3.5

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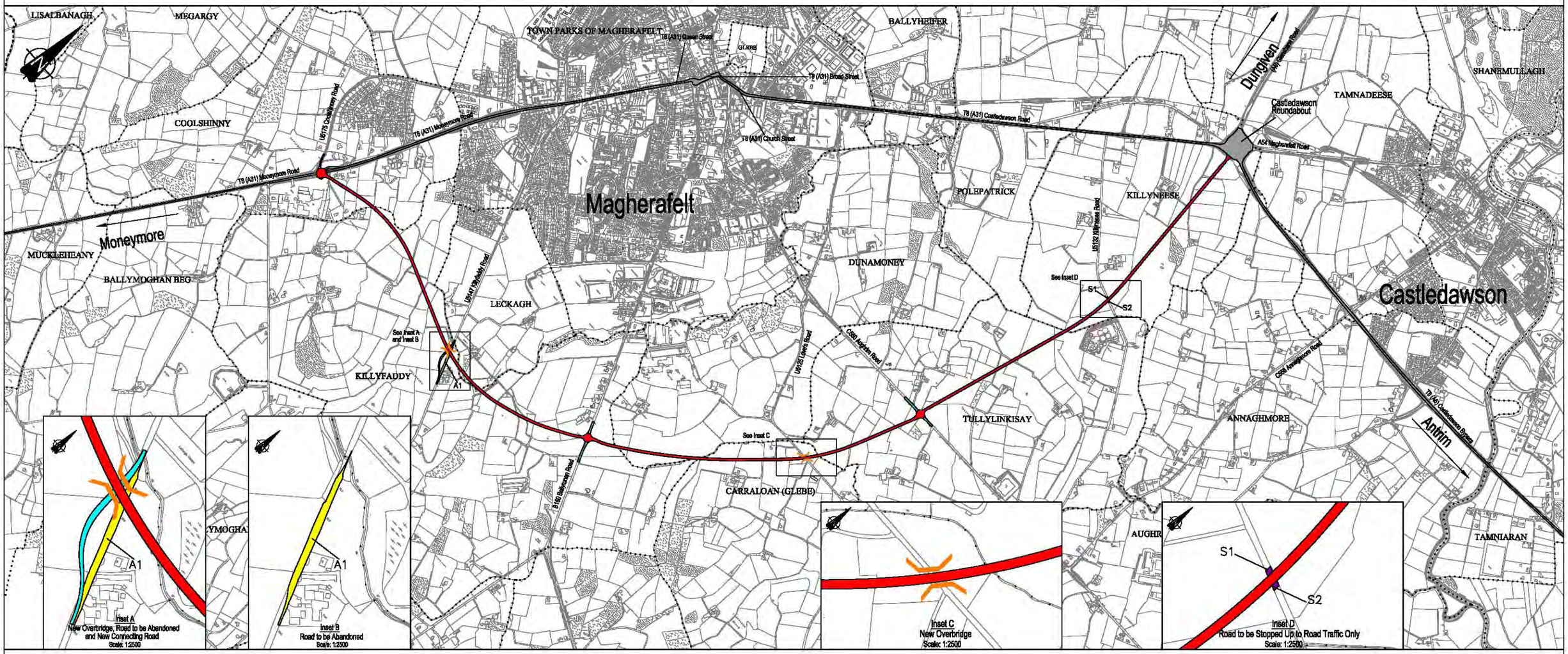

LEGEND

- EXISTING TRUNK ROAD
- NEW LENGTH OF TRUNK ROAD
- NEW CONNECTING ROADS
- ROAD TO BE ABANDONED
- ROAD TO BE STOPPED UP TO ROAD TRAFFIC ONLY
- NEW BRIDGES TO BE CONSTRUCTED
- TOWNLAND BOUNDARY

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DEPARTMENT FOR REGIONAL DEVELOPMENT
ROADS SERVICE WESTERN DIVISION

THE TRUNK ROAD T8 (A31) (MAGHERAFELT BYPASS) ORDER (NORTHERN IRELAND) 2008

DRAWING NO: 720336/OD53-01H

Scale: 1:10000 Crown Copyright Reserved

Figure 3.6

COOLSHINNY

LECKAGH

KILLYFADDY

See Inset B

See Inset A

COOLSHINNEY ROAD

MONEYMORE ROAD

KILLYFADDY ROAD

BALLYRONAN ROAD

INSET A
Scale 1:250

INSET B
Scale 1:250

MAP A

ORDNANCE SURVEY SHEET Nos. 0931ONE; 0931OSE; 0931NW; 0931NE; 0931SW; 0931SE

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DRAWN	DE	Date 21.03.08
CHECKED	BA	Date 26.03.08
APPROVED	SM	Date 26.03.08

PROJECT: A31 MAGHERAFELT BYPASS

TITLE: LAND PLAN

SCALE 1: 2500	DWG No: 720335-0015-60201	SHEET No. Sheet 1 of 4	REVISION 1

ROADS Service
An Agency within the Department for Regional Development
www.drdni.gov.uk

WESTERN DIVISION
County Hall
Drumragh Avenue
Omagh
BT79 7AF
Telephone (028) 8225 4111
Fax (028) 8225 4160

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Figure 3.7.1

DUNAMONEY

TULLYLINKISAY

KILLYFADDY

CARRALOAN (GLEBE)

LOVER'S ROAD

AUGHRIM ROAD

CARRALOAN ROAD

BALLYRONAN ROAD

See Inset C

INSET C
Scale 1:250

ORDNANCE SURVEY SHEET Nos. 09307SE; 09308NW; 09308SW; 09308SE; 09311NE; 09311SE; 09312NW

MAP B

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DRAWN	DE	Date 21.03.08
CHECKED	BA	Date 26.03.08
APPROVED	SM	Date 26.03.08

PROJECT: A31 MAGHERAFELT BYPASS

TITLE: LAND PLAN

SCALE 1: 2500	DWG No: 720338-0015-62212	SHEET No. Sheet 2 of 4	REVISION G

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Drumragh Avenue
Omagh
BT79 7AF

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Figure 3.7.2

POLEPATRICK

DUNAMONEY

KILLYNEESE

TULLYLINKISAY

ANNAGHMORE

AUGHRIM ROAD

KILLYNEESE ROAD

CASTLEDAWSON BYPASS

See Inset D

INSET D
Scale 1:250

MAP C

ORDNANCE SURVEY SHEET Nos. 09304NW; 09304NE; 09304SW; 09304SE; 09307NE; 09308NW; 09308NE; 09308SW

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DRAWN	DE	Date 21.03.08
CHECKED	BA	Date 26.03.08
APPROVED	SM	Date 26.03.08

PROJECT: A31 MAGHERAFELT BYPASS

TITLE: LAND PLAN

SCALE 1: 2500	DWG No: 720336-0015-8022H	SHEET No. Sheet 3 of 4	REVISION H

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Drumragh Avenue
Omagh
BT79 7AF

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Figure 3.7.3

TULLYLINKISAY

ANNAGHMORE

AUGHRIM

AUGHRIM ROAD

KILLYNEESE ROAD

ANNAGHMORE ROAD

65

66

67

68

69

See Inset E

INSET E
Scale 1:250

MAP D

ORDNANCE SURVEY SHEET Nos. 09304SW; 09304SE; 09308NW; 09308NE; 09308SW; 09308SE

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DESIGN	DE	Date 21.03.08
CHECKED	BA	Date 26.03.08
APPROVED	SM	Date 26.03.08

PROJECT: A31 MAGHERAFELT BYPASS

TITLE: LAND PLAN

SCALE 1: 2500	DWG No: 720335-DD15-8023H	SHEET No. Sheet 4 of 4	REVISION H

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Omagh
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Figure 3.7.4

Castledawson

A6

A6

A31 Castledawson Road

TOBERMORE ROAD

HOSPITAL ROAD

DESERTMARTIN ROAD

MULLAGHBOY HILL ROAD

AUGHRIM ROAD

Magherafelt

COOLSHINNEY ROAD

BALLYRONAN ROAD

KILLYFADDY ROAD

BALLYRONAN ROAD

A31 Moneymore Road

Key Plan
(Not To Scale)

Magherafelt

Key

- Earthworks - Cut - OPR
- Earthworks - Fill - OPR
- Earthworks - Cut - Additional Engineering
- Earthworks - Fill - Additional Engineering
- Maintenance Strip
- Vesting Line

Note:
1. Additional Items in dark grey are updates to the OS Map
2. OPR = Optimised Preferred Route as published in Environmental Statement Addendum January 2009
3. Additional Engineering = works undertaken and finalised through consultation with landowners

Ver	Amendment	By	Checked	Approved	Date

Drawn	Date	Checked	Date	Approved	Date
SMG	16/01/09	MK	16/01/09	ALN	16/01/09

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Client: ROADS Service

Project: **A31 Magherafelt Bypass**

Title: **Optimised Preferred Route Location Plan**

Scale @ A1: **1:10000**

Ver.: **A**

Drawing No.: **720336.D.D.2266**

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Figure 3.8

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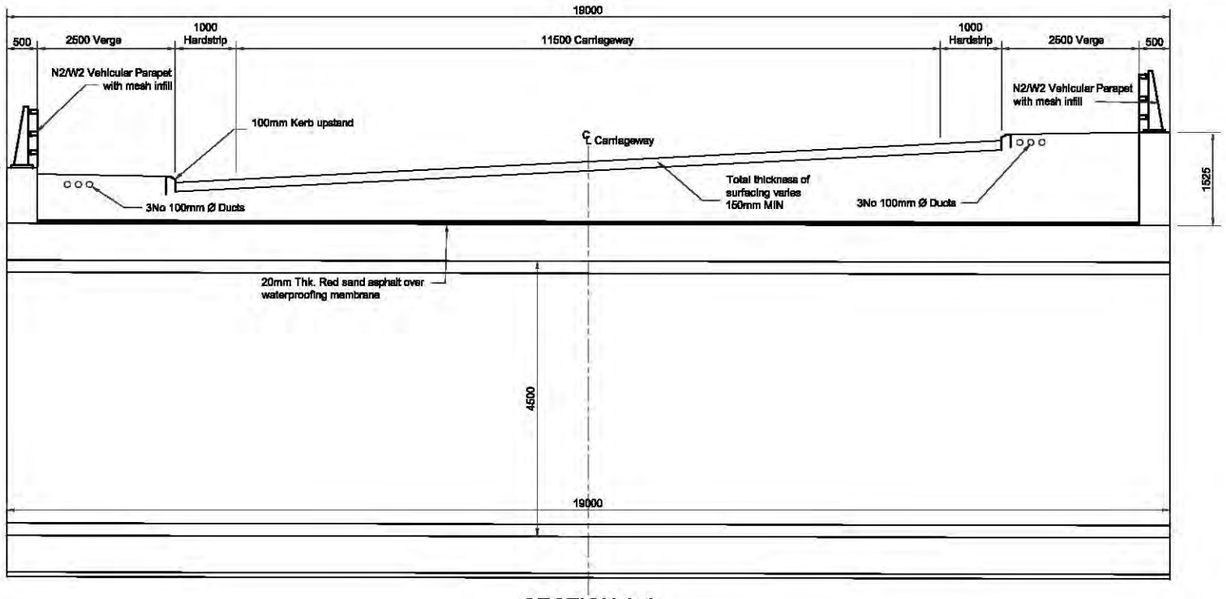
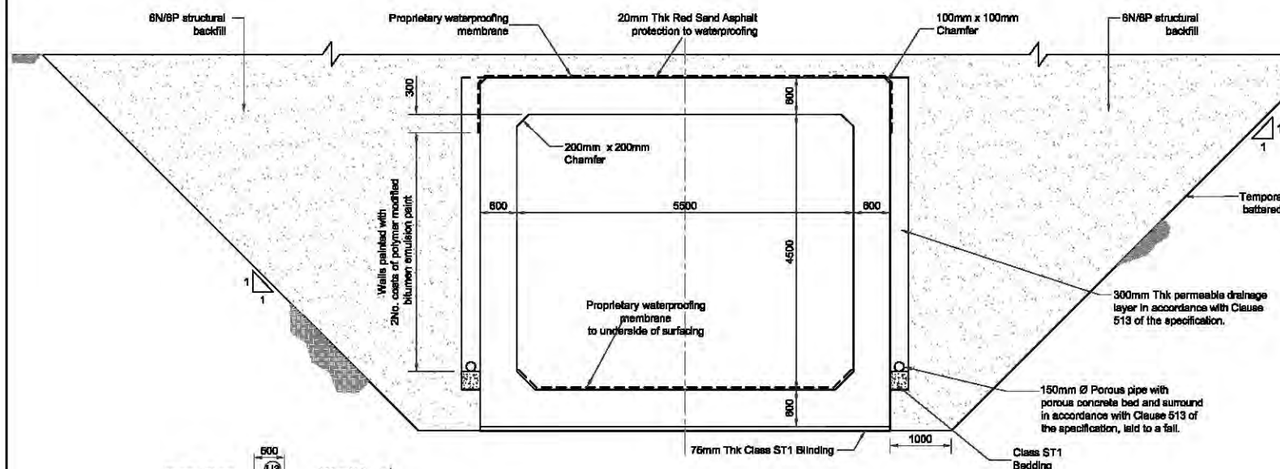
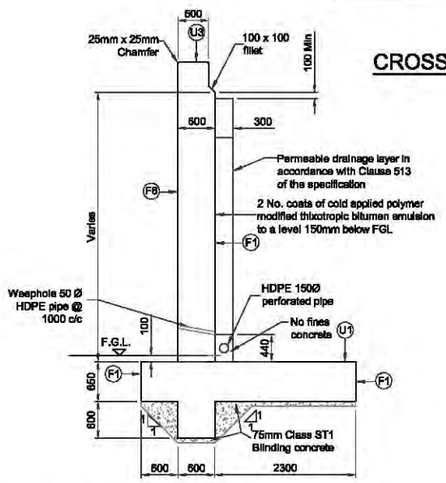


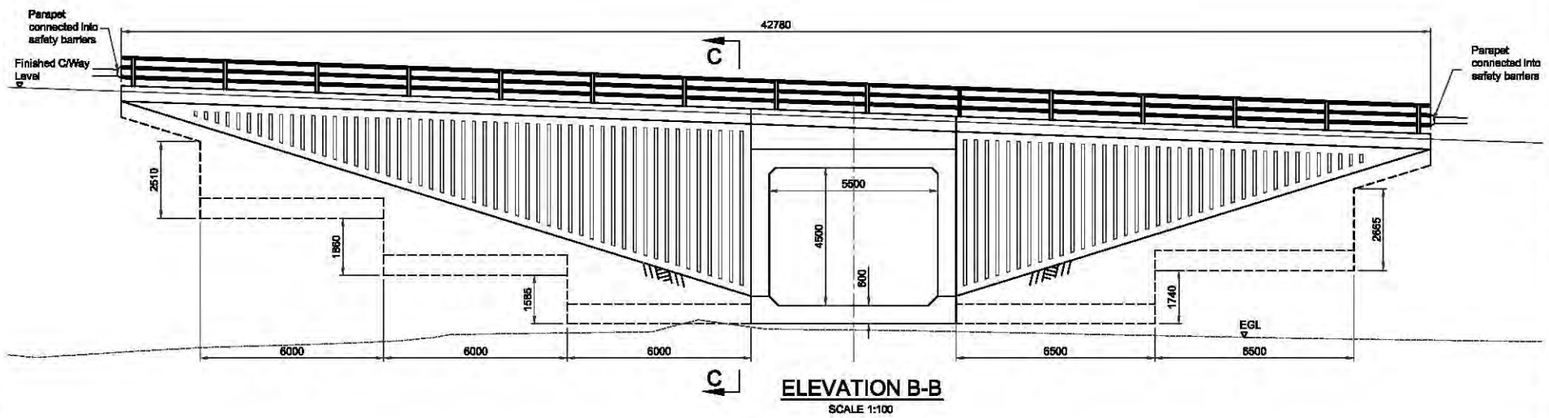
SECTION A-A
SCALE 1:100



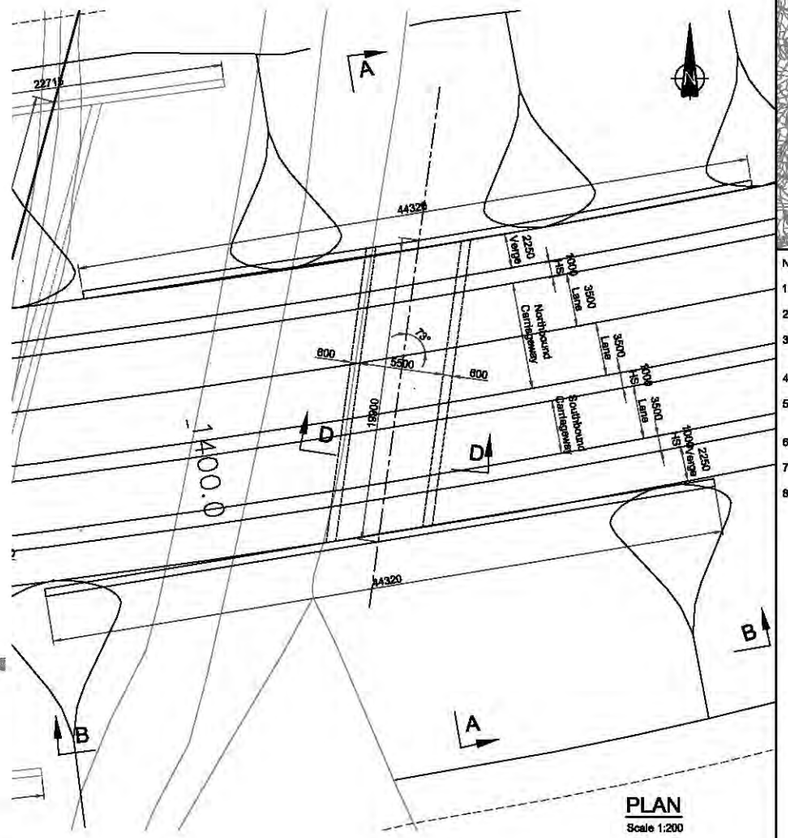
CROSS SECTION THROUGH UNDERPASS D-D
SCALE 1:50



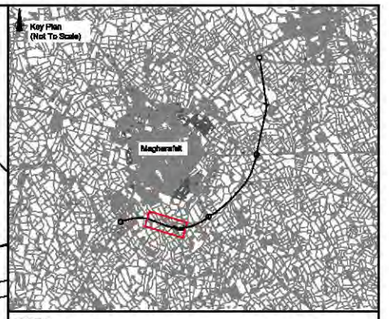
CROSS SECTION THROUGH WINGWALL C-C
SCALE 1:50



ELEVATION B-B
SCALE 1:100



PLAN
Scale 1:200



NOTES:

1. All dimensions shall be in millimetres unless otherwise stated.
2. All levels are stated in metres above ordnance datum.
3. Geometry illustrated is indicative and subject to detailed design evaluation.
4. All exposed concrete corners to have a 25mm x 25mm chamfer.
5. All buried concrete surfaces shall be coated with 2 no. coats of thixotropic bitumen emulsion in accordance with the specification.
6. All backfill surrounding the foundations shall be class 6N/6P structural fill.
7. All exposed concrete shall be treated with transparent anti graffiti coating.
8. Surface finishes to be in accordance with section 3.8 of the approval in principle documentation.

Ver	Amendment	By	Checked	Approved	Date

Drawn	Date	Checked	Date	Approved	Date
DL	12/08	BT	12/08	ALN	12/08

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Client: ROADS Service

Project: **A31 Magherafelt Bypass**

Title: **General Arrangement CH1415m S005B Farm Access Underpass**

Scale @ A1: **As Shown**

Ver.: **A**

Drawing No.: **720336.D.D.7005B**

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Figure 4.10

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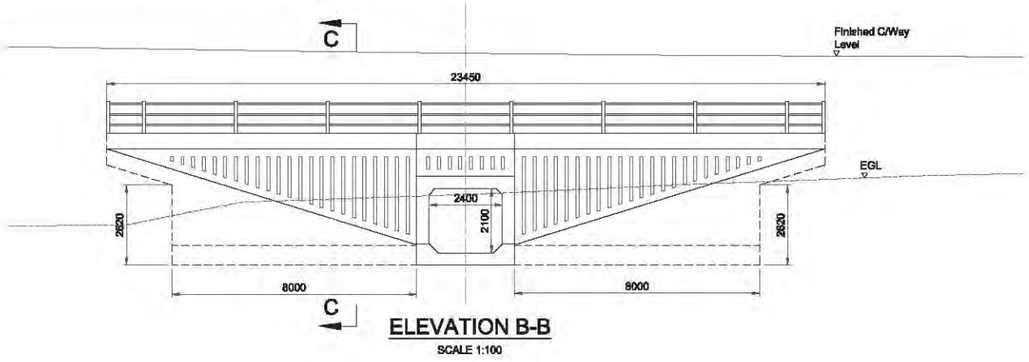
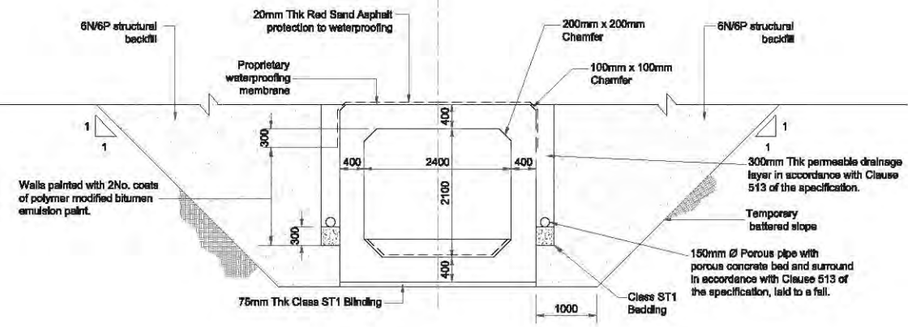
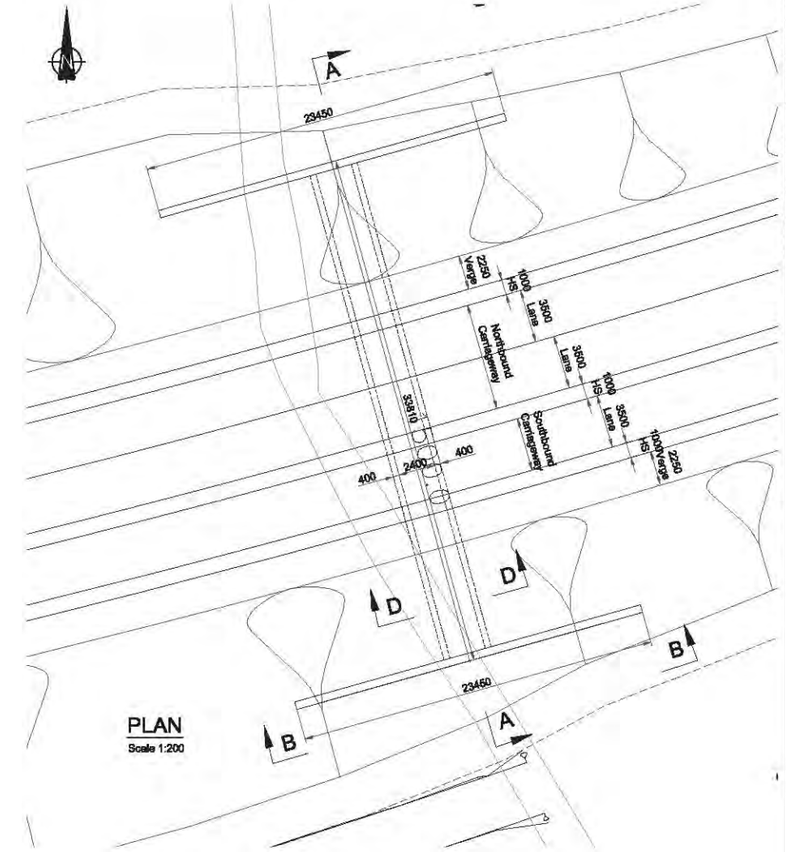


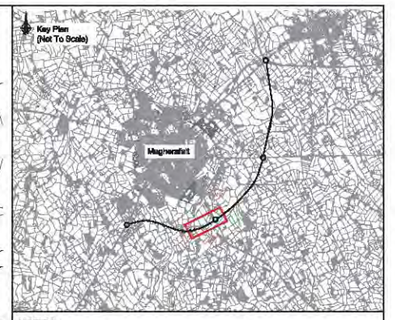
ELEVATION B-B
SCALE 1:100



CROSS SECTION THROUGH CULVERT D-D
SCALE 1:50



PLAN
Scale 1:200



NOTES:

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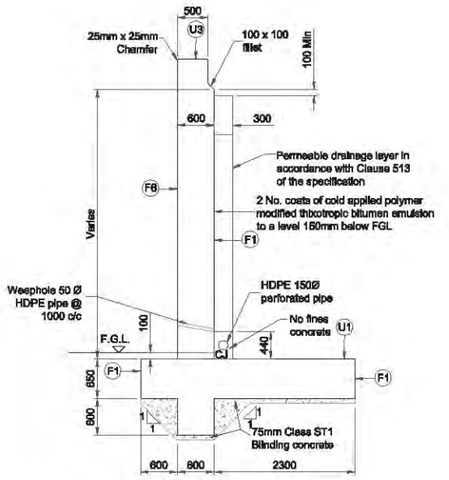
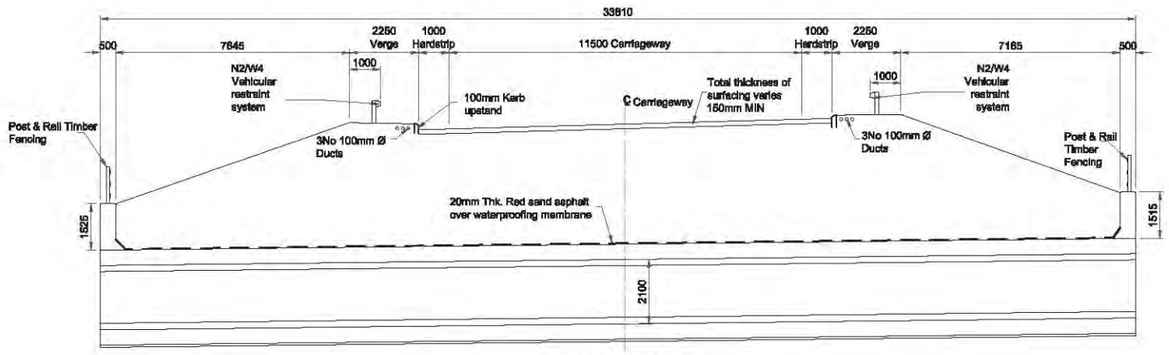
6. All backfill surrounding the foundations shall be class 6N/6P structural fill.
7. All exposed concrete shall be treated with transparent anti graffiti coating.
8. Surface finishes to be in accordance with section 3.8 of the approval in principle documentation.



CROSS SECTION THROUGH WINGWALL C-C
SCALE 1:50



SECTION A-A
SCALE 1:50

Ver	Amendment	By	Checked	Approved	Date

Drawn	Date	Checked	Date	Approved	Date
LW	12/08	BT	12/08	ALN	12/08

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Client: ROADS Service

Project: **A31 Magherafelt Bypass**

Title: **General Arrangement CH 1500m S006 Culvert**

Scale @ A1	Ver.
AS SHOWN	A
Drawing No. 720336.D.D.7006	

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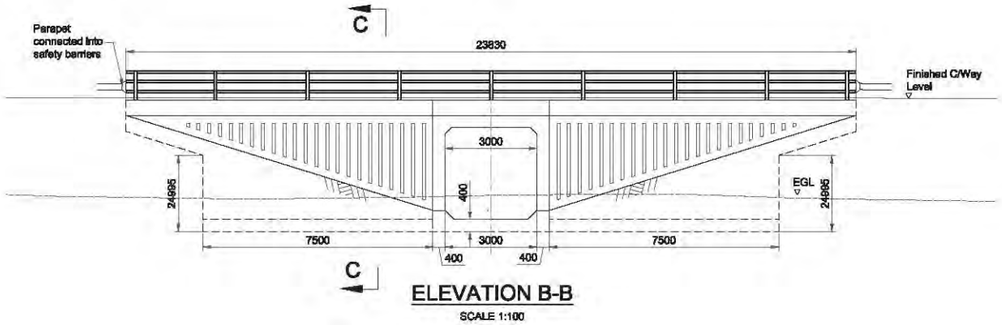
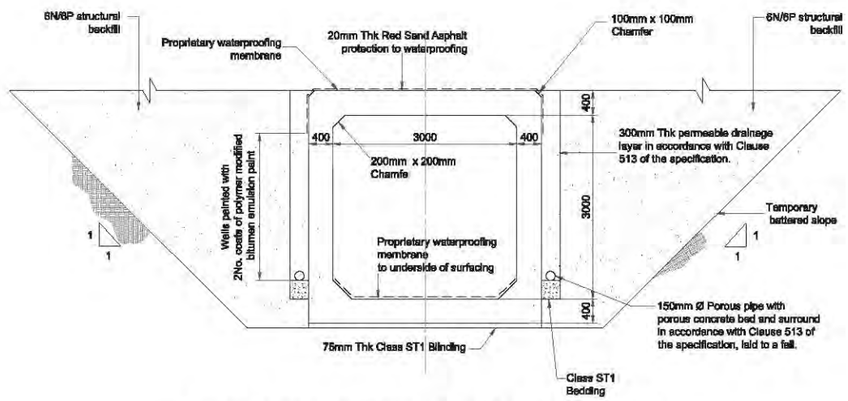
Figure 4.11



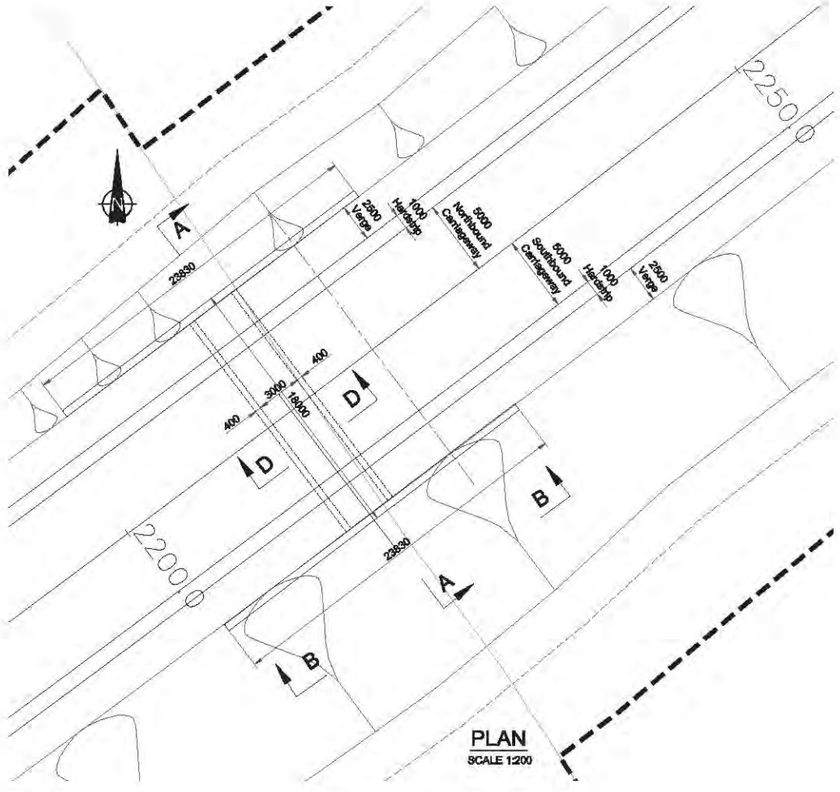
ELEVATION B-B

SCALE 1:100



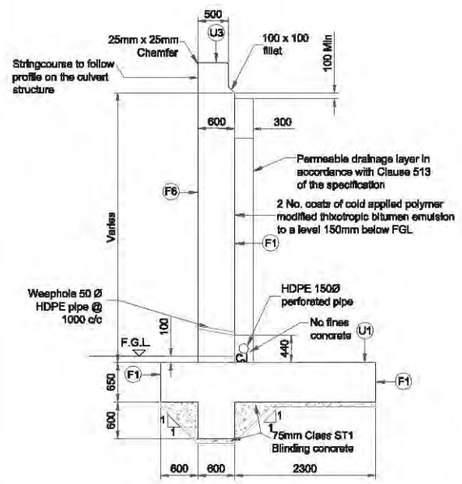
CROSS SECTION THROUGH UNDERPASS D-D

SCALE 1:50



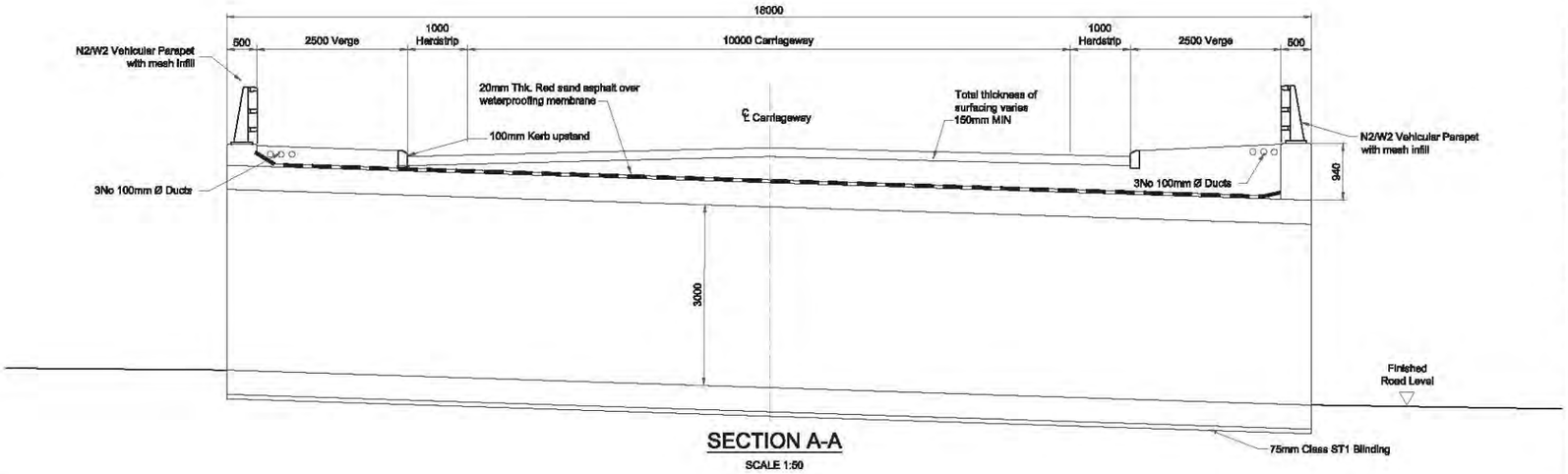
PLAN

SCALE 1:200



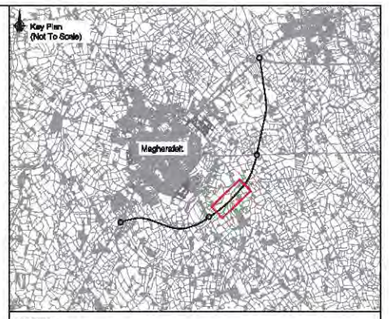
CROSS SECTION THROUGH WINGWALL C-C

SCALE 1:50



SECTION A-A

SCALE 1:50



NOTES:

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6. All backfill surrounding the foundations shall be class 6N/6P structural fill.
7. All exposed concrete shall be treated with transparent anti graffiti coating.
8. Surface finishes to be in accordance with section 3.8 of the approval in principle documentation.

Ver	Amendment	By	Checked	Approved	Date

Drawn	Date	Checked	Date	Approved	Date
LW	12/08	BT	12/08	ALN	12/08

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Client: ROADS Service

Project: **A31 Magherafelt Bypass**

Title: **General Arrangement CH 2213m S008 Cattle Underpass**

Scale @ A1	As Shown	Ver.
Drawing No.	720336.D.D.7008	A

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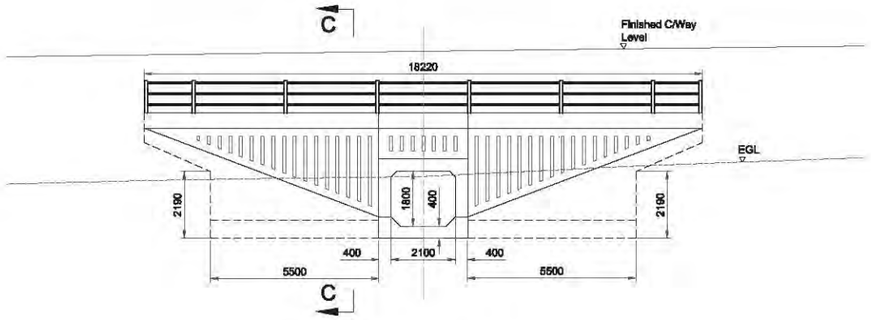
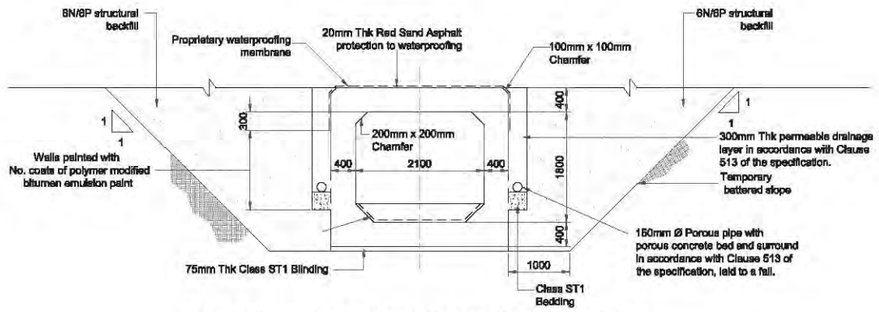
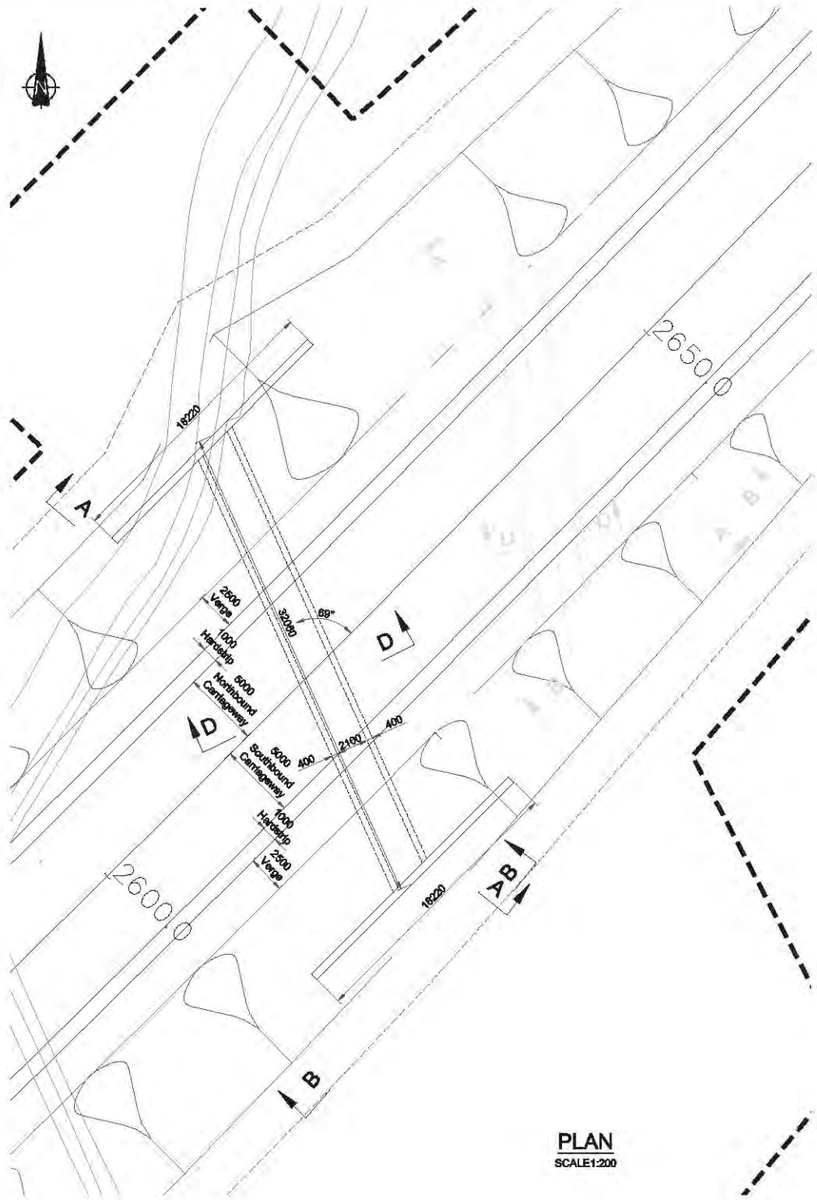
Figure 4.12



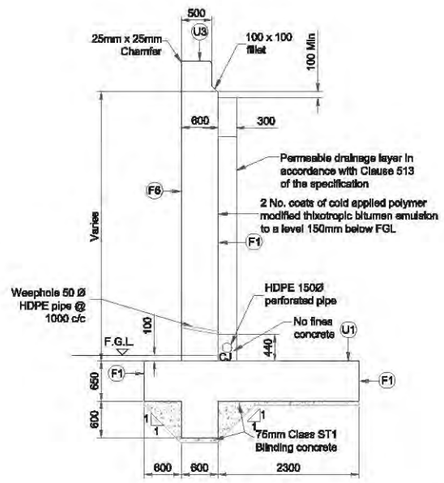
ELEVATION B-B
SCALE 1:100



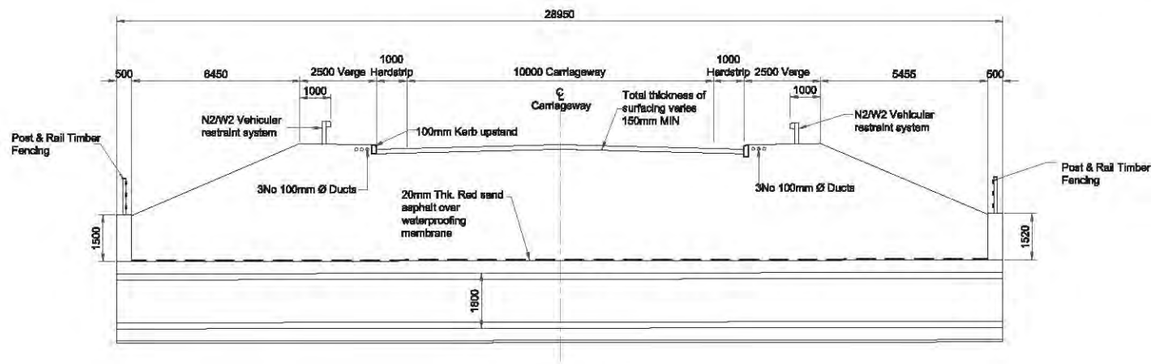
CROSS SECTION THROUGH CULVERT D-D
SCALE 1:50



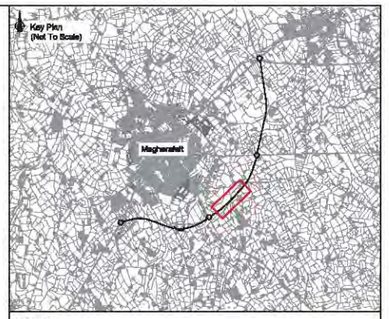
PLAN
SCALE1:200



CROSS SECTION THROUGH WINGWALL C-C
SCALE 1:50



SECTION A-A
SCALE 1:100



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Ver	Amendment	By	Checked	Approved	Date

Drawn	Date	Checked	Date	Approved	Date
LW	12/08	BT	12/08	AL.N	12/08

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Client: ROADS Service

Project: **A31 Magherafelt Bypass**

Title: **General Arrangement CH2620m S009 Derrygarve Culvert**

Scale @ A1: **As Shown**

Ver.: **A**

Drawing No.: **720336.D.D.7009**

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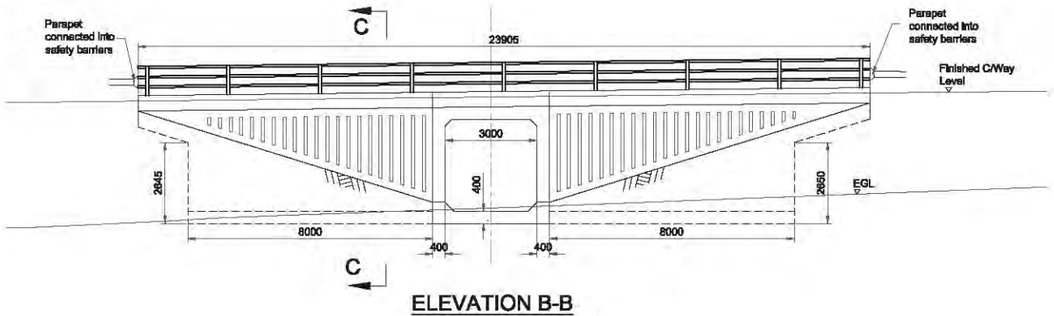
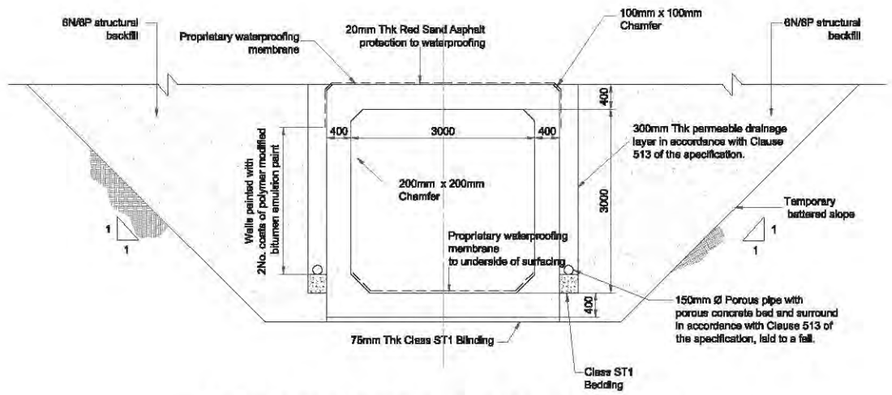
Figure 4.13



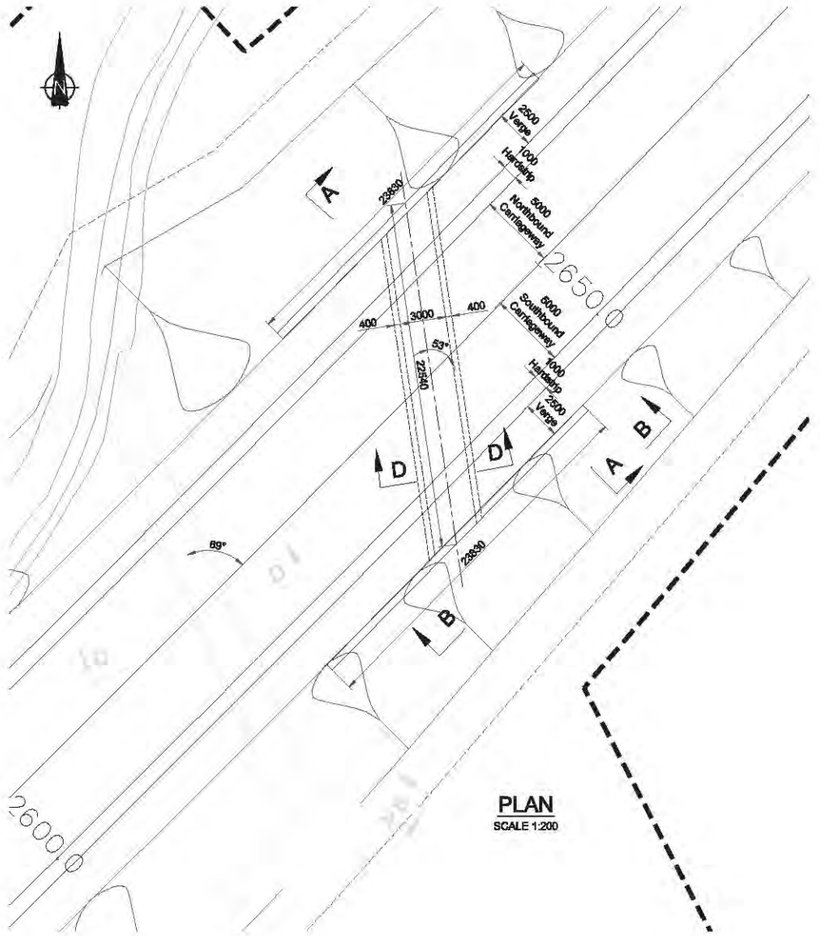
ELEVATION B-B

SCALE 1:100



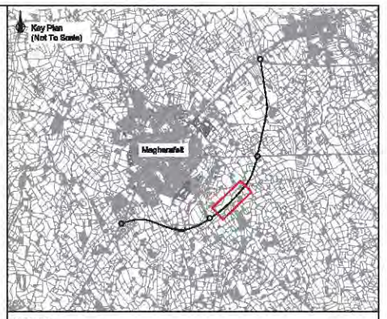
CROSS SECTION THROUGH UNDERPASS D-D

SCALE 1:50



PLAN

SCALE 1:200



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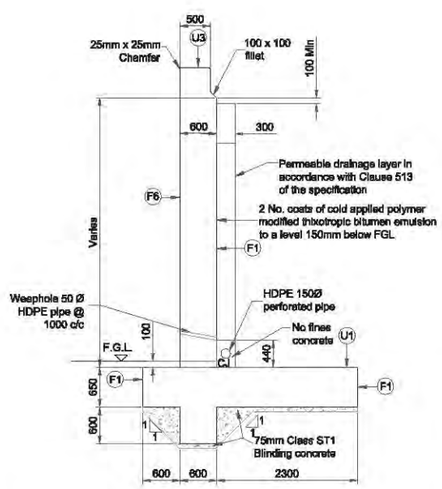
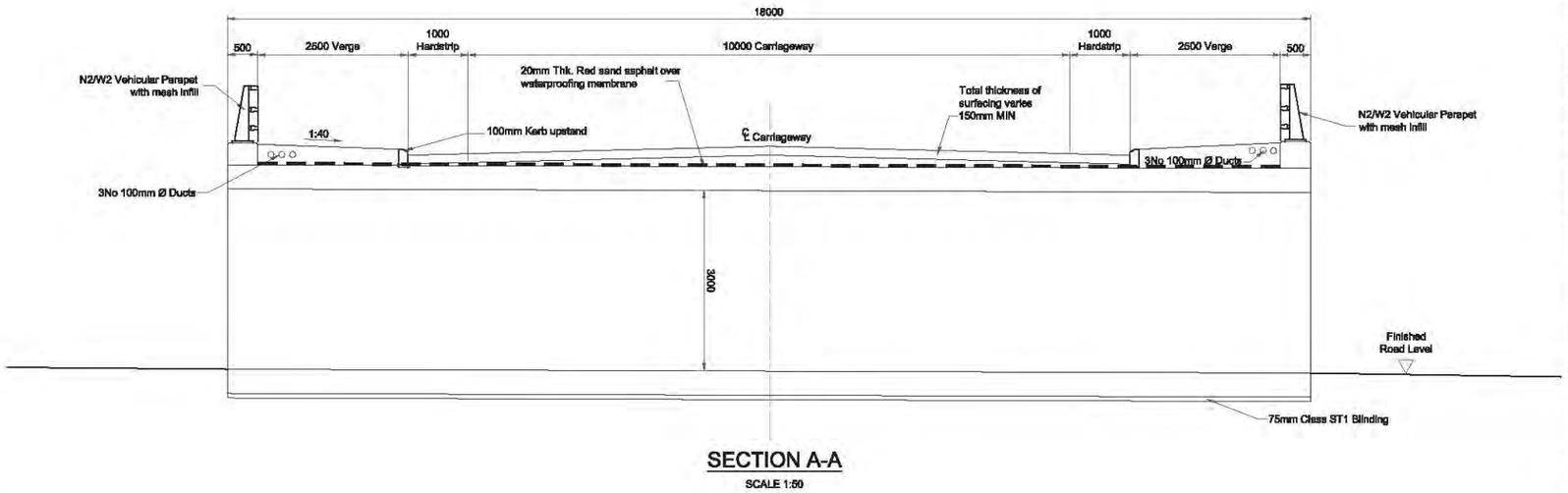


CROSS SECTION THROUGH WINGWALL C-C

SCALE 1:50



SECTION A-A

SCALE 1:50

Ver	Amendment	By	Checked	Approved	Date

Drawn	Date	Checked	Date	Approved	Date
LW	12/08	BT	12/08	ALN	12/08

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Client: ROADS Service

Project: **A31 Magherafelt Bypass**

Title: **General Arrangement CH 2640m S010 Cattle Underpass**

Scale @ A1	As Shown	Ver.
Drawing No.	720336.D.D.7010	A

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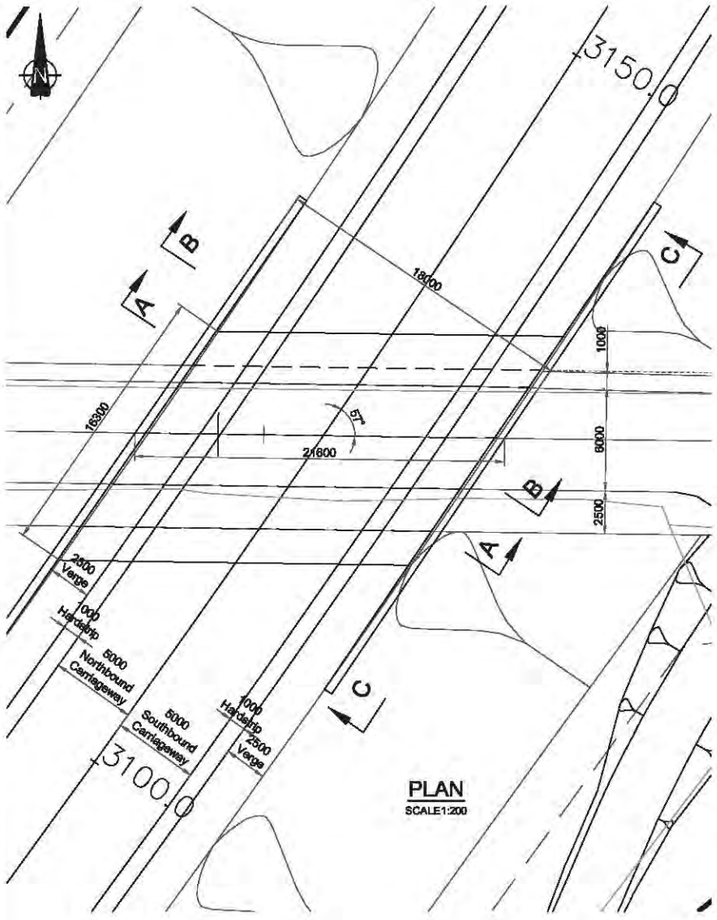
Figure 4.14



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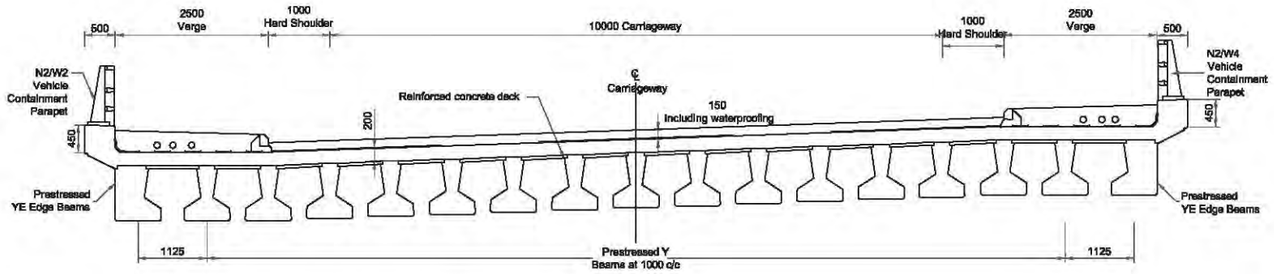
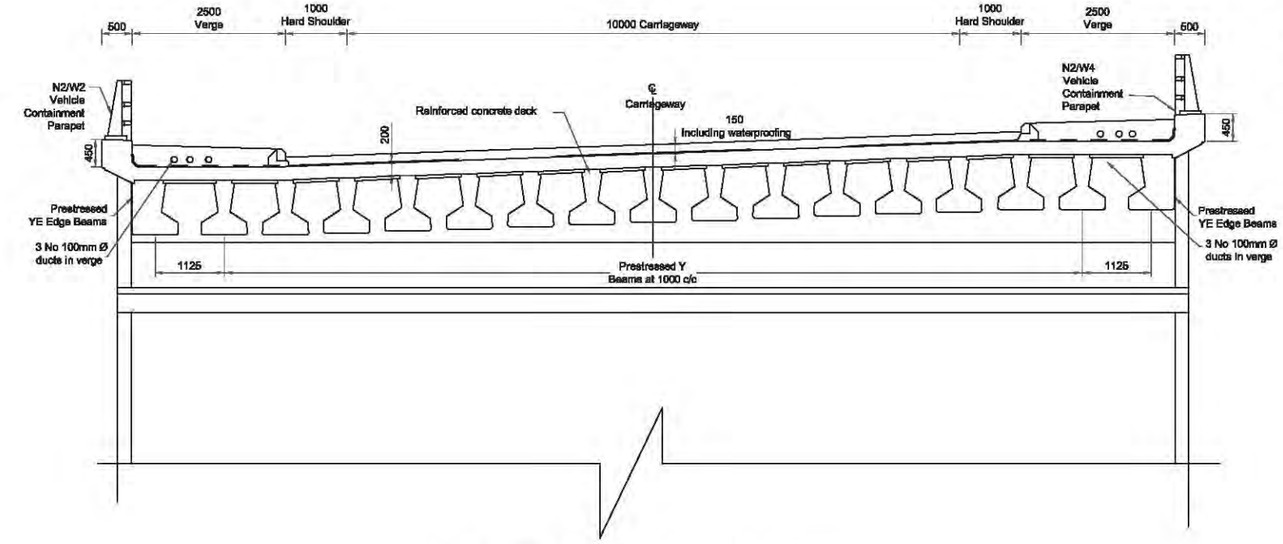
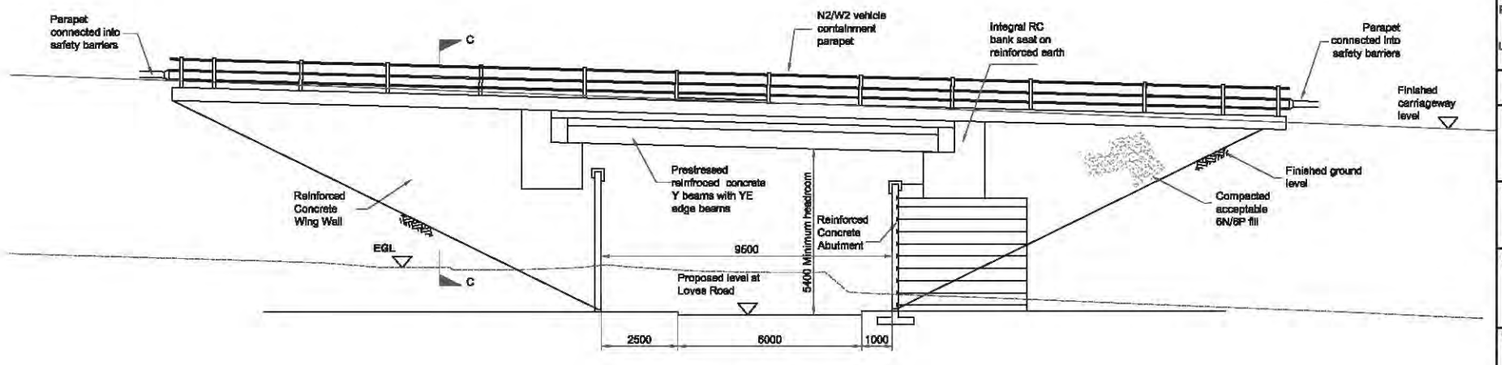
SCALE 1:200



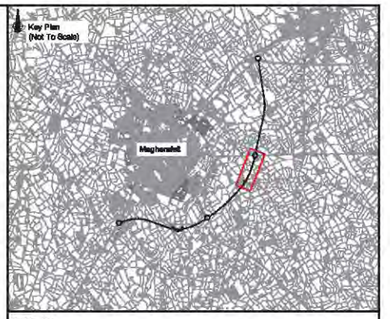
CROSS SECTION THROUGH UNDERPASS A-A
SCALE 1:50



TYPICAL ELEVATION AT ABUTMENT B-B
SCALE 1:50



ELEVATION C-C
SCALE 1:100



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Ver	Amendment	By	Checked	Approved	Date

Drawn	Date	Checked	Date	Approved	Date
NK	12/08	BT	12/08	ALN	12/08

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Client: ROADS Service

Project: **A31 Magherafelt Bypass**

Title: **General Arrangement CH 3123m S011 Loves Road Underbridge**

Scale @ A1	AS SHOWN	Ver.
Drawing No.	720336.D.D.7011	A

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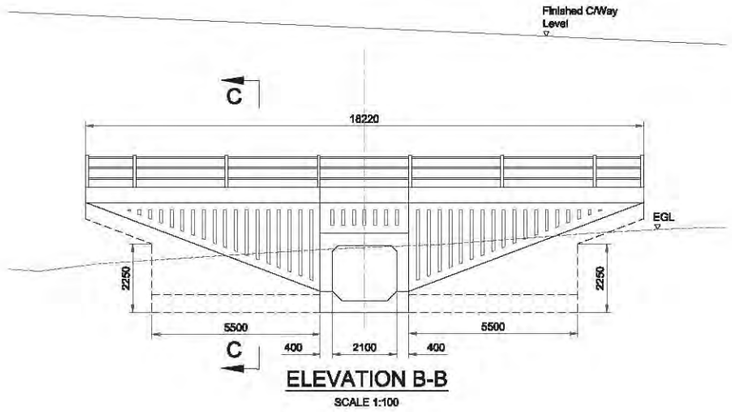
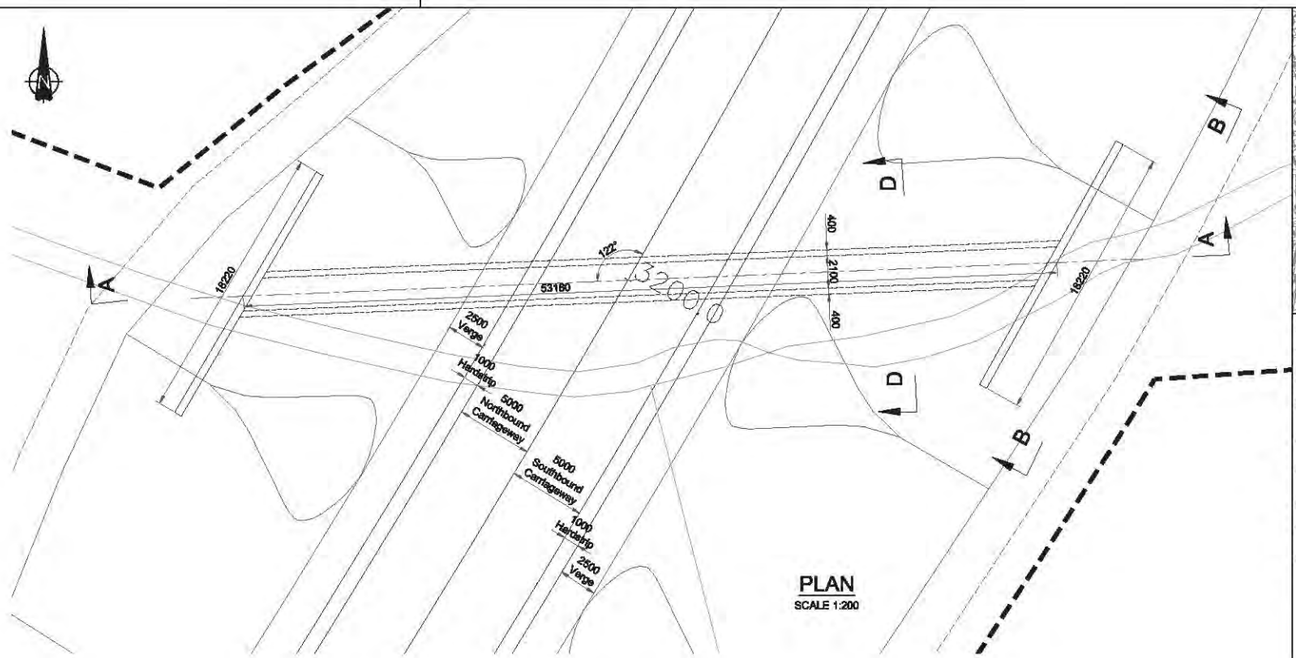
Figure 4.15



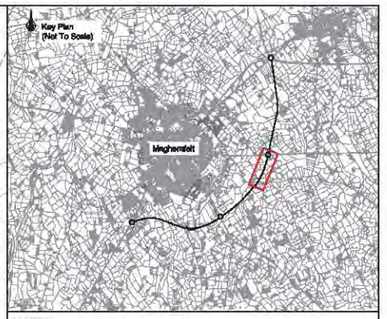
ELEVATION B-B

SCALE 1:100



PLAN

SCALE 1:200



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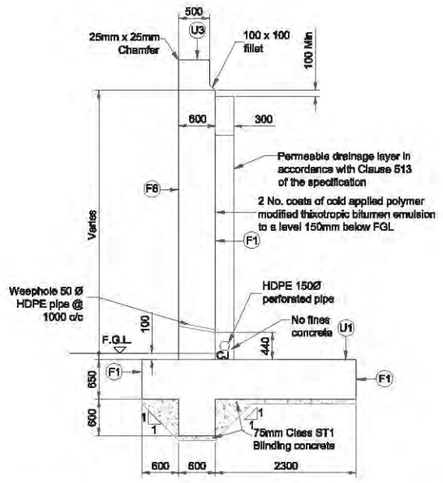
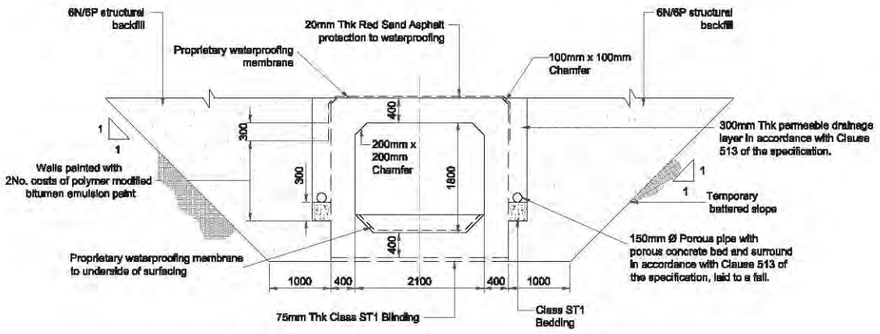


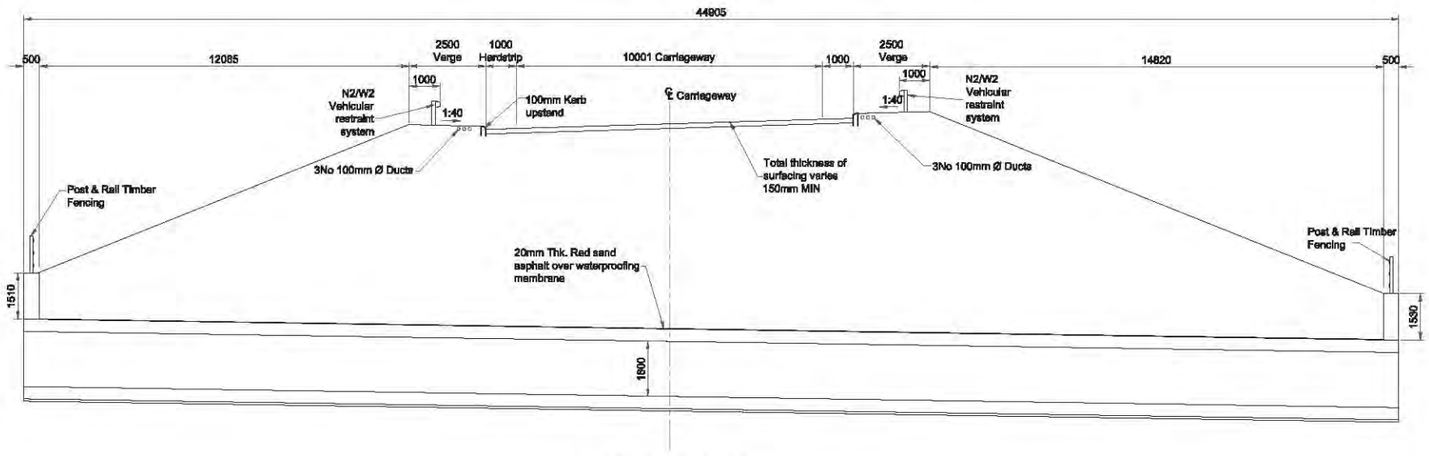
CROSS SECTION THROUGH WINGWALL C-C

SCALE 1:50



CROSS SECTION THROUGH CULVERT D-D

SCALE 1:50



SECTION A-A

SCALE 1:100

Ver	Amendment	By	Checked	Approved	Date

Drawn	Date	Checked	Date	Approved	Date
LW	12/08	BT	12/08	ALN	12/08

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Client: ROADS Service

Project: **A31 Magherafelt Bypass**

Title: **General Arrangement CH 3200m S012 Derrygarve Culvert**

Scale @ A1		Ver.
	As Shown	A
Drawing No.	720336.D.D.7012	

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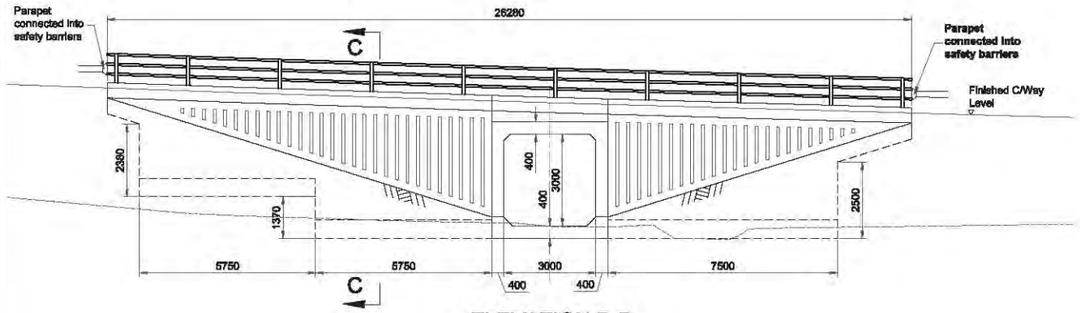
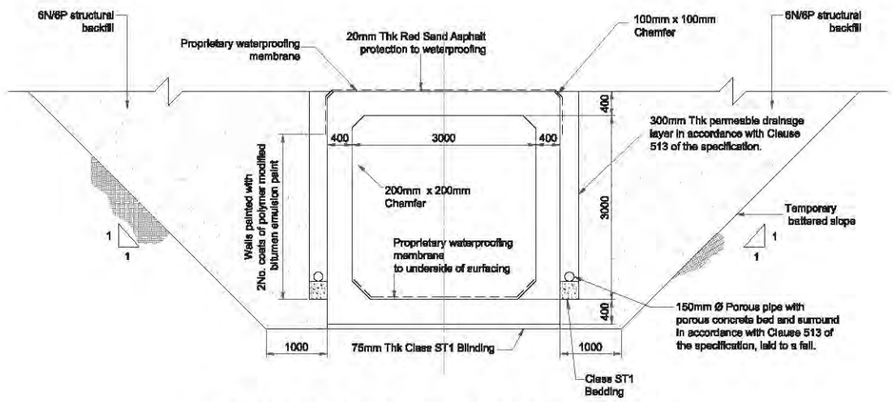
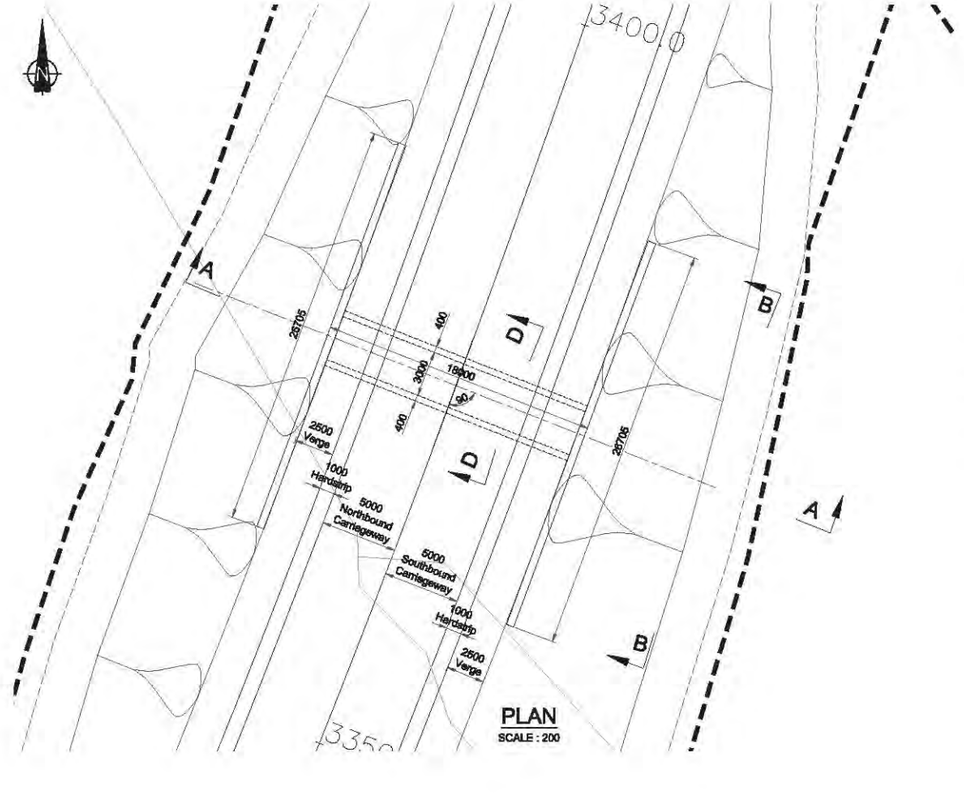
Figure 4.16



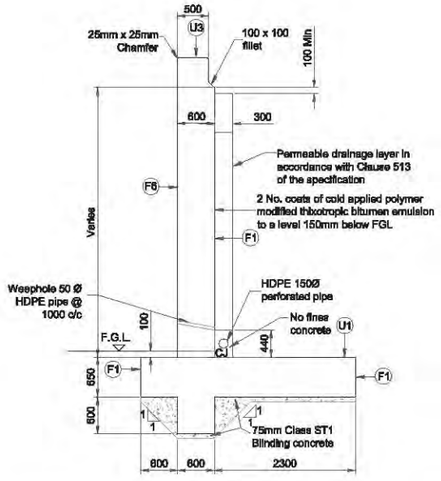
ELEVATION B-B
SCALE 1:100



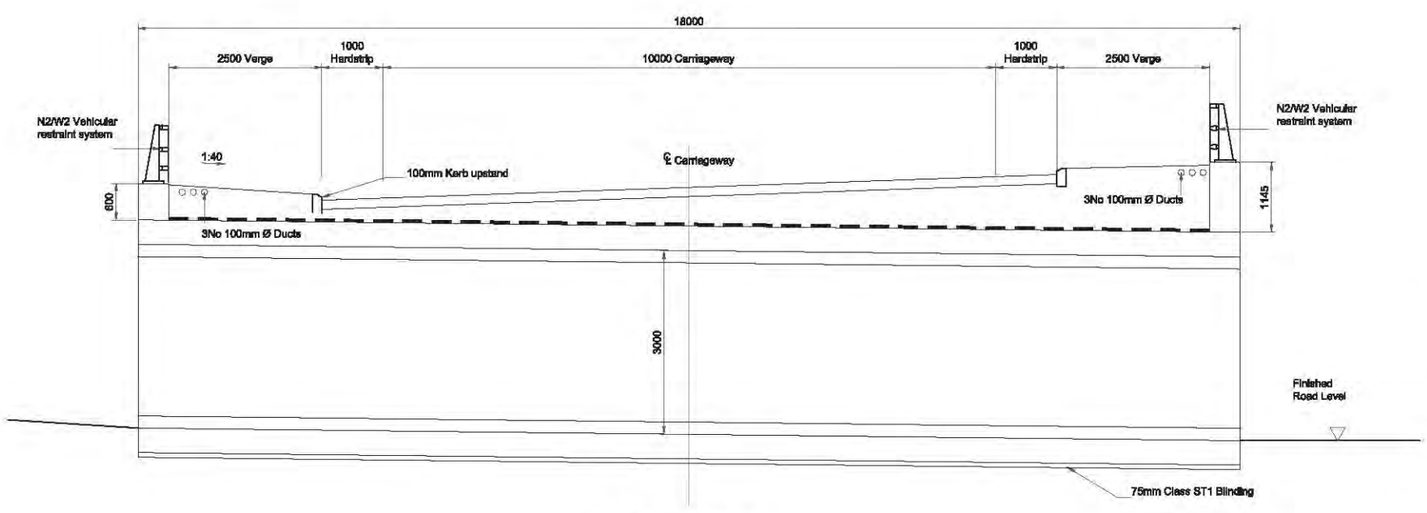
CROSS SECTION THROUGH UNDERPASS D-D
SCALE 1:50



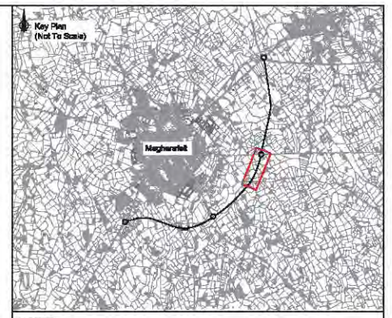
PLAN
SCALE : 200



CROSS SECTION THROUGH WINGWALL C-C
SCALE 1:50



SECTION A-A
SCALE 1:50



NOTES:

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7. All exposed concrete shall be treated with transparent anti graffiti coating.
8. Surface finishes to be in accordance with section 3.8 of the approval in principle documentation.

Ver	Amendment	By	Checked	Approved	Date

Drawn	Date	Checked	Date	Approved	Date
LW	12/08	BT	12/08	ALN	12/08

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mouchel

Client: ROADS Service

Project: **A31 Magherafelt Bypass**

Title: **General Arrangement CH 3375m S013 Cattle Underpass**

Scale @ A1: **As Shown**

Ver.: **A**

Drawing No.: **720336.D.D.7013**

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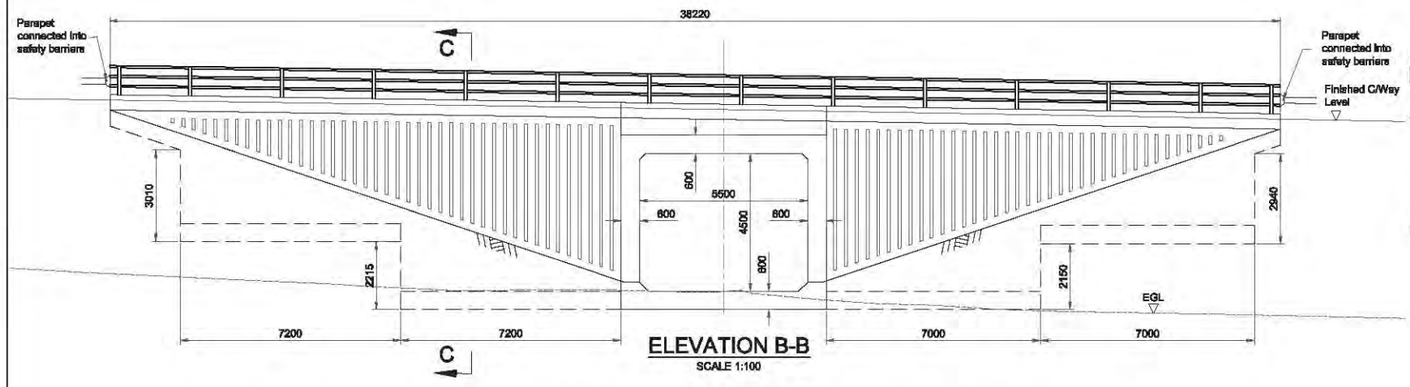
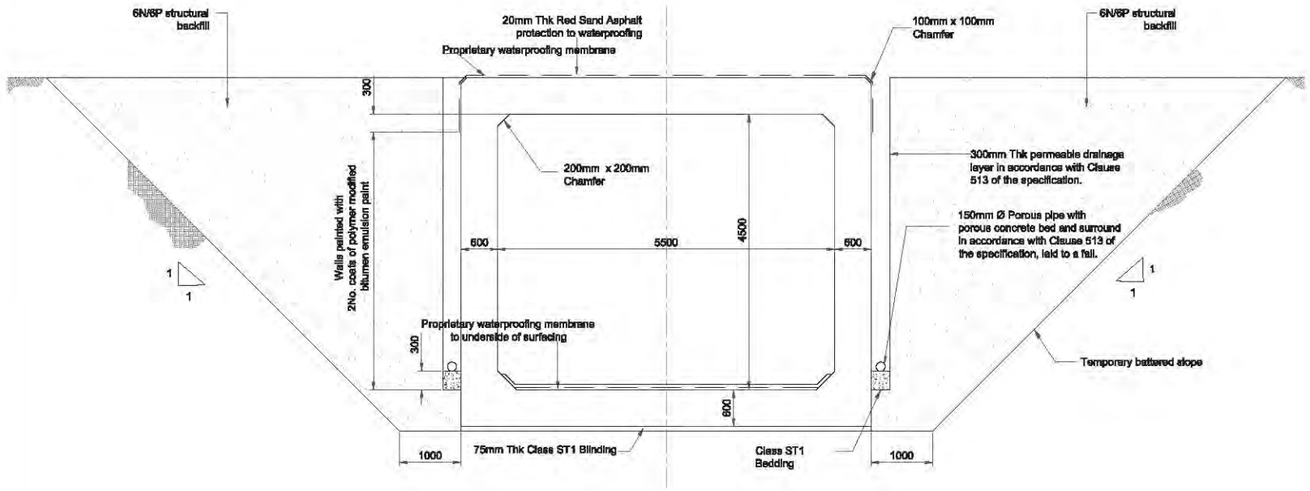
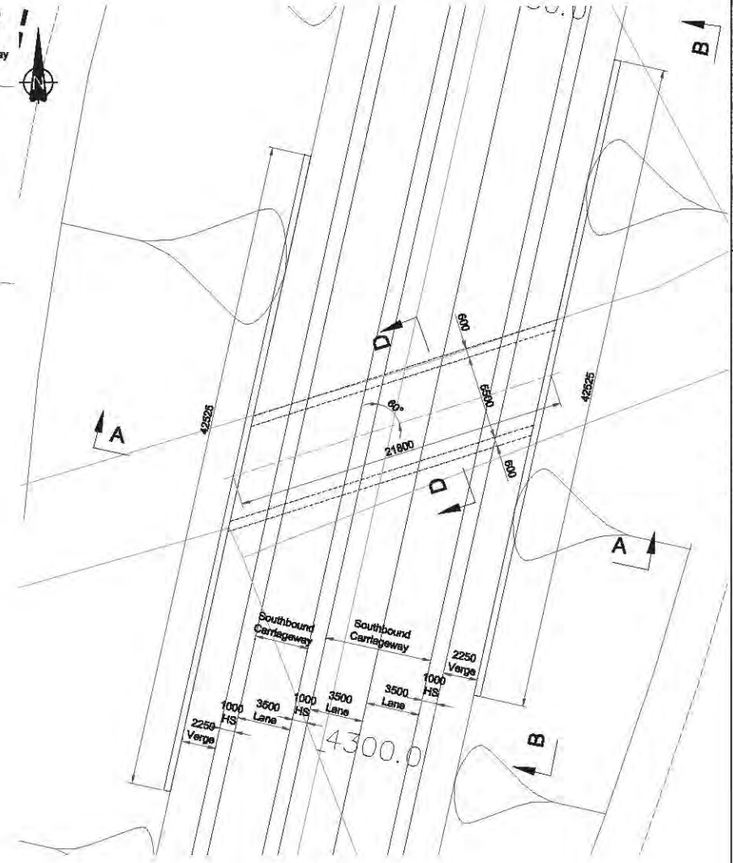
Figure 4.17



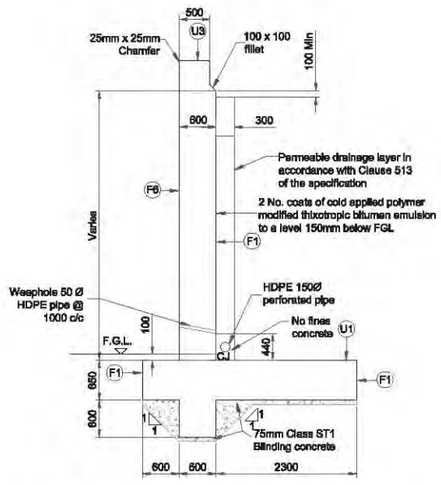
ELEVATION B-B
SCALE 1:100



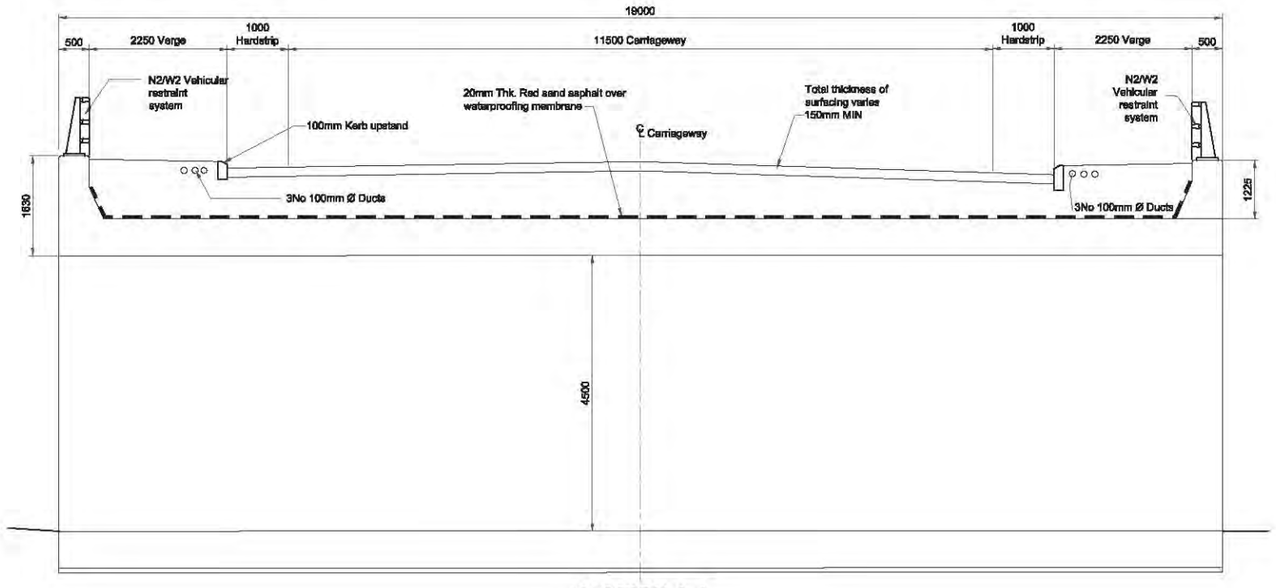
CROSS SECTION THROUGH UNDERPASS D-D
SCALE 1:50



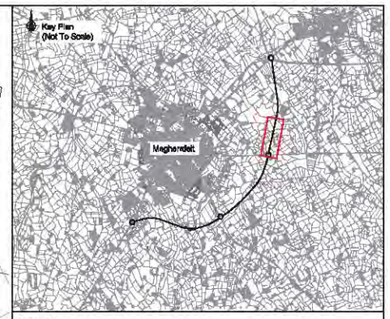
PLAN
Scale 1:200



CROSS SECTION THROUGH WINGWALL C-C
SCALE 1:50



SECTION A-A
SCALE 1:50



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Ver	Amendment	By	Checked	Approved	Date

Drawn	Date	Checked	Date	Approved	Date
LW	11/08	BT	12/08	ALN	12/08

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Client: ROADS Service

Project: **A31 Magherafelt Bypass**

Title: **General Arrangement CH 4322m S014 Farm Access Underpass**

Scale @ A1	As Shown	Ver.
Drawing No.	720336.D.D.7014	A

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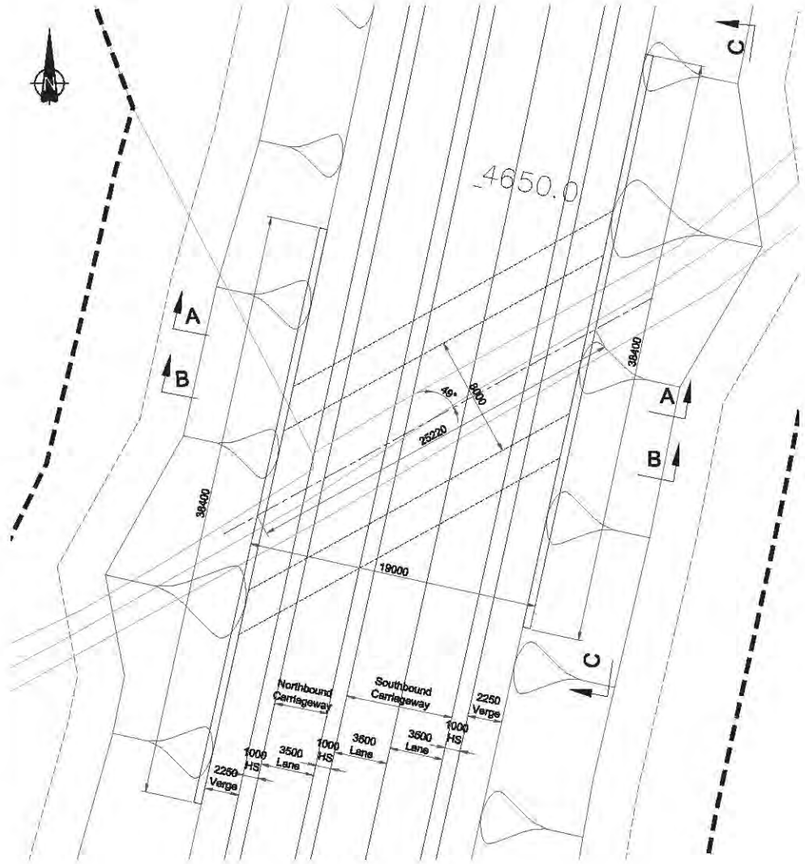
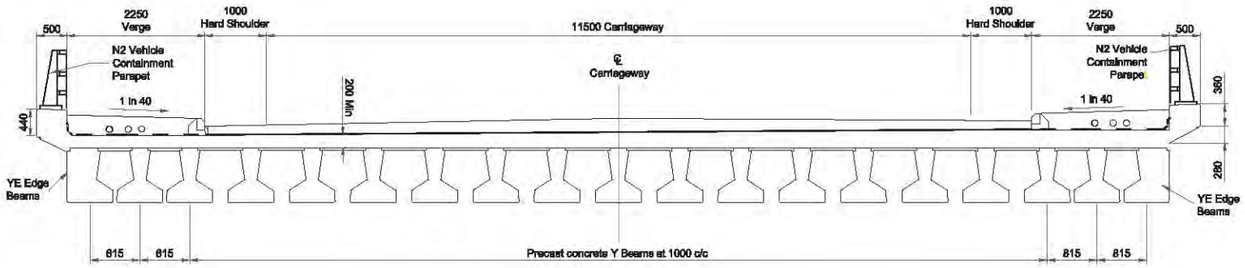
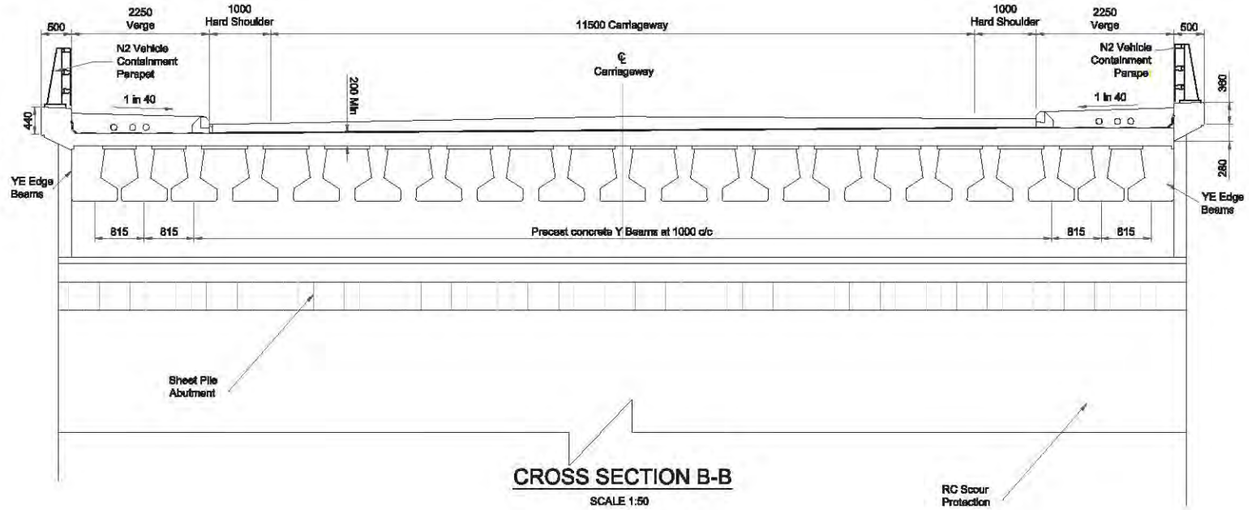
Figure 4.18



PLAN
SCALE 1:200



CROSS SECTION THROUGH UNDERBRIDGE A-A
SCALE 1:50



CROSS SECTION B-B
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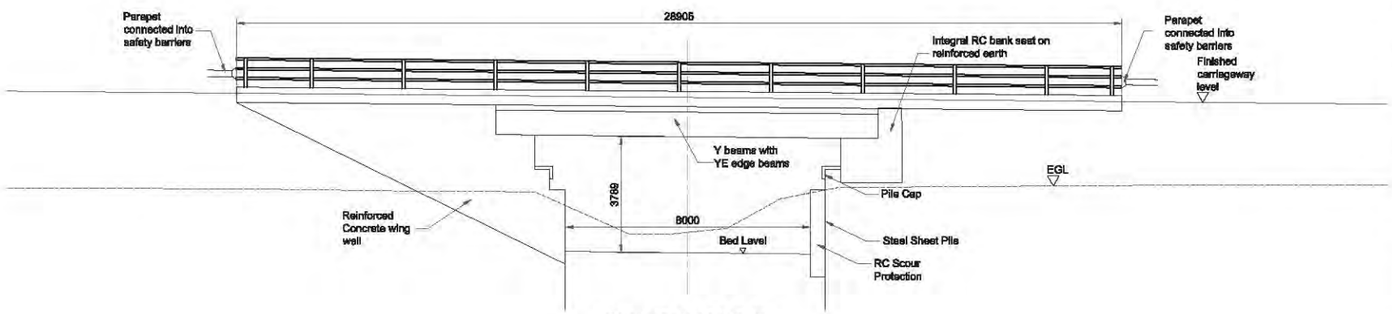
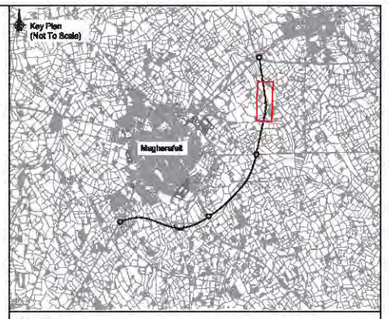


ELEVATION C-C
SCALE 1:100



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Ver	Amendment	By	Checked	Approved	Date

Drawn	Date	Checked	Date	Approved	Date
LW	12/08	BT	12/08	ALN	12/08

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Client: ROADS Service

Project: **A31 Magherafelt Bypass**

Title: **General Arrangement CH 4635m S015 Coppies River Underbridge**

Scale @ A1: **As Shown**

Drawing No.: **720336.D.D.7015**

Ver.: **A**

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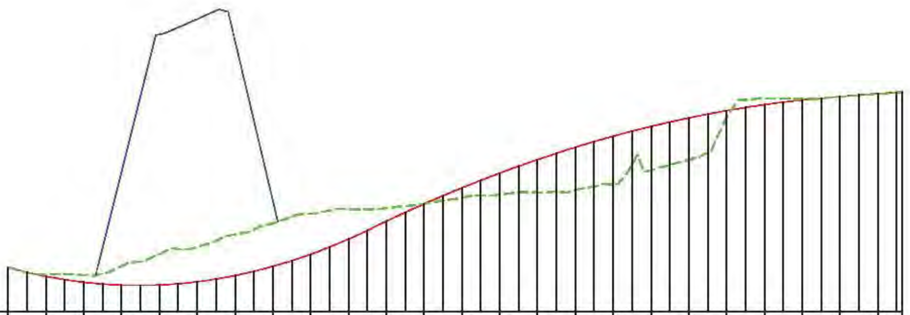
Figure 4.19



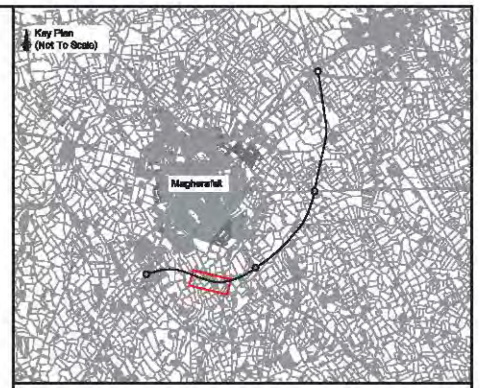
Datum=70.000m

Chainage (m)	0.0	10.0	20.0	30.0	40.0	50.0	60.0	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0	160.0	170.0	180.0	190.0	200.0	210.0	220.0	230.0	236.5
Proposed Levels (m)	71.174	70.940	70.788	70.710	70.715	70.798	70.961	71.203	71.524	71.925	72.397	72.855	73.280	73.672	74.030	74.355	74.647	74.906	75.131	75.323	75.481	75.606	75.698	75.770	75.815
Existing Levels (m)	71.174	71.001	70.976	71.213	71.527	71.717	72.045	72.342	72.599	72.711	72.741	72.864	73.016	73.104	73.161	73.222	73.375	73.751	74.025	75.145	75.652	75.639	75.696	75.770	75.815
Level Difference (m)	0.000	-0.061	-0.190	-0.503	-0.812	-0.919	-1.085	-1.139	-1.075	-0.786	-0.344	-0.009	0.264	0.568	0.869	1.133	1.272	1.154	1.105	0.177	-0.172	-0.032	0.002	0.001	
Optimised Preferred Route Level (m)			70.926		77.320 77.369	77.698 77.745	78.004 77.941	72.429																	
Gradient (%)		2.340	1.546	0.753	0.041	0.834	1.628	2.421	3.215	4.009	4.713	4.584	4.251	3.918	3.584	3.251	2.918	2.584	2.251	1.918	1.584	1.251	0.918	0.723	0.692

Horz. Schematic: 0.000 – R=127.000 – 41.496 – D – 60.695 – RL=4185.000 – 107.195 – R=-90.000 – 127.584 – RL=4185.000 – 174.084 – R=127.000 – 223.115 – D – 236.487

Vert. Schematic: 0.000 – R=1260.110 L=96.025 – 96.025 – R=-3000.000 L=124.328 – 220.353 – R – 236.487

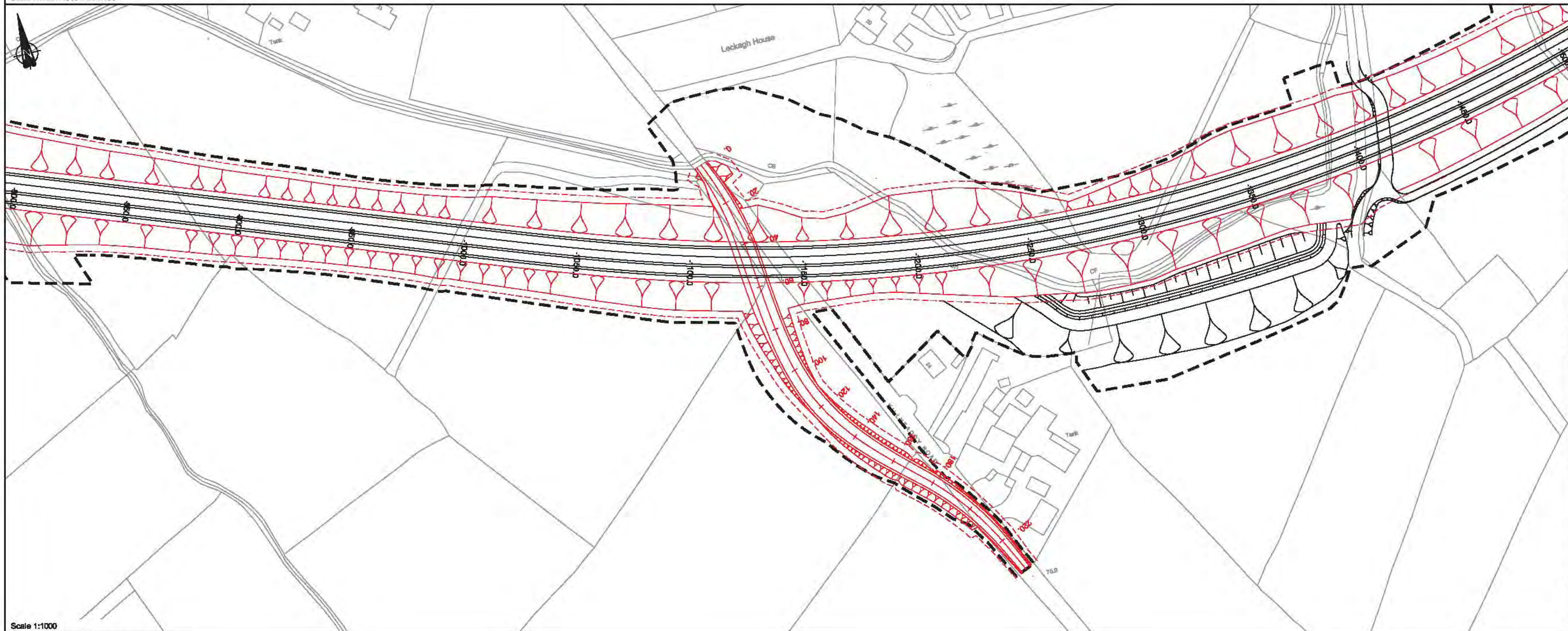
Scale Horiz:1:1000 Vert 1:100



Key

- Earthworks - Cut - OPR
- Earthworks - Fill - OPR
- Earthworks - Cut - Additional Engineering
- Earthworks - Fill - Additional Engineering
- Maintanance Strip
- Vesting Line
- Existing Levels
- Proposed Killyfaddy Road Levels
- Proposed Bypass Levels

Note:
1. Additional items in dark grey are updates to the OS Map
2. OPR = Optimised Preferred Route as published in Environmental Statement Addendum January 2009
3. Additional Engineering = works undertaken and finalised through consultation with landowners



Scale 1:1000

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Ver	Amendment	By	Checked	Approved	Date

Drawn	Date	Checked	Date	Approved	Date
SMG	26/03/09	LE	26/03/09	ALN	26/03/09

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Client: ROADS Service

Project: **A31 Magherafelt Bypass**

Title: **Optimised Preferred Route Killyfaddy Road Plan and Section**

Scale @ A1: **As Shown**

Drawing No. **720336.D.D.2318**

Ver. **A**

Figure 4-2

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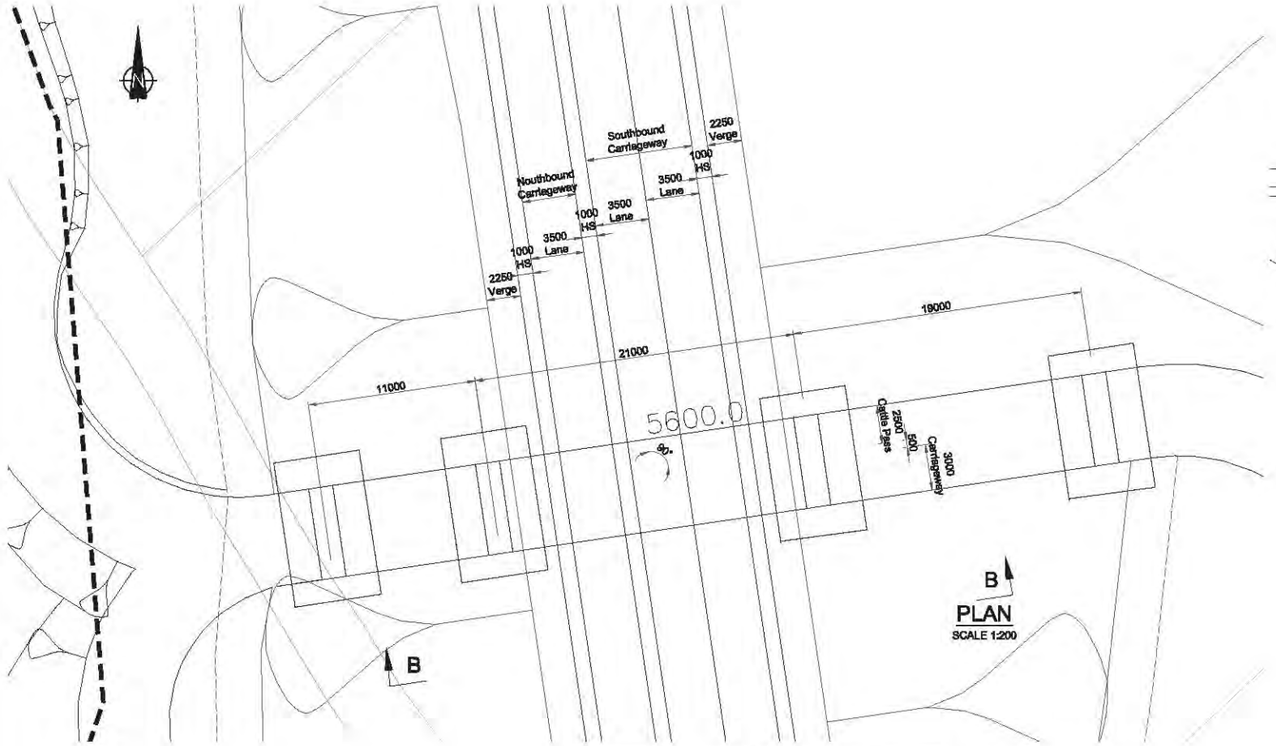
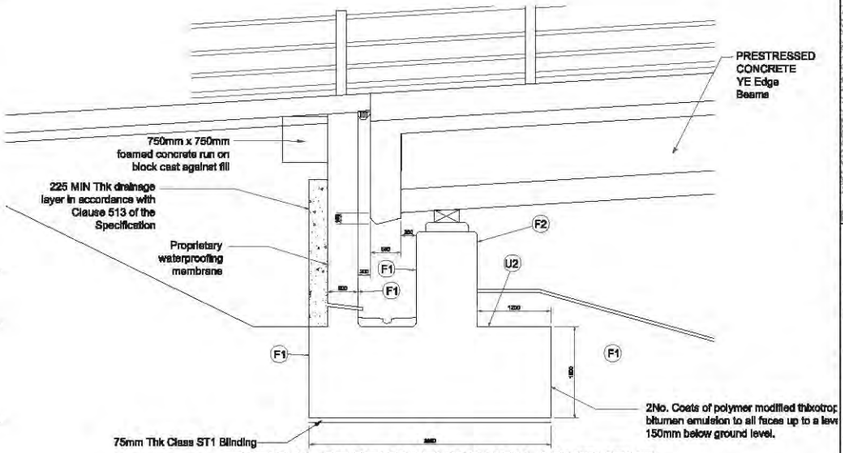
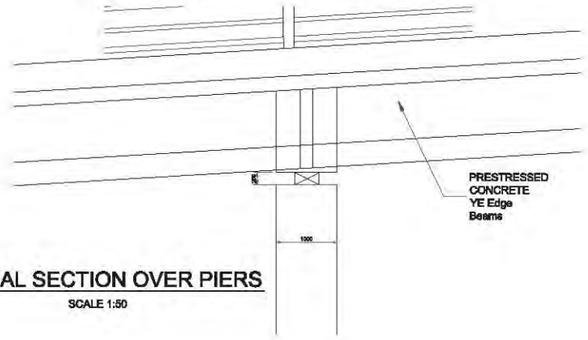


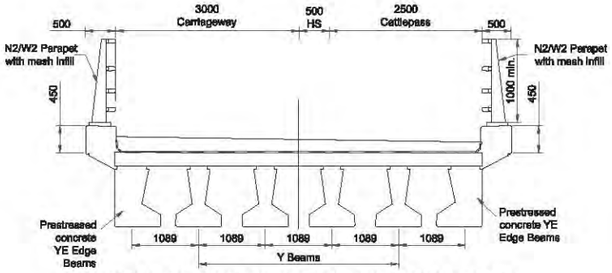
PLAN
SCALE 1:200



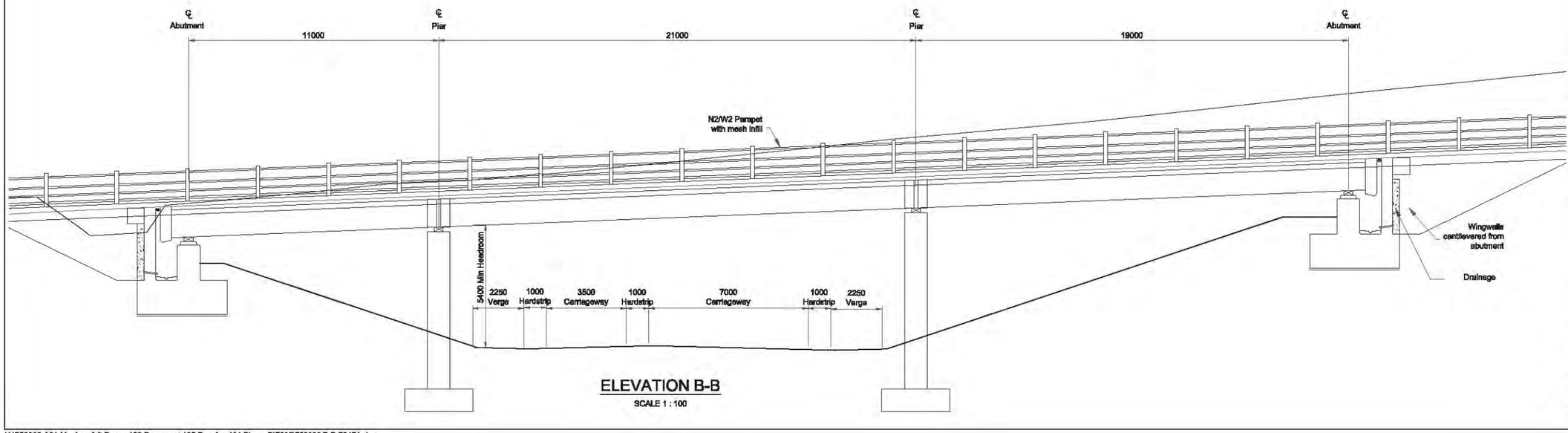
TYPICAL SECTION THROUGH ABUTMENT
SCALE 1:50



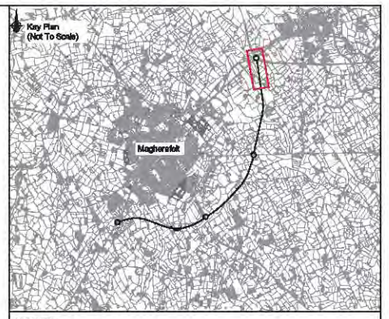
TYPICAL SECTION OVER PIERS
SCALE 1:50



TYPICAL CROSS SECTION THROUGH DECK
SCALE 1:50



ELEVATION B-B
SCALE 1 : 100



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Ver	Amendment	By	Checked	Approved	Date

Drawn	Date	Checked	Date	Approved	Date
NK	12/08	BT	12/08	ALN	12/08

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Client: ROADS Service

Project: **A31 Magherafelt Bypass**

Title: **General Arrangement CH 5597m S017 Farm Hill Overbridge**

Scale @ A1: **As Shown**

Ver.: **A**

Drawing No.: **720336.D.D.7017**

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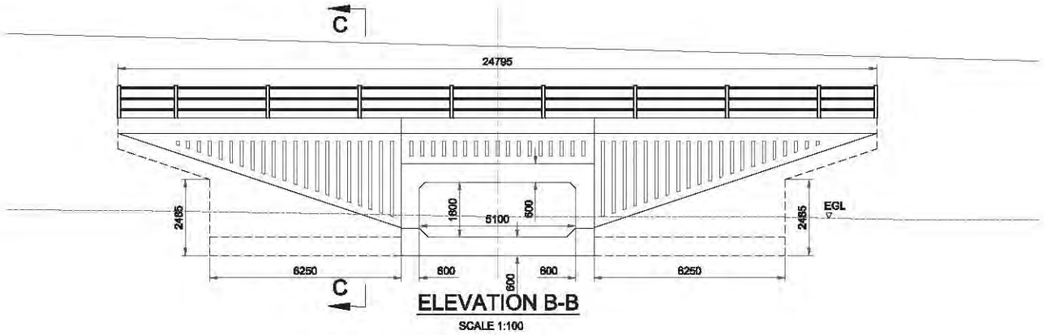
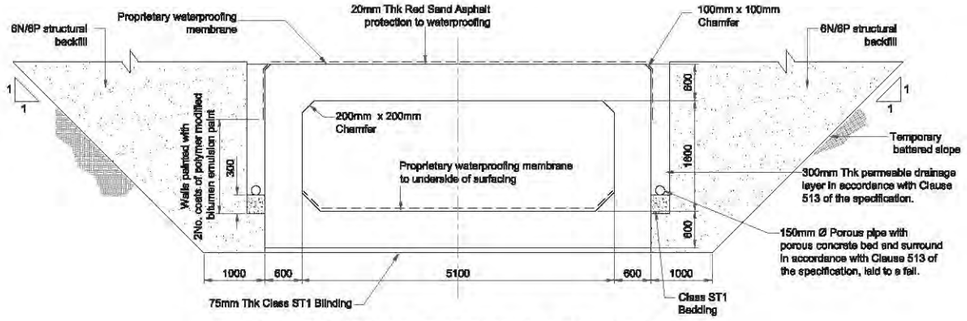
Figure 4.20



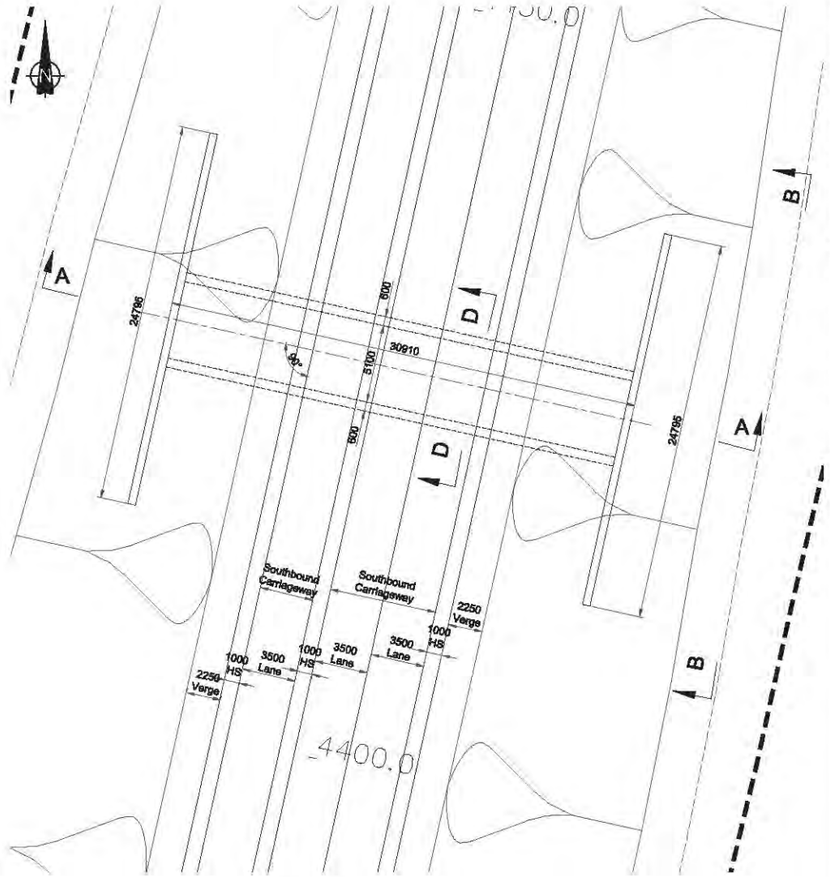
ELEVATION B-B

SCALE 1:100



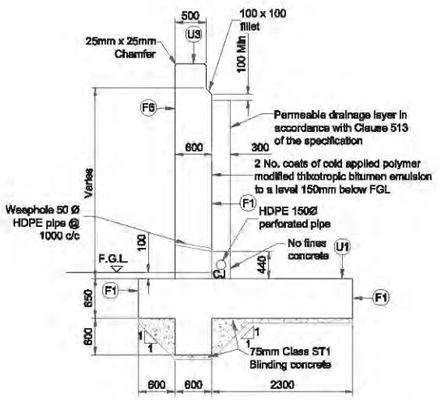
CROSS SECTION THROUGH CULVERT D-D

SCALE 1:50



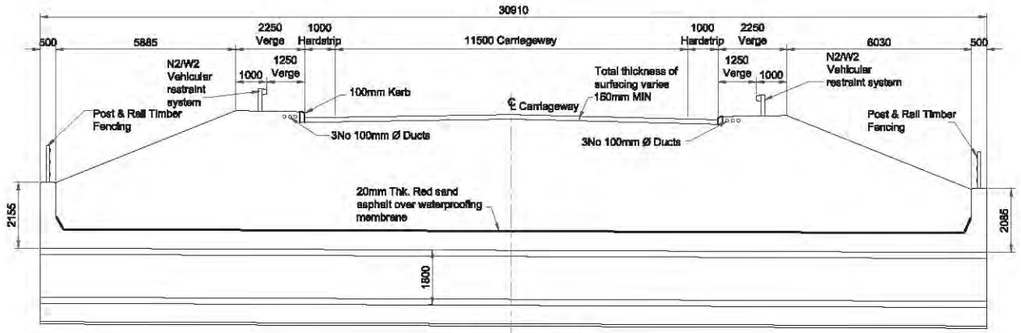
PLAN

SCALE 1:200



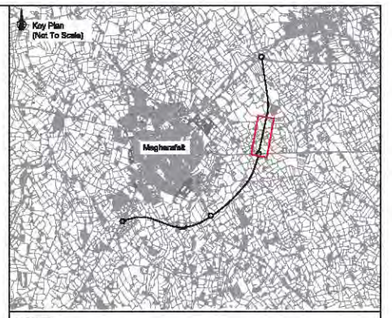
CROSS SECTION THROUGH WINGWALL C-C

SCALE 1:50



SECTION A-A

SCALE 1:100



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Drawn	Date	Checked	Date	Approved	Date
LW	12/08	BT	12/08	ALN	12/08

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Client: ROADS Service

Project: **A31 Magherafelt Bypass**

Title: **General Arrangement CH 4426m S018 Floodplain Connector No.1**

Scale @ A1		Ver.
	As Shown	A
Drawing No.	720336.D.D.7018	

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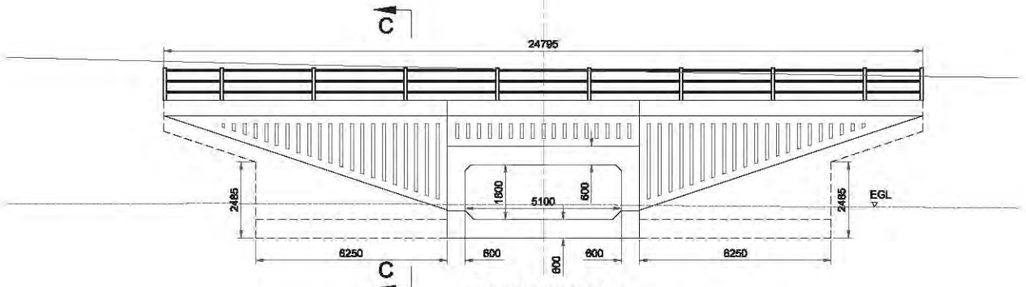
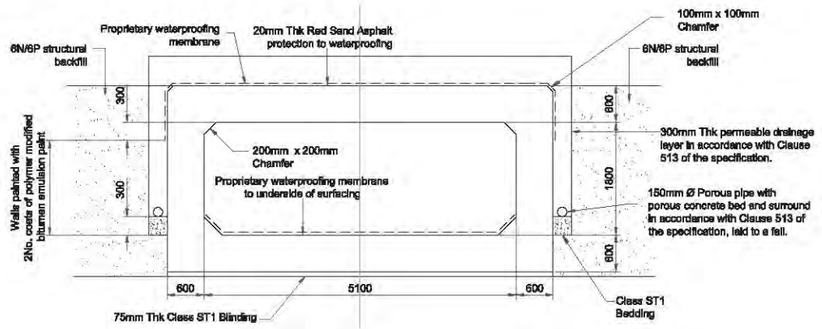
Figure 4.21



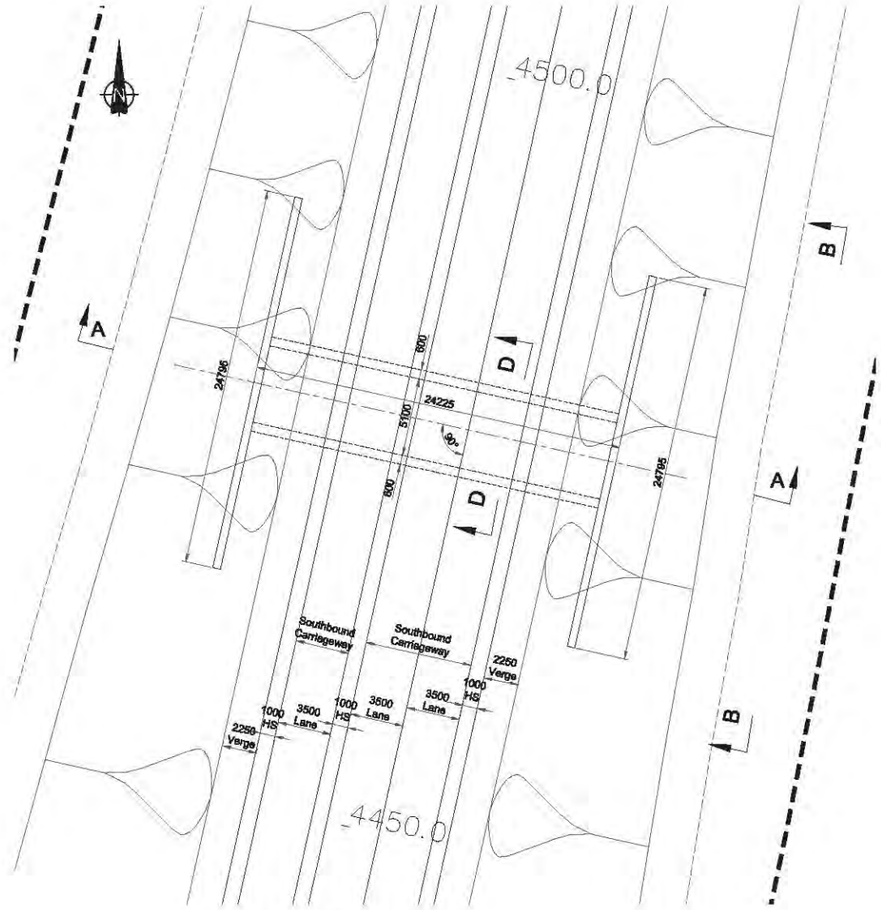
ELEVATION B-B

SCALE 1:100



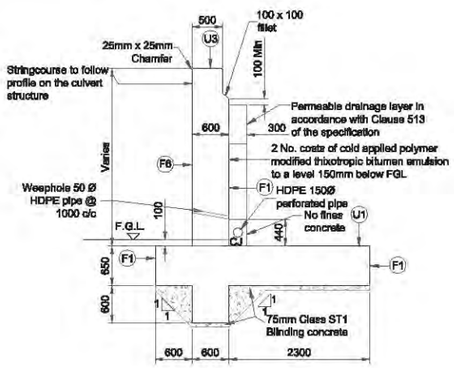
CROSS SECTION THROUGH CULVERT D-D

SCALE 1:50



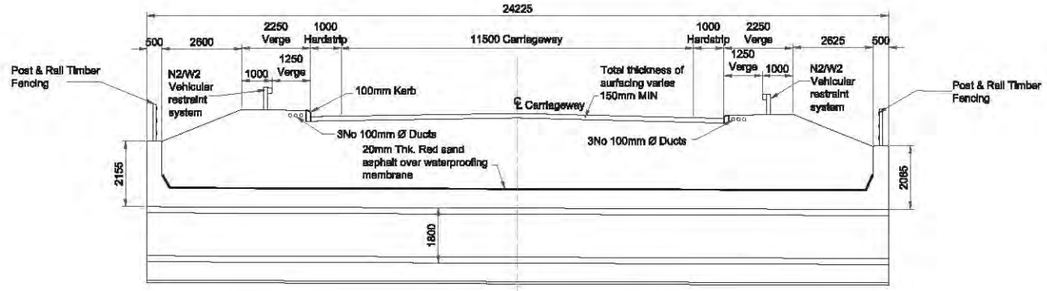
PLAN

SCALE 1:200



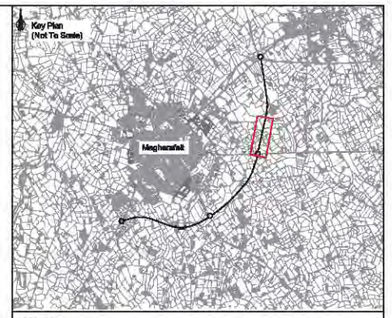
CROSS SECTION THROUGH WINGWALL C-C

SCALE 1:50



SECTION A-A

SCALE 1:100



NOTES:

1. All dimensions shall be in millimetres unless otherwise stated.
2. All levels are stated in metres above ordnance datum.
3. Geometry illustrated is indicative and subject to detailed design evaluation.
4. All exposed concrete corners to have a 25mm x 25mm chamfer.
5. All buried concrete surfaces shall be coated with 2 no. coats of thixotropic bitumen emulsion in accordance with the specification.
6. All backfill surrounding the foundations shall be class 6N/6P structural fill.
7. All exposed concrete shall be treated with transparent anti graffiti coating.
8. Surface finishes to be in accordance with section 3.8 of the approval in principle documentation.

Ver	Amendment	By	Checked	Approved	Date

Drawn	Date	Checked	Date	Approved	Date
LW	12/08	BT	12/08	ALN	12/08

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Client: ROADS Service

Project: **A31 Magheraflat Bypass**

Title: **General Arrangement CH 4477m S019 Floodplain Connector No.2**

Scale @ A1: **As Shown**

Ver.: **A**

Drawing No.: **720336.D.D.7019**

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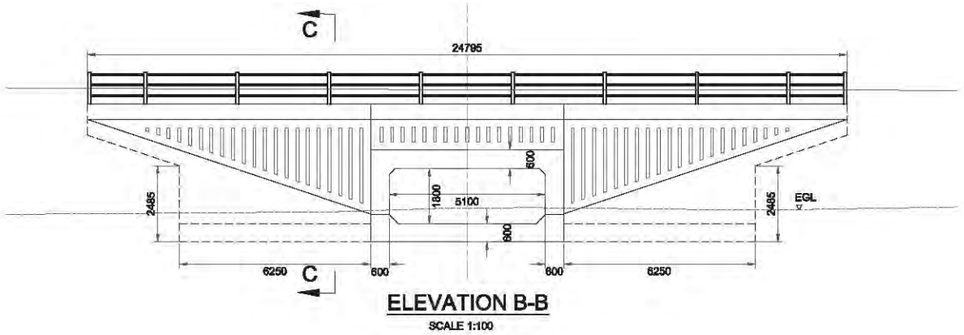
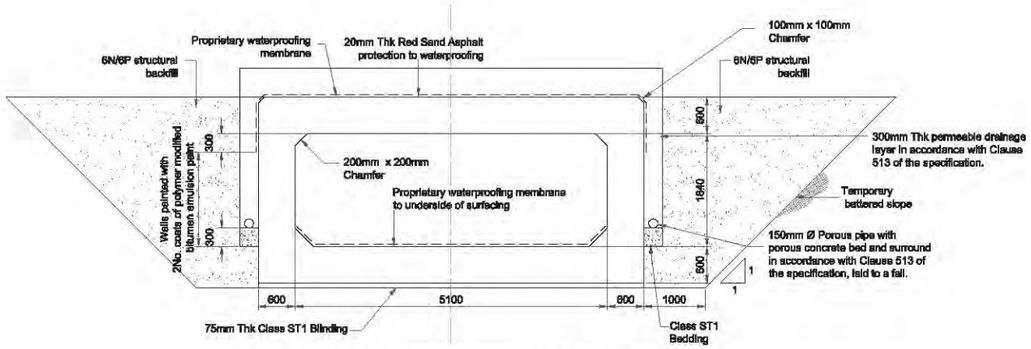
Figure 4.22



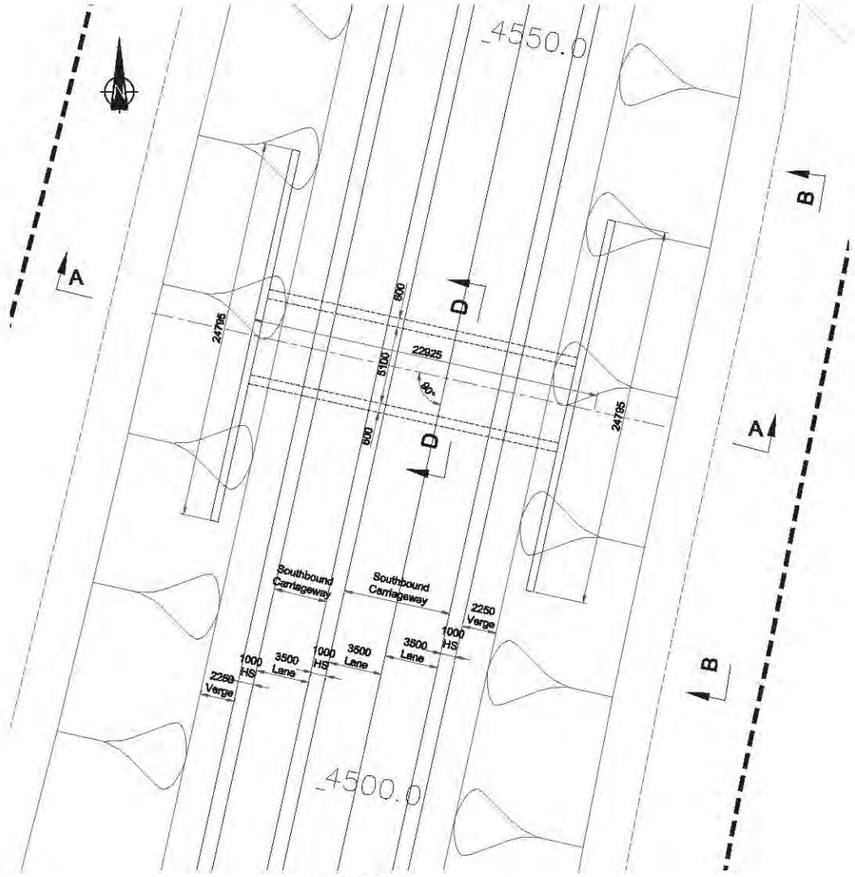
ELEVATION B-B

SCALE 1:100



CROSS SECTION THOUGH CULVERT D-D

SCALE 1:50

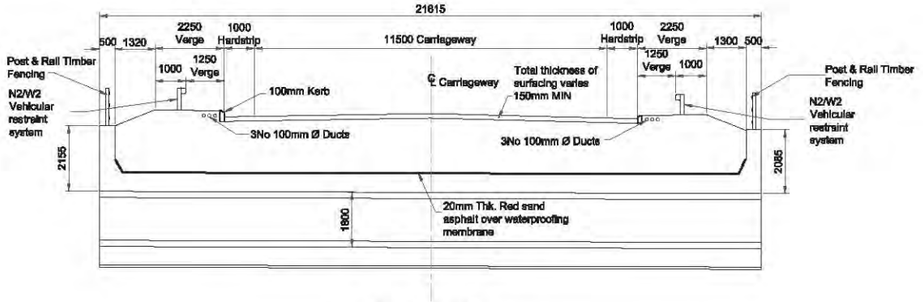


PLAN

SCALE 1:200

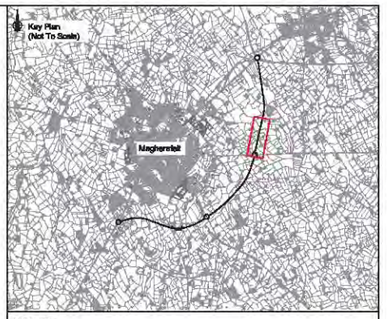
CROSS SECTION THROUGH WINGWALL C-C

SCALE 1:50



SECTION A-A

SCALE 1:100



NOTES:

1. All dimensions shall be in millimetres unless otherwise stated.
2. All levels are stated in metres above ordnance datum.
3. Geometry illustrated is indicative and subject to detailed design evaluation.
4. All exposed concrete corners to have a 25mm x 25mm chamfer.
5. All buried concrete surfaces shall be coated with 2 no. coats of thixotropic bitumen emulsion in accordance with the specification.
6. All backfill surrounding the foundations shall be class 6N/6P structural fill.
7. All exposed concrete shall be treated with transparent anti graffiti coating.
8. Surface finishes to be in accordance with section 3.8 of the approval in principle documentation.

Ver	Amendment	By	Checked	Approved	Date

Drawn	Date	Checked	Date	Approved	Date
LW	12/08	BT	12/08	ALN	12/08

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Client: ROADS Service

Project: **A31 Magherafelt Bypass**

Title: **General Arrangement CH 4528m S020 Flood Plain Connector No.3**

Scale @ A1: **As Shown**

Ver.: **A**

Drawing No.: **720336.D.D.7020**

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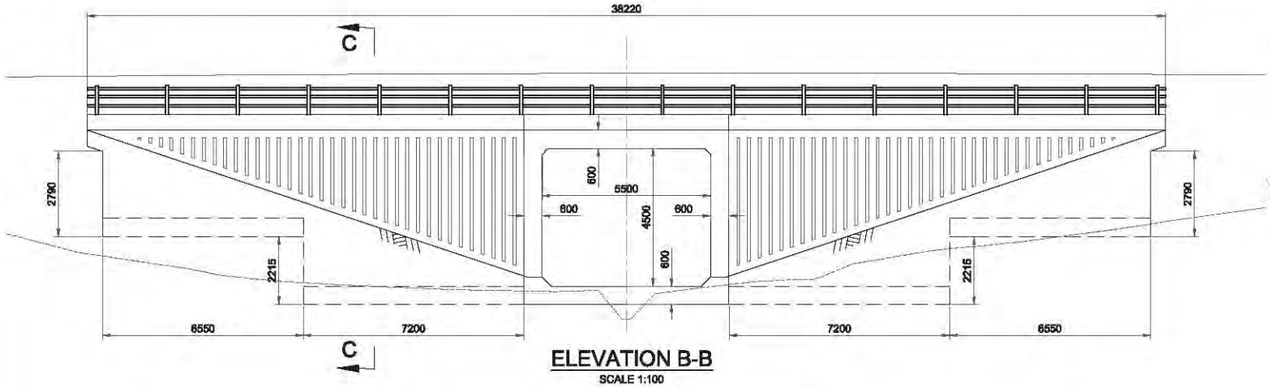
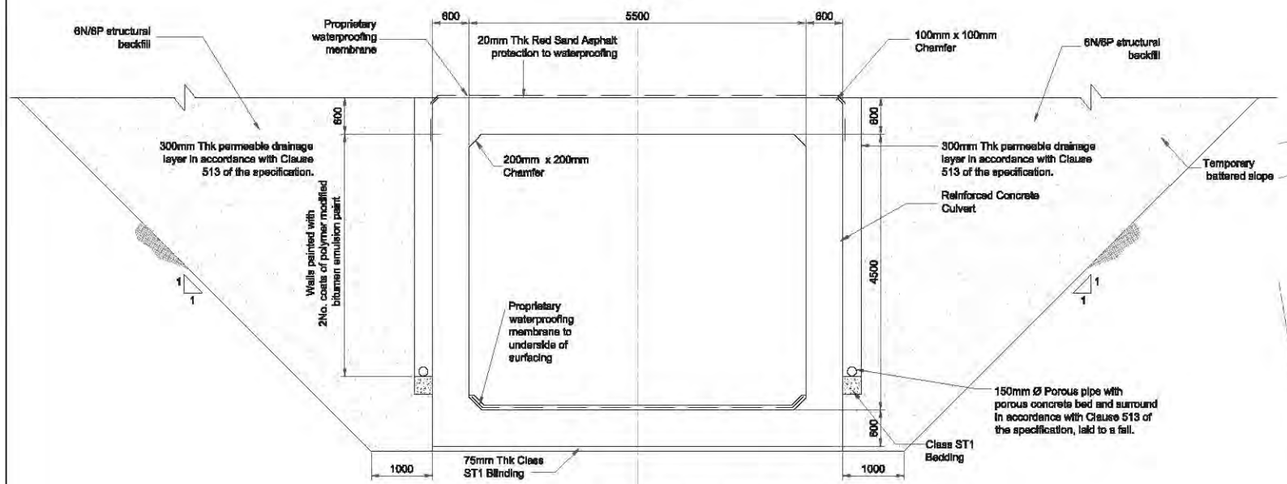
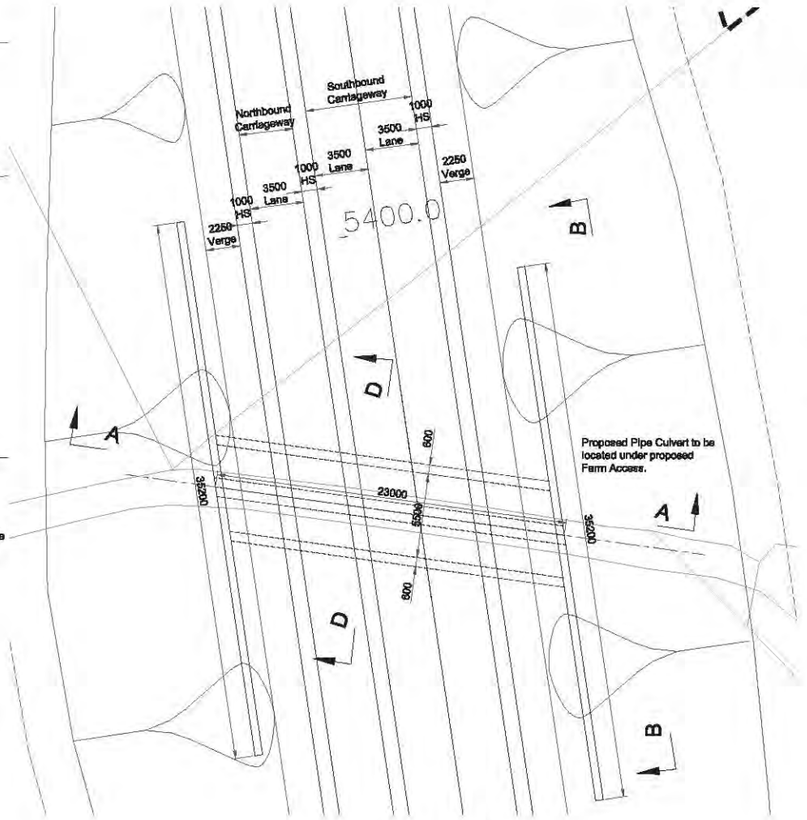
Figure 4.23



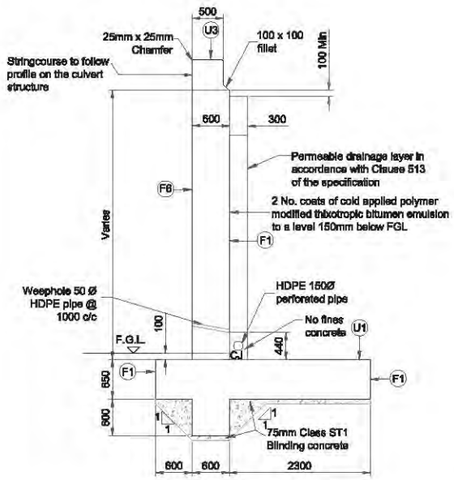
ELEVATION B-B
SCALE 1:100



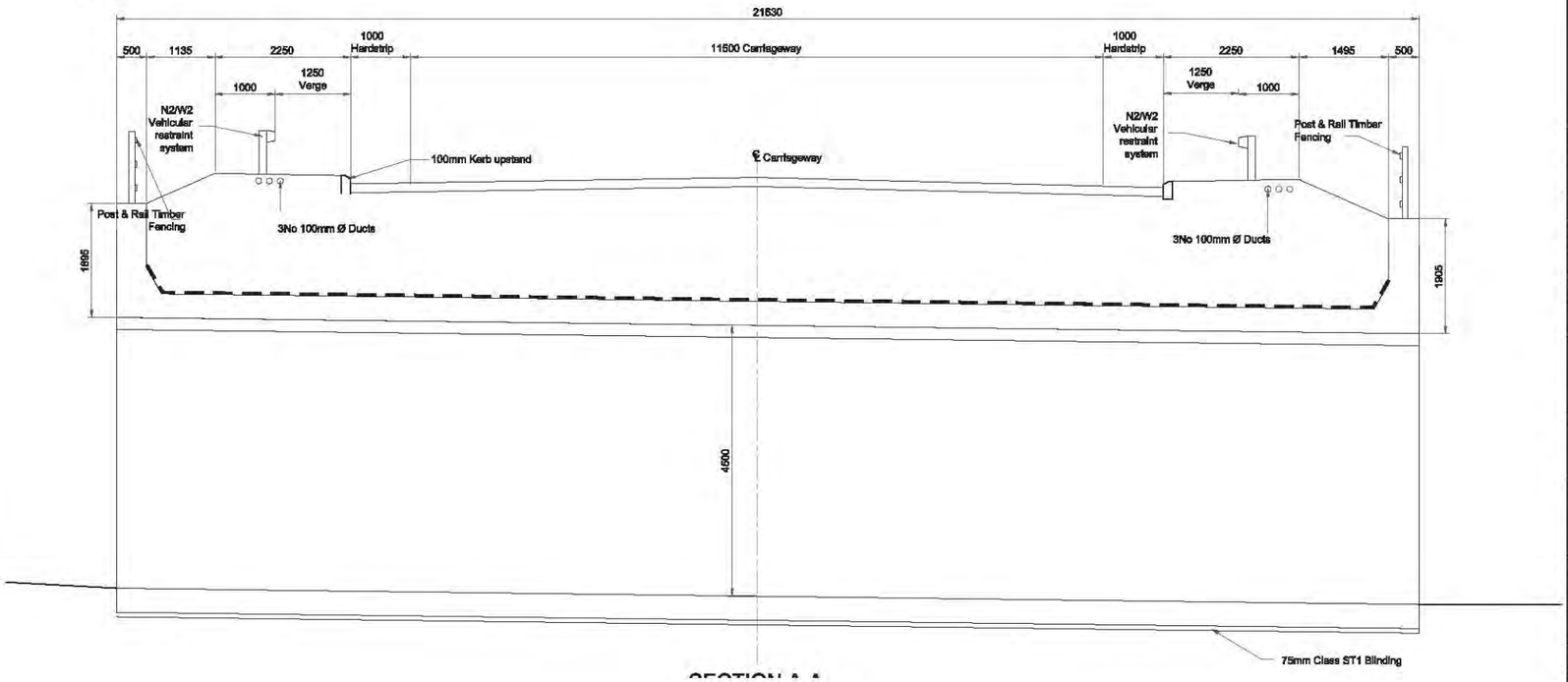
CROSS SECTION THROUGH UNDERPASS D-D
SCALE 1:50



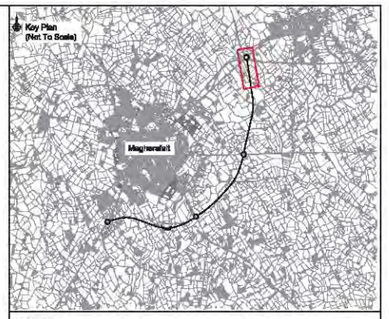
PLAN
SCALE 1:200



CROSS SECTION THROUGH WINGWALL C-C
SCALE 1:50



SECTION A-A



NOTES:

1. All dimensions shall be in millimetres unless otherwise stated.
2. All levels are stated in metres above ordnance datum.
3. Geometry illustrated is indicative and subject to detailed design evaluation.
4. All exposed concrete corners to have a 25mm x 25mm chamfer.
5. All buried concrete surfaces shall be coated with 2 no. coats of thixotropic bitumen emulsion in accordance with the specification.
6. All backfill surrounding the foundations shall be class 6N/6P structural fill.
7. All exposed concrete shall be treated with transparent anti graffiti coating.
8. Surface finishes to be in accordance with section 3.8 of the approval in principle documentation.

Ver	Amendment	By	Checked	Approved	Date

Drawn	Date	Checked	Date	Approved	Date
LW	12/08	BT	12/08	ALN	12/08

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Client: ROADS Service

Project: **A31 Magherafelt Bypass**

Title: **Gerneral Arrangement CH 5382m S021 Farm Access Underpass**

Scale @ A1: **As Shown**

Ver.: **A**

Drawing No.: **720336.D.D.7021**

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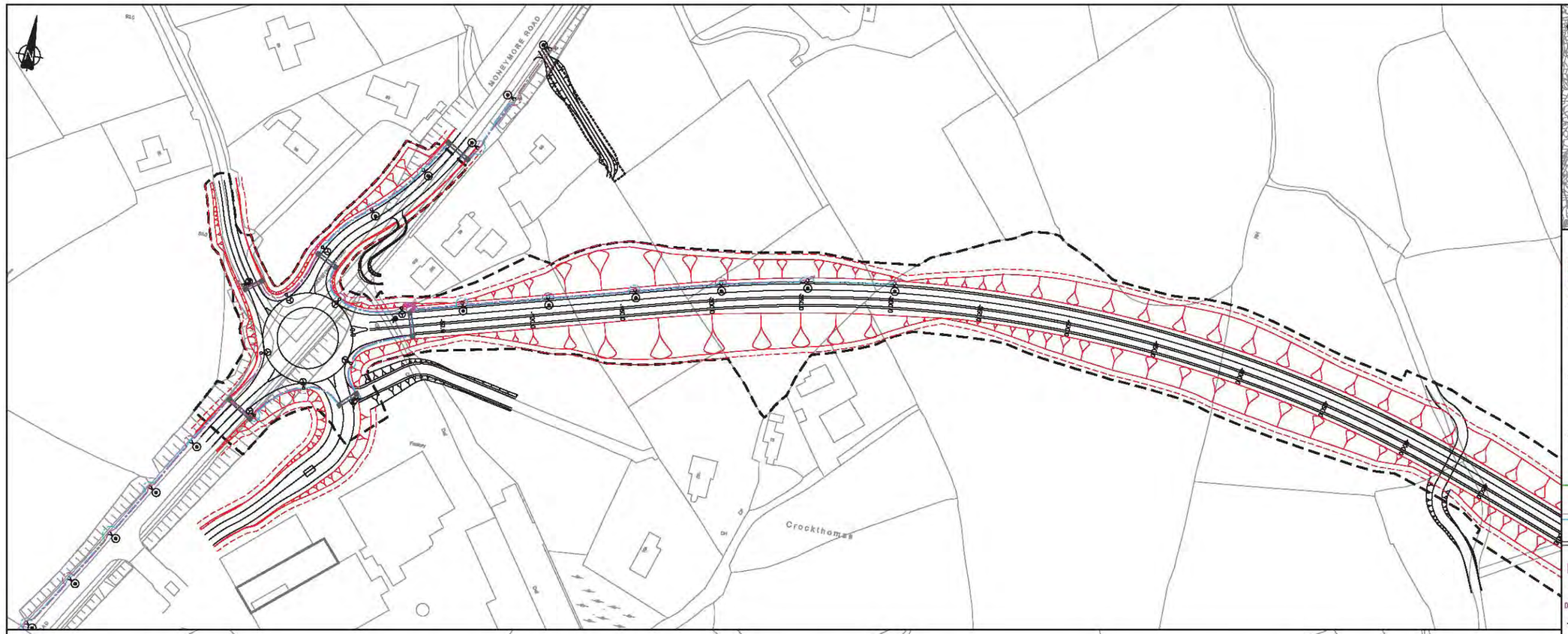
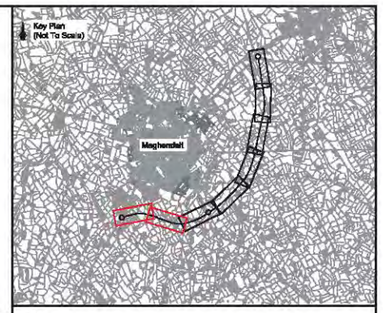
Figure 4.24





Key

- Earthworks - Cut - OPR
- Earthworks - Fill - OPR
- Earthworks - Cut - Additional Engineering
- Earthworks - Fill - Additional Engineering
- Maintenance Strip
- Vesting Line
- Proposed conical aluminium road lighting column of 12m nominal height with planted base and a single bracket arm having a projection of 0.5m with a WRTL ARC luminaire with a curved glass arrangement incorporating a 250W SON-T lamp to lamp setting 2A.
- Proposed conical aluminium road lighting column of 12m nominal height with planted base and a single bracket arm having a projection of 0.5m with a WRTL ARC luminaire with a curved glass arrangement incorporating a 250W SON-T lamp to lamp setting 1E.
- Proposed conical aluminium road lighting column of 8m nominal height with planted base and a single bracket arm having a projection of 0.5m with a WRTL ARC luminaire with a curved glass arrangement incorporating a 150W SON-T lamp to lamp setting 1E.
- Proposed 2.5mm sq. 4 core HiTuff cable in 100mm internal diameter purple polypropylene duct connected to the PEC.
- Proposed 16mm sq. 3 core XLPE/PVC/SWA/PVC cable in 100mm internal diameter orange polypropylene duct.
- Proposed 2No. 100mm internal diameter orange polypropylene cross carriageway ducts.
- Proposed SP&N Feeder Pillar.
- Proposed earth electrode with inspection pit.
- DNO/N — Distribution Network Operator New supply.
- PEC to be mounted on luminaire canopy via Nema socket.
- Proposed duct access chamber.

Note:
1. Additional items in dark grey are updates to the OS Map
2. OPR = Optimised Preferred Route as published in Environmental Statement Addendum January 2009
3. Additional Engineering = works undertaken and finalised through consultation with landowners

Ver	Amendment	By	Checked	Approved	Date

Drawn	Date	Checked	Date	Approved	Date
DaD	13/02/09	LE	26/03/09	ALN	30/03/09

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Client: ROADS Service

Project: **A31 Magherafelt Bypass**

Title: **Optimised Preferred Route Proposed Road Lighting Sheet 1 of 4**

Scale @ A1: **1:1250** Ver. **A**

Drawing No. **720336.D.D.8017**

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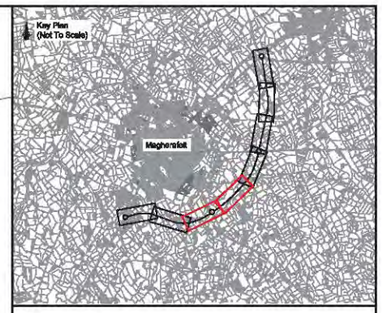
Figure 4.25.1



Key

- Earthworks - Cut - OPR
- Earthworks - Fill - OPR
- Earthworks - Cut - Additional Engineering
- Earthworks - Fill - Additional Engineering
- Maintenance Strip
- Vesting Line
- Proposed conical aluminium road lighting column of 12m nominal height with planted base and a single bracket arm having a projection of 0.5m with a WRTL ARC luminaire with a curved glass arrangement incorporating a 250W SON-T lamp to lamp setting 2A.
- Proposed conical aluminium road lighting column of 12m nominal height with planted base and a single bracket arm having a projection of 0.5m with a WRTL ARC luminaire with a curved glass arrangement incorporating a 250W SON-T lamp to lamp setting 1E.
- Proposed conical aluminium road lighting column of 8m nominal height with planted base and a single bracket arm having a projection of 0.5m with a WRTL ARC luminaire with a curved glass arrangement incorporating a 150W SON-T lamp to lamp setting 1E.
- Proposed 2.5mm sq. 4 core HiTuff cable in 100mm internal diameter purple polypropylene duct connected to the PEC.
- Proposed 16mm sq. 3 core XLPE/PVC/SWA/PVC cable in 100mm internal diameter orange polypropylene duct.
- Proposed 2No. 100mm internal diameter orange polypropylene cross carriageway ducts.
- Proposed SP&N Feeder Pillar.
- Proposed earth electrode with inspection pit.
- DNO/N — Distribution Network Operator New supply.
- PEC to be mounted on luminaire canopy via Nema socket.
- Proposed duct access chamber.

Note:
1. Additional items in dark grey are updates to the OS Map
2. OPR = Optimised Preferred Route as published in Environmental Statement Addendum January 2009
3. Additional Engineering = works undertaken and finalised through consultation with landowners

Ver	Amendment	By	Checked	Approved	Date

Drawn	Date	Checked	Date	Approved	Date
DaD	13/02/09	LE	26/03/09	ALN	30/03/09

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Client: ROADS Service

Project: **A31 Magherafelt Bypass**

Title: **Optimised Preferred Route Proposed Road Lighting Sheet 2 of 4**

Scale @ A1	1:1250	Ver.
Drawing No.	720336.D.D.8017	A

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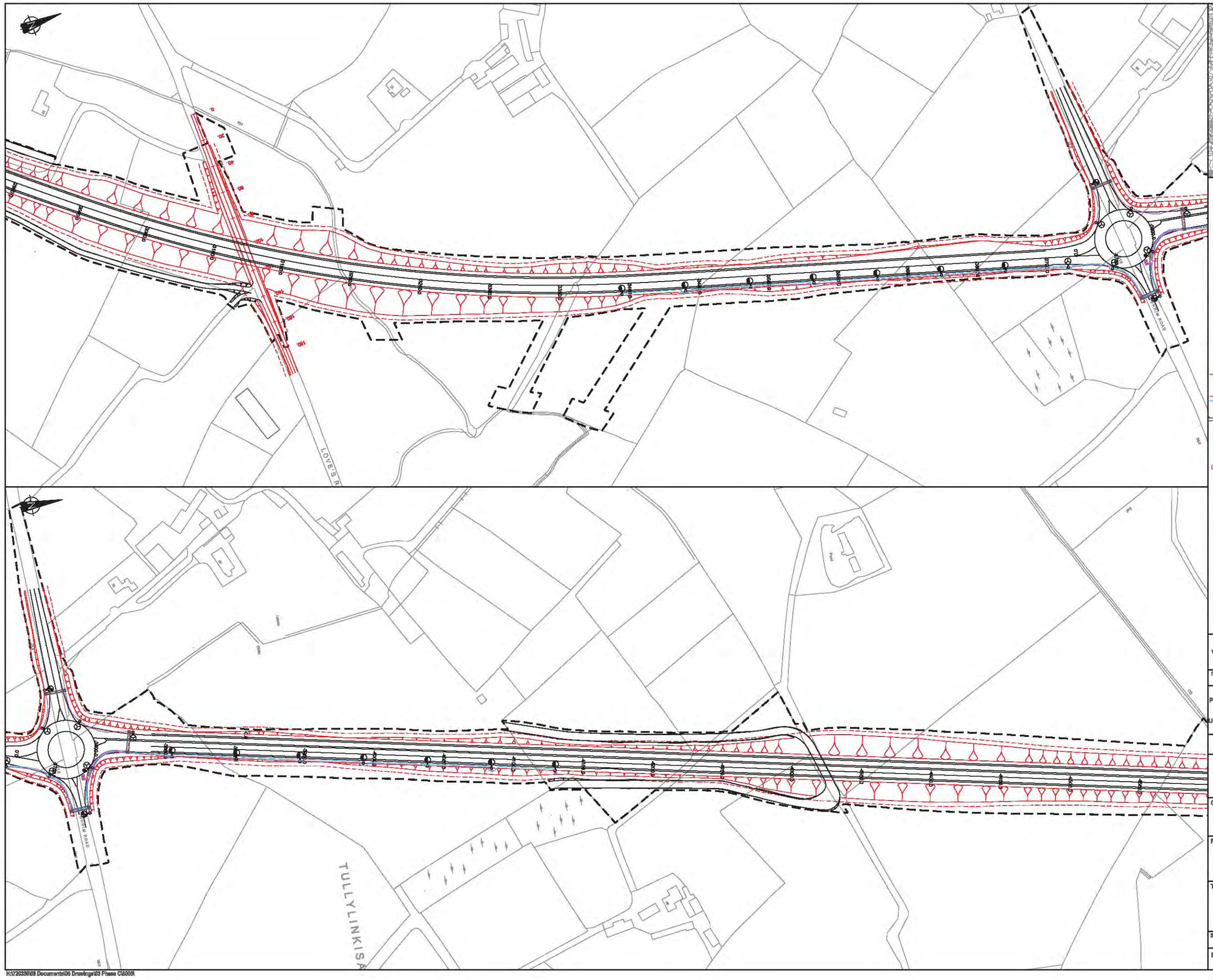
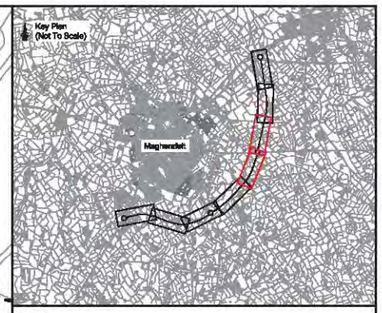
Figure 4.25.2





Key

- Earthworks - Cut - OPR
- Earthworks - Fill - OPR
- Earthworks - Cut - Additional Engineering
- Earthworks - Fill - Additional Engineering
- Maintenance Strip
- Vesting Line
- Proposed conical aluminium road lighting column of 12m nominal height with planted base and a single bracket arm having a projection of 0.5m with a WRTL ARC luminaire with a curved glass arrangement incorporating a 250W SON-T lamp to lamp setting 2A.
- Proposed conical aluminium road lighting column of 12m nominal height with planted base and a single bracket arm having a projection of 0.5m with a WRTL ARC luminaire with a curved glass arrangement incorporating a 250W SON-T lamp to lamp setting 1E.
- Proposed conical aluminium road lighting column of 8m nominal height with planted base and a single bracket arm having a projection of 0.5m with a WRTL ARC luminaire with a curved glass arrangement incorporating a 150W SON-T lamp to lamp setting 1E.
- Proposed 2.5mm sq. 4 core HiTuff cable in 100mm internal diameter purple polypropylene duct connected to the PEC.
- Proposed 16mm sq. 3 core XLPE/PVC/SWA/PVC cable in 100mm internal diameter orange polypropylene duct.
- Proposed 2No. 100mm internal diameter orange polypropylene cross carriageway ducts.
- Proposed SP&N Feeder Pillar.
- Proposed earth electrode with inspection pit.
- DNO/N Distribution Network Operator New supply.
- PEC to be mounted on luminaire canopy via Nema socket.

Note:
1. Additional items in dark grey are updates to the OS Map
2. OPR = Optimised Preferred Route as published in Environmental Statement Addendum January 2009
3. Additional Engineering = works undertaken and finalised through consultation with landowners

Ver	Amendment	By	Checked	Approved	Date

Drawn	Date	Checked	Date	Approved	Date
DaD	13/02/09	LE	26/03/09	ALN	30/03/09

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Client: ROADS Service

Project: **A31 Magherafelt Bypass**

Title: **Optimised Preferred Route Proposed Road Lighting Sheet 3 of 4**

Scale @ A1	1:1250	Ver.
Drawing No.	720336.D.D.8017	A

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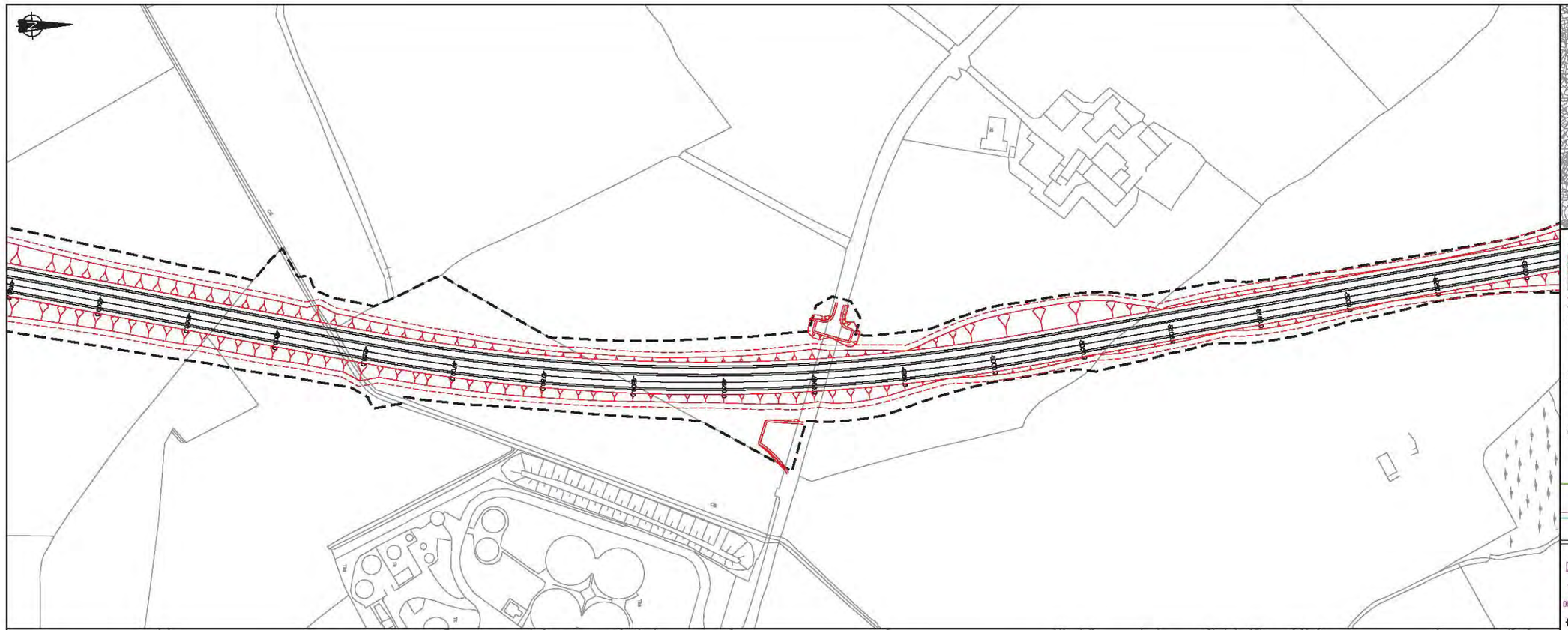
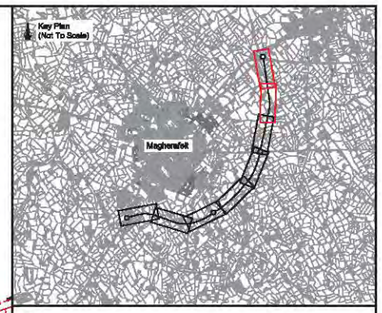
Figure 4.25.3





Key

- Earthworks - Cut - OPR
- Earthworks - Fill - OPR
- Earthworks - Cut - Additional Engineering
- Earthworks - Fill - Additional Engineering
- Maintenance Strip
- Vesting Line
- Proposed conical aluminium road lighting column of 12m nominal height with planted base and a single bracket arm having a projection of 0.5m with a WRTL ARC luminaire with a curved glass arrangement incorporating a 250W SON-T lamp to lamp setting 2A.
- Proposed conical aluminium road lighting column of 12m nominal height with planted base and a single bracket arm having a projection of 0.5m with a WRTL ARC luminaire with a curved glass arrangement incorporating a 250W SON-T lamp to lamp setting 1E.
- Proposed conical aluminium road lighting column of 8m nominal height with planted base and a single bracket arm having a projection of 0.5m with a WRTL ARC luminaire with a curved glass arrangement incorporating a 150W SON-T lamp to lamp setting 1E.
- Proposed 2.5mm sq. 4 core HiTuff cable in 100mm internal diameter purple polypropylene duct connected to the PEC.
- Proposed 16mm sq. 3 core XLPE/PVC/SWA/PVC cable in 100mm internal diameter orange polypropylene duct.
- Proposed 2No. 100mm internal diameter orange polypropylene cross carriageway ducts.
- Proposed SP&N Feeder Pillar.
- Proposed earth electrode with inspection pit.
- Distribution Network Operator New supply.
- PEC to be mounted on luminaire canopy via Nema socket.
- Proposed duct access chamber.

Note:
1. Additional items in dark grey are updates to the OS Map
2. OPR = Optimised Preferred Route as published in Environmental Statement Addendum January 2009
3. Additional Engineering = works undertaken and finalised through consultation with landowners

Ver	Amendment	By	Checked	Approved	Date

Drawn	Date	Checked	Date	Approved	Date
DaD	13/02/09	LE	26/03/09	ALN	30/03/09

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Client: ROADS Service

Project: **A31 Magherafelt Bypass**

Title: **Optimised Preferred Route Proposed Road Lighting Sheet 4 of 4**

Scale @ A1	1:1250	Ver.
Drawing No.	720336.D.D.8017	A

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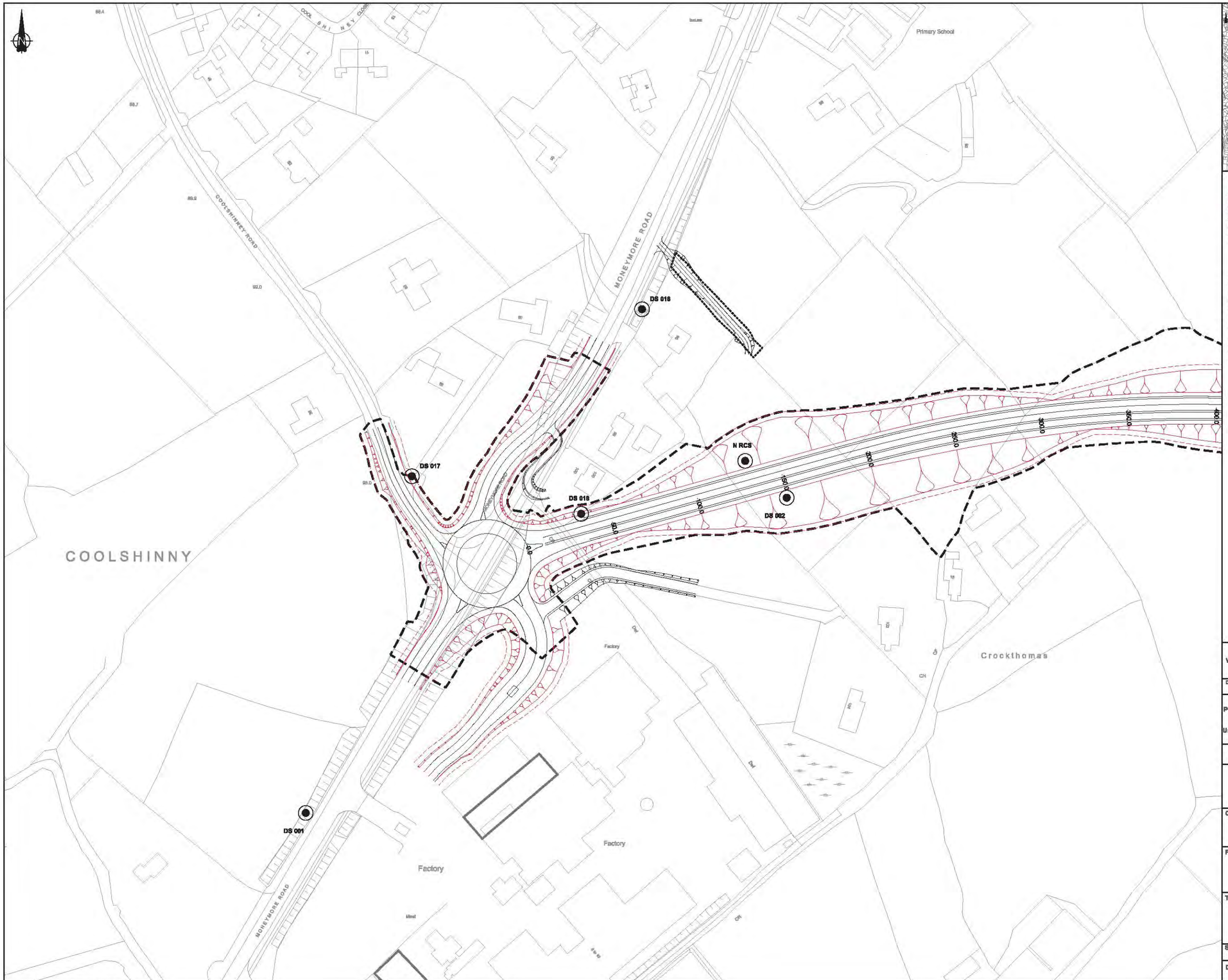
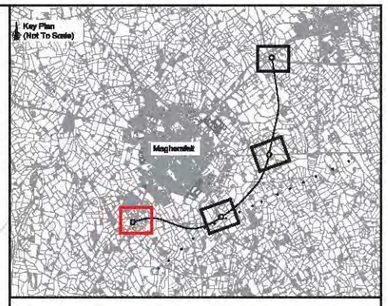
Figure 4.25.4





Key

- Earthworks - Cut - OPR
- Earthworks - Fill - OPR
- Earthworks - Cut - Additional Engineering
- Earthworks - Fill - Additional Engineering
- Maintenance Strip
- Vesting Line
- Position of sign

Note:
1. Additional items in dark grey are updates to the OS Map
2. OPR = Optimised Preferred Route as published in Environmental Statement Addendum January 2009
3. Additional Engineering = works undertaken and finalised through consultation with landowners
4. Sign references relate to those in drawing number 720336.D.D.2320
5. Distance of advanced direction signs from junctions are taken from Appendix A of Local Transport Note 1/94 as advised in Paragraph 1.2 of Traffic Signs Manual Chapter 7.

Ver	Amendment	By	Checked	Approved	Date

Drawn	Date	Checked	Date	Approved	Date
JAC	27/03/09	DR	27/03/09	ALN	30/03/09

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Client: ROADS Service

Project: **A31 Magherafelt Bypass**

Title: **Optimised Preferred Route Road Signage Location Plan Sheet 1 of 4**

Scale @ A1: **1:1000**

Ver.: **A**

Drawing No.: **720336.D.D.2292**

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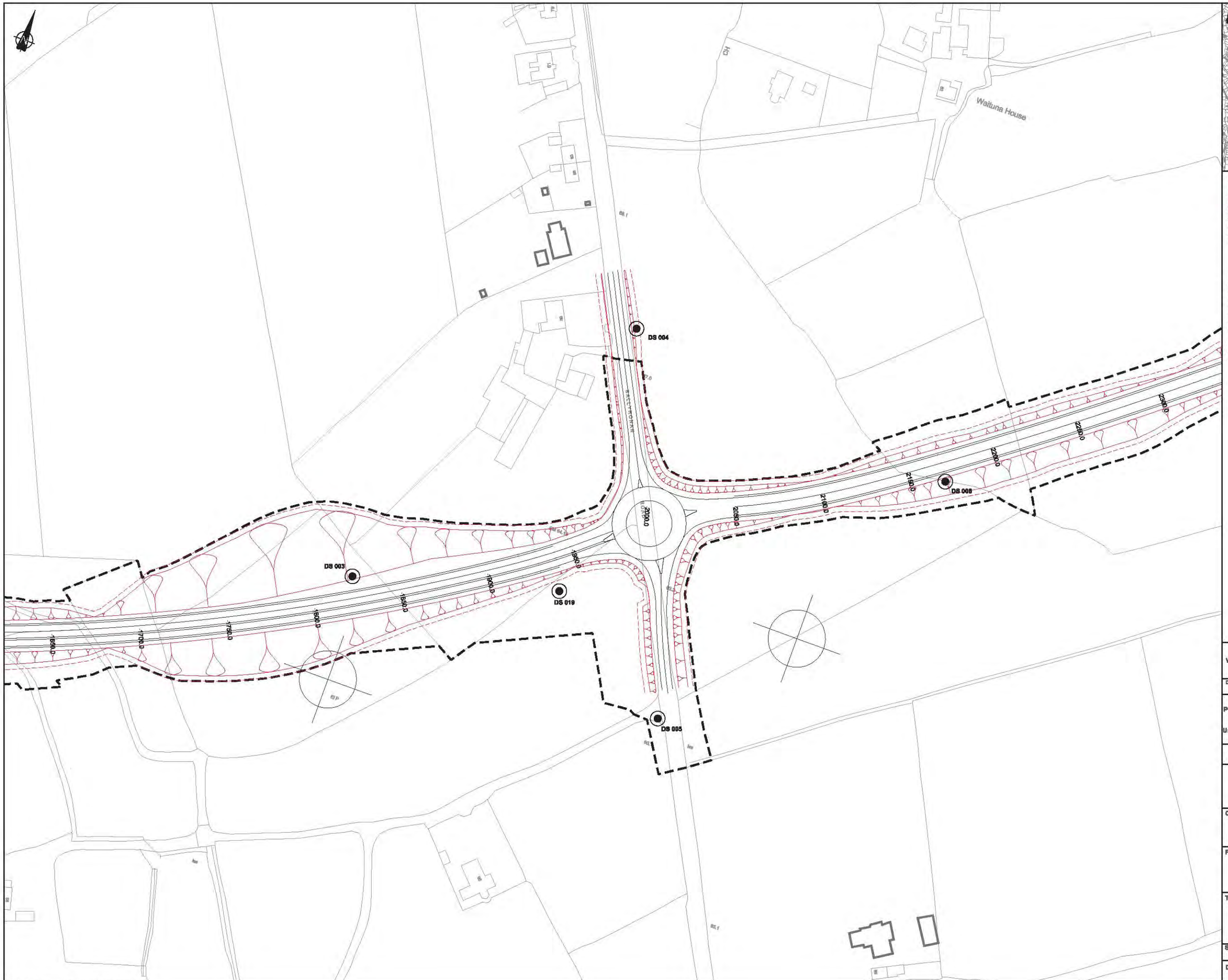
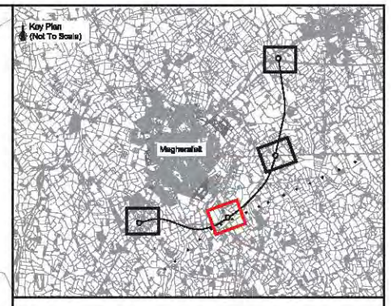
Figure 4.26.1





Key

- Earthworks - Cut - OPR
- Earthworks - Fill - OPR
- Earthworks - Cut - Additional Engineering
- Earthworks - Fill - Additional Engineering
- Maintenance Strip
- Vesting Line
- Position of sign

Note:
1. Additional Items in dark grey are updates to the OS Map
2. OPR = Optimised Preferred Route as published in Environmental Statement Addendum January 2009
3. Additional Engineering = works undertaken and finalised through consultation with landowners
4. Sign references relate to those in drawing number 720336.D.D.2320
5. Distance of advanced direction signs from junctions are taken from Appendix A of Local Transport Note 1/94 as advised in Paragraph 1.2 of Traffic Signs Manual Chapter 7.

Ver	Amendment	By	Checked	Approved	Date

Drawn	Date	Checked	Date	Approved	Date
JAC	27/03/09	DR	27/03/09	ALN	30/03/09

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Client: ROADS Service

Project: **A31 Magherafelt Bypass**

Title: **Optimised Preferred Route Road Signage Location Plan Sheet 2 of 4**

Scale @ A1	1:1000	Ver.
Drawing No.	720336.D.D.2292	A

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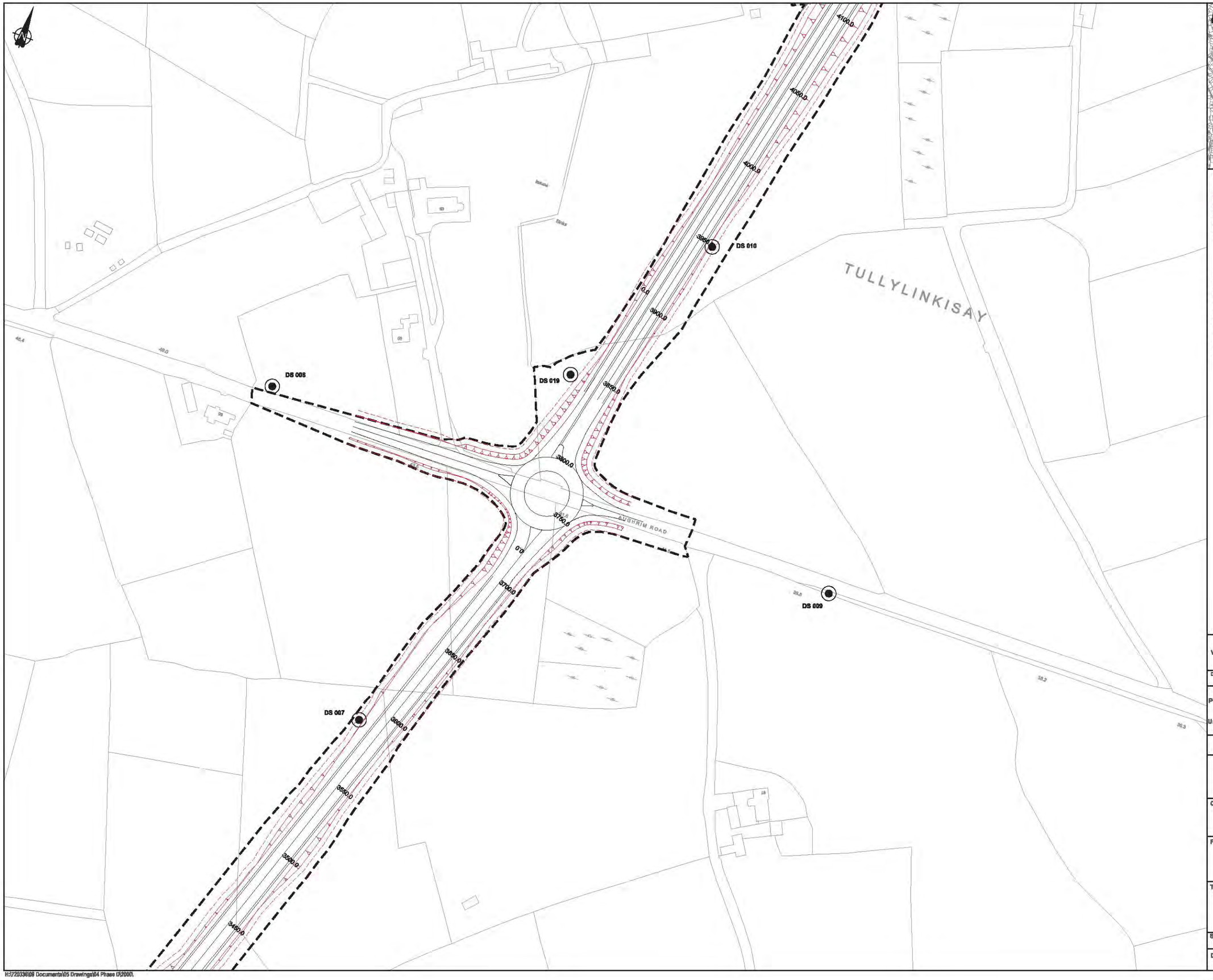
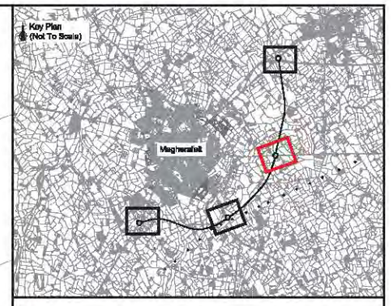
Figure 4.26.2





Key

- Earthworks - Cut - OPR
- Earthworks - Fill - OPR
- Earthworks - Cut - Additional Engineering
- Earthworks - Fill - Additional Engineering
- Maintenance Strip
- Vesting Line
- Position of sign

Note:
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4. Sign references relate to those in drawing number 720336.D.D.2320
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Ver	Amendment	By	Checked	Approved	Date

Drawn	Date	Checked	Date	Approved	Date
JAC	27/03/09	DR	27/03/09	ALN	30/03/09

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Client: ROADS Service

Project: **A31 Magherafelt Bypass**

Title: **Optimised Preferred Route Road Signage Location Plan Sheet 3 of 4**

Scale @ A1	1:1000	Ver.
Drawing No.	720336.D.D.2292	A

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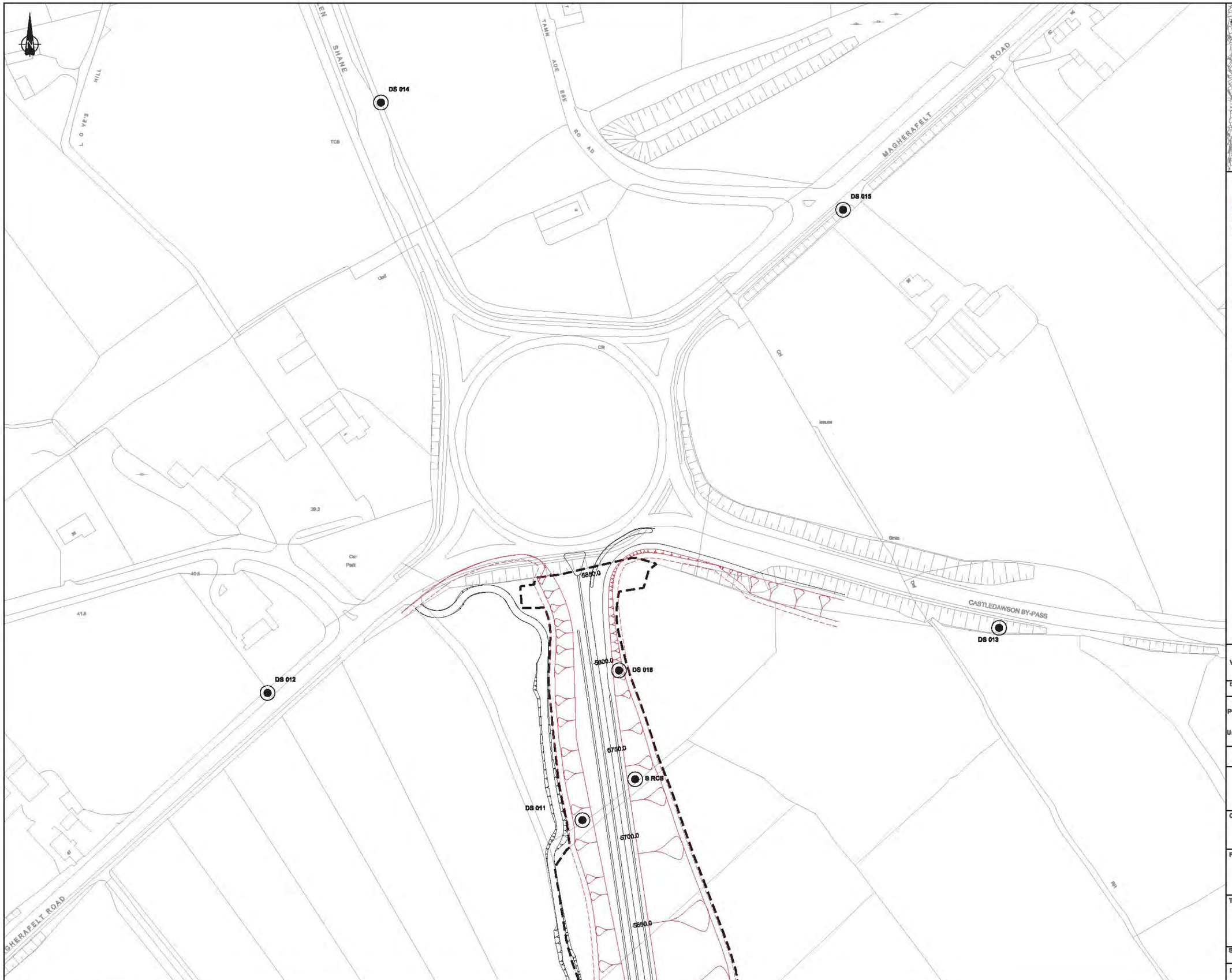
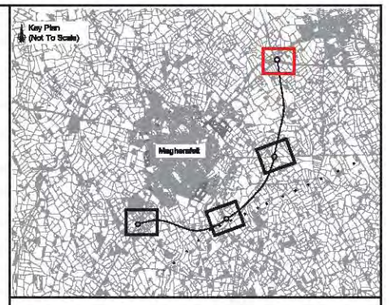
Figure 4.26.3





Key

- Earthworks - Cut - OPR
- Earthworks - Fill - OPR
- Earthworks - Cut - Additional Engineering
- Earthworks - Fill - Additional Engineering
- Maintenance Strip
- Vesting Line
- Position of sign

Note:
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4. Sign references relate to those in drawing number 720336.D.D.2320
5. Distance of advanced direction signs from junctions are taken from Appendix A of Local Transport Note 1/94 as advised in Paragraph 1.2 of Traffic Signs Manual Chapter 7.

Ver	Amendment	By	Checked	Approved	Date

Drawn	Date	Checked	Date	Approved	Date
JAC	27/03/09	DR	27/03/09	ALN	30/03/09

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Project: **A31 Magherafelt Bypass**

Title: **Optimised Preferred Route Road Signage Location Plan Sheet 4 of 4**

Scale @ A1	1:1000	Ver.
Drawing No.	720336.D.D.2292	A

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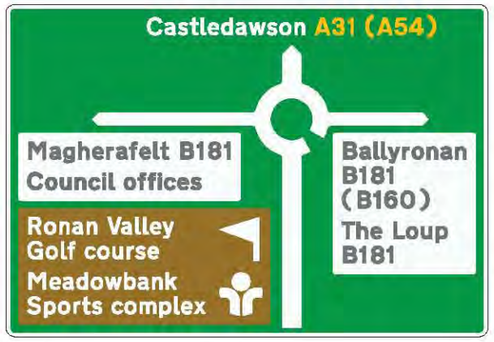
Figure 4.26.4

Scheme Ref.			
Sign Ref. DS016		x-height	100.0
Letter colour WHITE		SIGN FACE	
Background GREEN		Width	2450mm
Border WHITE		Height	2810mm
Material Class Ref 2 (12899-1:2001)		Area	6.88sq.m

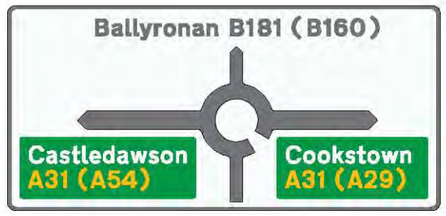
Scheme Ref.			
Sign Ref. DS017		x-height	100.0
Letter colour BLACK		SIGN FACE	
Background WHITE		Width	4030mm
Border BLACK		Height	2325mm
Material Class Ref 2 (12899-1:2001)		Area	9.37sq.m

Scheme Ref.			
Sign Ref. DS001		x-height	250.0
Letter colour WHITE		SIGN FACE	
Background GREEN		Width	6360mm
Border WHITE		Height	6315mm
Material Class Ref 2 (12899-1:2001)		Area	40.14sq.m

Scheme Ref.			
Sign Ref. DS002		x-height	249.9
Letter colour WHITE		SIGN FACE	
Background GREEN		Width	8355mm
Border WHITE		Height	5340mm
Material Class Ref 2 (12899-1:2001)		Area	44.62sq.m



Scheme Ref.			
Sign Ref. DS003		x-height	250.0
Letter colour WHITE		SIGN FACE	
Background GREEN		Width	9825mm
Border WHITE		Height	6780mm
Material Class Ref 2 (12899-1:2001)		Area	66.62sq.m



Scheme Ref.			
Sign Ref. DS004		x-height	125.1
Letter colour BLACK		SIGN FACE	
Background WHITE		Width	4415mm
Border BLACK		Height	2095mm
Material Class Ref 2 (12899-1:2001)		Area	9.25sq.m

Scheme Ref.			
Sign Ref. DS005		x-height	125.1
Letter colour BLACK		SIGN FACE	
Background WHITE		Width	4405mm
Border BLACK		Height	2095mm
Material Class Ref 2 (12899-1:2001)		Area	9.23sq.m

Scheme Ref.			
Sign Ref. DS006		x-height	250.0
Letter colour WHITE		SIGN FACE	
Background GREEN		Width	10760mm
Border WHITE		Height	6780mm
Material Class Ref 2 (12899-1:2001)		Area	72.97sq.m

Scheme Ref.			
Sign Ref. DS007		x-height	250.0
Letter colour WHITE		SIGN FACE	
Background GREEN		Width	8325mm
Border WHITE		Height	5205mm
Material Class Ref 2 (12899-1:2001)		Area	43.31sq.m

Scheme Ref.			
Sign Ref. DS008		x-height	250.1
Letter colour BLACK		SIGN FACE	
Background WHITE		Width	8815mm
Border BLACK		Height	4190mm
Material Class Ref 2 (12899-1:2001)		Area	36.92sq.m

Scheme Ref.			
Sign Ref. DS009		x-height	250.0
Letter colour BLACK		SIGN FACE	
Background WHITE		Width	8815mm
Border BLACK		Height	5310mm
Material Class Ref 2 (12899-1:2001)		Area	46.82sq.m

Scheme Ref.			
Sign Ref. DS010		x-height	250.0
Letter colour WHITE		SIGN FACE	
Background GREEN		Width	8330mm
Border WHITE		Height	5205mm
Material Class Ref 2 (12899-1:2001)		Area	43.30sq.m

Note:

Refer to drawing number 720336.D.D.2292 for location of signs

Ver	Amendment	By	Checked	Approved	Date

Drawn	Date	Checked	Date	Approved	Date
JAC	24/03/09	DR	27/03/09	ALN	30/03/09

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Client: ROADS Service

Project: A31 Magherafelt Bypass

Title: Optimised Preferred Route Road Signage Details Sheet 1 of 2

Scale @ A1	N.T.S	Ver.
Drawing No.	720336.D.D.2320	A

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Figure 4.27.1

Scheme Ref.	
Sign Ref. DS011	x-height 250.0
Letter colour WHITE	SIGN FACE
Background GREEN	Width 8600mm
Border WHITE	Height 5455mm
Material Class Ref 2 (12899-1:2001)	Area 46.93sq.m

Scheme Ref.	
Sign Ref. DS012	x-height 250.0
Letter colour WHITE	SIGN FACE
Background GREEN	Width 8600mm
Border WHITE	Height 6295mm
Material Class Ref 2 (12899-1:2001)	Area 54.14sq.m

Scheme Ref.	
Sign Ref. DS013	x-height 250.0
Letter colour WHITE	SIGN FACE
Background GREEN	Width 8600mm
Border WHITE	Height 5325mm
Material Class Ref 2 (12899-1:2001)	Area 45.82sq.m

Scheme Ref.	
Sign Ref. DS014	x-height 250.0
Letter colour WHITE	SIGN FACE
Background GREEN	Width 8720mm
Border WHITE	Height 4680mm
Material Class Ref 2 (12899-1:2001)	Area 40.83sq.m

Scheme Ref.	
Sign Ref. DS015	x-height 250.0
Letter colour BLACK	SIGN FACE
Background WHITE	Width 8885mm
Border BLACK	Height 6055mm
Material Class Ref 2 (12899-1:2001)	Area 53.81sq.m

Scheme Ref.	
Sign Ref. N RCS	x-height 200.0
Letter colour WHITE	SIGN FACE
Background GREEN	Width 3850mm
Border WHITE	Height 3575mm
Material Class Ref 2 (12899-1:2001)	Area 13.77sq.m

Scheme Ref.	
Sign Ref. S RCS	x-height 200.0
Letter colour WHITE	SIGN FACE
Background GREEN	Width 3325mm
Border WHITE	Height 1625mm
Material Class Ref 2 (12899-1:2001)	Area 5.40sq.m

Scheme Ref.	
Sign Ref. DS018	x-height 150.0
Letter colour WHITE	SIGN FACE
Background GREEN	Width 1855mm
Border WHITE	Height 1885mm
Material Class Ref 2 (12899-1:2001)	Area 3.49sq.m

Scheme Ref.	
Sign Ref. DS019	x-height 150.0
Letter colour WHITE	SIGN FACE
Background GREEN	Width 1855mm
Border WHITE	Height 1320mm
Material Class Ref 2 (12899-1:2001)	Area 2.45sq.m

Note:

Refer to drawing number 720336.D.D.2292 for location of signs

Ver	Amendment	By	Checked	Approved	Date

Drawn	Date	Checked	Date	Approved	Date
JAC	24/03/09	DR	27/03/09	ALN	30/03/09

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Client: ROADS Service

Project: A31 Magherafelt Bypass

Title: Optimised Preferred Route Road Signage Details Sheet 2 of 2

Scale @ A1	N.T.S	Ver.
Drawing No.	720336.D.D.2320	A

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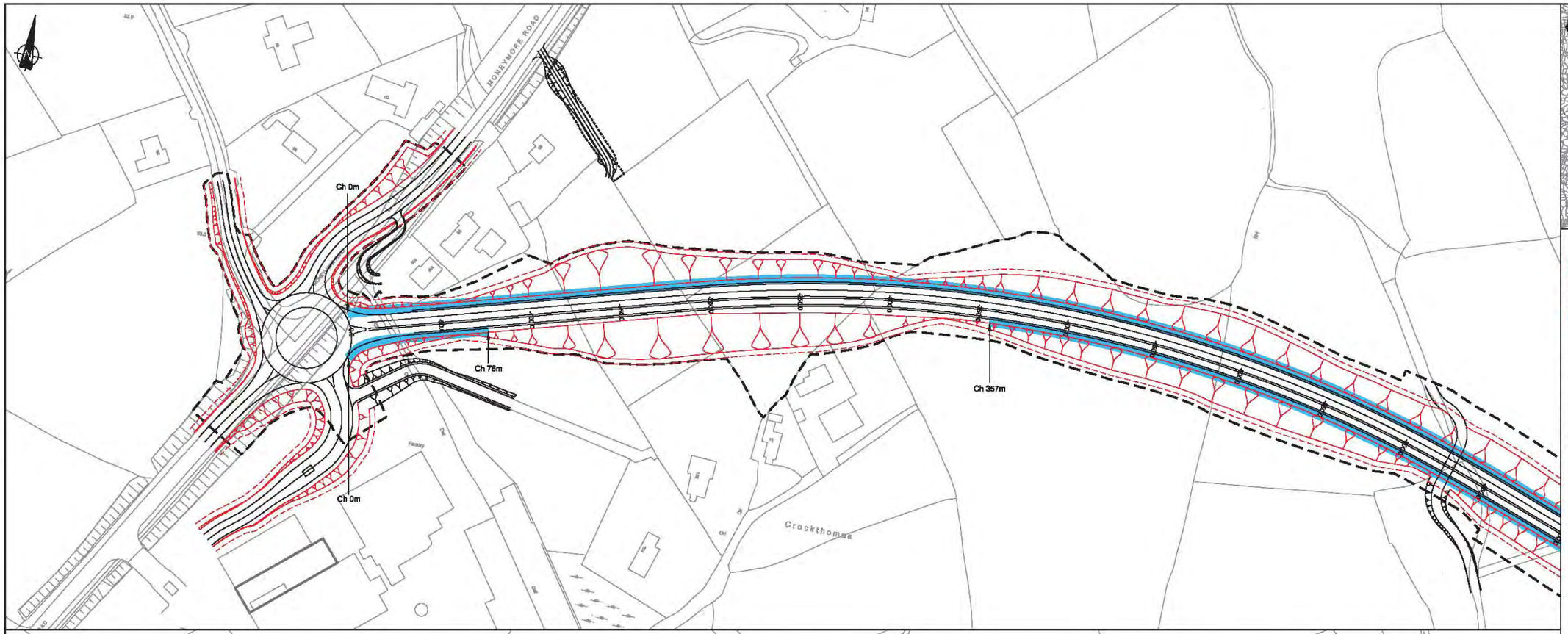
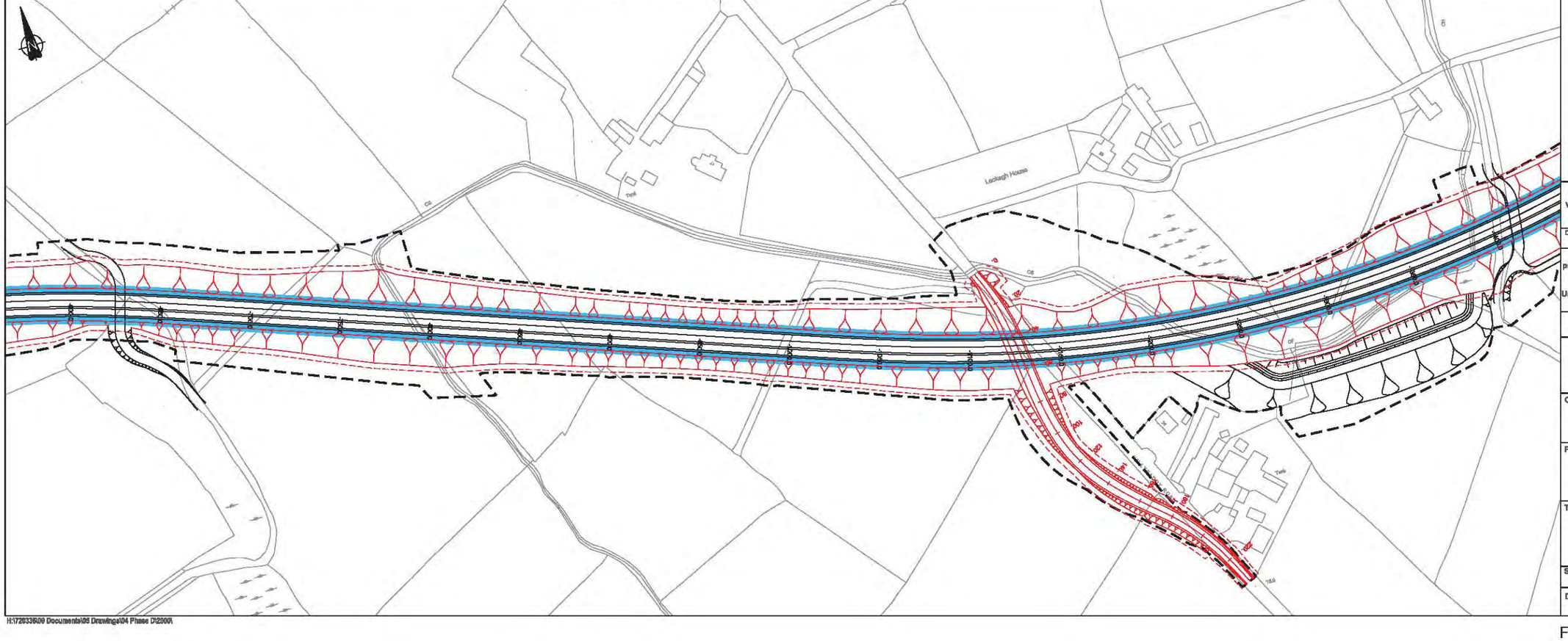
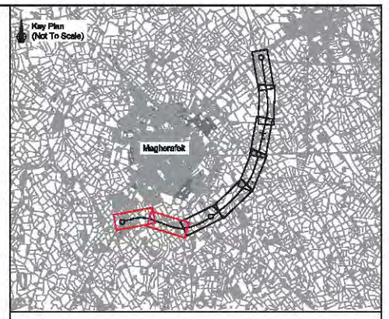
Figure 4.27.2







Key

- Earthworks - Cut - OPR
- Earthworks - Fill - OPR
- Earthworks - Cut - Additional Engineering
- Earthworks - Fill - Additional Engineering
- Maintenance Strip
- Vesting Line
- Road Restraint System (RRS)

Note:
1. Additional items in dark grey are updates to the OS Map
2. OPR = Optimised Preferred Route as published in Environmental Statement Addendum January 2009
3. Additional Engineering = works undertaken and finalised through consultation with landowners

The RRS locations illustrate the minimum length of full height barrier required and does not include the lengths required for approach or departure terminals.

Ver	Amendment	By	Checked	Approved	Date

Drawn	Date	Checked	Date	Approved	Date
JJM	14/01/09	LE	06/02/09	ALN	16/02/09

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Project: **A31 Magherafelt Bypass**

Title: **Optimised Preferred Route RRS Locations Sheet 1 of 4**

Scale @ A1	1:1250	Ver.
Drawing No.	720336.D.D.2265	A

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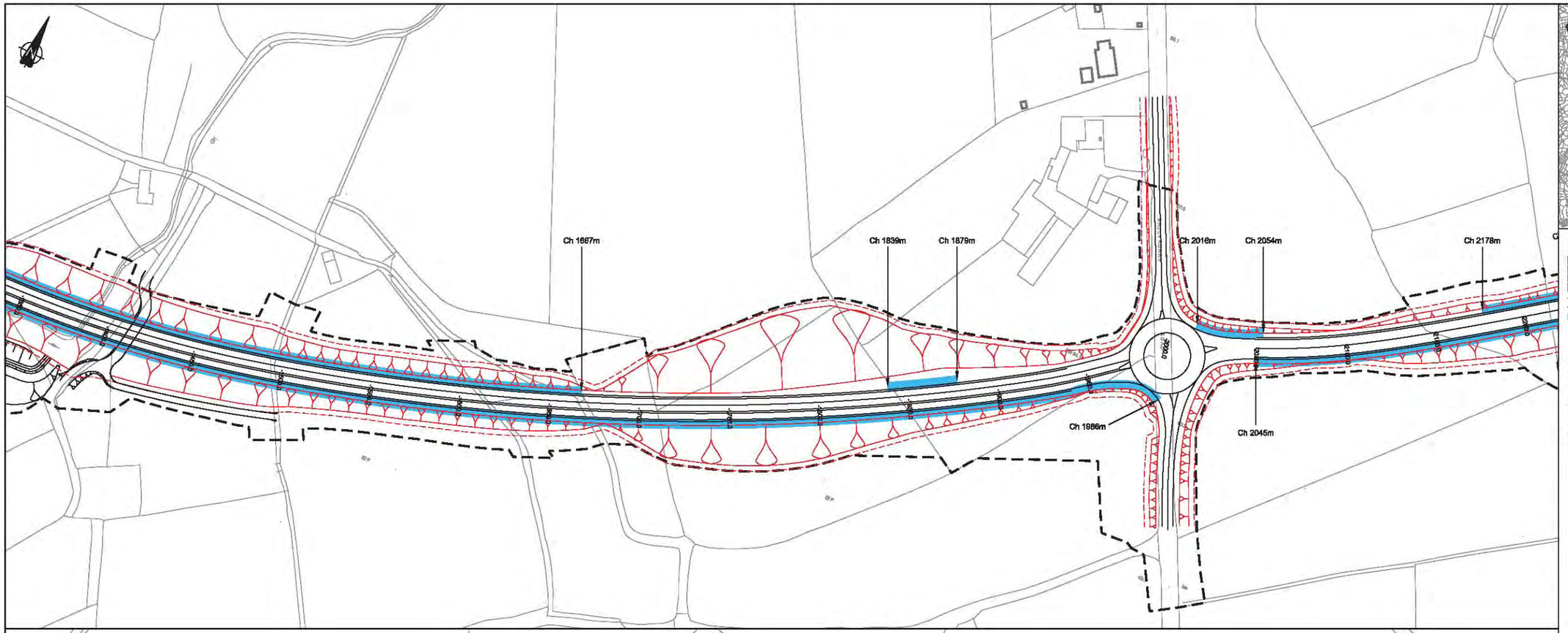
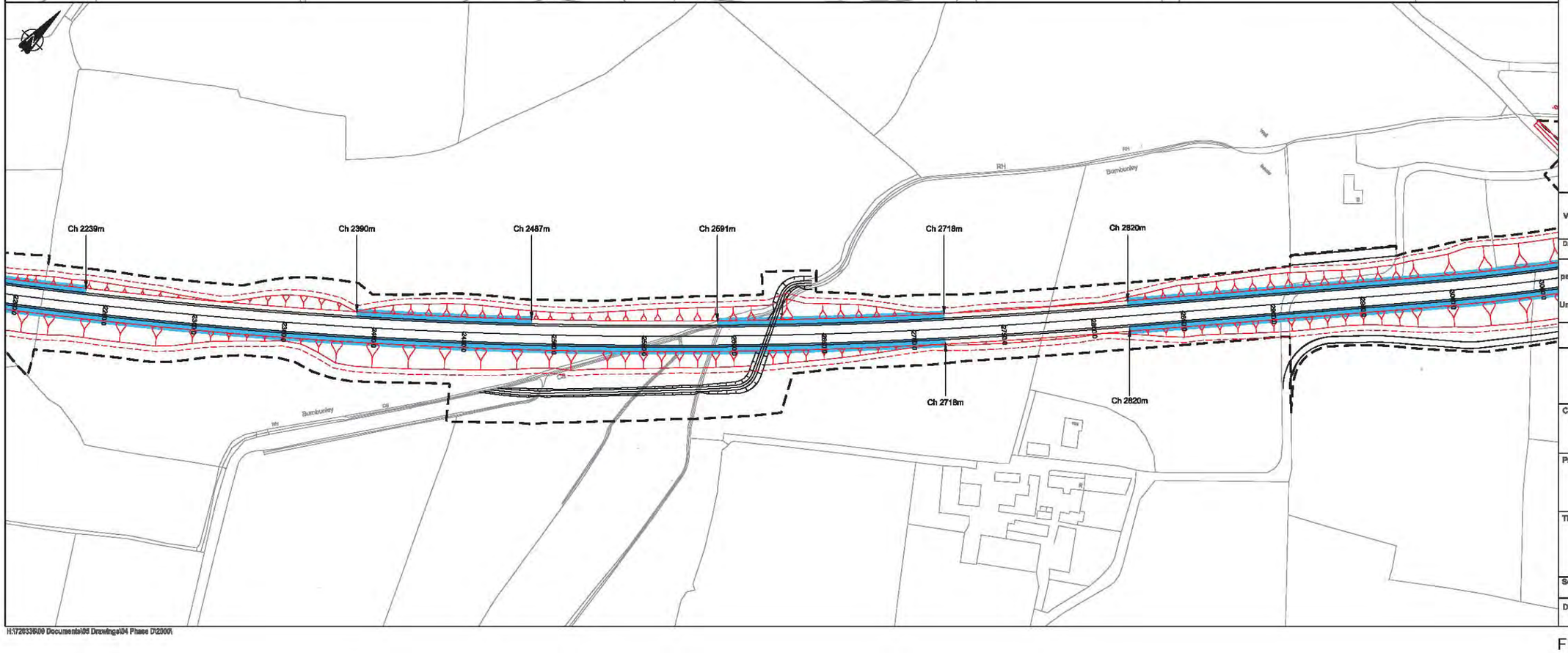
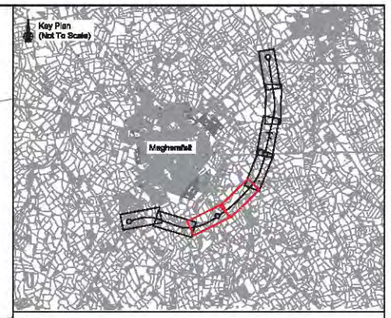
Figure 4.28.1







Key

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- Earthworks - Fill - OPR
- Earthworks - Cut - Additional Engineering
- Earthworks - Fill - Additional Engineering
- Maintenance Strip
- Vesting Line
- Road Restraint System (RRS)

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Var	Amendment	By	Checked	Approved	Date

Drawn	Date	Checked	Date	Approved	Date
JJM	14/01/09	LE	06/02/09	ALN	16/02/09

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Title: **Optimised Preferred Route RRS Locations Sheet 2 of 4**

Scale @ A1	1:1250	Ver.
Drawing No.	720336.D.D.2265	A

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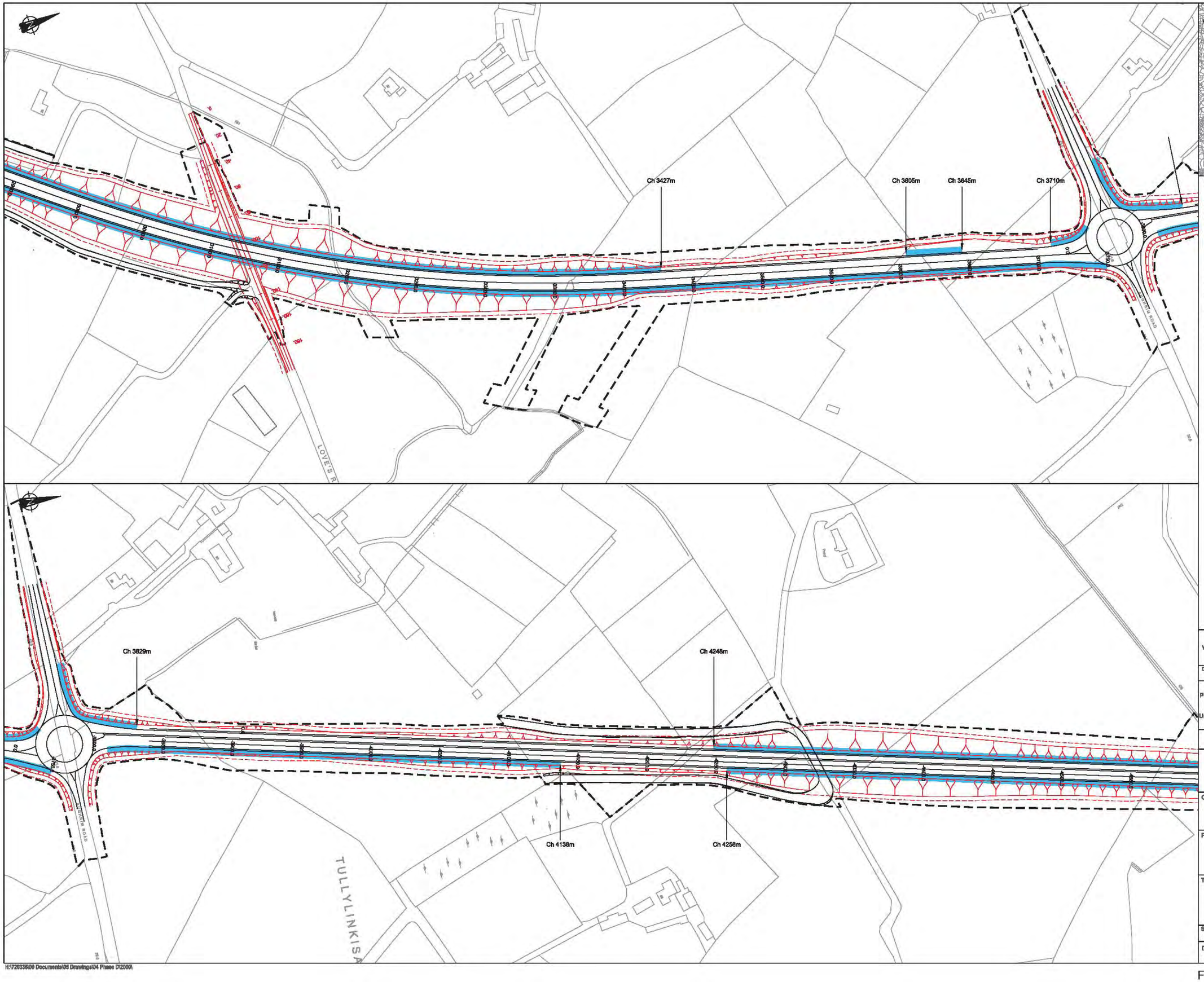
Figure 4.28.2



Key

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- Earthworks - Cut - Additional Engineering
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Drawn	Date	Checked	Date	Approved	Date
JJM	14/01/09	LE	06/02/09	ALN	16/02/09

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Title: **Optimised Preferred Route RRS Locations Sheet 3 of 4**

Scale @ A1	1:1250	Ver.
Drawing No.	720336.D.D.2265	A

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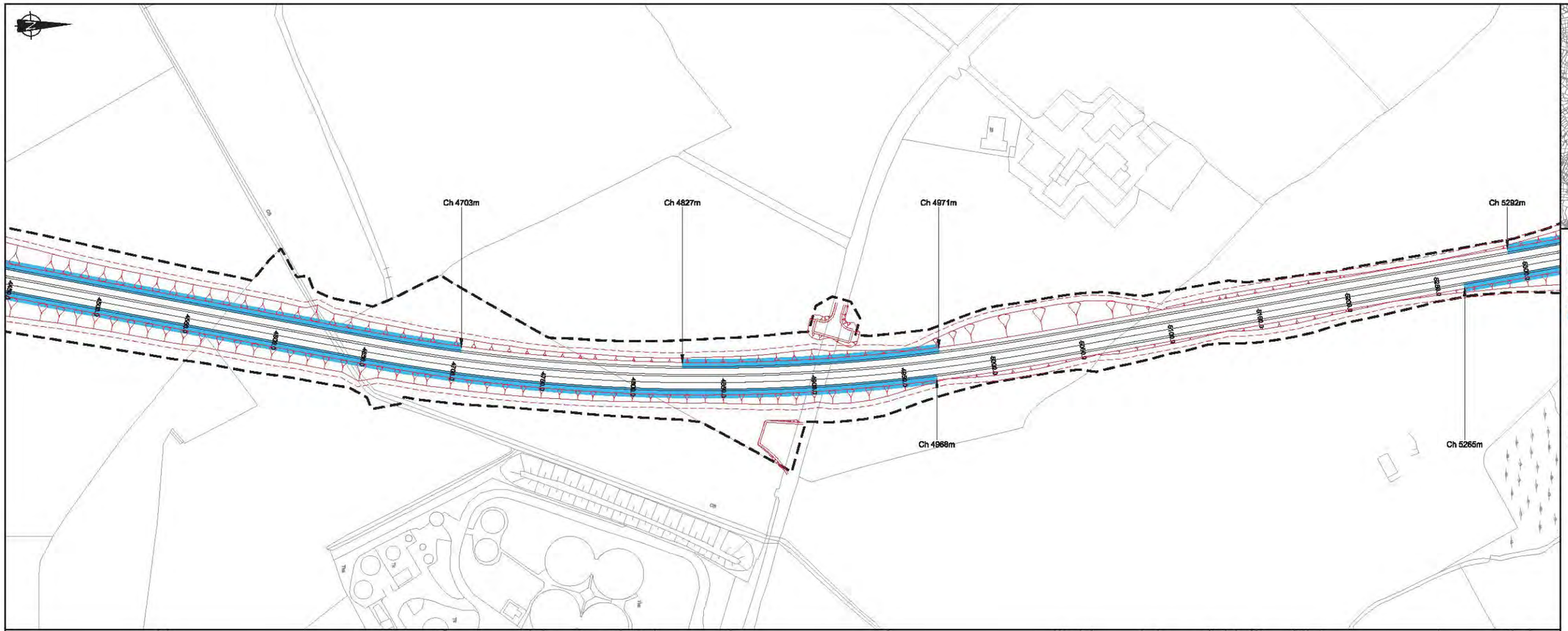
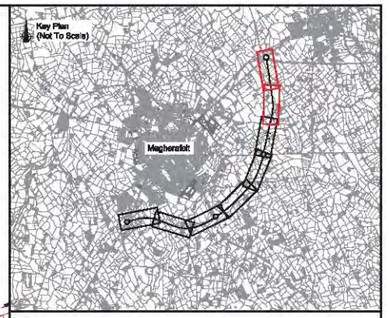
Figure 4.28.3





Key

- Earthworks - Cut - OPR
- Earthworks - Fill - OPR
- Earthworks - Cut - Additional Engineering
- Earthworks - Fill - Additional Engineering
- Maintenance Strip
- Vesting Line
- Road Restraint System (RRS)

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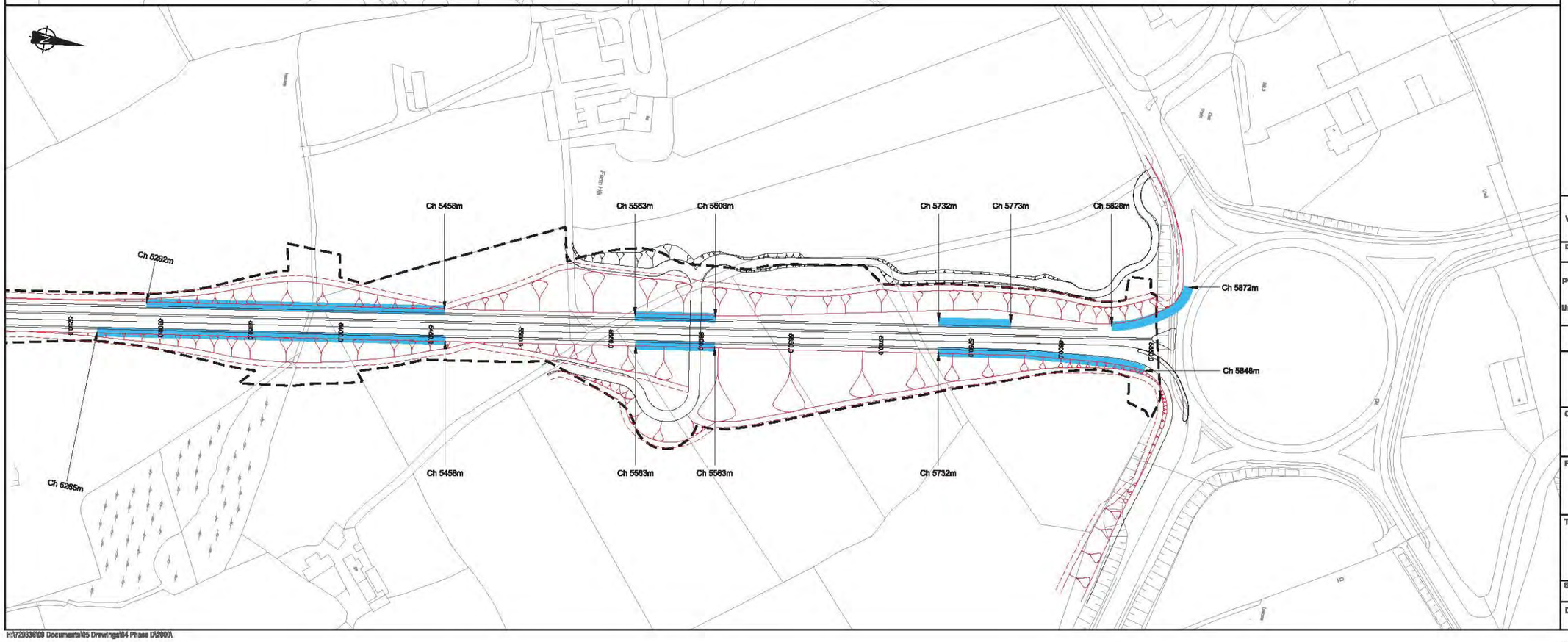

Ver	Amendment	By	Checked	Approved	Date

Drawn	Date	Checked	Date	Approved	Date
JJM	14/01/09	LE	06/02/09	ALN	16/02/09

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Title: **Optimised Preferred Route RRS Locations Sheet 4 of 4**

Scale @ A1	1:1250	Ver.
Drawing No.	720336.D.D.2265	A

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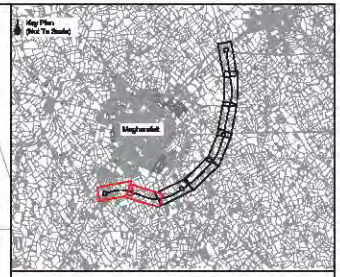
Figure 4.28.4



Key

- Earthworks - Cut - OPR
- Earthworks - Fill - OPR
- Earthworks - Cut - Additional Engineering
- Earthworks - Fill - Additional Engineering
- Maintenance Strip
- Vesting Line
- At Grade
- Cut Slope 1:3
- Fill Slope 1:2
- Fill Slope 1:2.25

Note:
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Ver	Amendment	By	Checked	Approved	Date

Drawn	Date	Checked	Date	Approved	Date
JJM	03/02/09	LE	27/03/09	ALN	27/03/09

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Client: ROADS Service

Project: **A31 Magherafelt Bypass**

Title: **Optimised Preferred Route Earthworks Assumptions Sheet 1 of 4**

Scale @ A1: 1:1250

Drawing No.: 720336.D.D.2274

Ver.: A

Figure 4.29.1

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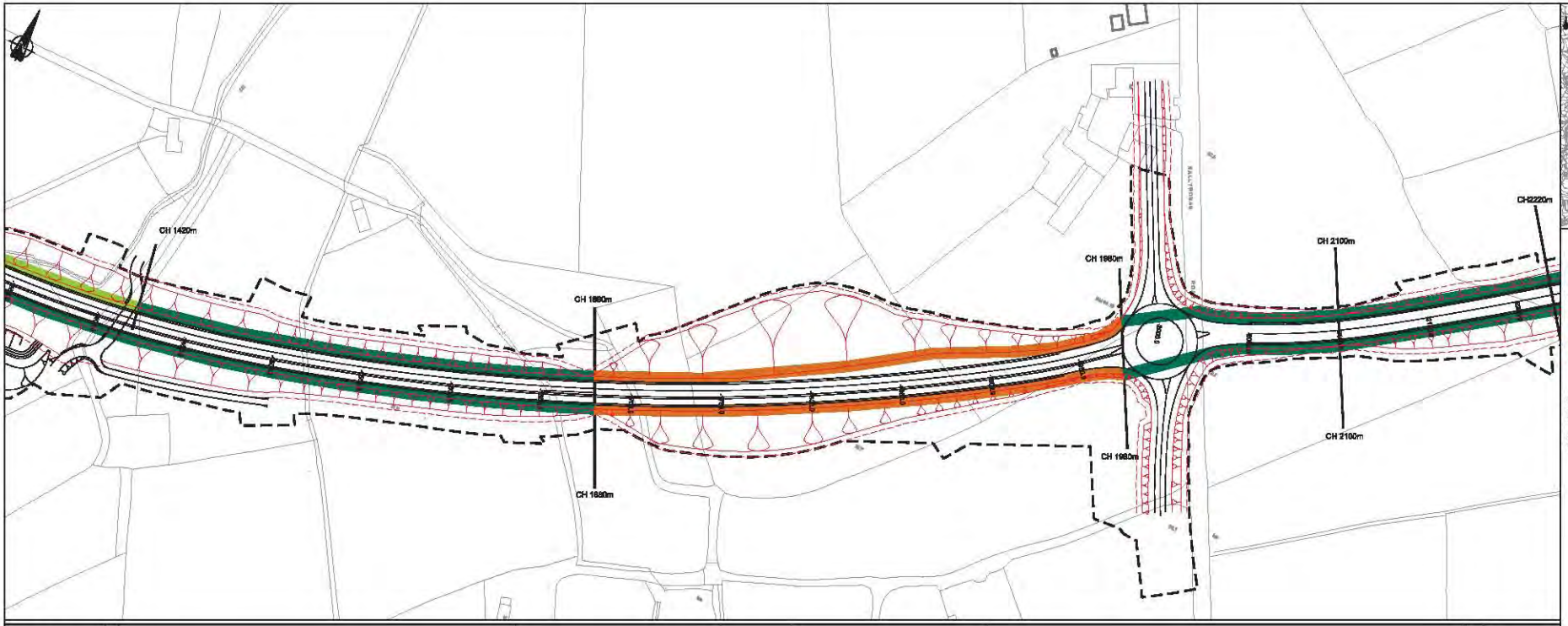

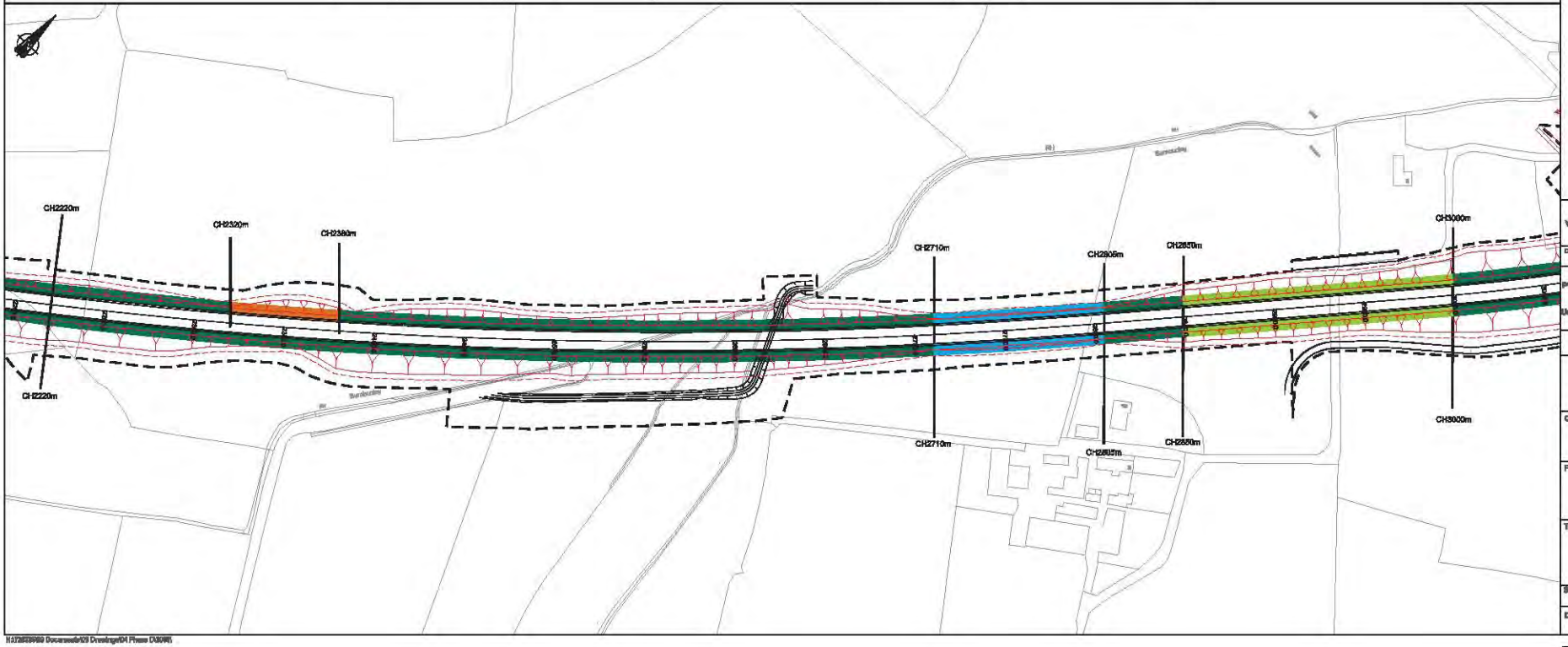

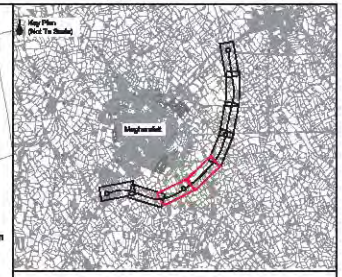

Key

- Earthworks - Cut - OPR
- Earthworks - Fill - OPR
- Earthworks - Cut - Additional Engineering
- Earthworks - Fill - Additional Engineering
- Maintenance Strip
- Vesting Line
- At Grade
- Cut Slope 1:3
- Fill Slope 1:2
- Fill Slope 1:2.25

Note:
1. Additional items in dark grey are updates to the OS Map
2. OPR = Optimised Preferred Route as published in Environmental Statement Addendum January 2009
3. Additional Engineering = works undertaken and finalised through consultation with landowners

Ver	Amendment	By	Checked	Approved	Date

Drawn	Date	Checked	Date	Approved	Date
JJM	03/02/2009	LE	27/03/09	ALN	27/03/09

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Client: ROADS Service

Project: A31 Magherafelt Bypass

Title: Optimised Preferred Route Earthworks Assumptions Sheet 2 of 4

Scale @ A1: 1:1250

Ver.: A

Drawing No.: 720336.D.D.2274

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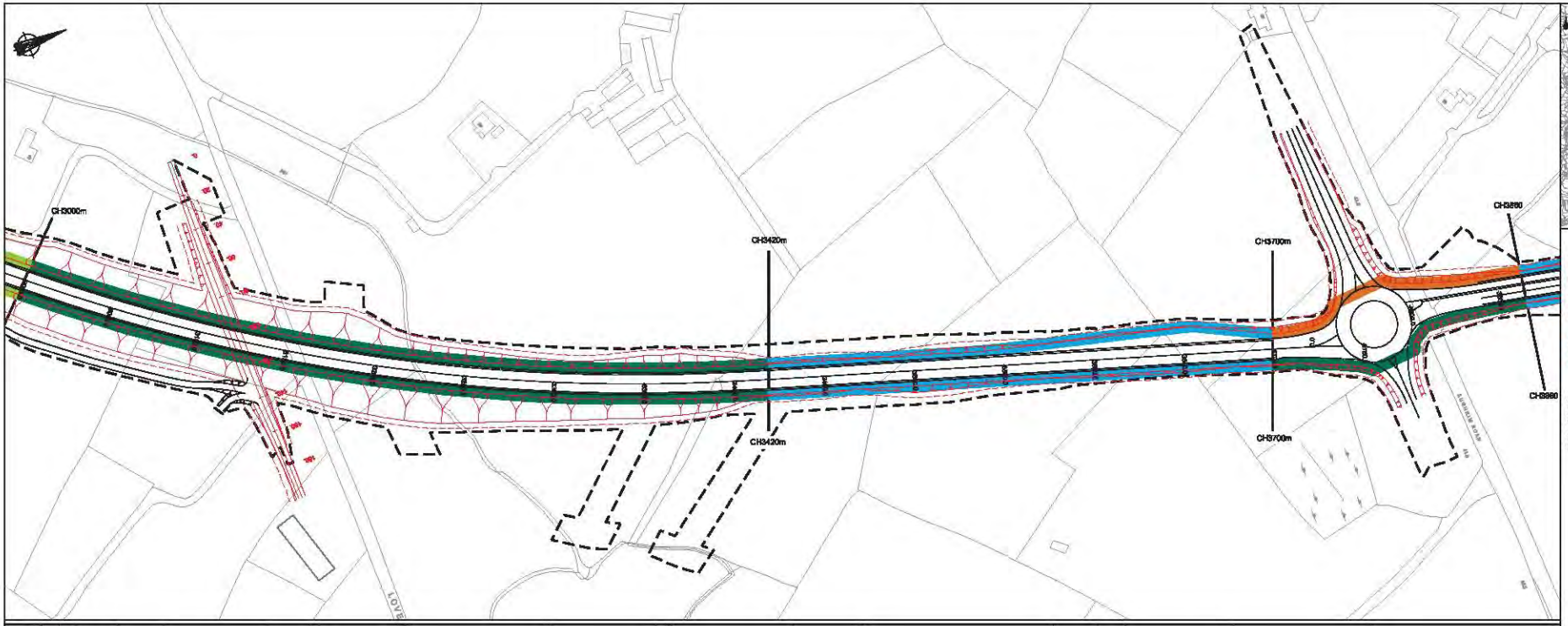
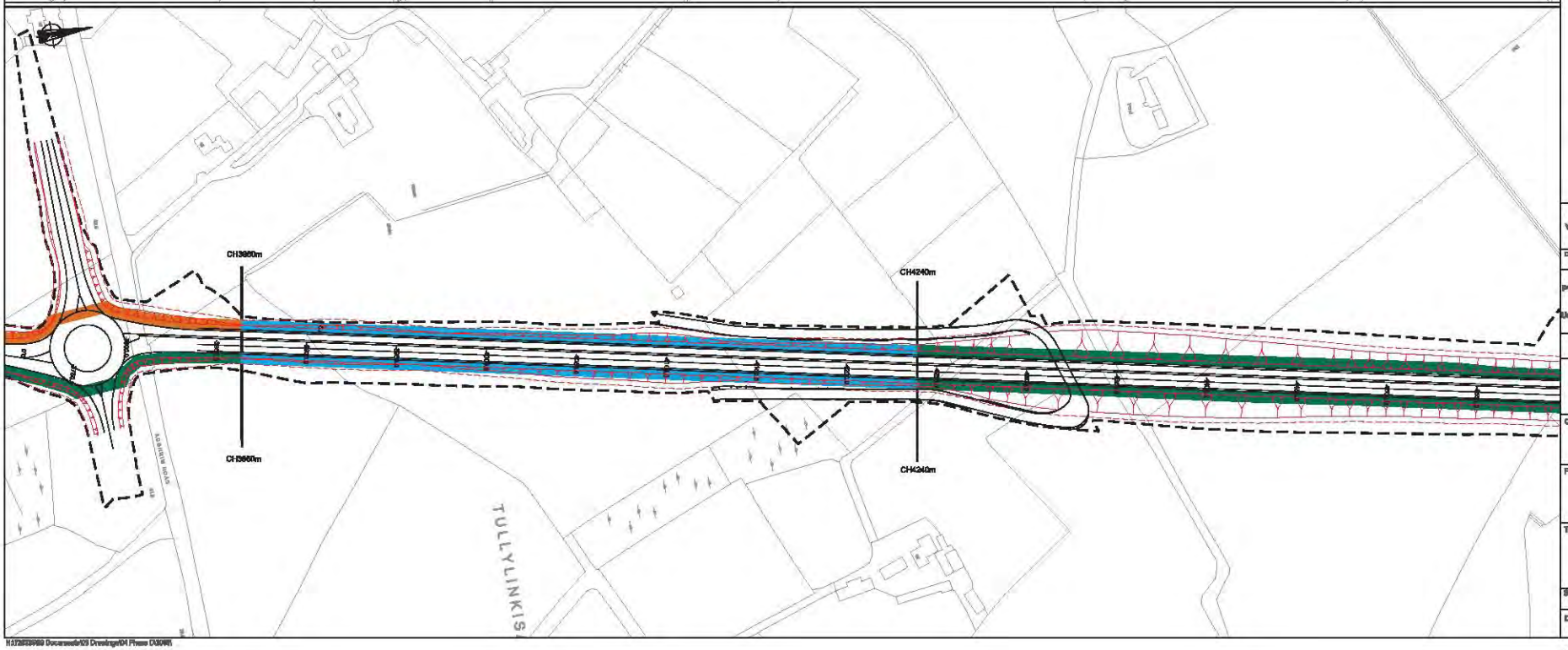
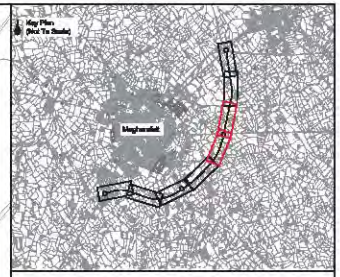
Figure 4.29.2







Key

- Earthworks - Cut - OPR
- Earthworks - Fill - OPR
- Earthworks - Cut - Additional Engineering
- Earthworks - Fill - Additional Engineering
- Maintenance Strip
- Verging Line
- At Grade
- Cut Slope 1:3
- Fill Slope 1:2
- Fill Slope 1:2.25

Note:
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2. OPR = Optimised Preferred Route as published in Environmental Statement Addendum January 2009
3. Additional Engineering = works undertaken and finalised through consultation with landowners

Ver	Amendment	By	Checked	Approved	Date

Drawn	Date	Checked	Date	Approved	Date
AJM	03/02/09	LE	27/03/09	ALN	27/03/09

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Client: ROADS Service

Project: A31 Magherafelt Bypass

Title: Optimised Preferred Route Earthworks Assumptions Sheet 3 of 4

Scale @ A1: 1:1250

Ver.: A

Drawing No.: 720336.D.D.2274

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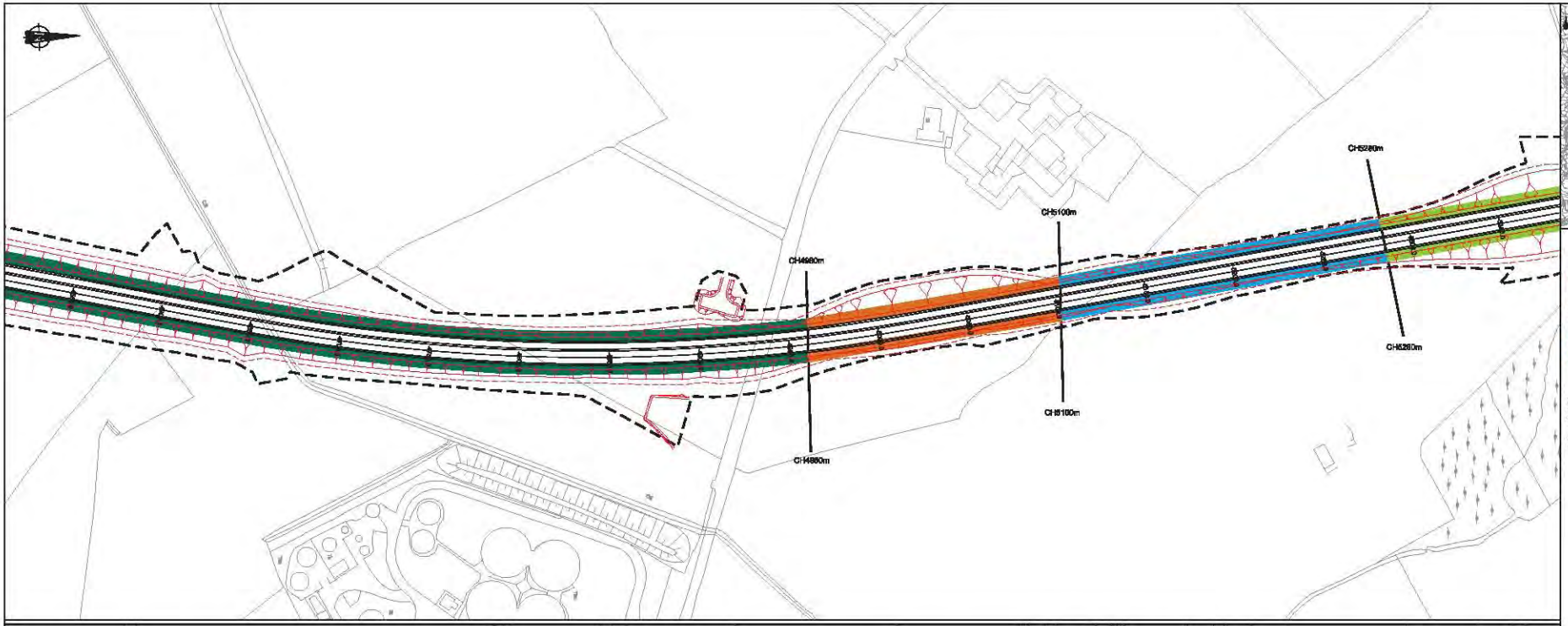
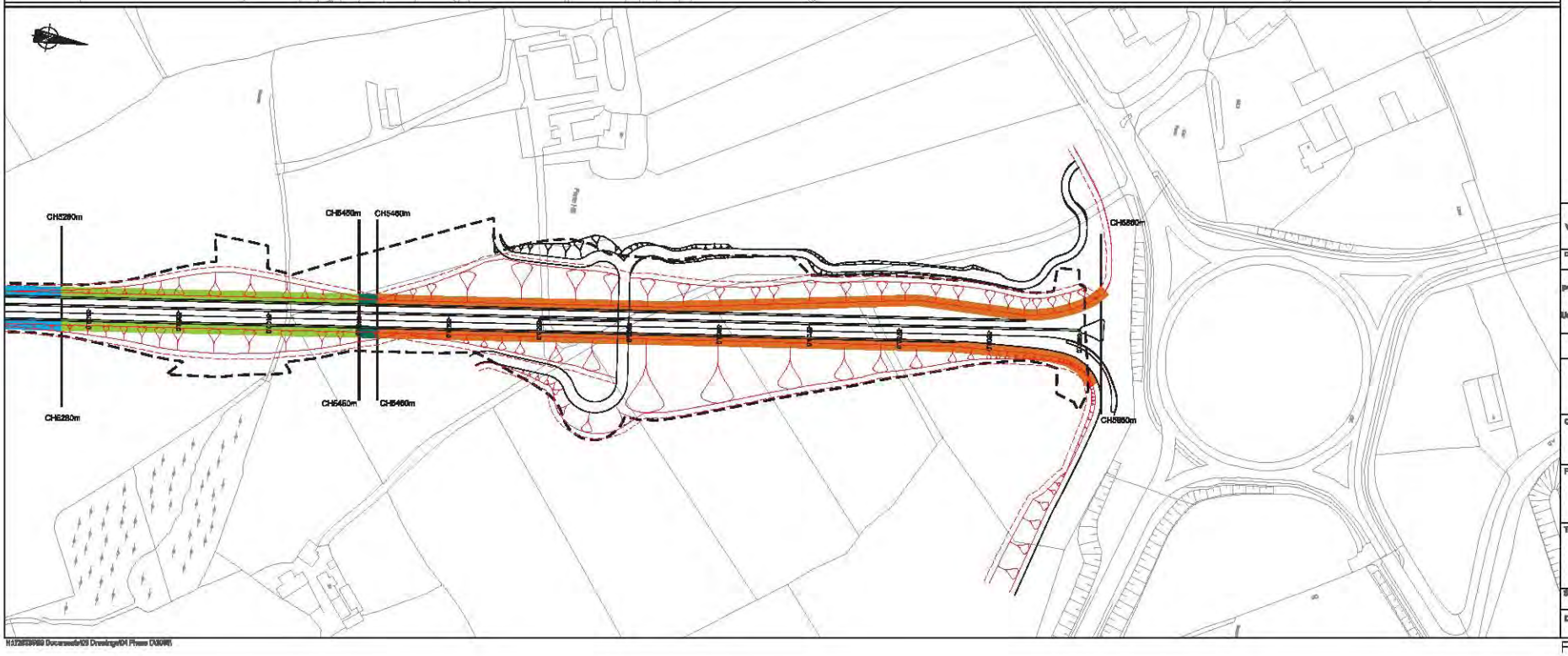
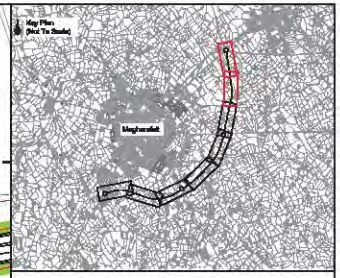
Figure 4.29.3







Key

- Earthworks - Cut - OPR
- Earthworks - Fill - OPR
- Earthworks - Cut - Additional Engineering
- Earthworks - Fill - Additional Engineering
- Maintenance Strip
- Vesting Line
- At Grade
- Cut Slope 1:3
- Fill Slope 1:2
- Fill Slope 1:2.25

Note:
1. Additional items in dark grey are updates to the OS Map
2. OPR = Optimised Preferred Route as published in Environmental Statement Addendum January 2009
3. Additional Engineering = works undertaken and finalised through consultation with landowners

Ver	Amendment	By	Checked	Approved	Date

Drawn	Date	Checked	Date	Approved	Date
JJM	03/02/09	LE	27/03/09	ALN	27/03/09

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Project: A31 Magherafelt Bypass

Title: Optimised Preferred Route Earthworks Assumptions Sheet 4 of 4

Scale @ A1: 1:1250

Drawing No.: 720336.D.D.2274

Ver.: A

Figure 4.29.4

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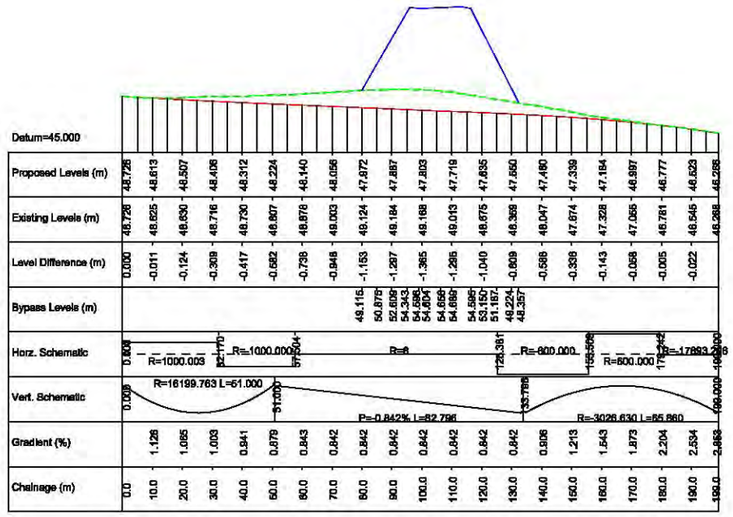
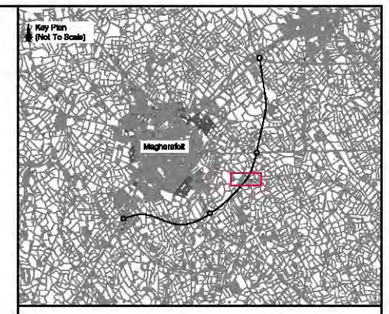


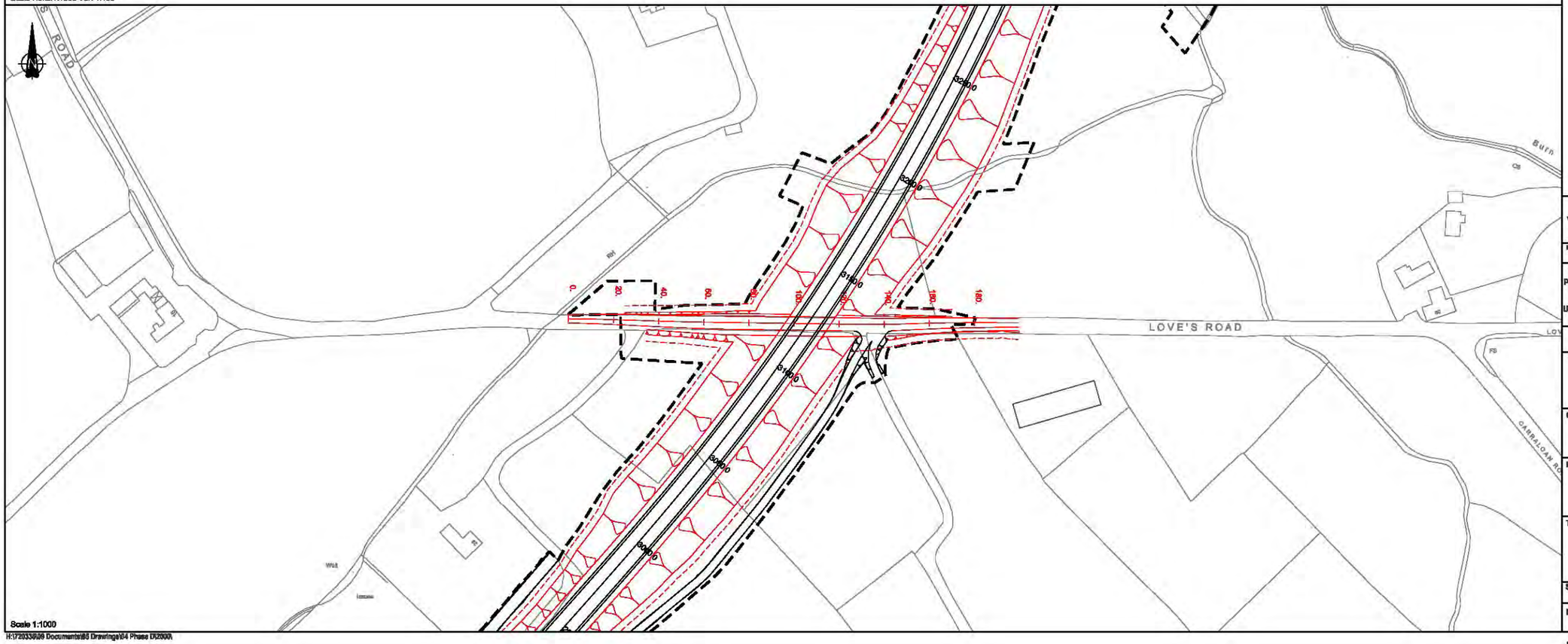


Key

- Earthworks - Cut - OPR
- Earthworks - Fill - OPR
- Earthworks - Cut - Additional Engineering
- Earthworks - Fill - Additional Engineering
- Maintenance Strip
- Vesting Line
- Existing Levels
- Proposed Killyfaddy Road Levels
- Proposed Bypass Levels

Note:
1. Additional items in dark grey are updates to the OS Map
2. OPR = Optimised Preferred Route as published in Environmental Statement Addendum January 2009
3. Additional Engineering = works undertaken and finalised through consultation with landowners

Scale Horiz:1:1000 Vert 1:100



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Ver	Amendment	By	Checked	Approved	Date

Drawn	Date	Checked	Date	Approved	Date
SMG	25/03/09	LE	26/03/09	ALN	26/03/09

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Client: ROADS Service

Project: **A31 Magherafelt Bypass**

Title: **Optimised Preferred Route Loves Road Plan and Section**

Scale @ A1: **As Shown** | Ver.: **A**

Drawing No.: **720336.D.D.2319**

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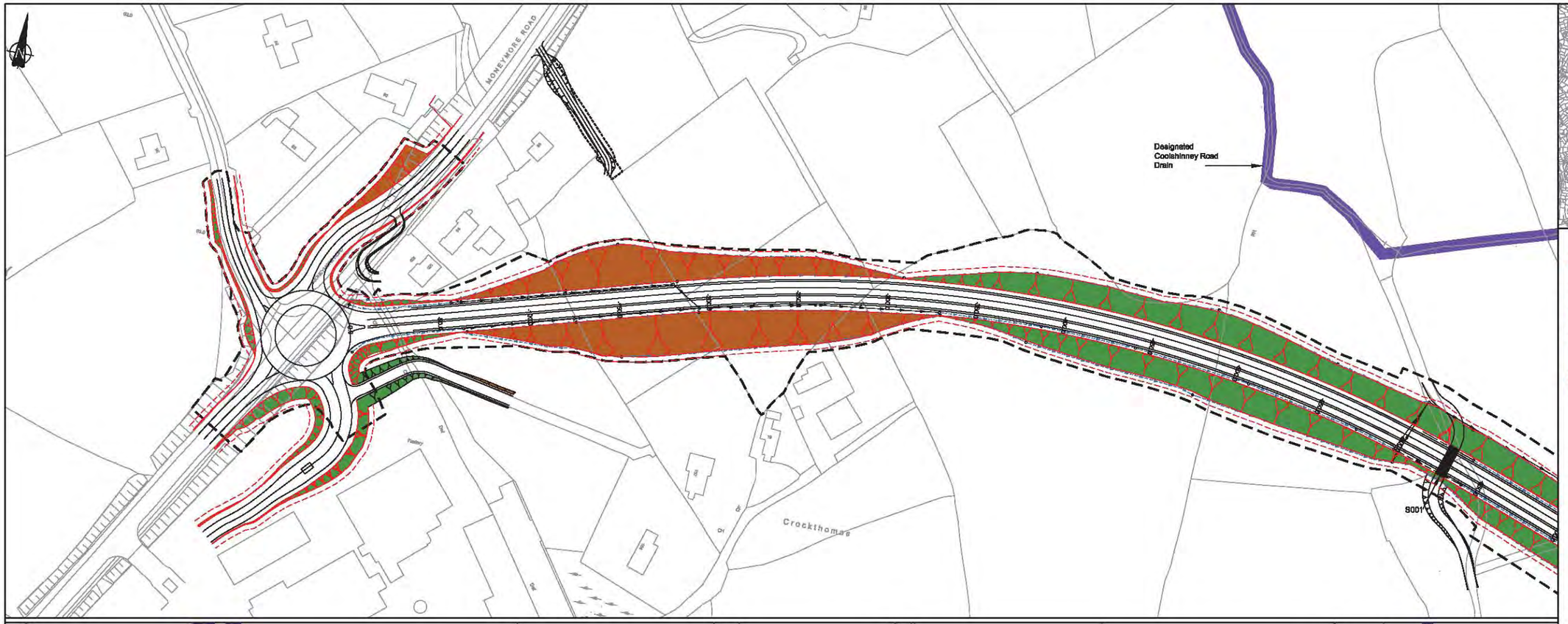
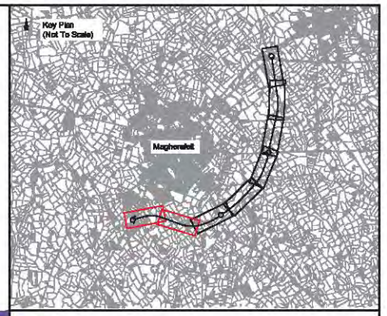
Figure 4.3





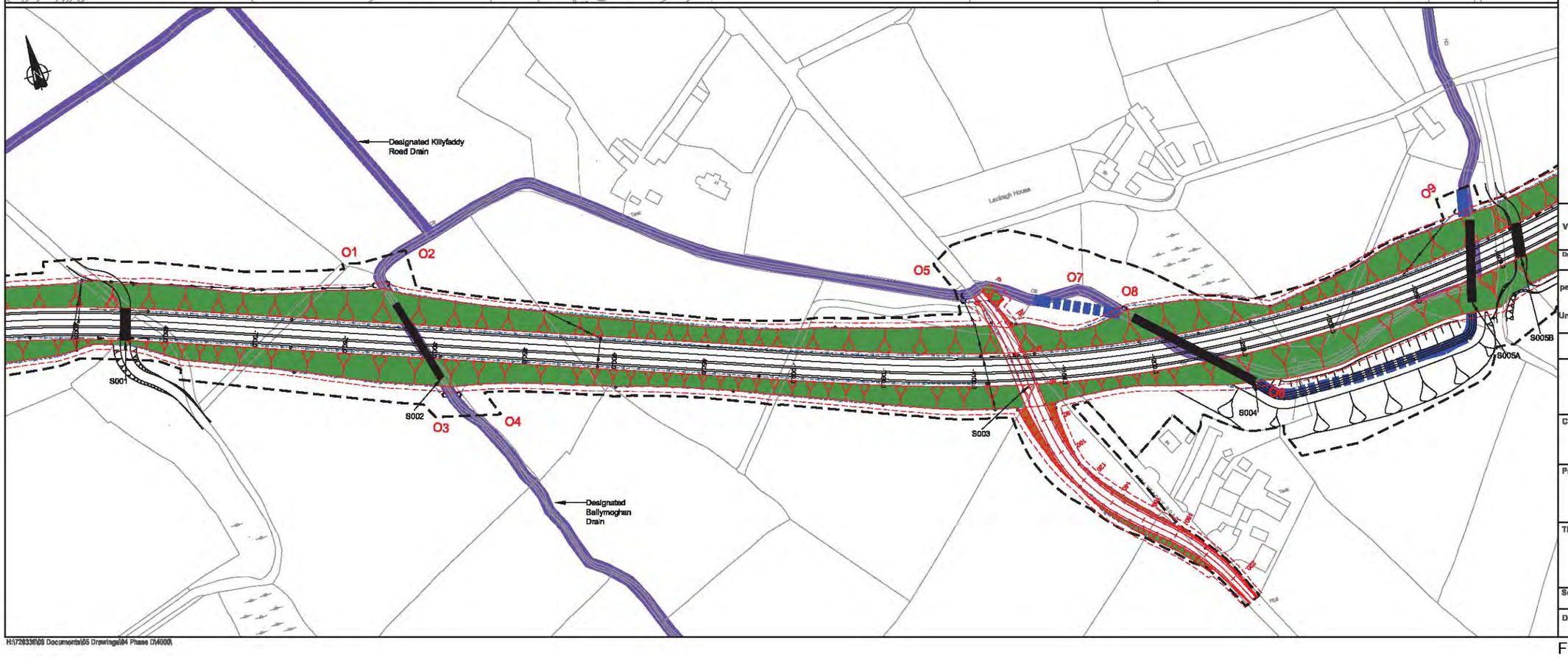
Key

- Earthworks - Cut - OPR
- Earthworks - Fill - OPR
- Earthworks - Cut - Additional Engineering
- Earthworks - Fill - Additional Engineering
- Maintenance Strip
- Vesting Line
- Proposed Filter Drains
- Proposed Carrier Drains
- Designated Watercourse
- Undesignated Watercourse
- Proposed Manhole
- Proposed Headwall
- Proposed Culvert
- O(No.) Proposed Outfalls
- Proposed Diversion

Proposed Structures

S001	Farm Access Underpass
S002	Culvert
S003	Killyfaddy Road Underbridge
S004	Culvert
S005A	Culvert
S005B	Farm Access Underpass
S006	Culvert
S007	Pipe Culvert
S008	Cattle Underpass
S009	Culvert
S010	Cattle Underpass
S011	Loves Road Underbridge
S012	Culvert
S013	Cattle Underpass
S014	Farm Access Underpass
S015	Coppies River Underbridge
S016	Pipe Culvert
S017	Farm Access Overbridge
S018	Floodplain Connector 1
S019	Floodplain Connector 2
S020	Floodplain Connector 3
S021	Farm Access Underpass
S022	Pipe Culvert

Note:
1. Additional items in dark grey are updates to the OS Map
2. OPR = Optimised Preferred Route as published in Environmental Statement Addendum January 2009
3. Additional Engineering = works undertaken and finalised through consultation with landowners



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Drawn	Date	Checked	Date	Approved	Date
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Client: ROADS Service

Project: **A31 Magherafelt Bypass**

Title: **Optimised Preferred Route Drainage Design Plans Sheet 1 of 4**

Scale @ A1: **1:1250**

Drawing No.: **720336.D.D.4071**

Ver.: **A**

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Figure 4.30.1

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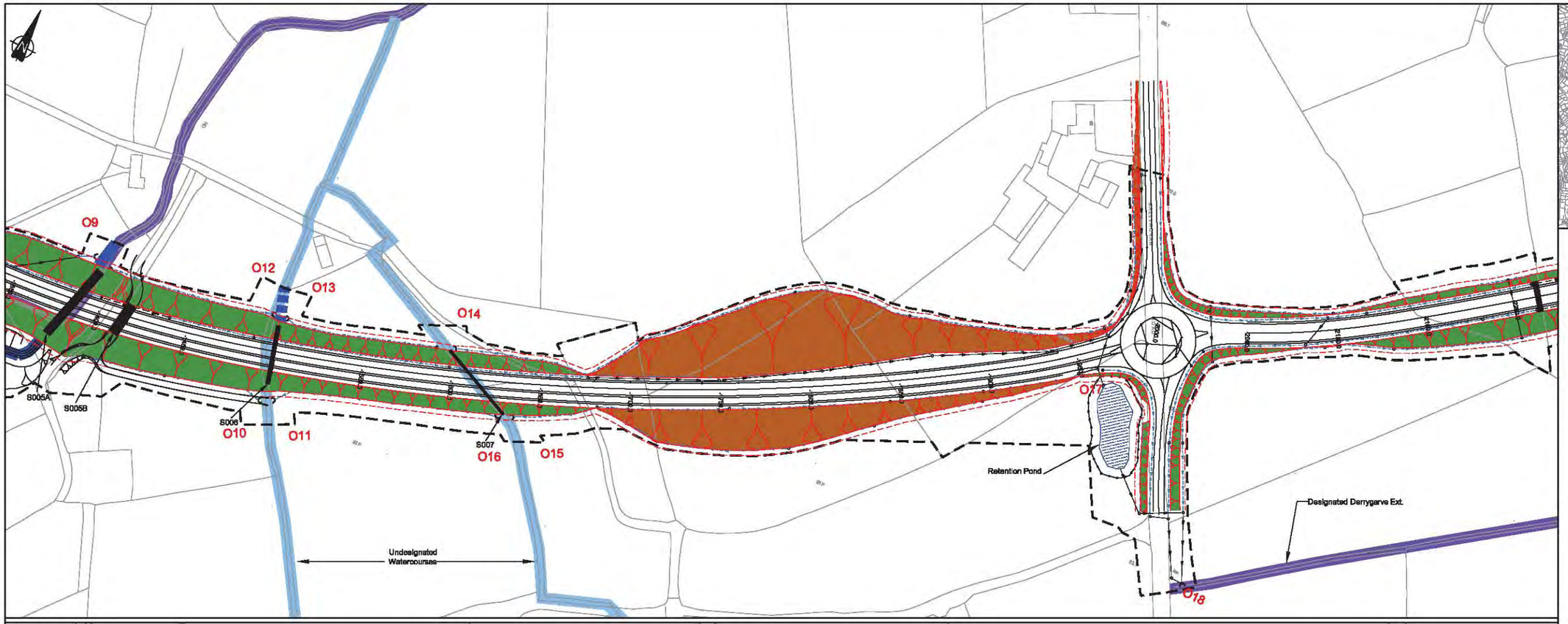

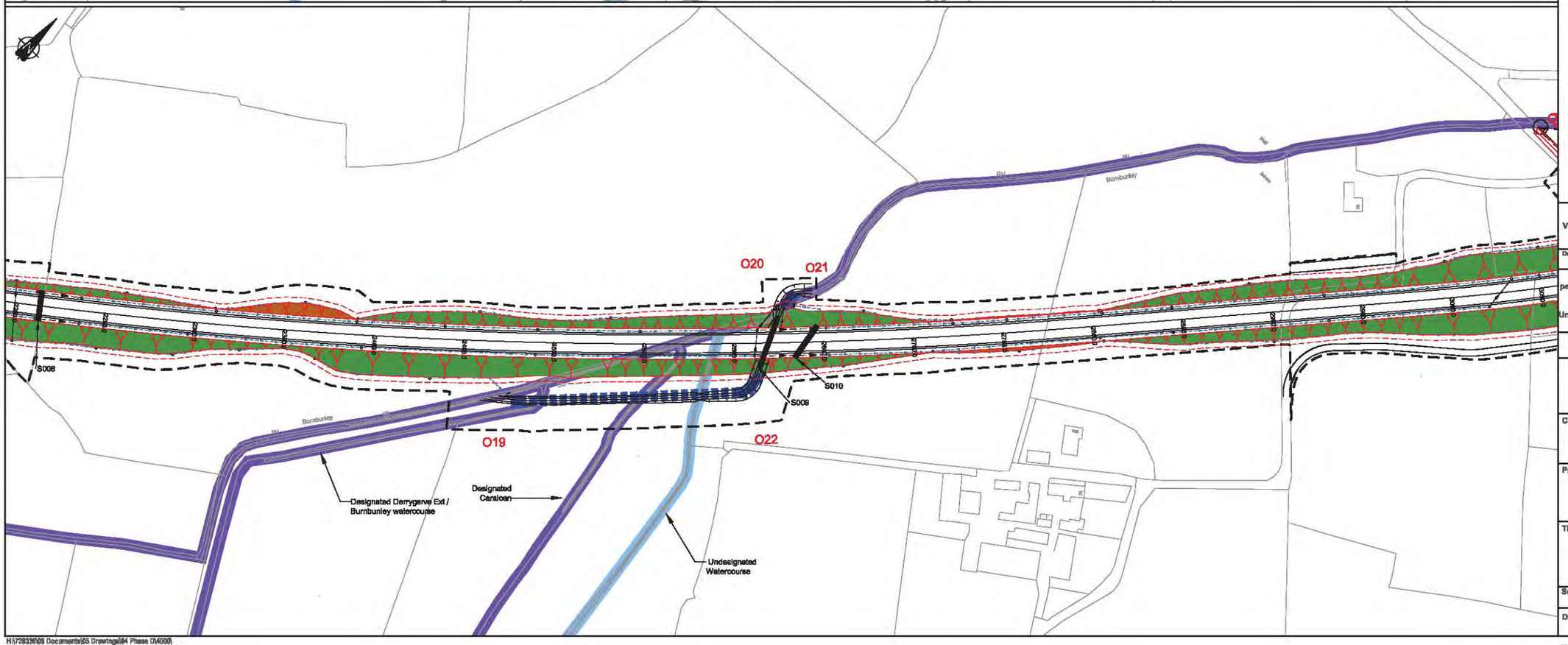

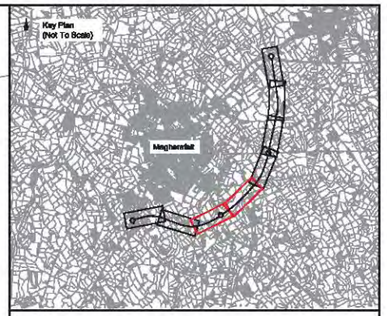

Key

- Earthworks - Cut - OPR
- Earthworks - Fill - OPR
- Earthworks - Cut - Additional Engineering
- Earthworks - Fill - Additional Engineering
- Maintenance Strip
- Vesting Line
- Proposed Filter Drains
- Proposed Carrier Drains
- Designated Watercourse
- Undesignated Watercourse
- Proposed Manhole
- Proposed Headwall
- Proposed Culvert
- O(No.) Proposed Outfalls
- Proposed Diversion

Proposed Structures

S001	Farm Access Underpass
S002	Culvert
S003	Killyfaddy Road Underbridge
S004	Culvert
S005A	Culvert
S005B	Farm Access Underpass
S006	Culvert
S007	Pipe Culvert
S008	Cattle Underpass
S009	Culvert
S010	Cattle Underpass
S011	Loves Road Underbridge
S012	Culvert
S013	Cattle Underpass
S014	Farm Access Underpass
S015	Copples River Underbridge
S016	Pipe Culvert
S017	Farm Access Overbridge
S018	Floodplain Connector 1
S019	Floodplain Connector 2
S020	Floodplain Connector 3
S021	Farm Access Underpass
S022	Pipe Culvert

Note:
1. Additional items in dark grey are updates to the OS Map
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3. Additional Engineering = works undertaken and finalised through consultation with landowners

Ver	Amendment	By	Checked	Approved	Date

Drawn	Date	Checked	Date	Approved	Date
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Project: **A31 Magherafelt Bypass**

Title: **Optimised Preferred Route Drainage Design Plan Sheet 2 of 4**

Scale @ A1	1:1250	Ver.
Drawing No.	720336.D.D.4071	A

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Figure 4.30.2

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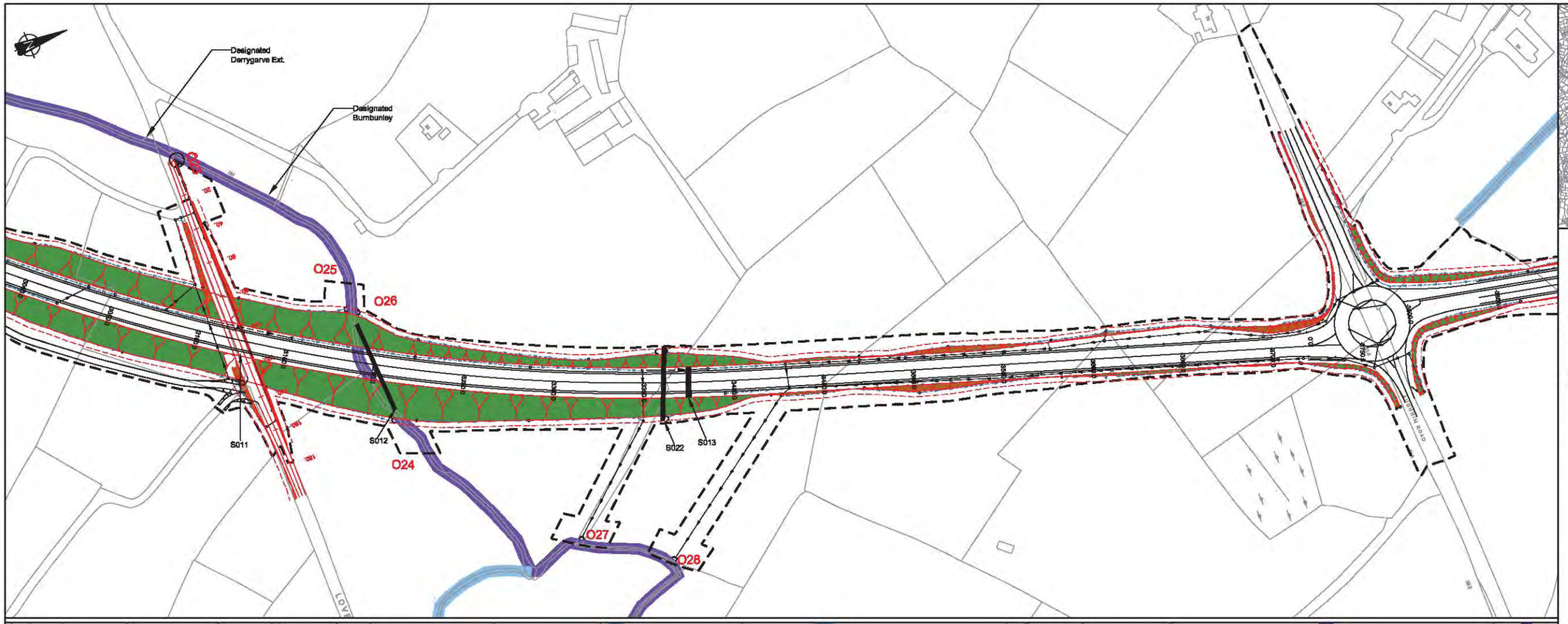

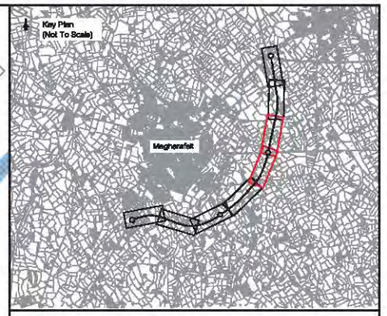

Key

- Earthworks - Cut - OPR
- Earthworks - Fill - OPR
- Earthworks - Cut - Additional Engineering
- Earthworks - Fill - Additional Engineering
- Maintenance Strip
- Vesting Line
- Proposed Filter Drains
- Proposed Carrier Drains
- Designated Watercourse
- Undesignated Watercourse
- Proposed Manhole
- Proposed Headwall
- Proposed Culvert
- O(No.) Proposed Outfalls
- Proposed Diversion

Proposed Structures

S001	Farm Access Underpass
S002	Culvert
S003	Killyfaddy Road Underbridge
S004	Culvert
S005A	Culvert
S005B	Farm Access Underpass
S006	Culvert
S007	Pipe Culvert
S008	Cattle Underpass
S009	Culvert
S010	Cattle Underpass
S011	Loves Road Underbridge
S012	Culvert
S013	Cattle Underpass
S014	Farm Access Underpass
S015	Coppies River Underbridge
S016	Pipe Culvert
S017	Farm Access Overbridge
S018	Floodplain Connector 1
S019	Floodplain Connector 2
S020	Floodplain Connector 3
S021	Farm Access Underpass
S022	Pipe Culvert

Notes:
1. Additional Items in dark grey are updates to the OS Map
2. OPR = Optimised Preferred Route as published in Environmental Statement Addendum January 2009
3. Additional Engineering = works undertaken and finalised through consultation with landowners

Ver	Amendment	By	Checked	Approved	Date

Drawn	Date	Checked	Date	Approved	Date
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Project: **A31 Magherafelt Bypass**

Title: **Optimised Preferred Route Drainage Design Plan Sheet 3 of 4**

Scale @ A1	1:1250	Ver.
Drawing No.	720336.D.D.4071	A

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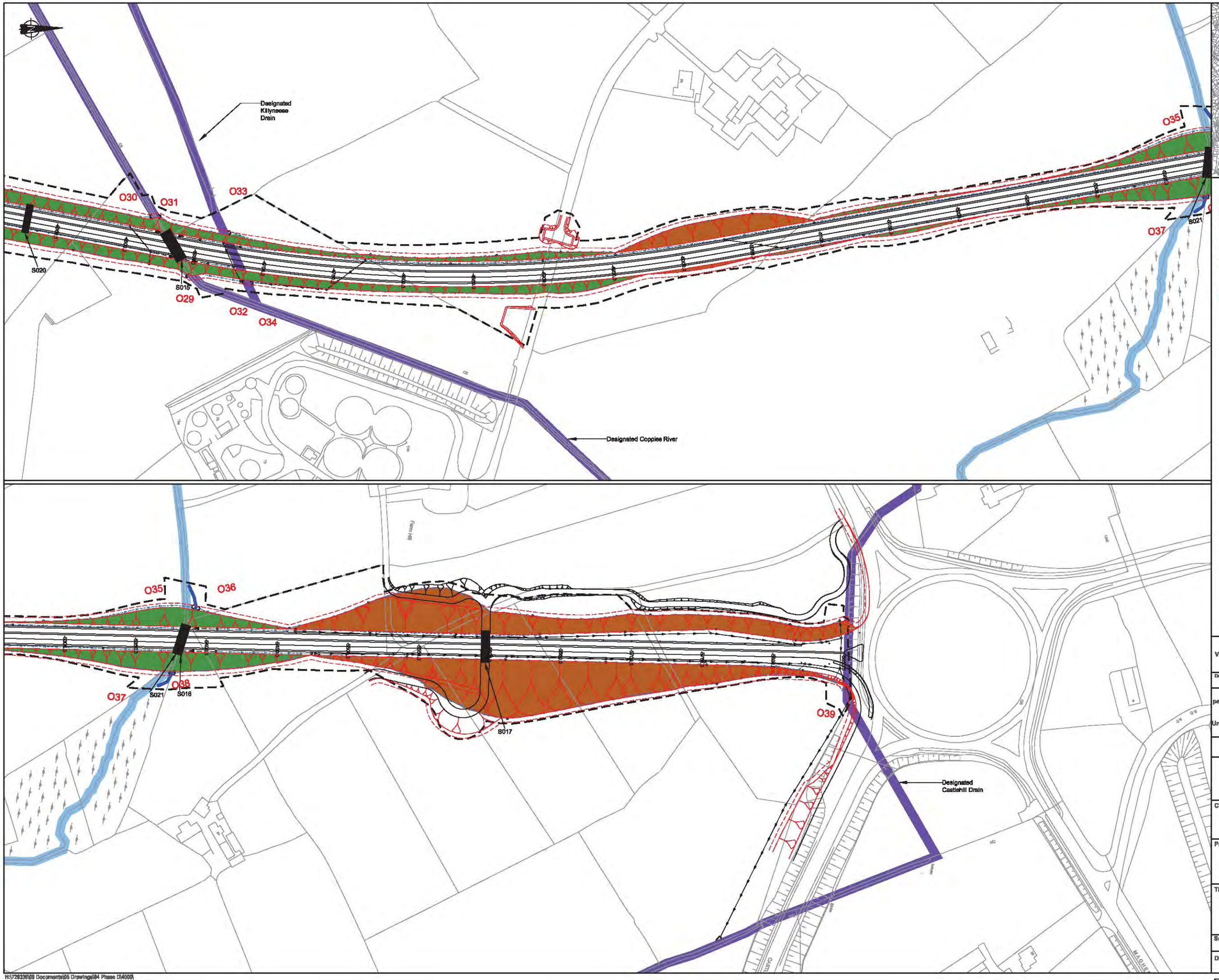
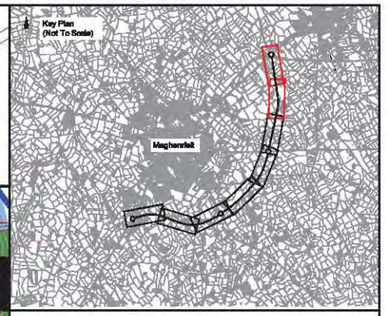
Figure 4.30.3





Key

- Earthworks - Cut - OPR
- Earthworks - Fill - OPR
- Earthworks - Cut - Additional Engineering
- Earthworks - Fill - Additional Engineering
- Maintenance Strip
- Vesting Line
- Proposed Filter Drains
- Proposed Carrier Drains
- Designated Watercourse
- Undesignated Watercourse
- Proposed Manhole
- Proposed Headwall
- Proposed Culvert
- O(No.) Proposed Outfalls
- Proposed Diversion

Proposed Structures

S001	Farm Access Underpass
S002	Culvert
S003	Killyfaddy Road Underbridge
S004	Culvert
S005A	Culvert
S005B	Farm Access Underpass
S006	Culvert
S007	Pipe Culvert
S008	Cattle Underpass
S009	Culvert
S010	Cattle Underpass
S011	Lowes Road Underbridge
S012	Culvert
S013	Cattle Underpass
S014	Farm Access Underpass
S015	Coppies River Underbridge
S016	Pipe Culvert
S017	Farm Access Overbridge
S018	Floodplain Connector 1
S019	Floodplain Connector 2
S020	Floodplain Connector 3
S021	Farm Access Underpass
S022	Pipe Culvert

Note:
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Ver	Amendment	By	Checked	Approved	Date

Drawn	Date	Checked	Date	Approved	Date
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Project: **A31 Magherafelt Bypass**

Title: **Optimised Preferred Route Drainage Design Plan Sheet 4 of 4**

Scale @ A1	1:1250	Ver.
Drawing No.	720336.D.D.4071	A

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Figure 4.30.4

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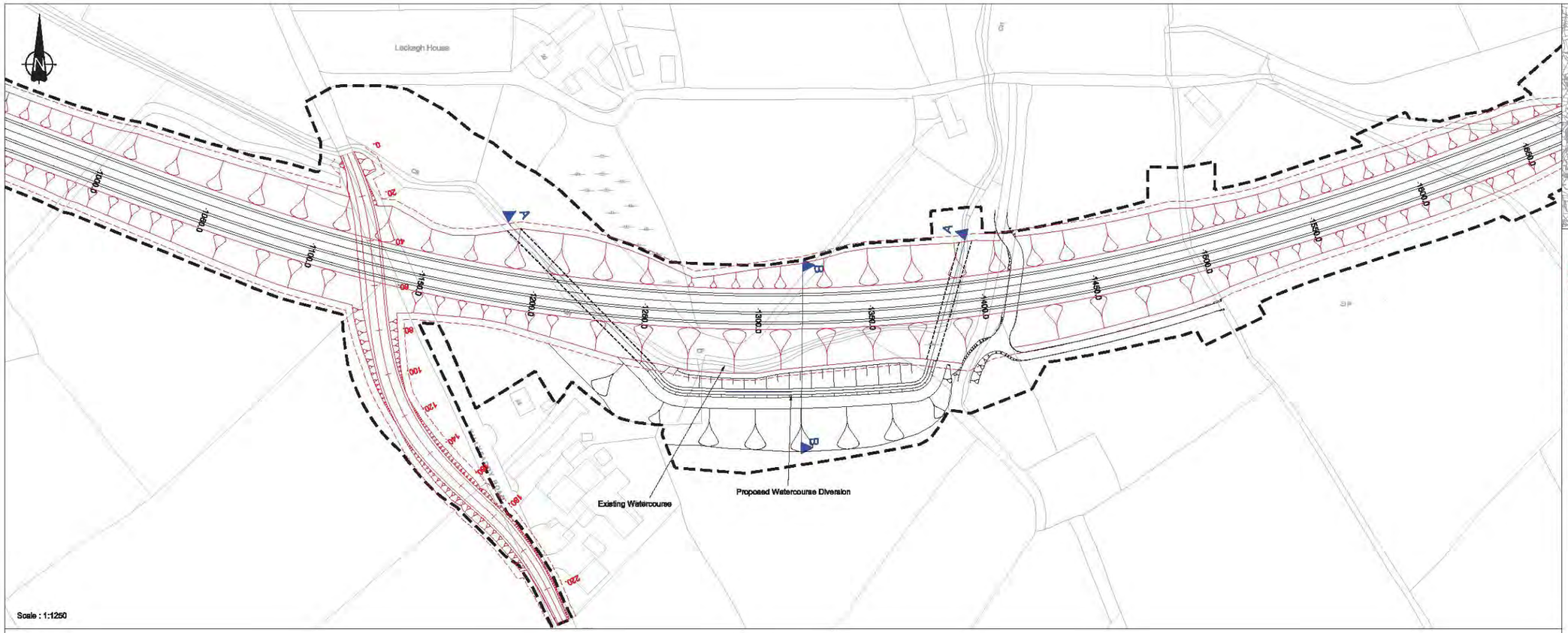
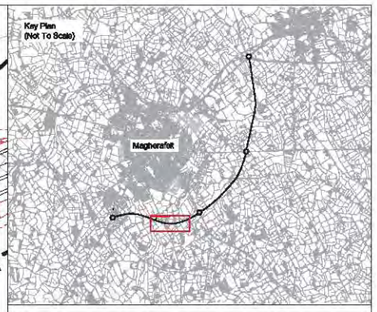
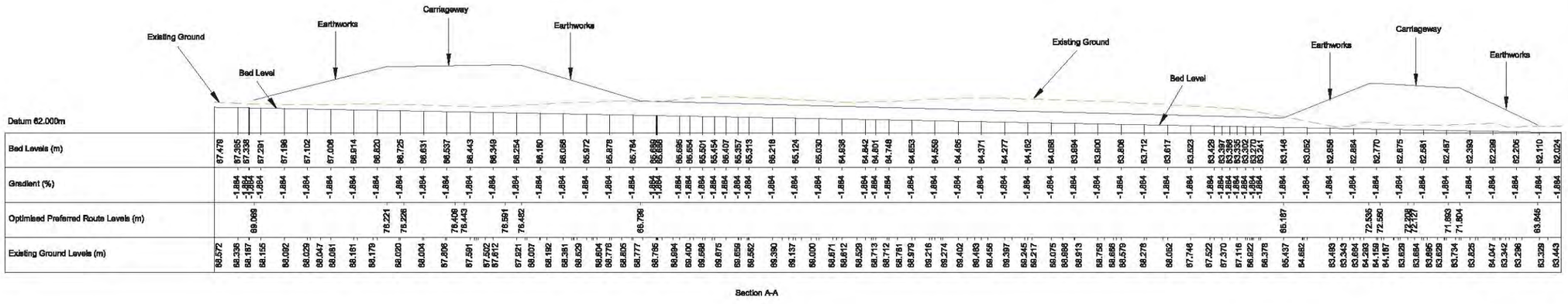




Key

- Earthworks - Cut - OPR
- Earthworks - Fill - OPR
- Earthworks - Cut - Additional Engineering
- Earthworks - Fill - Additional Engineering
- Maintenance Strip
- Vesting Line
- Existing Ground
- Bed Level
- Optimised Preferred Route

Note:
1. Additional items in dark grey are updates to the OS Map
2. OPR = Optimised Preferred Route as published in Environmental Statement Addendum January 2009
3. Additional Engineering = works undertaken and finalised through consultation with landowners



Section A-A

Scale : 1:100

Ver	Amendment	By	Checked	Approved	Date

Drawn	Date	Checked	Date	Approved	Date
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Client: ROADS Service

Project: **A31 Magherafelt Bypass**

Title: **OPR Ballymoghan Drain Diversion Plan & Section Sheet 1 of 2**

Scale @ A1: **AS SHOWN**

Ver.: **A**

Drawing No.: **720336.D.D.4074**

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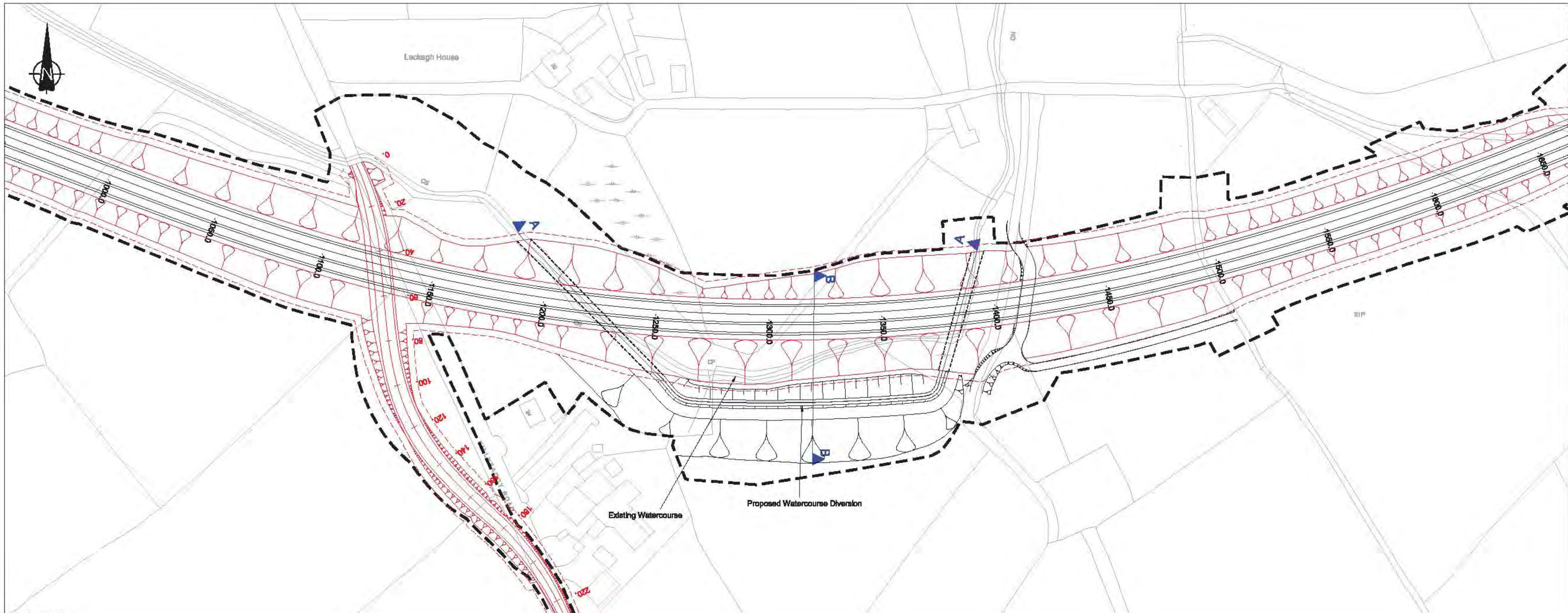
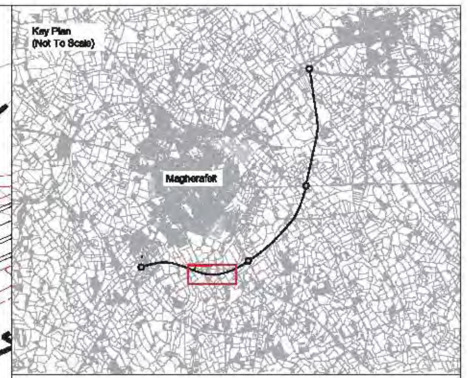
Figure 4.31.1



Scale : 1:1250



Key

- Earthworks - Cut - OPR
- Earthworks - Fill - OPR
- Earthworks - Cut - Additional Engineering
- Earthworks - Fill - Additional Engineering
- Maintenance Strip
- Vesting Line
- Existing Ground
- Bed Level
- Optimised Preferred Route

Note:
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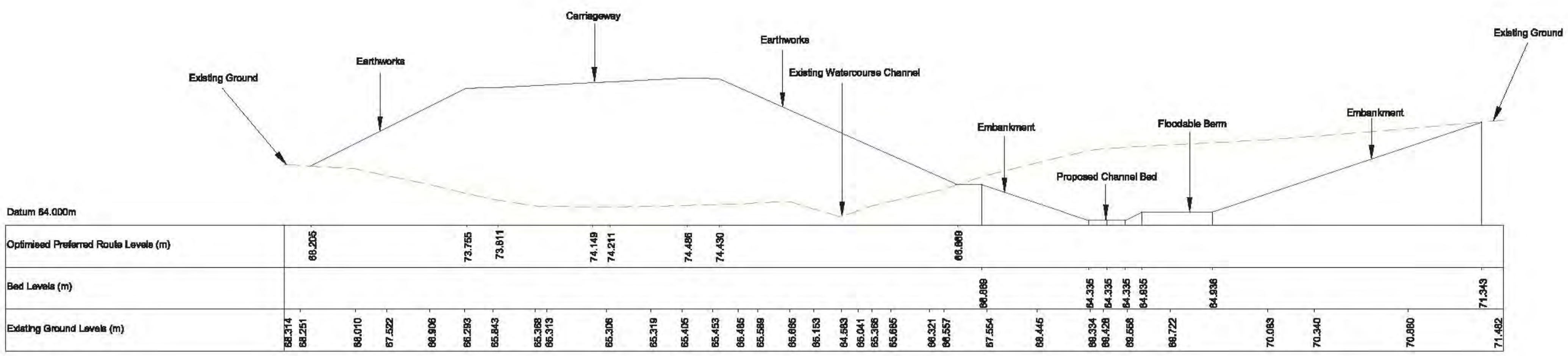

Section B-B

Scale : 1:200

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Ver	Amendment	By	Checked	Approved	Date

Drawn	Date	Checked	Date	Approved	Date
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Client: ROADS Service

Project: **A31 Magherafelt Bypass**

Title: **OPR Ballymoghan Drain Diversion Plan & Section Sheet 2 of 2**

Scale @ A1: **AS SHOWN**

Drawing No. **720336.D.D.4074**

Ver. **A**

Figure 4.31.2

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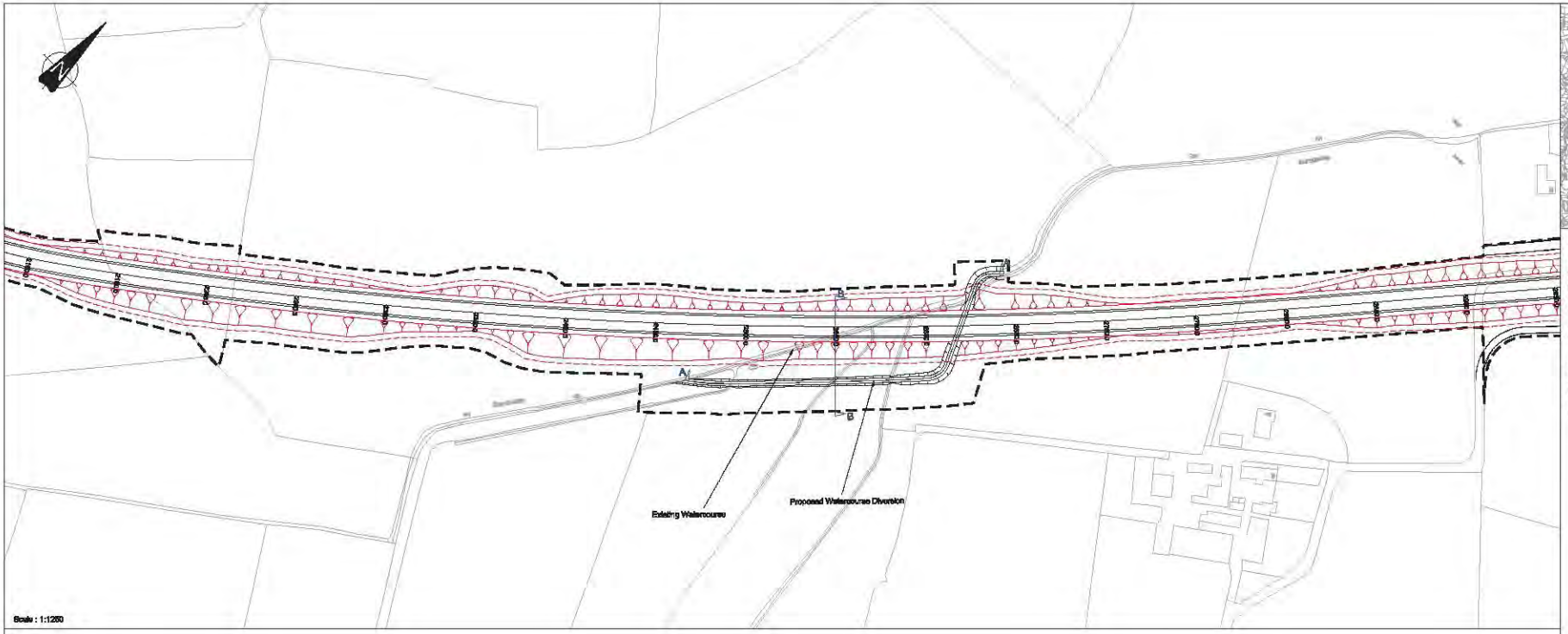

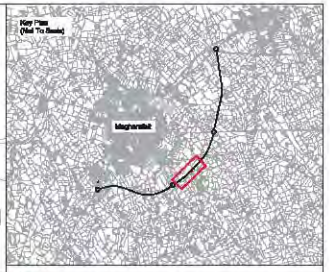

Key

- Earthworks - Cut - OPR
- Earthworks - Fill - OPR
- Earthworks - Cut - Additional Engineering
- Earthworks - Fill - Additional Engineering
- Maintenance Strip
- Vesting Line
- Existing Ground
- Bed Level
- Optimised Preferred Route

Note:
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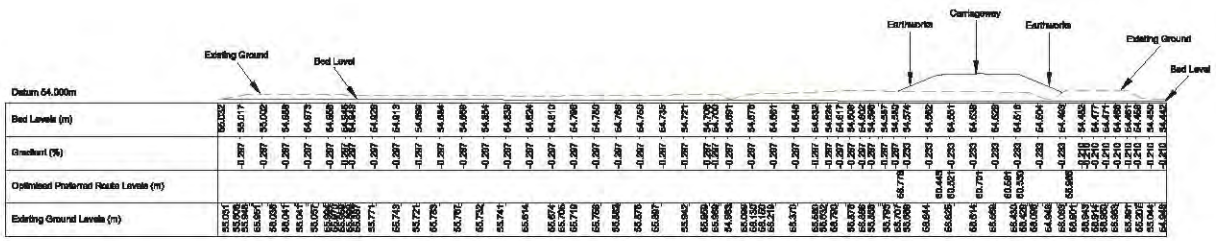

Scale : 1:200

Ver	Amendment	By	Checked	Approved	Date

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Client: ROADS Service

Project: **A31 Magherafelt Bypass**

Title: **OPR Derrygarve Extension Diversion / Plan & Section Sheet 1 of 2**

Scale @ A1: **AS SHOWN**

Drawing No.: **720336.D.D.4075**

Ver.: **A**

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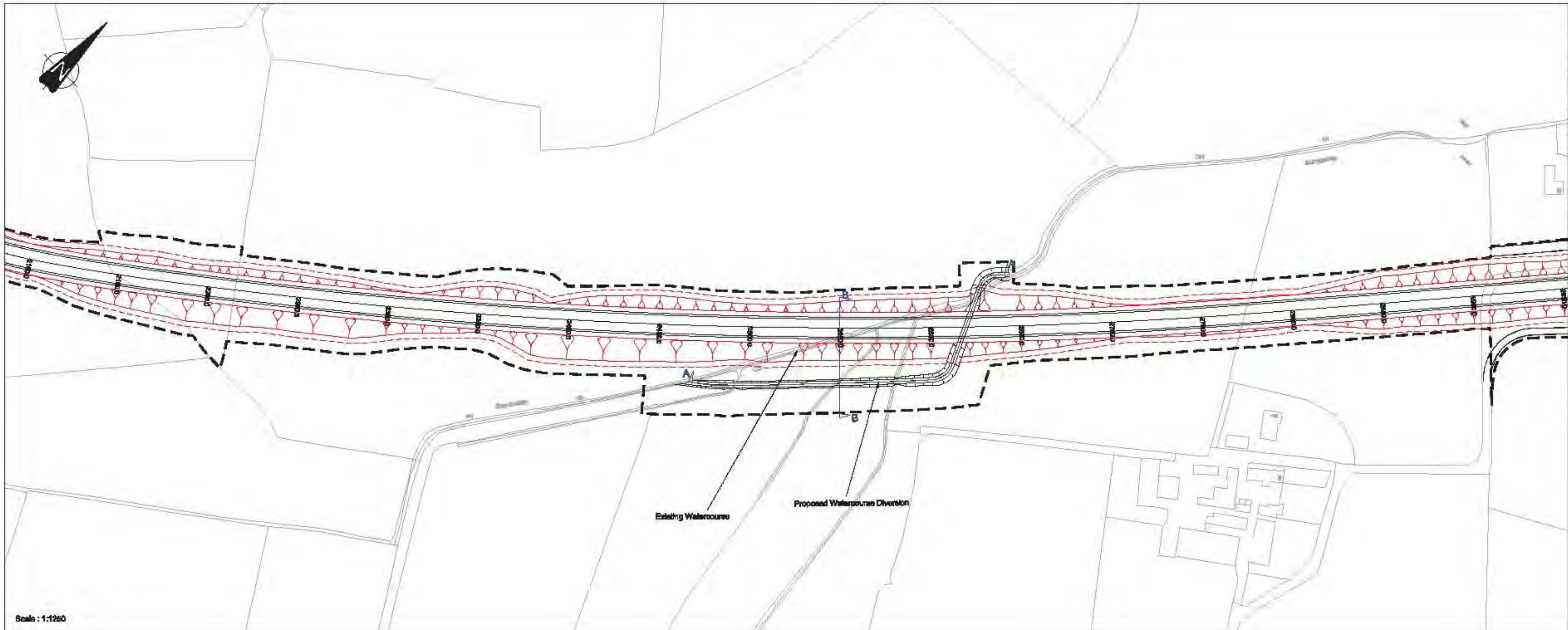
Figure 4.32.1



Scale : 1:1250

Key

Earthworks - Cut - OPR
Earthworks - Fill - OPR
Earthworks - Cut - Additional Engineering
Earthworks - Fill - Additional Engineering
Maintenance Strip
Vesting Line
Existing Ground
Bed Level
Optimised Preferred Route

Note:
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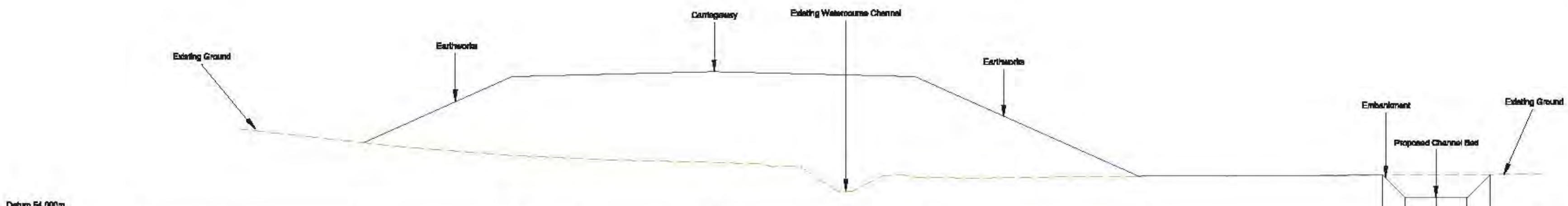

Datum 54.000m

Optimised Preferred Route Levels (m)	57.098, 59.889, 59.852, 60.102, 59.862, 59.889, 55.691
Bed Levels (m)	55.741, 54.784, 54.784, 54.784, 55.783
Existing Ground Levels (m)	57.578, 57.000, 56.798, 56.788, 55.657, 56.380, 56.291, 56.205, 56.092, 56.137, 55.486, 55.052, 55.092, 55.638, 55.719, 55.750, 55.660, 55.629, 55.611, 55.686, 55.703, 55.690, 55.704, 55.716, 55.740, 55.727, 55.754, 55.791

Section B-B

Scale : 1:100

H:\720336\99 Documents\05 Drawings\04 Phase 2\s60A

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Client

ROADS Service

Project

A31 Magherafelt Bypass

Title

OPR Derrygarve Extension Diversion / Plan & Section Sheet 2 of 2

Scale @ A1 **AS SHOWN**

Drawing No. **720336.D.D.4075**

Ver. **A**

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Figure 4.32.2

Existing 125mm diameter MDPE to be re-aligned with 320m of 125 MDPE

Existing 400mm diameter D.I. to be re-aligned with 160m of 400 D.I.

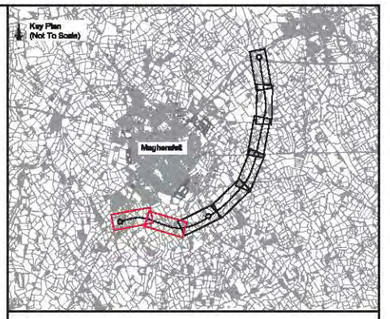
Existing 3" AC to be re-aligned with 260m of 125 MDPE

MONEYMORE ROAD

Crockthomas

Lenagh House

Key Plan (Not To Scale)



Key

- Earthworks - Cut - OPR
- Earthworks - Fill - OPR
- Earthworks - Cut - Additional Engineering
- Earthworks - Fill - Additional Engineering
- Maintenance Strip
- Vesting Line
- Northern Ireland Water Infrastructure

Note:
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2. OPR = Optimised Preferred Route as published in Environmental Statement Addendum January 2009
3. Additional Engineering = works undertaken and finalised through consultation with landowners
4. Please note this information is base on that provided by NIW and is subject to further detailed design

Ver	Amendment	By	Checked	Approved	Date

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Client: ROADS Service

Project: **A31 Magherafelt Bypass**

Title: **Optimised Preferred Route Proposed NIW Diversions Sheet 1 of 4**

Scale @ A1	1:1250	Ver.
Drawing No.	720336.D.D.2323	A

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Figure 4.33.1

Existing 6" PVC to be re-aligned with 230m of 125 MDPE

Existing 6" A.C. to be re-aligned with 230m of 125 MDPE

Existing 18" Cast Iron diameter trunk main to be re-aligned with 50m of 450 D.I.

Key Plan (Not To Scale)

Key

- Earthworks - Cut - OPR
- Earthworks - Fill - OPR
- Earthworks - Cut - Additional Engineering
- Earthworks - Fill - Additional Engineering
- Maintenance Strip
- Vesting Line
- Northern Ireland Water Infrastructure

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Drawn	Date	Checked	Date	Approved	Date
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Project: **A31 Magherafelt Bypass**

Title: **Optimised Preferred Route Proposed NIW Diversions Sheet 2 of 4**

Scale @ A1: **1:1250**

Ver.: **A**

Drawing No.: **720336.D.D.2323**

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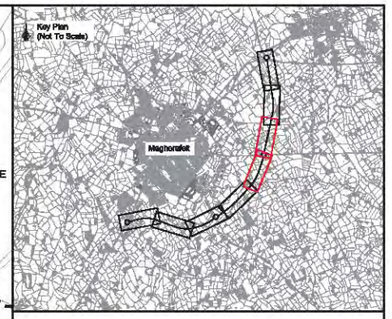
Figure 4.33.2



Key

- Earthworks - Cut - OPR
- Earthworks - Fill - OPR
- Earthworks - Cut - Additional Engineering
- Earthworks - Fill - Additional Engineering
- Maintenance Strip
- Vesting Line
- Northern Ireland Water Infrastructure

Note:
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Title: Optimised Preferred Route Proposed NIW Diversions Sheet 3 of 4

Scale @ A1: 1:1250

Drawing No.: 720336.D.D.2323

Ver.: A

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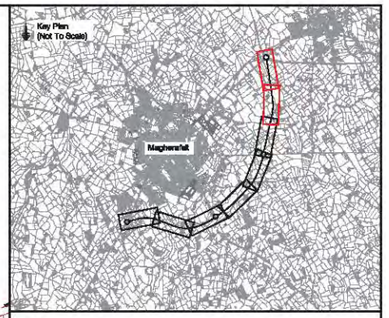
Figure 4.33.3



Key

- Earthworks - Cut - OPR
- Earthworks - Fill - OPR
- Earthworks - Cut - Additional Engineering
- Earthworks - Fill - Additional Engineering
- Maintenance Strip
- Vesting Line
- Northern Ireland Water Infrastructure

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Title: **Optimised Preferred Route Proposed NIW Diversions Sheet 4 of 4**

Scale @ A1	1:1250	Ver.
Drawing No.	720336.D.D.2323	A

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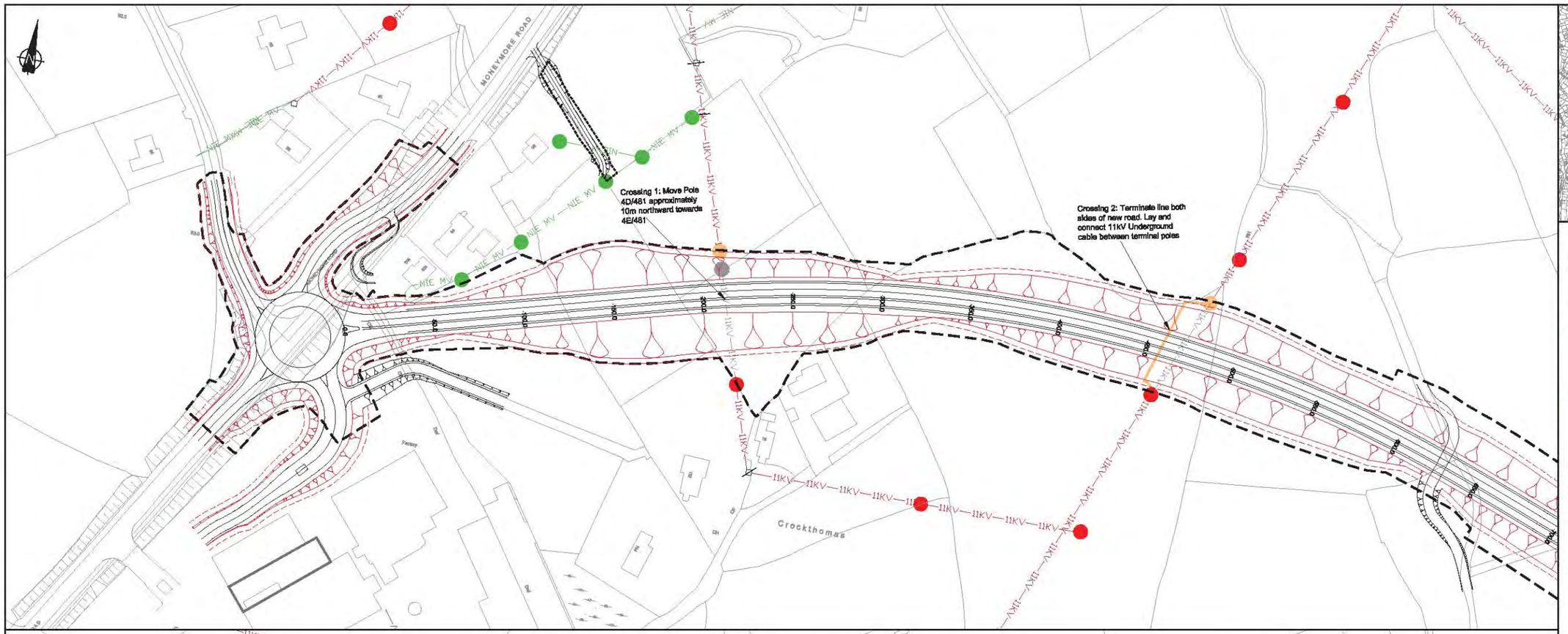
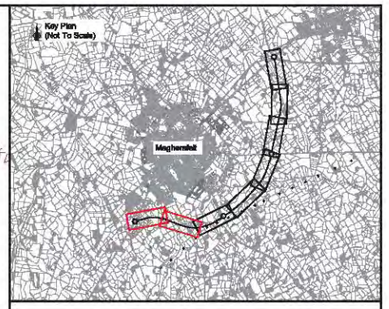
Figure 4.33.4





Key

- Earthworks - Cut - OPR
- Earthworks - Fill - OPR
- Earthworks - Cut - Additional Engineering
- Earthworks - Fill - Additional Engineering
- Maintenance Strip
- Vesting Line
- NIE HV 11kV Conductors
- NIE HV 11kV Poles
- NIE HV 275kV Conductors
- NIE NV 275kV Pylons
- NIE HV 33kV Conductors
- NIE HV 33kV Poles
- NIE MV Conductors
- NIE MV Poles
- Proposed Alteration
- Recover Equipment
- Junction Box
- NIE HV 11kV Conductor to be terminated
- NIE HV 11kV Poles to be removed

Note:
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2. OPR = Optimised Preferred Route as published in Environmental Statement Addendum January 2009
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Ver	Amendment	By	Checked	Approved	Date

Drawn	Date	Checked	Date	Approved	Date
JJM	27/03/09	LE	27/03/09	ALN	27/03/09

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Project: **A31 Magherafelt Bypass**

Title: **Optimised Preferred Route Proposed NIE Diversions Sheet 1 of 4**

Scale @ A1	1:1250	Ver.
Drawing No.	720336.D.D.2268	A

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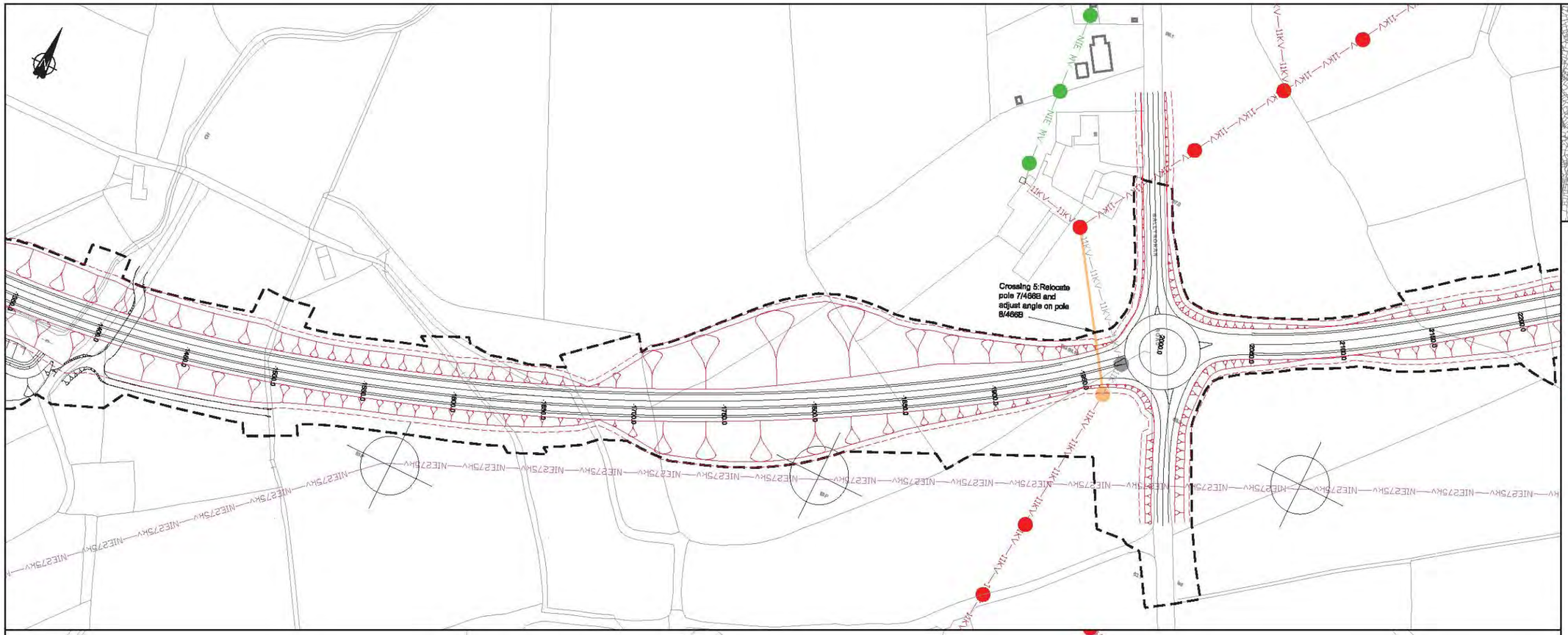
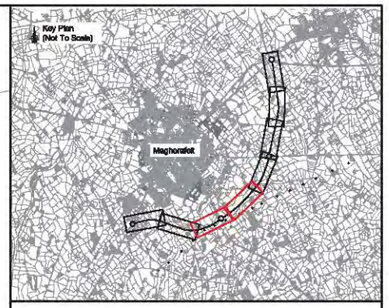
Figure 4.34.1





Key

- Earthworks - Cut - OPR
- Earthworks - Fill - OPR
- Earthworks - Cut - Additional Engineering
- Earthworks - Fill - Additional Engineering
- Maintenance Strip
- Vesting Line
- NIE HV 11kV Conductors
- NIE HV 11kV Poles
- NIE HV 275kV Conductors
- or NIE NV 275kV Pylons
- NIE HV 33kV Conductors
- NIE HV 33kV Poles
- NIE MV Conductors
- NIE MV Poles
- Proposed Alteration
- Recover Equipment
- Junction Box
- NIE HV 11kV Conductor to be terminated
- NIE HV 11kV Poles to be removed

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Drawn	Date	Checked	Date	Approved	Date
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Title: **Optimised Preferred Route Proposed NIE Diversions Sheet 2 of 4**

Scale @ A1	1:1250	Ver.
Drawing No.	720336.D.D.2268	A

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Figure 4.34.2

Crossing 7: Terminate line both sides of new road. Lay and connect 11kV underground cable between terminal poles

Crossing 8: Assume pole 19/161 not impeding development therefore no alterations required

LOVE'S ROAD

TULLYLINKIS

ATTYREA ROAD

Key Plan
(Not To Scale)

Magherafelt

Key

- Earthworks - Cut - OPR
- Earthworks - Fill - OPR
- Earthworks - Cut - Additional Engineering
- Earthworks - Fill - Additional Engineering
- Maintenance Strip
- Vesting Line
- NIE HV 11kV Conductors
- NIE HV 11kV Poles
- NIE HV 275kV Conductors
- NIE NV 275kV Pylons
- NIE HV 33kV Conductors
- NIE HV 33kV Poles
- NIE MV Conductors
- NIE MV Poles
- Proposed Alteration
- Recover Equipment
- Junction Box
- NIE HV 11kV Conductor to be terminated
- NIE HV 11kV Poles to be removed

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Project: **A31 Magherafelt Bypass**

Title: **Optimised Preferred Route Proposed NIE Diversions Sheet 3 of 4**

Scale @ A1	1:1250	Ver.
Drawing No.	720336.D.D.2268	A

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Figure 4.34.3

Crossing 9: raise poles 4/27 and 5/27 to provide required clearance over road

Crossing 10: Recover pole 41 and erect a new pole on each side of the road

Key Plan (Not To Scale)

Magherafelt

Key

- Earthworks - Cut - OPR
- Earthworks - Fill - OPR
- Earthworks - Cut - Additional Engineering
- Earthworks - Fill - Additional Engineering
- Maintenance Strip
- Vesting Line
- NIE HV 11kV Conductors
- NIE HV 11kV Poles
- NIE HV 275kV Conductors
- NIE NV 275kV Pylons
- NIE HV 33kV Conductors
- NIE HV 33kV Poles
- NIE MV Conductors
- NIE MV Poles
- Proposed Alteration
- Recover Equipment
- Junction Box
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Drawn	Date	Checked	Date	Approved	Date
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Project: **A31 Magherafelt Bypass**

Title: **Optimised Preferred Route Proposed NIE Diversions Sheet 4 of 4**

Scale @ A1	1:1250	Ver.
Drawing No.	720336.D.D.2268	A

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Figure 4.34.4

Proposed new duct

Existing underground services to be abandoned

Proposed new joint boxes

MONEYMORE ROAD

Crockthomas

Key Plan
(Not To Scale)

Magherafelt

Key

- Earthworks - Cut - OPR
- Earthworks - Fill - OPR
- Earthworks - Cut - Additional Engineering
- Earthworks - Fill - Additional Engineering
- Maintenance Strip
- Vesting Line
- Existing BT Underground Services
- Existing BT Overhead Services
- Existing BT Underground Services to be abandoned
- Existing BT Overhead Services to be recovered
- Proposed BT Underground Services
- Proposed BT Overhead Services

Notes:
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Ledagh House

Proposed new joint box

Existing overhead services to be recovered

Proposed new duct

Proposed new joint box

Ver	Amendment	By	Checked	Approved	Date

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JJM	26/03/09	LE	30/03/09	ALN	30/03/09

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Client: ROADS Service

Project: **A31 Magherafelt Bypass**

Title: **Optimised Preferred Route Proposed BT Diversions Sheet 1 of 5**

Scale @ A1: **1:1250**

Ver.: **A**

Drawing No.: **720336.D.D.2322**

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Figure 4.35.1

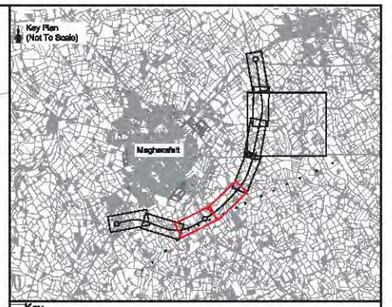
Proposed joint box

Proposed new duct

Existing underground services to be abandoned

Proposed new joint boxes

Key Plan
(Not To Scale)



Key

- Earthworks - Cut - OPR
- Earthworks - Fill - OPR
- Earthworks - Cut - Additional Engineering
- Earthworks - Fill - Additional Engineering
- Maintenance Strip
- Vesting Line
- Existing BT Underground Services
- Existing BT Overhead Services
- Existing BT Underground Services to be abandoned
- Existing BT Overhead Services to be recovered
- Proposed BT Underground Services
- Proposed BT Overhead Services

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Client: ROADS Service

Project: A31 Magherafelt Bypass

Title: Optimised Preferred Route Proposed BT Diversions Sheet 2 of 5

Scale @ A1	1:1250	Ver.
Drawing No.	720336.D.D.2322	A

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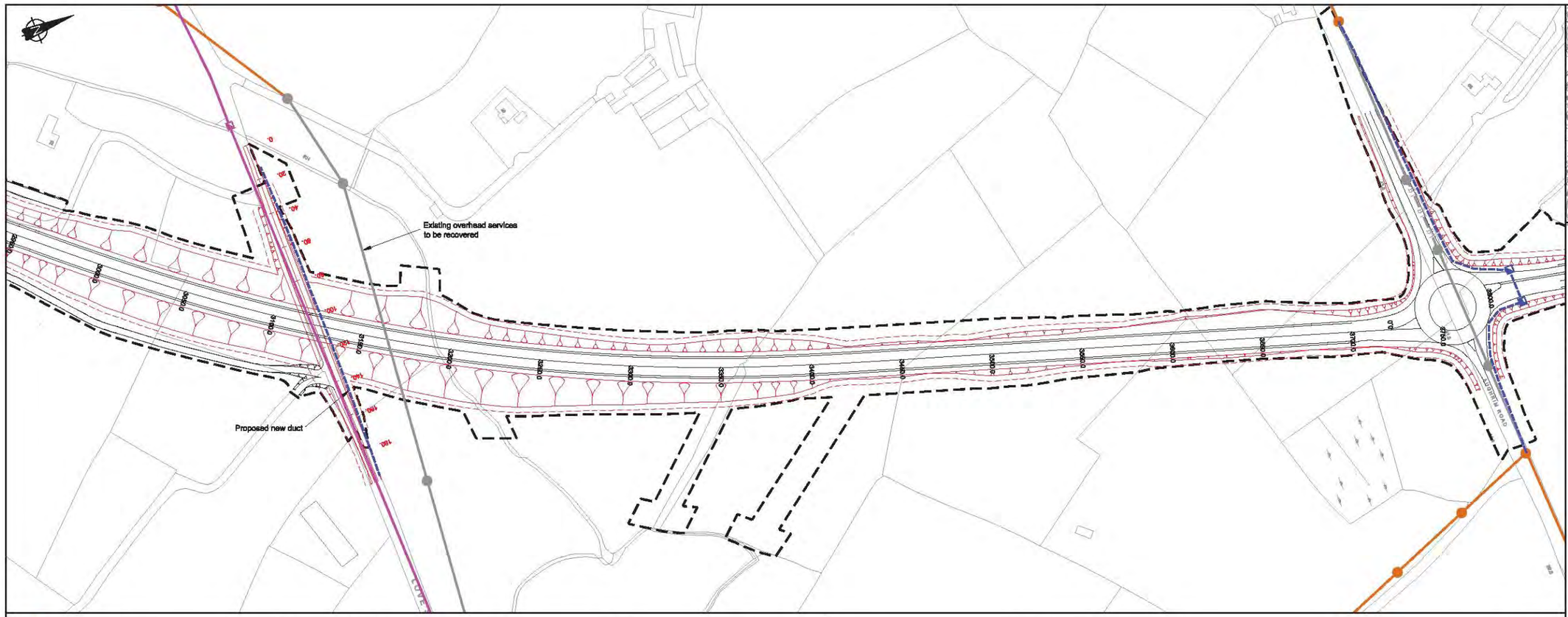
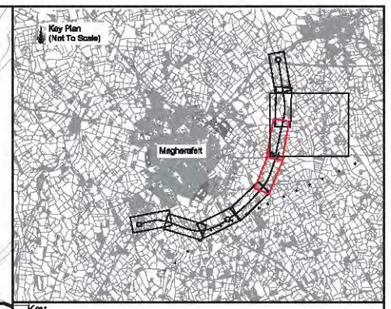
Figure 4.35.2





Key

- Earthworks - Cut - OPR
- Earthworks - Fill - OPR
- Earthworks - Cut - Additional Engineering
- Earthworks - Fill - Additional Engineering
- Maintenance Strip
- Vesting Line
- Existing BT Underground Services
- Existing BT Overhead Services
- Existing BT Underground Services to be abandoned
- Existing BT Overhead Services to be recovered
- Proposed BT Underground Services
- Proposed BT Overhead Services

Note:
1. Additional items in dark grey are updates to the OS Map
2. OPR = Optimised Preferred Route as published in Environmental Statement Addendum January 2009
3. Additional Engineering = works undertaken and finalised through consultation with landowners

Ver	Amendment	By	Checked	Approved	Date

Drawn	Date	Checked	Date	Approved	Date
JJM	26/03/09	LE	30/03/09	ALN	30/03/09

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Client: ROADS Service

Project: A31 Magherafelt Bypass

Title: Optimised Preferred Route Proposed BT Diversions Sheet 3 of 5

Scale @ A1: 1:1250

Drawing No.: 720336.D.D.2322

Ver.: A

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Figure 4.35.3

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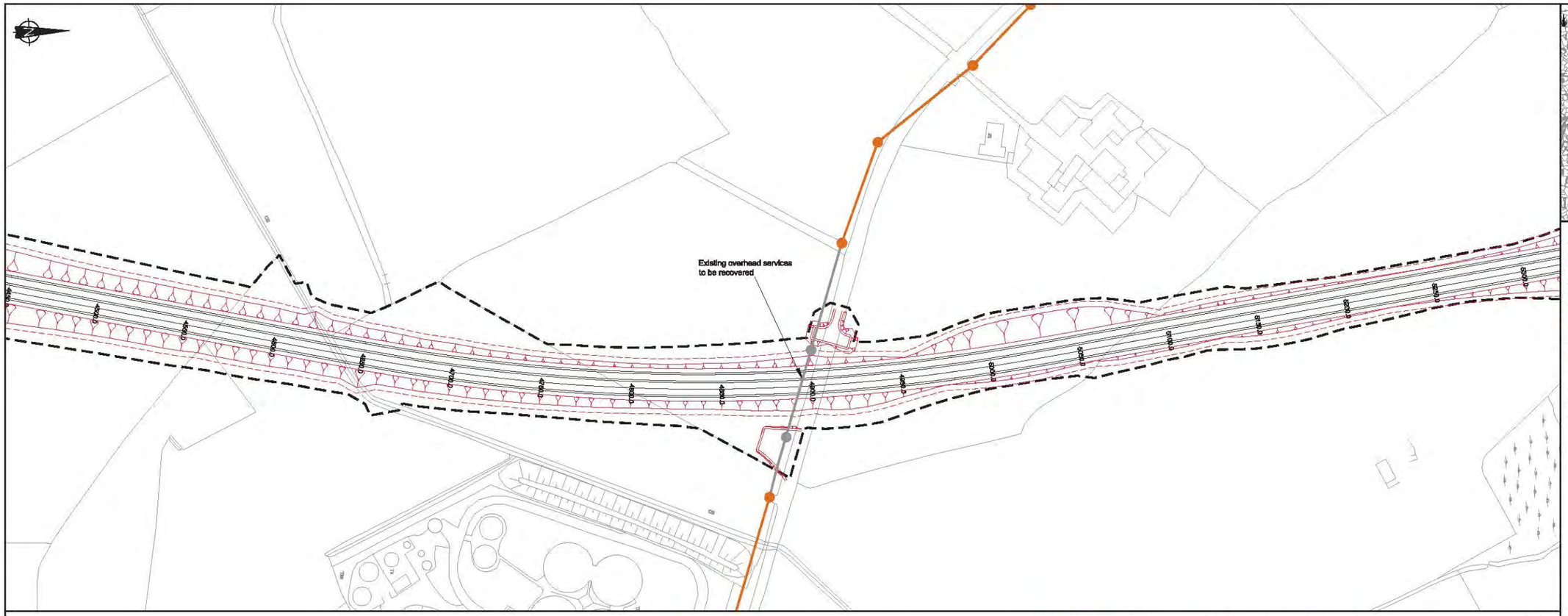

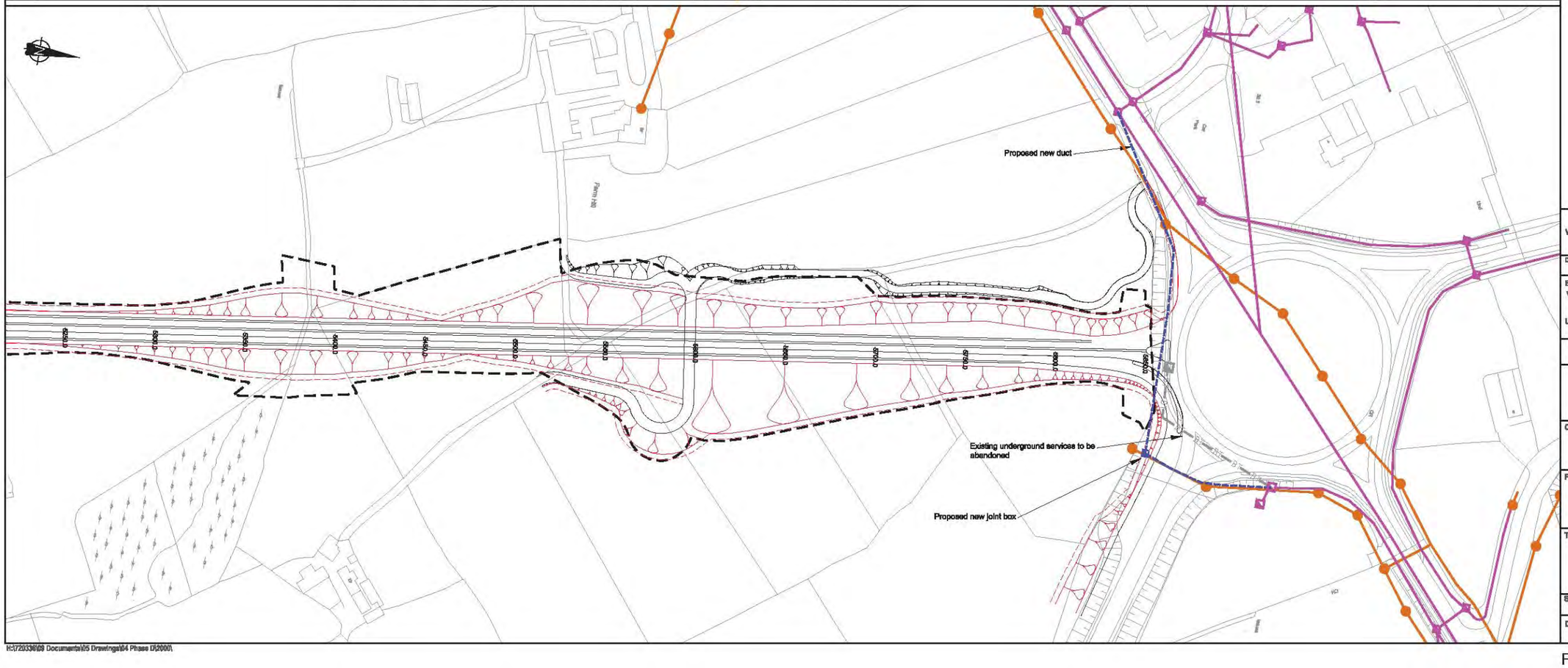

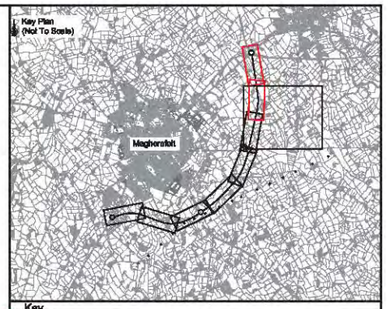

Key

- Earthworks - Cut - OPR
- Earthworks - Fill - OPR
- Earthworks - Cut - Additional Engineering
- Earthworks - Fill - Additional Engineering
- Maintenance Strip
- Vesting Line
- Existing BT Underground Services
- Existing BT Overhead Services
- Existing BT Underground Services to be abandoned
- Existing BT Overhead Services to be recovered
- Proposed BT Underground Services
- Proposed BT Overhead Services

Note:
1. Additional items in dark grey are updates to the OS Map
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3. Additional Engineering = works undertaken and finalised through consultation with landowners

Ver	Amendment	By	Checked	Approved	Date

Drawn	Date	Checked	Date	Approved	Date
JJM	26/03/09	LE	30/03/09	ALN	30/03/09

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Client: ROADS Service

Project: **A31 Magherafelt Bypass**

Title: **Optimised Proposed Route Proposed BT Diversions Sheet 4 of 5**

Scale @ A1: **1:1250**

Ver.: **A**

Drawing No.: **720336.D.D.2322**

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Figure 4.35.4

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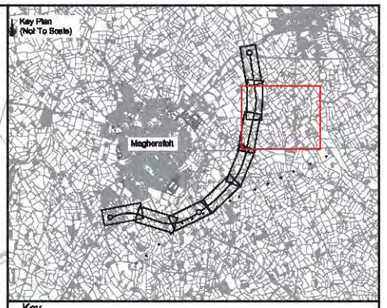

Key

- Earthworks - Cut - OPR
- Earthworks - Fill - OPR
- Earthworks - Cut - Additional Engineering
- Earthworks - Fill - Additional Engineering
- Maintenance Strip
- Vesting Line
- Existing BT Underground Services
- Existing BT Overhead Services
- Existing BT Underground Services to be abandoned
- Existing BT Overhead Services to be recovered
- Proposed BT Underground Services
- Proposed BT Overhead Services

Note:
1. Additional items in dark grey are updates to the OS Map
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3. Additional Engineering = works undertaken and finalised through consultation with landowners

Ver	Amendment	By	Checked	Approved	Date

Drawn	Date	Checked	Date	Approved	Date
JJM	26/03/09	LE	30/03/09	ALN	30/03/09

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Client: ROADS Service

Project: **A31 Magherafelt Bypass**

Title: **Optimised Preferred Route Proposed BT Diversions Sheet 5 of 5**

Scale @ A1	1:2500	Ver.
Drawing No.	720336.D.D.2322	A

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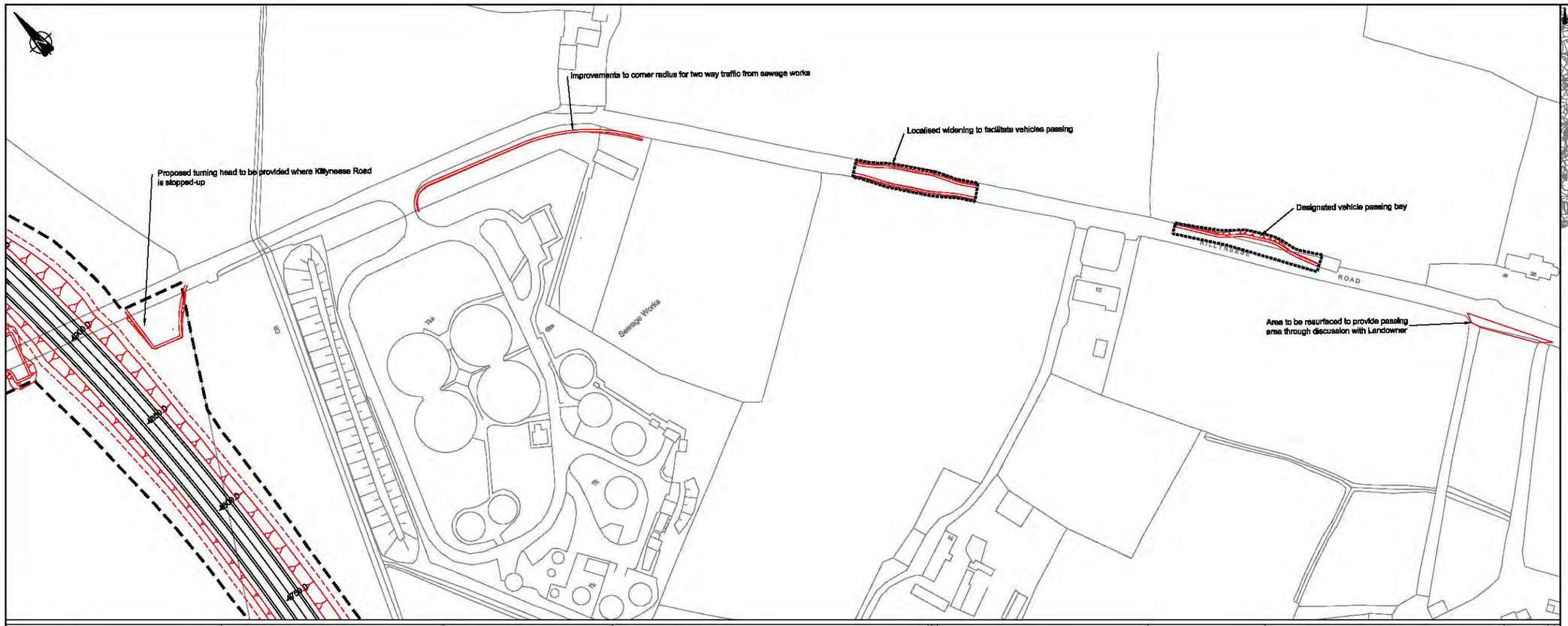
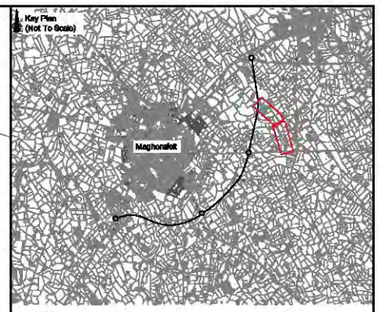
Figure 4.35.5





Key

- Earthworks - Cut - OPR
- Earthworks - Fill - OPR
- Earthworks - Cut - Additional Engineering
- Earthworks - Fill - Additional Engineering
- Maintenance Strip
- Vesting Line
- Proposed passing bay

Note:
1. Additional items in dark grey are updates to the OS Map
2. OPR = Optimised Preferred Route as published in Environmental Statement Addendum January 2009
3. Additional Engineering = works undertaken and finalised through consultation with landowners

Ver	Amendment	By	Checked	Approved	Date
C	Works updated after L/O meeting	SMG	LE	ALN	26/03/09
B	OPR alignment inserted	LE	MK	ALN	02/12/08

Drawn	Date	Checked	Date	Approved	Date
AMI	03/01/08	LE	03/01/08	JCM	03/01/08

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Client: ROADS Service

Project: **A31 Magherafelt Bypass**

Title: **Optimised Preferred Route Killyneese Road Minor Improvements**

Scale @ A1: **1:1000**

Drawing No.: **720336.C.D.2110**

Ver.: **C**

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Figure 4.4

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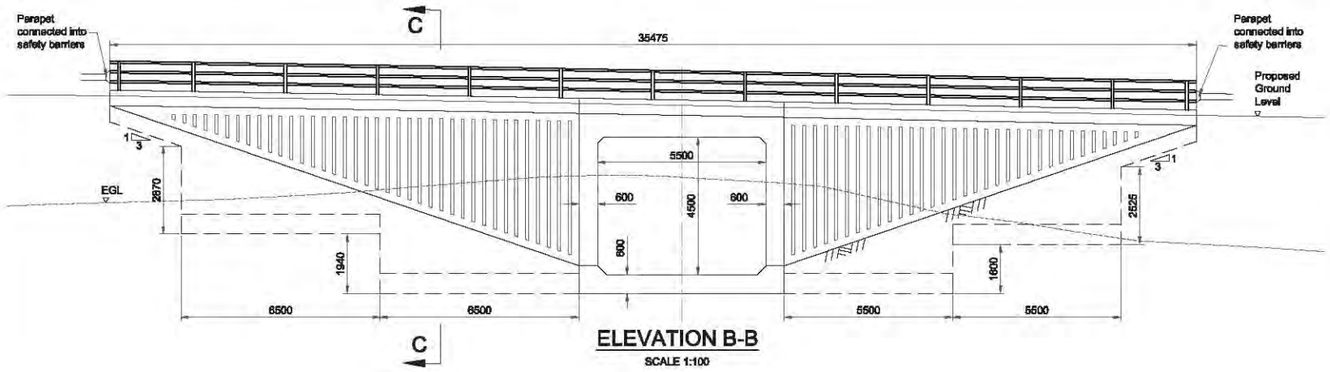
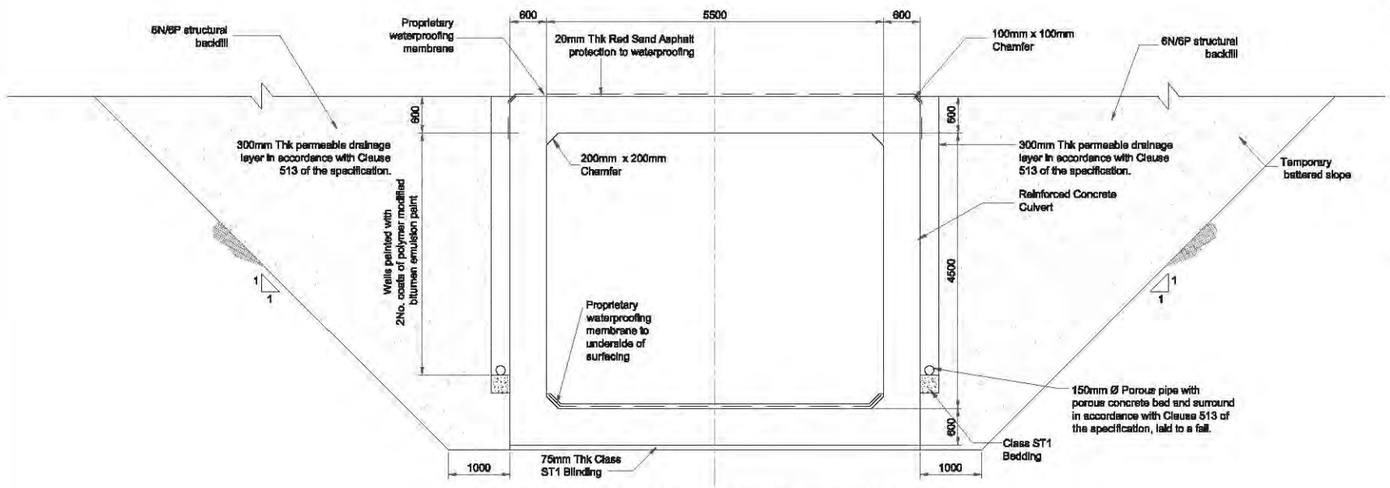


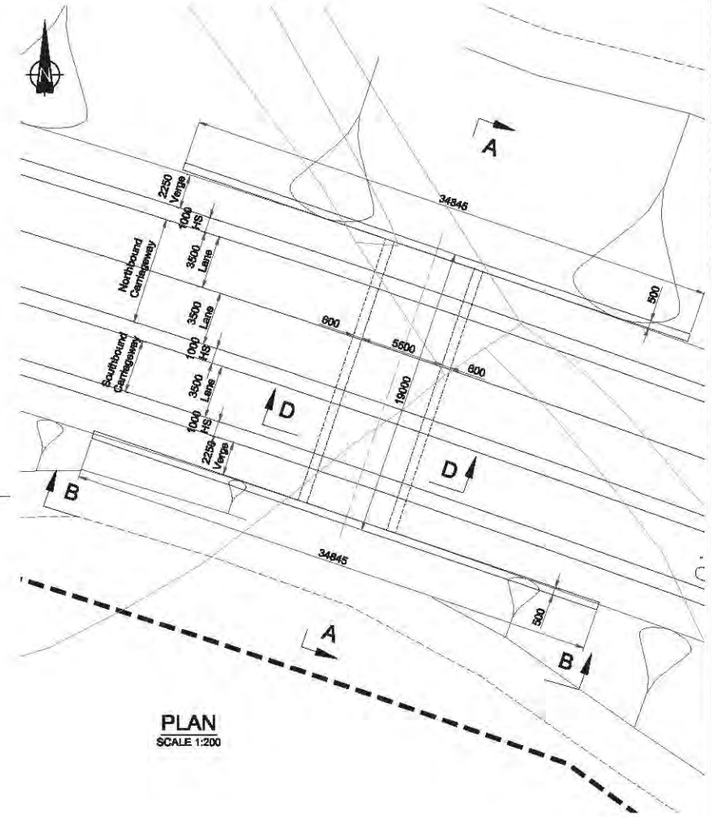
ELEVATION B-B

SCALE 1:100



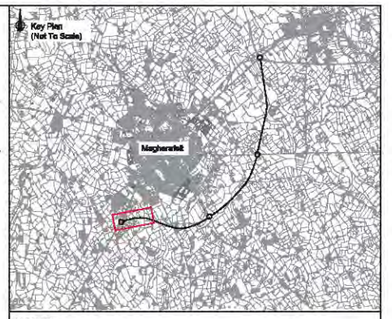
CROSS SECTION THROUGH UNDERPASS D-D

SCALE 1:50



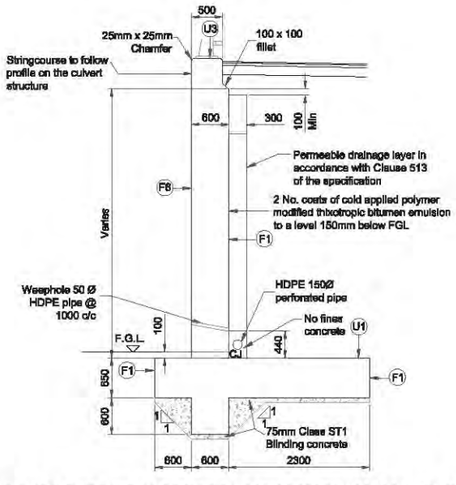
PLAN

SCALE 1:200



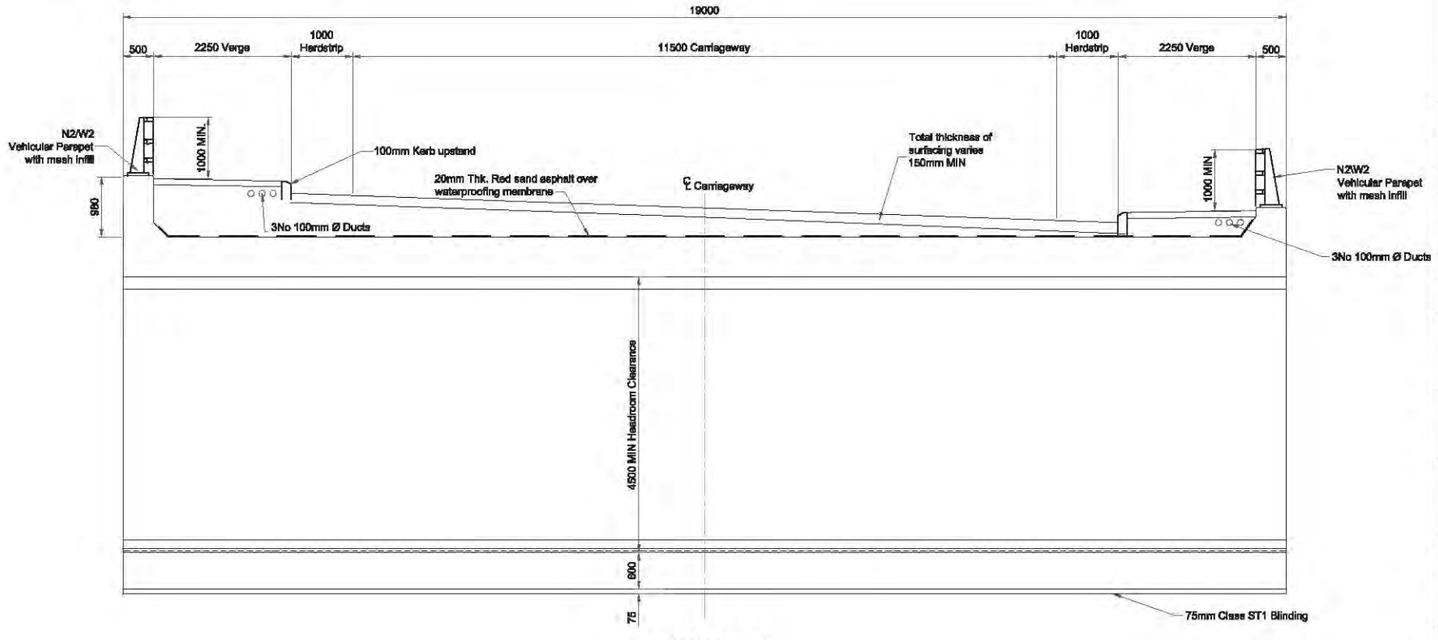
NOTES:

1. All dimensions shall be in millimetres unless otherwise stated.
2. All levels are stated in metres above ordnance datum.
3. Geometry illustrated is indicative and subject to detailed design evaluation.
4. All exposed concrete corners to have a 25mm x 25mm chamfer.
5. All buried concrete surfaces shall be coated with 2 no. coats of thixotropic bitumen emulsion in accordance with the specification.
6. All backfill surrounding the foundations shall be class 6N/6P structural fill.
7. All exposed concrete shall be treated with transparent anti graffiti coating.
8. Surface finishes to be in accordance with section 3.8 of the approval in principle documentation.



CROSS SECTION THROUGH WINGWALL C-C

SCALE 1:50



SECTION A-A

SCALE 1:50

Ver	Amendment	By	Checked	Approved	Date

Drawn	Date	Checked	Date	Approved	Date
DL	12/08	BT	12/08	ALN	12/08

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Client: ROADS Service

Project: **A31 Magherafelt Bypass**

Title: **General Arrangement CH 628m S001 Farm Access Underpass**

Scale @ A1	As Shown	Ver.
Drawing No.	720336.D.D.7001	A

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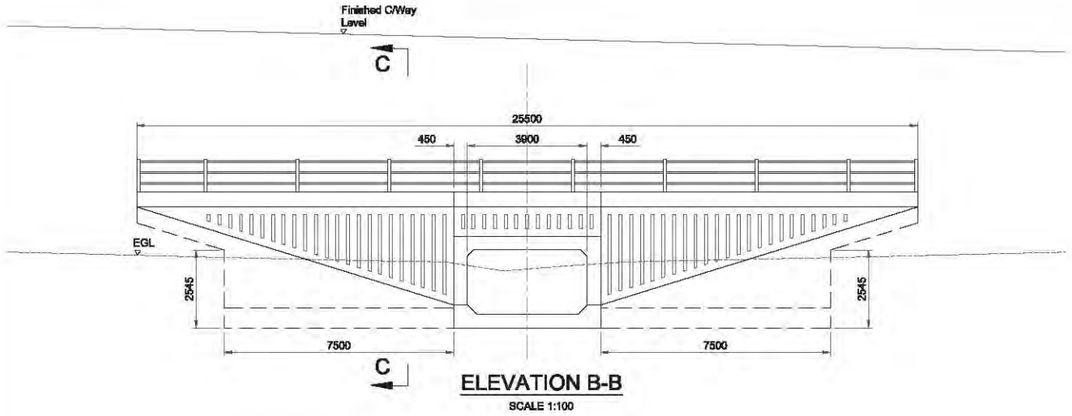
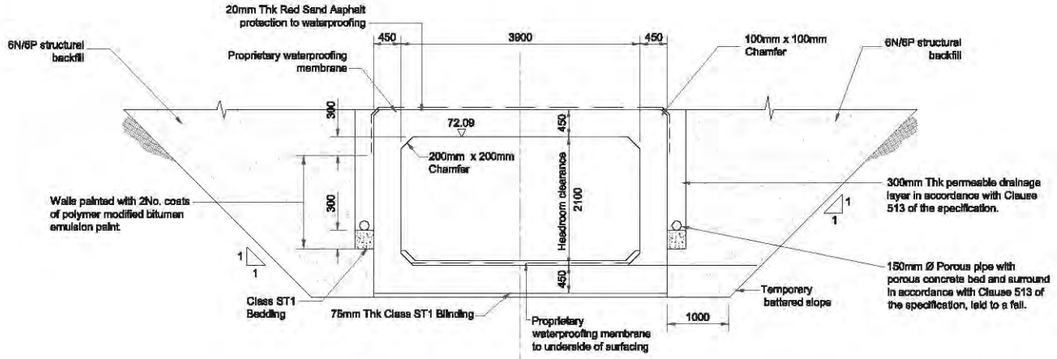
Figure 4.5



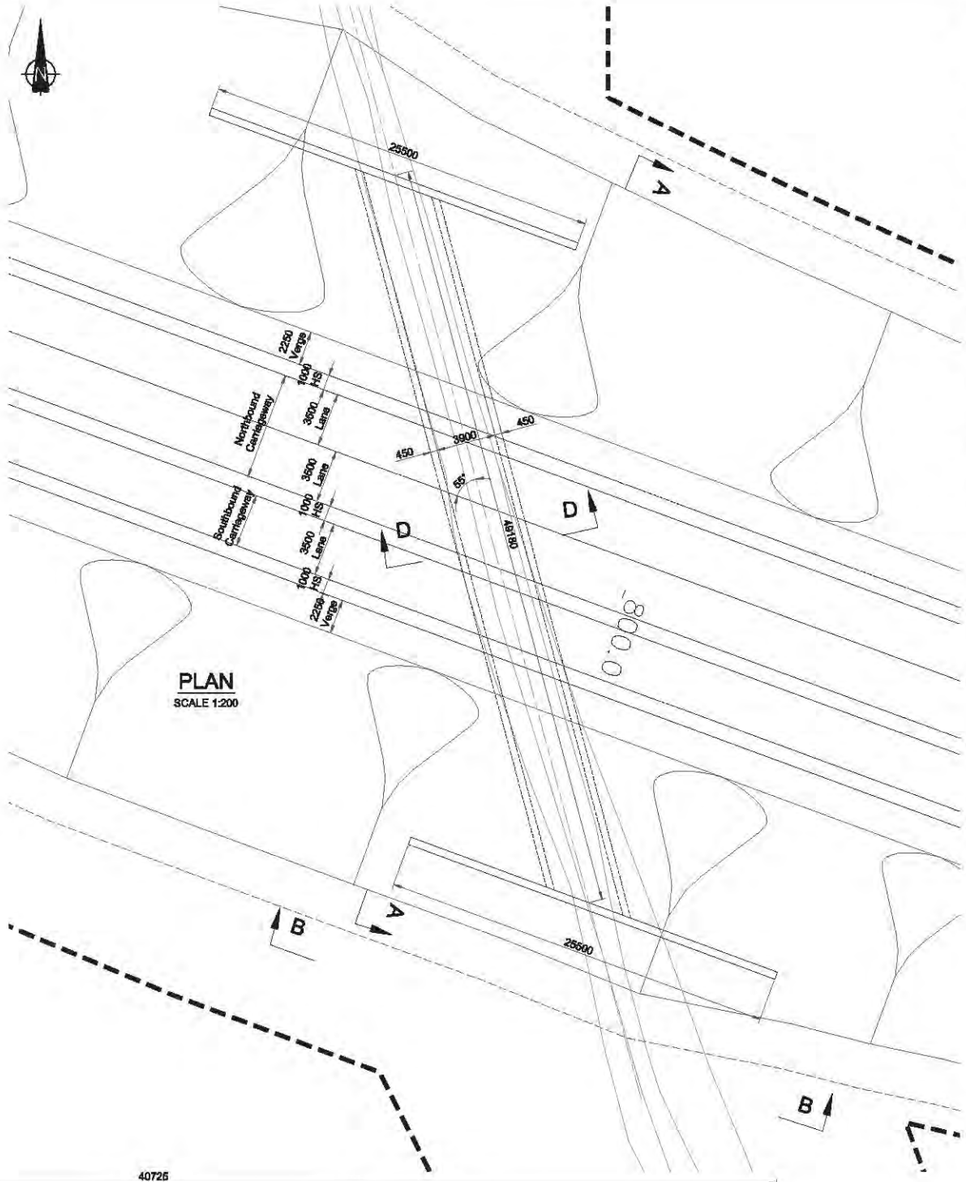
ELEVATION B-B

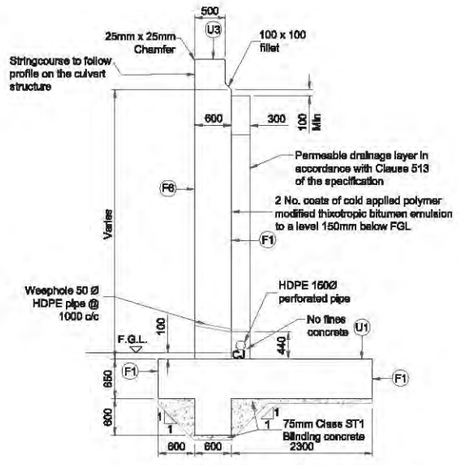
SCALE 1:100



CROSS SECTION THROUGH CULVERT D-D

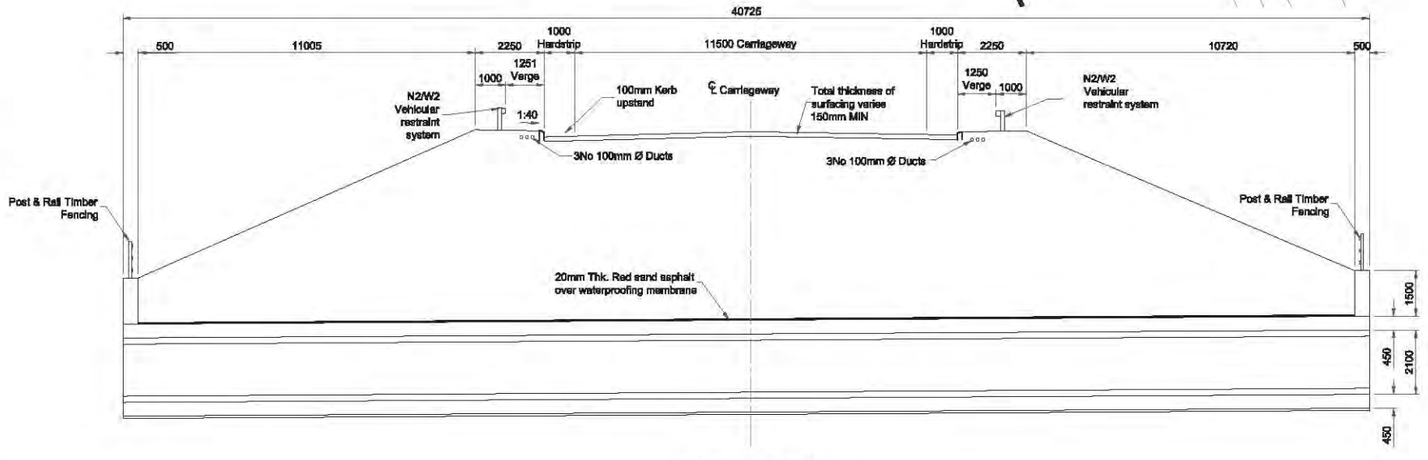
SCALE 1:50





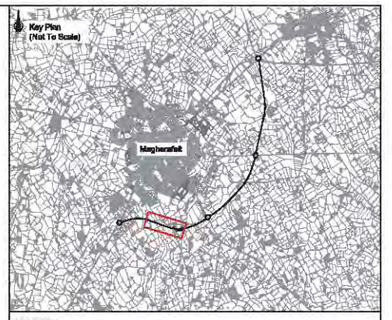
CROSS SECTION THROUGH WINGWALL C-C

SCALE 1:50



SECTION A-A

SCALE 1:100



NOTES:

1. All dimensions shall be in millimetres unless otherwise stated.
2. All levels are stated in metres above ordnance datum.
3. Geometry illustrated is indicative and subject to detailed design evaluation.
4. All exposed concrete corners to have a 25mm x 25mm chamfer.
5. All buried concrete surfaces shall be coated with 2 no. coats of thixotropic bitumen emulsion in accordance with the specification.
6. All backfill surrounding the foundations shall be class 6N/6P structural fill.
7. All exposed concrete shall be treated with transparent anti graffiti coating.
8. Surface finishes to be in accordance with section 3.8 of the approval in principle documentation.

Ver	Amendment	By	Checked	Approved	Date

Drawn	Date	Checked	Date	Approved	Date
DL	11/08	BT	11/08	ALN	11/08

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Client: ROADS Service

Project: **A31 Magherafelt Bypass**

Title: **General Arrangement CH 791m S002 Killyfaddy Drain Culvert**

Scale @ A1: **As Shown**

Ver.: **A**

Drawing No.: **720336.D.D.7002**

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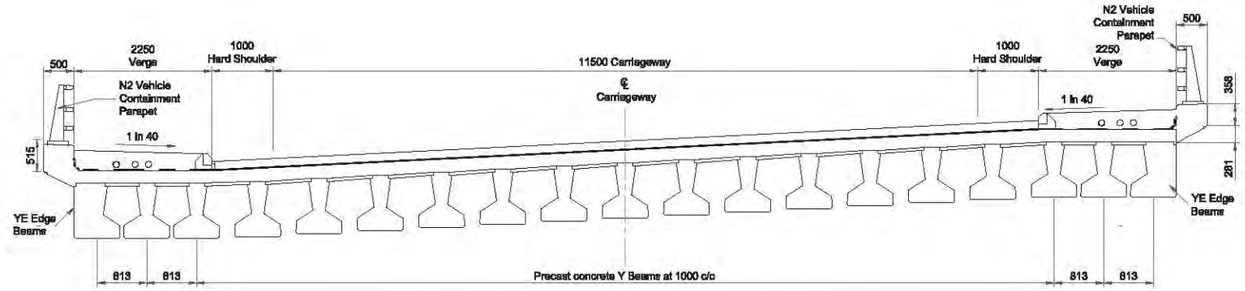
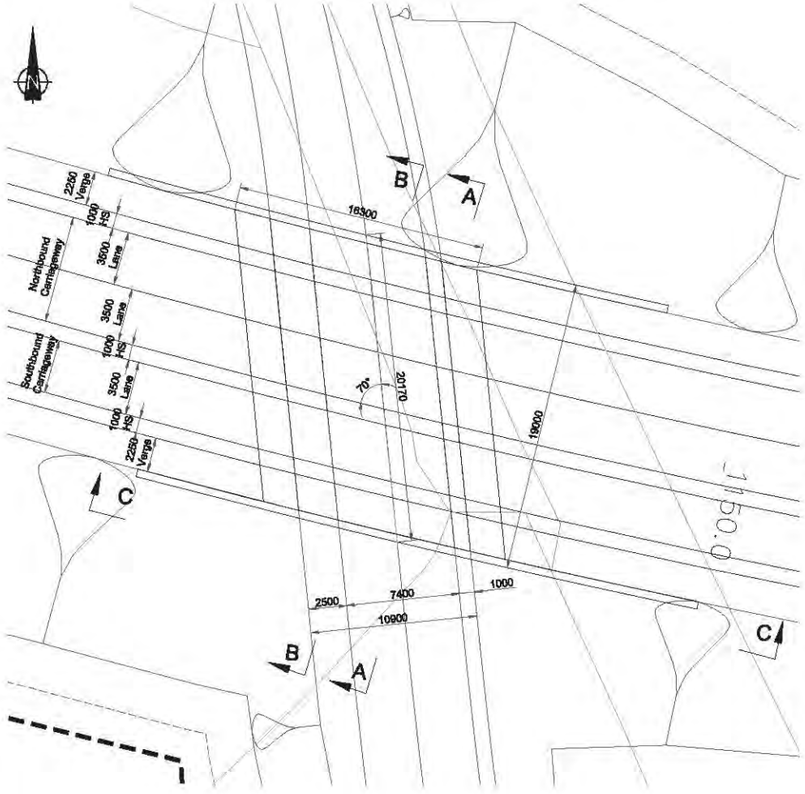
Figure 4.6



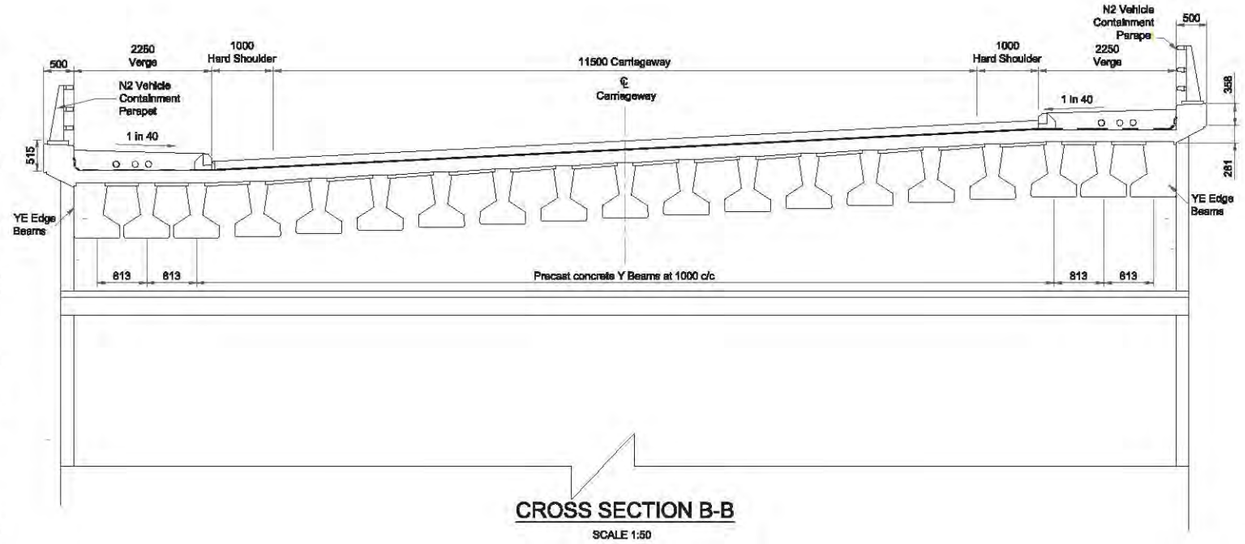
CROSS SECTION THROUGH UNDERBRIDGE A-A

SCALE 1:50



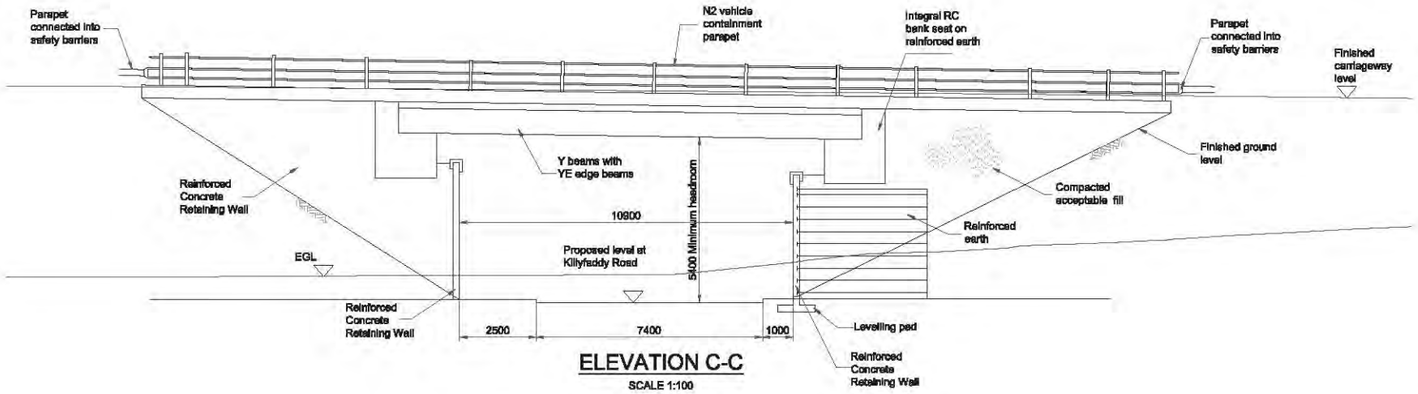
PLAN

SCALE 1:200



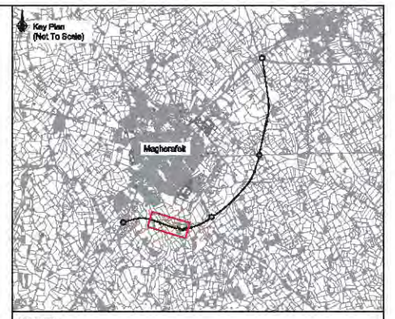
CROSS SECTION B-B

SCALE 1:50



ELEVATION C-C

SCALE 1:100



NOTES:

1. All dimensions shall be in millimetres unless otherwise stated.
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Ver	Amendment	By	Checked	Approved	Date

Drawn	Date	Checked	Date	Approved	Date
NK	12/08	BT	12/08	ALN	12/08

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Client: ROADS Service

Project: **A31 Magherafelt Bypass**

Title: **General Arrangement CH 1127m S003 Killyfaddy Road Underbridge**

Scale @ A1		Ver.
	As Shown	A
Drawing No.	720336.D.D.7003	

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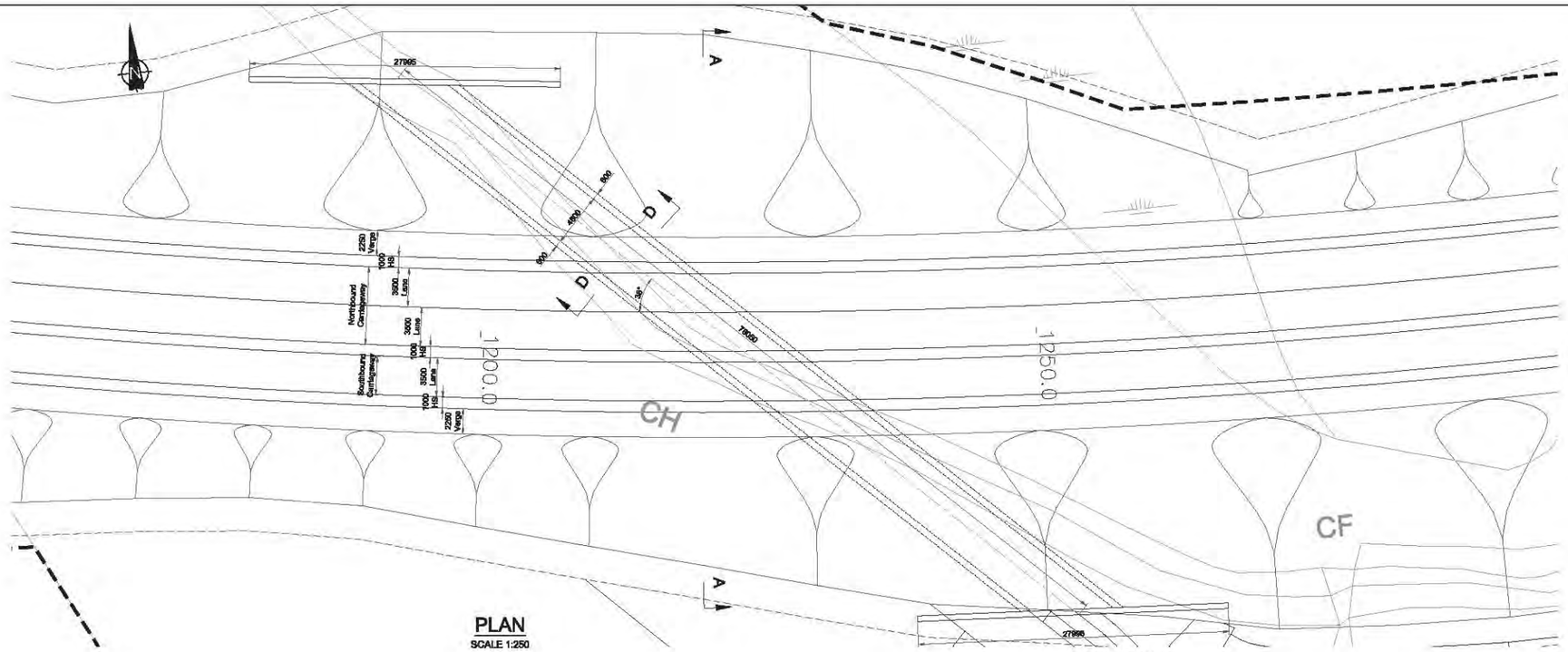
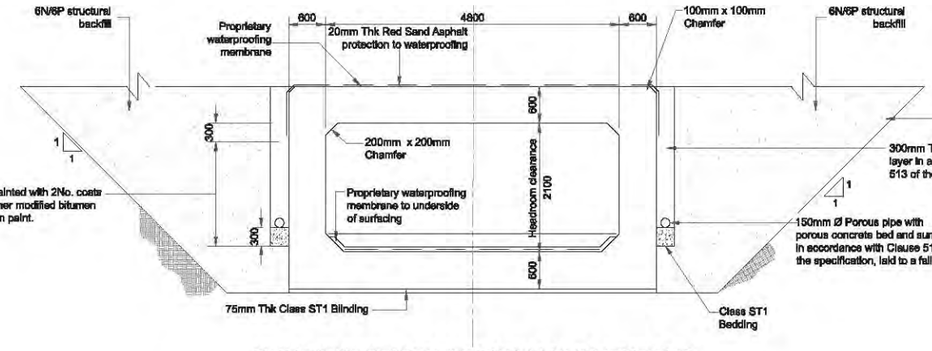
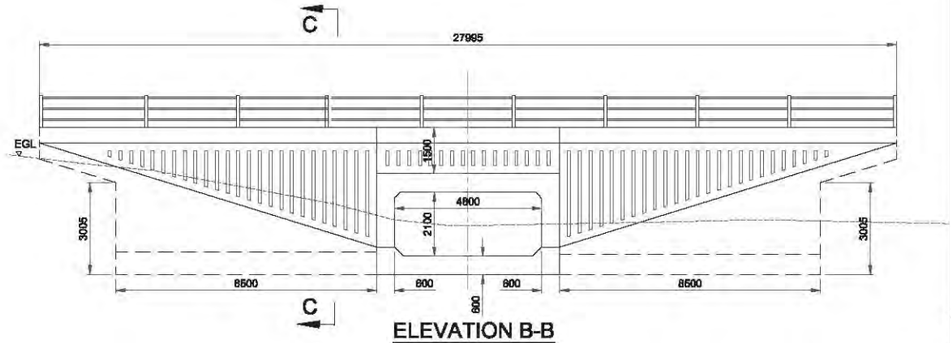
Figure 4.7



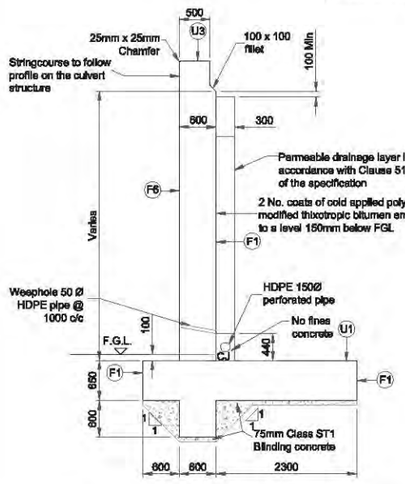
PLAN
SCALE 1:250



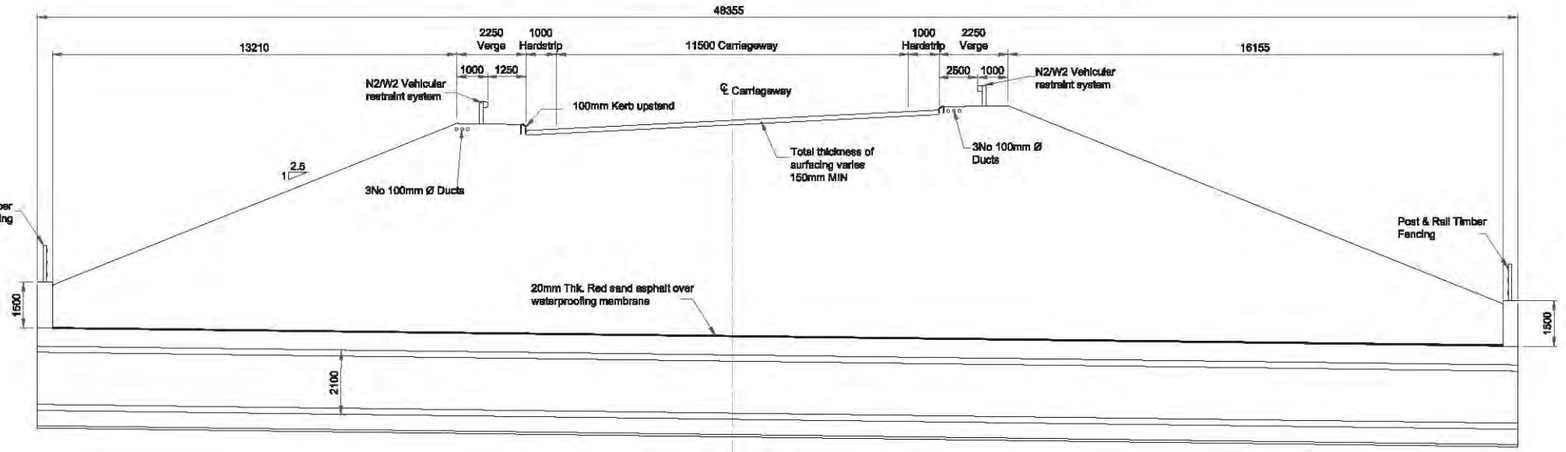
CROSS SECTION THROUGH CULVERT D-D
SCALE 1:50



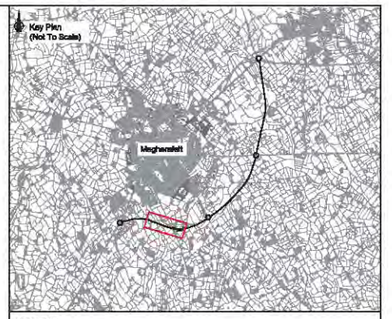
ELEVATION B-B
SCALE 1:100



CROSS SECTION THROUGH WINGWALL C-C
SCALE 1:50



SECTION A-A
SCALE 1:100



NOTES:

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7. All exposed concrete shall be treated with transparent anti graffiti coating.
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Var	Amendment	By	Checked	Approved	Date

Drawn	Date	Checked	Date	Approved	Date
LW	12/08	BT	12/08	ALN	12/08

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Client: ROADS Service

Project: **A31 Magherafelt Bypass**

Title: **General Arrangement Culvert CH 1222m S004 Ballymoghan Drain Culvert**

Scale @ A1		Ver.
	As Shown	A
Drawing No.	720336.D.D.7004	

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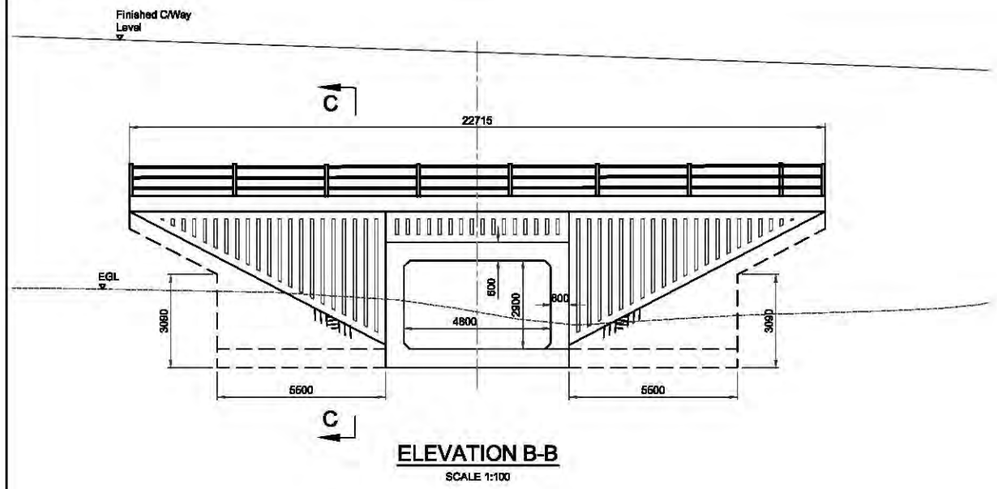
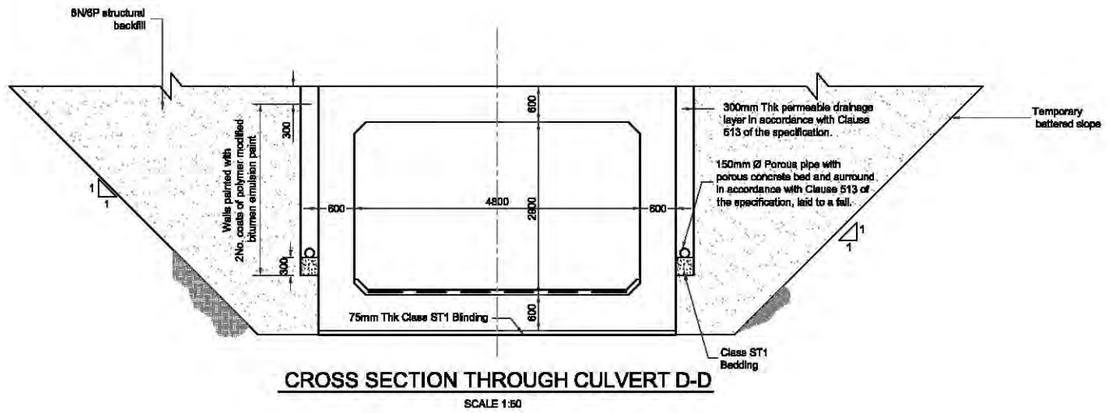
Figure 4.8



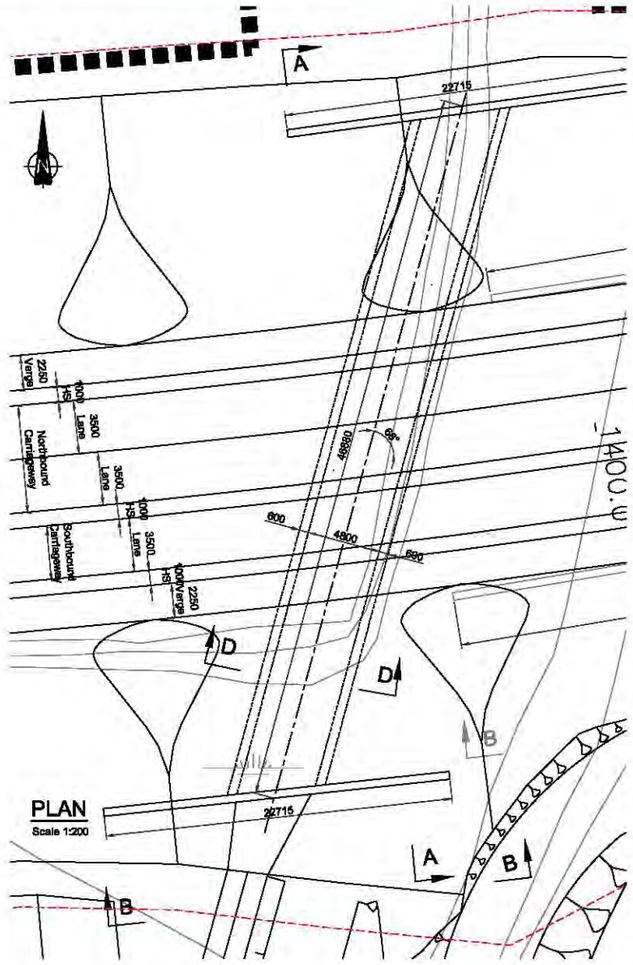
ELEVATION B-B

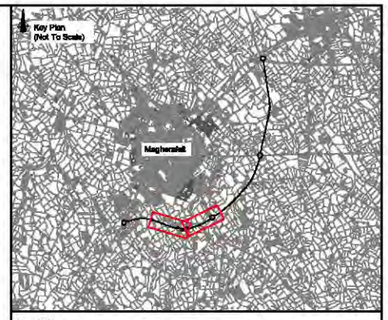
SCALE 1:100



CROSS SECTION THROUGH CULVERT D-D

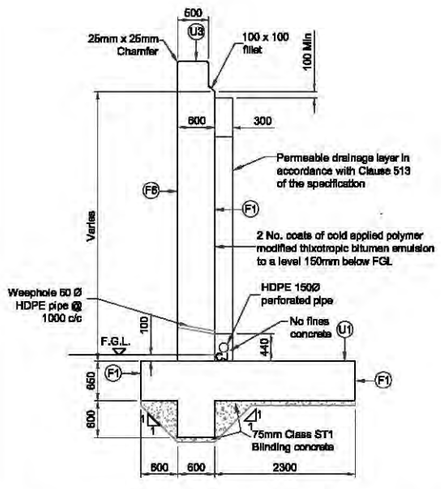
SCALE 1:50





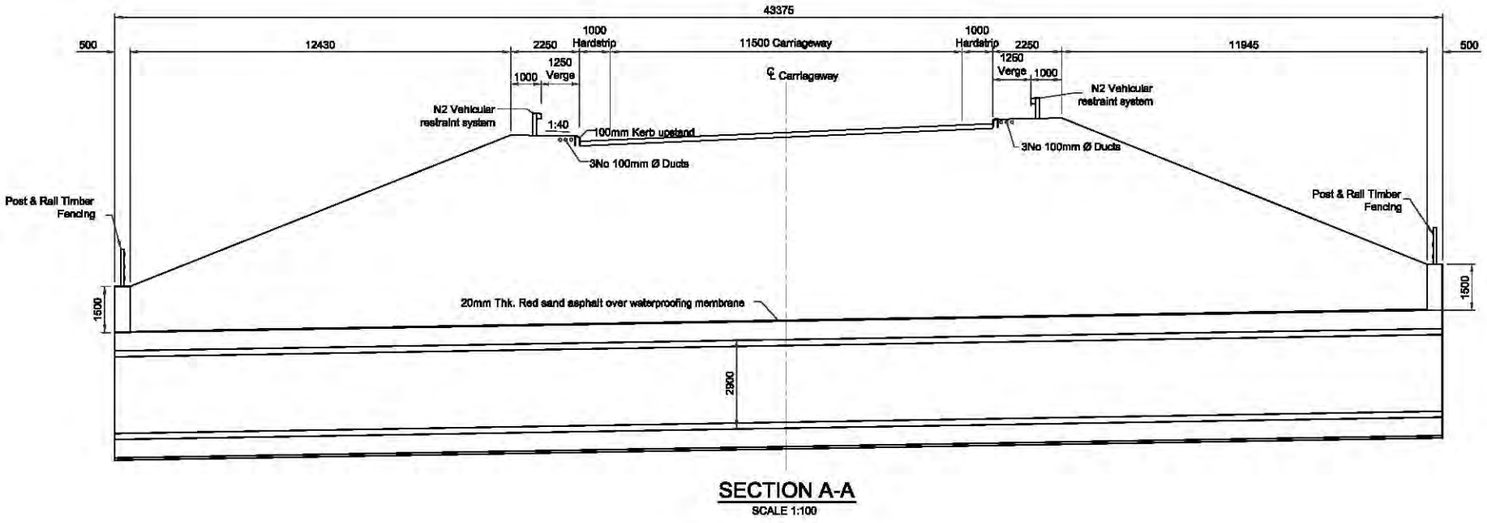
NOTES:

1. All dimensions shall be in millimetres unless otherwise stated.
2. All levels are stated in metres above ordnance datum.
3. Geometry illustrated is indicative and subject to detailed design evaluation.
4. All exposed concrete corners to have a 25mm x 25mm chamfer.
5. All buried concrete surfaces shall be coated with 2 no. coats of thixotropic bitumen emulsion in accordance with the specification.
6. All backfill surrounding the foundations shall be class 6N/6P structural fill.
7. All exposed concrete shall be treated with transparent anti graffiti coating.
8. Surface finishes to be in accordance with section 3.8 of the approval in principle documentation.



CROSS SECTION THROUGH WINGWALL C-C

SCALE 1:50



SECTION A-A

SCALE 1:100

Ver	Amendment	By	Checked	Approved	Date

Drawn	Date	Checked	Date	Approved	Date
LW	12/08	ST	12/08	ALN	12/08

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Client: ROADS Service

Project: **A31 Magherafelt Bypass**

Title: **General Arrangement CH1385m S005A Ballymoghan Drain Culvert**

Scale @ A1	As Shown	Ver.
Drawing No.	720336.D.D.7005A	A

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