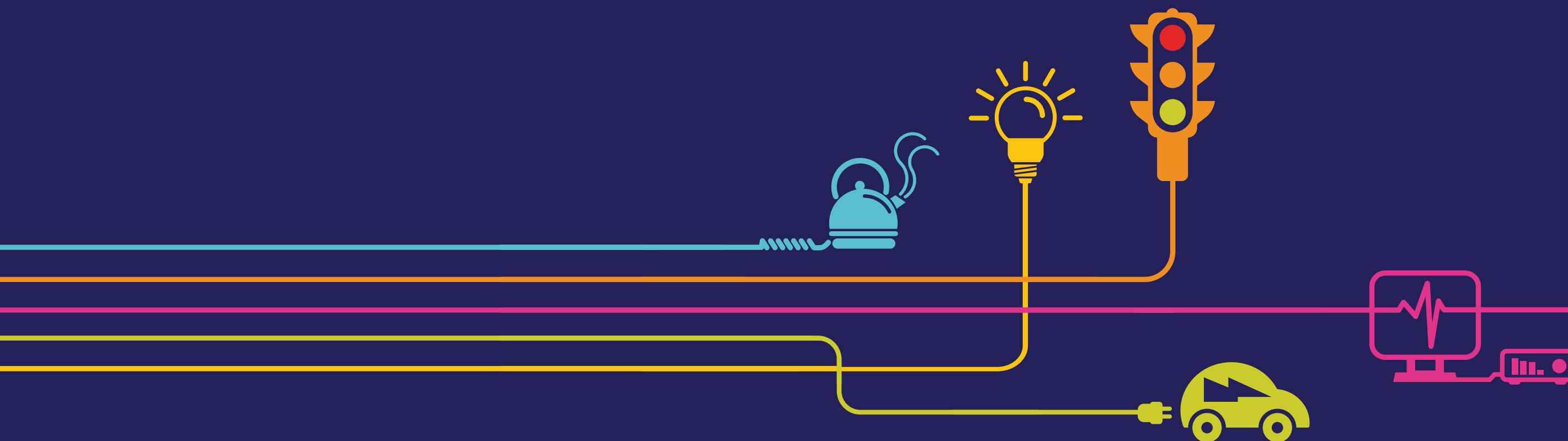


# Environmental Statement Project Description Figures 3.15 to 3.24

Hinkley Point C Connection Project

*Regulation 5(2)(a) of the Infrastructure Planning  
(Applications: Prescribed Forms and Procedure)  
Regulations 2009*



## Environmental Statement

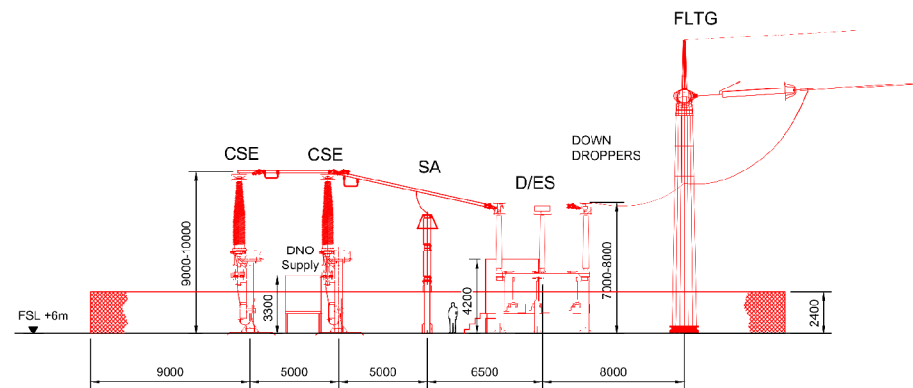
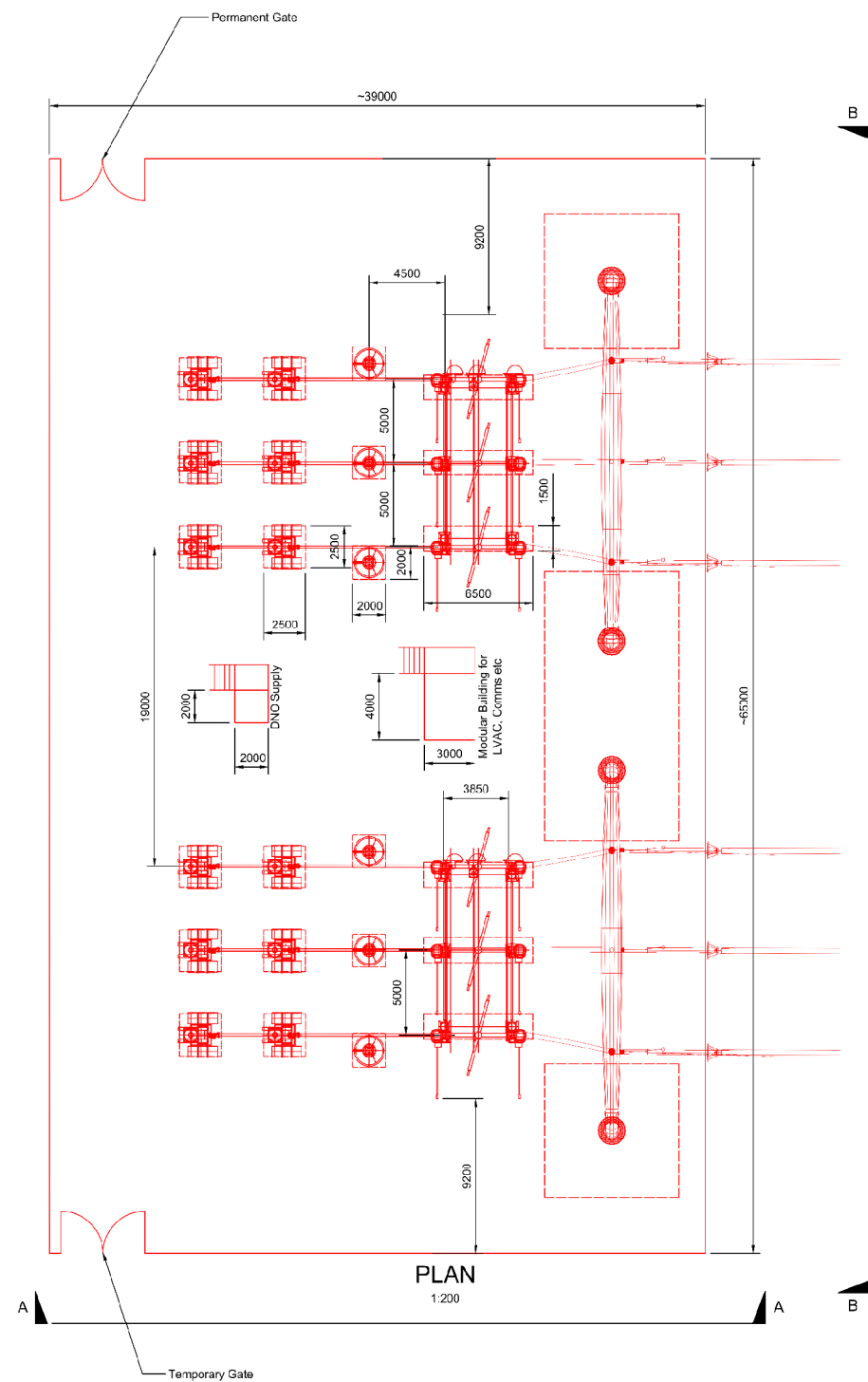
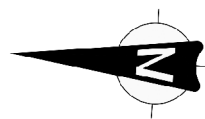
### Hinkley Point C Connection Project

#### 5.3.3 – Project Description – Figures (orange highlight indicates the contents of this Volume)

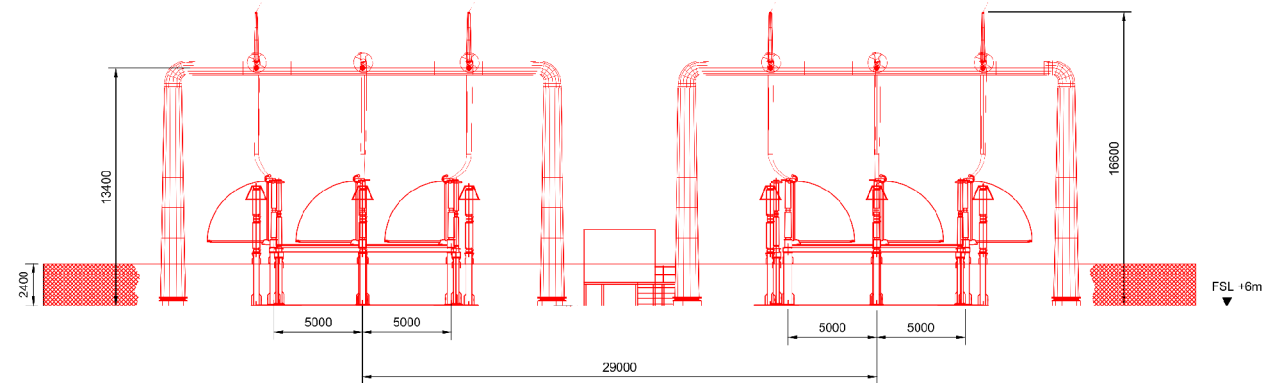
Figure	Title
<b>Volume 5.3.3.1</b>	
3.1	The Proposed Development
3.2	The Proposed Development – Preferred Route Option A and Alternative Route Option B
<b>Volume 5.3.3.2</b>	
3.3	Construction Plans
<b>Volume 5.3.3.3</b>	
3.4	Construction Plans – Preferred Route Option A and Alternative Route Option B
3.5	Indicative Access for Future Maintenance
3.6	Indicative Access for Future Maintenance – Preferred Route Option A and Alternative Route Option B
<b>Volume 5.3.3.4</b>	
3.7	Environmental Constraints
3.8	Pylon Profiles
3.9	Sandford 400/132kV Substation
3.10	Seabank 400/132kV Substation
3.11	Churchill 132/33kV Substation
3.12	Avonmouth 132/33kV Substation
3.13	Portishead 132/33kV Substation
3.14	Bridgwater Tee Cable Sealing End Compounds
<b>Volume 5.3.3.5</b>	
3.15	South of the Mendip Hills Cable Sealing End Compound
3.16	Typical Site Laydown Areas
3.17	Typical Underground Cable Technical Arrangements
3.18	River Axe and Towerhead Brook Crossing Options
3.19	Temporary Construction Road and Bridge Details
3.20	Culvert Construction Details
3.21	Typical 400/132kV Horizontal Directional Drilling Reception and Drive Site
3.22	Typical Bellmouth Arrangements
3.23	Typical Pylon Working Area
3.24	Pylon Foundations



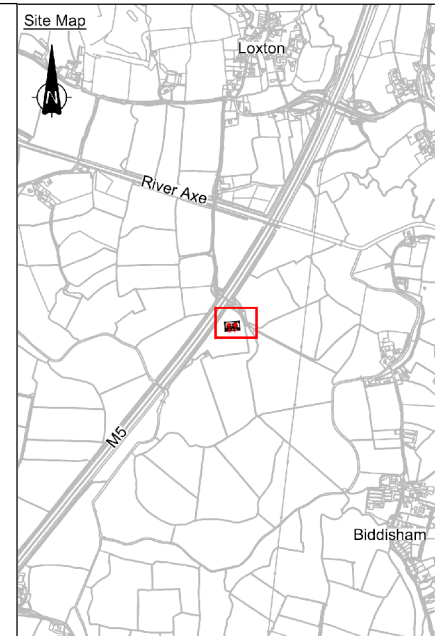
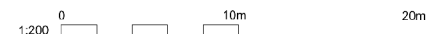
Figure 3.15 - South of the Mendip Hills Cable Sealing End Compound



ELEVATION A - A  
1:200



ELEVATION B - B  
1:200



Key	
<span style="color: red;">—</span>	New Equipment
CSE	- Cable Sealing End
SA	- Surge Arrester
D/ES	- Disconnect/Earth Switch
FLTG	- Full Line Tension Gantry
<span style="border: 1px dashed red; display: inline-block; width: 10px; height: 10px;"></span>	Equipment Foundations

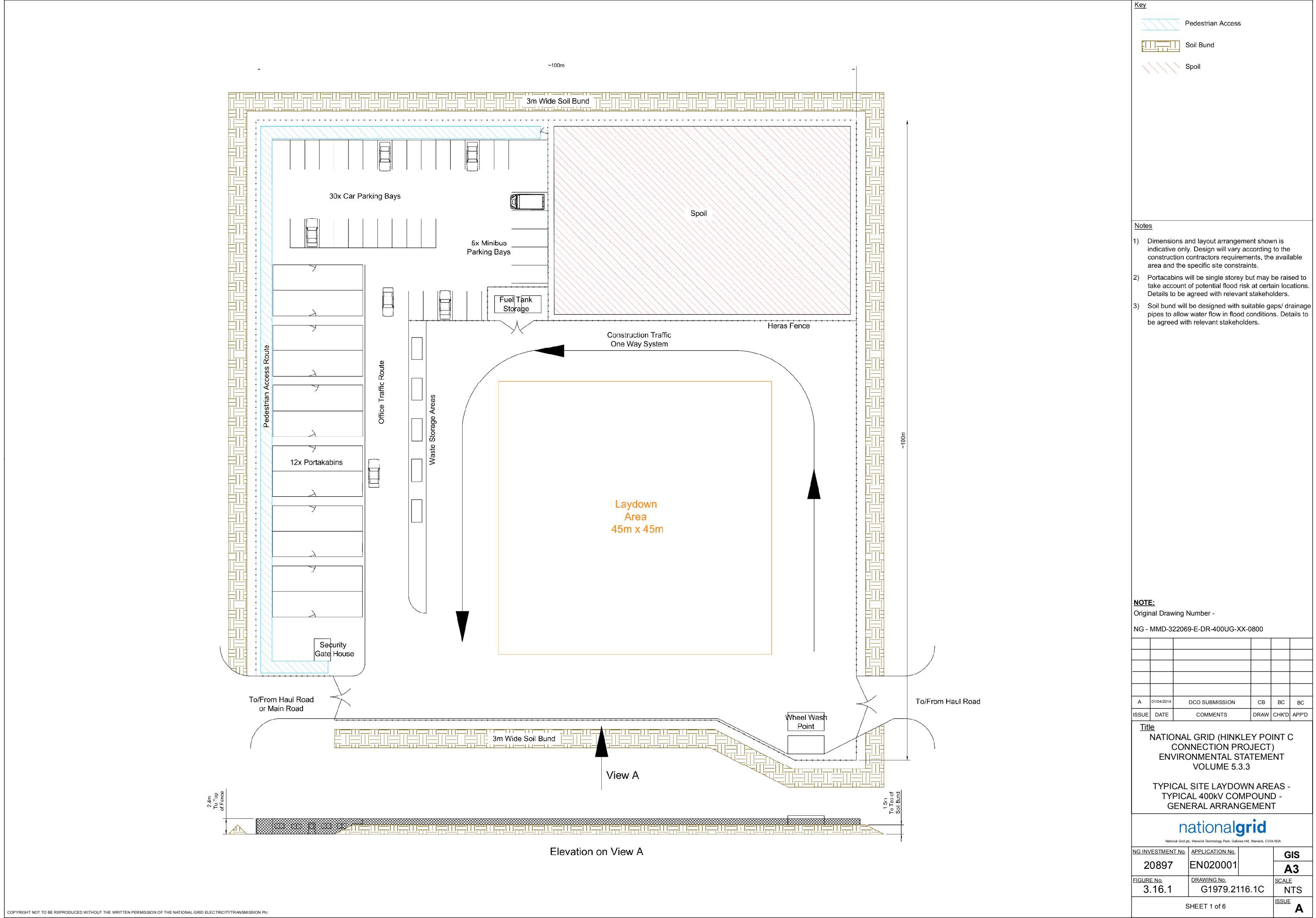
- Notes
- For illustration purpose only.
  - Proposed arrangement shown for indicative purposes only. Dimensions and design may vary depending on site and installation conditions.
  - BYSTRUP FLT gantries structure based on drawing number 23\_13205\_73 Revision D from LSTC.
  - Sensitive equipment to be installed at a minimum of 7.2m AOD according to Flood Risk Assessment: 10/J2M/2046932 P2 - ES Volume 5.23.3
  - Drawing only illustrates principal CSEC structures. Provision for lighting and security to be designed as requested. Permanent lighting to be for access only.

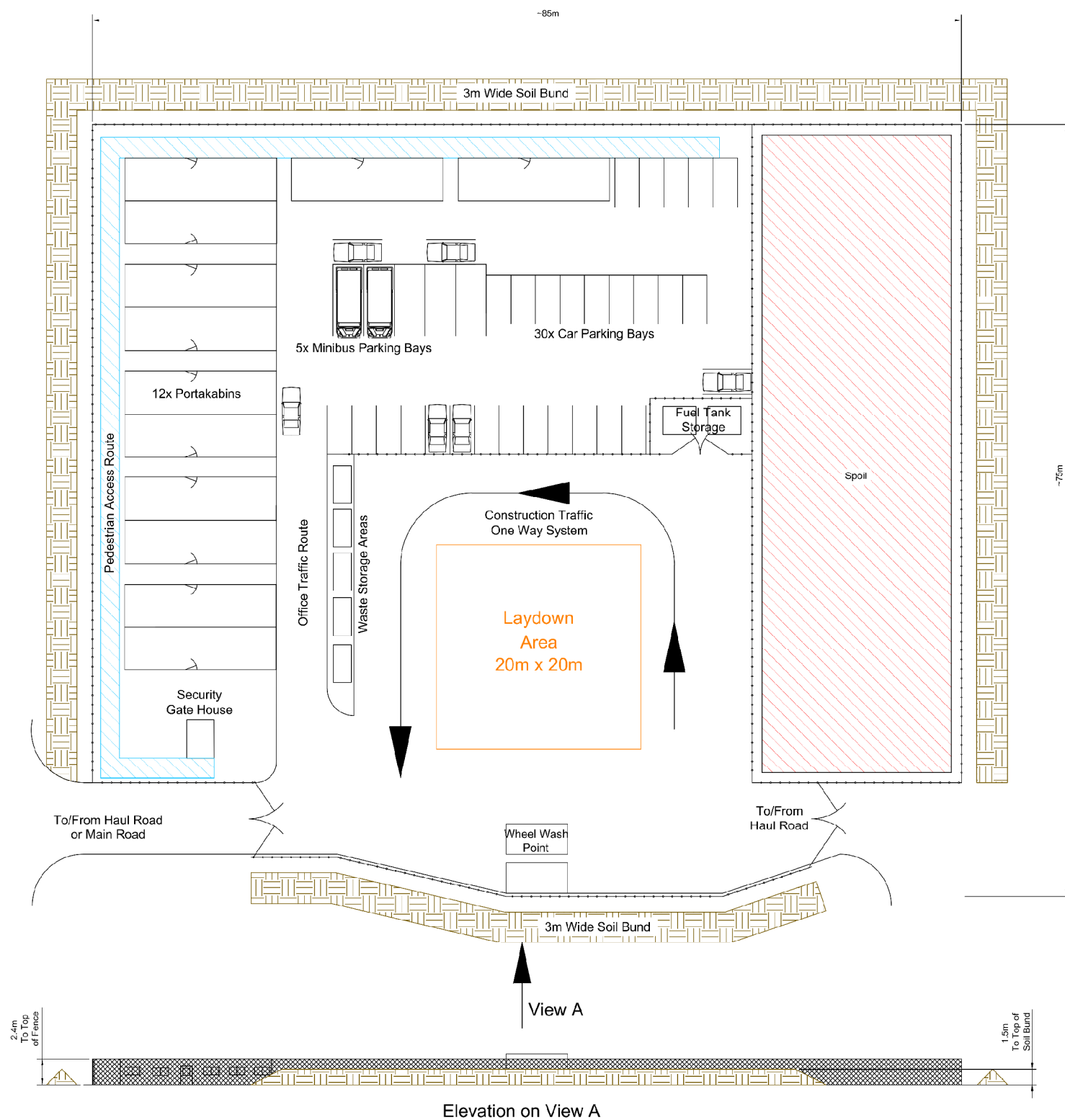
A	02/04/2014	DCO SUBMISSION	CB	BC
ISSUE	DATE	COMMENTS	DRAW	CHK'D

Title  
NATIONAL GRID (HINKLEY POINT C CONNECTION PROJECT)  
ENVIRONMENTAL STATEMENT  
VOLUME 5.3.3  
  
SOUTH OF THE MENDIP HILLS  
CABLE SEALING END COMPOUND

nationalgrid	
National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA	
NG INVESTMENT No.	APPLICATION No.
20897	EN020001
FIGURE No.	DRAWING No.
3.15	G1979.2115.1C
SHEET 1 of 1	
GIS A3 SCALE NTS ISSUE A	

Figure 3.16 - Typical Site Laydown Areas





#### Key

-  Pedestrian Access
-  Soil Bund
-  Spoil

#### Notes

- 1) Dimensions and layout arrangement shown is indicative only. Design will vary according to the construction contractors requirements, the available area and the specific site constraints.
- 2) Portacabins will be single storey but may be raised to take account of potential flood risk at certain locations. Details to be agreed with relevant stakeholders.
- 3) Soil bund will be designed with suitable gaps/ drainage pipes to allow water flow in flood conditions. Details to be agreed with relevant stakeholders.

#### NOTE:

Original Drawing Number -

NG - MMD-322069-E-DR-400UG-XX-0804

A	01/04/2014	DCO SUBMISSION	CB	BC	BC
ISSUE	DATE	COMMENTS	DRAW	CHK'D	APP'D

#### Title

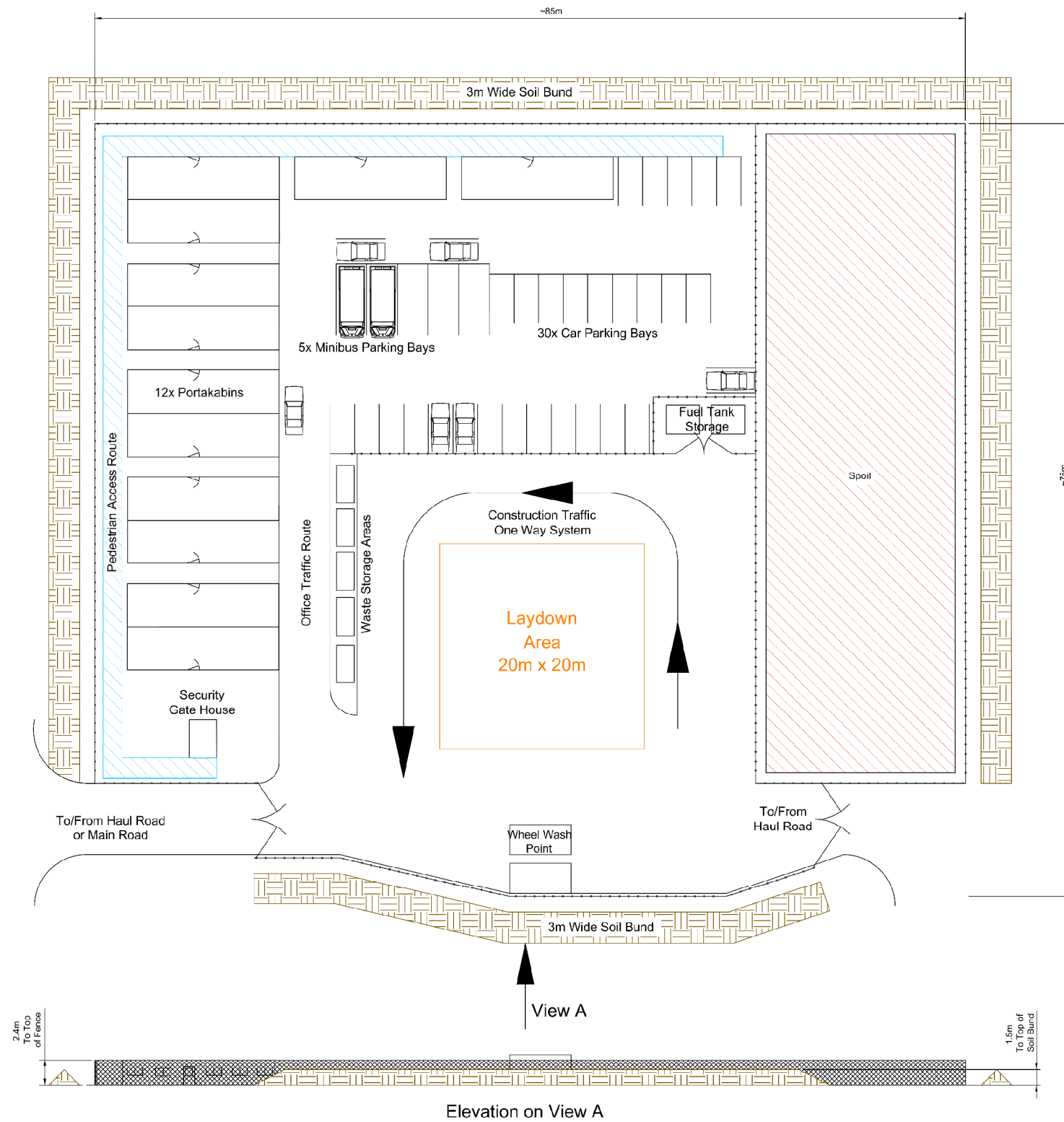
NATIONAL GRID (HINKLEY POINT C  
CONNECTION PROJECT)  
ENVIRONMENTAL STATEMENT  
VOLUME 5.3.3

TYPICAL SITE LAYDOWN AREAS -  
GENERAL ARRANGEMENT - 400kV  
SATELLITE COMPOUND




**nationalgrid**

National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA

NG INVESTMENT No.	APPLICATION No.		GIS
20897	EN020001		A3
FIGURE No.	DRAWING No.	SCALE	
3.16.2	G1979.2116.2C	NTS	
SHEET 2 of 6			ISSUE
			A



Key
-----

-  Pedestrian Access
-  Soil Bund
-  Spoil

Notes

- 1) Dimensions and layout arrangement shown is indicative only. Design will vary according to the construction contractors requirements, the available area and the specific site constraints.
- 2) Portacabins will be single storey but may be raised to take account of potential flood risk at certain locations. Details to be agreed with relevant stakeholders.
- 3) Soil bund will be designed with suitable gaps/ drainage pipes to allow water flow in flood conditions. Details to be agreed with relevant stakeholders.

**NOTE:**

Original Drawing Number -

NG - MMD-322069-E-DR-400UG-XX-0802

A	01/04/2014	DCO SUBMISSION	CB	BC	BC
ISSUE	DATE	COMMENTS	DRAW	CHK'D	APP'D

<u>Title</u>

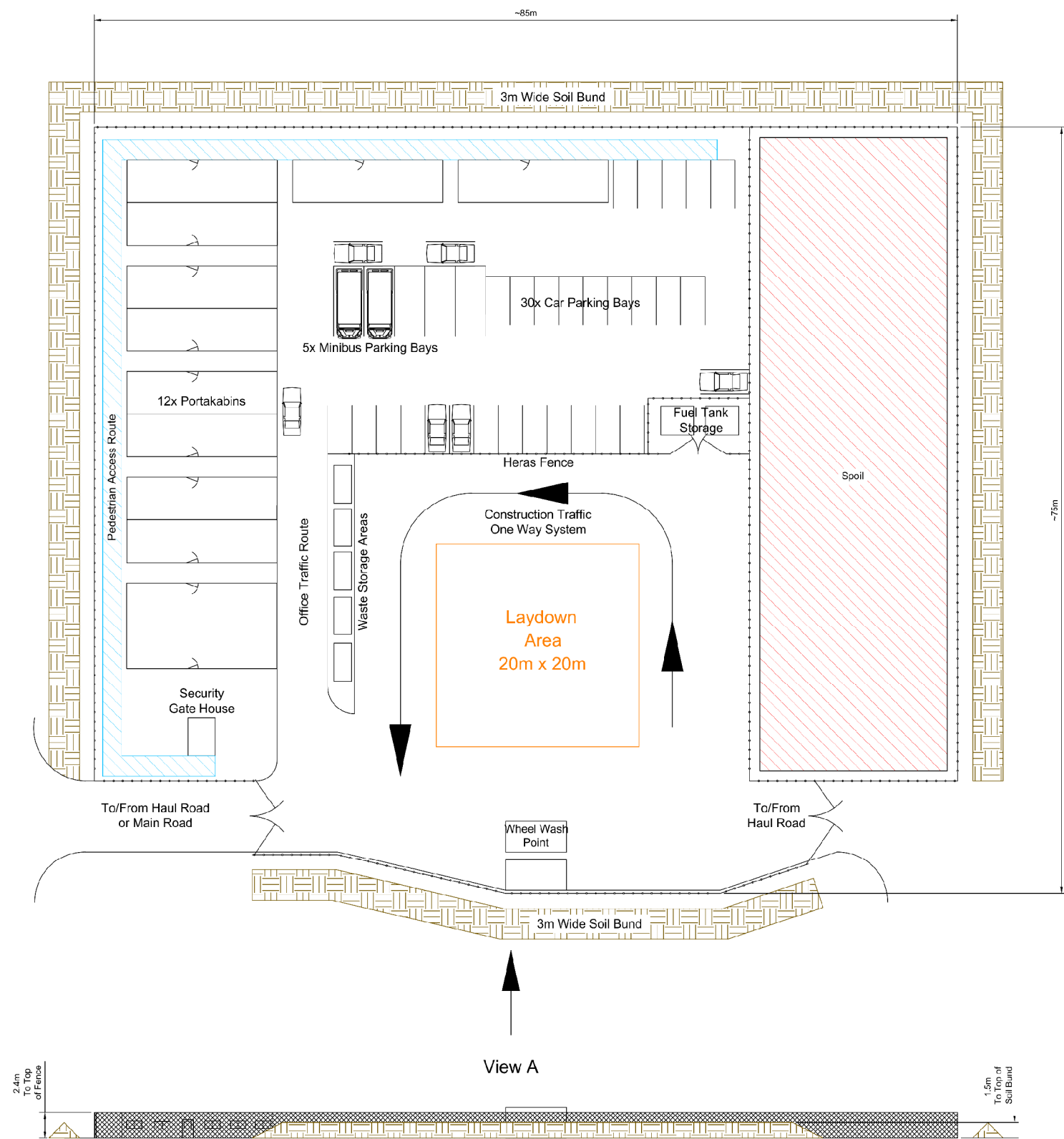
NATIONAL GRID (HINKLEY POINT C  
CONNECTION PROJECT)  
ENVIRONMENTAL STATEMENT  
VOLUME 5.3.3

TYPICAL SITE LAYDOWN AREAS -  
TYPICAL 400kV COMPOUND INCLUDING  
TEST EQUIPMENT - GENERAL ARRANGEMENT

**nationalgrid**

National Grid plc, Warwick Technology Park, Gallow's Hill, Warwick, CV34 6DA

NG INVESTMENT No. <div>20897</div>			APPLICATION No. <div>EN020001</div>			GIS <div>A3</div>		
FIGURE No. <div>3.16.3</div>			DRAWING No. <div>G1979.2116.3C</div>			SCALE <div>NTS</div>		
SHEET 3 of 6						ISSUE <div>A</div>		



Elevation on View A

Key

Pedestrian Access

Soil Bund

Spoil

Notes

1) Dimensions and layout arrangement shown is indicative only. Design will vary according to the construction contractors requirements, the available area and the specific site constraints.

2) Portacabins will be single storey but may be raised to take account of potential flood risk at certain locations. Details to be agreed with relevant stakeholders.

3) Soil bund will be designed with suitable gaps/ drainage pipes to allow water flow in flood conditions. Details to be agreed with relevant stakeholders.

NOTE:

Original Drawing Number -

NG - MMD-322069-E-DR-WPD-XX-0800

A	01/04/2014	DCO SUBMISSION	CB	BC	BC
ISSUE	DATE	COMMENTS	DRAW	CHK'D	APP'D

Title

NATIONAL GRID (HINKLEY POINT C CONNECTION PROJECT)  
ENVIRONMENTAL STATEMENT  
VOLUME 5.3.3

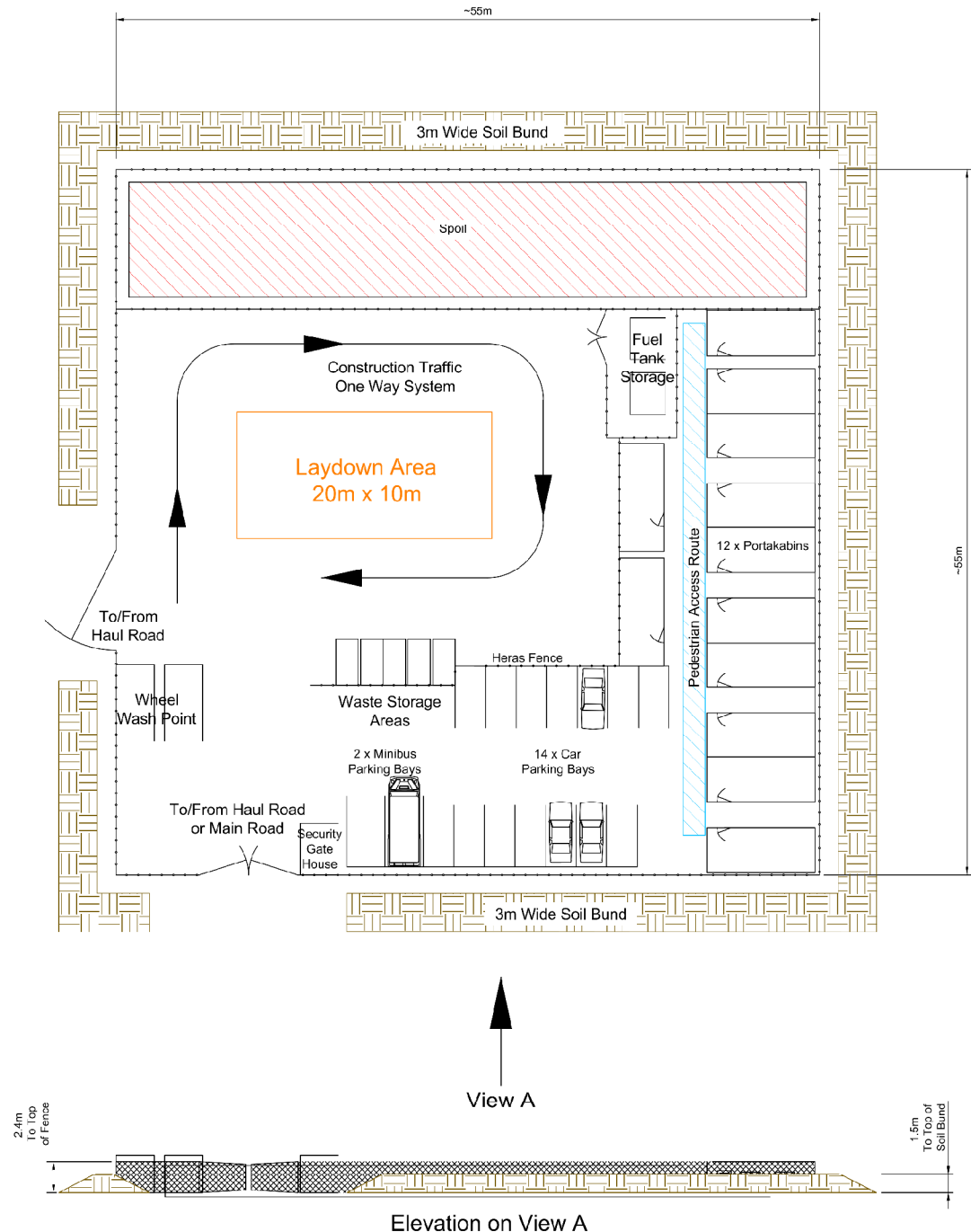
TYPICAL SITE LAYDOWN AREAS -  
TYPICAL 132kV COMPOUND  
GENERAL ARRANGEMENT

nationalgrid

National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA

NG INVESTMENT No.	APPLICATION No.	GIS
20897	EN020001	
FIGURE No.	DRAWING No.	SCALE
3.16.4	G1979.2116.4A	NTS
SHEET 4 of 6		ISSUE
		A





Key

Pedestrian Access

Soil Bund

Spoil

- Notes
- 1)

Dimensions and layout arrangement shown is indicative only. Design will vary according to the construction contractors requirements, the available area and the specific site constraints.
- 2)

Portacabins will be single storey but may be raised to take account of potential flood risk at certain locations. Details to be agreed with relevant stakeholders.
- 3)

Soil bund will be designed with suitable gaps/ drainage pipes to allow water flow in flood conditions. Details to be agreed with relevant stakeholders.

NOTE:

Original Drawing Number -

NG - MMD-322069-E-DR-WPD-XX-0801

A	01/04/2014	DCO SUBMISSION	CB	BC	BC
ISSUE	DATE	COMMENTS	DRAW	CHK'D	APP'D

Title

NATIONAL GRID (HINKLEY POINT C CONNECTION PROJECT)  
ENVIRONMENTAL STATEMENT  
VOLUME 5.3.3

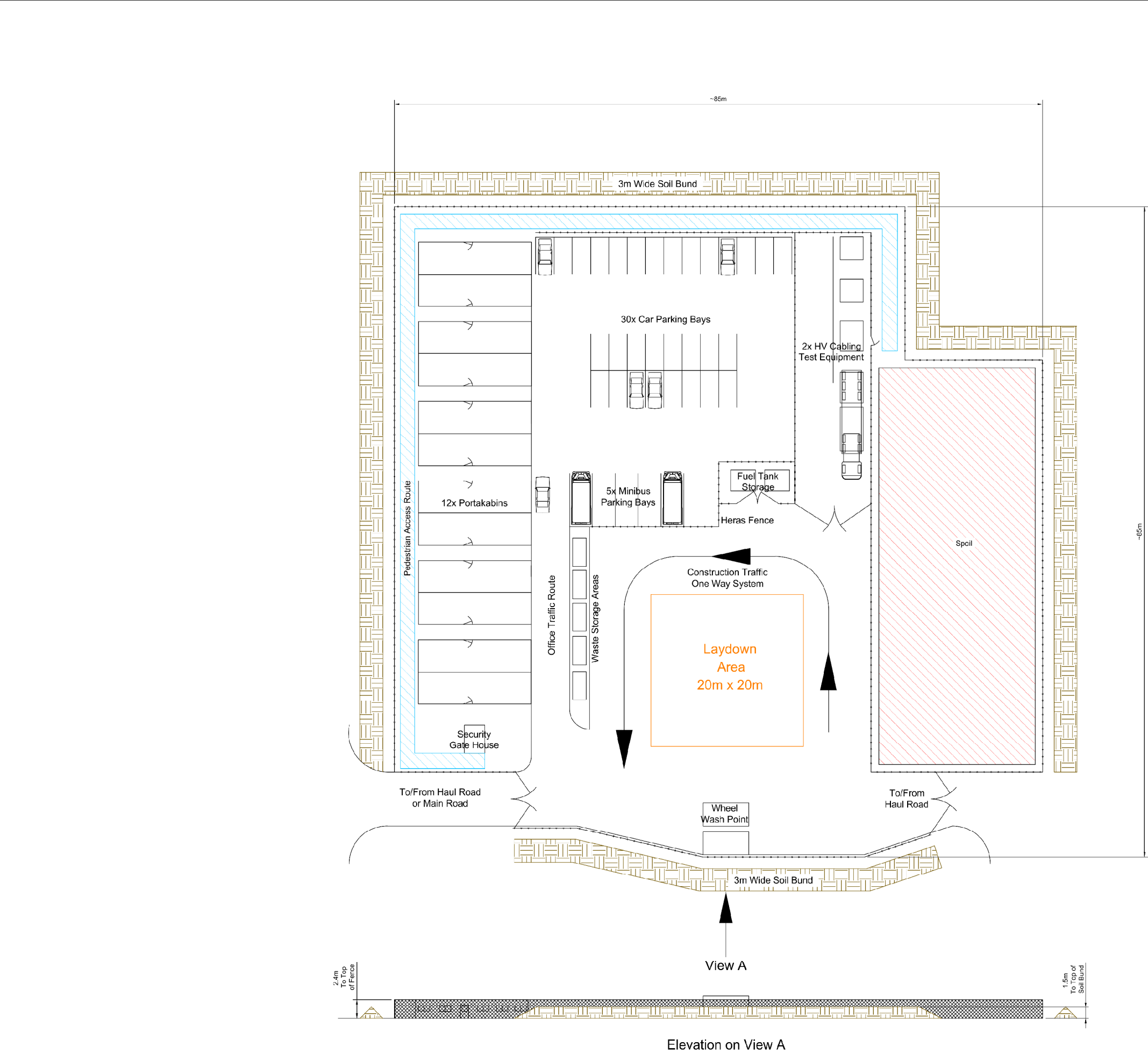
TYPICAL SITE LAYDOWN AREAS -  
TYPICAL 132kV SATELLITE COMPOUND  
- GENERAL ARRANGEMENT

nationalgrid

National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA

NG INVESTMENT No.	APPLICATION No.		GIS
20897	EN020001		A3
FIGURE No.	DRAWING No.	SCALE	
3.16.5	G1979.2116.5A	NTS	
SHEET 5 of 6			ISSUE
			A





Elevation on View A

**Key**

Pedestrian Access

Soil Bund

Spoil

- Notes**
- 1) Dimensions and layout arrangement shown is indicative only. Design will vary according to the construction contractors requirements, the available area and the specific site constraints.
  - 2) Portacabins will be single storey but may be raised to take account of potential flood risk at certain locations. Details to be agreed with relevant stakeholders.
  - 3) Soil bund will be designed with suitable gaps/ drainage pipes to allow water flow in flood conditions. Details to be agreed with relevant stakeholders.

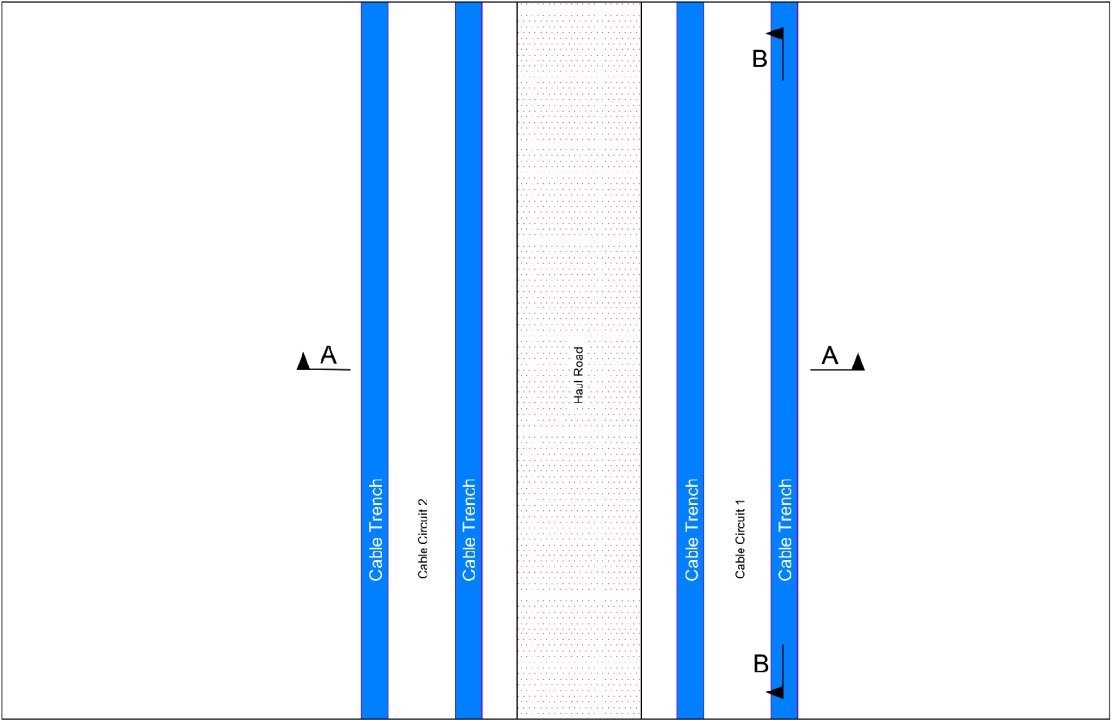
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Original Drawing Number -  
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ISSUE	DATE	COMMENTS	DRAW	CHK'D	APP'D

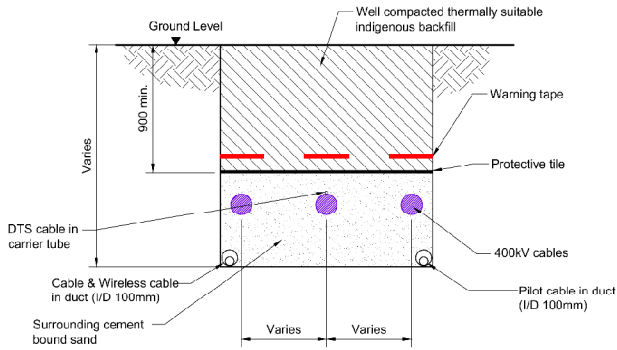
**Title**  
NATIONAL GRID (HINKLEY POINT C CONNECTION PROJECT)  
ENVIRONMENTAL STATEMENT  
VOLUME 5.3.3  
  
TYPICAL SITE LAYDOWN AREAS -  
TYPICAL 132kV COMPOUND - INCLUDING  
TEST EQUIPMENT - GENERAL ARRANGEMENT

<div><div>nationalgrid</div><div><small>National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA</small></div></div>				
NG INVESTMENT No.	APPLICATION No.		GIS	
20897	EN020001		A3	
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3.16.6	G1979.2116.6A		NTS	
SHEET 6 of 6			ISSUE	
			A	

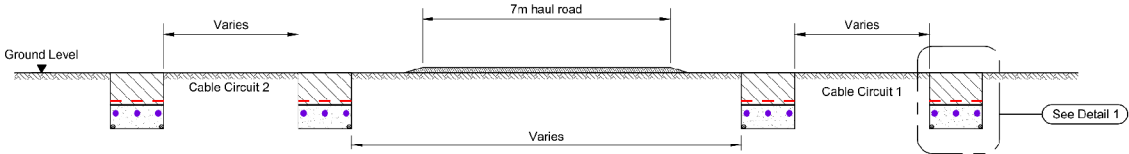
Figure 3.17 - Typical Underground Cable Technical Arrangements



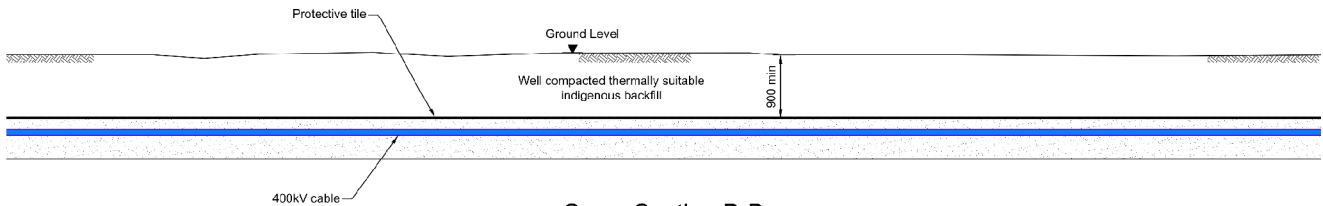
Typical Plan View of Direct Buried Cables  
1:200



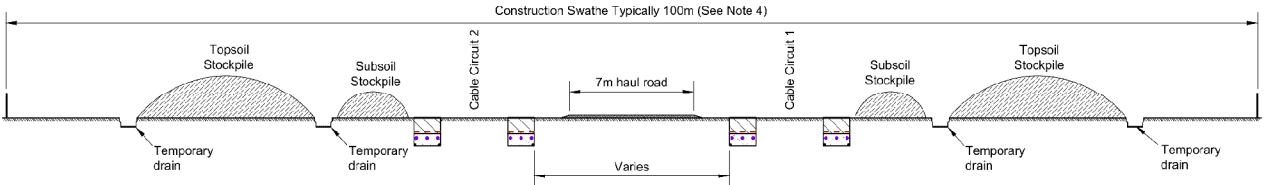
Detail 1  
Typical Direct Buried Cable Trench  
1:25



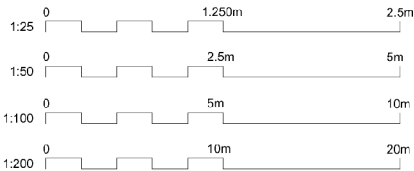
Cross section A-A  
Typical Direct Buried Cross Section  
1:100



Cross Section B-B  
Typical Section View of Direct Buried Cables  
1:50



Typical Swathe for Open Cut Construction for  
400kV Cabling Works  
1:200



Key

	Proposed direct buried cable alignment
	Haul road
	CBS (Cement Bound Sand)
	Well compacted thermally suitable indigenous backfill

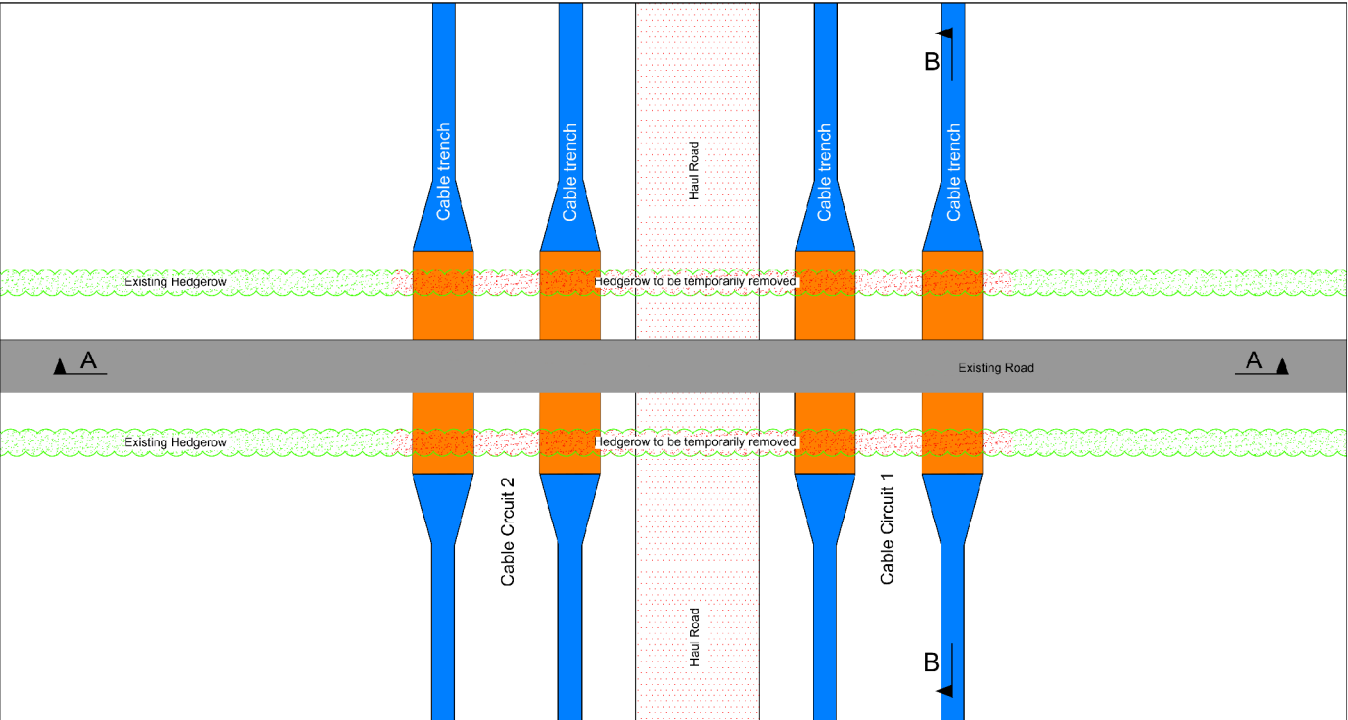
- Notes
- Proposed arrangement shown for indicative purpose only. Dimensions and design may vary depending on site and installation conditions.
  - Based on NGTS 2.5 installation conditions and the ratings required by TGN(E) 26/ Issue 3 - Table G39 with both circuits in operation.
  - Circuit separation required to meet ratings at obstructions with regular occurrence.
  - Construction swathe width may vary according to site conditions.

**NOTE:**  
Original Drawing Number -  
NG - 13/NG/0204  
MMD-322069-E-DR-400UG-XX-0600

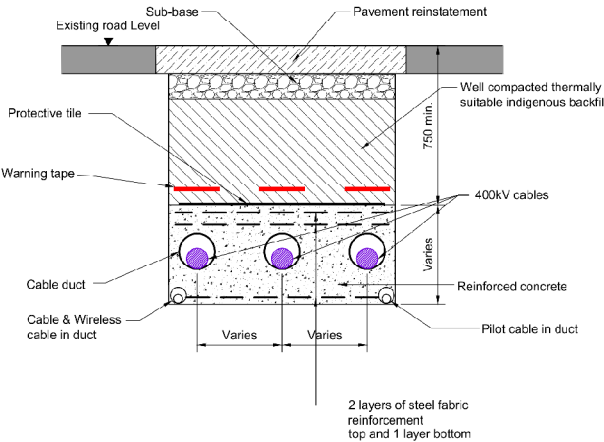
A	02/04/2014	DCO SUBMISSION	CB	BC	BC
ISSUE	DATE	COMMENTS	DRAW	CHK'D	APP'D

Title NATIONAL GRID (HINKLEY POINT C CONNECTION PROJECT)  
ENVIRONMENTAL STATEMENT  
VOLUME 5.3.3  
TYPICAL UNDERGROUND CABLE  
TECHNICAL ARRANGEMENT -  
400kV UNDERGROUND CABLE INSTALLATION  
TYPICAL DIRECT BURIED DETAILS &  
CONSTRUCTION SWATHE  
GENERAL ARRANGEMENT

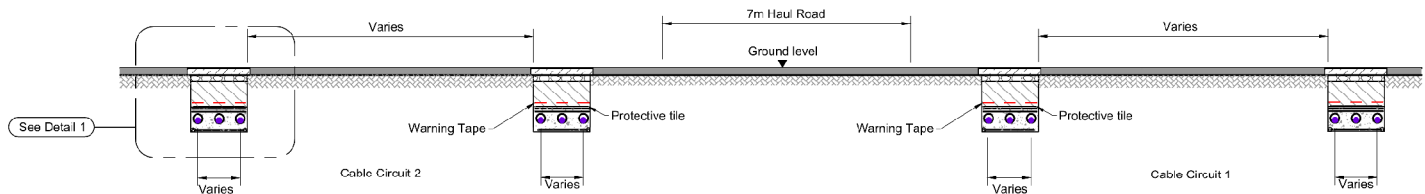
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20897	EN020001		A3		
FIGURE No.	DRAWING No.		SCALE		
3.17.1	G1979.2117.1C		NTS		
SHEET 1 of 13			ISSUE		
			A		



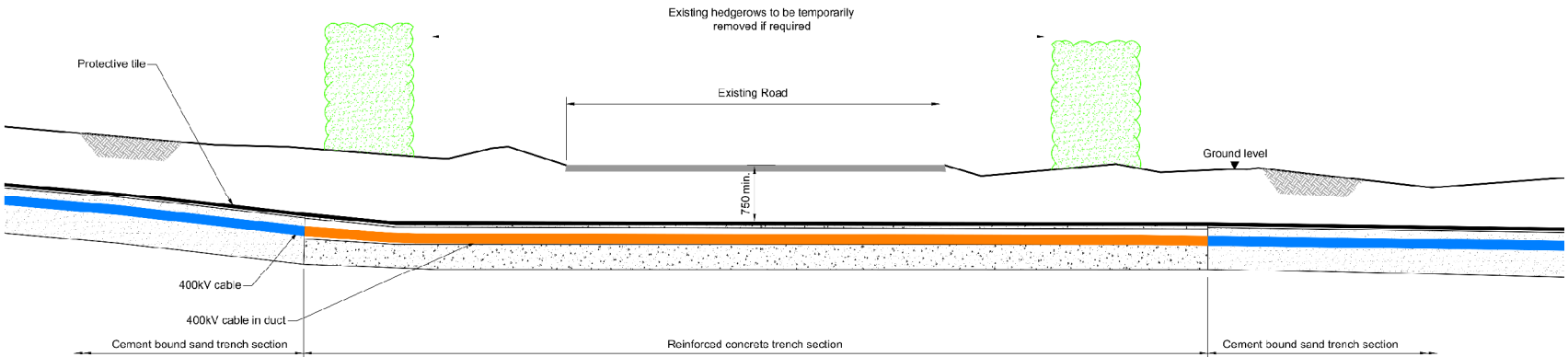
Typical Plan View of Open Cut Road Crossing  
1:200



Detail 1  
Typical Ducted Cable Trench  
1:25



Section A - A  
Typical Ducted Cross Section  
1:100



Section B - B  
Typical Section View of Open Cut Road Crossing  
1:50

Key

	Proposed direct buried cable alignment
	Proposed ducted cable alignment
	Haul road
	Existing road
	Existing hedgerow
	Existing hedgerow to be temporarily removed If required
	Reinforced Concrete
	CBS (Cement bound sand)
	Well compacted thermally suitable indigenous backfill
	Pavement reinstatement
	Sub-base

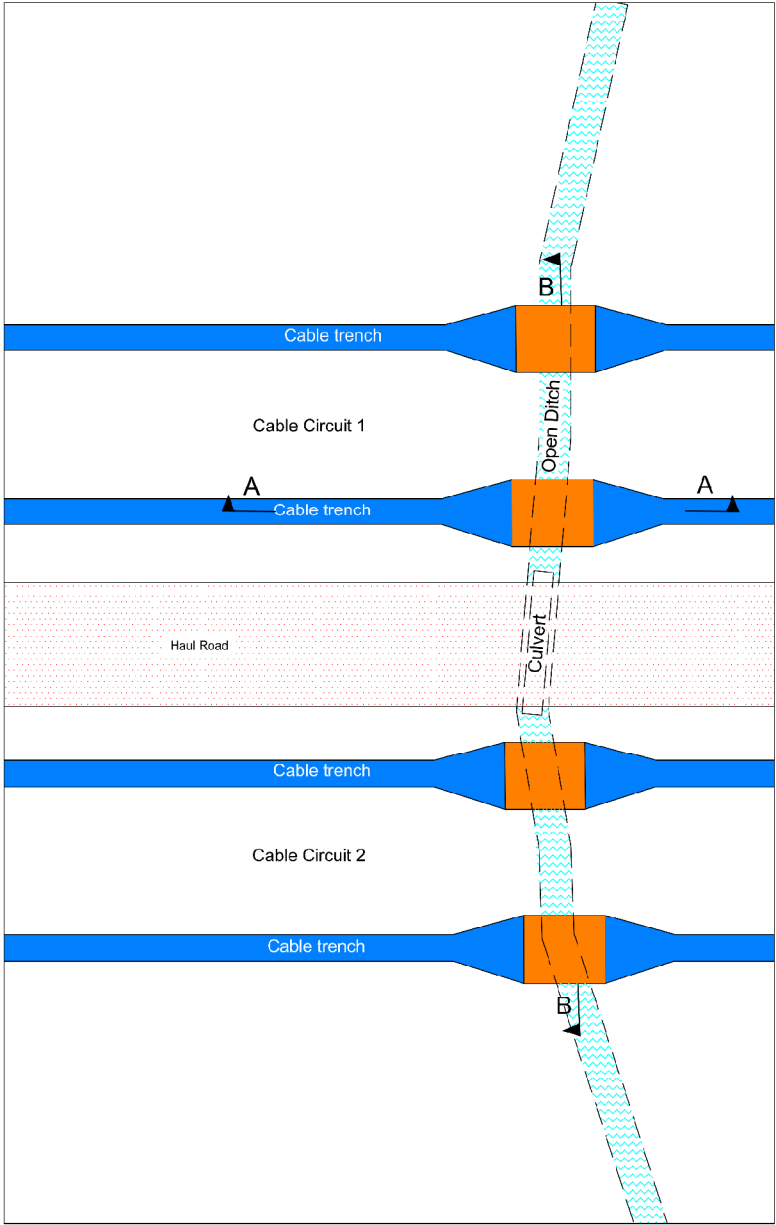
- Notes
1. All dimensions are in millimetres unless otherwise stated.
  2. Do not scale any items of information from this drawing.
  3. Ground profiles are shown for illustrative purposes only.
  4. Proposed arrangement shown for indicative purpose only. Dimensions and design may vary depending on site and installation conditions.

**NOTE:**  
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MMD-322069-E-DR-400UG-XX-0601

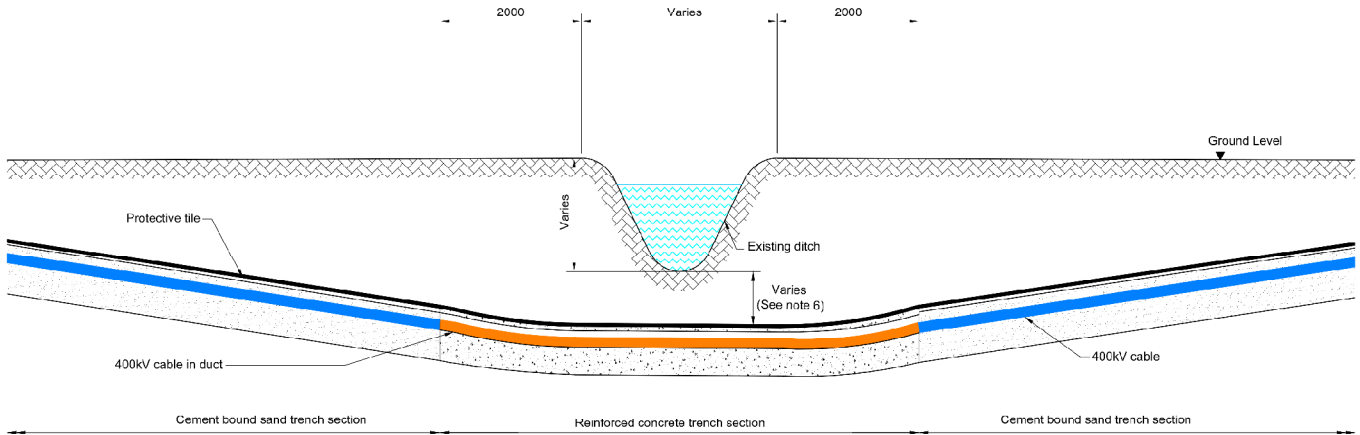
A	02/04/2014	DCO SUBMISSION	CB	BC	BC
ISSUE	DATE	COMMENTS	DRAW	CHK'D	APPD

Title NATIONAL GRID (HINKLEY POINT C CONNECTION PROJECT)  
ENVIRONMENTAL STATEMENT  
VOLUME 5.3.3  
  
TYPICAL UNDERGROUND CABLE  
TECHNICAL ARRANGEMENT -  
400kV UNDERGROUND CABLE INSTALLATION  
TYPICAL GENERAL ARRANGEMENT AT  
OPEN CUT ROAD CROSSINGS

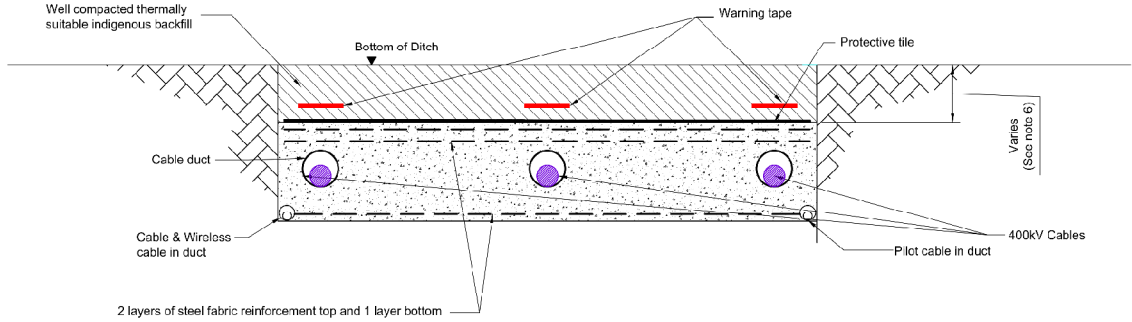
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3.17.2	G1979.2117.2C	NTS	
SHEET 2 of 13		ISSUE	
		A	



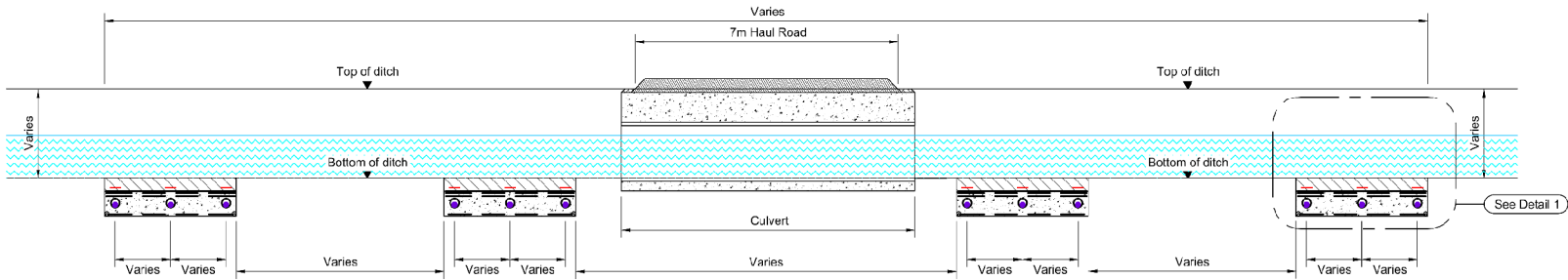
Typical Plan View of Ditch Crossing  
1:200



Section A - A  
Typical Cable Duct Crossing  
(See Note 6)  
1:50



Detail 1  
Typical Ducted Cable Trench Under Ditch  
1:25



Typical Ducted Cross Section B - B  
1:100



Key

	Proposed direct buried cable alignment
	Proposed ducted cable alignment
	Haul road
	Water Course
	Reinforced Concrete
	CBS (Cement bound sand)
	Well compacted thermally suitable indigenous backfill

- Notes
1. All dimensions are in millimetres unless otherwise stated.
  2. Do not scale any items of information from this drawing.
  3. Ground profiles are shown for illustrative purposes only.
  4. Proposed arrangement shown for indicative purpose only. Dimensions and design may vary depending on site and installation conditions.
  5. Additional reinforcements and high strength concrete shall be used to increase the level of protection offered by a standard ducted section due to the reduced cover to the bottom of the drainage ditch.
  6. Depth to be agreed with the relevant stakeholders.

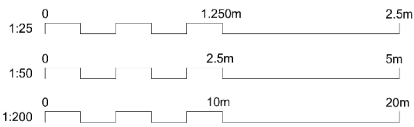
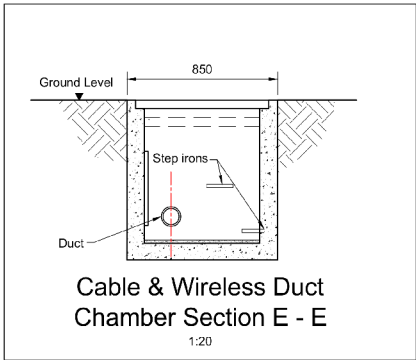
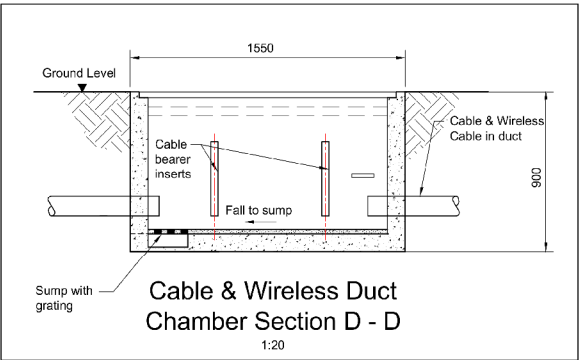
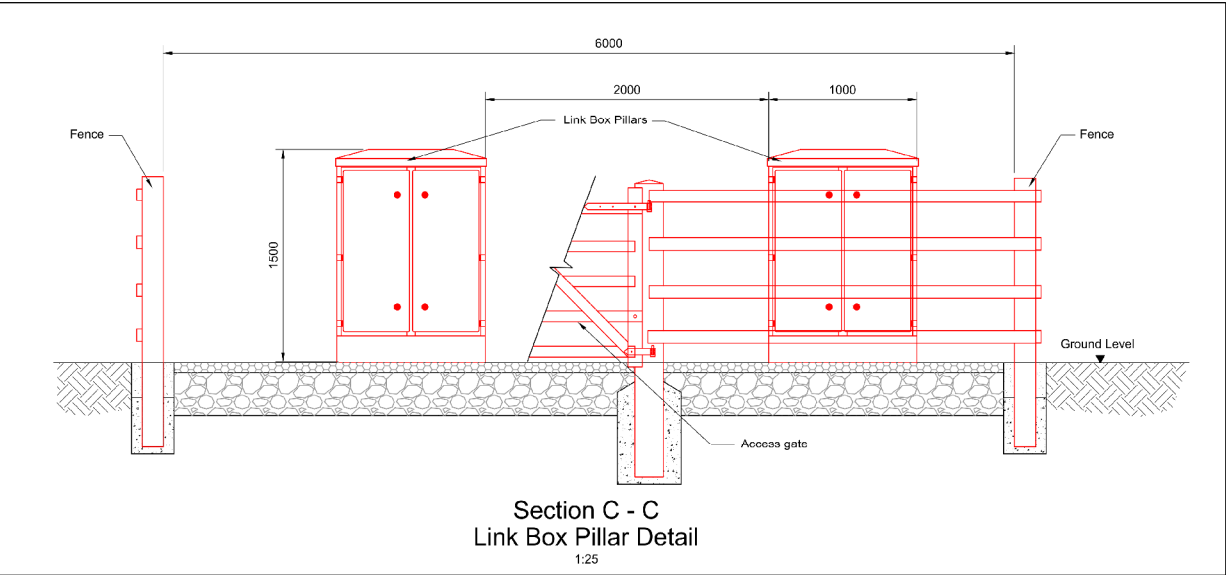
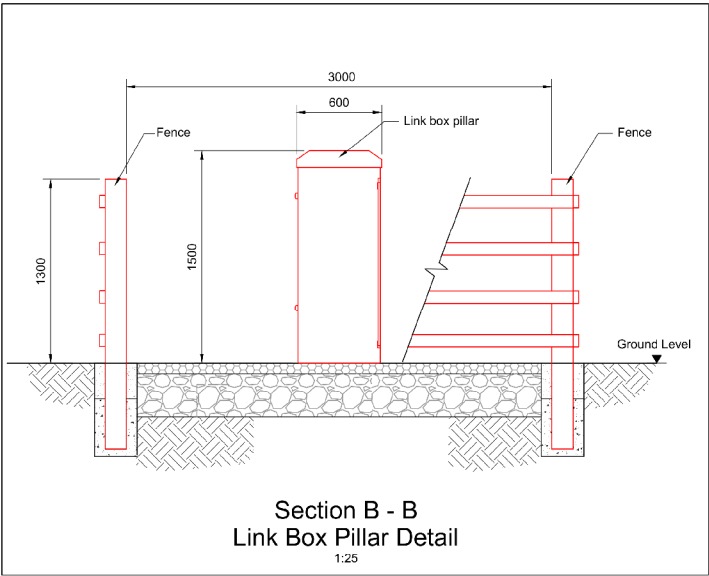
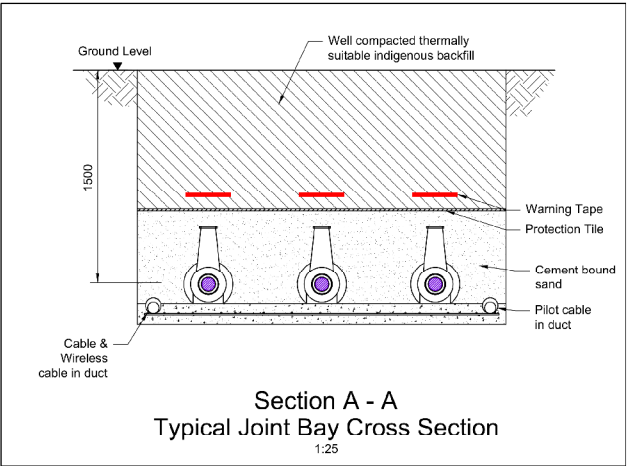
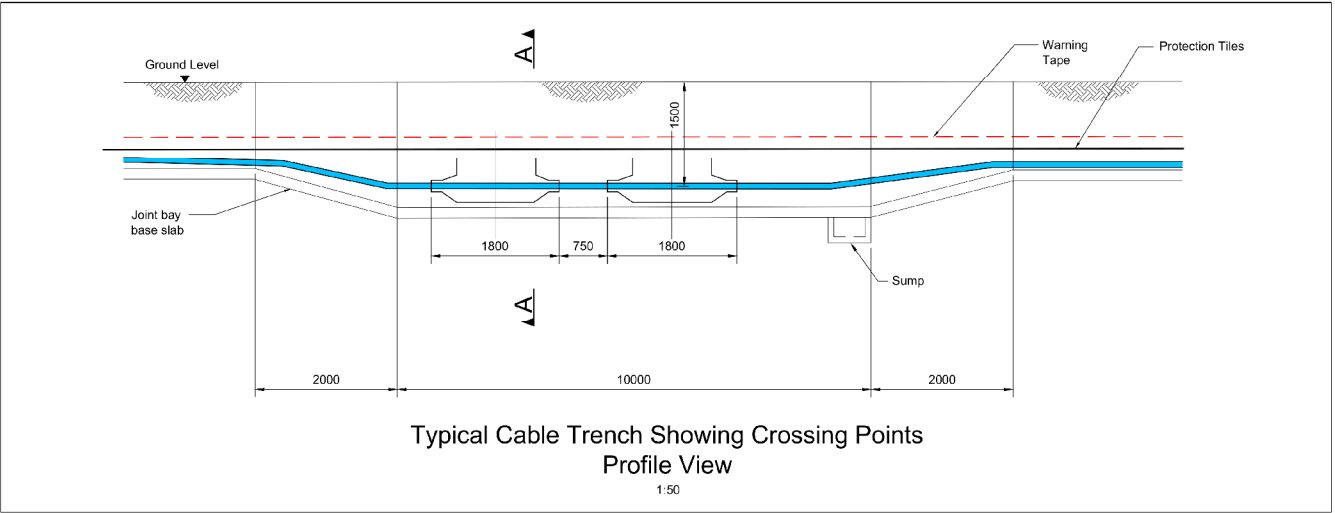
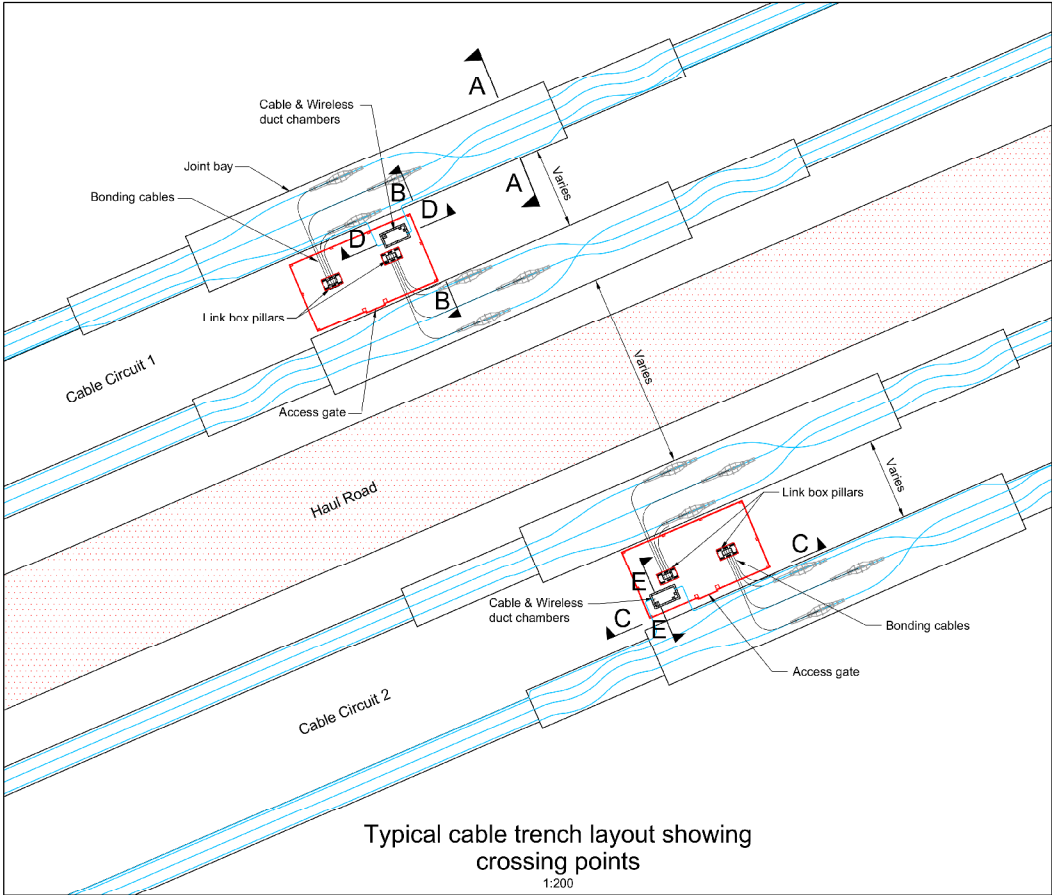
**NOTE:**  
Original Drawing Number -  
NG - 13/NG/0206  
MMD-322069-E-DR-400UG-XX-0602

A	02/04/2014	DCO SUBMISSION	CB	BC	BC
ISSUE	DATE	COMMENTS	DRAW	CHK'D	APP'D

**Title** NATIONAL GRID (HINKLEY POINT C CONNECTION PROJECT)  
ENVIRONMENTAL STATEMENT  
VOLUME 5.3.3  
  
TYPICAL UNDERGROUND CABLE  
TECHNICAL ARRANGEMENT -  
400kV UNDERGROUND CABLE INSTALLATION  
TYPICAL GENERAL ARRANGEMENT AT  
DITCH CROSSING

National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA		
NG INVESTMENT No.	APPLICATION No.	GIS A3
20897	EN020001	
FIGURE No.	DRAWING No.	SCALE
3.17.3	G1979.2117.3C	NTS
SHEET 3 of 13		ISSUE A





Key	
	Proposed direct buried cable alignment
	Haul road
	Concrete
	CBS (Cement bound sand)
	Well compacted thermally suitable indigenous backfill
	Single sized granular material
	Sub-base

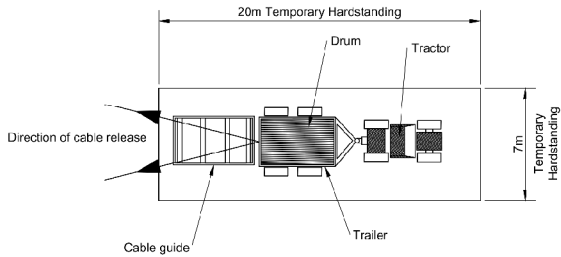
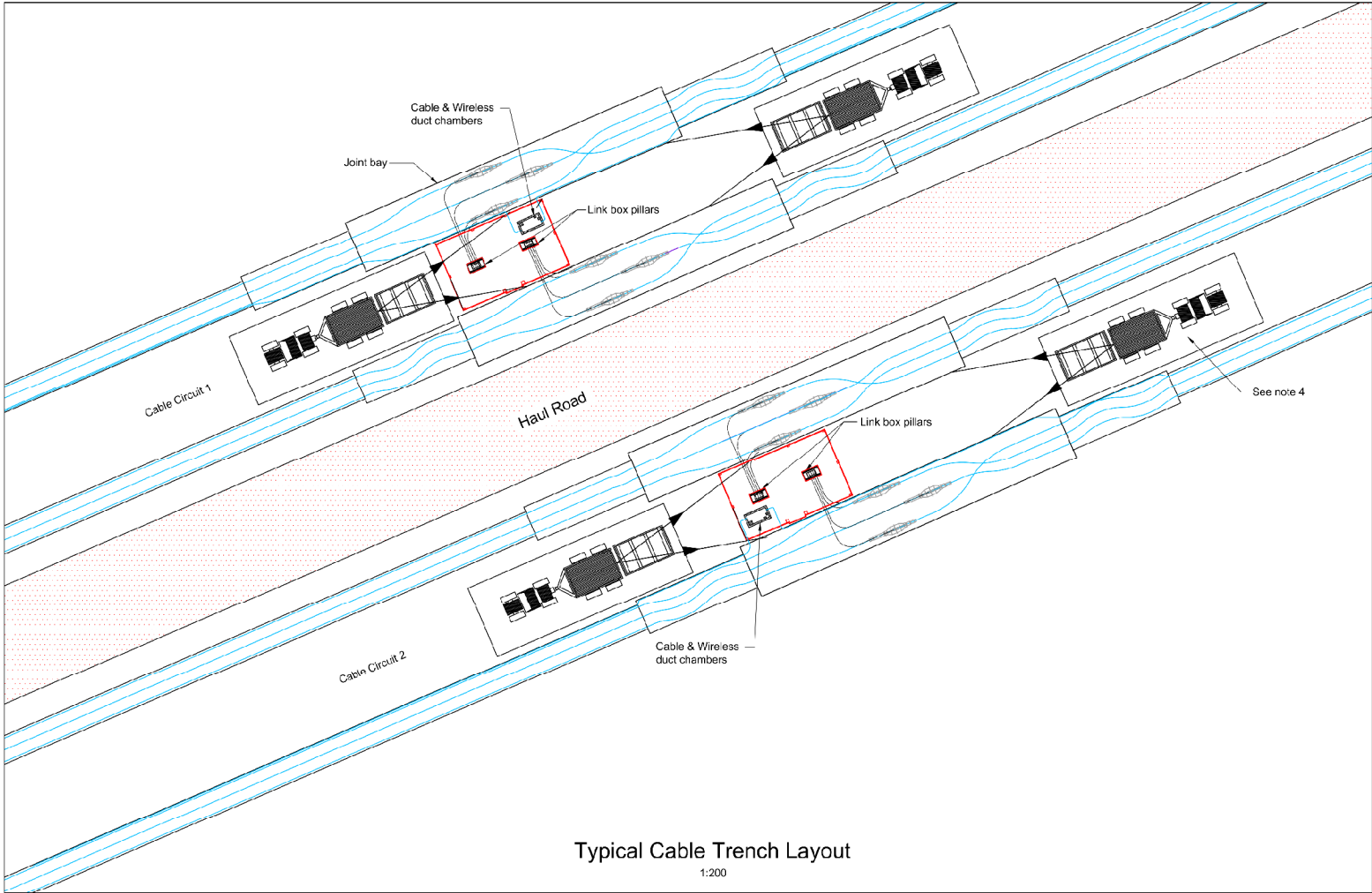
- Notes**
- All dimensions are in millimetres unless otherwise stated.
  - Do not scale any items of information from this drawing.
  - Existing ground profiles shown are for general indication only.
  - Proposed arrangement shown for indicative purpose only. Dimensions and design may vary depending on site and installation conditions.
  - Cable & Wireless pulling chamber proposed as per Cable & Wireless specification. Refer to PDD-20897L2-REP-0005.

**NOTE:**  
Original Drawing Number -  
NG - 13/NG/0207  
MMD-322069-E-DR-400UG-XX-0700

ISSUE	DATE	COMMENTS	DRAW	CHK'D	APPD
A	02/04/2014	DCO SUBMISSION	CB	BC	BC

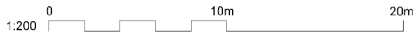
**Title** NATIONAL GRID (HINKLEY POINT C CONNECTION PROJECT)  
ENVIRONMENTAL STATEMENT  
VOLUME 5.3.3  
  
TYPICAL UNDERGROUND CABLE  
TECHNICAL ARRANGEMENT -  
400KV UNDERGROUND CABLE INSTALLATION  
TYPICAL GENERAL ARRANGEMENT OF  
JOINT BAY WITH LINK BOX PILLAR

nationalgrid	
National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA	
NG INVESTMENT No.	APPLICATION No.
20897	EN020001
FIGURE No.	DRAWING No.
3.17.4	G1979.2117.4C
SHEET 4 of 13	
SCALE	
NTS	
ISSUE	
A	



DESCRIPTION	SIZE	WEIGHT
TRACTOR	5.2m LONG x 2.54m WIDE x 3m HIGH	8 TONNES
TRAILER	5.9m LONG x 4.4m WIDE x 2.5m HIGH	5 TONNES
TRAILER WITH CABLE DRUM AND CABLE	5.9m LONG x 4.4m WIDE x 5m (APPROX) HIGH	40 TONNES
CABLE GUIDE	5m LONG x 3m WIDE x 3m (APPROX) HIGH	2.5 TONNES

15m TURNING CIRCLE FOR TRACTOR  
DRUM / TRAILER DETAILS



Key

Proposed direct buried cable alignment

Haul road

Notes

1. Do not scale any items of information from this drawing.

2. Hardstanding shall be capable of supporting equipment/mobile plant.

3. Proposed arrangement shown for indicative purposes only, dimensions and design may vary depending on site and installation conditions.

4. Indicative location of trailer mounted cable drum.

NOTE:

Original Drawing Number -

NG - 13/NG/0208  
MMD-322069-E-DR-400UG-XX-0701

A	02/04/2014	DCO SUBMISSION	CB	BC	BC
ISSUE	DATE	COMMENTS	DRAW	CHK'D	APP'D

Title

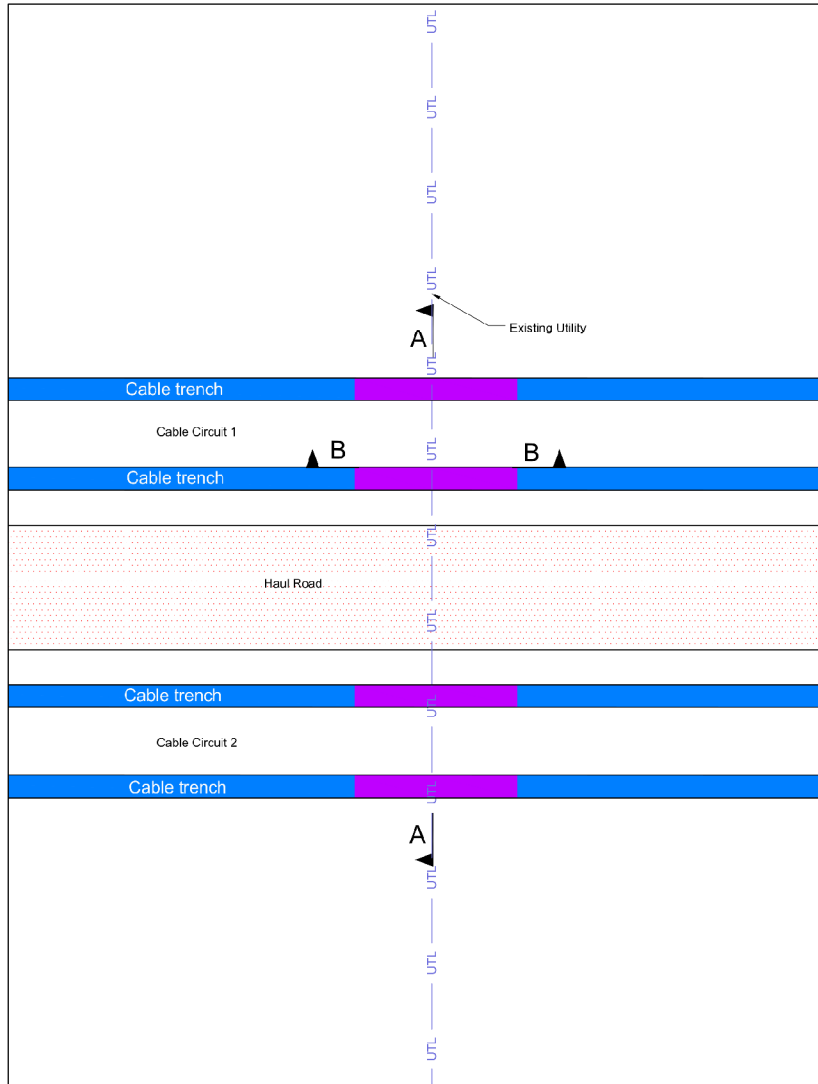
NATIONAL GRID (HINKLEY POINT C CONNECTION PROJECT)  
ENVIRONMENTAL STATEMENT  
VOLUME 5.3.3

TYPICAL UNDERGROUND CABLE  
TECHNICAL ARRANGEMENT -  
400kV UNDERGROUND CABLE INSTALLATION  
TYPICAL GENERAL ARRANGEMENT OF  
A CABLE PULLING LOCATION

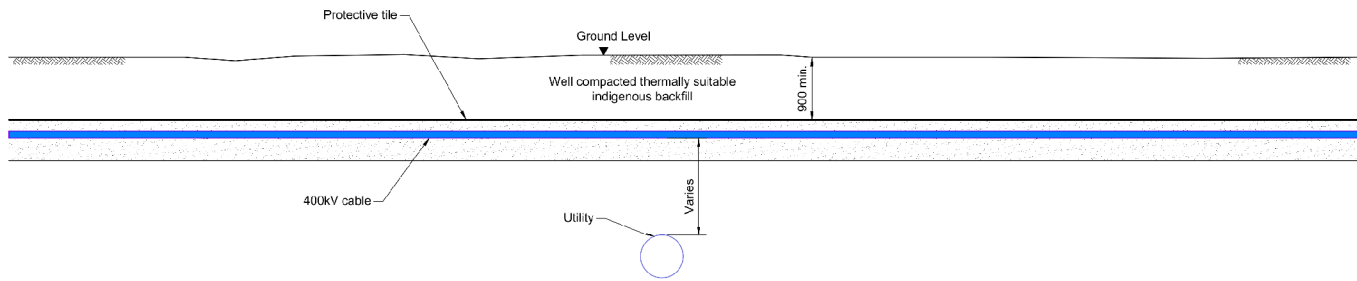
nationalgrid

National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA

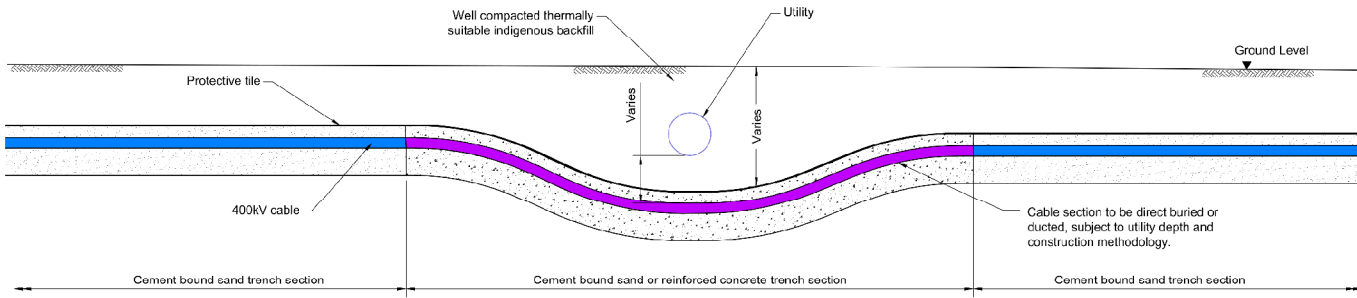
NG INVESTMENT No.	APPLICATION No.	GIS A3
20897	EN020001	
FIGURE No.	DRAWING No.	SCALE
3.17.5	G1979.2117.5C	NTS
SHEET 5 of 13		ISSUE A



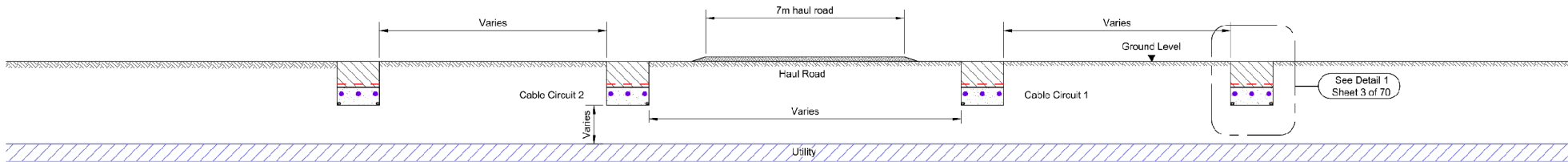
Typical Plan View of Utility Crossing  
1:200



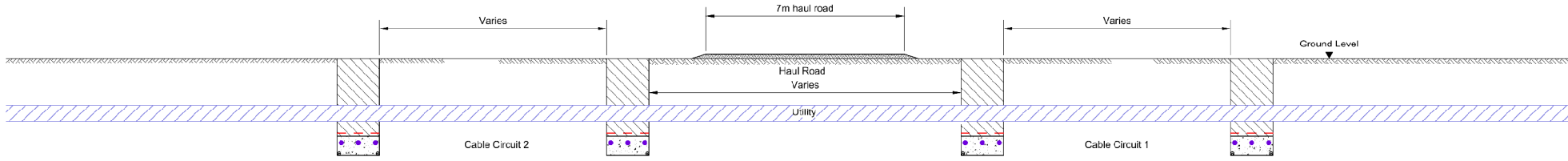
Section B-B  
Typical Utility Crossing - Above Existing Services  
1:50



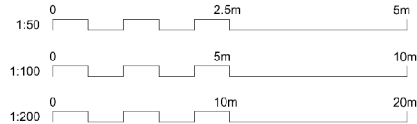
Section B-B  
Typical Utility Crossing - Below Existing Services  
1:50



Section A-A  
Typical Utility Crossing - Above Existing Services  
1:100



Section A-A  
Typical Utility Crossing - Below Existing Services  
1:100




Key	
	Proposed direct buried cable alignment
	Proposed direct buried or ducted cable alignment
	Haul road
	Reinforced Concrete
	CBS (Cement Bound Sand)
	Well compacted thermally suitable indigenous backfill
	UTL Existing Utility

- Notes
- All dimensions are in millimetres unless otherwise stated.
  - Do not scale any items of information from this drawing.
  - Existing ground profiles shown are for general indication only.
  - Proposed arrangement shown for indicative purposes only. Dimensions and design detail may vary depending on site and installation conditions.
  - Spacing between utility and cable is subject to agreement with the relevant utility provider at individual locations.

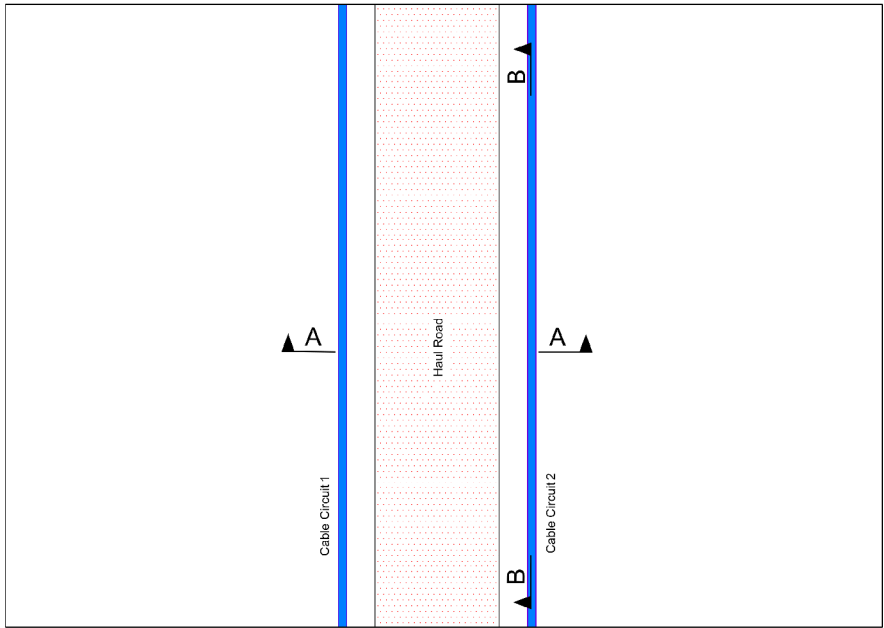
**NOTE:**  
Original Drawing Number -  
NG - 13/NG/0237  
MMD-322069-E-DR-400UG-XX-0603

A	02/04/2014	DCO SUBMISSION	CB	BC	BC
ISSUE	DATE	COMMENTS	DRAW	CHK'D	APPD

Title NATIONAL GRID (HINKLEY POINT C CONNECTION PROJECT)  
ENVIRONMENTAL STATEMENT  
VOLUME 5.3.3  
  
TYPICAL UNDERGROUND CABLE  
TECHNICAL ARRANGEMENT -  
400kV UNDERGROUND CABLE INSTALLATION  
TYPICAL SERVICES CROSSING DETAIL  
& GENERAL ARRANGEMENT

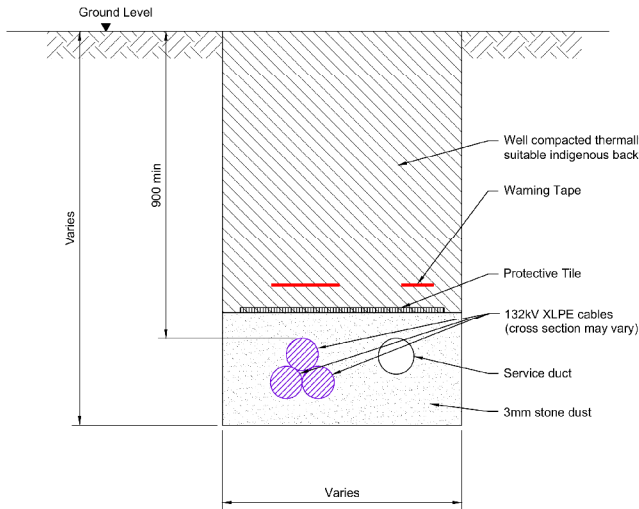
			
National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA			
NG INVESTMENT No.	APPLICATION No.		GIS
20897	EN020001		A3
FIGURE No.	DRAWING No.	SCALE	NTS
3.17.6	G1979.2117.6C		
SHEET 6 of 13			ISSUE
			A





Typical Plan View of Direct Buried Cables

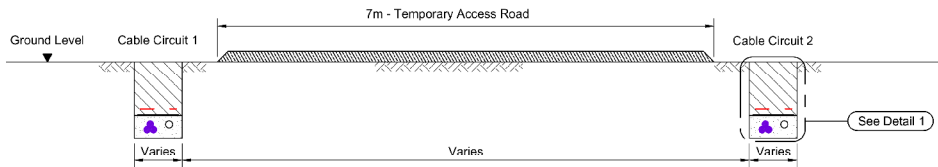
1:200



Detail 1

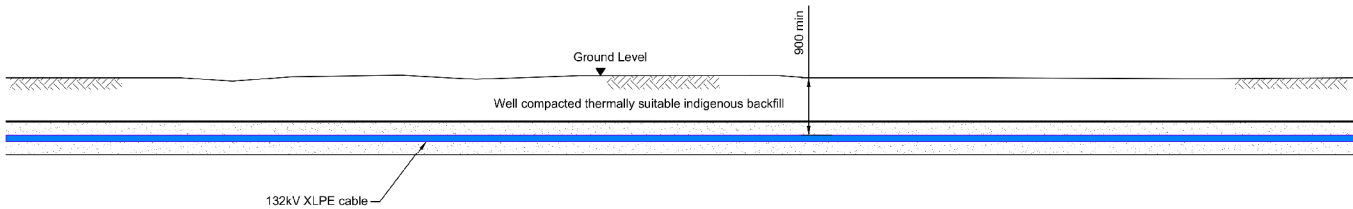
(See Note 5)

1:10



Section A-A  
Typical Duct Cross Section

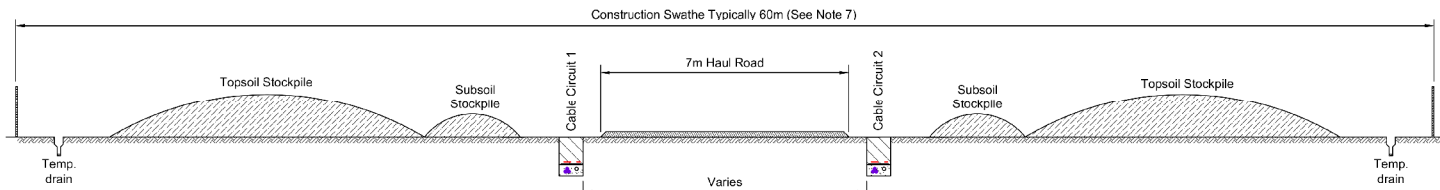
1:50



Section B-B  
Typical Section View of Direct Buried Cables

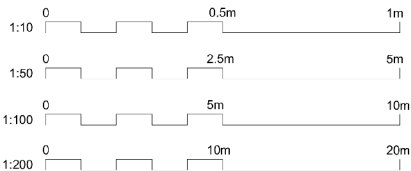
(Service ducts omitted for clarity)

1:50



Typical Section Haul Road Swathe

1:100




Key	
	Proposed direct buried cable alignment
	Haul road
	Stone dust
	Well compacted thermally suitable indigenous backfill

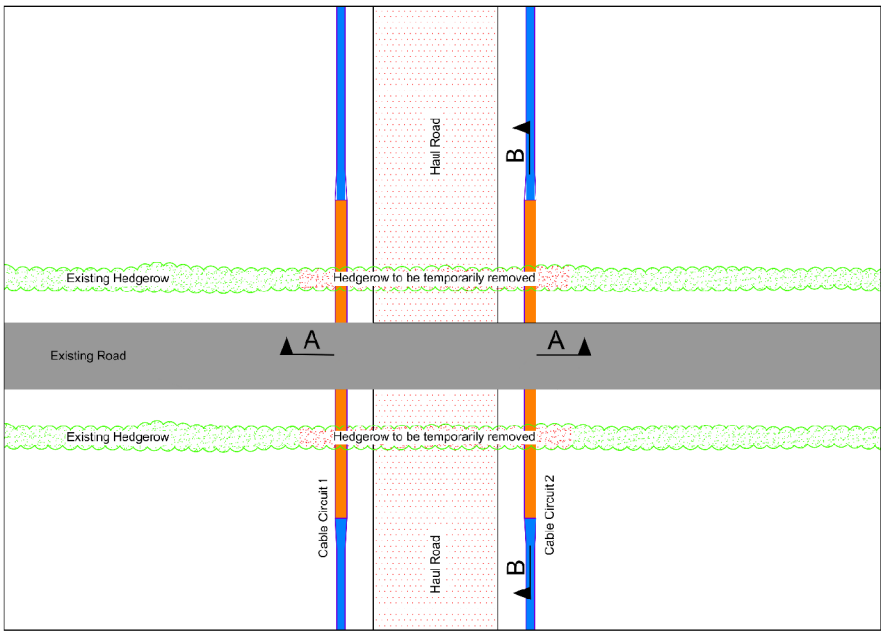
- Notes
- All dimensions are in millimetres unless otherwise stated.
  - Dimensional information should not be obtained from this drawing (do not scale).
  - Dimensions and depths are indicative only and will vary according to installation and site conditions.
  - Proposed general arrangement based on WPD requirements.
  - Trench arrangement and dimensions to be confirmed during detail design stages.
  - Minimum depth to top of cables to be 900mm in general installation, except in agricultural land where the minimum is 1000mm.
  - Construction swathe width may vary according to site conditions.

**NOTE:**  
Original Drawing Number -  
NG - 13/NG/0240  
MMD-322069-E-DR-WPD-XX-0600

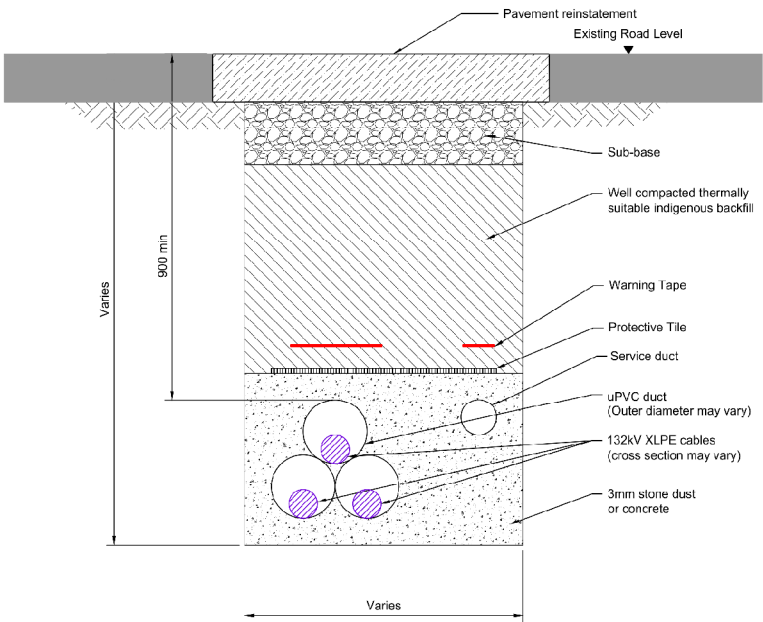
A	02/04/2014	DCO SUBMISSION	CB	BC	BC
ISSUE	DATE	COMMENTS	DRAW	CHK'D	APPD

Title NATIONAL GRID (HINKLEY POINT C CONNECTION PROJECT)  
ENVIRONMENTAL STATEMENT  
VOLUME 5.3.3  
  
TYPICAL UNDERGROUND CABLE  
TECHNICAL ARRANGEMENT -  
132kV UNDERGROUND CABLE INSTALLATION  
TYPICAL DIRECT BURIED DETAILS  
& CONSTRUCTION SWATHE  
GENERAL ARRANGEMENT

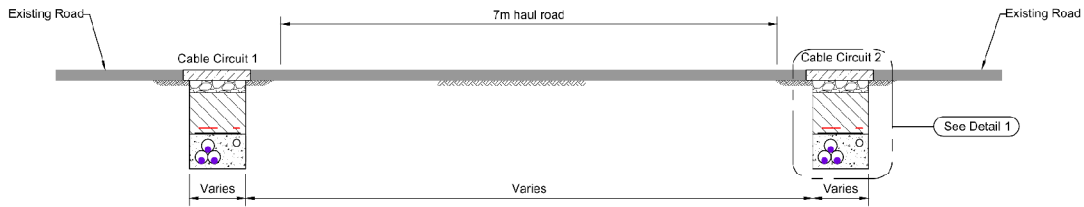
		
National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA		
NG INVESTMENT No.	APPLICATION No.	GIS A3
20897	EN020001	
FIGURE No.	DRAWING No.	SCALE
3.17.7	G1979.2117.7C	NTS
SHEET 7 of 13		ISSUE A



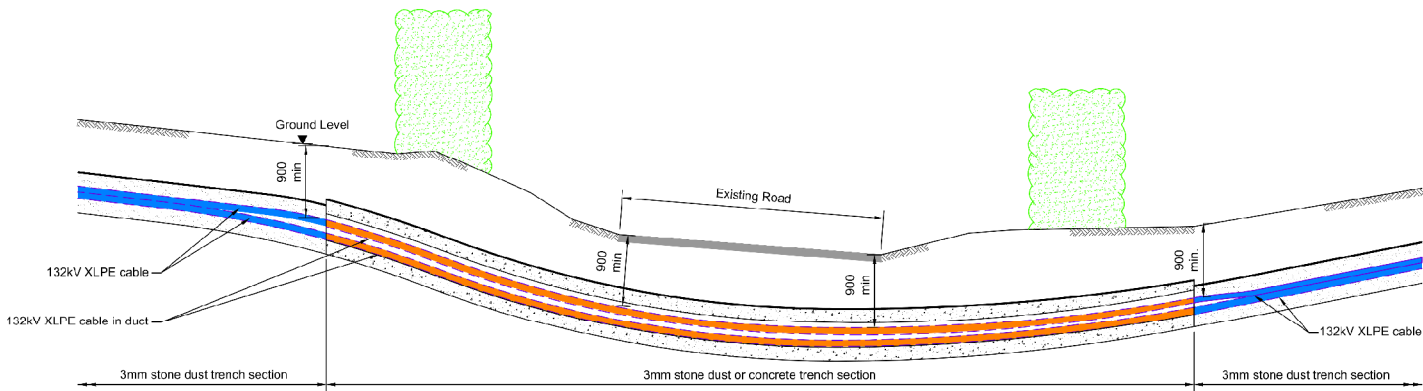
Typical Plan View of Open Cut Road Crossing  
1:200



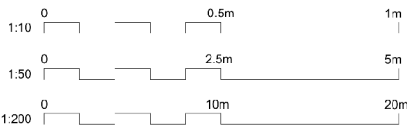
Detail 1  
(See Note 5)  
1:10



Section A-A  
Typical Duct Cross Section  
(1:50)



Section B-B  
Typical Section View of Open Cut Road Crossing  
(Service duct omitted for clarity)  
1:50




Key	
	Proposed direct buried cable alignment
	Proposed ducted cable alignment
	Haul road
	Existing road
	Existing hedgerow
	Existing hedgerow to be temporarily removed If required
	Reinforced Concrete or stone dust
	Stone dust
	Well compacted thermally suitable indigenous backfill
	Pavement reinstatement
	Sub-base
	Haul Road

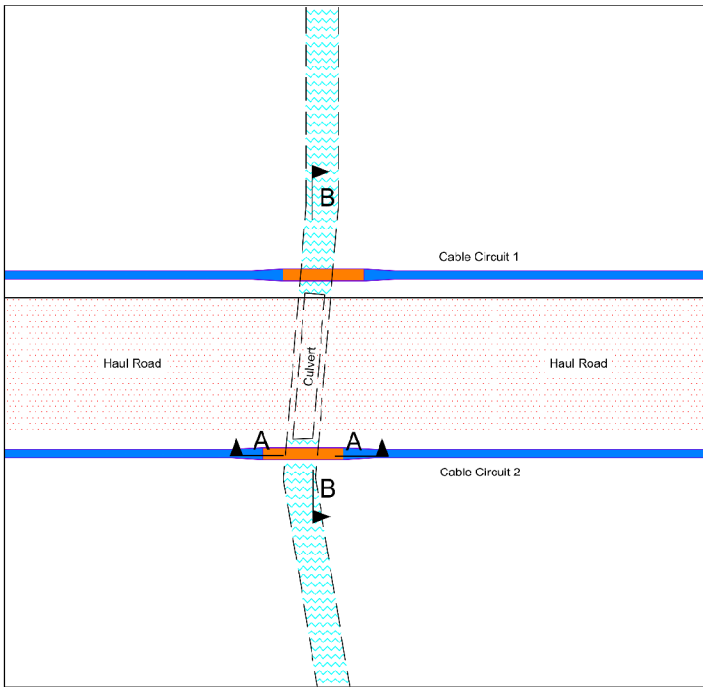
- Notes
- All dimensions are in millimetres unless otherwise stated.
  - Dimensional information should not be obtained from this drawing (do not scale).
  - Dimensions and depths are indicative only and will vary according to installation and site conditions.
  - Proposed general arrangement based on WPD requirements.
  - Trench arrangement and dimensions to be confirmed during detail design stages.
  - Bentonite may be required within ducts to potentially improve cable rating, subject to agreement with relevant stakeholders.

**NOTE:**  
Original Drawing Number -  
NG - 13/NG/0241  
MMD-322069-E-DR-WPD-XX-0601

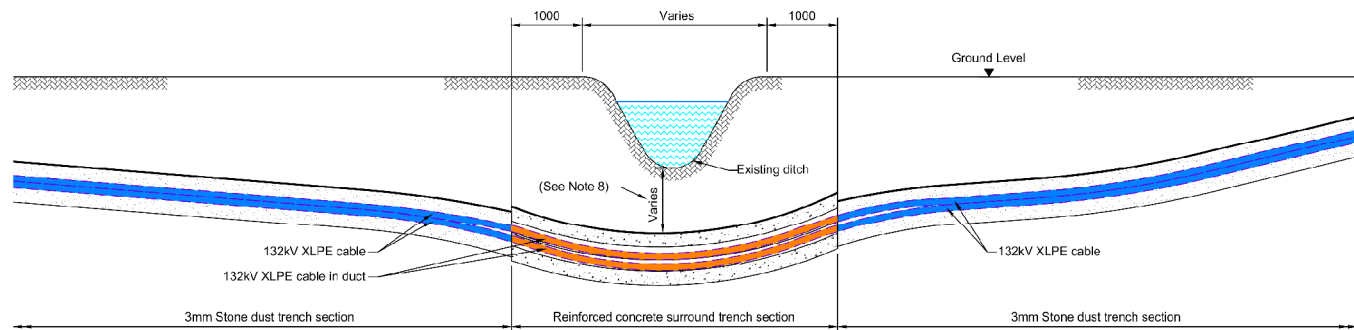
ISSUE	DATE	COMMENTS	DRAW	CHK'D	APPD
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Title NATIONAL GRID (HINKLEY POINT C CONNECTION PROJECT)  
ENVIRONMENTAL STATEMENT  
VOLUME 5.3.3  
  
TYPICAL UNDERGROUND CABLE  
TECHNICAL ARRANGEMENT -  
132KV UNDERGROUND CABLE INSTALLATION  
TYPICAL GENERAL ARRANGEMENT AT  
OPEN CUT ROAD CROSSINGS

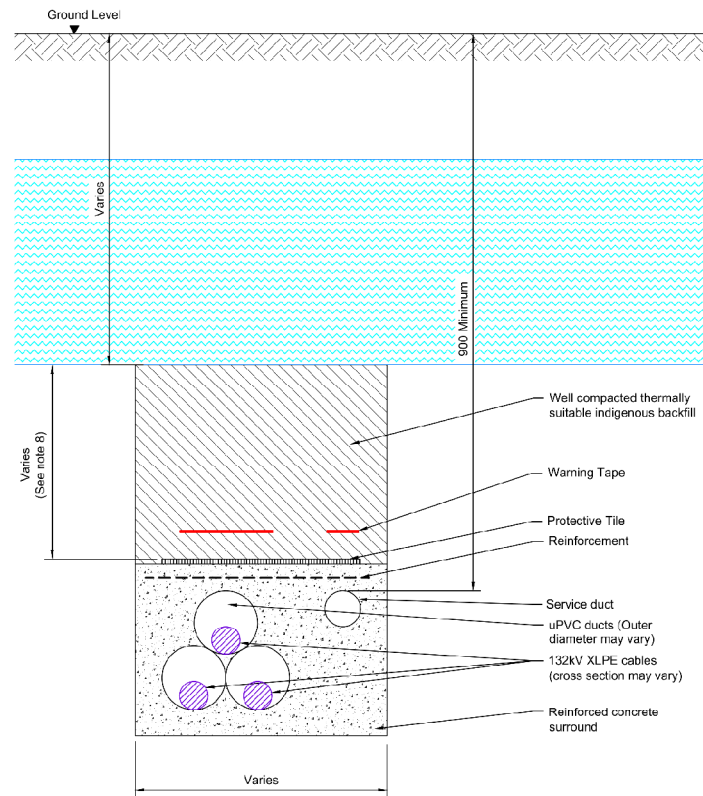
			
National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA			
NG INVESTMENT No.	APPLICATION No.		GIS
20897	EN020001		A3
FIGURE No.	DRAWING No.	SCALE	NTS
3.17.8	G1979.2117.8C		
SHEET 8 of 13			ISSUE A



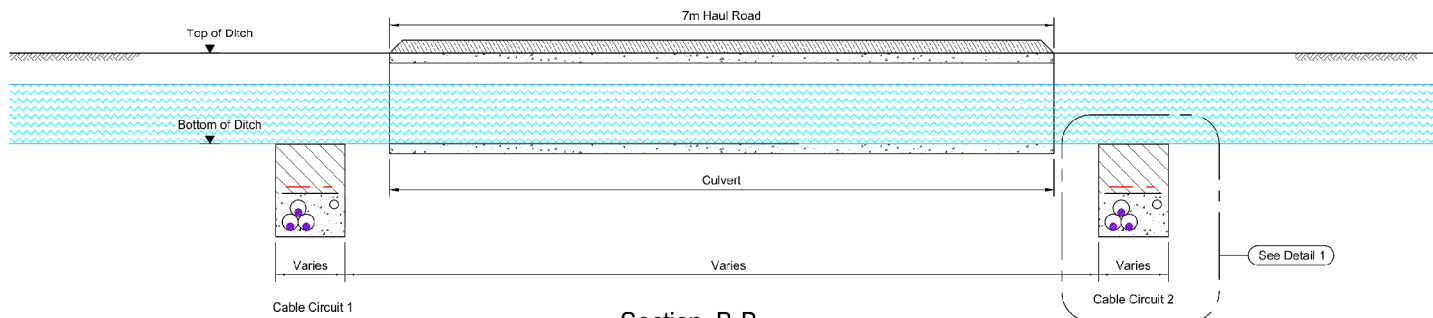
Typical Plan View of Ditch Crossing  
1:200



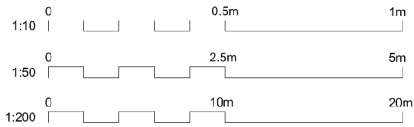
Section A-A  
Typical Section View of Ditch Crossing (Cable)  
(Service ducts and reinforcement omitted for clarity)  
1:50



Detail 1  
(see Note 4)  
1:10



Section B-B  
Typical Duct Cross Section  
(Reinforcement omitted for clarity)  
1:50



Key	
	Proposed direct buried cable alignment
	Proposed ducted cable alignment
	Haul road
	Water Course
	Reinforced Concrete
	CBS (Cement bound sand)
	Well compacted thermally suitable indigenous backfill

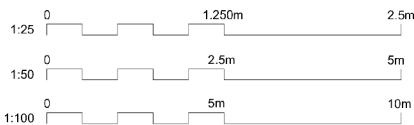
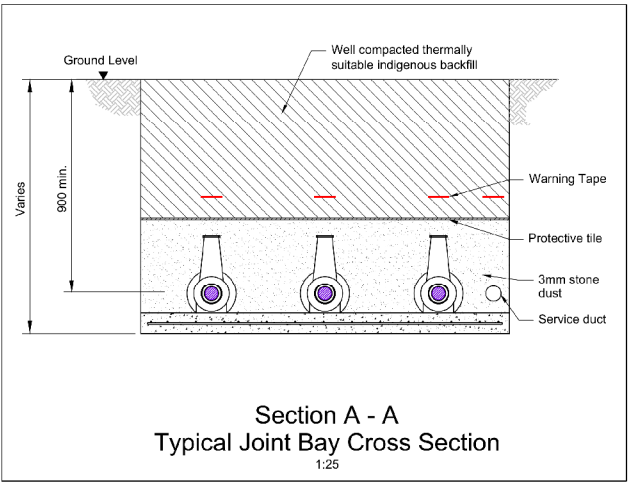
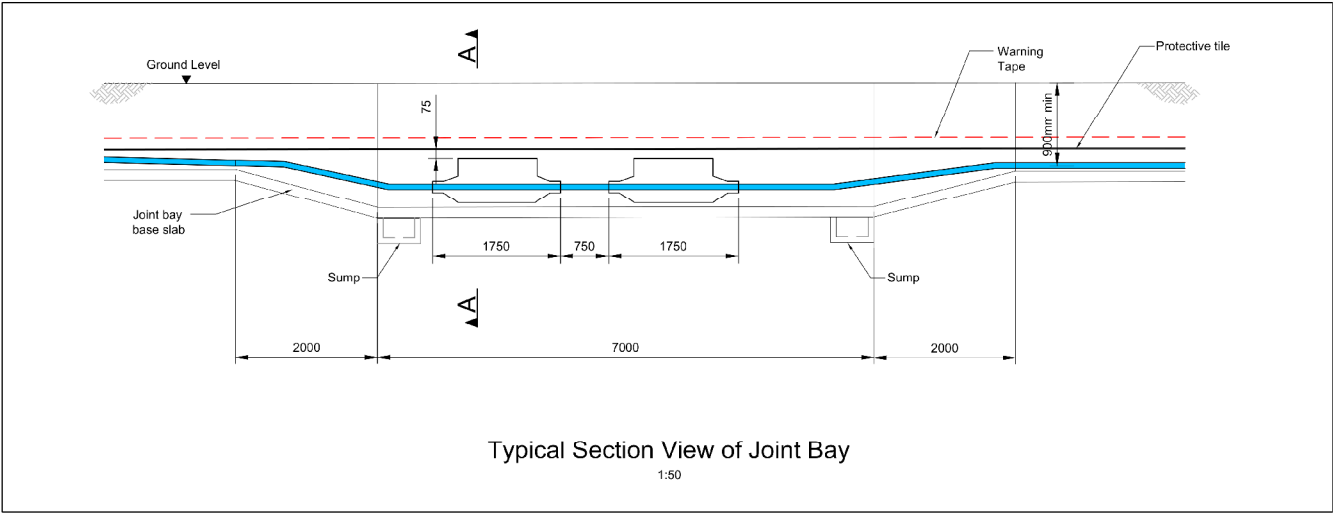
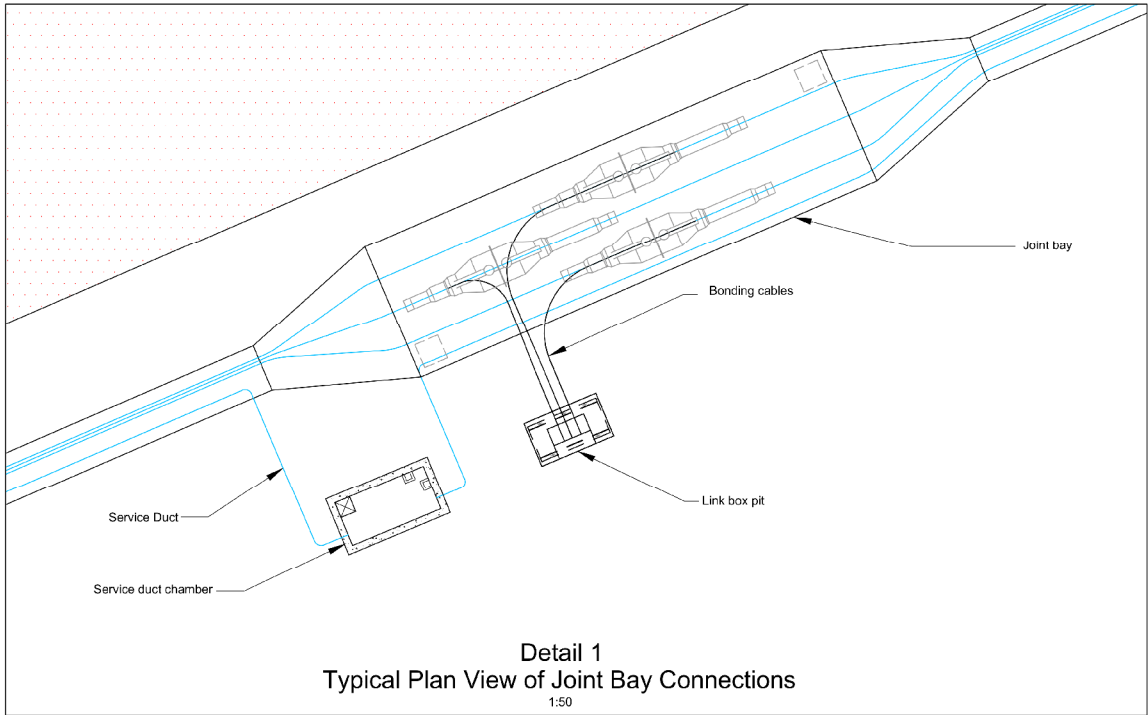
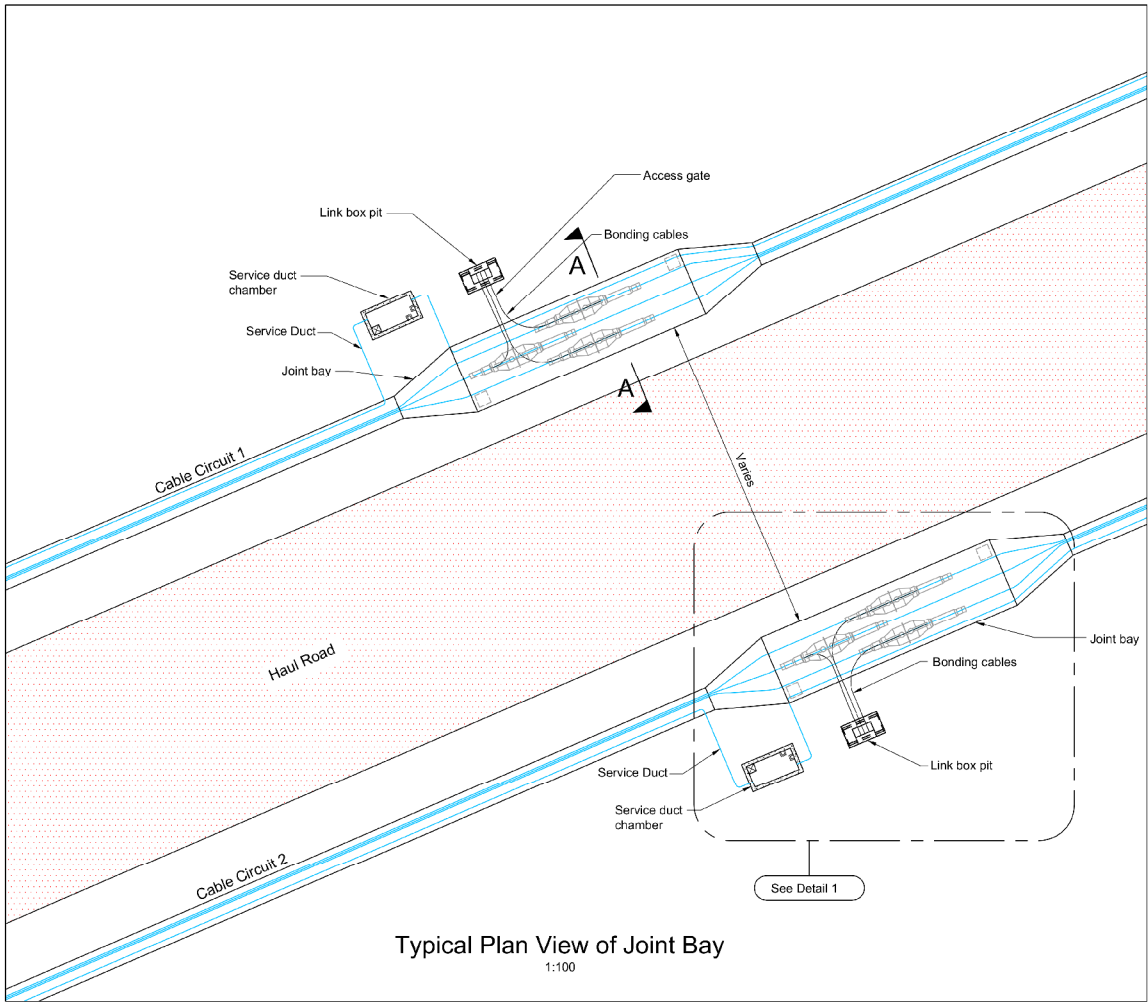
- Notes**
- All dimensions are in millimetres unless otherwise stated.
  - Do not scale any items of information from this drawing.
  - Ground profiles are shown for illustrative purposes only.
  - Proposed arrangement shown for indicative purpose only. Dimensions and design may vary depending on site and installation conditions.
  - Additional reinforcements and high strength concrete shall be used to increase the level of protection offered by a standard ducted section due to the reduced cover to the bottom of the drainage ditch.
  - Depth to be agreed with the relevant stakeholders.

**NOTE:**  
Original Drawing Number -  
NG - 13/NG/0242  
MMD-322069-E-DR-WPD-XX-0602

ISSUE	DATE	COMMENTS	DRAW	CHK'D	APP'D
A	02/04/2014	DCO SUBMISSION	CB	BC	BC

**Title** NATIONAL GRID (HINKLEY POINT C CONNECTION PROJECT)  
ENVIRONMENTAL STATEMENT  
VOLUME 5.3.3  
  
TYPICAL UNDERGROUND CABLE  
TECHNICAL ARRANGEMENT -  
132kV UNDERGROUND CABLE INSTALLATION  
TYPICAL GENERAL ARRANGEMENT AT  
DITCH CROSSING

NG INVESTMENT No.		APPLICATION No.		GIS	
20897		EN020001		A3	
FIGURE No.		DRAWING No.		SCALE	
3.17.9		G1979.2117.9C		NTS	
				ISSUE	
				A	



Key	
	Proposed direct buried cable alignment
	Haul road
	Concrete
	Stone dust
	Well compacted thermally suitable indigenous backfill

- Notes**
- All dimensions are in millimetres unless otherwise stated.
  - Do not scale any items of information from this drawing.
  - Existing ground profiles shown are for general indication only.
  - Arrangement shown for indicative purpose only. Dimensions and design may vary depending on site and installation conditions.
  - Link boxes to be installed below ground. Length of the bonding leads which connects to the link boxes must not exceed 8m as per WPD standard CA6A/3.
  - Joint separation to be determined dependant on onsite conditions.

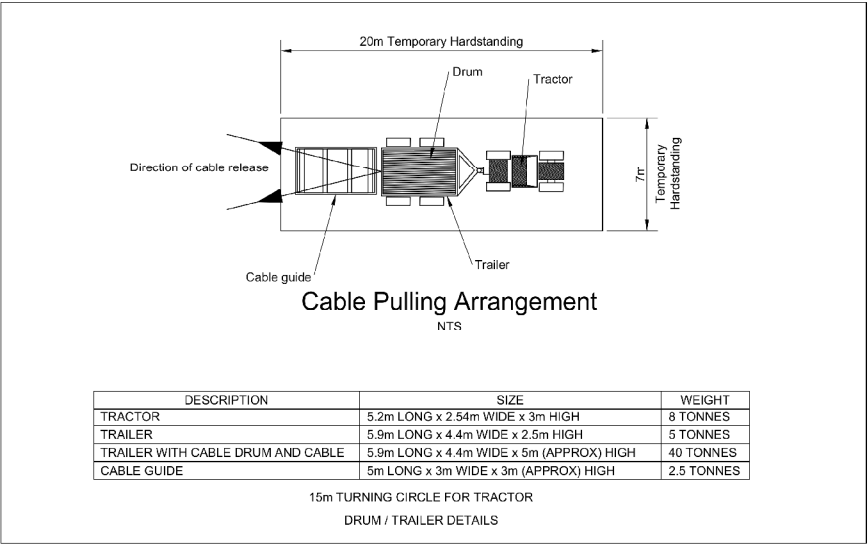
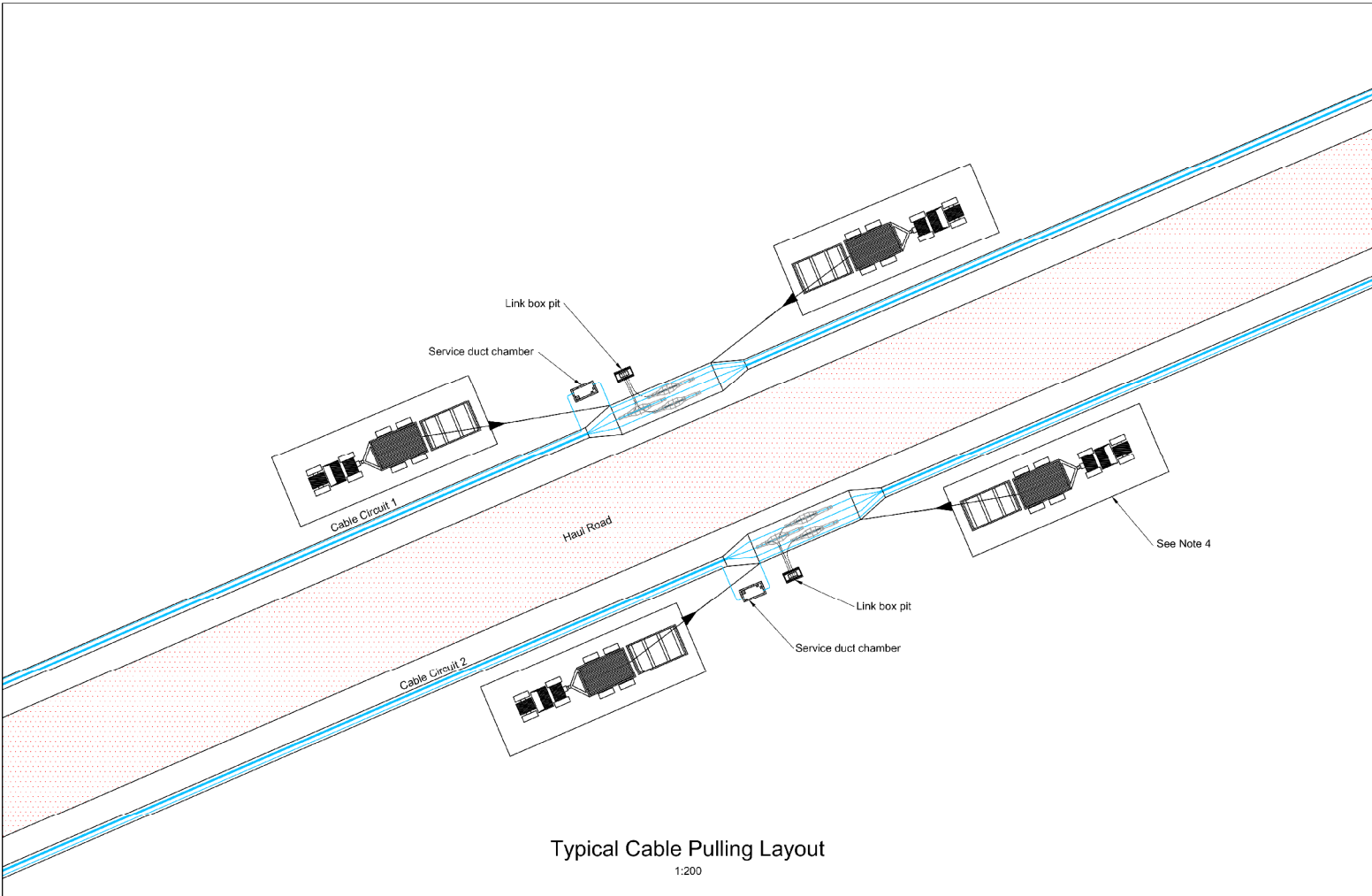
**NOTE:**  
Original Drawing Number -  
NG - 13/NG/0215  
MMD-322069-E-DR-WPD-XX-0700

A	02/04/2014	DCO SUBMISSION	CB	BC	BC
ISSUE	DATE	COMMENTS	DRAW	CHK'D	APPD

**Title** NATIONAL GRID (HINKLEY POINT C CONNECTION PROJECT)  
ENVIRONMENTAL STATEMENT  
VOLUME 5.3.3  
  
TYPICAL UNDERGROUND CABLE  
TECHNICAL ARRANGEMENT -  
132KV UNDERGROUND CABLE INSTALLATION  
TYPICAL GENERAL ARRANGEMENT OF  
JOINT BAY WITH LINK BOX PIT

National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA		
NG INVESTMENT No.	APPLICATION No.	GIS
20897	EN020001	A3
FIGURE No.	DRAWING No.	SCALE
3.17.10	G1979.2117.10C	NTS
SHEET 10 of 13		ISSUE
		A





Key

Proposed direct buried cable alignment

Haul road

Notes

1. Do not scale any items of information from this drawing.

2. Hardstanding shall be capable of supporting equipment/mobile plant.

3. Arrangement shown for indicative purposes only, dimensions and design may vary depending on site and installation conditions.

4. Indicative location of trailer mounted cable drum.

NOTE:

Original Drawing Number -

NG - 13/NG/0216  
MMD-322069-E-DR-WPD-XX-0701

A	02/04/2014	DCO SUBMISSION	CB	BC	BC
ISSUE	DATE	COMMENTS	DRAW	CHK'D	APP'D

Title

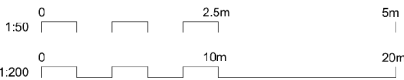
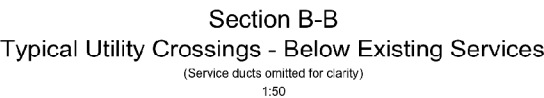
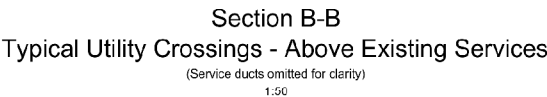
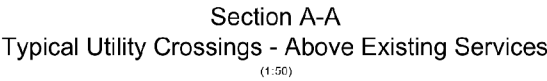
NATIONAL GRID (HINKLEY POINT C CONNECTION PROJECT)  
ENVIRONMENTAL STATEMENT  
VOLUME 5.3.3

TYPICAL UNDERGROUND CABLE  
TECHNICAL ARRANGEMENT -  
132KV UNDERGROUND CABLE INSTALLATION  
TYPICAL GENERAL ARRANGEMENT OF  
CABLE PULLING LOCATION







nationalgrid

National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA

NG INVESTMENT No.	APPLICATION No.	GIS
20897	EN020001	
FIGURE No.	DRAWING No.	SCALE
3.17.11	G1979.2117.11C	NTS
SHEET 11 of 13		ISSUE
		A



Key

	Proposed direct buried cable alignment
	Proposed direct buried or ducted cable alignment
	Haul road
	Reinforced Concrete or stone dust
	Stone Dust
	Well compacted thermally suitable indigenous backfill

— UTL — Existing Utility


1. All dimensions are in millimetres unless otherwise stated.
2. Dimensional information should not be obtained from this drawing (do not scale).
3. Dimensions and depths are indicative only and will vary according to installation and site conditions.
4. Proposed general arrangement based on WPD requirements.
5. Trench arrangement and dimensions to be confirmed during detail design stages.
6. Minimum depth to top of cable to be 900mm in general installation, except in agricultural land where the minimum is 1000mm.
7. Where possible, cable crossing at existing services should be perpendicular.
8. Spacing between utility and cable is subject to agreement with the relevant provider/asset owner at individual locations.

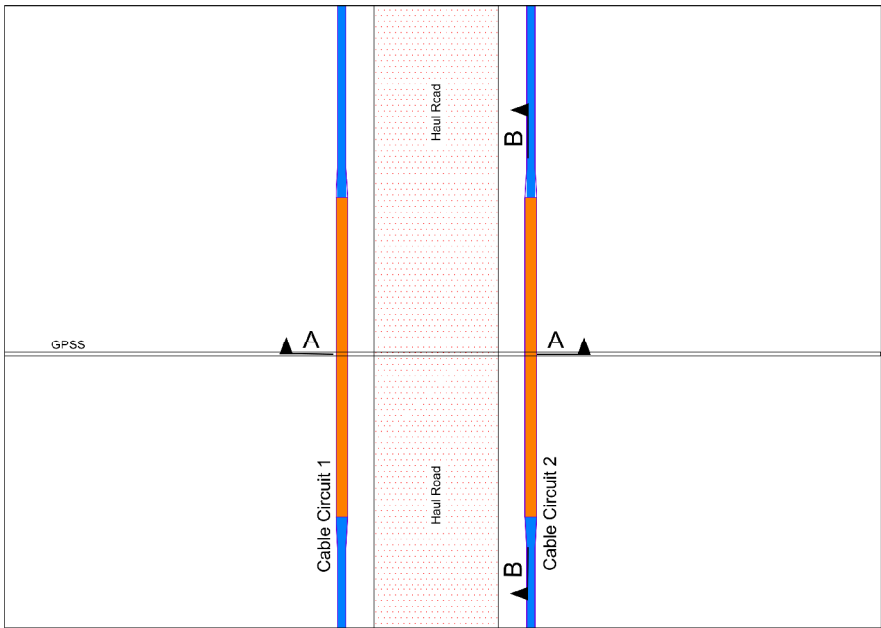
**NOTE:**  
Original Drawing Number -  
  
NG - 13/NG/0243  
MMD-322069-E-DR-WPD-XX-0603

A	02/04/2014	DCO SUBMISSION	CB	BC	BC
ISSUE	DATE	COMMENTS	DRAW	CHK'D	APP'D

**Title** NATIONAL GRID (HINKLEY POINT C  
CONNECTION PROJECT)  
ENVIRONMENTAL STATEMENT  
VOLUME 5.3.3

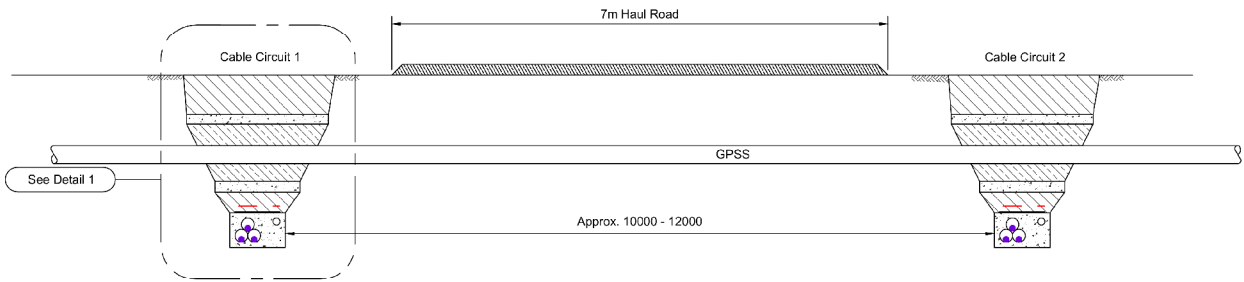
TYPICAL UNDERGROUND CABLE  
TECHNICAL ARRANGEMENT -  
132kV UNDERGROUND CABLE INSTALLATION  
TYPICAL SERVICES CROSSING DETAIL  
& GENERAL ARRANGEMENT

			
National Grid plc, Warwick Technology Park, Galswells Hill, Warwick, CV34 6DA			
<b>NG INVESTMENT No.</b> 20897	<b>APPLICATION No.</b> EN020001		<b>GIS</b> <b>A3</b>
<b>FIGURE No.</b> 3.17.12	<b>DRAWING No.</b> G1979.2117.12C		<b>SCALE</b> NTS
SHEET 12 of 13			<b>ISSUE</b> <b>A</b>



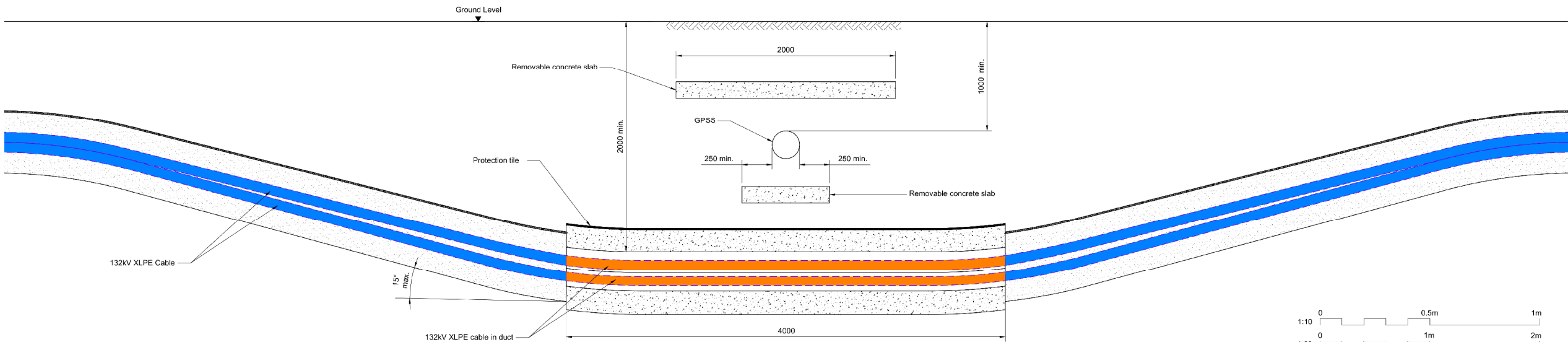
Typical Plan View of GPSS Crossing

1:200



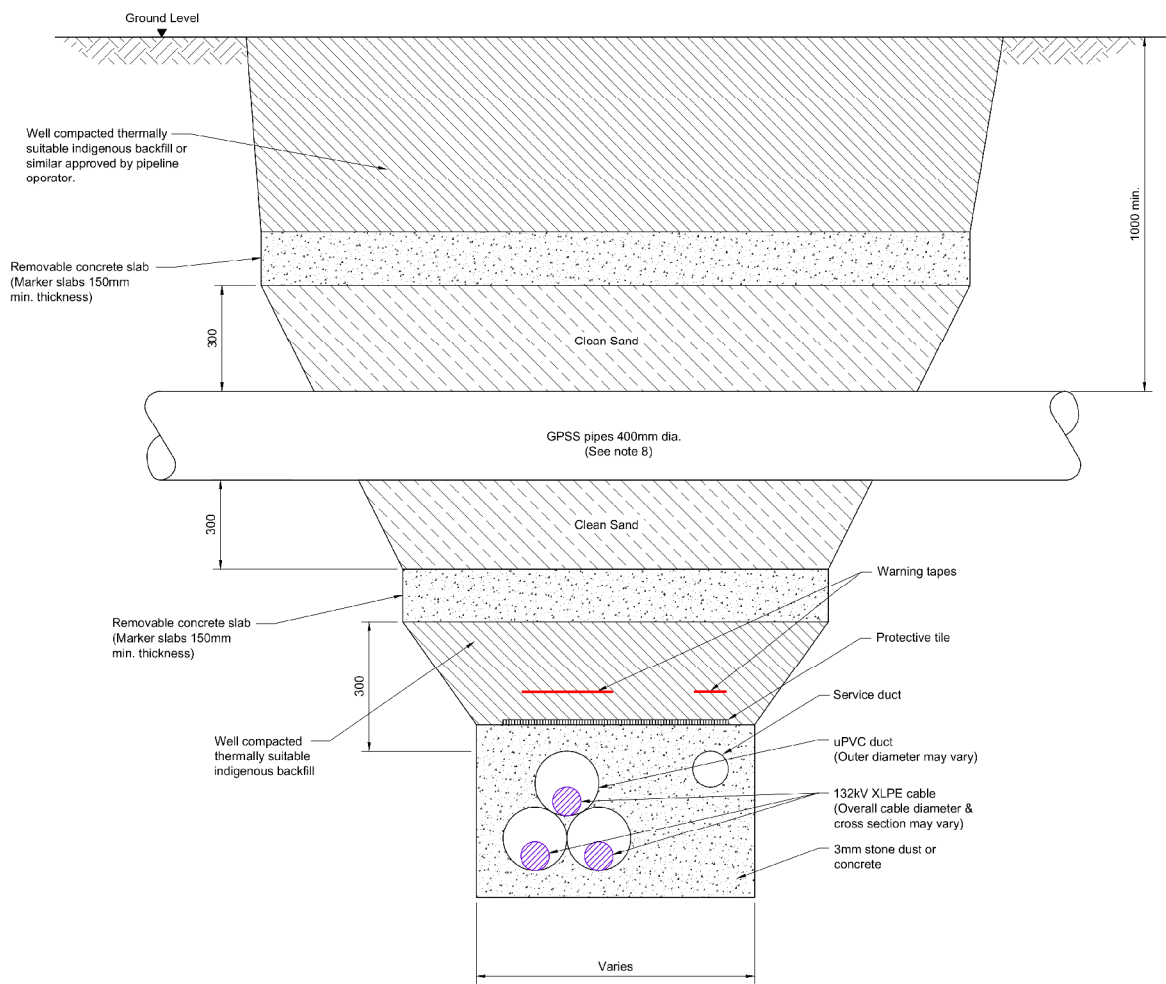
Section A - A  
Typical Duct Cross Section

1:50



Section B - B  
Typical Section View of GPSS Crossing

(Service ducts omitted for clarity)  
1:20



Detail 1

(See Note 5)  
1:10

Key

- Proposed direct buried cable alignment
- Proposed ducted cable alignment
- Reinforced concrete
- Stone dust
- Well compacted thermally suitable indigenous backfill
- Clean sand
- Haul Road

Notes

- All dimensions are in millimetres unless otherwise stated.
- Dimensional information should not be obtained from this drawing (do not scale).
- Dimensions and depths are indicative only and will vary according to installation and site conditions.
- General arrangement based on WPD standard CA6A/3 and GPSS Standard relating to the installation of underground cables.
- Trench arrangement and dimensions to be confirmed during detail design stages.
- Bentonite may be required within ducts to potentially improve cable rating, subject to agreement with relevant stakeholders.
- The cable sizes to be confirmed at a later stage.
- GPSS pipe dimensions are assumed only.

NOTE:

Original Drawing Number -

NG - 13/NG/0239  
MMD-322069-E-DR-WPD-XX-0606

A	02/04/2014	DCO SUBMISSION	CB	BC	BC
ISSUE	DATE	COMMENTS	DRAW	CHK'D	APPD

Title NATIONAL GRID (HINKLEY POINT C CONNECTION PROJECT)  
ENVIRONMENTAL STATEMENT  
VOLUME 5.3.3

TYPICAL UNDERGROUND CABLE  
TECHNICAL ARRANGEMENT -  
132kV UNDERGROUND CABLE INSTALLATION  
TYPICAL GENERAL ARRANGEMENT AT GPSS  
(GOVERNMENT PIPELINE AND  
STORAGE SYSTEM) CROSSING

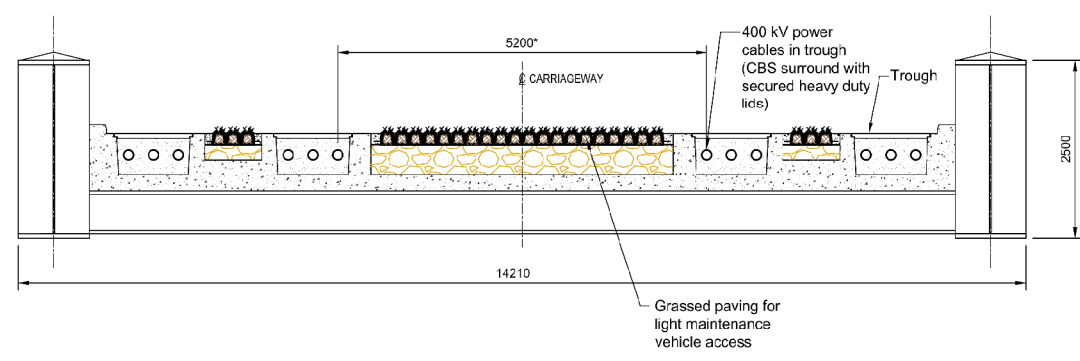
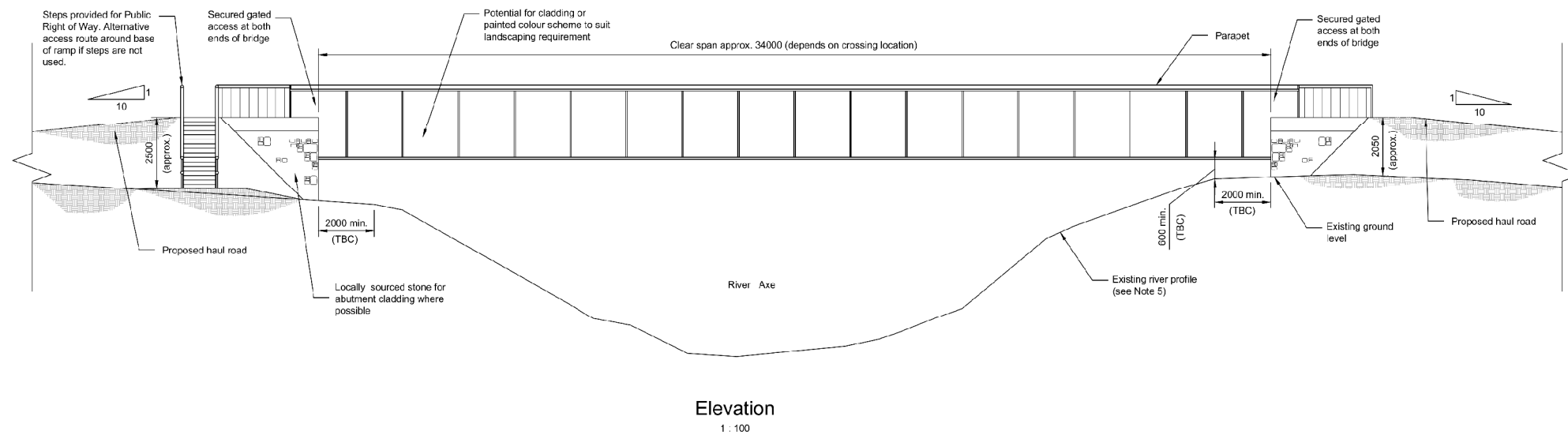
**nationalgrid**

National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA

NG INVESTMENT No.	APPLICATION No.	GIS
20897	EN020001	A3
FIGURE No.	DRAWING No.	SCALE
3.17.13	G1979.2117.13A	NTS
SHEET 13 of 13		ISSUE
		A

Figure 3.18 - River Axe and Towerhead Brook Crossing Options





Typical Section : Half-through Girder  
(Cable and Light Vehicle Access Bridge)  
1 : 50

\* Minimum cable separation based on initial discussions subject to design development



Key

	Grasscrete
	Concrete
	CBS (Cement Bound Sand)
	Sub-base

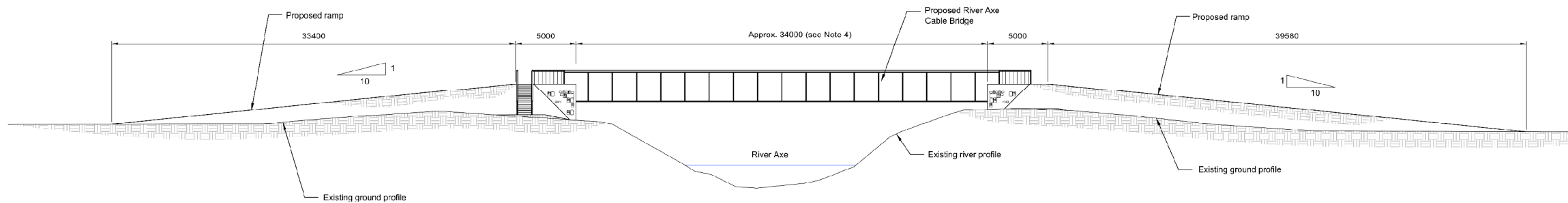
- Notes
1. All dimensions are in millimetres unless otherwise stated.
  2. This drawing to be read in conjunction with Drawings Sheet 13 & 14 of 70.
  3. Do not scale any items of information from this drawing.
  4. All structural arrangements of bridge shown indicatively, dimensions subject to 3rd party discussions, on site survey results and design development.
  5. River Axe profile based on Topographic Survey Drawing dated 12/04/2013 provided by National Grid.

**NOTE:**  
Original Drawing Number -  
NG - 13/NG/0244  
MMD-322069-E-DR-400UG-XX-0900

A	02/04/2014	DCO SUBMISSION	CB	BC	BC
ISSUE	DATE	COMMENTS	DRAW	CHK'D	APP'D

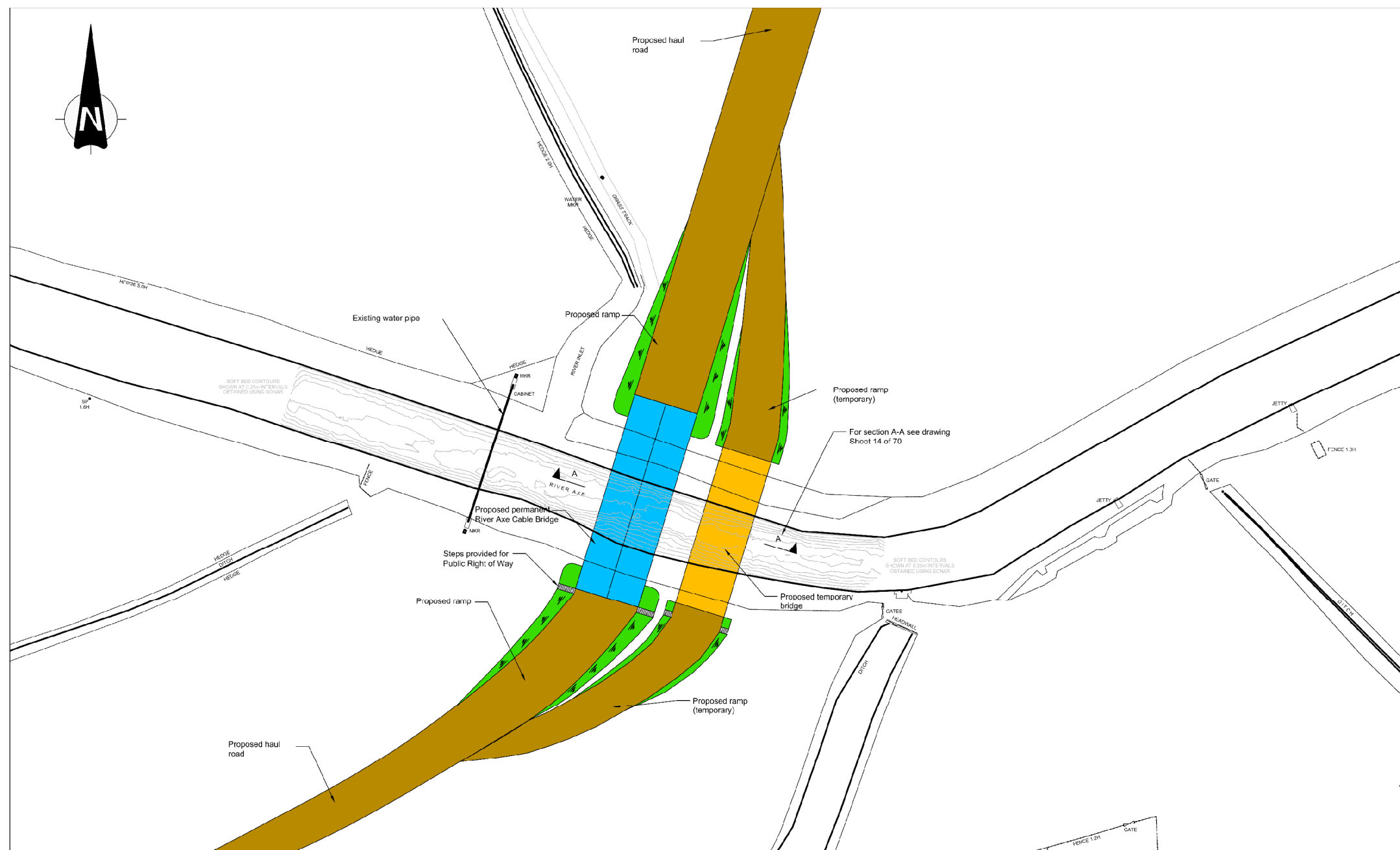
Title  
NATIONAL GRID (HINKLEY POINT C CONNECTION PROJECT)  
ENVIRONMENTAL STATEMENT  
VOLUME 5.3.3  
  
RIVER AXE AND TOWERHEAD BROOK CROSSING OPTIONS -  
RIVER AXE CABLE BRIDGE  
ELEVATION AND CROSS SECTION

National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA					
NG INVESTMENT No.	APPLICATION No.	GIS			
20897	EN020001	A3			
FIGURE No.	DRAWING No.	SCALE			
3.18.1	G1979.2118.1C	NTS			
SHEET 1 of 7					ISSUE
					A



Proposed Permanent Bridge Ramp Elevation  
(Looking west)

1 : 200



Plan

1 : 500



Key

- Proposed River Axe cable bridge structure
- Proposed temporary bridge
- Proposed embankment
- Proposed haul road

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**NOTE:**

Original Drawing Number -

NG - 13/NG/0244  
MMD-322069-E-DR-400UG-XX-0901

A	02/04/2014	DCO SUBMISSION	CB	BC
ISSUE	DATE	COMMENTS	DRAW	CHK'D

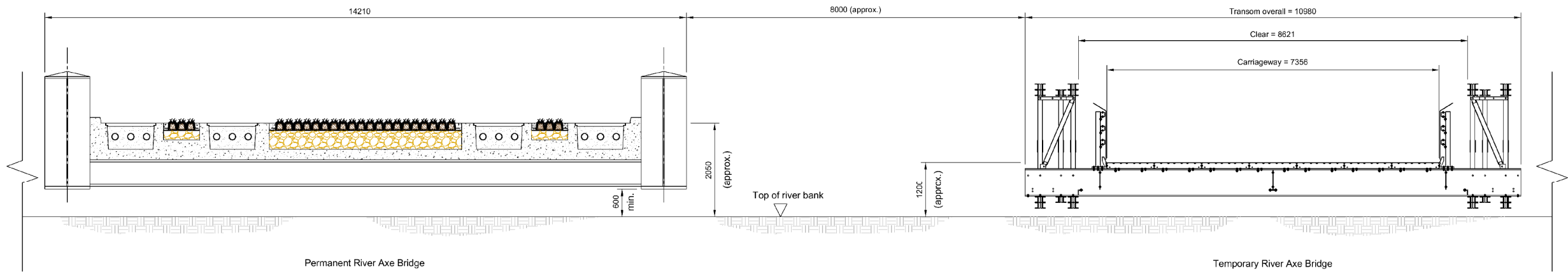
**Title** NATIONAL GRID (HINKLEY POINT C  
CONNECTION PROJECT)  
ENVIRONMENTAL STATEMENT  
VOLUME 5.3.3

RIVER AXE AND TOWERHEAD BROOK  
CROSSING OPTIONS -  
RIVER AXE CABLE BRIDGE  
PLAN AND ELEVATION OF RAMP

**nationalgrid**

National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA

NG INVESTMENT No.	APPLICATION No.	GIS <b>A3</b>
20897	EN020001	
FIGURE No.	DRAWING No.	SCALE
3.18.2	G1979.2118.2C	NTS
SHEET 2 of 7		ISSUE <b>A</b>



Section A - A  
1 : 50

Key	
	Grasscrete
	Concrete
	CBS (Cement Bound Sand)
	Sub-base

- Notes**
1. All dimensions are in millimetres unless otherwise stated.
  2. Do not scale any items of information from this drawing.
  3. This drawing to be read in conjunction with Drawings Sheet 12 & 13 of 70.
  4. All structural arrangements of bridge shown indicatively, dimensions subject to 3rd party discussions, on site survey results and design development.

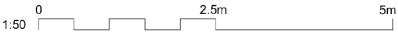
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MMD-322069-E-DR-400UG-XX-0902

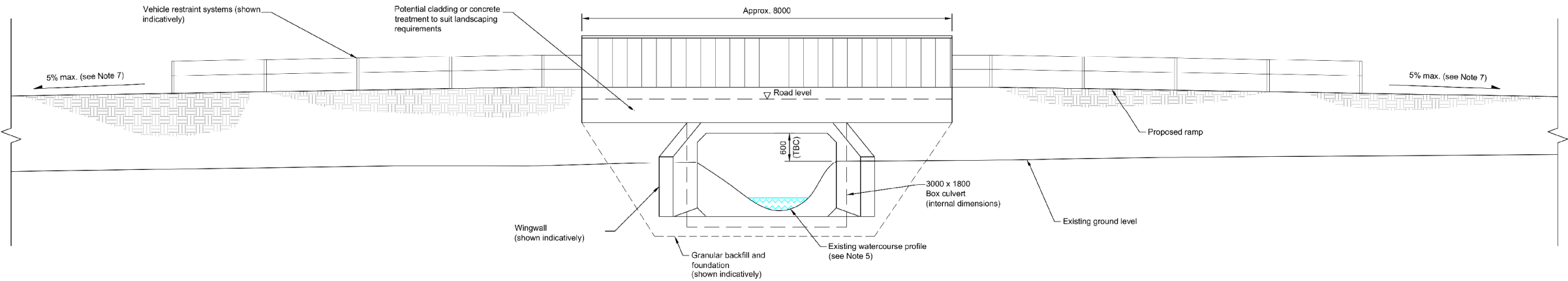
A	02/04/2014	DCO SUBMISSION	CB	BC	BC
ISSUE	DATE	COMMENTS	DRAW	CHK'D	APP'D

**Title** NATIONAL GRID (HINKLEY POINT C CONNECTION PROJECT)  
ENVIRONMENTAL STATEMENT  
VOLUME 5.3.3

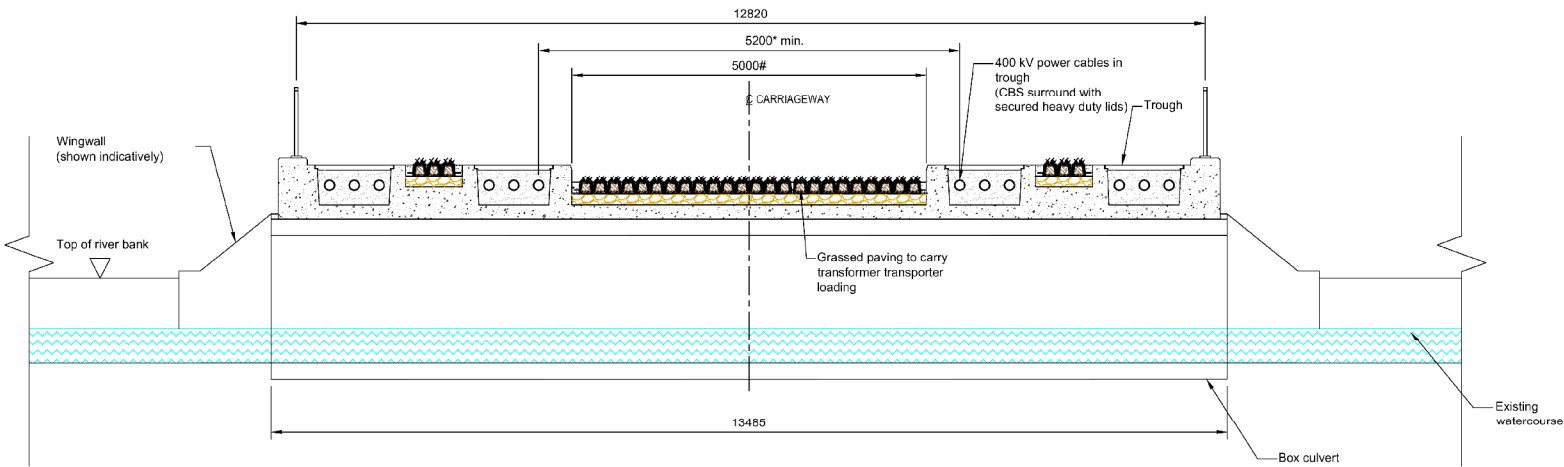
RIVER AXE AND TOWERHEAD BROOK CROSSING OPTIONS -  
RIVER AXE CABLE BRIDGE  
COMBINED CROSS SECTION OF  
TEMPORARY AND PERMANENT BRIDGES

nationalgrid			
National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA			
NG INVESTMENT No.	APPLICATION No.	GIS	
20897	EN020001	A3	
FIGURE No.	DRAWING No.	SCALE	
3.18.3	G1979.2118.3C	NTS	
SHEET 3 of 7			ISSUE
			A





Elevation (Looking West)  
1 : 50



Typical Section  
(Combined Transformer Access and Cable Bridge)  
1 : 50

\* Minimum cable separation based on initial discussions subject to design development  
# Minimum construction/transformer access width based on initial discussions subject to design development

Key	
	Grasscrete
	Concrete
	CBS (Cement Bound Sand)
	Sub-base
	Existing watercourse

- Notes
- All dimensions are in millimetres unless otherwise stated.
  - This drawing to be read in conjunction with Drawing Sheet 17 of 70.
  - Do not scale any items of information from this drawing.
  - All structural arrangements of crossing shown indicatively, dimensions subject to 3rd party discussions, on site survey results and design development.
  - Towerhead Brook profile based on Topographic Survey Drawing dated 12/04/2013 provided by National Grid.
  - Minimum requirement for slope transition to be confirmed by transformer transporter.
  - Ramp: maximum gradient 5%, minimum transition of 20m from 0 - 5%.

**NOTE:**  
Original Drawing Number -  
NG - 13/NG/0245  
MMD-322069-E-DR-400UG-XX-0910

A	02/04/2014	DCO SUBMISSION	CB	BC	BC
ISSUE	DATE	COMMENTS	DRAW	CHK'D	APPD

Title NATIONAL GRID (HINKLEY POINT C CONNECTION PROJECT)  
ENVIRONMENTAL STATEMENT  
VOLUME 5.3.3

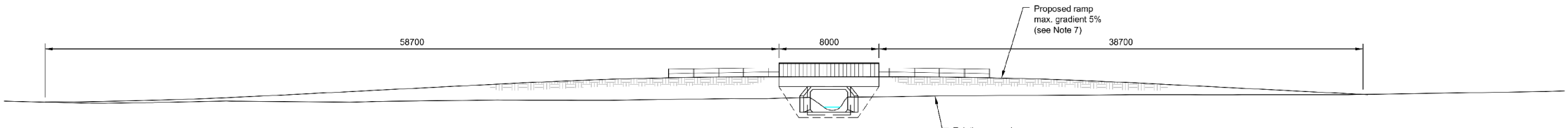
RIVER AXE AND TOWERHEAD BROOK CROSSING OPTIONS -  
TOWERHEAD BROOK CABLE CROSSING  
ELEVATION AND CROSS SECTION  
(CULVERT OPTION)

**nationalgrid**

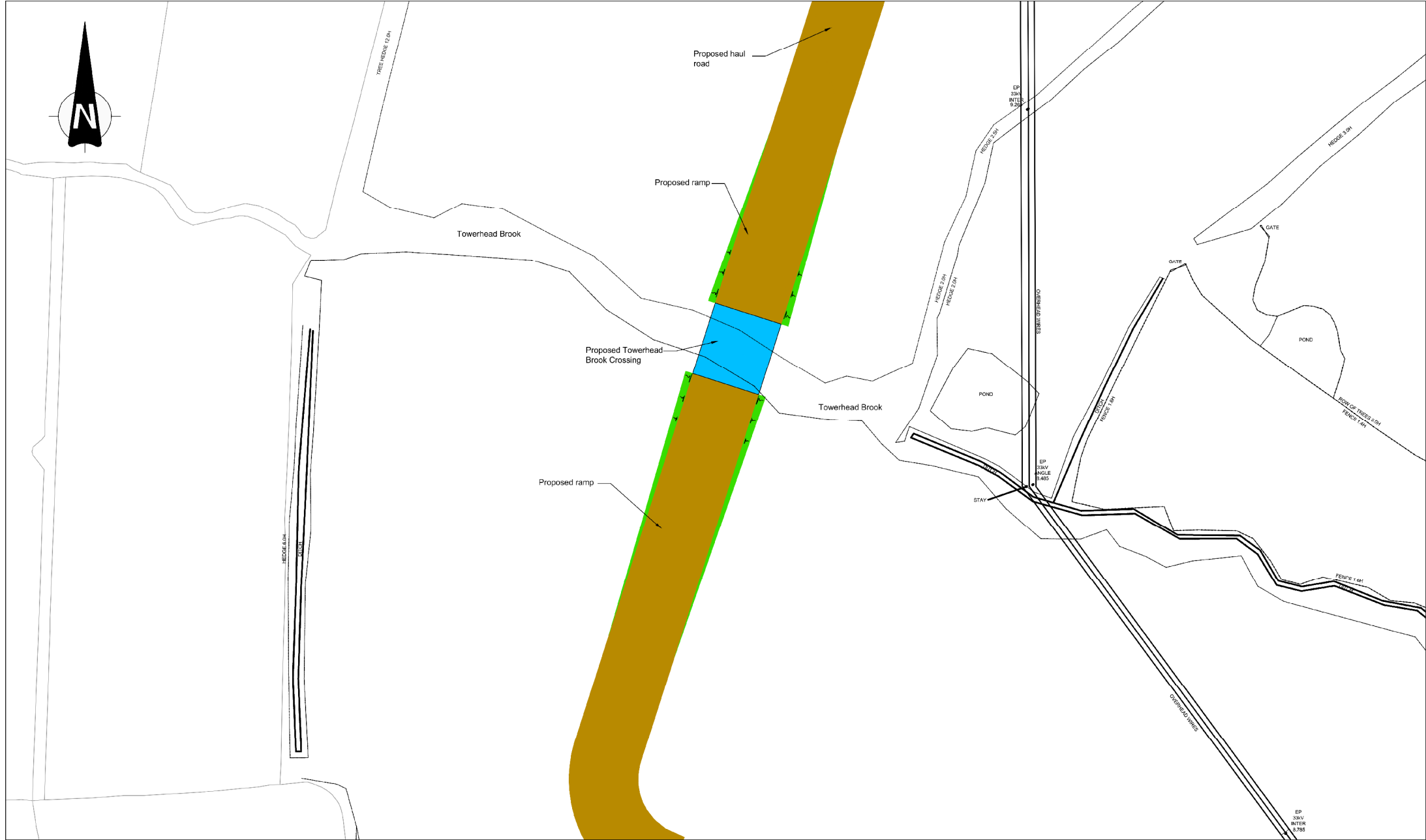
National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA

NG INVESTMENT No.	APPLICATION No.	GIS <b>A3</b>
20897	EN020001	
FIGURE No.	DRAWING No.	SCALE
3.18.4	G1979.2118.4C	NTS
SHEET 4 of 7		ISSUE <b>A</b>

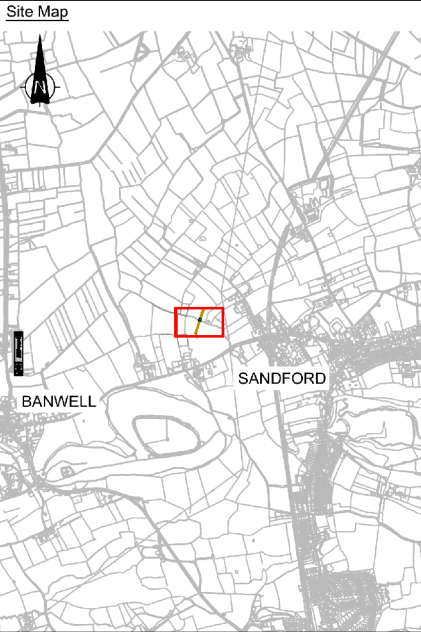




Proposed Ramp Elevation  
1 : 200



Plan  
1 : 500



Key	
	Proposed Towerhead Brook bridge structure
	Proposed embankment
	Proposed haul road

- Notes
1. All dimensions are in millimetres unless otherwise stated.
  2. Do not scale any items of information from this drawing.
  3. This drawing to be read in conjunction with Drawing Sheet 16 of 70.
  4. All structural arrangements of bridge shown indicatively, dimensions subject to 3rd party discussions, on site survey results and design development.
  5. Towerhead Brook profile based on Topographic Survey Drawing dated 12/04/2013 provided by National Grid.
  6. Minimum requirement for slope transition to be confirmed by transformer transporter.
  7. Ramp: maximum gradient 5%, minimum transition of 20m from 0 - 5%.


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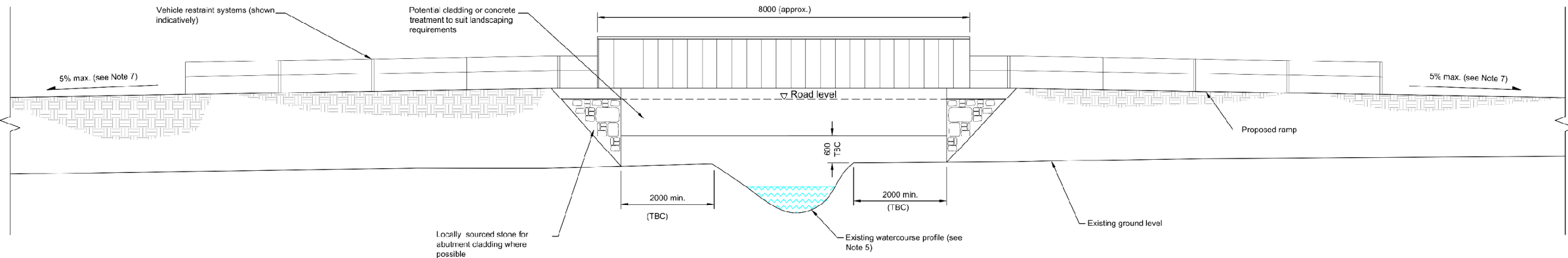
A	02/04/2014	DCO SUBMISSION	CB	BC	BC
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ISSUE	DATE	COMMENTS	DRAW	CHK'D	APPD
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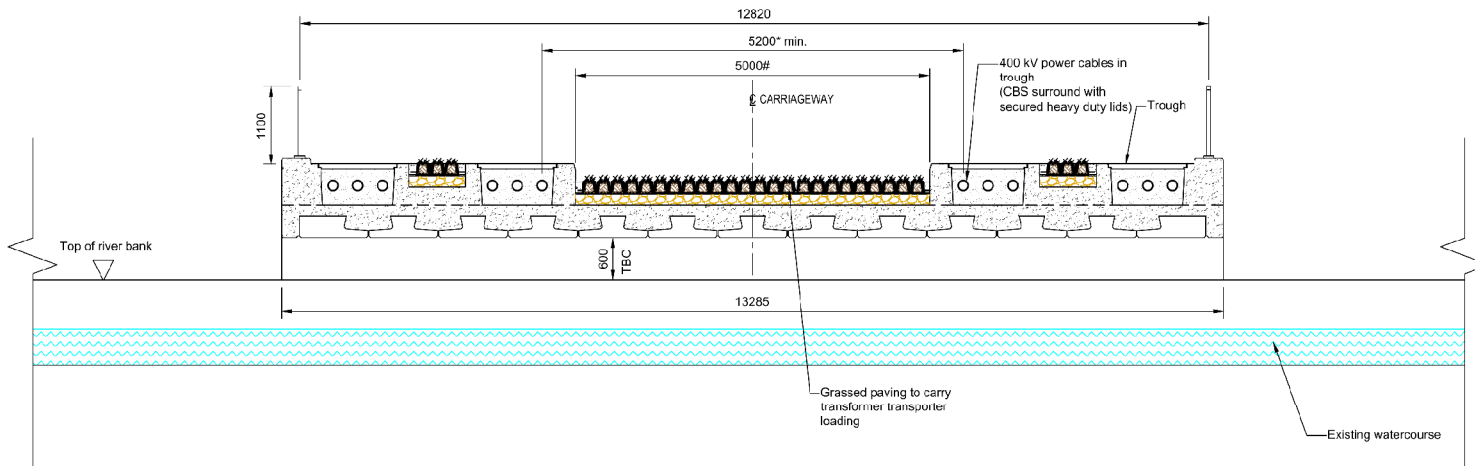
**Title** NATIONAL GRID (HINKLEY POINT C CONNECTION PROJECT)  
ENVIRONMENTAL STATEMENT  
VOLUME 5.3.3

RIVER AXE AND TOWERHEAD BROOK CROSSING OPTIONS -  
TOWERHEAD BROOK CABLE CROSSING  
PLAN AND ELEVATION OF RAMP  
(CULVERT OPTION)

			
National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA			
NG INVESTMENT No.	APPLICATION No.		GIS
20897	EN020001		A3
FIGURE No.	DRAWING No.	SCALE	NTS
3.18.5	G1979.2118.5C		
SHEET 5 of 7			ISSUE A



Elevation (Looking West)  
1 : 50



Typical Section  
(Combined Transformer Access and Cable Bridge)  
1 : 50

\* Minimum cable separation based on initial discussions subject to design development  
# Minimum construction/transformer access width based on initial discussions subject to design development.

	Grasscrete
	Concrete
	CBS (Cement Bound Sand)
	Sub-base
	Existing watercourse

- Notes
1. All dimensions are in millimetres unless otherwise stated.
  2. This drawing to be read in conjunction with Drawing Sheet 19 of 70
  3. Do not scale any items of information from this drawing.
  4. All structural arrangements of crossing shown indicatively, dimensions subject to 3rd party discussions, on site survey results and design development.
  5. Towerhead Brook profile based on Topographic Survey Drawing dated 12/04/2013 provided by National Grid.
  6. Minimum requirement for slope transition to be confirmed by transformer transporter.
  7. Ramp: maximum gradient 5%, minimum transition of 20m from 0 - 5%.

A	02/04/2014	DCO SUBMISSION	CB	BC	BC
ISSUE	DATE	COMMENTS	DRAW	CHK'D	APPD
Title NATIONAL GRID (HINKLEY POINT C CONNECTION PROJECT) ENVIRONMENTAL STATEMENT VOLUME 5.3.3  RIVER AXE AND TOWERHEAD BROOK CROSSING OPTIONS - TOWERHEAD BROOK CABLE CROSSING ELEVATION AND CROSS SECTION (BRIDGE OPTION)					
 <small>National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA</small>					
NG INVESTMENT No.	APPLICATION No.				GIS
20897	EN020001				A3
FIGURE No.	DRAWING No.				SCALE
3.18.6	G1979.2118.6C				NTS
SHEET 6 of 7					ISSUE
					A

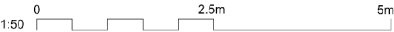
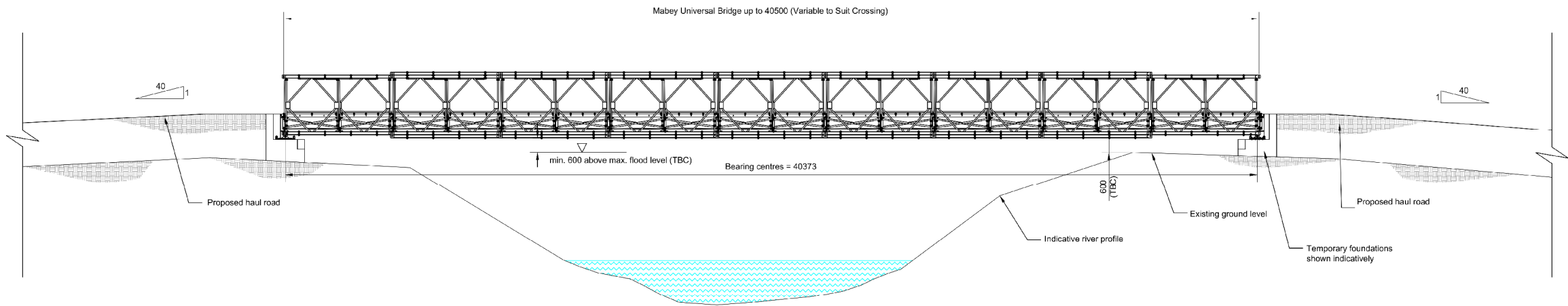




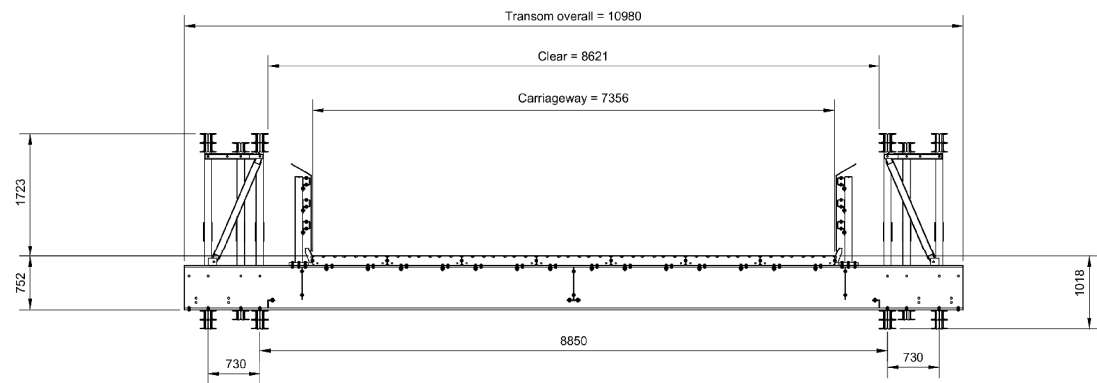


Figure 3.19 - Temporary Construction Road and Bridge Details





Elevation  
1 : 100



Typical Section: Temporary Bridge Example  
(2 lanes)  
1 : 50

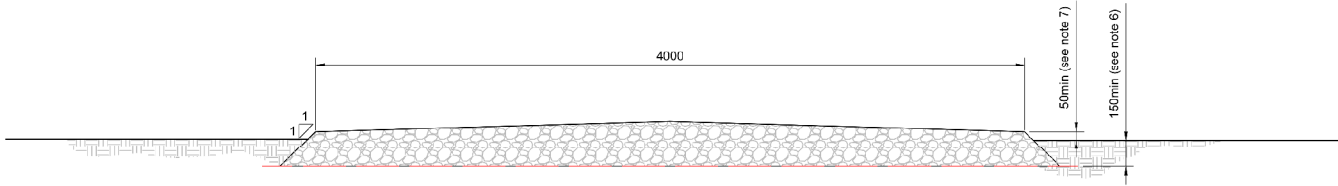
- Notes
1. All dimensions are in millimetres unless otherwise stated.
  2. Do not scale any items of information from this drawing.
  3. All structural arrangements of bridge shown indicatively, dimensions subject to 3rd party discussions, on site survey results and design development.
  4. Temporary bridge based on Mabey Universal bridge information (received 21.05.2013)

**NOTE:**  
Original Drawing Number -  
MMD-322069-C-DR-GEN-XX-0007

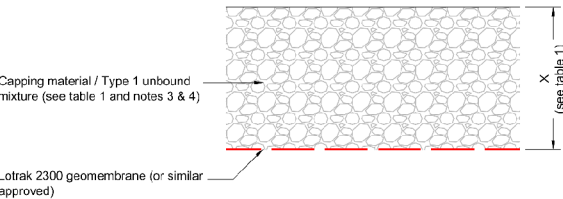
A	03/04/2014	DCO SUBMISSION	CB	BC	BC
ISSUE	DATE	COMMENTS	DRAW	CHK'D	APP'D

Title  
NATIONAL GRID (HINKLEY POINT C  
CONNECTION PROJECT)  
ENVIRONMENTAL STATEMENT  
VOLUME 5.3.3  
  
TEMPORARY CONSTRUCTION  
ROAD AND BRIDGE DETAILS -  
TYPICAL TEMPORARY BRIDGE

nationalgrid <small>National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA</small>					
NG INVESTMENT No.	APPLICATION No.				GIS
20897	EN020001				A3
FIGURE No.	DRAWING No.				SCALE
3.19.1	G1979.2410.1A				NTS
SHEET 1 of 4					ISSUE
					A



General Haul Road Cross Section - O/H Cable Section  
1:20

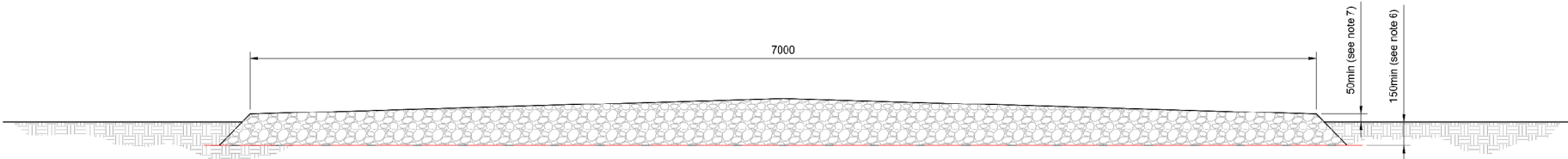


Haul Road Pavement Detail - O/H Cable Section  
1:5

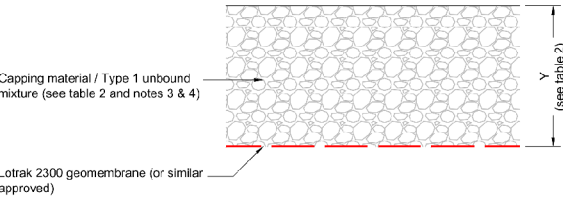
CBR %	Layer Thickness (X) mm	
	Option A Capping Material (see note 4)	Option B Type 1 Unbound Mixture (see note 5)
2.5 *	400	350
5	250	225
7.5	220	200
10S	200	200

\* Where CBR is 2.5% layer of Tri/Ax geogrid (or similar approved) to be installed 150mm below FGL

Table 1 - Haul Road Layer Thickness - O/H Cable Section



General Haul Road Cross Section - U/G Cable Section  
1:20

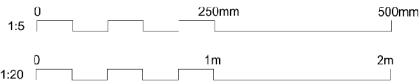


Haul Road Pavement Detail - U/G Cable Section  
1:5

CBR %	Layer Thickness (Y) mm	
	Option A Capping Material (see note 4)	Option B Type 1 Unbound Mixture (see note 5)
2.5 *	400	350
5	250	225
7.5	220	200
10S	200	200

\* Where CBR is 2.5% layer of Tri/Ax geogrid (or similar approved) to be installed 150mm below FGL

Table 2 - Haul Road Layer Thickness - U/G Cable Section



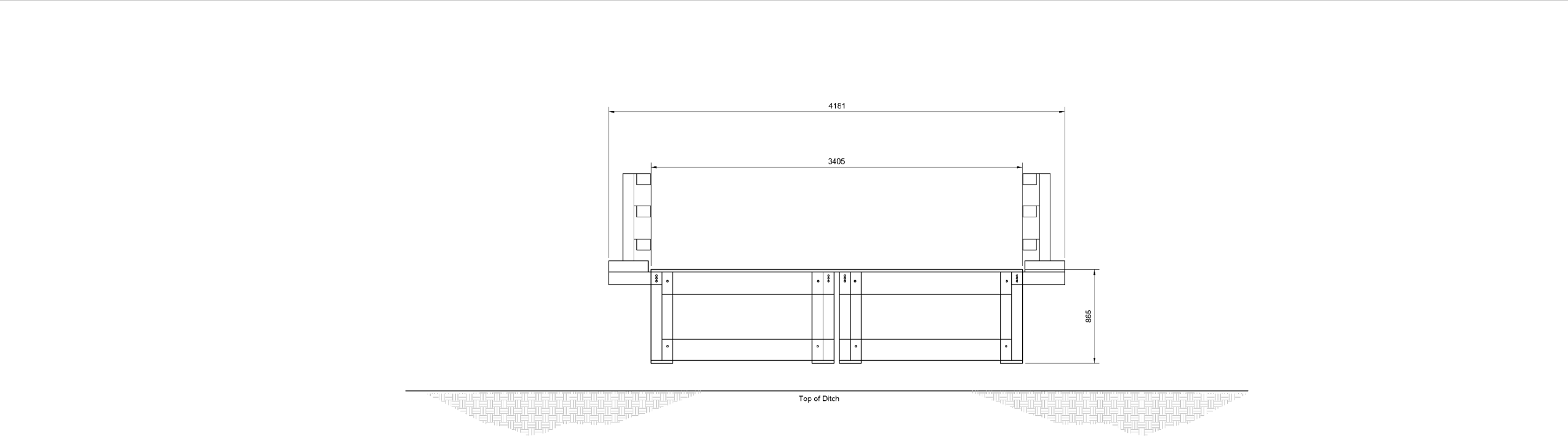
- Notes
- All dimensions are in millimetres unless otherwise stated.
  - Do not scale any items or information from this drawing.
  - SHW - Specification for Highways
  - Capping layers to comply with SHW clause 613, compacted in accordance with SHW table 6/4 and have a minimal stiffness modulus of 100MPa.
  - Type 1 unbound mixture to comply with SHW clause 803, compacted in accordance with SHW table 8/4 and have a minimal stiffness modulus of 150MPa.Consideration of recycled material should be given. Including re-use on site should construction programme allow.
  - Minimal of 150mm existing material to be removed prior to installation of haul roads.
  - Temporary Haul road shall be installed a minimum 50mm proud of the existing ground level.
  - Where CBR values are less than 2.5%, alternative pavement construction will need to be considered.
  - Pavement Design has been based on the DMRB Interim Advice Note 73/06 rev 1 (2009).
  - Two pavement options available to suit preferred layer thicknesses and available materials.
  - Cross drains may be required where roads block existing surface run off.

**NOTE:**  
Original Drawing Number -  
MMD-322069-C-DR-GEN-XX-0004

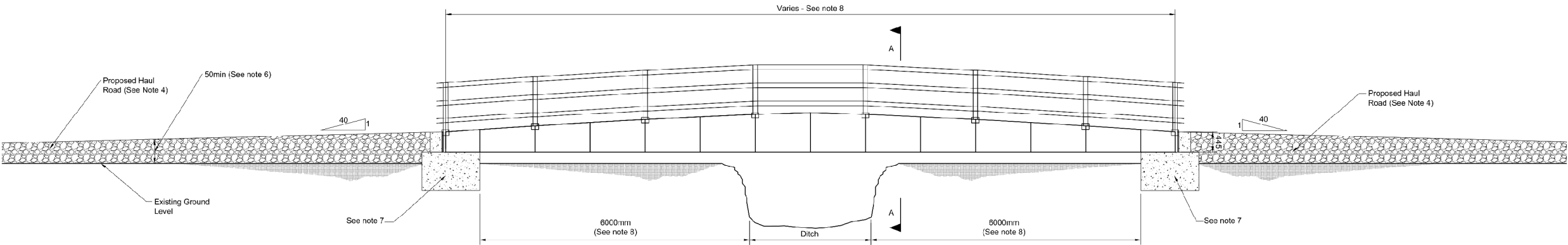
A	03/04/2014	DCO SUBMISSION	CB	BC	BC
ISSUE	DATE	COMMENTS	DRAW	CHK'D	APPD

Title  
NATIONAL GRID (HINKLEY POINT C CONNECTION PROJECT)  
ENVIRONMENTAL STATEMENT  
VOLUME 5.3.3  
  
TEMPORARY CONSTRUCTION  
ROAD AND BRIDGE DETAILS -  
HAUL ROAD CONSTRUCTION DETAILS

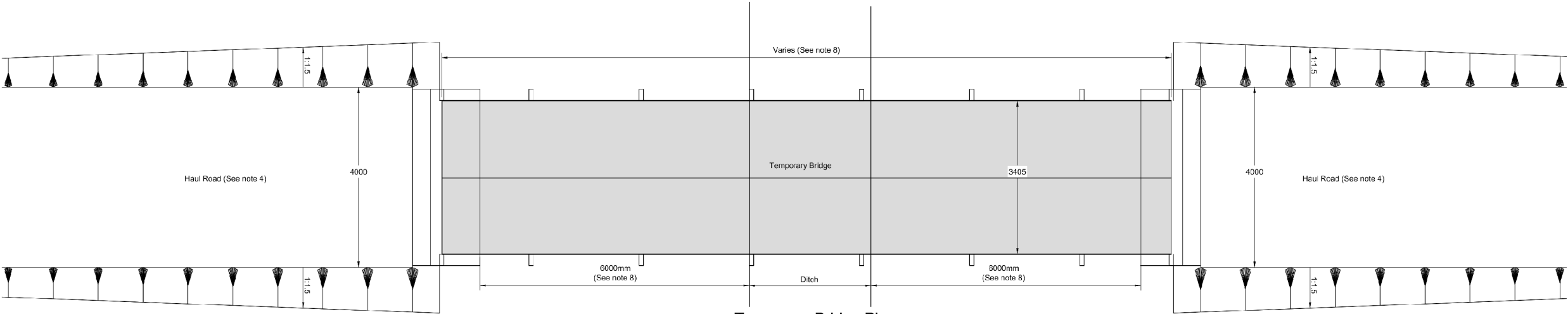
nationalgrid			
National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA			
NG INVESTMENT No.	APPLICATION No.		GIS
20897	EN020001		A3
FIGURE No.	DRAWING No.	SCALE	NTS
3.19.2	G1979.2410.2A		
SHEET 2 of 4		ISSUE	
		A	



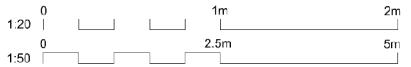
Cross-section - Section A-A  
1:20




Temporary Bridge - Long Section  
1:50

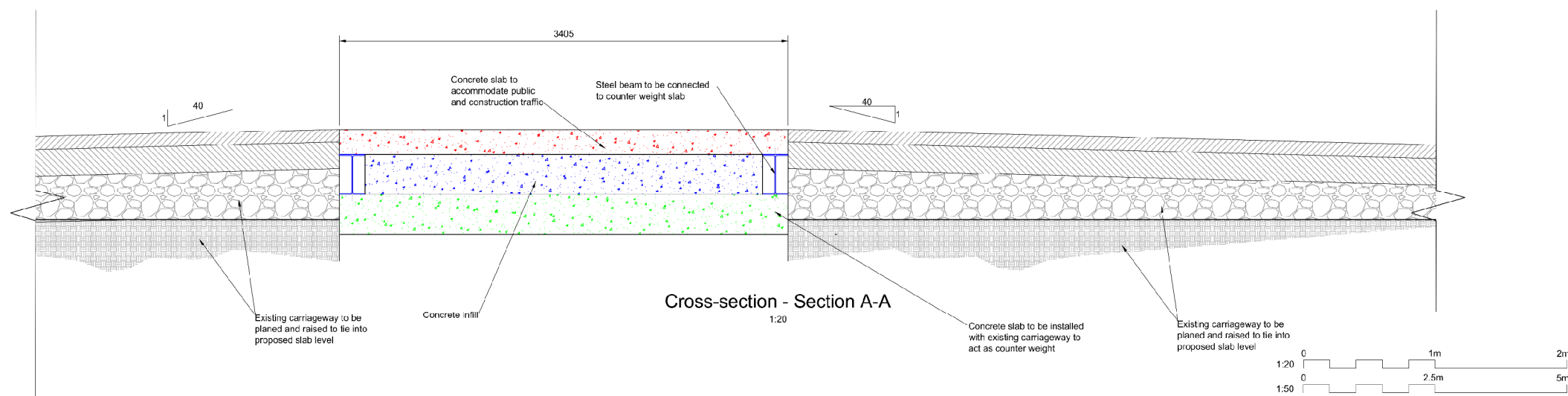
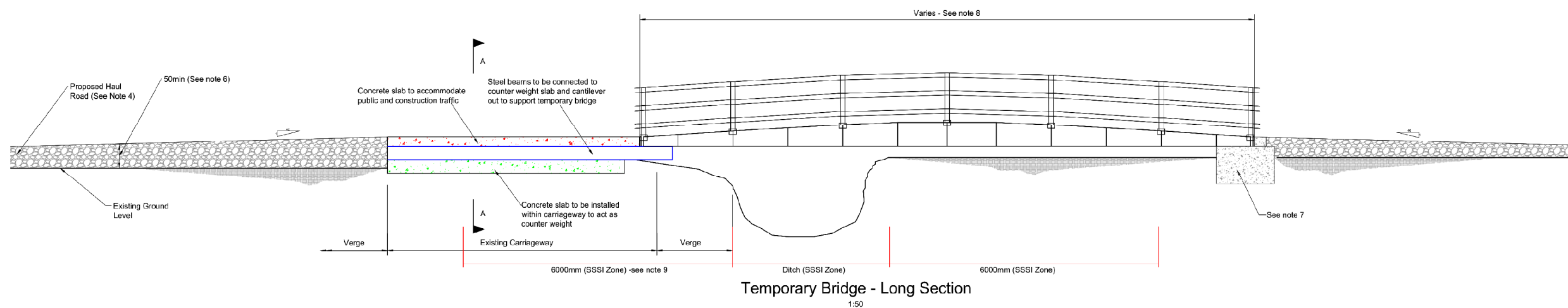
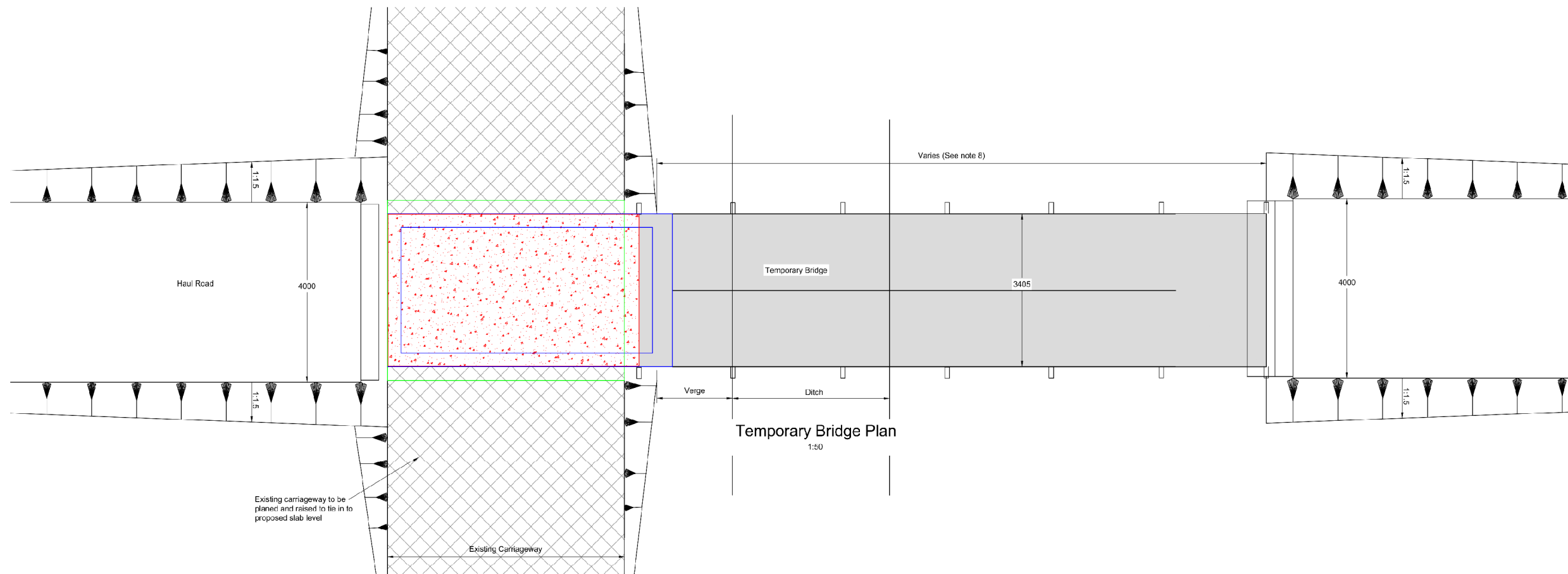


Temporary Bridge Plan  
1:50



- Notes**
1. All dimensions are in millimetres unless otherwise stated.
  2. Do not scale any items of information from this drawing.
  3. SHW - specification for highways
  4. For proposal Haul Road construction details refer to drawing 13/NG/0222.
  5. Minimal of 150mm existing material to be removed prior to installation of Haul roads.
  6. Temporary Haul road shall be installed a minimal 50mm proud of the existing ground level.
  7. Foundations type and sizes are shown indicatively and will vary to suit ground conditions.
  8. Temporary Bridge will vary in length to ensure construction works are a minimum 6m offset from the top of ditch.

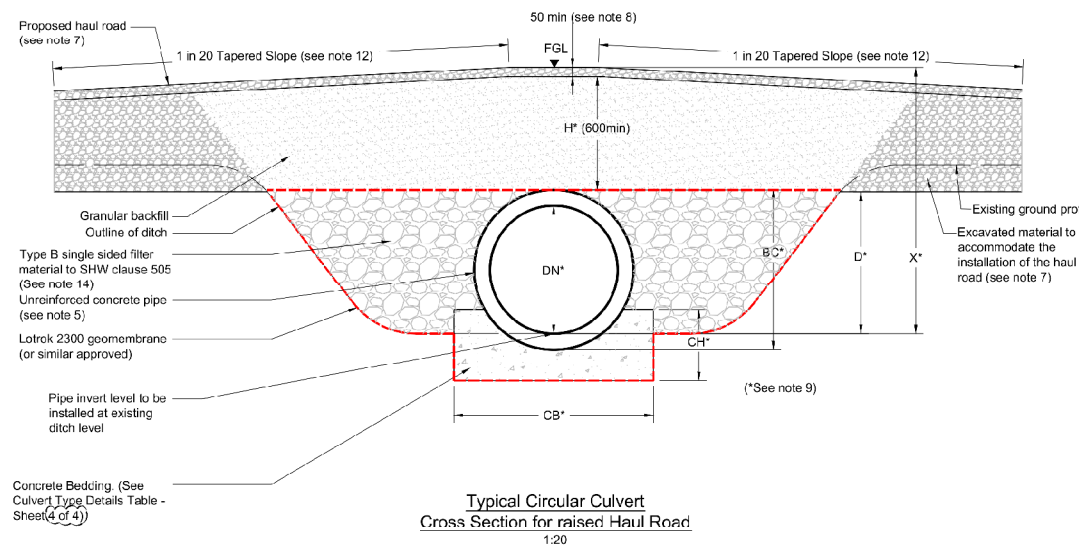
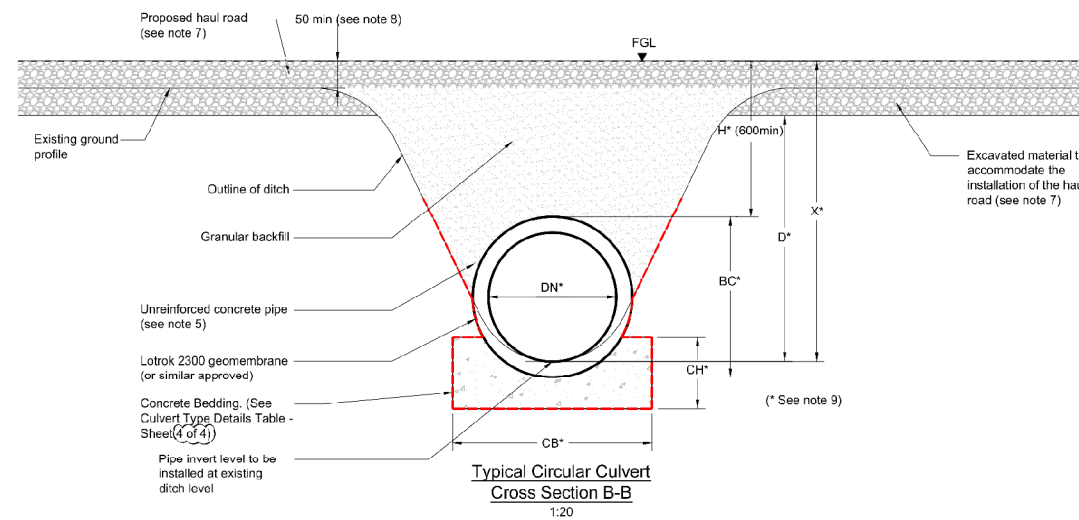
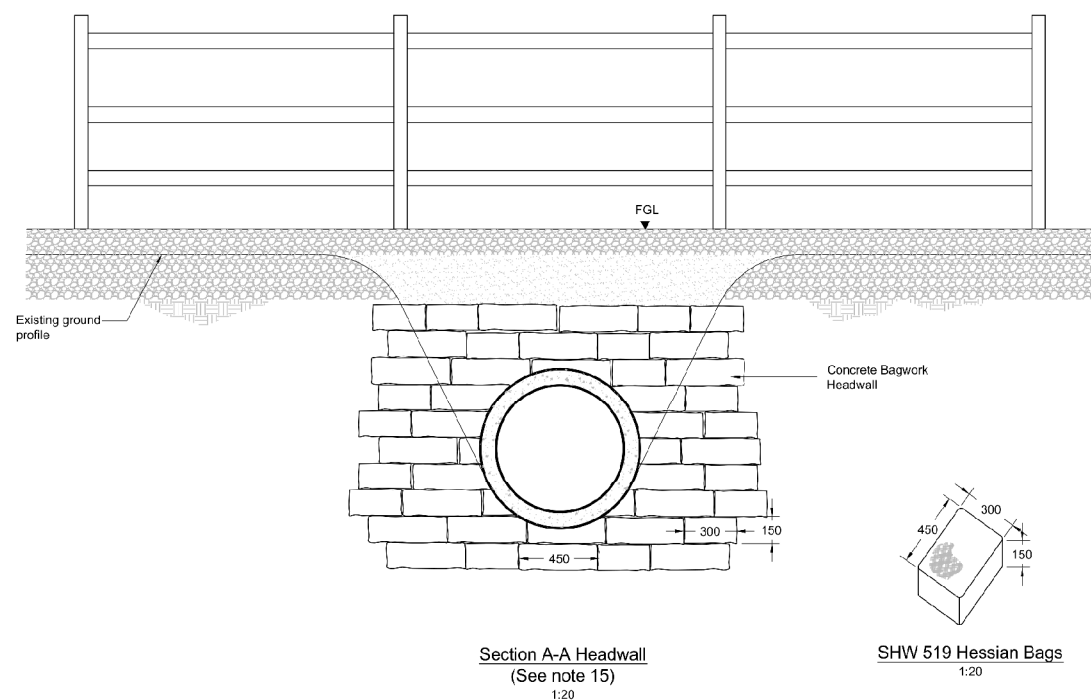
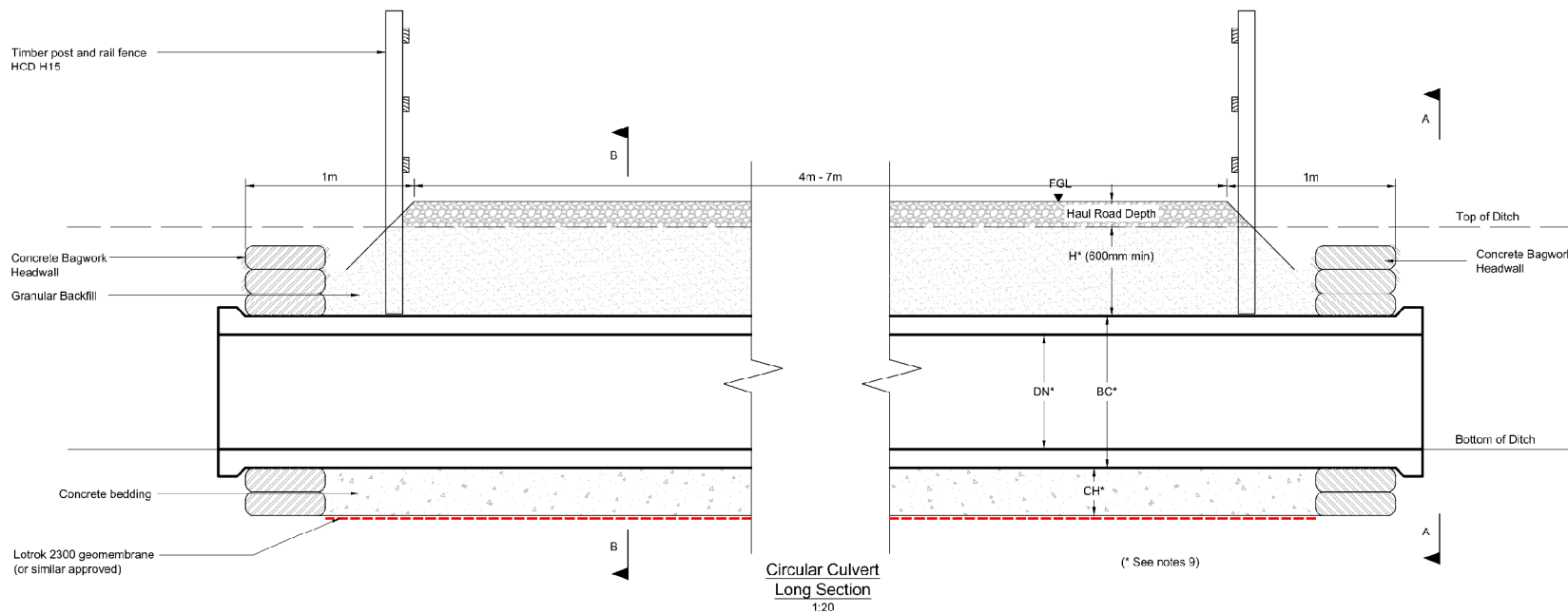
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ISSUE	DATE	COMMENTS	DRAW	CHK'D	APP'D
<b>Title</b> NATIONAL GRID (HINKLEY POINT C CONNECTION PROJECT) ENVIRONMENTAL STATEMENT VOLUME 5.3.3  TEMPORARY CONSTRUCTION ROAD AND BRIDGE DETAILS - TEMPORARY BRIDGE CONSTRUCTION DETAILS					
 <small>National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA</small>					
NG INVESTMENT No.	APPLICATION No.		<b>GIS</b>		
20897	EN020001		<b>A3</b>		
FIGURE No.	DRAWING No.		<b>SCALE</b>		
3.19.3	G1979.2410.3A		<b>NTS</b>		
SHEET 3 of 4					<b>ISSUE</b> <b>A</b>



<b>NOTE:</b> Original Drawing Number - MMD-322069-C-DR-GEN-XX-0006					
A	03/04/2014	DCO SUBMISSION	CB	BC	BC
ISSUE	DATE	COMMENTS	DRAW	CHK'D	APP'D
Title NATIONAL GRID (HINKLEY POINT C CONNECTION PROJECT) ENVIRONMENTAL STATEMENT VOLUME 5.3.3					
TEMPORARY CONSTRUCTION ROAD AND BRIDGE DETAILS - TEMPORARY BRIDGE CONSTRUCTION DETAILS					
nationalgrid <small>National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA</small>					
NG INVESTMENT No.	APPLICATION No.	GIS			
20897	EN020001	A3			
FIGURE No.	DRAWING No.	SCALE			
3.19.4	G1979.2410.4A	NTS			
SHEET 4 of 4					ISSUE
					A

Figure 3.20 - Culvert Construction Details





- Notes**
- All dimensions in millimetres unless otherwise stated.
  - Do not scale any items of information from this drawing.
  - SHW - Specification for Highways
  - All concrete in accordance with BS 8500
  - Circular concrete culverts to comply with and tested to BS 5911:2010. Box concrete culvert to comply with XD3 exposure class and BS5400
  - Culvert crossing has been designed in accordance with BS 1295-1:1997 *Structural design of buried pipelines under various conditions of loading - Part 1: General & BS 9295:2010 Guide to the structural design of pipeline*. Maximum loading have been assume to be the maximum loading permitted on the Highways network as described in the aforementioned standards.
  - For Haul Road construction details refer to drawing 13/NG/0222
  - Temporary Haul road shall be installed a minimum 50mm proud of existing ground level.
  - For culvert type dimensions refer to drawing no. 13/NG/0221 Sheet 4 of 4.
  - Where necessary a layer of granular material to be laid to create a flat base
  - Circular and Box culverts have been designed to accommodate regular traffic/HB loading conditions.
  - Haul road gradient will not exceed 1:20 slope
  - Design has allowed for minimal settlement. Maintenance regime to be in place to monitor settlement and increase culvert cover when necessary, whilst also ensuring culvert are not blocked
  - Where ditch widths are significantly wider than the proposed culvert, ditch will be filled with Type B filter material
  - For crossings which are owned by an IDB, refer to drawing 13/NG/0221 (sheet 3 of 4) for culvert headwall design
  - Potential request for mammal routing may be required subject to consultation with stakeholder

**NOTE:**  
Original Drawing Number -

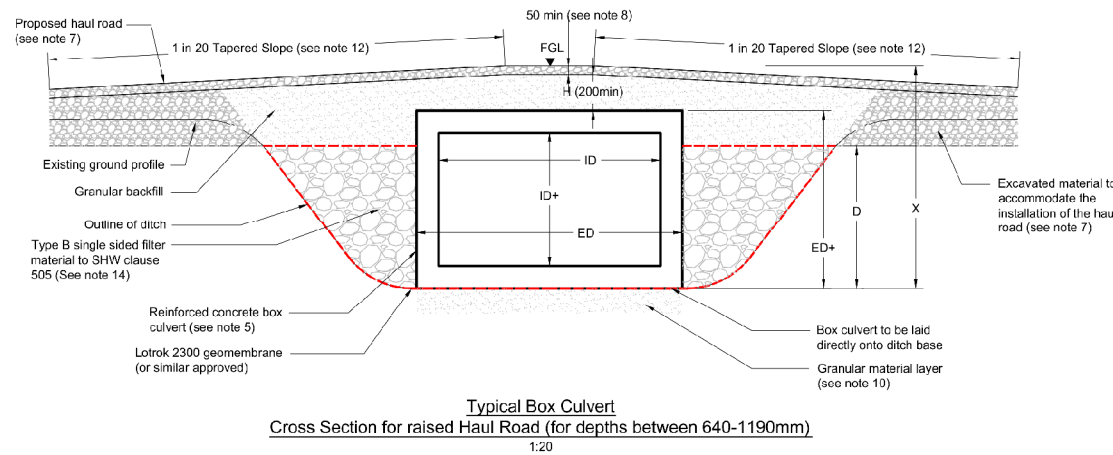
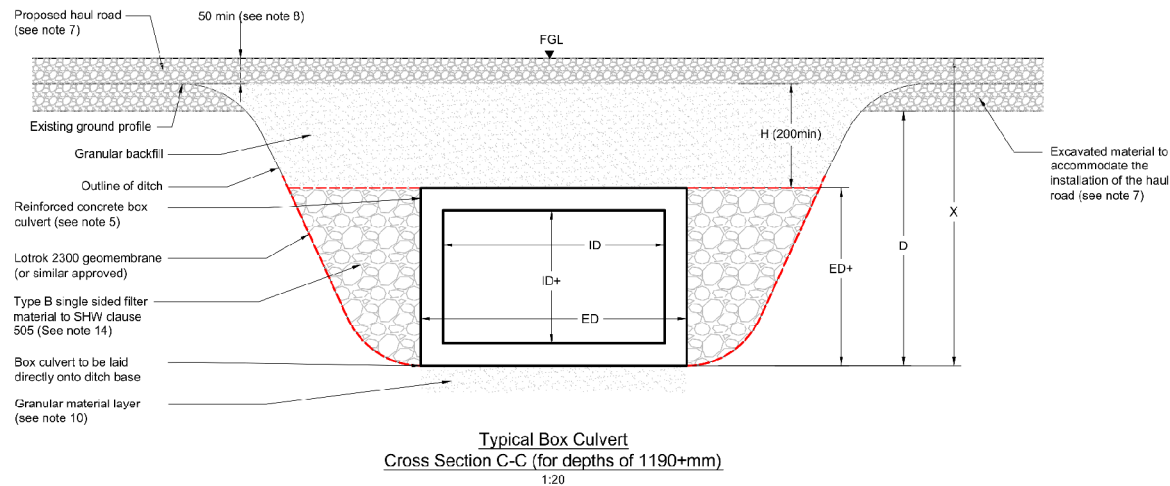
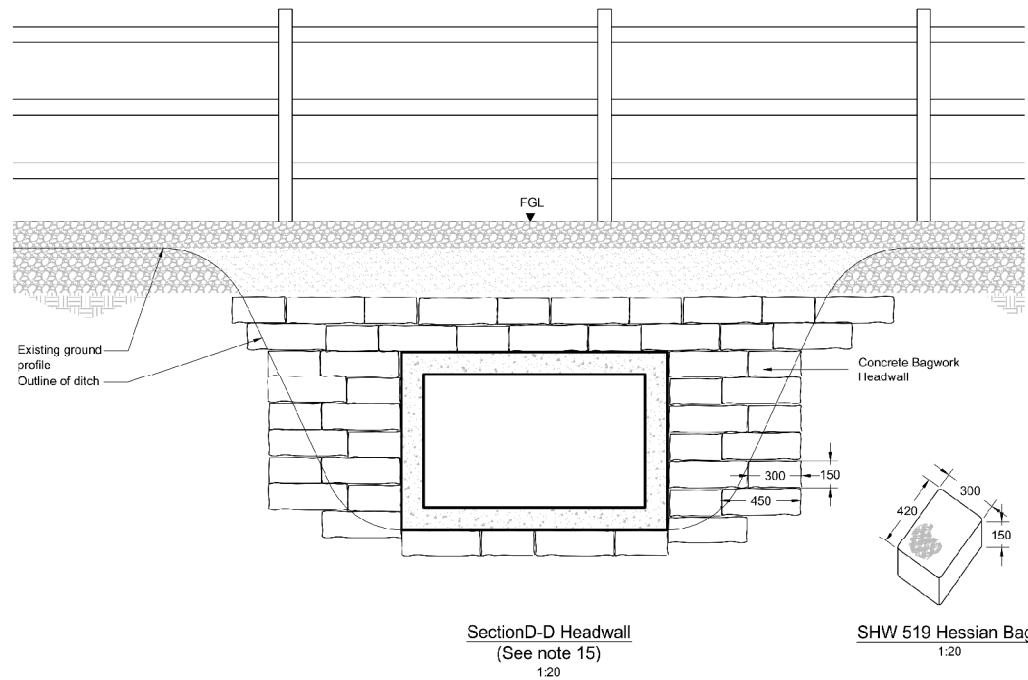
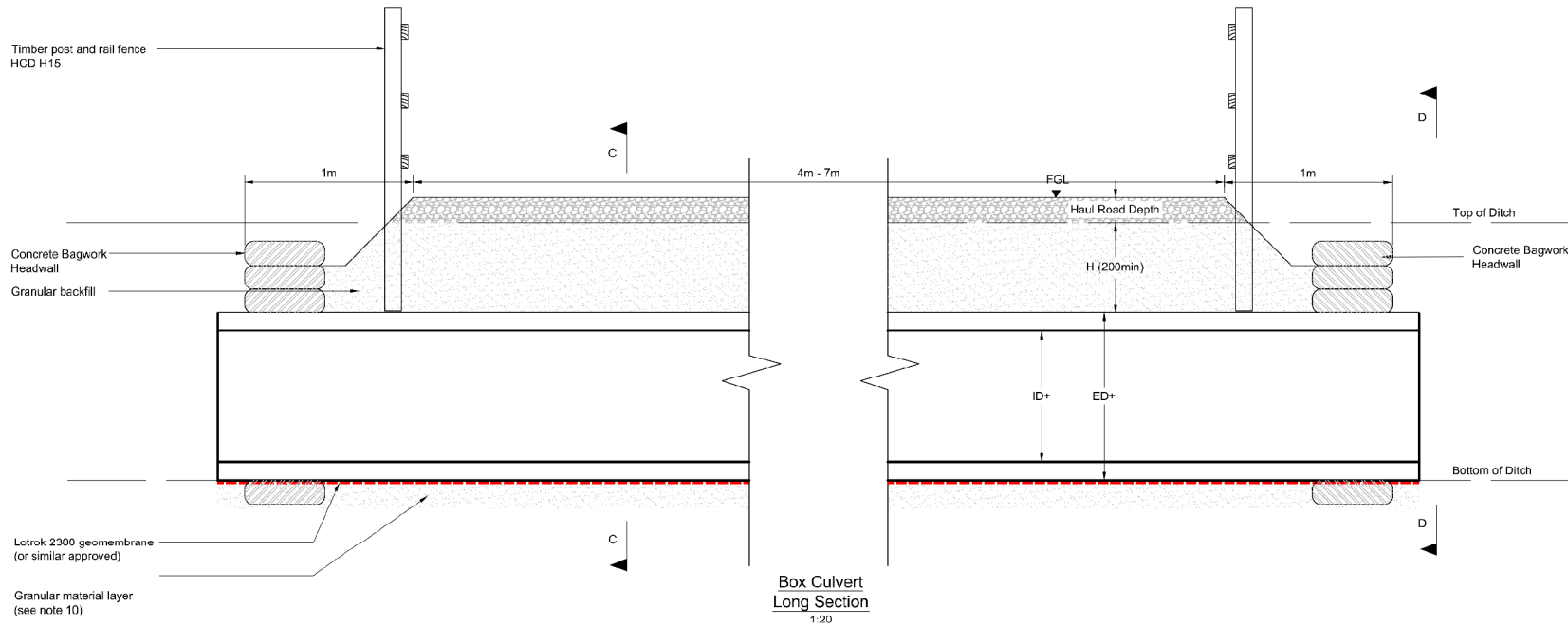
NG - 13/NG/0221  
MMD-322069-C-DR-GEN-XX-0002

ISSUE	DATE	COMMENTS	DRAW	CHK'D	APPD
A	02/04/2014	DCO SUBMISSION	CB	BC	BC

**Title**  
NATIONAL GRID (HINKLEY POINT C CONNECTION PROJECT)  
ENVIRONMENTAL STATEMENT  
VOLUME 5.3.3  
  
CULVERT CONSTRUCTION DETAILS -  
TEMPORARY CONSTRUCTION ACCESS  
CULVERT CONSTRUCTION DETAILS

nationalgrid		National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA	
NG INVESTMENT No.	APPLICATION No.	GIS	
20897	EN020001	A3	
FIGURE No.	DRAWING No.	SCALE	
3.20.1	G1979.2119.1C	NTS	
SHEET 1 of 4		ISSUE	
		A	





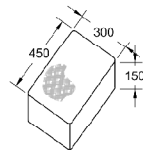
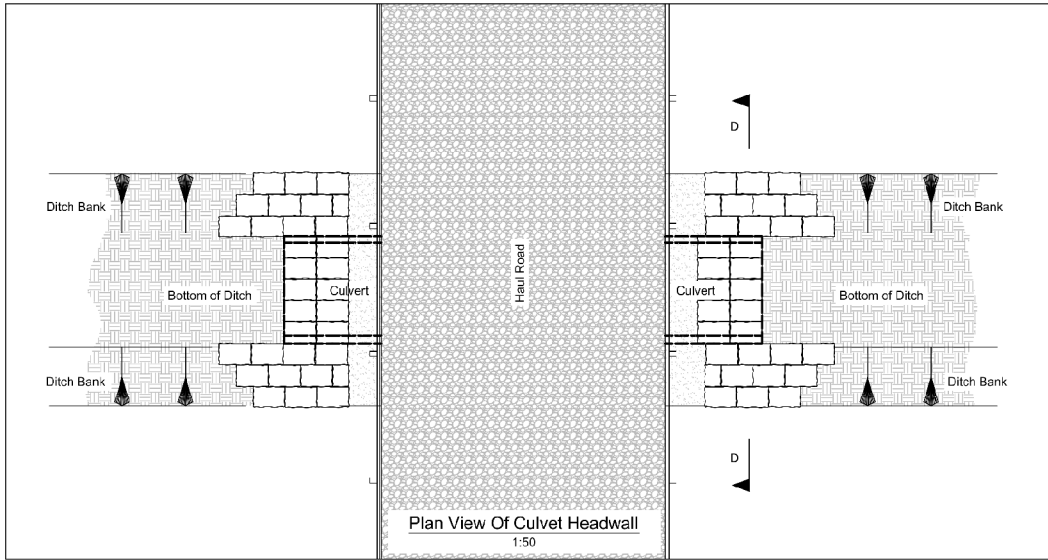
- Notes**
- All dimensions in millimetres unless otherwise stated.
  - Do not scale any items of information from this drawing.
  - SHW - Specification for Highways.
  - All concrete in accordance with BS 8500.
  - Circular concrete culverts to comply with and tested to BS 5911:2010. Box concrete culvert to comply with XD3 exposure class and BS5400.
  - Culvert crossing has been designed in accordance with BS 1295-1:1997 *Structural design of buried pipelines under various conditions of loading - Part 1: General & BS 9295:2010 Guide to the structural design of pipeline*. Maximum loading have been assume to be the maximum loading permitted on the Highways network as described in the aforementioned standards.
  - For Haul Road construction details refer to drawing 13/NG/0222.
  - Temporary Haul road shall be installed a minimum 50mm proud of existing ground level.
  - For culvert type dimensions refer to drawing no. 13/NG/0221 Sheet 4 of 4.
  - Where necessary a layer of granular material to be laid to create a flat base.
  - Circular and Box culverts have been designed to accommodate regular traffic/HB loading conditions.
  - Haul road gradient shall not exceed a 1:20 slope.
  - Design has allowed for minimal settlement. Maintenance regime to be in place to monitor settlement and increase culvert cover when necessary, whilst also ensuring culvert are not blocked.
  - Where ditch widths are significantly wider than the proposed culvert, ditch will be filled with Type B filter material.
  - For crossings which are owned by an IDB, refer to drawing 13/NG/0221 (sheet 3 of 4) for culvert headwall design.
  - Potential request for mammal routing may be required subject to consultation with stakeholder.

**NOTE:**  
Original Drawing Number -  
NG - 13/NG/0221  
MMD-322069-C-DR-GEN-XX-0008

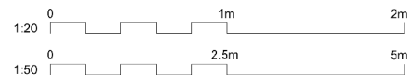
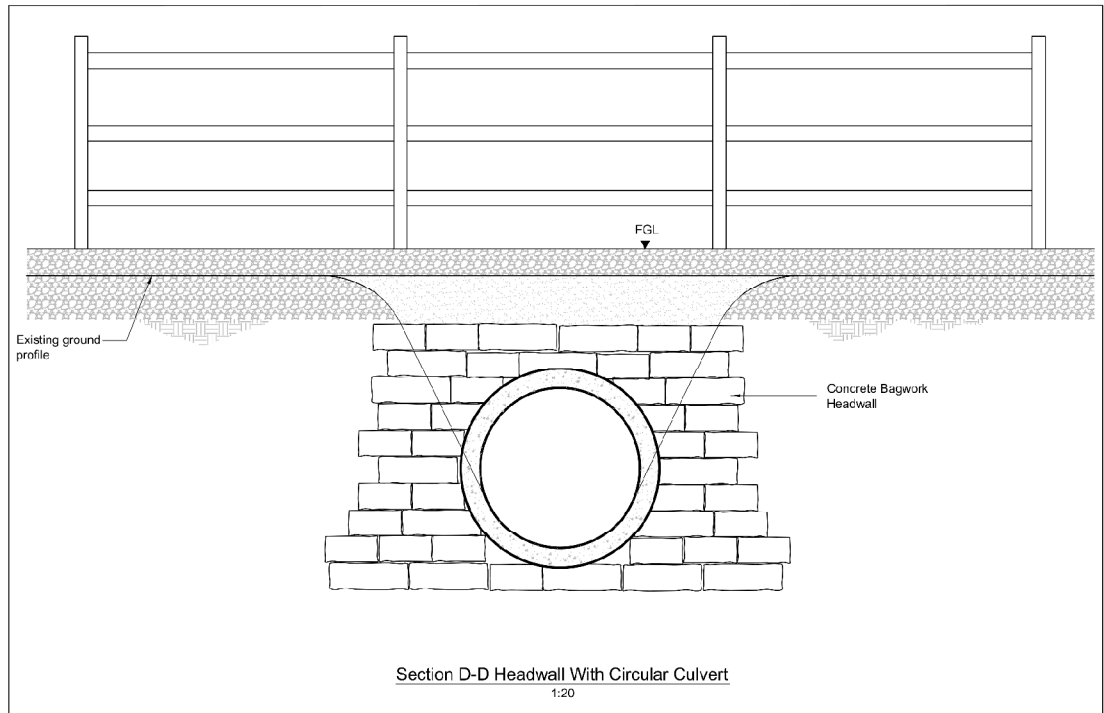
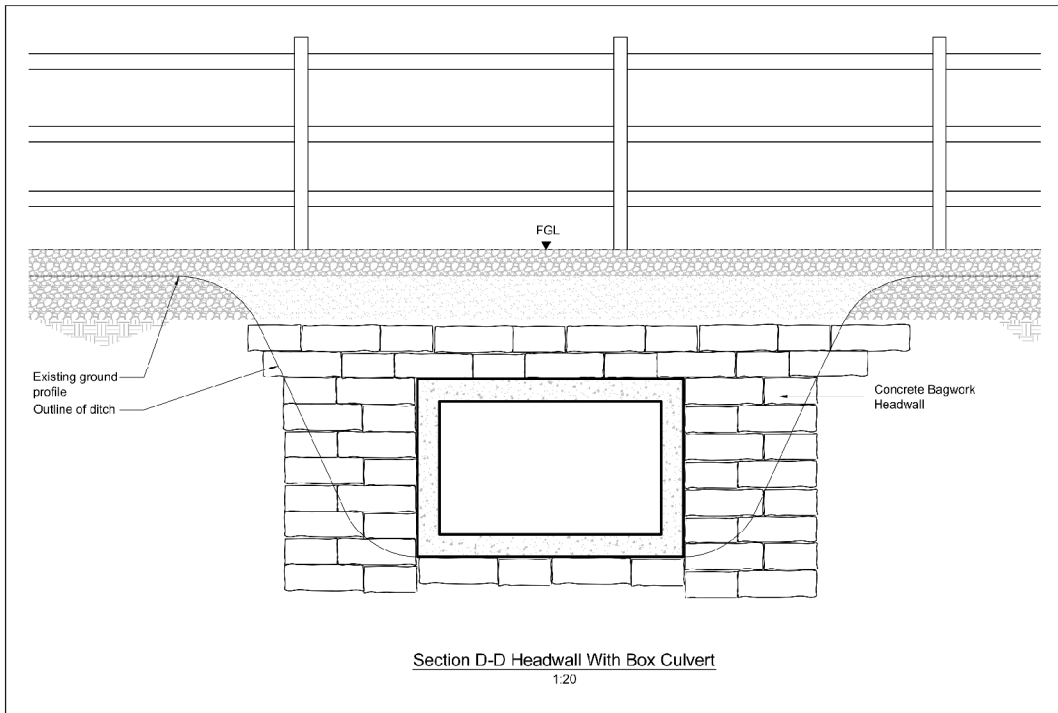
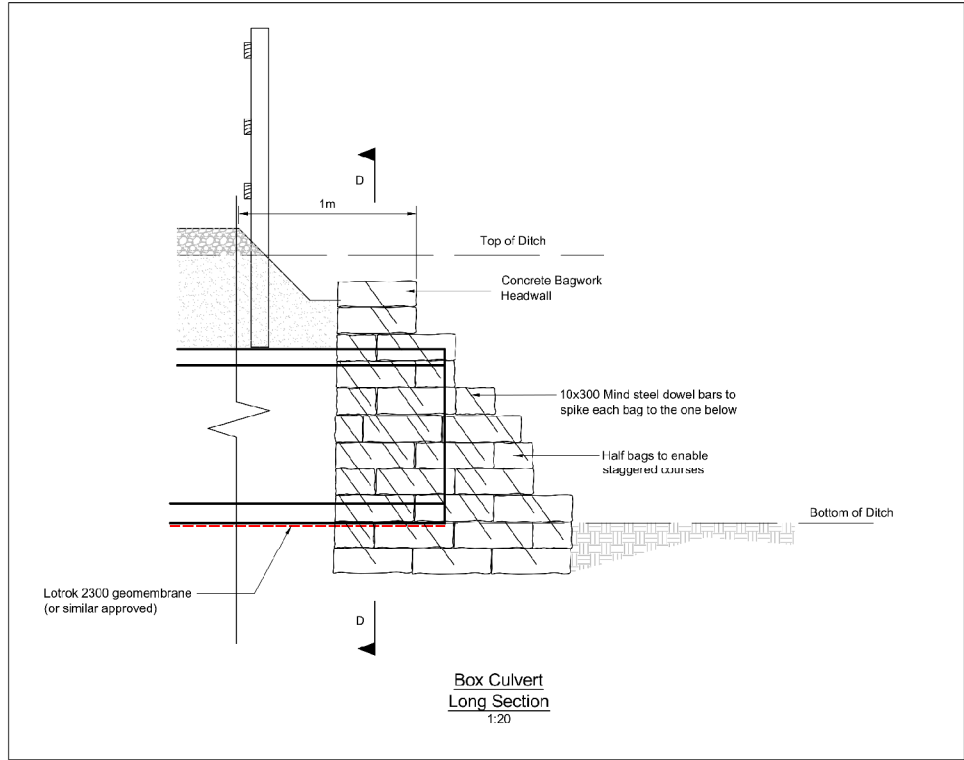
A	02/04/2014	DCO SUBMISSION	CB	BC	BC
ISSUE	DATE	COMMENTS	DRAW	CHK'D	APPD

**Title**  
NATIONAL GRID (HINKLEY POINT C CONNECTION PROJECT)  
ENVIRONMENTAL STATEMENT  
VOLUME 5.3.3  
  
CULVERT CONSTRUCTION DETAILS -  
TEMPORARY CONSTRUCTION ACCESS  
CULVERT CONSTRUCTION DETAILS

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NG INVESTMENT No.	APPLICATION No.		GIS		
20897	EN020001		A3		
FIGURE No.	DRAWING No.		SCALE		
3.20.2	G1979.2119.2C		NTS		
SHEET 2 of 4			ISSUE		
			A		



SHW 519 Hessian Bags  
1:20



- Notes**
1. All dimensions in millimetres unless otherwise stated.
  2. Do not scale any items of information from this drawing.
  3. SHW - Specification for Highways.
  4. All concrete in accordance with BS 8500
  5. For Haul Road construction details refer to drawing 13/NG/0222.
  6. Design has allowed for minimal settlement. Maintenance regime to be in place to monitor settlement and increase culvert cover when necessary, whilst also ensuring culvert are not blocked.
  7. This headwall design only to be used when the ditch is owned by an IDB.
  8. Drawing to be read in conjunction with drawings: 13/NG/0221 (Sheet 1 of 4) 13/NG/0221 (Sheet 2 of 4) 13/NG/0221 (Sheet 4 of 4)

**NOTE:**  
Original Drawing Number -  
NG - 13/NG/0221  
MMD-322069-C-DR-GEN-XX-0009

A	02/04/2014	DCO SUBMISSION	CB	BC	BC
ISSUE	DATE	COMMENTS	DRAW	CHK'D	APP'D

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ENVIRONMENTAL STATEMENT  
VOLUME 5.3.3  
  
CULVERT CONSTRUCTION DETAILS -  
TEMPORARY CONSTRUCTION ACCESS  
CULVERT CONSTRUCTION DETAILS  
IDB DITCH HEADWALL DESIGN

**nationalgrid**  
National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA

NG INVESTMENT No.	APPLICATION No.	GIS <b>A3</b>
20897	EN020001	
FIGURE No.	DRAWING No.	SCALE
3.20.3	G1979.2119.3C	NTS
SHEET 3 of 4		ISSUE <b>A</b>

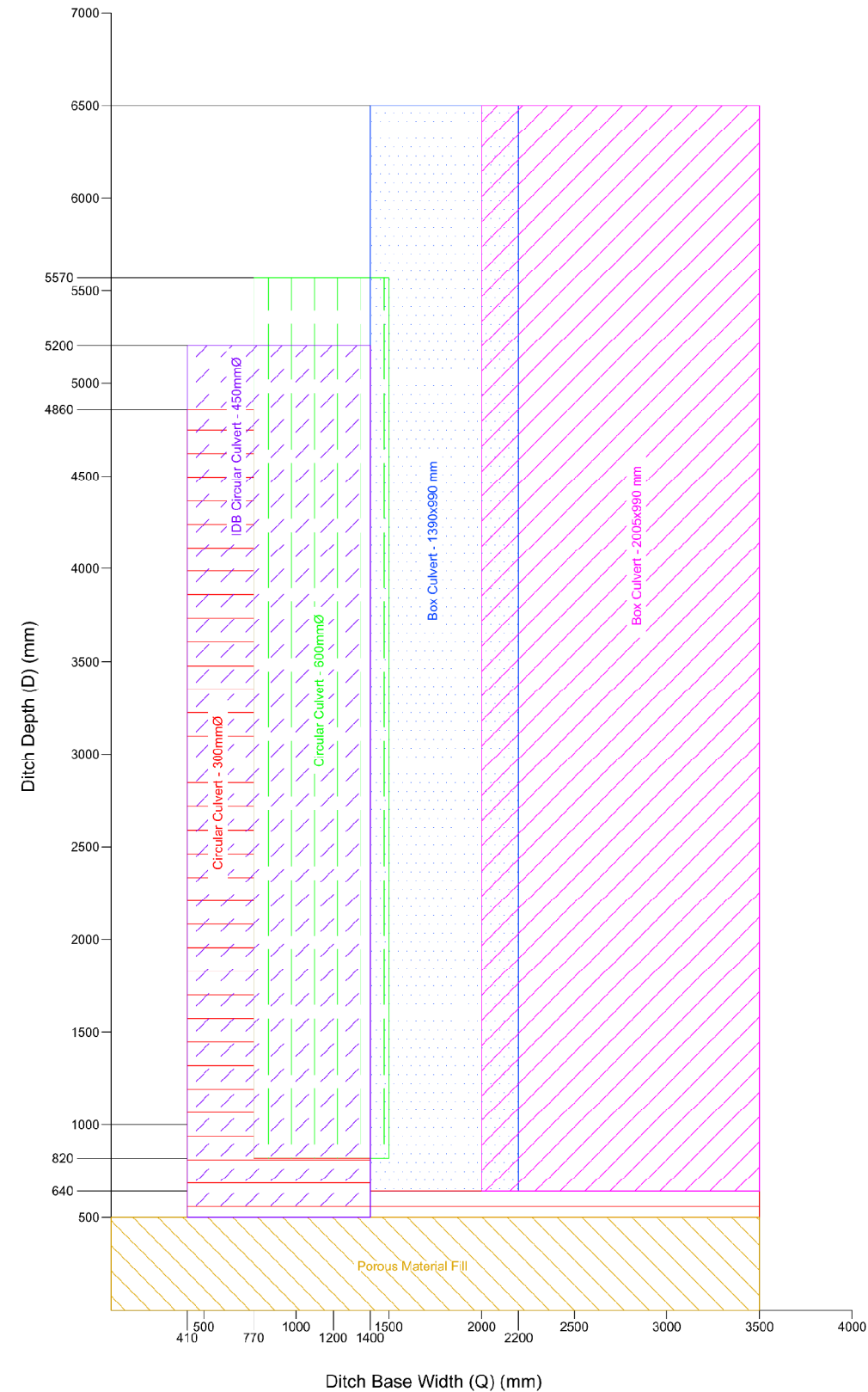
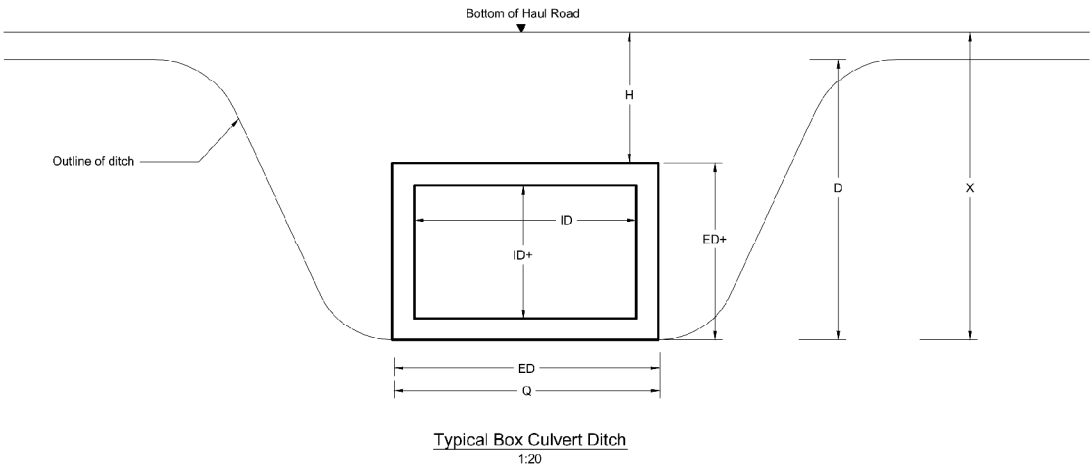
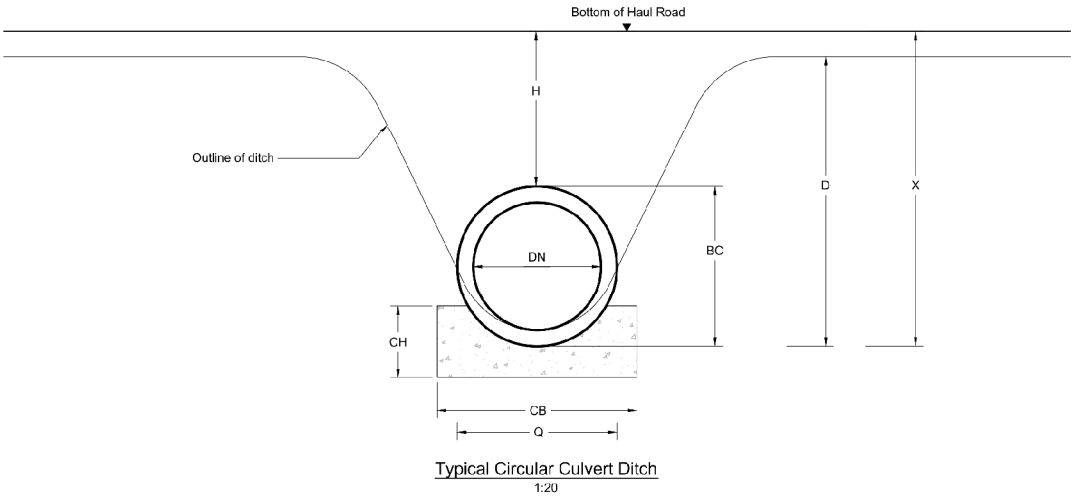


Figure 1

Box Culvert Type Details Table (See note 9)								
Internal Dimensions (ID x ID+) (mm)	External Dimensions (ED x ED+) (mm)	Cover (H) (mm)		Depth between Bottom of Ditch and Haul Road (mm) (see note 6)		Depth of Ditch (D) (mm) (see note 6)		Width of ditch Base (Q) (mm)
		Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	
1000 x 600	1390 x 990	200	20000	600	20050	640	18000	1400 - 2200
1500 x 600	2005 x 990	200	20000	600	20050	640	18000	2000 - 3500

Circular Culvert Type Details Table (See note 9)									
Nominal Pipe Diameter (DN) (mm)	Outside Diameter of Pipe (BC) (mm)	Cover (H) (mm)		Depth between Bottom of Ditch and Haul Road (mm) (X) (mm)		Depth of Ditch (D) (mm) (see note 6)		Width of Ditch Base (Q) (mm)	Concrete Bedding (CH x CB) (mm)
		Minimum	Maximum	Minimum	Maximum	Minimum	Maximum		
300	410	600	4450	1060	4910	460	4880	410 - 3500	610 x 177.5
450 (IDB)	575	600	4625	1060	5250	460	5200	410-770	775 x 256.25
600	770	600	4800	1420	5620	820	5570	770 - 1500	970 x 342.5



0 1m 2m  
1:20

- Notes**
- All dimensions in millimetres unless otherwise stated.
  - Do not scale any items of information from this drawing.
  - SHW - Specification for Highways
  - All concrete in accordance with BS 8500
  - Circular concrete culverts to comply with and tested to BS 5911:2010. Box concrete culverts comply with XD3 exposure class and BS5400
  - Culvert crossing has been designed in accordance with BS 1295-1:1997 *Structural design of buried pipelines under various conditions of loading - Part 1: General & BS 9295:2010 Guide to the structural design of pipeline*. Maximum loading have been assume to be the maximum loading permitted on the Highways network as described in the aforementioned standards.
  - For Haul Road construction details refer to drawing 13/NG/0222
  - Refer to drawing no. 13/NG/0221 sheets 1 of 4, 2 of 4 and 3 of 4 for proposed culvert details.
  - Both circular and box culverts have been chosen for this design. Refer to Figure 1 on drawing 13/NG0221 Sheet 4 of 4 to identify culvert type required.
  - Any ditch with a top width greater than, or equal to, 5m or base width greater than, or equal to, 3.5m, will be bridged
  - Any ditch with a depth of less than 500mm will be filled with Type B single graded filter material to SHW clause 505
  - Drawing to be read in conjunction with drawing 13/NG/0221 Sheets 1 of 4, 2 of 4 and 3 of 4
  - Design has allowed for minimal settlement. Maintenance regime to be in place to monitor settlement and increase culvert cover when necessary whilst also ensuring culverts are not blocked.
  - The 450mm circular culvert is only to be used on IDB owned ditches.

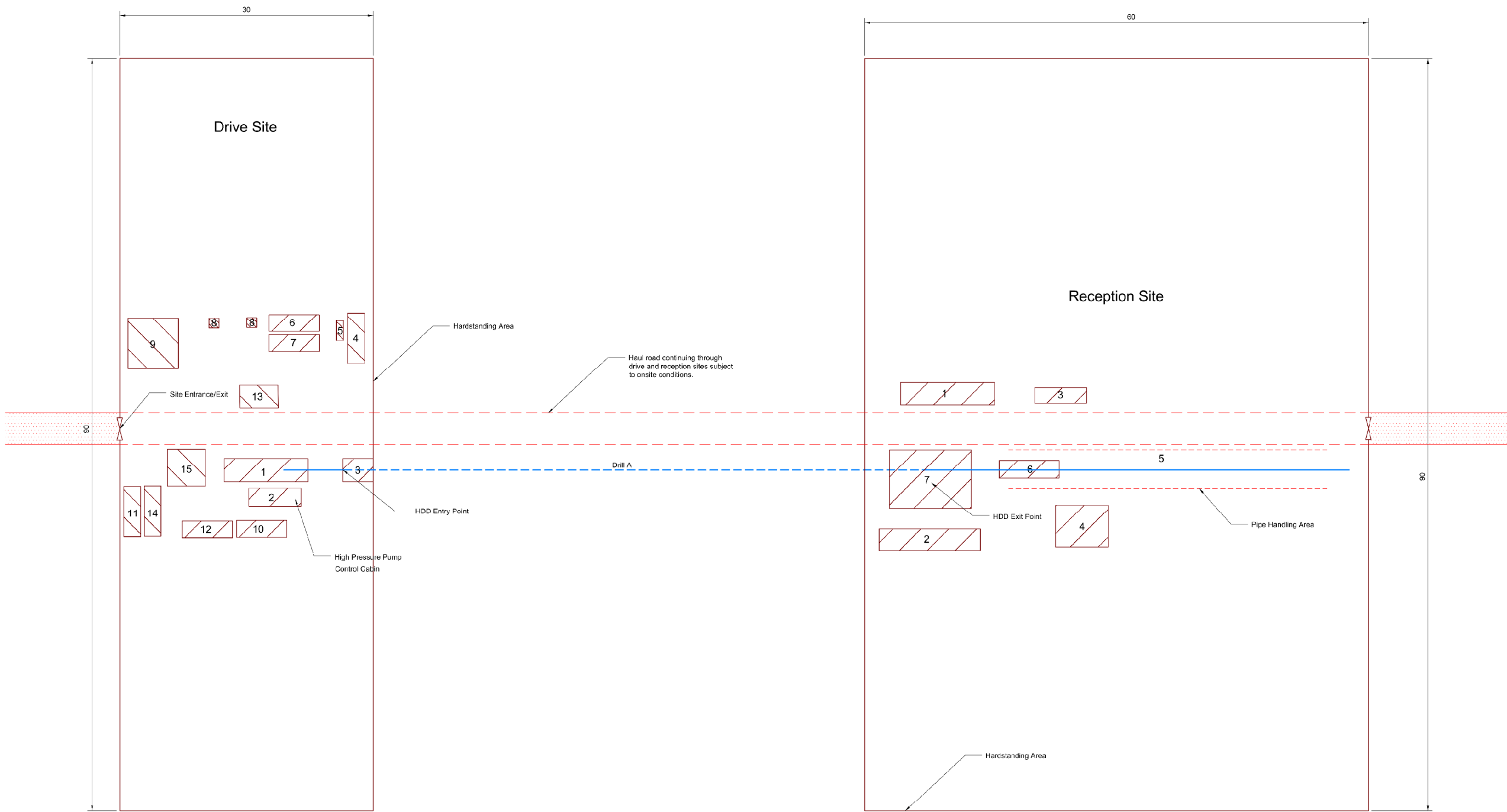
**NOTE:**  
Original Drawing Number -  
NG - 13/NG/0221  
MMD-322069-C-DR-GEN-XX-0003

ISSUE	DATE	COMMENTS	DRAW	CHK'D	APP'D
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ENVIRONMENTAL STATEMENT  
VOLUME 5.3.3  
  
CULVERT CONSTRUCTION DETAILS -  
TEMPORARY CONSTRUCTION ACCESS

<div><div></div><div><div>nationalgrid</div><div>National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA</div></div></div>					
<b>NG INVESTMENT No.</b>		<b>APPLICATION No.</b>		<b>GIS</b>	
20897		EN020001		<b>A3</b>	
<b>FIGURE No.</b>		<b>DRAWING No.</b>		<b>SCALE</b>	
3.20.4		G1979.2119.4C		NTS	
SHEET 4 of 4				<b>ISSUE</b>	
				<b>A</b>	

Figure 3.21 - Typical 400/132kV Horizontal Directional Drilling Reception and Drive Site



Drive Site Layout

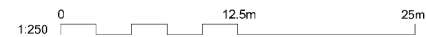
1. Drilling
2. Flatbed Container
3. Mud Pit
4. Pump
5. High Pressure Pump
6. Recycling Unit
7. Cuttings
8. Generator
9. Bentonite Storage
10. Pipes Storage
11. Store
12. Skip
13. Holding Tank
14. Workshop
15. Slurry Mixing Tank

Reception Site Layout

1. Cuttings Settlement Pit
2. Drill Pipe
3. Spares Storage
4. Construction Equipment
5. Product Pipeline
6. Pipeline Rollers
7. Exit Point Slurry Containment Pit

Plan View of HDD Typical Arrangement

1:250



**Key**

Haul Road

Proposed Alignment of HDD Underground Cable

- Notes**
1. All dimensions in metres unless otherwise stated.
  2. Do not scale any items of information from this drawing.
  3. Arrangements shown for indicative purposes only. Design and dimensions may vary subject to onsite and installation conditions.
  4. Based on NGTS 2.5 installation conditions and cable rating requirements.
  5. Proposed reception and drive sites to install 12 pipes for 400kV cables and 4 pipes for Pilot Cable and Cable & Wireless.

**NOTE:**  
Original Drawing Number -  
NG - 13/NG/0238  
MMD-322069-E-DR-400UG-XX-1000

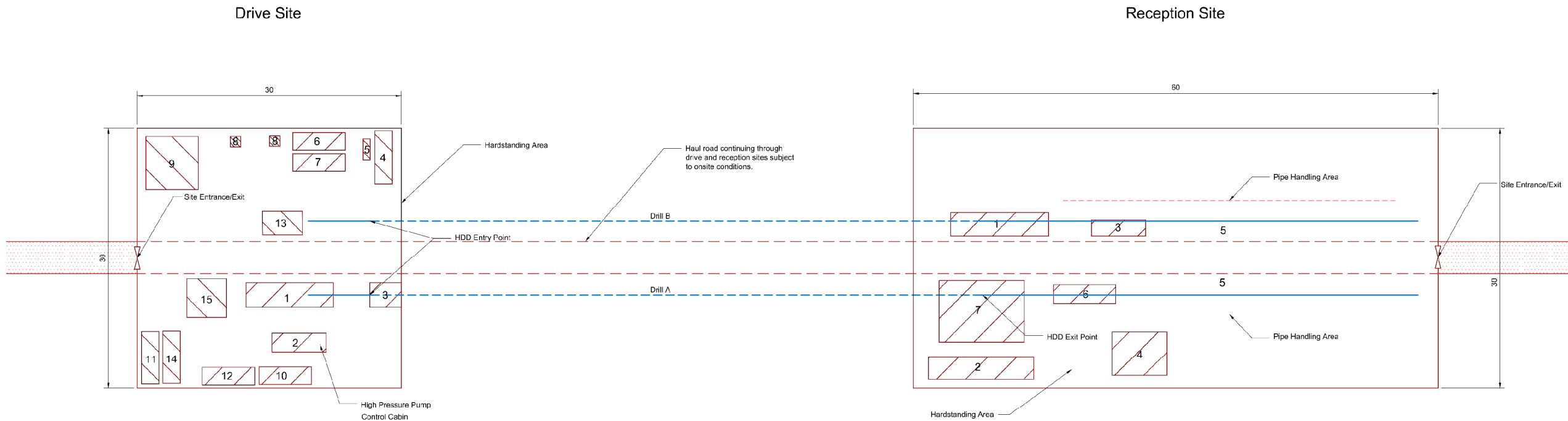
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ISSUE	DATE	COMMENTS	DRAW	CHK'D	APP'D

**Title** NATIONAL GRID (HINKLEY POINT C CONNECTION PROJECT)  
ENVIRONMENTAL STATEMENT  
VOLUME 5.3.3

TYPICAL HORIZONTAL DIRECTIONAL DRILLING  
RECEPTION AND DRIVE SITE -  
400kV GENERAL ARRANGEMENT -  
EQUIPMENT AND VEHICLES AT BOTH  
RECEPTION AND DRIVING AREA

 <small>National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA</small>			
NG INVESTMENT No.	APPLICATION No.	GIS	
20897	EN020001	A3	
FIGURE No.	DRAWING No.	SCALE	
3.21.1	G1979.2120.1C	NTS	
SHEET 1 of 2			ISSUE
			A





Plan View of HDD General Arrangement  
1:250

**Key**

- Haul Road
- Proposed Alignment of HDD Underground Cable

- Notes**
- All dimensions in metres unless otherwise stated.
  - Do not scale any items of information from this drawing.
  - Arrangements shown for indicative purposes only. Design and dimensions may vary subject to onsite and installation conditions.

**NOTE:**  
Original Drawing Number -  
NG - 13/NG/0249  
MMD-322069-E-DR-WPD-XX-1000

A	02/04/2014	DCO SUBMISSION	CB	BC	BC
ISSUE	DATE	COMMENTS	DRAW	CHK'D	APPD

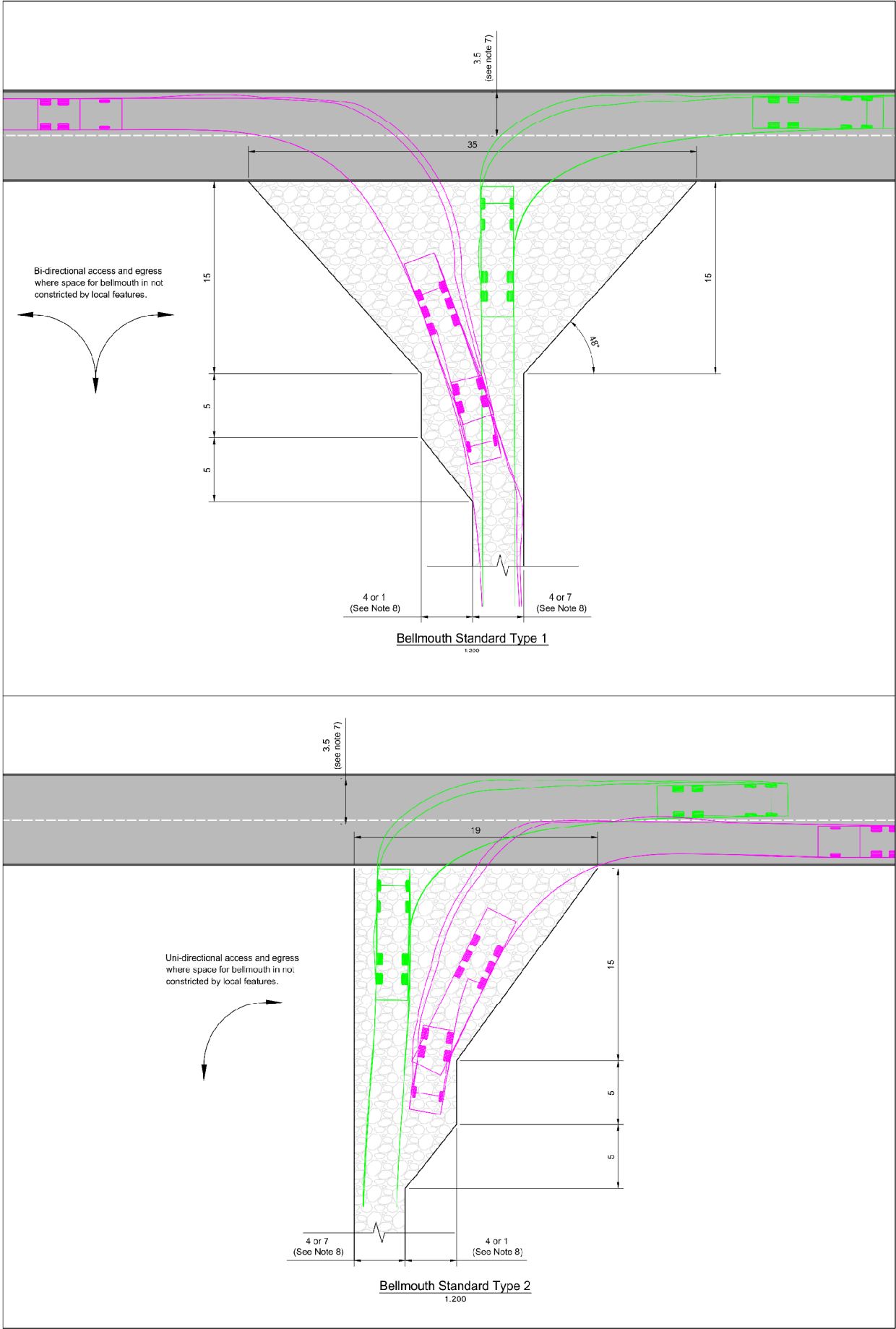
**Title** NATIONAL GRID (HINKLEY POINT C CONNECTION PROJECT)  
ENVIRONMENTAL STATEMENT  
VOLUME 5.3.3

TYPICAL HORIZONTAL DIRECTIONAL DRILLING  
RECEPTION AND DRIVE SITE -  
132kV GENERAL ARRANGEMENT -  
EQUIPMENT AND VEHICLES AT BOTH  
RECEPTION AND DRIVING AREA

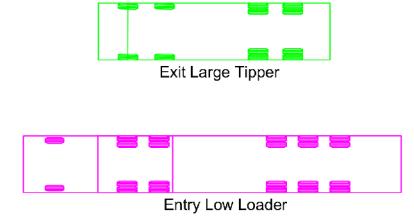
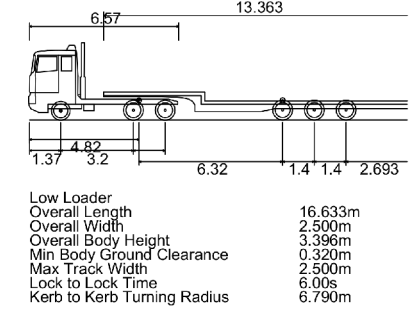
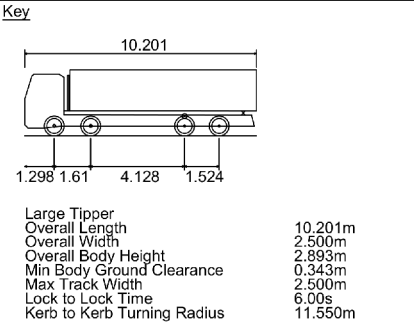
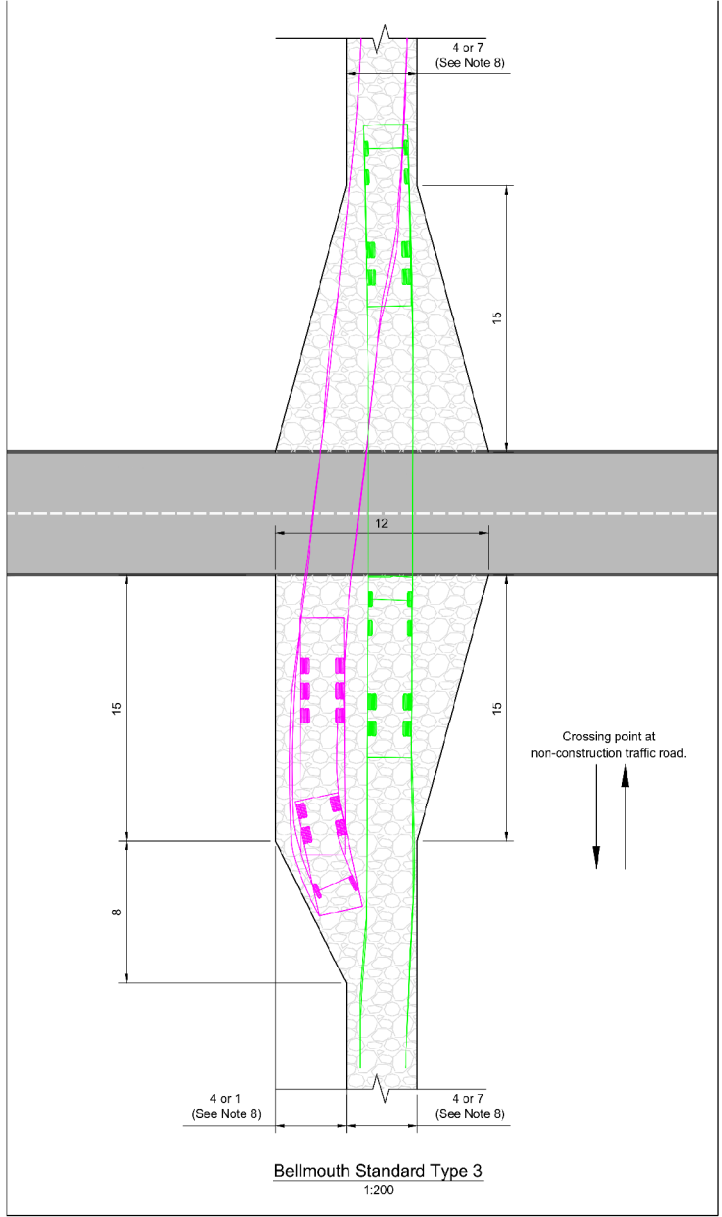
<b>nationalgrid</b> <small>National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA</small>					
NG INVESTMENT No.	APPLICATION No.	GIS			
20897	EN020001	A3			
FIGURE No.	DRAWING No.	SCALE			
3.21.2	G1979.2120.2C	NTS			
SHEET 2 of 2					ISSUE
					A



Figure 3.22 - Typical Bellmouth Arrangements



**NOTE:**  
Original Drawing Number -  
NG - 13/NG/0220  
MMD-322069-E-DR-GEN-XX-0001  
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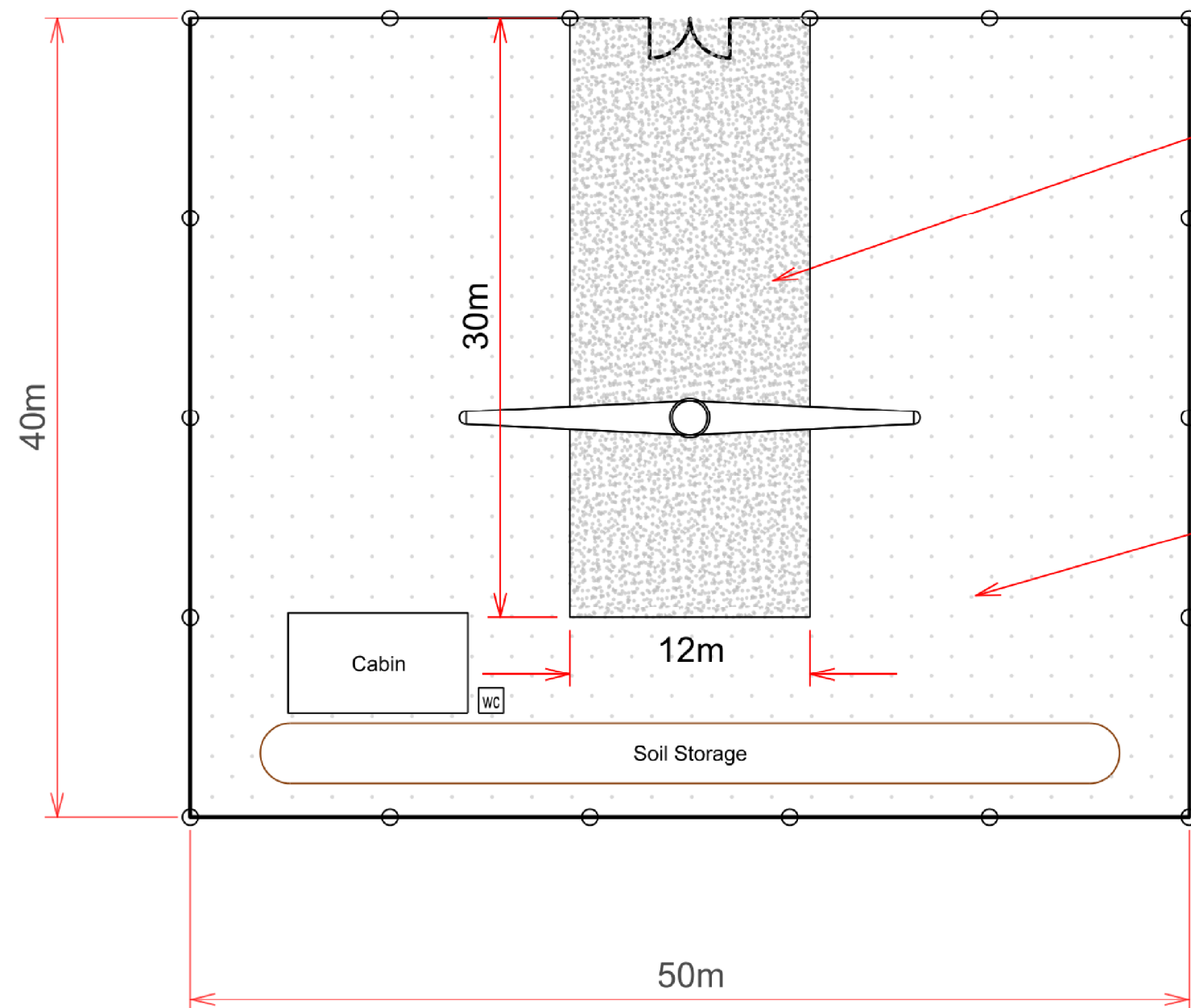
- Notes**
- All dimensions in metres unless otherwise stated.
  - Do not scale any items of information from this drawing.
  - SHW - Specification for Highways
  - Bellmouth design has been based on DMRB 41/95.
  - Bellmouth sizes have been designed as such to allow construction vehicles to park within the bellmouth, minimising the impact on the public traffic.
  - The following construction vehicles have been considered to determine the size of the bellmouth:
    - 20t - 40t capacity 8 wheeled tipper truck
    - 40ft Low LoaderShould larger vehicles be required, bellmouth size may change.
  - A minimum 3.5m road width required to allow access/egress without crossing over into adjacent carriageway or verge.
  - Bellmouth and haul road connection dimensions vary depending on haul road use (underground cables or overhead lines).

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**Title**  
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ENVIRONMENTAL STATEMENT  
VOLUME 5.3.3  
TYPICAL BELL MOUTH ARRANGEMENTS

nationalgrid National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA					
NG INVESTMENT No.	APPLICATION No.	GIS			
20897	EN020001	A3			
FIGURE No.	DRAWING No.	SCALE			
3.22	G1979.2121.1C	NTS			
SHEET 1 of 1					ISSUE
					A

Figure 3.23 - Typical Pylon Working Area



Designed  
Crane/Piling Pad  
circa 500mm Type1/Stone

Stone 200mm

A	03/04/2014	DCO SUBMISSION	CB	BC	BC
ISSUE	DATE	COMMENTS	DRAW	CHK'D	APP'D
Title					
NATIONAL GRID (HINKLEY POINT C CONNECTION PROJECT) ENVIRONMENTAL STATEMENT VOLUME 5.3.3					
TYPICAL PYLON WORKING AREA					
nationalgrid					
National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA					
NG INVESTMENT No.	APPLICATION No.		GIS		
20897	EN020001		A3		
FIGURE No.	DRAWING No.		SCALE		
3.23	G1979.2122.1C		NTS		
SHEET 1 of 1					ISSUE
					A

Figure 3.24 - Pylon Foundations

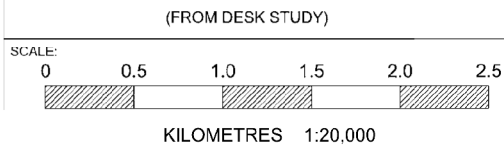


NATIONAL GRID (HINKLEY POINT C CONNECTION PROJECT)  
ENVIRONMENTAL STATEMENT  
VOLUME 5.3.3

PYLON FOUNDATIONS  
400kV PYLONS - INDICATIVE FOUNDATION TYPES PLAN

LEGEND

- MINI-PILED FOUNDATION
- STEEL TUBE PILED FOUNDATION
- STEEL TUBE PILED OR CONTINUOUS FLIGHT AUGER (CFA)



**NOTE:**  
Original Drawing Number -  
NG - 03\_13205\_25 - SHEET 1 OF 3

A	03/04/2014	DCO SUBMISSION	CB	BC	BC
ISSUE	DATE	COMMENTS	DRAW	CHKD	APP'D

Title NATIONAL GRID (HINKLEY POINT C CONNECTION PROJECT) ENVIRONMENTAL STATEMENT VOLUME 5.3.3					
PYLON FOUNDATIONS - 400kV PYLONS - INDICATIVE FOUNDATION TYPES PLAN					
nationalgrid <small>National Grid plc, Warwick Technology Park, Galsbrooke Hill, Warwick, CV34 6DA</small>					
NG INVESTMENT No. 20897	APPLICATION No. EN020001			GIS A3	
FIGURE No. 3.24.1	DRAWING No. G1979.2123.1C			SCALE NTS	
SHEET 1 OF 9				ISSUE A	



NATIONAL GRID (HINKLEY POINT C CONNECTION PROJECT)  
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VOLUME 5.3.3

PYLON FOUNDATIONS  
400kV PYLONS - INDICATIVE FOUNDATION TYPES PLAN



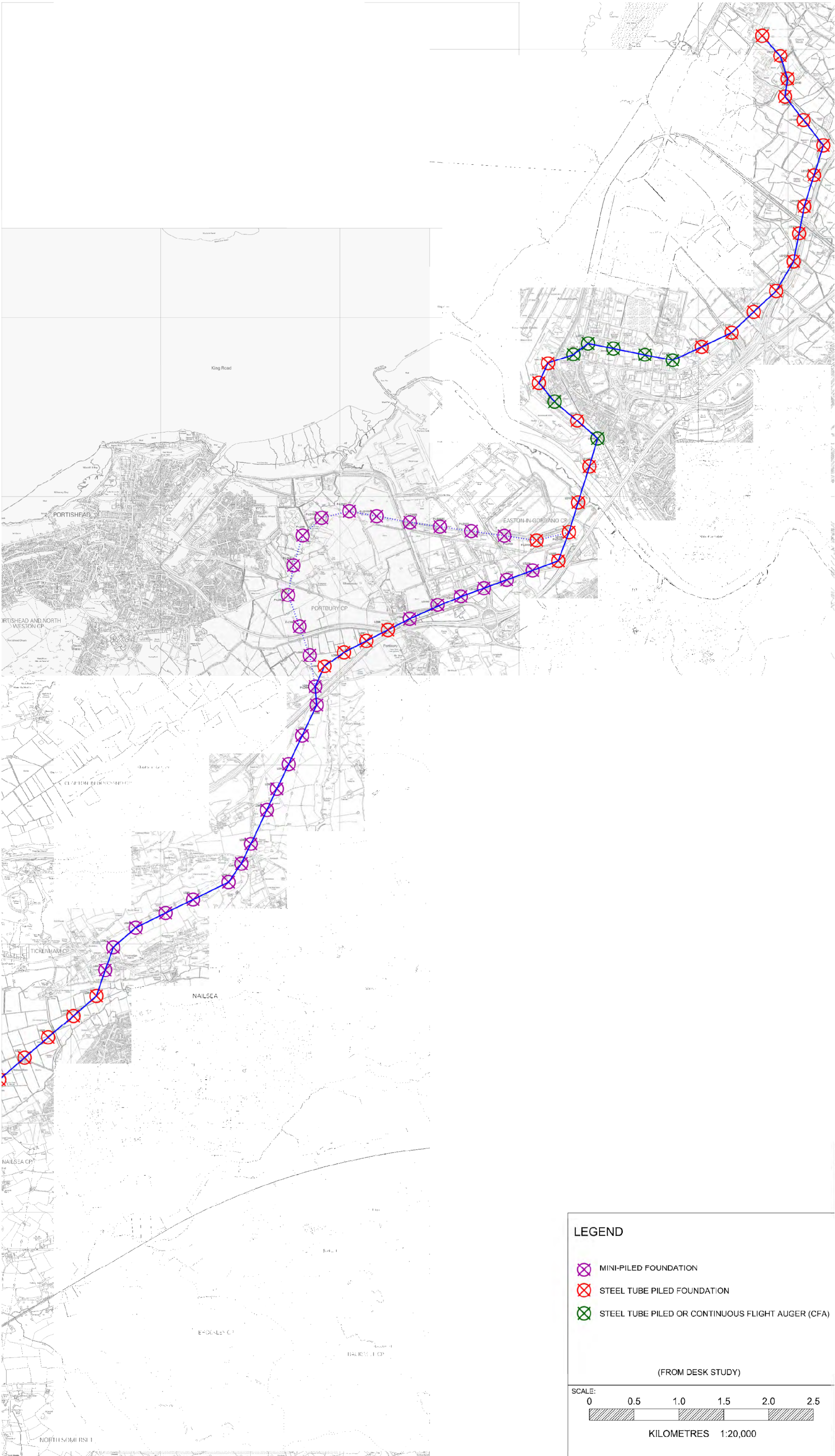
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Original Drawing Number -  
NG - 03\_13205\_25 - SHEET 2 OF 3

A	03/04/2014	DCO SUBMISSION	CB	BC	BC
ISSUE	DATE	COMMENTS	DRAW	CHKD	APP'D
<b>Title</b> NATIONAL GRID (HINKLEY POINT C CONNECTION PROJECT) ENVIRONMENTAL STATEMENT VOLUME 5.3.3  PYLON FOUNDATIONS - 400kV PYLONS - INDICATIVE FOUNDATION TYPES PLAN					
<b>nationalgrid</b> <small>National Grid plc, Warwick Technology Park, Gattorna Hill, Warwick, CV34 6DA</small>					
NG INVESTMENT No.	APPLICATION No.				<b>GIS</b>
20897	EN020001				<b>A3</b>
FIGURE No.	DRAWING No.				SCALE
3.24.2	G1979.2123.2C				NTS
SHEET 2 OF 9					ISSUE
					<b>A</b>



NATIONAL GRID (HINKLEY POINT C CONNECTION PROJECT)  
ENVIRONMENTAL STATEMENT  
VOLUME 5.3.3

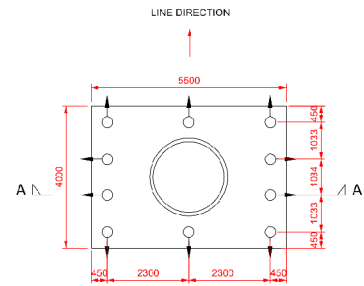
PYLON FOUNDATIONS  
400kV PYLONS - INDICATIVE FOUNDATION TYPES PLAN



**NOTE:**  
Original Drawing Number -  
NG - 03\_13205\_25 - SHEET 3 OF 3

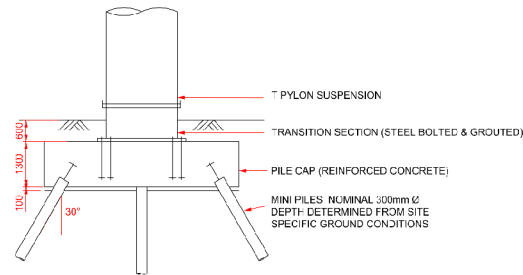
A	03/04/2014	DCO SUBMISSION	CB	BC	BC
ISSUE	DATE	COMMENTS	DRAW	CHKD	APP'D

Title NATIONAL GRID (HINKLEY POINT C CONNECTION PROJECT) ENVIRONMENTAL STATEMENT VOLUME 5.3.3					
PYLON FOUNDATIONS - 400kV PYLONS - INDICATIVE FOUNDATION TYPES PLAN					
nationalgrid <small>National Grid plc, Warwick Technology Park, Gattorna Hill, Warwick, CV34 6DA</small>					
NG INVESTMENT No. 20897	APPLICATION No. EN020001			GIS A3	
FIGURE No. 3.24.3	DRAWING No. G1979.2123.3C			SCALE NTS	
SHEET 3 OF 9				ISSUE A	



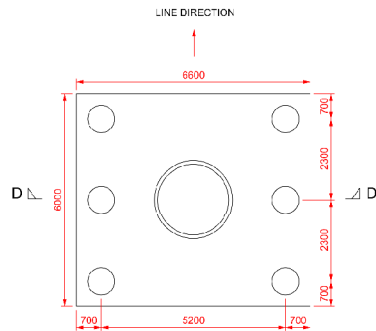
PLAN

MINI PILED SUSPENSION



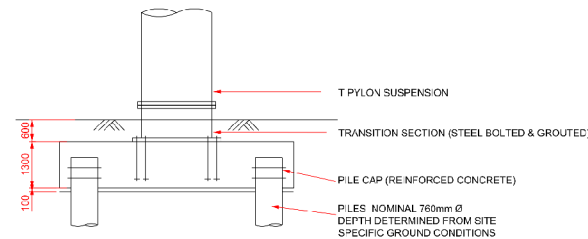
SECTION A - A

PILE CAP CONCRETE = 29.0 m³  
BLINDING = 2.5 m³  
EXCAVATION = 44.0 m³



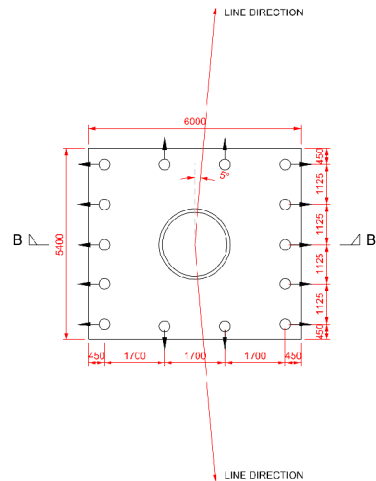
PLAN

TUBE PILED SUSPENSION

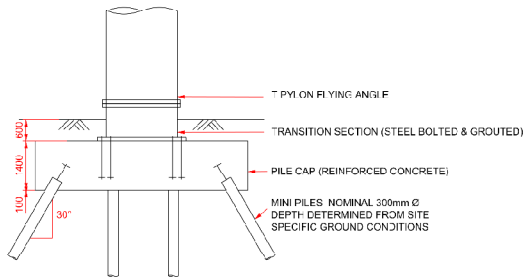


SECTION D - D

PILE CAP CONCRETE = 52.0 m³  
BLINDING = 4.0 m³  
EXCAVATION = 83.0 m³

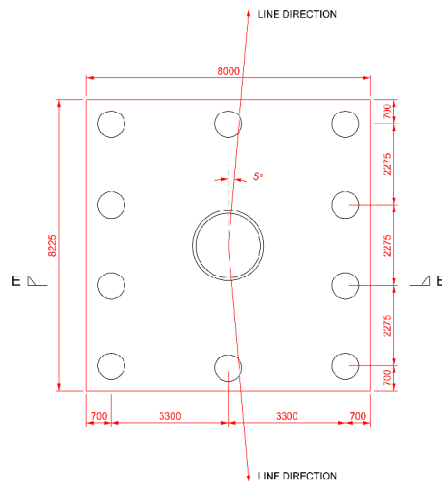


MINI PILED FLYING ANGLE

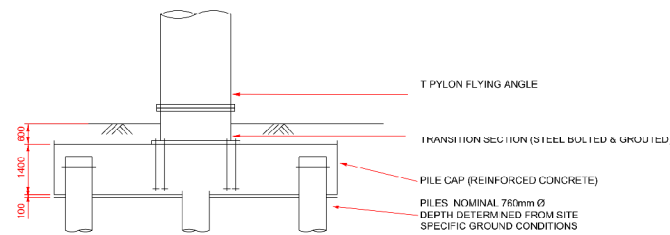


SECTION B - B

PILE CAP CONCRETE = 46.0 m³  
BLINDING = 4.0 m³  
EXCAVATION = 89.0 m³

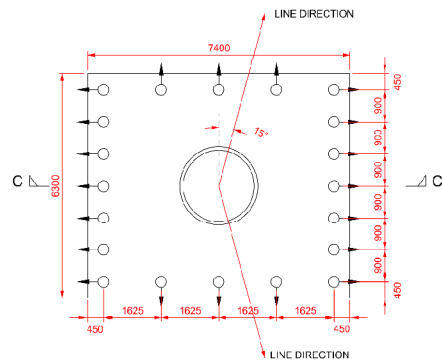


TUBE PILED FLYING ANGLE



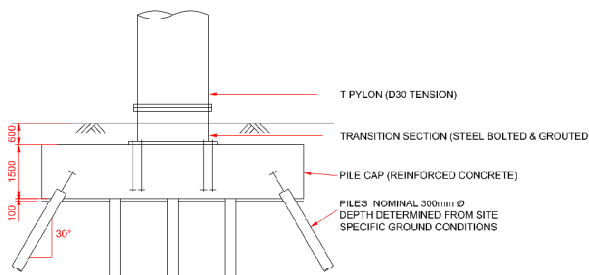
SECTION E - E

PILE CAP CONCRETE = 93.0 m³  
BLINDING = 7.0 m³  
EXCAVATION = 140.0 m³



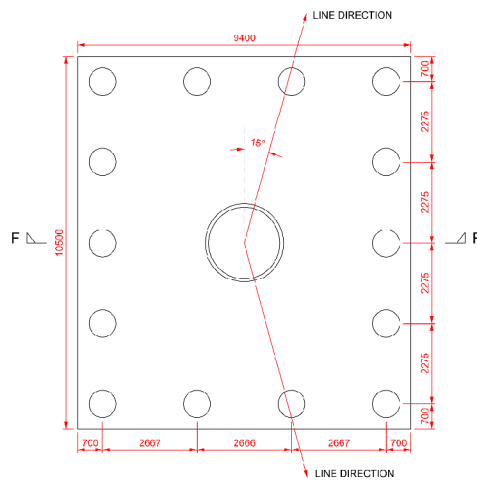
PLAN

MINI PILED TENSION (D30)



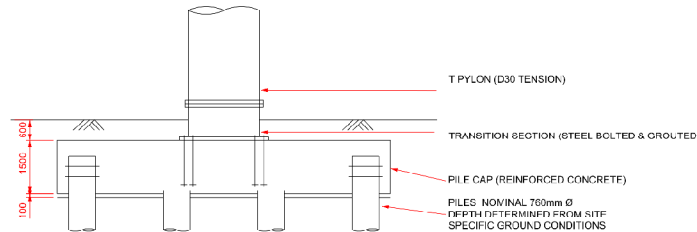
SECTION C - C

PILE CAP CONCRETE = 70.0 m³  
BLINDING = 5.0 m³  
EXCAVATION = 103.0 m³



PLAN

TUBE PILED TENSION (D30)



SECTION F - F

PILE CAP CONCRETE = 149.0 m³  
BLINDING = 10.0 m³  
EXCAVATION = 218.0 m³

Notes

Foundation designs are conceptual and may be subject to modification following detailed design

NOTE:

Original Drawing Number -

NG - 16\_13205\_31

A	03/04/2014	DCO SUBMISSION	CB	BC	BC
ISSUE	DATE	COMMENTS	DRAW	CHK'D	APP'D

Title

NATIONAL GRID (HINKLEY POINT C CONNECTION PROJECT)  
ENVIRONMENTAL STATEMENT  
VOLUME 5.3.3

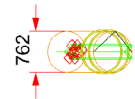
PYLON FOUNDATIONS -  
400kV T-PYLON  
INDICATIVE FOUNDATIONS

**nationalgrid**

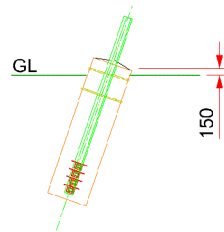
National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA

NG INVESTMENT No.	APPLICATION No.	GIS
20897	EN020001	A3
FIGURE No.	DRAWING No.	SCALE
3.24.4	G1979.2123.4C	NTS
SHEET 4 of 9		ISSUE
		A

SINGLE PILE  
(TOWER TYPE L12 D)

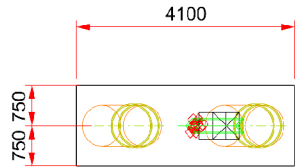


PLAN VIEW

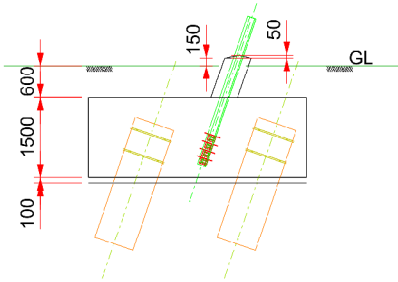


ELEVATION

TWO PILE CAP  
(TOWER TYPE L12 D10/D25)



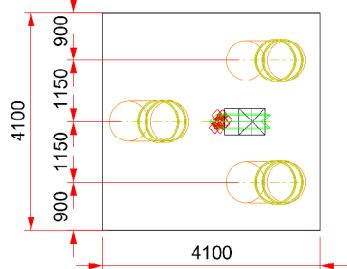
PLAN VIEW



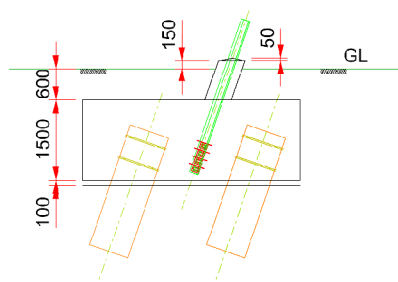
ELEVATION

Pile Cap Volume = 10.4m³ per leg  
Excavation = 9.1m³ per leg

THREE PILE CAP  
(TOWER TYPE L12 D10/D25)



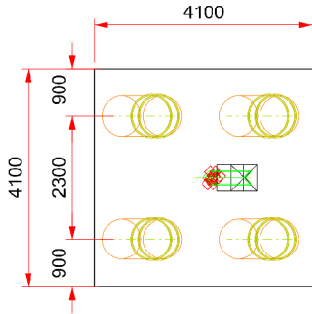
PLAN VIEW



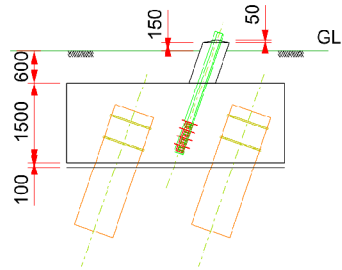
ELEVATION

Pile Cap Volume = 25.5m³ per leg  
Excavation = 24.8m³ per leg

FOUR PILE CAP  
(TOWER TYPE L12 D55/D90)



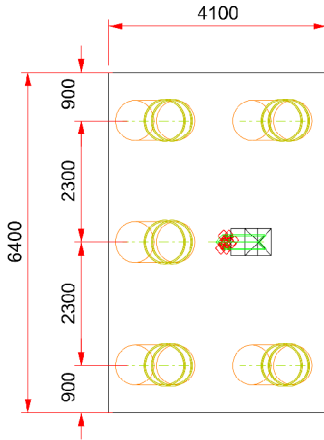
PLAN VIEW



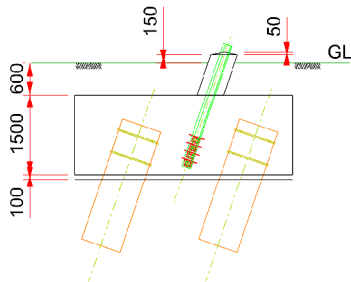
ELEVATION

Pile Cap Volume = 25.5m³ per leg  
Excavation = 24.8m³ per leg

FIVE PILE CAP  
(TOWER TYPE L12 DT/DJT)



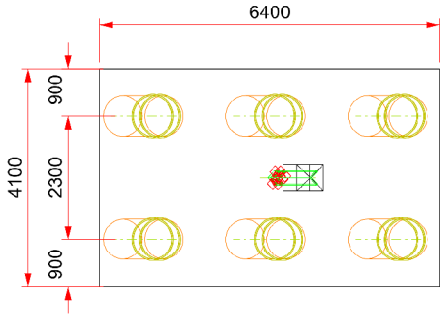
PLAN VIEW



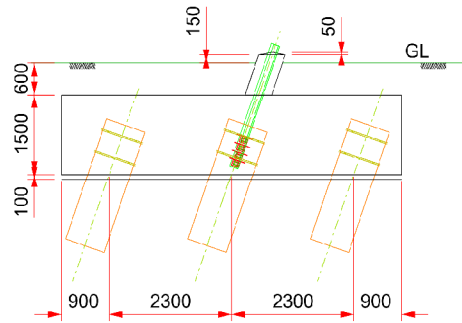
ELEVATION

Pile Cap Volume = 39.8m³ per leg  
Excavation = 38.7m³ per leg

SIX PILE CAP  
TOWER TYPE L12 DT/DJT)



PLAN VIEW



ELEVATION

Pile Cap Volume = 39.8m³ per leg  
Excavation = 38.7m³ per leg

Notes

1. FOUNDATION DESIGNS ARE CONCEPTUAL AND MAY BE SUBJECT TO MODIFICATION FOLLOWING DETAILED DESIGN
2. PILE LENGTHS TO BE DESIGNED TO SUIT SITE SPECIFIC GROUND CONDITIONS

NOTE:

Original Drawing Number -  
NG - 16\_13205\_44

Title

NATIONAL GRID (HINKLEY POINT C  
CONNECTION PROJECT)  
ENVIRONMENTAL STATEMENT  
VOLUME 5.3.3

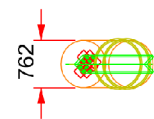
PYLON FOUNDATIONS -  
400KV LATTICE PYLON  
INDICATIVE FOUNDATIONS

**nationalgrid**

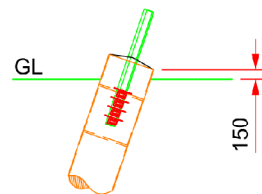
National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA

NG INVESTMENT No.	APPLICATION No.	GIS
20897	EN020001	A3
FIGURE No.	DRAWING No.	SCALE
3.24.5	G1979.2123.5C	NTS
SHEET 5 of 9		ISSUE
		A

SINGLE PILE  
(TOWER TYPE D/D30)

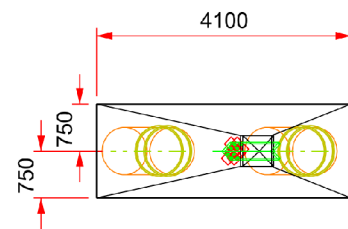


PLAN VIEW

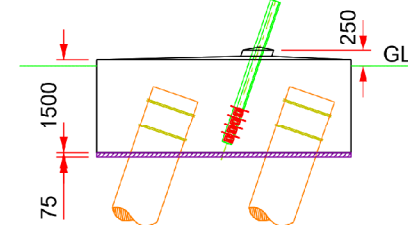


ELEVATION

TWO PILE CAP  
(TOWER TYPE D60/DT)



PLAN VIEW



ELEVATION

Pile Cap Volume = 9.3m³ per leg  
Excavation = 15.9m³ per leg

- GENERAL NOTES:
- 1. FOUNDATION DESIGNS ARE CONCEPTUAL AND MAY BE SUBJECT TO MODIFICATION FOLLOWING DETAILED DESIGN
  - 2. PILE LENGTHS TO BE DESIGNED TO SUIT SITE SPECIFIC GROUND CONDITIONS

**NOTE:**  
Original Drawing Number -  
NG - 16\_12342\_72

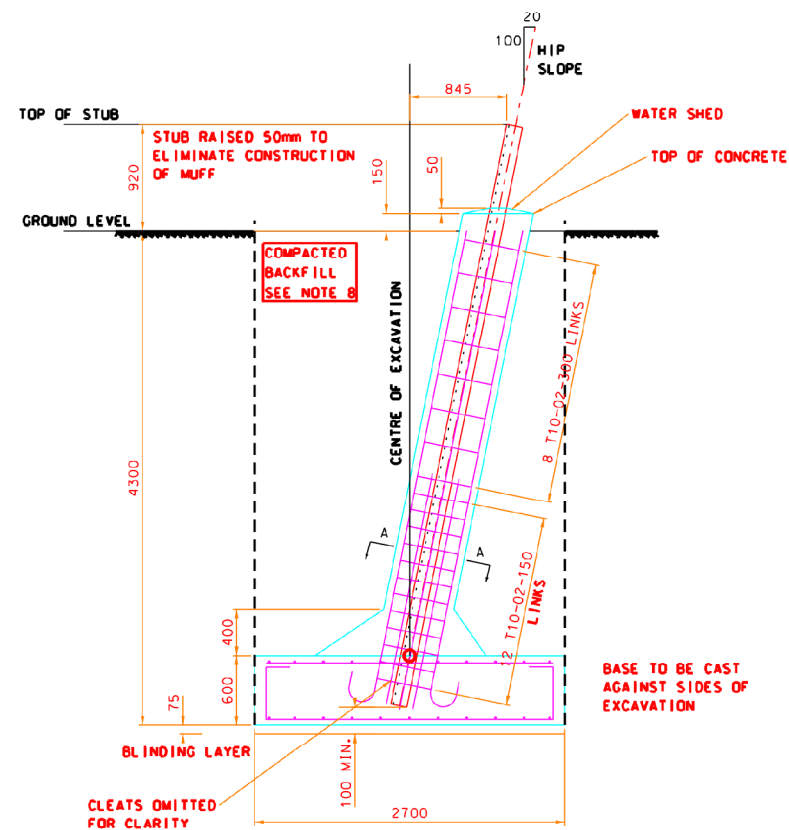
A	03/04/2014	DCO SUBMISSION	CB	BC	BC
ISSUE	DATE	COMMENTS	DRAW	CHK'D	APP'D

Title  
NATIONAL GRID (HINKLEY POINT C CONNECTION PROJECT)  
ENVIRONMENTAL STATEMENT  
VOLUME 5.3.3

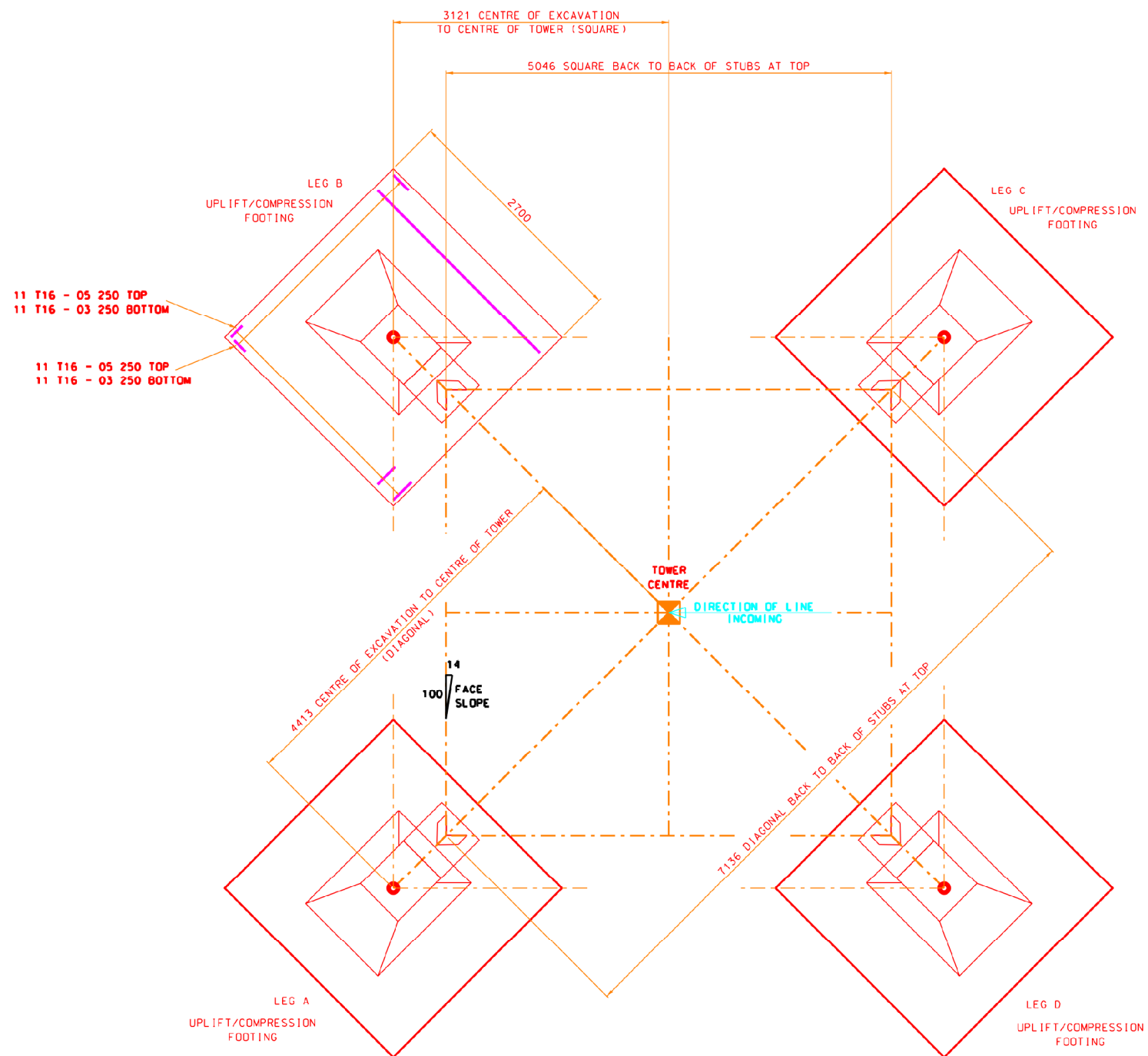
PYLON FOUNDATIONS -  
132KV PYLON L4M/L7C STEEL  
TUBE PILE FOUNDATIONS (INDICATIVE)

<div><div><div></div><div></div></div><div><div>National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA</div></div></div>					
NG INVESTMENT No.	APPLICATION No.		GIS		
20897	EN020001		A3		
FIGURE No.	DRAWING No.			SCALE	
3.24.6	G1979.2123.6C			NTS	
SHEET 6 of 9				ISSUE	A





ELEVATION OF  
UPLIFT/COMPRESSION  
FOOTING



STUB SETTING PLAN

**NOTE:**  
Original Drawing Number -  
NG - 16\_12342\_73

A	03/04/2014	DCO SUBMISSION	CB	BC	BC
ISSUE	DATE	COMMENTS	DRAW	CHK'D	APPD

**Title**  
NATIONAL GRID (HINKLEY POINT C  
CONNECTION PROJECT)  
ENVIRONMENTAL STATEMENT  
VOLUME 5.3.3

PYLON FOUNDATIONS -  
132KV PYLON L4M DT PAD AND  
CHIMNEY FOUNDATIONS (INDICATIVE)

**nationalgrid**

National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA

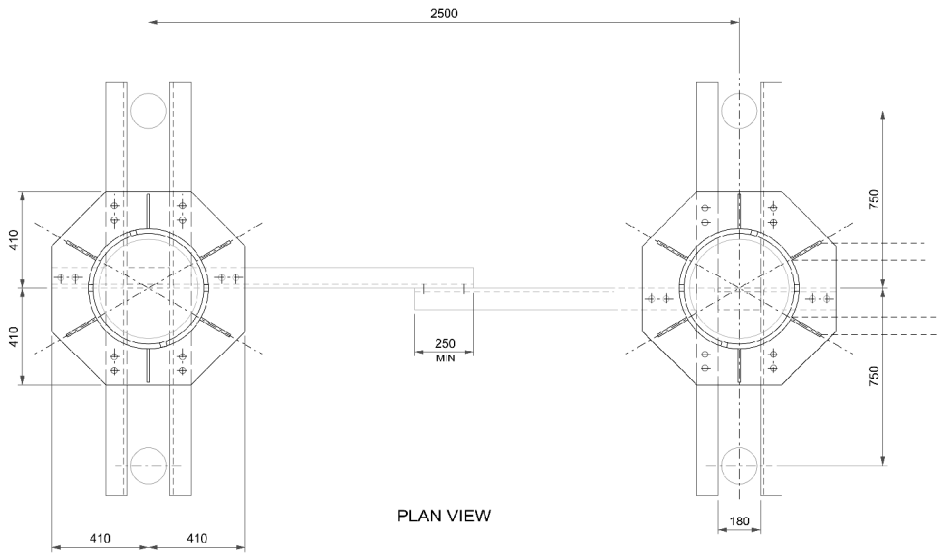
NG INVESTMENT No.	APPLICATION No.	GIS <b>A3</b>
20897	EN020001	
FIGURE No.	DRAWING No.	SCALE
3.24.7	G1979.2123.7C	NTS
SHEET 7 of 9		ISSUE <b>A</b>



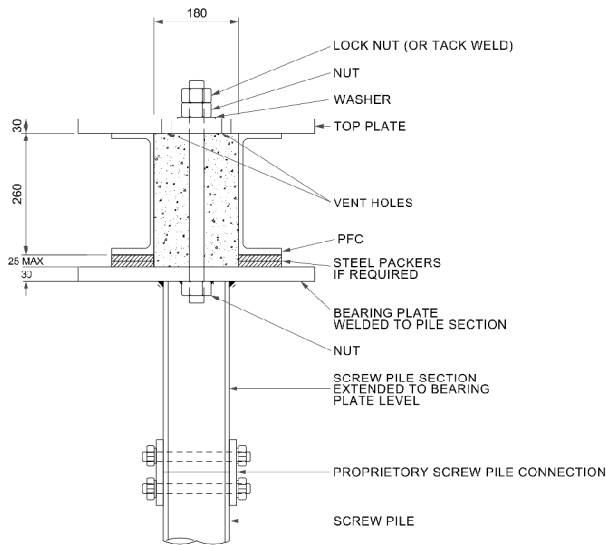


CONCEPTUAL ONLY

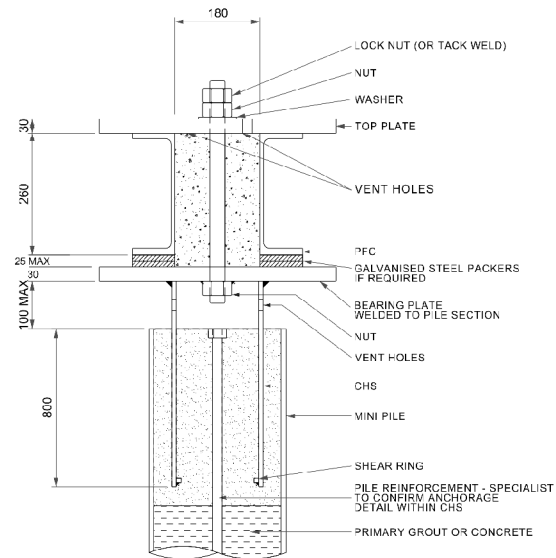
- NOTES:
- 1. FOUNDATION DESIGNS ARE CONCEPTUAL AND MAY BE SUBJECT TO MODIFICATION FOLLOWING DETAILED DESIGN
  - 2. PILE LENGTHS TO BE DESIGNED TO SUIT SITE SPECIFIC GROUND CONDITIONS
  - 3. ALL DIMENSIONS ARE TYPICAL



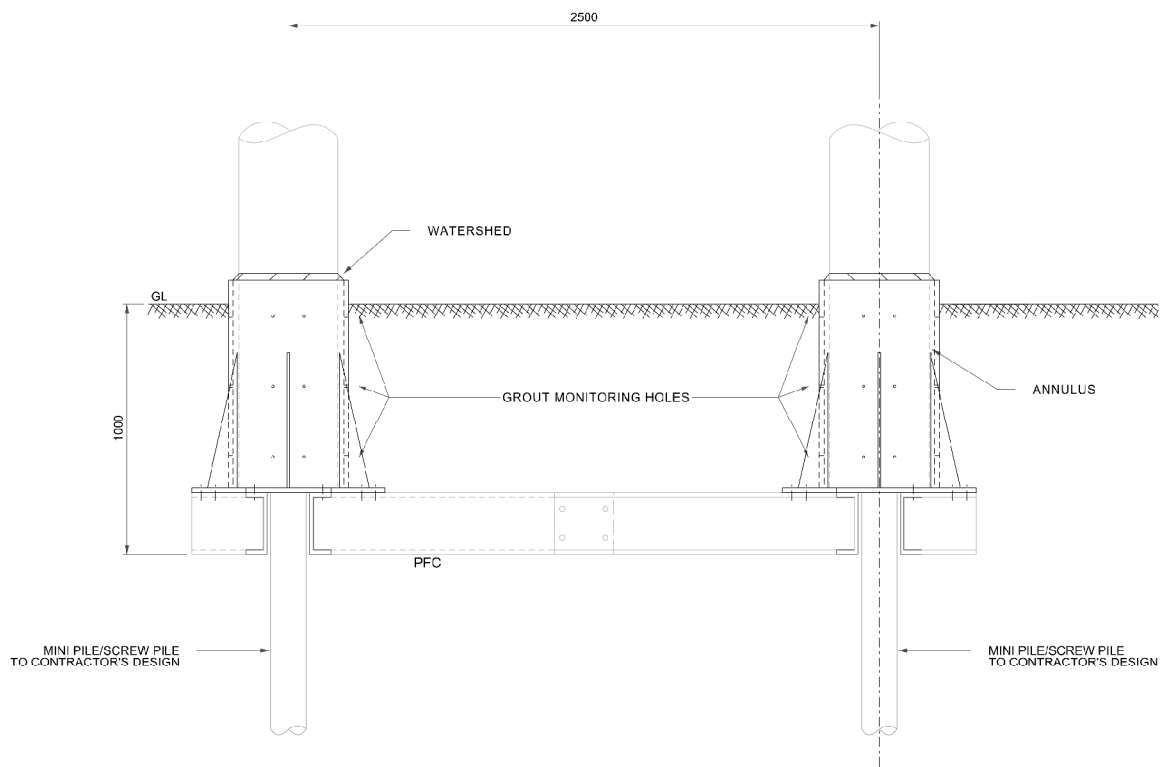
PLAN VIEW



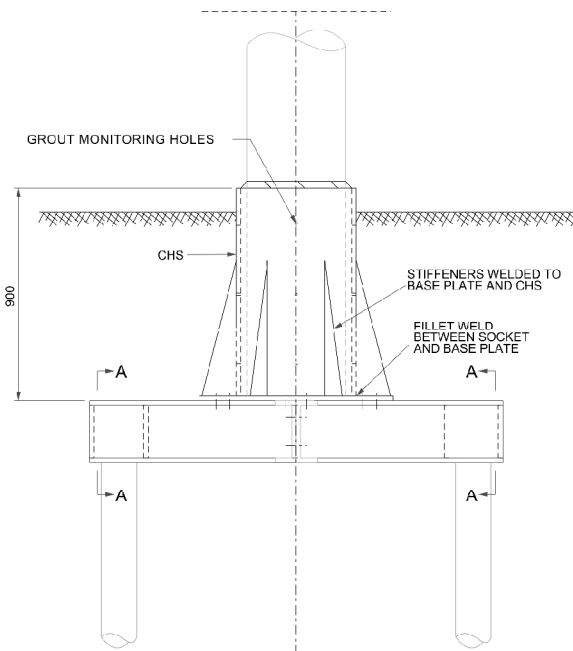
SECTION A-A  
SCREW PILE/FRAME  
CONNECTION  
(SCALE x2)



SECTION A-A  
ALTERNATE  
MINI PILE/FRAME  
CONNECTION  
(SCALE x 2)



FRONT ELEVATION



SIDE ELEVATION

**NOTE:**  
Original Drawing Number -  
NG - 16\_12342\_75

ISSUE	DATE	COMMENTS	DRAW	CHK'D	APP'D
A	03/04/2014	DCO SUBMISSION	CB	BC	BC

Title  
NATIONAL GRID (HINKLEY POINT C CONNECTION PROJECT)  
ENVIRONMENTAL STATEMENT  
VOLUME 5.3.3  
  
PYLON FOUNDATIONS -  
132kV H POLE PYLON MINI  
PILE/SCREW FOUNDATIONS (INDICATIVE)