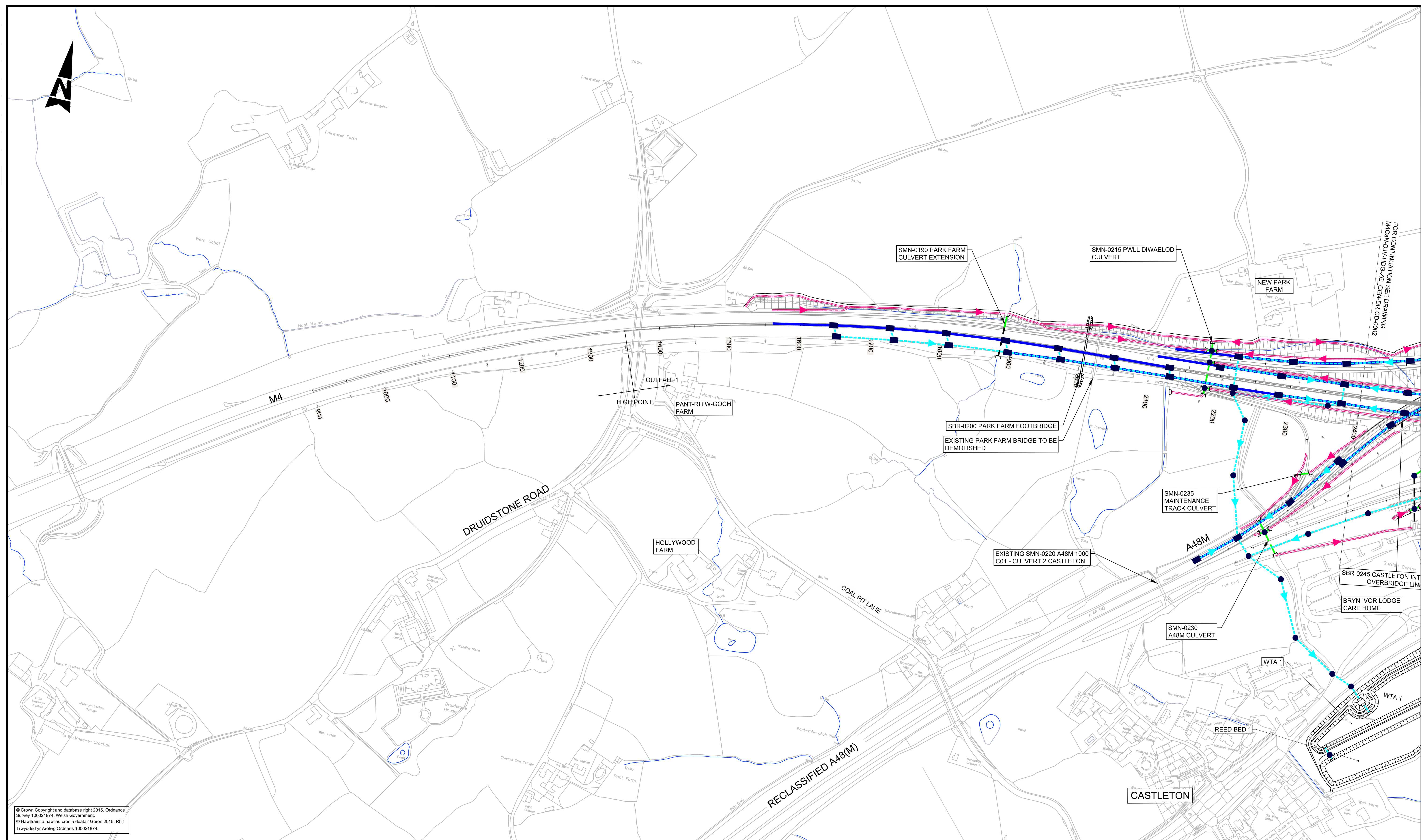


DO NOT SCALE

Millimetres

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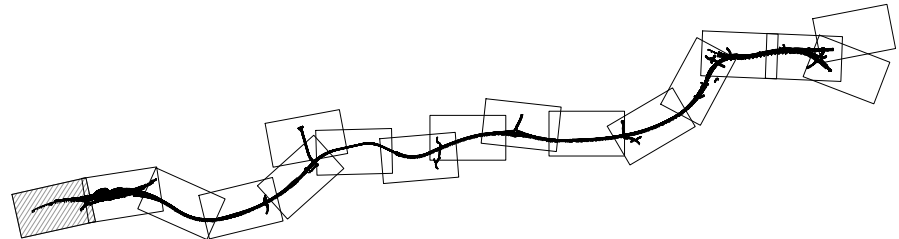
GENERAL NOTES:

1. ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE
2. ONLY WRITTEN DIMENSIONS SHALL BE USED. DO NOT SCALE.
3. FIN DRAINS NOT SHOWN FOR CLARITY. TO BE HCD F18 TYPE 7.

LEGEND:

- | | | | | | |
|--|---|---|---|---|--|
|  | CATCHPIP - HCD F11 / MANHOLE - HCD F4, F5, F6 & F7 |  | REPLACEMENT REEN |  | |
|  | INTAKE CHAMBER - HCD F22 & F24 |  | REPLACEMENT FIELD DITCH | | |
|  | PETROL INTERCEPTOR |  | HIGHWAY CUT OFF DITCH | | |
|  | CONCRETE HEADWALL |  | EXISTING REEN | | |
|  | GRASS LINED DITCH IN BOX CULVERT |  | EXISTING REEN TO BE FILLED | | |
|  | CARRIER PIPE - HCD F1 |  | EXISTING FIELD DITCH TO BE FILLED |  | EXISTING NRW SLUICE |
|  | CONCRETE CHANNEL - HCD F21 & B3 & B7 & B12 |  | EXISTING CULVERT TO BE RETAINED |  | PROPOSED NRW TILTING WEIR / PENSTOCK |
|  | CONCRETE CHANNEL - HCD F21 & B3 & B7 & B12 WITH CARRIER PIPE - HCD F1 BELOW |  | PROPOSED CULVERT |  | POTENTIAL NRW ACCESS (IN ABYCEANCE) |
|  | GRASS LINED CHANNEL |  | COMBINED KERB DRAINAGE WITH CARRIER PIPE - HCD F1 BELOW |  | INDIRECT LOSS FIELD DITCHES |
|  | COMBINED KERB DRAINAGE |  | | | SITE OF SPECIAL SCIENTIFIC INTEREST BOUNDARY |

KEY PLAN



SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Construction

No exceptional risks

Maintenance / Cleaning

No exceptional risks

Use	
-----	--

No exceptional risks

Decommissioning / Demolition

No exceptional risks

[illegible]

Drawing Status	
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Project Team

Client



Llywodraeth Cymru
Welsh Government

	Suitability
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Project Title	M4 CORRIDOR AROUND NEWPORT
---------------	----------------------------

Drawing Title

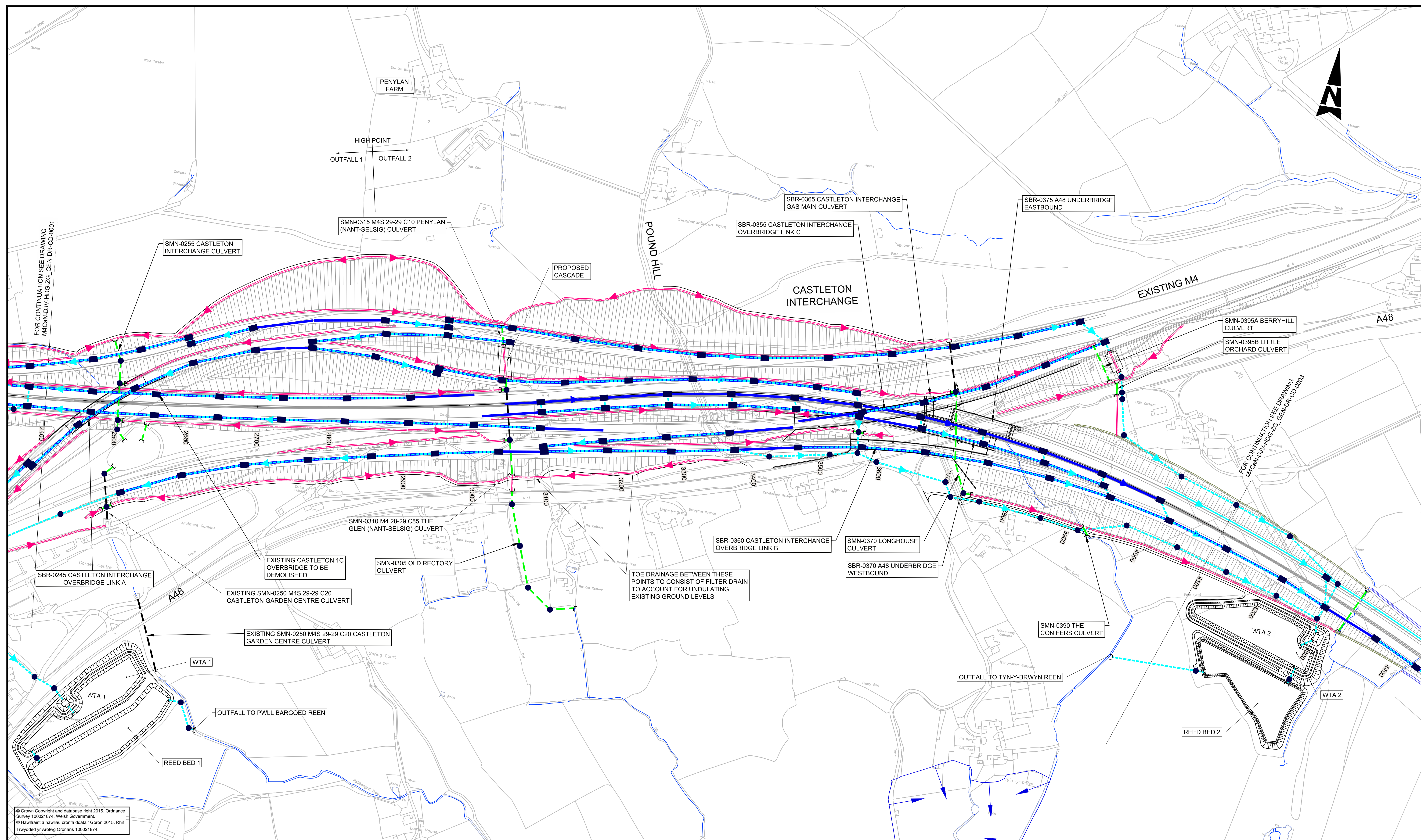
FIGURE 2.5

HIGHWAY DRAINAGE AND REEN MITIGATION

SHEET 1 OF 16

Scale	Designed / Drawn	Checked	Approved	Authorised
1:2500	DJW	TJD	HR	BCS
Original Size	Date	Date	Date	Date
A1	27/01/16	27/01/16	27/01/16	27/01/16
Drawing Number				Revision
Project		Originator	Volume	
M4CaN - DJV - HDG -				
ZG_GEN - DR - CD - 0001				
Location	Type	Role	Number	AT ISSU

Millimetres




























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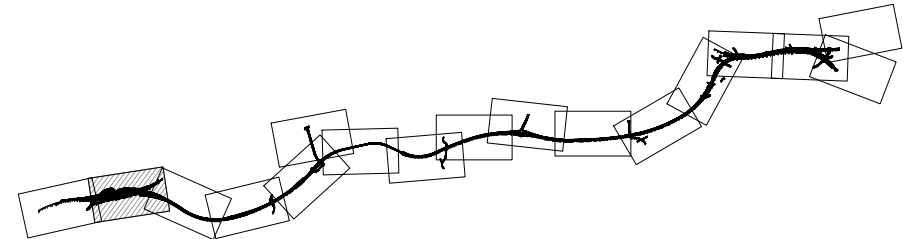
GENERAL NOTES:

1. ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE
2. ONLY WRITTEN DIMENSIONS SHALL BE USED. DO NOT SCALE.
3. FIN DRAINS NOT SHOWN FOR CLARITY. TO BE HCD F18 TYPE 7.

LEGEND:

- | | | | | | | |
|---|---|---|---|---|--|---|
|  | CATCHPIT - HCD F11 / MANHOLE - HCD F4, F5, F6 & F7 |  | REPLACEMENT REEN |  | EXISTING NRW SLUICE |  |
|  | INTAKE CHAMBER - HCD F22 & F24 |  | REPLACEMENT FIELD DITCH |  | PROPOSED NRW TILTING WEIR / PENSTOCK | |
|  | PETROL INTERCEPTOR |  | HIGHWAY CUT OFF DITCH |  | POTENTIAL NRW ACCESS (IN ABYEANCE) | |
|  | CONCRETE HEADWALL |  | EXISTING REEN |  | INDIRECT LOSS FIELD DITCHES | |
|  | GRASS LINED DITCH IN BOX CULVERT |  | EXISTING REEN TO BE FILLED |  | SITE OF SPECIAL SCIENTIFIC INTEREST BOUNDARY | |
|  | CARRIER PIPE - HCD F1 |  | EXISTING FIELD DITCH TO BE FILLED | | | |
|  | CONCRETE CHANNEL - HCD F21 & B3 & B7 & B12 |  | EXISTING CULVERT TO BE RETAINED | | | |
|  | CONCRETE CHANNEL - HCD F21 & B3 & B7 & B12 WITH CARRIER PIPE - HCD F1 BELOW |  | PROPOSED CULVERT | | | |
|  | GRASS LINED CHANNEL |  | COMBINED KERB DRAINAGE WITH CARRIER PIPE - HCD F1 BELOW | | | |
|  | COMBINED KERB DRAINAGE | | | | | |

KEY PLAN



SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Construction

No exceptional risks

Maintenance / Cleaning

No exceptional risks


Use

030	No exceptional risks
-----	----------------------

Decommissioning / Demolition

No exceptional risks

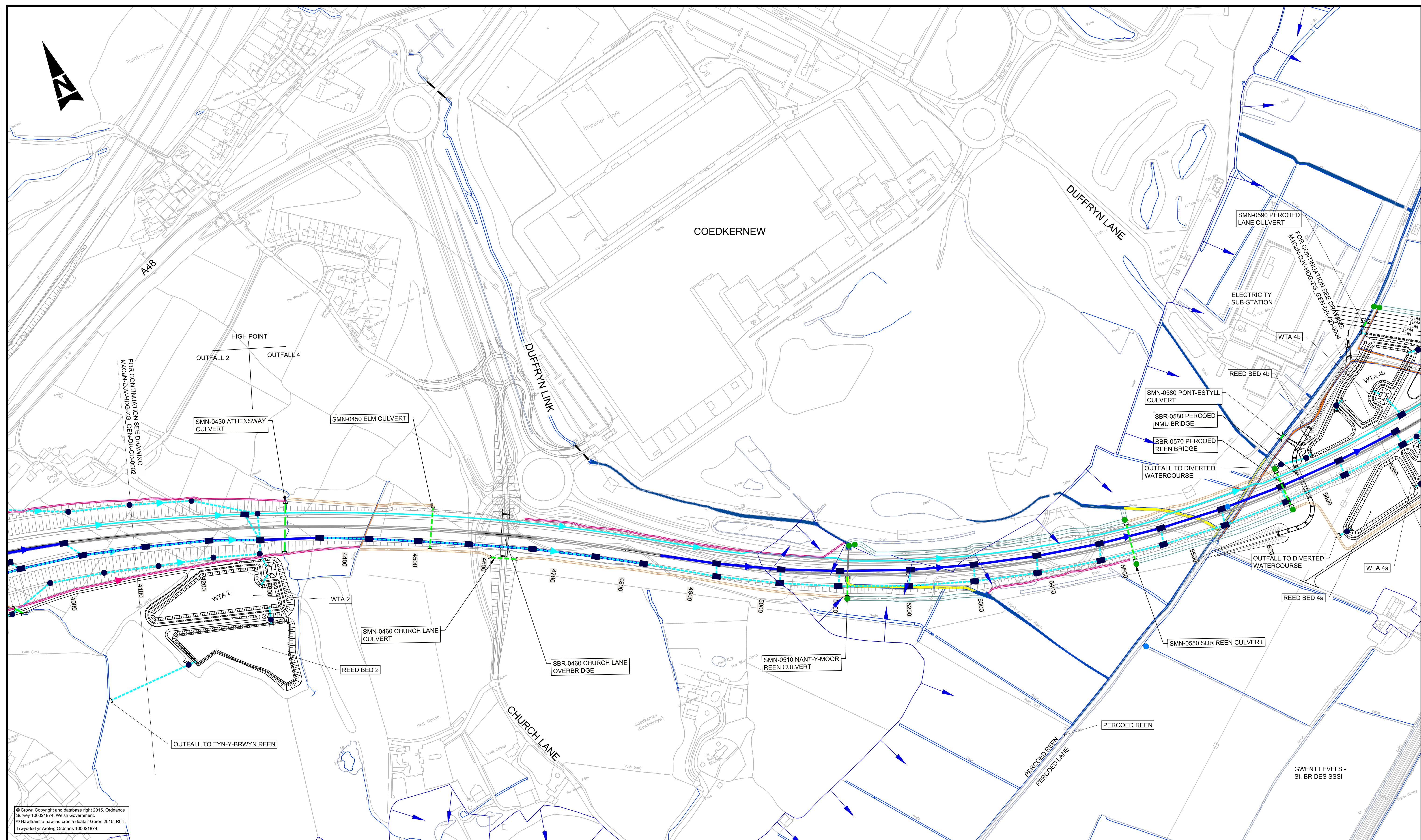
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Drawing Status		Suitability		Project Title											
				M4 CORRIDOR AROUND NEWPORT											
Project Team				Drawing Title											
				FIGURE 2.5											
				HIGHWAY DRAINAGE AND REEN MITIGATION											
				SHEET 2 OF 16											
Client				Scale		Designed / Drawn		Checked		Approved		Authorised			
				1:2500		DJW		TJD		HR		BCS			
				Original Size		Date		Date		Date		Date			
		A1		27/01/16		27/01/16		27/01/16		27/01/16		27/01/16			
 Llywodraeth Cymru Welsh Government				Drawing Number								Revision			
				Project				Originator				Volume			
				M4CaN - DJV - HDG -											
				ZG_GEN - DR - CD - 0002											
				Location				Type		Role		Number		AT ISSUE	

DO NOT SCALE

Millimetres

0 10 100






























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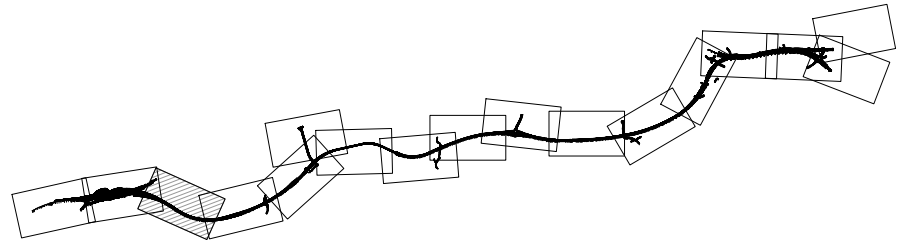
GENERAL NOTES:

1. ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE
2. ONLY WRITTEN DIMENSIONS SHALL BE USED, DO NOT SCALE.
3. FIN DRAINS NOT SHOWN FOR CLARITY. TO BE HCD F18 TYPE 7.

LEGEND:

- | | | | | |
|--|---|---|---|---|
|  | CATCHPIT - HCD F11 / MANHOLE - HCD F4, F5, F6 & F7 |  | REPLACEMENT REEN |  |
|  | INTAKE CHAMBER - HCD F22 & F24 |  | REPLACEMENT FIELD DITCH | |
|  | PETROL INTERCEPTOR |  | HIGHWAY CUT OFF DITCH | |
|  | CONCRETE HEADWALL |  | EXISTING REEN | |
|  | GRASS LINED DITCH IN BOX CULVERT |  | EXISTING REEN TO BE FILLED | |
|  | CARRIER PIPE - HCD F1 |  | EXISTING FIELD DITCH TO BE FILLED | |
|  | CONCRETE CHANNEL - HCD F21 & B3 & B7 & B12 |  | EXISTING CULVERT TO BE RETAINED | |
|  | CONCRETE CHANNEL - HCD F21 & B3 & B7 & B12 WITH CARRIER PIPE - HCD F1 BELOW |  | PROPOSED CULVERT | |
|  | GRASS LINED CHANNEL |  | COMBINED KERB DRAINAGE WITH CARRIER PIPE - HCD F1 BELOW | |
|  | COMBINED KERB DRAINAGE |  | | |
| | |  | EXISTING NRW SLUICE |  |
| | |  | PROPOSED NRW TILTING W/ / PENSTOCK | |
| | |  | POTENTIAL NRW ACCESS (IN ABYEANCE) | |
| | |  | INDIRECT LOSS FIELD DITCHES | |
| | |  | SITE OF SPECIAL SCIENTIFIC INTEREST BOUNDARY | |

KEY PLAN



SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Construction

No exceptional risks


Maintenance / Cleaning

No exceptional risks

Use	
-----	--

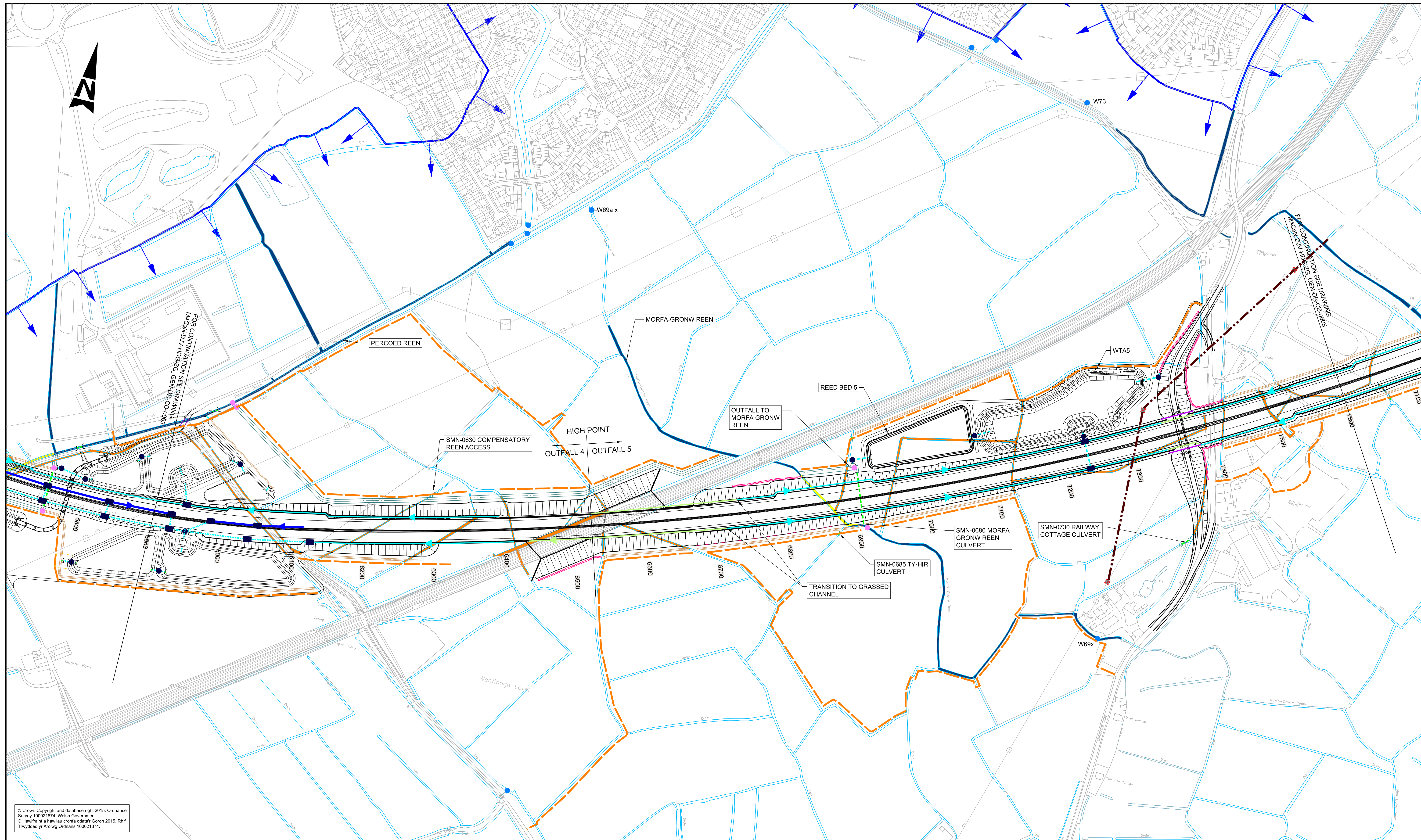
No exceptional risks

[illegible]

Drawing Status		Suitability		Project Title M4 CORRIDOR AROUND NEWPORT						
Project Team				Drawing Title FIGURE 2.5 HIGHWAY DRAINAGE AND REEN MITIGATION SHEET 3 OF 16						
Client		 Llywodraeth Cymru Welsh Government		Scale 1:2500		Designed / Drawn DJW		Checked TJD	Approved HR	Authorised BCS
				Original Size A1		Date 26/01/16		Date 26/01/16		Date 26/01/16
				Drawing Number Project M4CaN - DJV - HDG - ZG_CD - DR - CD - 0003 Location Type Rate Number					Revision AT ISSUE	

DO NOT SCALE

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Millimetres

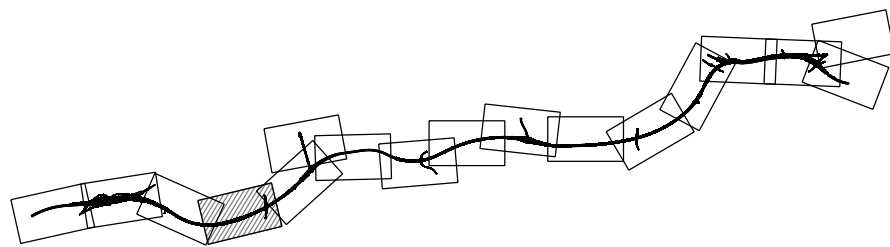


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GENERAL NOTES:
1. ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.
2. ONLY WRITTEN DIMENSIONS SHALL BE USED, DO NOT SCALE.
3. FIN DRAINS NOT SHOWN FOR CLARITY. TO BE HCD F16 TYPE 7

- LEGEND:
- CATCHPIT - HCD F11 / MANHOLE - HCD F4, F5, F6 & F7
 - INTAKE CHAMBER - HCD F22 & F24
 - PETROL INTERCEPTOR
 - CONCRETE HEADWALL
 - GRASSED CHANNEL IN BOX CULVERT
 - CARRIER PIPE - HCD F1
 - CONCRETE CHANNEL - HCD F21 & B3 & B7 & B12
 - CONCRETE CHANNEL - HCD F21 & B3 & B7 & B12 WITH CARRIER PIPE - HCD F1 BELOW
 - GRASSED CHANNEL
 - COMBINED KERB DRAINAGE
 - REPLACEMENT REEN
 - REPLACEMENT FIELD DITCH
 - HIGHWAY CUT OFF DITCH
 - EXISTING REEN
 - EXISTING FIELD DITCH TO BE FILLED
 - EXISTING CULVERT TO BE RETAINED
 - PROPOSED CULVERT
 - COMBINED KERB DRAINAGE WITH CARRIER PIPE - HCD F1 BELOW

KEY PLAN:



- EXISTING NRW SLUICE
- PROPOSED NRW TILTING WEIR/PENSTOCK
- POTENTIAL NRW ACCESS (IN ABEYANCE)
- INDIRECT LOSS FIELD DITCHES
- SITE OF SPECIAL SCIENTIFIC INTEREST BOUNDARY

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Construction
No exceptional risks

Maintenance / Cleaning
Culverts partially submerged

Use
No exceptional risks

Decommissioning / Demolition
No exceptional risks

Issue	Rev.	Date	Description	By	Chk'd	App'd	AC	DOL	HR
27/01/16	1	27/01/16	FINAL ISSUE TO WG						

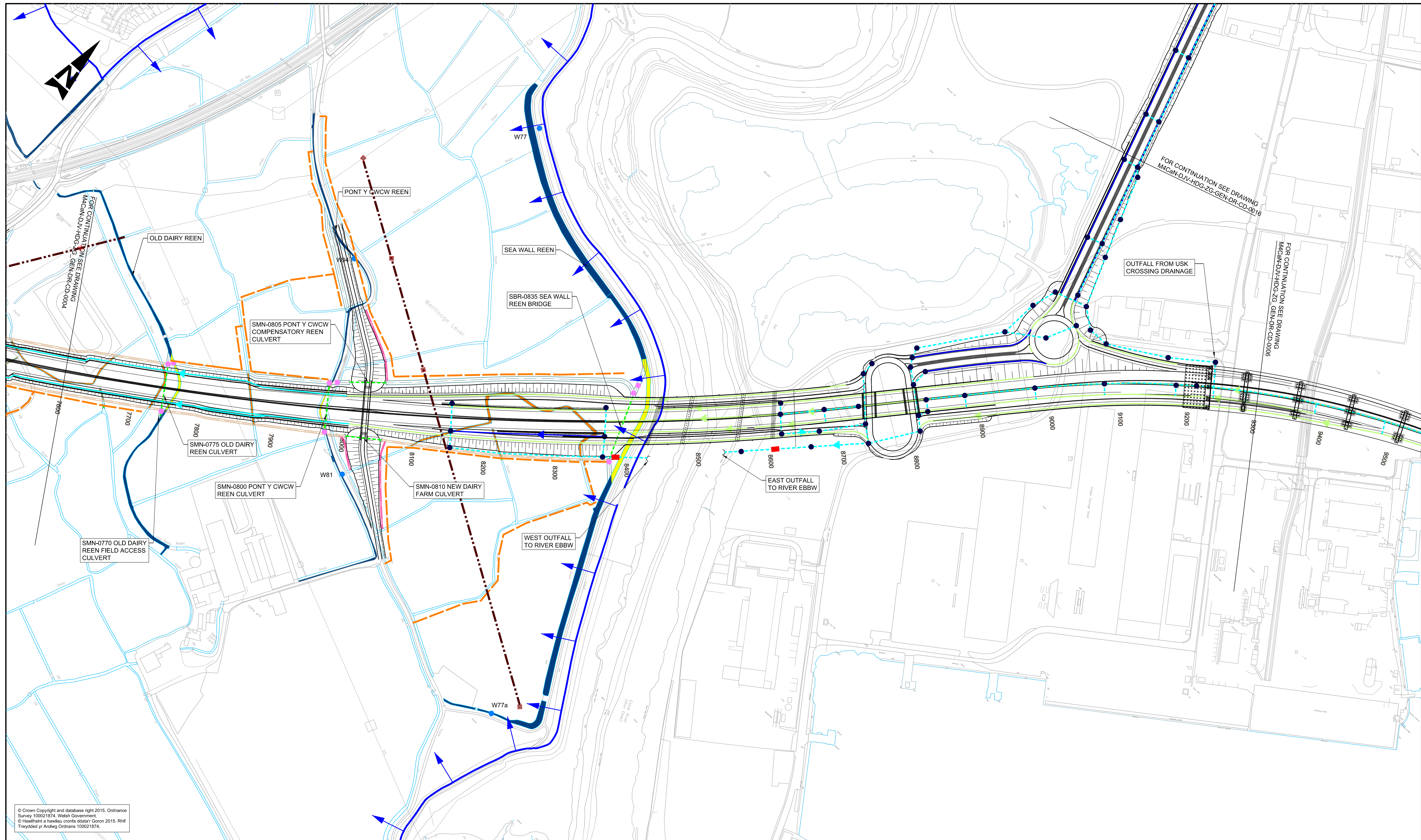
Drawing Status	Suitability	Project Title
Project Team		M4 CORRIDOR AROUND NEWPORT
Client		FIGURE 2.5 HIGHWAY DRAINAGE AND REEN MITIGATION SHEET 4 OF 16



Scale	Designed / Drawn	Checked	Approved	Authorised
1:2500	AC	DOL	HR	BCS
Original Size	Date	Date	Date	Date
A1	26/01/16	26/01/16	26/01/16	27/01/16
Drawing Number	Project	Originator	Volume	Revision
M4CAN - DJV - HDG - ZG_GEN - DR - CD - 0004				AT ISSUE

DO NOT SCALE

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Millimetres



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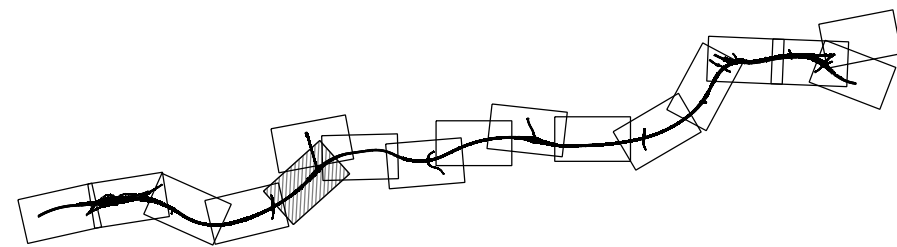
GENERAL NOTES:

- ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.
- ONLY WRITTEN DIMENSIONS SHALL BE USED, DO NOT SCALE.
- FIN DRAINS NOT SHOWN FOR CLARITY. TO BE HCD F16 TYPE 7.

LEGEND:

- CATCHPIT - HCD F11 / MANHOLE - HCD F4, F5, F6 & F7
- INTAKE CHAMBER - HCD F22 & F24
- PETROL INTERCEPTOR
- CONCRETE HEADWALL
- GRASSED CHANNEL IN BOX CULVERT
- CARRIER PIPE - HCD F1
- CONCRETE CHANNEL - HCD F21 & B3 & B7 & B12
- CONCRETE CHANNEL - HCD F21 & B3 & B7 & B12 WITH CARRIER PIPE - HCD F1 BELOW
- GRASSED CHANNEL
- COMBINED KERB DRAINAGE
- REPLACEMENT REEN
- REPLACEMENT FIELD DITCH
- HIGHWAY CUT OFF DITCH
- EXISTING REEN
- EXISTING REEN TO BE FILLED
- EXISTING FIELD DITCH TO BE FILLED
- EXISTING CULVERT TO BE RETAINED
- PROPOSED CULVERT
- COMBINED KERB DRAINAGE WITH CARRIER PIPE - HCD F1 BELOW

KEY PLAN:



- EXISTING NRW SLUICE
- PROPOSED NRW TILTING WEIR/PENSTOCK
- POTENTIAL NRW ACCESS (IN ABEYANCE)
- INDIRECT LOSS FIELD DITCHES
- SITE OF SPECIAL SCIENTIFIC INTEREST BOUNDARY

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).


Construction
No exceptional risks

Maintenance / Cleaning
Culverts partially submerged
Main bridge drainage to outfalls at bridge abutment

Use
No exceptional risks

Decommissioning / Demolition
No exceptional risks

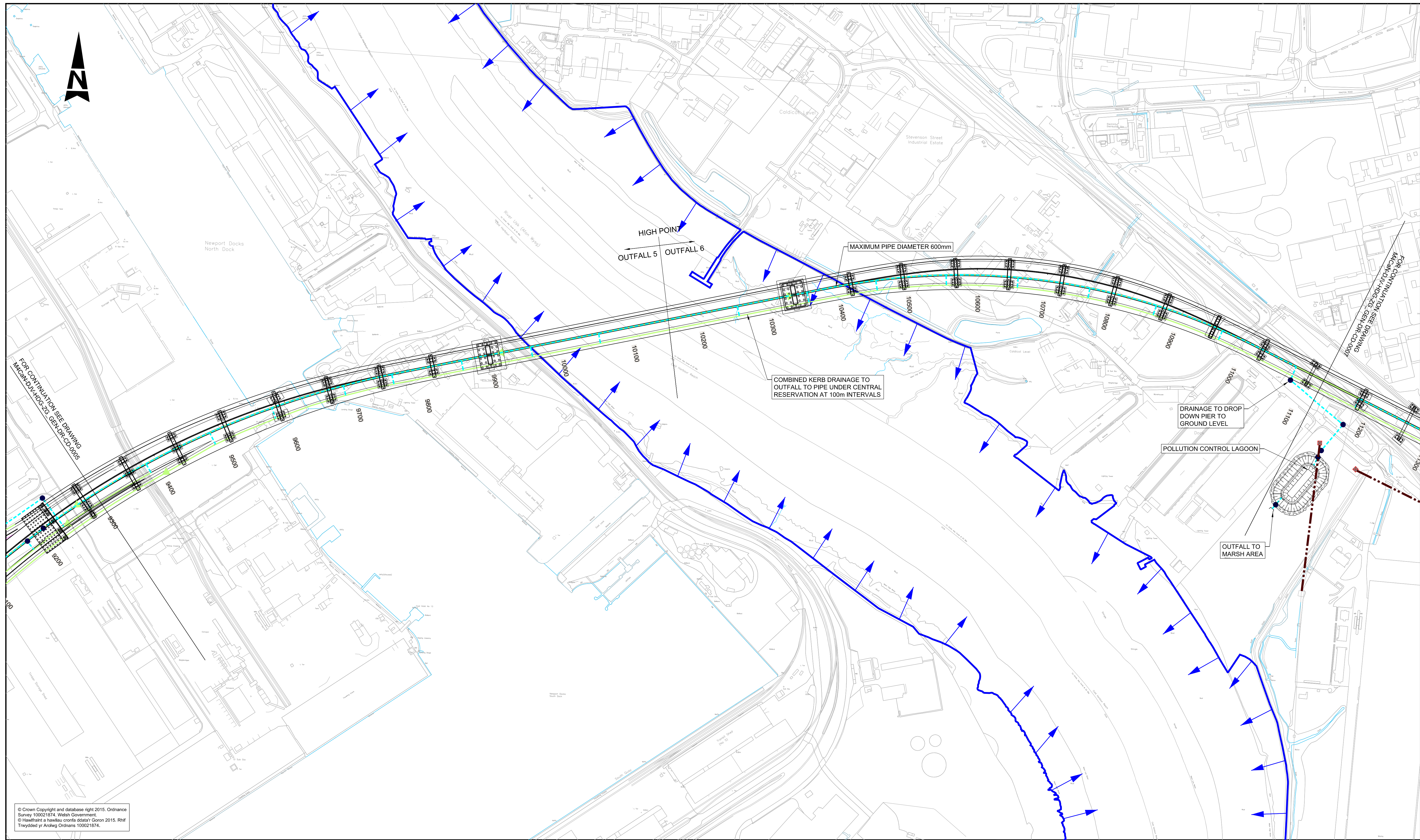
Issue	Rev.	Date	Description	By	Chk'd	App'd	AC	DOL	HR
27/01/16	1	FINAL ISSUE TO WG							

Drawing Status		Suitability		Project Title							
				M4 CORRIDOR AROUND NEWPORT							
Project Team				Drawing Title							
				FIGURE 2.5 HIGHWAY DRAINAGE AND REEN MITIGATION SHEET 5 OF 16							
Client				Scale	Designed / Drawn	Checked	Approved	Authorised			
				1:2500	AC	DOL	HR	BCS			
				Original Size	Date	Date	Date	Date			
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 Llywodraeth Cymru Welsh Government				Drawing Number		Project		Originator	Volume	Revision	
								M4CaN - DJV - HDG -			
								ZG_GEN - DR - CD - 0005			
										AT ISSUE	
				Location	Type	Role	Number				



DO NOT SCALE

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Millimetres



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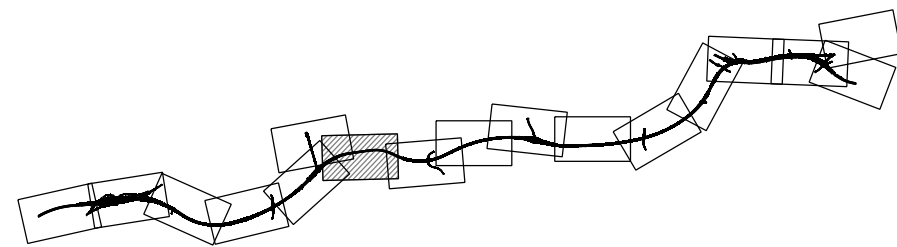
GENERAL NOTES:

- ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.
- ONLY WRITTEN DIMENSIONS SHALL BE USED, DO NOT SCALE.
- FIN DRAIN NOT SHOWN FOR CLARITY. TO BE HCD F10 TYPE 7.

LEGEND:

- CATCHPIT - HCD F11 / MANHOLE - HCD F4, F5, F6 & F7
- INTAKE CHAMBER - HCD F22 & F24
- PETROL INTERCEPTOR
- CONCRETE HEADWALL
- GRASSED CHANNEL IN BOX CULVERT
- CARRIER PIPE - HCD F1
- CONCRETE CHANNEL - HCD F21 & B3 & B7 & B12
- CONCRETE CHANNEL - HCD F21 & B3 & B7 & B12 WITH CARRIER PIPE - HCD F1 BELOW
- GRASSED CHANNEL
- COMBINED KERB DRAINAGE
- REPLACEMENT REEN
- REPLACEMENT FIELD DITCH
- HIGHWAY CUT OFF DITCH
- EXISTING REEN
- EXISTING REEN TO BE FILLED
- EXISTING FIELD DITCH TO BE FILLED
- EXISTING CULVERT TO BE RETAINED
- PROPOSED CULVERT
- COMBINED KERB DRAINAGE WITH CARRIER PIPE - HCD F1 BELOW

KEY PLAN:



- EXISTING NRW SLUICE
- PROPOSED NRW TILTING WEIR/PENSTOCK
- POTENTIAL NRW ACCESS (IN ABEYANCE)
- INDIRECT LOSS FIELD DITCHES
- SITE OF SPECIAL SCIENTIFIC INTEREST BOUNDARY

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Construction
Large diameter pipe underneath bridge deck

Maintenance / Cleaning
Large diameter pipe underneath bridge deck

Use
No exceptional risks

Decommissioning / Demolition
No exceptional risks

Issue	Rev.	Date	Description	By	Chk'd	App'd	AC	DOL	HR
27/01/16	1	27/01/16	FINAL ISSUE TO WG						

Drawing Status	
Project Team	
Client	



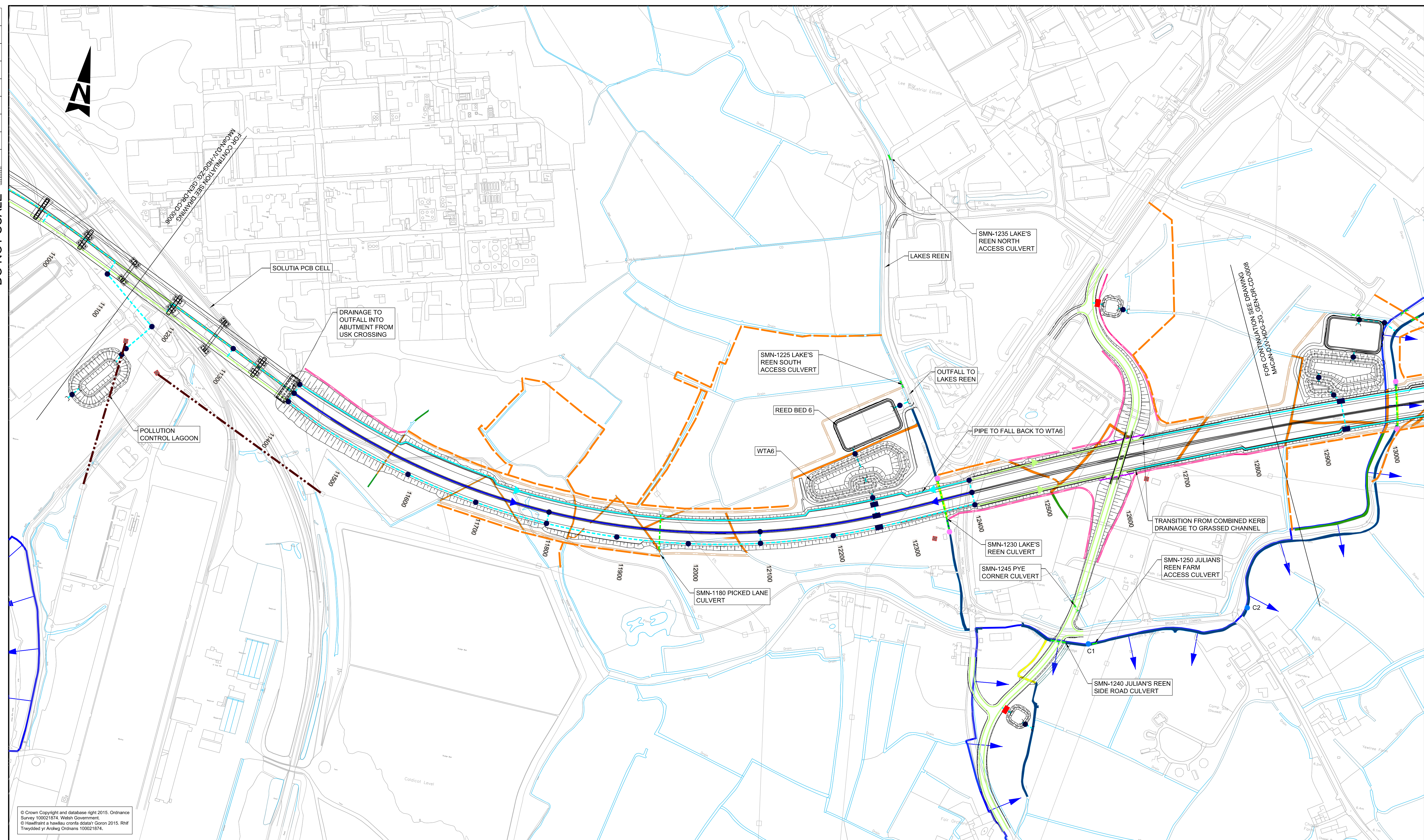
Project Title	M4 CORRIDOR AROUND NEWPORT
Drawing Title	FIGURE 2.5 HIGHWAY DRAINAGE AND REEN MITIGATION SHEET 6 OF 16
Scale	1:2500
Original Size	A1
Drawing Number	
Project	
Originator	M4CaN - DJV - HDG - ZG_GEN - DR - CD - 0006
Volume	
Location	
Type	
Role	
Number	

AT ISSUE

DO NOT SCALE

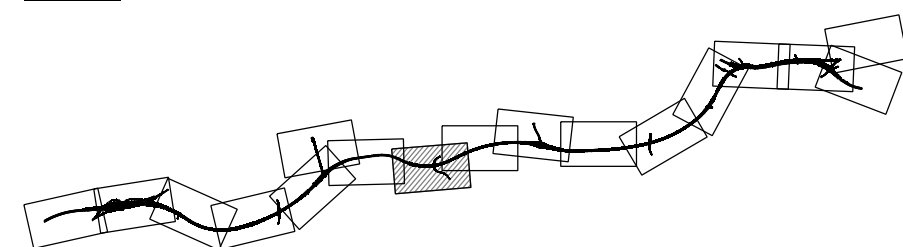
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Millimetres







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KEY PLAN:



- LEGEND:**

	CATCHPIT - HCD F11 / MANHOLE - HCD F4, F5, F6 & F7		REPLACEMENT REEN	
	INTAKE CHAMBER - HCD F22 & F24		REPLACEMENT FIELD DITCH	
	PETROL INTERCEPTOR		HIGHWAY CUT OFF DITCH	
	CONCRETE HEADWALL		EXISTING REEN	
	GRASSED CHANNEL IN BOX CULVERT		EXISTING REEN TO BE FILLED	
	CARRIER PIPE - HCD F1		EXISTING FIELD DITCH TO BE FILLED	
	CONCRETE CHANNEL - HCD F21 & B3 & B7 & B12		EXISTING CULVERT TO BE RETAINED	
	CONCRETE CHANNEL - HCD F21 & B3 & B7 & B12 WITH CARRIER PIPE - HCD F1 BELOW		PROPOSED CULVERT	
	GRASSED CHANNEL		COMBINED KERB DRAINAGE WITH CARRIER PIPE - HCD F1 BELOW	
	COMBINED KERB DRAINAGE		EXISTING NRW SLUICE	
			PROPOSED NRW TILTING WEIR/POSTLOCK	
			POTENTIAL NRW ACCESS (IN ABEYANCE)	
			INDIRECT LOSS FIELD DITCHES	
			SITE OF SPECIAL SCIENTIFIC INTEREST BOUNDARY	

SAFETY, HEALTH AND ENVIRONMENTAL
INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Construction
Large diameter pipe underneath bridge deck

Maintenance / Cleaning
Culverts partially submerged

Main bridge drainage to outfalls at bridge abutment
Use
No exceptional risks

Decommissioning / Demolition
No exceptional risks

[illegible]

Drawing Status

Project Team

	Client
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Llywodraeth Cymru
Welsh Government

	Suitability
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Project Title

M4 CORRIDOR AROUND NEWPORT

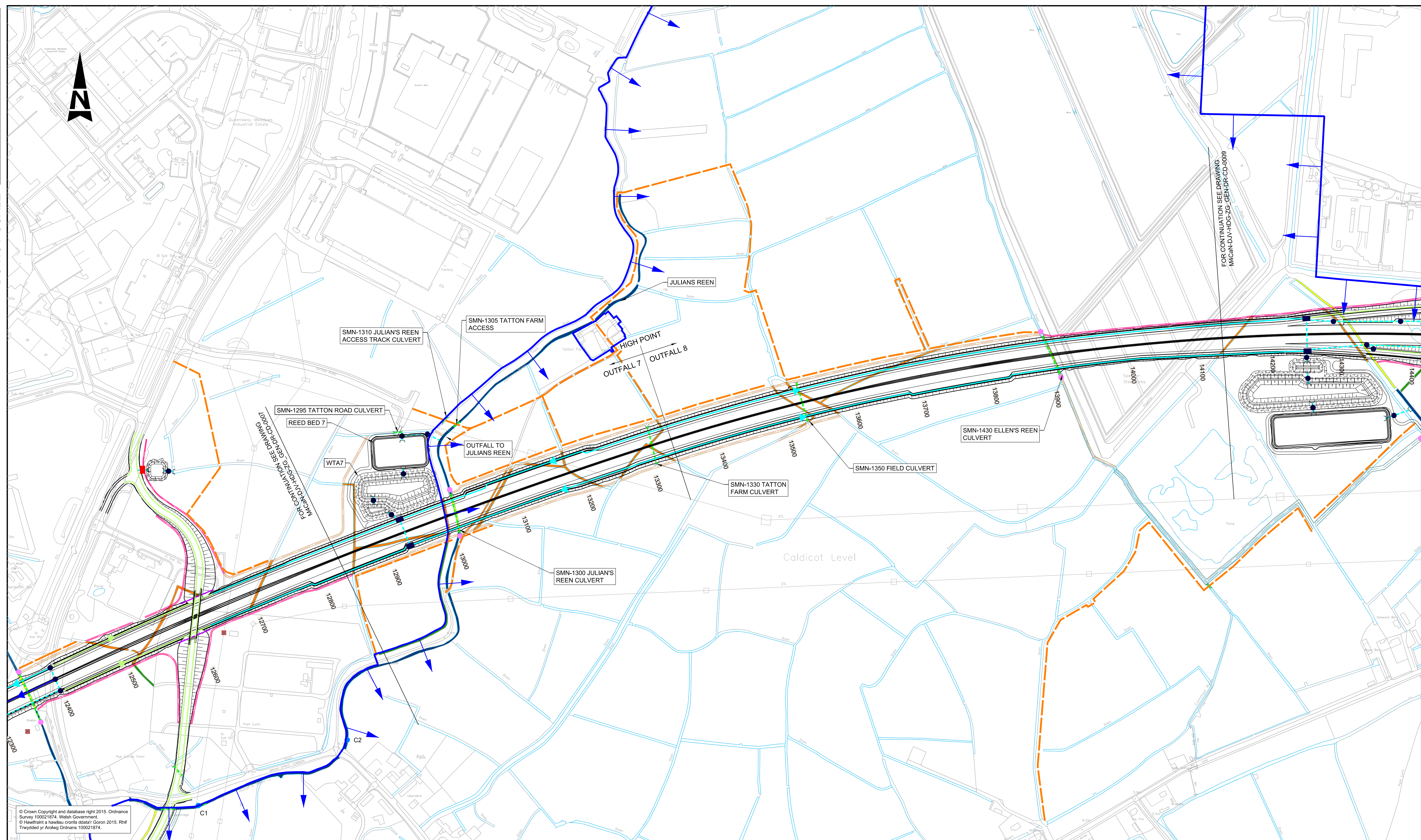
FIGURE 2.5
HIGHWAY DRAINAGE AND REEN MITIGATION
SHEET 7 OF 16

Scale	Designed / Drawn	Checked	Approved	Authorized
1:2500	AC	DOL	HR	BCS
Original Size A1	Date 26/01/16	Date 26/01/16	Date 26/01/16	Date 27/01/16
Drawing Number Project	Originator Volume			Revision
M4CaN - DJV - HDG - ZG_GEN - DR - CD - 0007				AT ISSU
Location	Drawn	By	Number	

DO NOT SCALE




















Millimetres

0 10 100

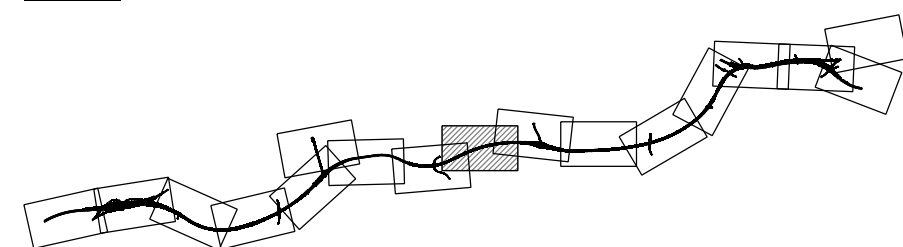







GENERAL NOTES:

1. ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE
2. ONLY WRITTEN DIMENSIONS SHALL BE USED, DO NOT SCALE.
3. FIN DRAINS NOT SHOWN FOR CLARITY. TO BE HCD F18 TYPE 7.

LEGEND:			
	CATCHPI - HCD F11 / MANHOLE - HCD F4, F5, F6 & F7		REPLACEMENT REEN
	INTAKE CHAMBER - HCD F22 & F24		REPLACEMENT FIELD DITCH
	PETROL INTERCEPTOR		HIGHWAY CUT OFF DITCH
	CONCRETE HEADWALL		EXISTING REEN
	GRASSED CHANNEL IN BOX CULVERT		EXISTING REEN TO BE FILLED
	CARRIER PIPE - HCD F1		EXISTING FIELD DITCH TO BE FILLED
	CONCRETE CHANNEL - HCD F21 & B3 & B7 & B12		EXISTING CULVERT TO BE RETAINED
	CONCRETE CHANNEL - HCD F21 & B3 & B7 & B12 WITH CARRIER PIPE - HCD F1 BELOW		PROPOSED CULVERT
	GRASSED CHANNEL		COMBINED KERB DRAINAGE WITH CARRIER PIPE - HCD F1 BELOW
	COMBINED KERB DRAINAGE		

KEY PLAN:



-  EXISTING NRW SLUICE
-  PROPOSED NRW TILTING WEIR/PENSTOCK
-  POTENTIAL NRW ACCESS (IN ABEYANCE)
-  INDIRECT LOSS FIELD DITCHES
-  SITE OF SPECIAL SCIENTIFIC INTEREST BOUNDARY

SAFETY, HEALTH AND ENVIRONMENTAL
INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Construction
No exceptional risks

Maintenance / Cleaning
Culverts partially submerged

Use
No exceptional risks

Decommissioning / Demolition
No exceptional risks

[illegible]

Drawing Status	
1	2
3	4
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27	28
29	30
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79	80
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97	98
99	100

Project Team

Client



	Suitability
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Project Title	M4 CORRIDOR AROUND NEWPORT
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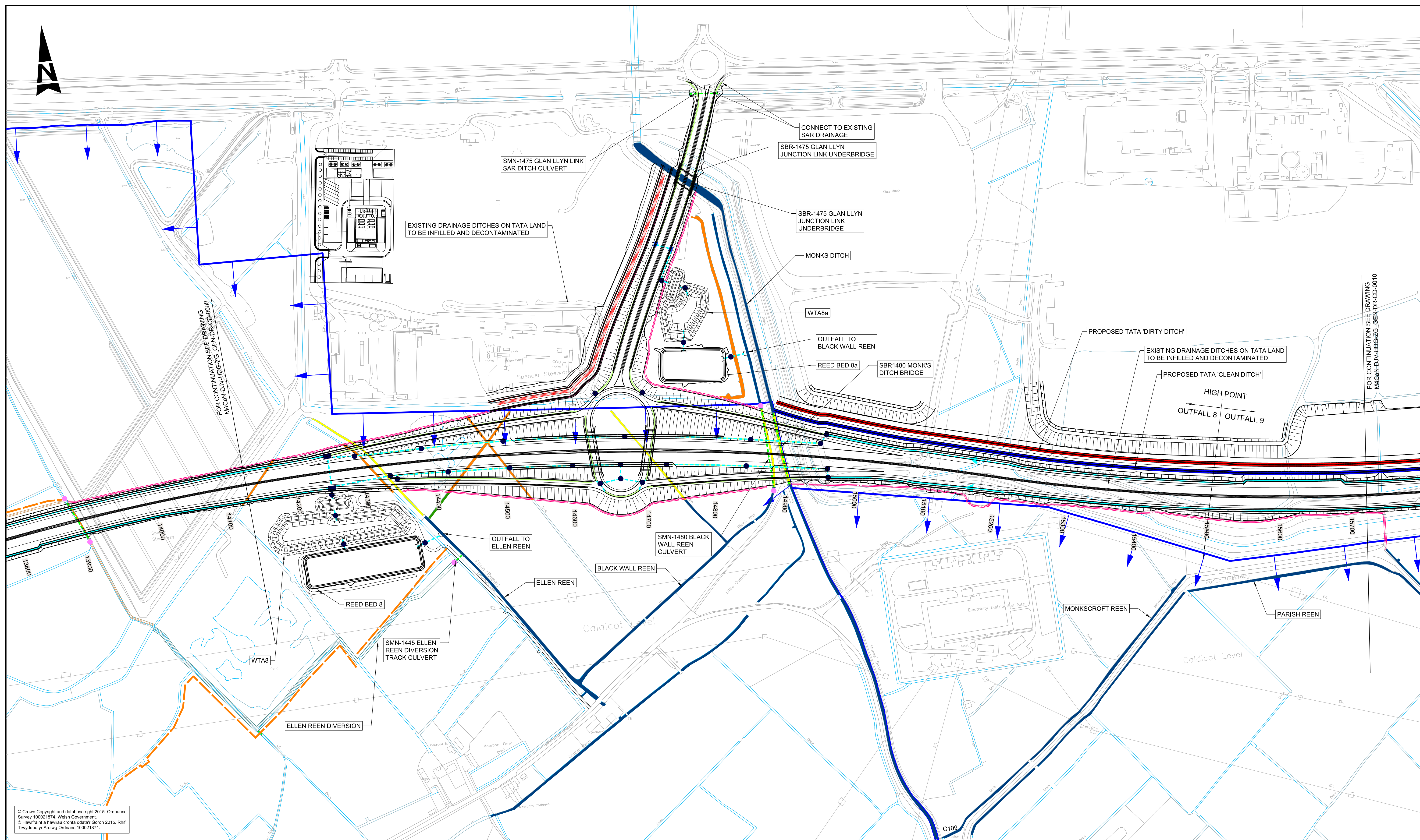
FIGURE 2.5
HIGHWAY DRAINAGE AND REEN MITIGATION
SHEET 8 OF 16

Scale	Designed / Drawn	Checked	Approved	Authorised
1:2500	AC	DOL	HR	BCS
Original Size A1	Date 26/01/16	Date 26/01/16	Date 26/01/16	Date 27/01/16
Drawing Number				Revision
Project		Originator	Volume	
<p>M4CaN - DJV - HDG -</p> <p>ZG_GEN - DR - CD - 0008</p>				AT ISSUE
Location	Type	Role	Number	

DO NOT SCALE

0 10 100

Millimetres






















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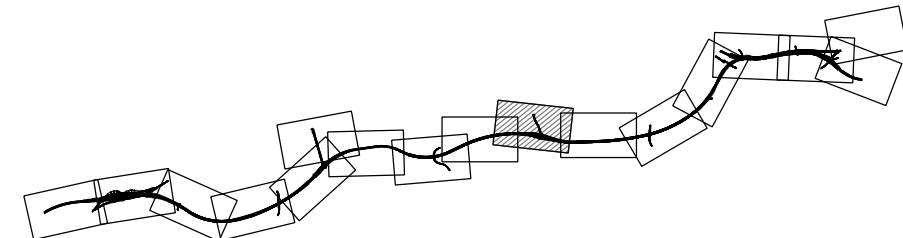
GENERAL NOTES:

1. ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.
2. ONLY WRITTEN DIMENSIONS SHALL BE USED, DO NOT SCALE.
3. FIN DRAINS NOT SHOWN FOR CLARITY. TO BE HCD F18 TYPE 7.

LEGEND:

- | | | | |
|--|---|---|---|
|  | CATCHPIT - HCD F11 / MANHOLE - HCD F4, F5, F6 & F7 |  | REPLACEMENT REEN |
|  | INTAKE CHAMBER - HCD F22 & F24 |  | REPLACEMENT FIELD DITCH |
|  | PETROL INTERCEPTOR |  | HIGHWAY CUT OFF DITCH |
|  | CONCRETE HEADWALL |  | EXISTING REEN |
|  | GRASSED CHANNEL IN BOX CULVERT |  | EXISTING REEN TO BE FILLED |
|  | CARRIER PIPE - HCD F1 |  | EXISTING FIELD DITCH TO BE FILLED |
|  | CONCRETE CHANNEL - HCD F21 & B3 & B7 & B12 |  | EXISTING CULVERT TO BE RETAINED |
|  | CONCRETE CHANNEL - HCD F21 & B3 & B7 & B12 WITH CARRIER PIPE - HCD F1 BELOW |  | PROPOSED CULVERT |
|  | GRASSED CHANNEL |  | COMBINED KERB DRAINAGE WITH CARRIER PIPE - HCD F1 BELOW |
|  | COMBINED KERB DRAINAGE | | |

KEY PLAN:



- EXISTING NRW SLUICE
- PROPOSED NRW TILTING WEIR/PENSTOCK
- POTENTIAL NRW ACCESS (IN ABEYANCE)
- INDIRECT LOSS FIELD DITCHES
- ||||| SITE OF SPECIAL SCIENTIFIC

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).


Construction
Contaminated land

Maintenance / Cleaning
Culverts partially submerged

Use
No exceptional risks

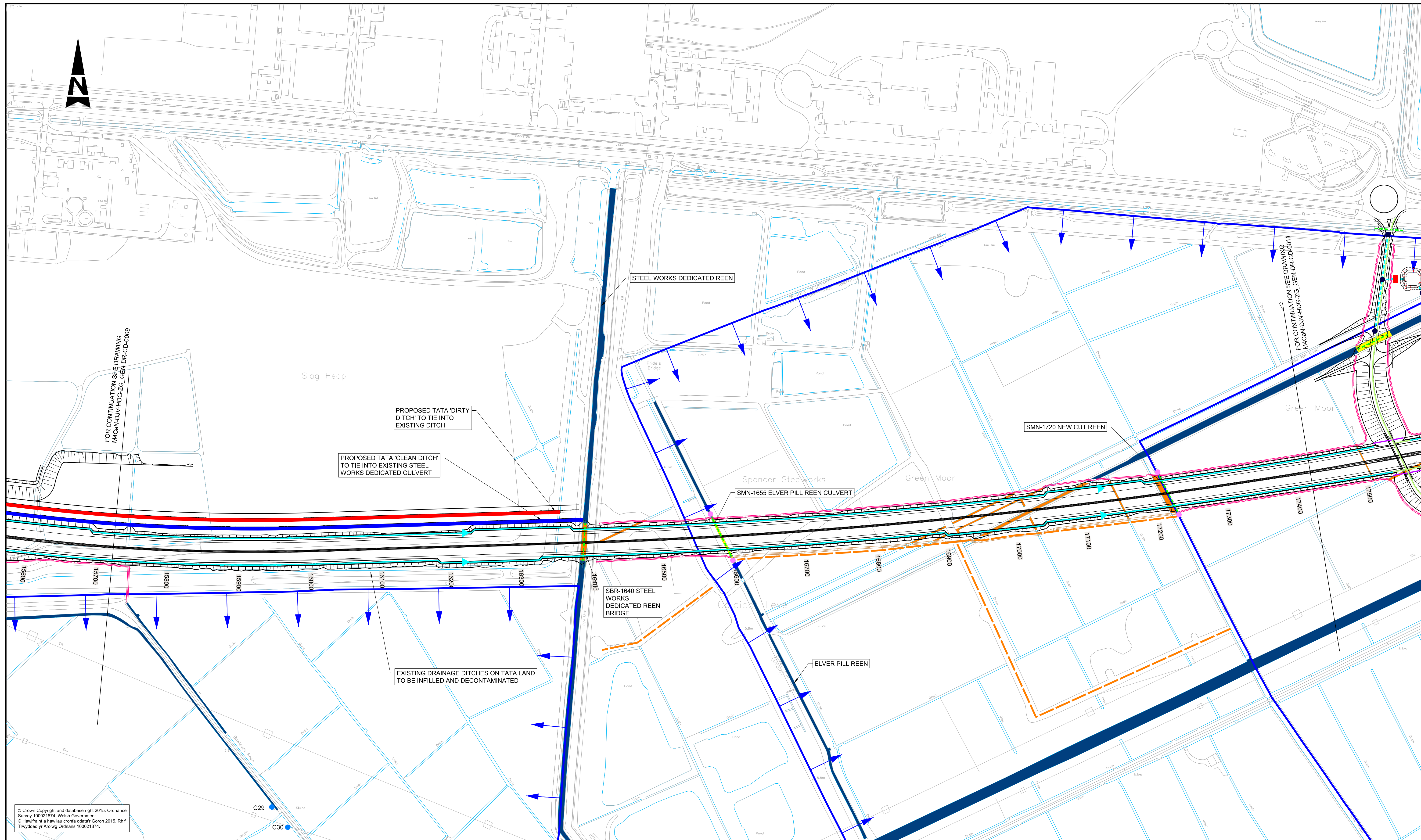
Decommissioning / Demolition
No exceptional risks

[illegible]

Drawing Status		Suitability		Project Title M4 CORRIDOR AROUND NEWPORT				
Project Team				Drawing Title FIGURE 2.5 HIGHWAY DRAINAGE AND REEN MITIGATION SHEET 9 OF 16				
				Scale 1:2500		Designed / Drawn AC	Checked DOL	Approved HR
Client				Original Size A1	Date 26/01/16	Date 26/01/16	Date 26/01/16	Date 27/01/16
				Drawing Number Project Originator Volume M4CaN - DJV - HDG - ZG_GEN - DR - CD - 0009 Location Type Role Number				
 Llywodraeth Cymru Welsh Government								

DO NOT SCALE

0 10 100
Millimetres



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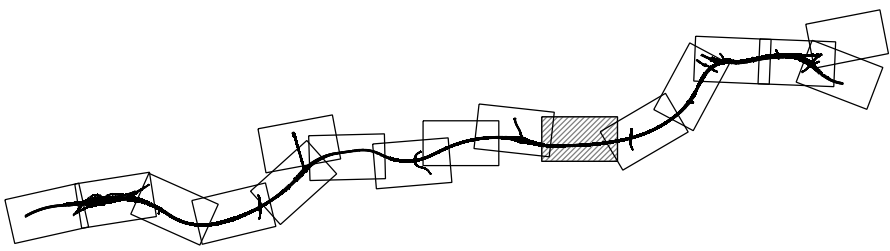
GENERAL NOTES:

- ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.
- ONLY WRITTEN DIMENSIONS SHALL BE USED, DO NOT SCALE.

LEGEND:

- | | |
|---|---|
| ● CATCHPIT - HCD F11 / MANHOLE - HCD F4, F5, F6 & F7 | — REPLACEMENT REEN |
| ■ INTAKE CHAMBER - HCD F22 & F24 | — REPLACEMENT FIELD DITCH |
| ■ PETROL INTERCEPTOR | — HIGHWAY CUT OFF DITCH |
| — CONCRETE HEADWALL | — EXISTING REEN |
| — GRASSSED CHANNEL IN BOX CULVERT | — EXISTING REEN TO BE FILLED |
| — CARRIER PIPE - HCD F1 | — EXISTING FIELD DITCH TO BE FILLED |
| — CONCRETE CHANNEL - HCD F21 & B3 & B7 & B12 | — EXISTING CULVERT TO BE RETAINED |
| — CONCRETE CHANNEL - HCD F21 & B3 & B7 & B12 WITH CARRIER PIPE - HCD F1 BELOW | — PROPOSED CULVERT |
| — GRASSSED CHANNEL | — COMBINED KERB DRAINAGE WITH CARRIER PIPE - HCD F1 BELOW |
| — COMBINED KERB DRAINAGE | |
- | | |
|--|--------------------------------------|
| ● EXISTING NRW SLUICE | — POTENTIAL NRW ACCESS (IN ABEYANCE) |
| ● PROPOSED NRW TILTING WEIR/PENSTOCK | — INDIRECT LOSS FIELD DITCHES |
| — SITE OF SPECIAL SCIENTIFIC INTEREST BOUNDARY | |

KEY PLAN:



SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Construction	Contaminated land
Maintenance / Cleaning	Culverts partially submerged
Use	No exceptional risks
Decommissioning / Demolition	No exceptional risks

Issue	27/01/16	FINAL ISSUE TO WG	AC	DOL	HR
Rev.	Date	Description	By	Chk'd	App'd

Drawing Status	Suitability	Project Title				
		M4 CORRIDOR AROUND NEWPORT				
Project Team		Drawing Title				
		FIGURE 2.5 HIGHWAY DRAINAGE AND REEN MITIGATION SHEET 10 OF 16				
		Scale	Designed / Drawn	Checked	Approved	Authorised
		1:2500	AC	DOL	HR	BCS
		Original Size	Date	Date	Date	Date
		A1	26/01/16	26/01/16	26/01/16	27/01/16
Client		Drawing Number Project				Revision
		M4CaN - DJV - HDG - ZG_GEN - DR - CD - 0010				AT ISSUE

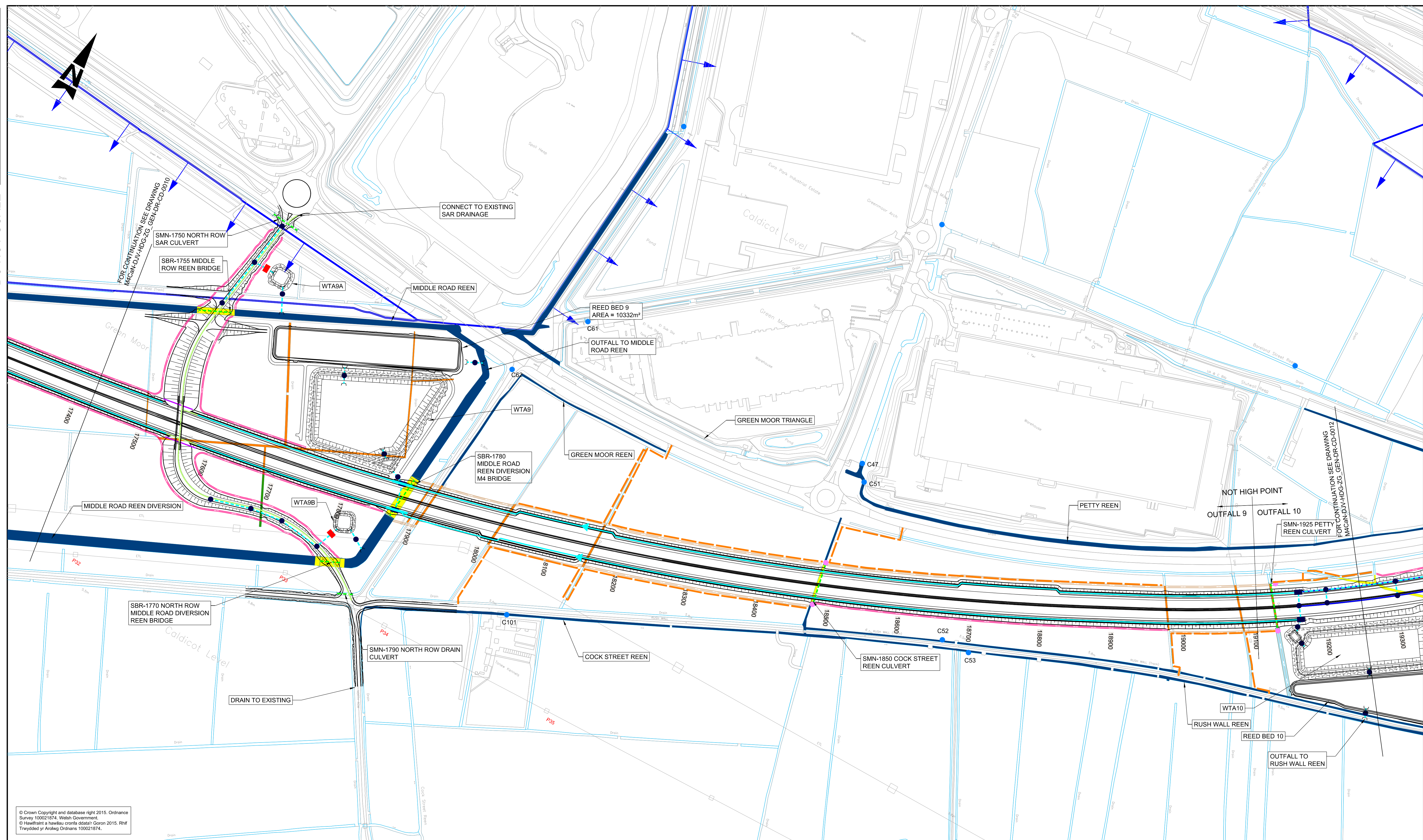


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Welsh Government

DO NOT SCALE

Millimetres

0 10 100






















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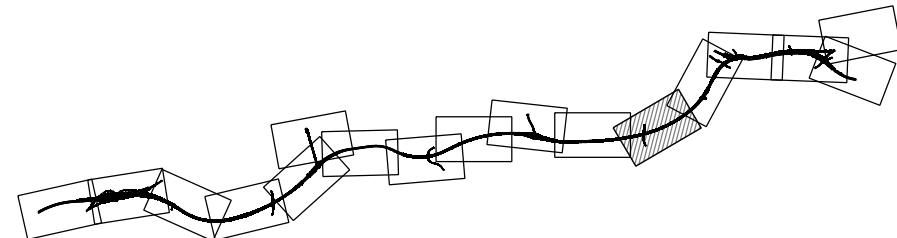
GENERAL NOTES:

1. ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE
2. ONLY WRITTEN DIMENSIONS SHALL BE USED, DO NOT SCALE.
3. FIN DRAINS NOT SHOWN FOR CLARITY, TO BE HCD F18 TYPE 7.

LEGEND:

- | | | | |
|--|---|---|---|
|  | CATCHPIT - HCD F11 / MANHOLE - HCD F4, F5, F6 & F7 |  | REPLACEMENT REEN |
|  | INTAKE CHAMBER - HCD F22 & F24 |  | REPLACEMENT FIELD DITCH |
|  | PETROL INTERCEPTOR |  | HIGHWAY CUT OFF DITCH |
|  | CONCRETE HEADWALL |  | EXISTING REEN |
|  | GRASSED CHANNEL IN BOX CULVERT |  | EXISTING REEN TO BE FILLED |
|  | CARRIER PIPE - HCD F1 |  | EXISTING FIELD DITCH TO BE FILLED |
|  | CONCRETE CHANNEL - HCD F21 & B3 & B7 & B12 |  | EXISTING CULVERT TO BE RETAINED |
|  | CONCRETE CHANNEL - HCD F21 & B3 & B7 & B12 WITH CARRIER PIPE - HCD F1 BELOW |  | PROPOSED CULVERT |
|  | GRASSED CHANNEL |  | COMBINED KERB DRAINAGE WITH CARRIER PIPE - HCD F1 BELOW |
|  | COMBINED KERB DRAINAGE | | |

KEY PLAN:



- EXISTING NRW SLUICE
- PROPOSED NRW TILTING WEIR/PENSTOCK
- POTENTIAL NRW ACCESS (IN ABEYANCE)
- INDIRECT LOSS FIELD DITCHES
- SITE OF SPECIAL SCIENTIFIC INTEREST BOUNDARY

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Construction
No exceptional risks

Maintenance / Cleaning
Culverts partially submerged

Use
No exceptional risks

Decommissioning / Demolition
No exceptional risks

[illegible]

Drawing Status

Project Team

Client



Llywodraeth Cymru
Welsh Government

Suitability	
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Project Title

M4 CORRIDOR AROUND NEWPORT

Drawing Title

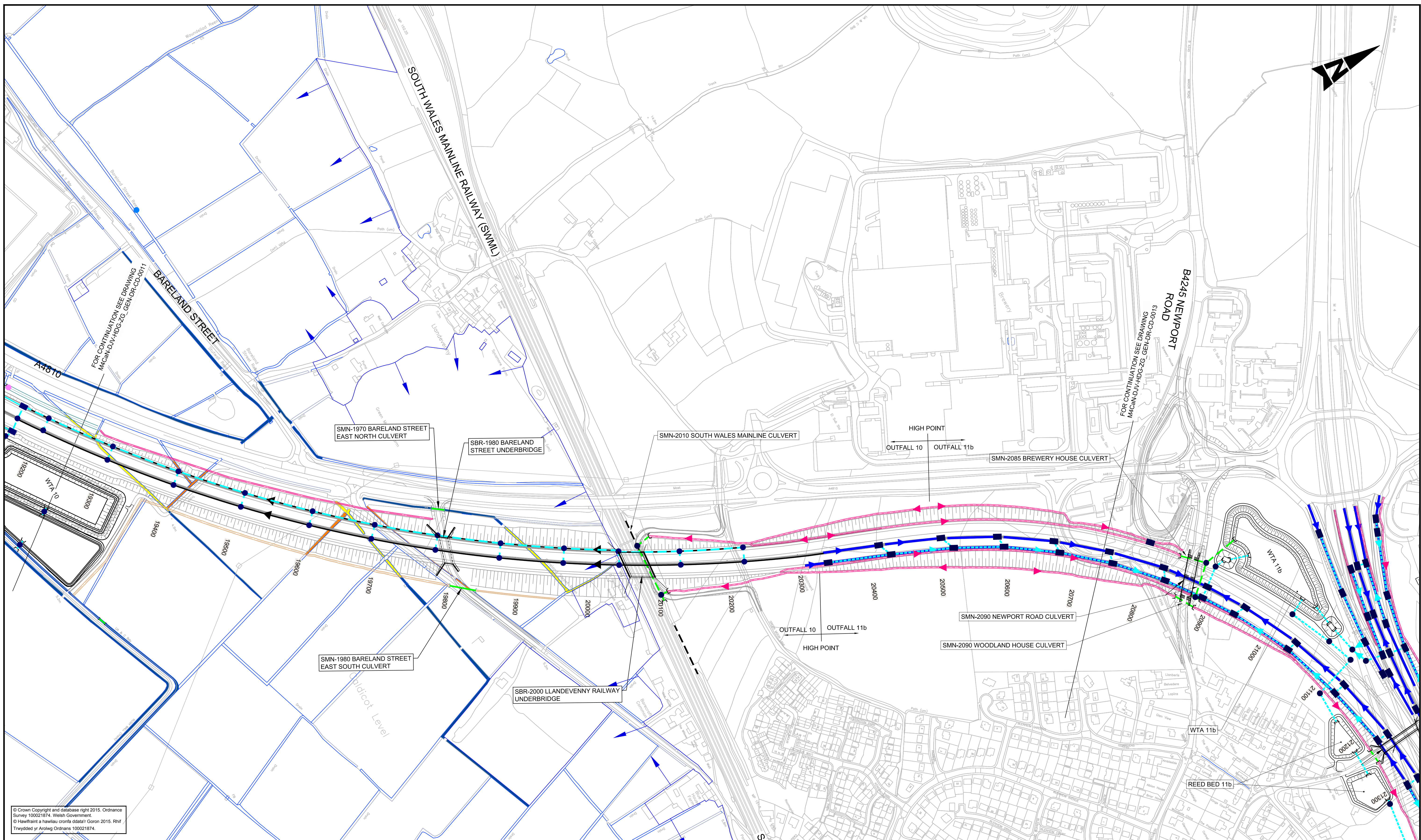
FIGURE 2.5
HIGHWAY DRAINAGE AND REEN MITIGATION
SHEET 11 OF 16

Scale 1:2500	Designed / Drawn AC	Checked DOL	Approved HR	Authorized BCS
Original Size A1	Date 26/01/16	Date 26/01/16	Date 26/01/16	Date 27/01/16
Drawing Number Project <div style="text-align: center;"> Originator M4CaN - DJV - HDG - ZG_GEN - DR - CD - 0011 </div>				Revision AT ISSU
Location 1 Type 1		Role 1 Number 1		

DO NOT SCALE

0 10 100

Millimetres













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Trwydded yr Arolwg Ordians 100021874.






GENERAL NOTES:

1. ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE
2. ONLY WRITTEN DIMENSIONS SHALL BE USED, DO NOT SCALE.
3. FIN DRAINS NOT SHOWN FOR CLARITY. TO BE HCD F18 TYPE 7.
4. WTA 11a REMOVED.

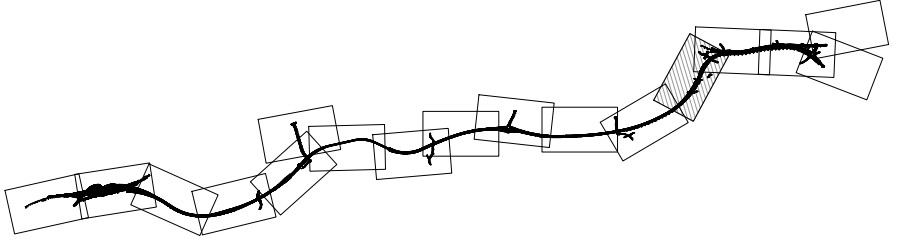
LEGEND:

- | | |
|---|---|
|  | CATCHPIT - HCD F11 / MANHOLE - HCD F4, F5, F6 & F7 |
|  | INTAKE CHAMBER - HCD F22 & F24 |
|  | PETROL INTERCEPTOR |
|  | CONCRETE HEADWALL |
|  | GRASS LINED DITCH IN BOX CULVERT |
|  | CARRIER PIPE - HCD F1 |
|  | CONCRETE CHANNEL - HCD F21 & B3 & B7 & B12 |
|  | CONCRETE CHANNEL - HCD F21 & B3 & B7 & B12 WITH CARRIER PIPE - HCD F1 BELOW |
|  | GRASS LINED CHANNEL |
|  | COMBINED KERB DRAINAGE |

- | | |
|---|--|
|  | REPLACEMENT REEN |
|  | REPLACEMENT FIELD DITCH |
|  | HIGHWAY CUT OFF DITCH |
|  | EXISTING REEN |
|  | EXISTING REEN TO BE FILLED |
|  | EXISTING FIELD DITCH TO BE FILLED |
|  | EXISTING CULVERT TO BE RETAINED |
|  | PROPOSED CULVERT |
|  | COMBINED KERB DRAINAGE WITH
CARRIER PIPE - HCD 1' BELOW |

-  EXISTING NRW SLUICE
-  PROPOSED NRW TILTING WEIR / PENSTOCK
-  POTENTIAL NRW ACCESS (IN ABEYANCE)
-  INDIRECT LOSS FIELD DITCHES
-  SITE OF SPECIAL SCIENTIFIC INTEREST BOUNDARY

KEY PLAN



SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Construction
No exceptional risks

Maintenance / Cleaning

•

Decommissioning / Demolition
No exceptional risks

[illegible]

Drawing Status

Project Team

Client



Llywodraeth Cymru
Welsh Government

Suitability

Project Title

Drawing Title

Scale

A

1

Location

M4 CORRIDOR AROUND NEWPORT

Drawing Title

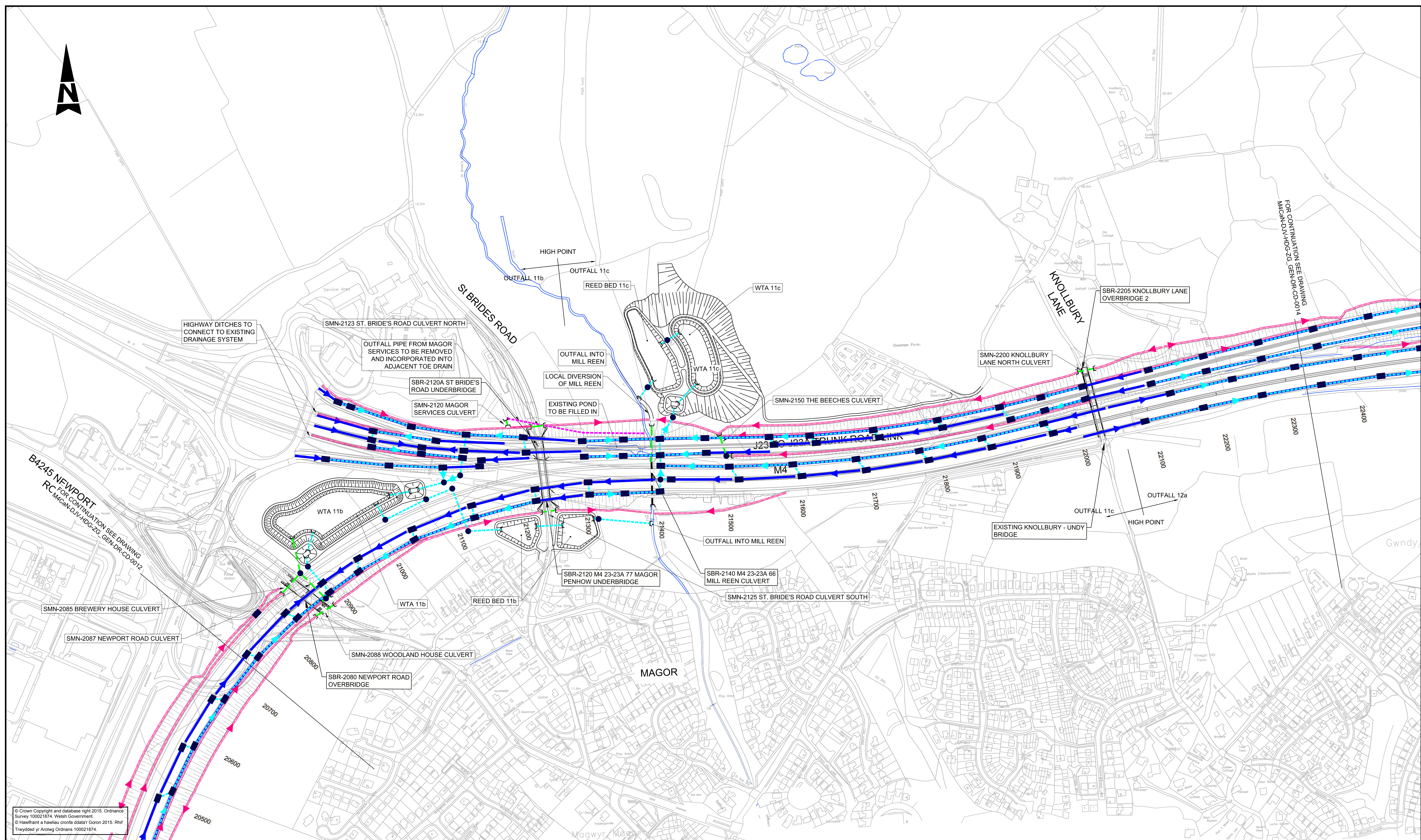
FIGURE 2.5
HIGHWAY DRAINAGE AND REEN MITIGATION
SHEET 12 OF 16

Scale 1:2500	Designed / Drawn DJW	Checked TJD	Approved HR	Authorised BCS
Original Size A1	Date 26/01/16	Date 26/01/16	Date 26/01/16	Date 27/01/16
Drawing Number Project		Originator Volume		Revision
M4CaN - DJV - HDG - ZG_GEN - DR - CD - 0012				AT ISSUE
Location	Type	Role	Number	

DO NOT SCALE

0 10 100



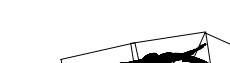






















Millimetres



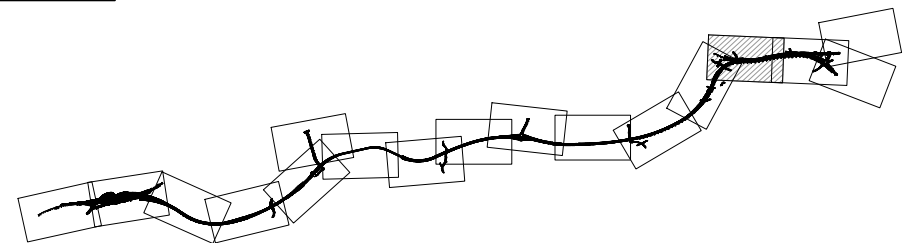
GENERAL NOTES:

1. ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE
2. ONLY WRITTEN DIMENSIONS SHALL BE USED, DO NOT SCALE.
3. FIN DRAINS NOT SHOWN FOR CLARITY. TO BE HCD F18 TYPE 7.

LEGEND:

- | | | | | |
|--|---|---|---|---|
|  | CATCHPIIT - HCD F11 / MANHOLE - HCD F4, F5, F6 & F7 |  | REPLACEMENT REEN |  |
|  | INTAKE CHAMBER - HCD F22 & F24 |  | REPLACEMENT FIELD DITCH | |
|  | PETROL INTERCEPTOR |  | HIGHWAY CUT OFF DITCH | |
|  | CONCRETE HEADWALL |  | EXISTING REEN | |
|  | GRASS LINED DITCH IN BOX CULVERT |  | EXISTING REEN TO BE FILLED | |
|  | CARRIER PIPE - HCD F1 |  | EXISTING FIELD DITCH TO BE FILLED | |
|  | CONCRETE CHANNEL - HCD F21 & B3 & B7 & B12 |  | EXISTING CULVERT TO BE RETAINED | |
|  | CONCRETE CHANNEL - HCD F21 & B3 & B7 & B12 WITH CARRIER PIPE - HCD F1 BELOW |  | PROPOSED CULVERT | |
|  | GLASS LINED CHANNEL |  | COMBINED KERB DRAINAGE WITH CARRIER PIPE - HCD F1 BELOW | |
|  | COMBINED KERB DRAINAGE |  | EXISTING NRW SLUICE | |
| | |  | PROPOSED NRW TILTING WREN / PENSTOCK | |
| | |  | POTENTIAL NRW ACCESS (IN ABYANCE) | |
| | |  | INDIRECT LOSS FIELD DITCHES | |
| | |  | SITE OF SPECIAL SCIENTIFIC INTEREST | |

KEY PLAN

SAFETY, HEALTH AND ENVIRONMENTAL
INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Construction
No exceptional risks

Maintenance / Cleaning	No exceptional risks
------------------------	----------------------

Use

Decommissioning / Demolition
No exceptional risks

[illegible]

	Drawing Status
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Project Team

Client	
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Llywodraeth Cymru
Welsh Government

	Suitability
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Project Title	M4 CORRIDOR AROUND NEWPORT
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FIGURE 2.5
HIGHWAY DRAINAGE AND REEN MITIGATION
SHEET 13 OF 16

Scale	Designed / Drawn	Checked	Approved	Authorised
1:2500	DJW	TJD	HR	BCS
Original Size	Date	Date	Date	Date
A1	26/01/16	26/01/16	26/01/16	27/01/16
Drawing Number	Revision			
Project	Originator	Volume		
M4CaN - DJV - HDG - ZG_GEN - DR - CD - 0013				AT ISSUE
Location	Drawn	Number		

