Gate Burton
ENERGY PARK

Gate Burton Energy Park
EN010131

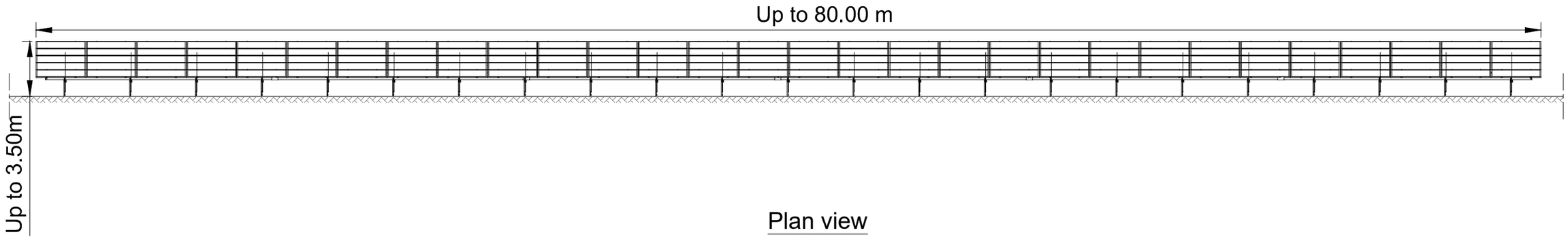
Engineering Section Drawings
Document Reference: EN010131/APP/5.4
January 2023

Regulation 5(q)
Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

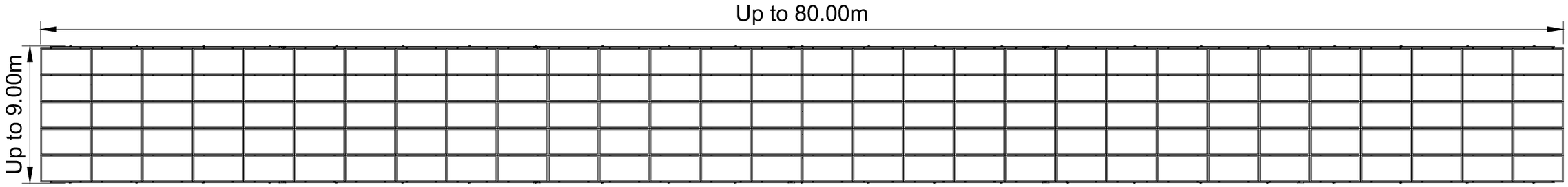
Gate Burton Energy Park Limited

1. Contents

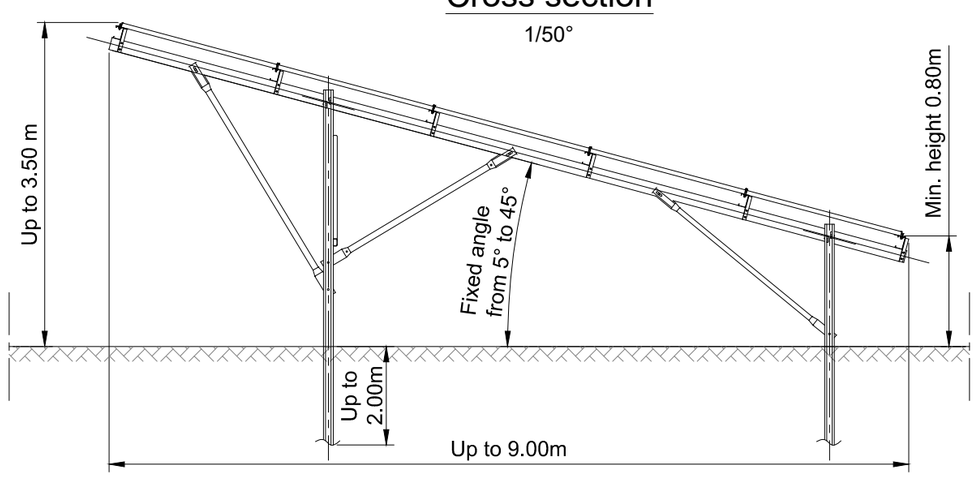
Elevation
1/200



Plan view
1/200



Cross section
1/50°



NOTES :

Example of a structure with 5x PV modules in landscape format (total width) with a string of 30x solar panels (total length)

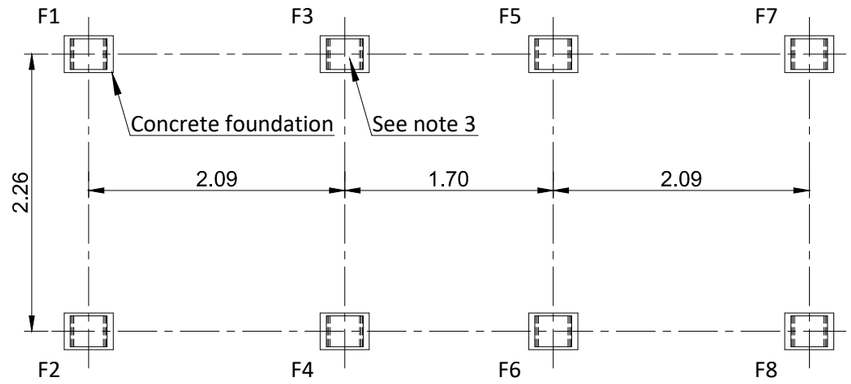
Gate Burton ENERGY PARK

Illustrative Solar Table and Elevation

Date	Writer	Checker	Version	Scale	Page
13/01/23	CDU	GDA	C	1/100 - 1/200	1

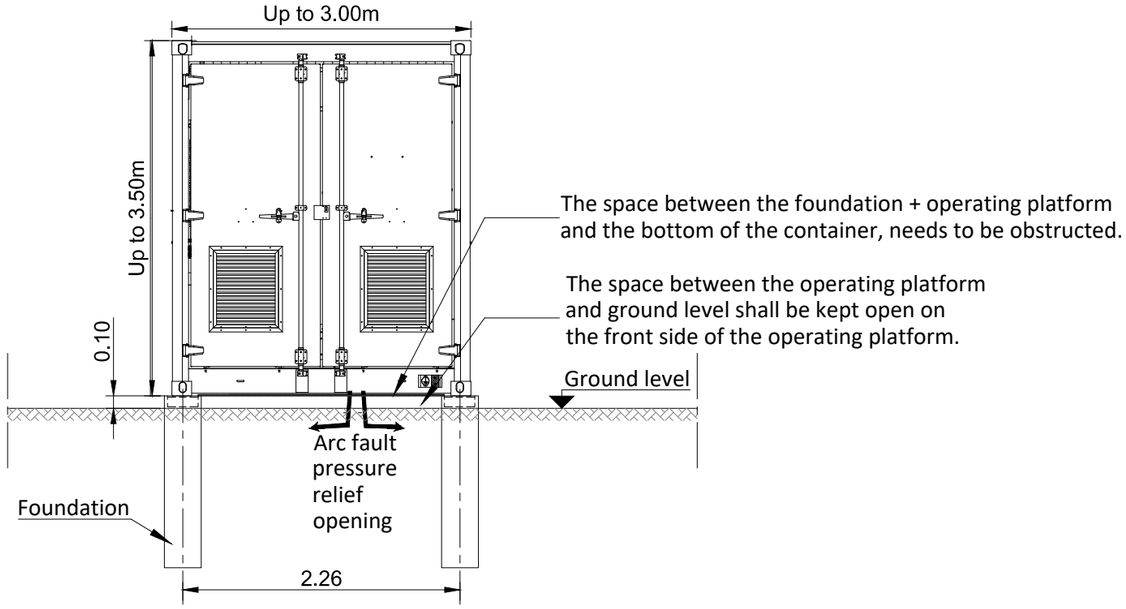
Foundation plan view

1/50°



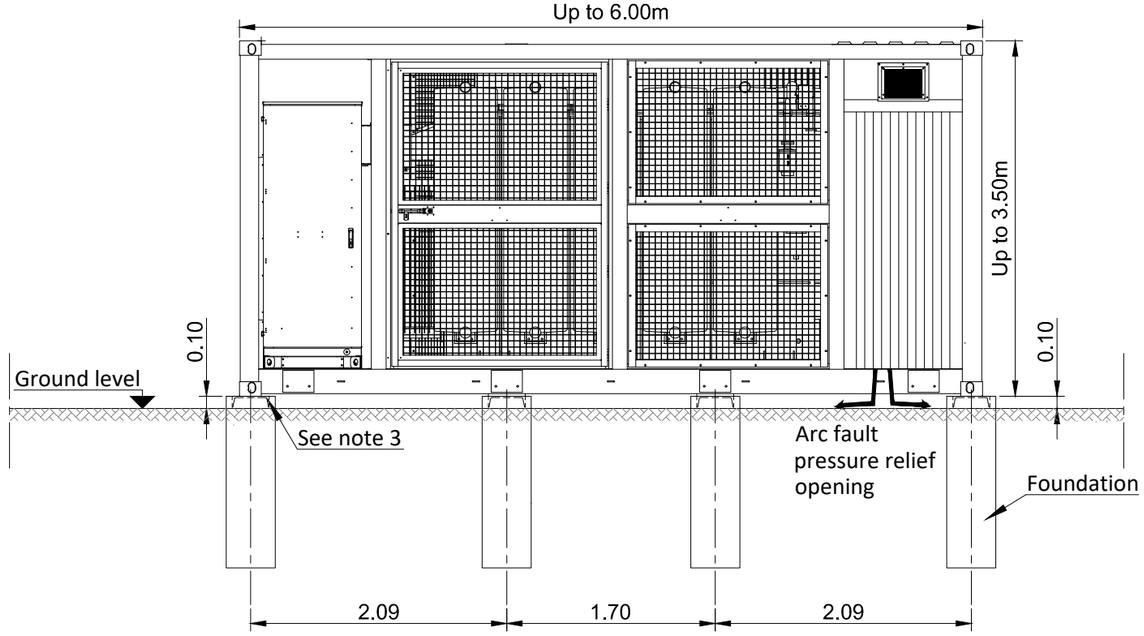
Right view

1/50°



Front view

1/50°



NOTES :

1.The foundation dimensions must meet the requirements of the bearing capacity of the bearing stratum. The depth of the foundation must reach the bearing stratum with the sufficient bearing capacity.

2. Container has to be anchored to the foundation. The solution will be produce by the supplier.

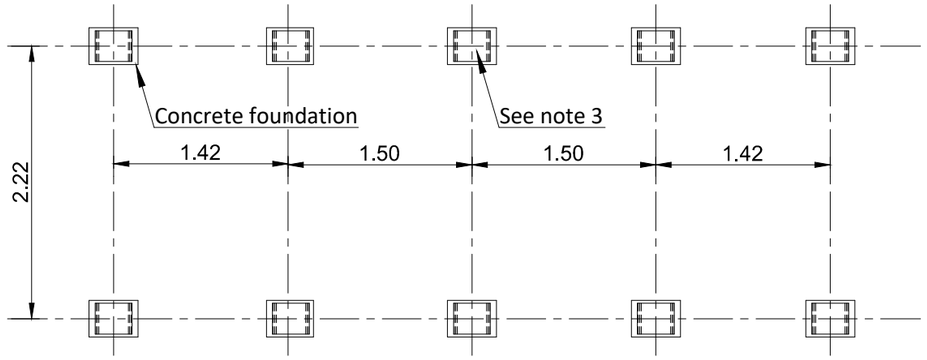
Gate Burton ENERGY PARK

Illustrative Centralised Inverter installation cross-section views

Date	Writer	Checker	Version	Scale	Page
13/01/23	CDU	GDA	C	1/50	2

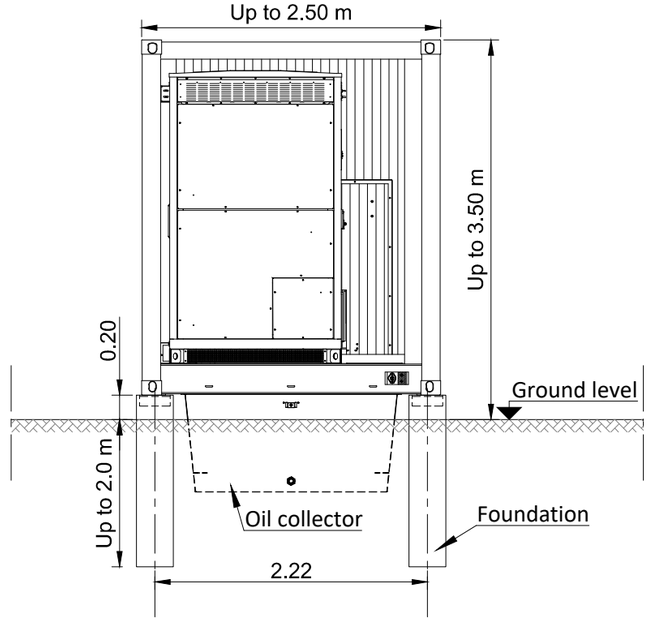
Foundation plan view

1/50°



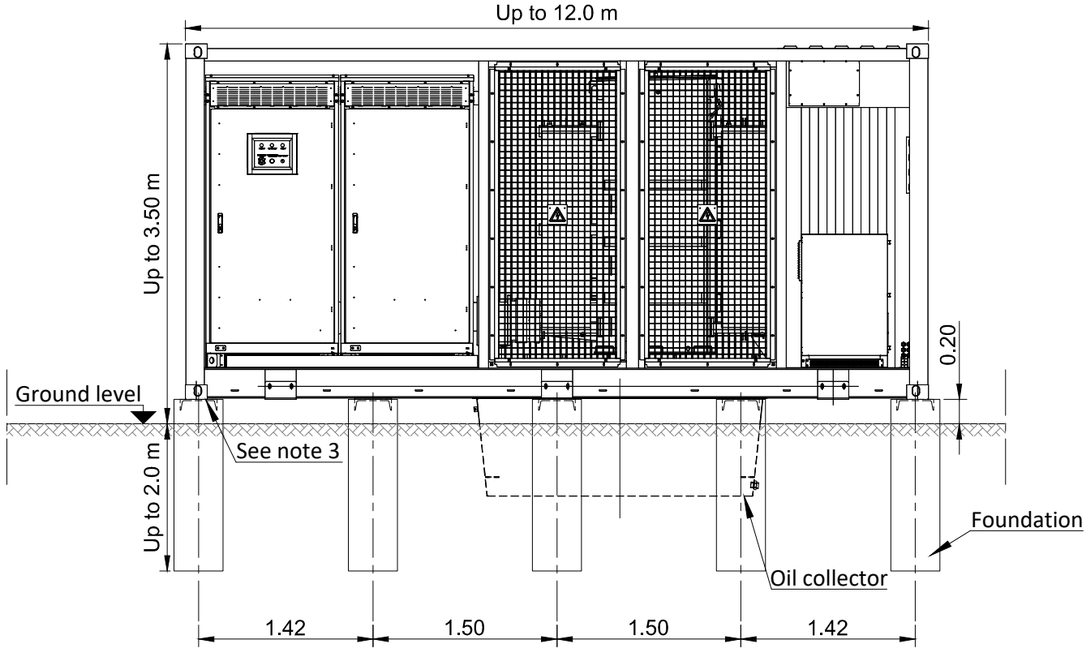
Right view

1/50°



Front view

1/50°



NOTES :

1.The foundation dimensions must meet the requirements of the bearing capacity of the bearing stratum. The depth of the foundation must reach the bearing stratum with the sufficient bearing capacity.

2. Container has to be anchored to the foundation. The solution will be produce by the supplier.

3. Power Conversion Unit (PCU) : means the containerised solution consisting of one or more inverters, transformer and ring main unit along with auxiliary supplies and other accessories.

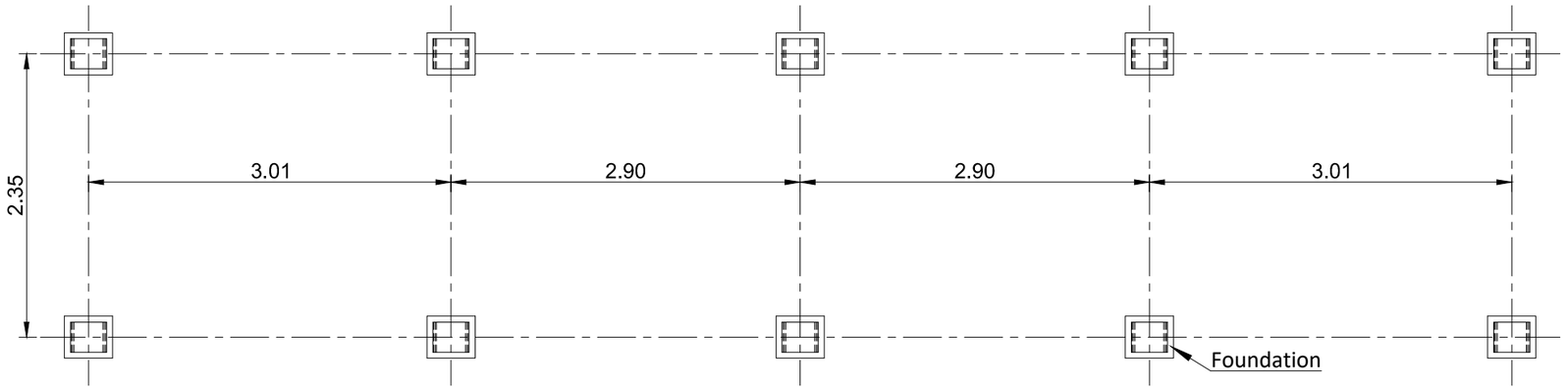
Gate Burton ENERGY PARK

Illustrative Conversion Unit installation cross-section views

Date	Writer	Checker	Version	Scale	Page
13/01/23	CDU	GDA	C	1/50	3

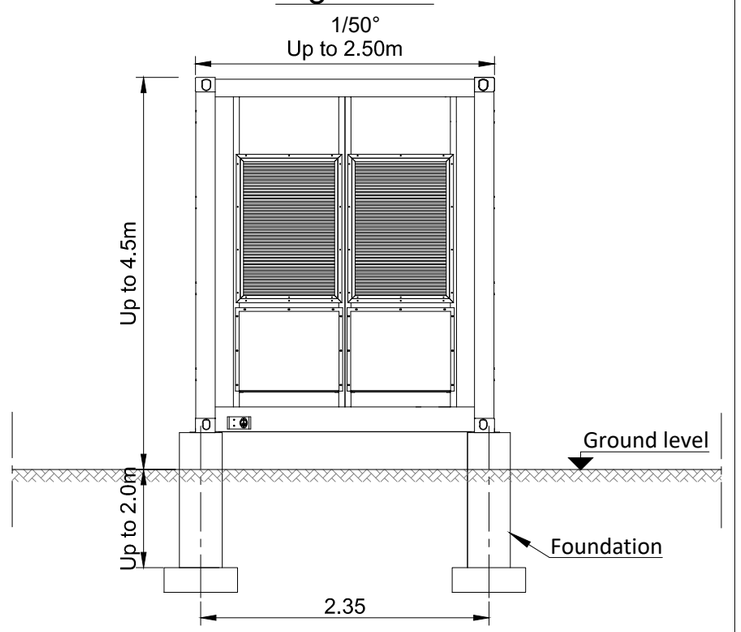
Foundation plan view

1/50°



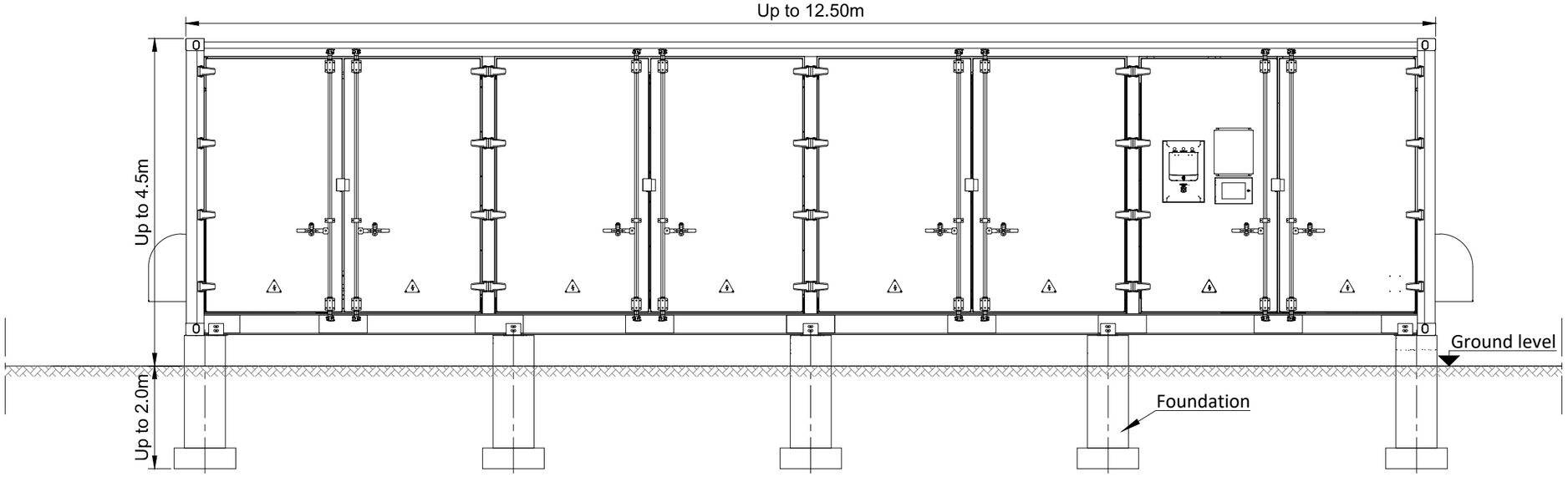
Right view

1/50°



Front view

1/50°



NOTES :

1.The foundation dimensions must meet the requirements of the bearing capacity of the bearing stratum. The depth of the foundation must reach the bearing stratum with the sufficient bearing capacity.

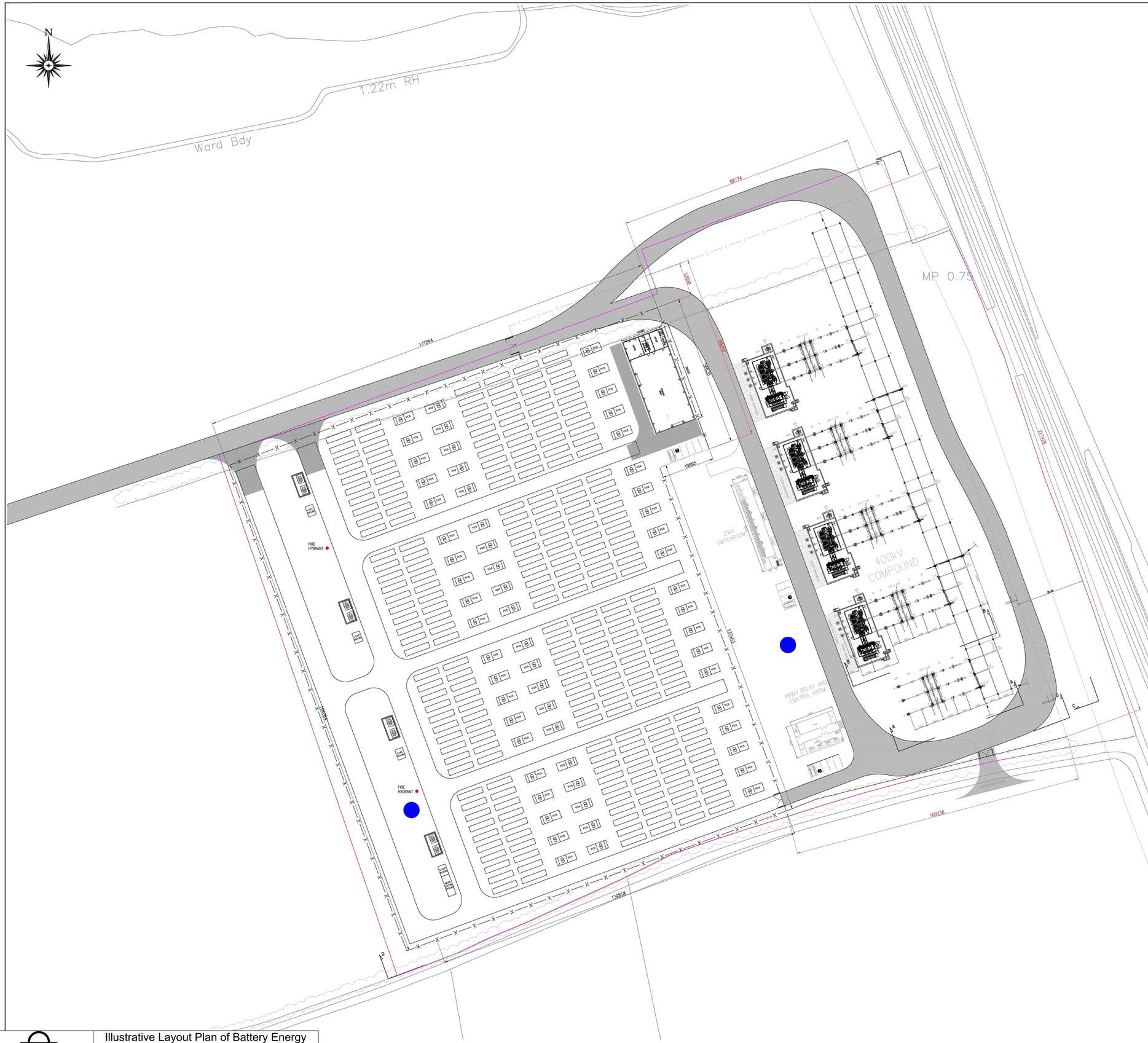
2. Container has to be anchored to the foundation. The solution will be produce by the supplier.

Gate Burton ENERGY PARK

Illustrative BESS installation cross-section views

Date	Writer	Checker	Version	Scale	Page
13/01/23	CDU	GDA	C	1/50	4

400kV MINIMUM ELECTRICAL CLEARANCES	
DESCRIPTION	DISTANCE (m)
PHASE TO PHASE CLEARANCE	3.6
PHASE TO EARTH CLEARANCE	2.8
DESIGN CLEARANCE FOR SAFETY (VERTICAL) Dsv	5.5
DESIGN CLEARANCE FOR SAFETY (HORIZONTAL) Dsm	4.6
INSULATION HEIGHT (PEDESTRIAN ACCESS)	2.4
SAFETY DISTANCE	3.1
MEWP DESIGN CLEARANCE FOR SAFETY (VERTICAL) Dsp	7.5
MEWP DESIGN CLEARANCE FOR SAFETY (HORIZONTAL) Dsw	6.6



A	10.01.23	ORIGINAL	WB	EC	MG
REV	DATE	DESCRIPTION	DRN	DES	REVIEW APP

OMNIA Projects
The Catalyst, York Science Park, Baird Lane, Heslington, York YO10 5GA
email: office@omniaprojects.co.uk

INDICATIVE CONCEPT DESIGN

PROJECT NAME: GATE BURTON

CUSTOMER: LOW CARBON

PRELIMINARY
NOT FOR SITE USE

CUSTOMER DRAWING NUMBER: ****

STATUS: PRELIMINARY

DRAWING NUMBER: OP-PRO1036-PLA001

SCALE: 1:500

SIZE: A0

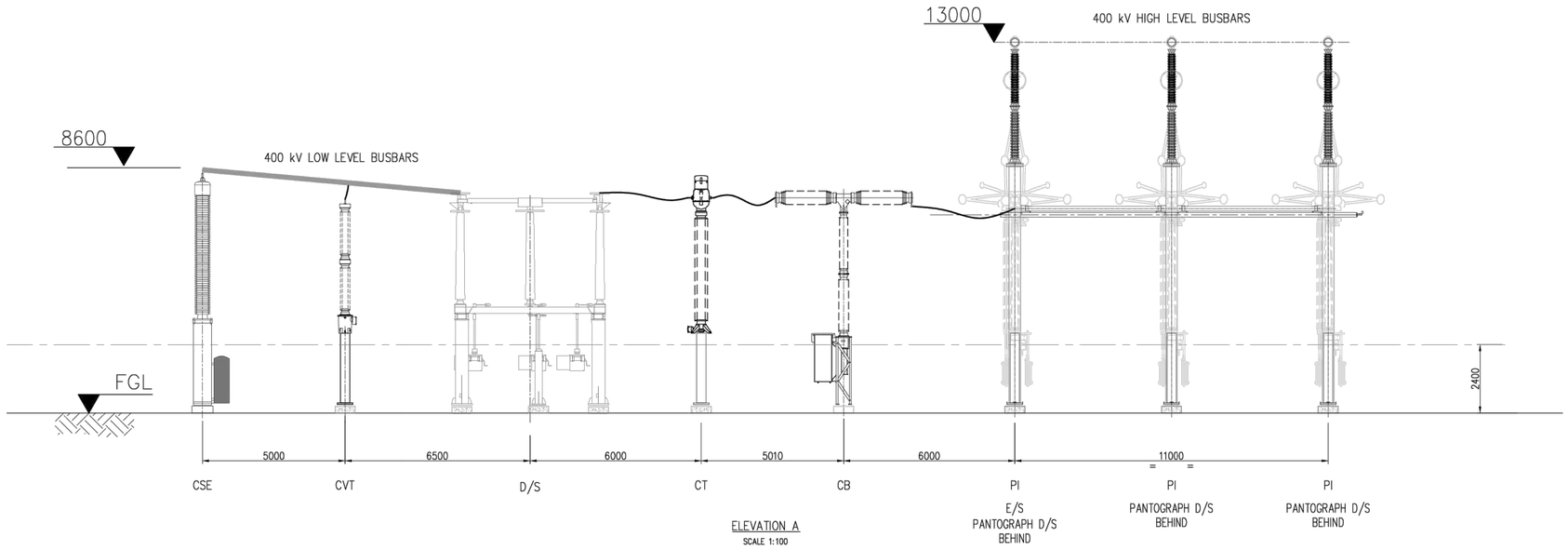
REVISION: A

Gate Burton ENERGY PARK

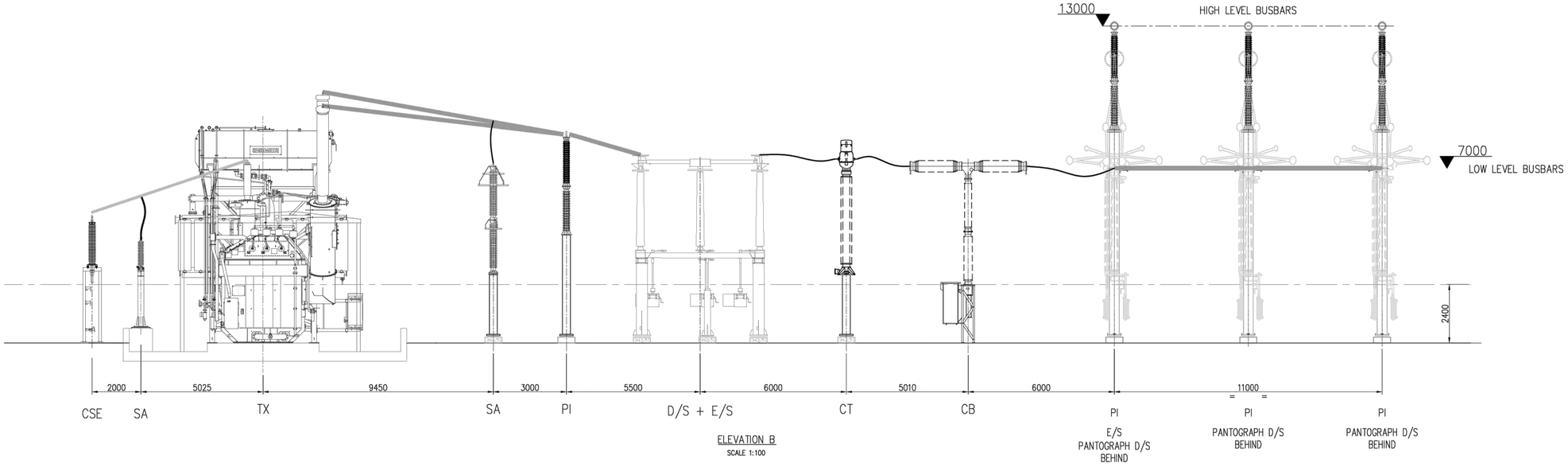
Illustrative Layout Plan of Battery Energy Storage System and On-Site Substation

Date	Writer	Checker	Version	Scale	Page
23/01/23	CDU	GDA	D	-	5

400kV MINIMUM ELECTRICAL CLEARANCES	
DESCRIPTION	DISTANCE (m)
PHASE TO PHASE CLEARANCE	3.6
PHASE TO EARTH CLEARANCE	2.8
DESIGN CLEARANCE FOR SAFETY (VERTICAL) D_{S1}	5.5
DESIGN CLEARANCE FOR SAFETY (HORIZONTAL) D_{SH1}	4.6
INSULATION HEIGHT (PEDESTRIAN ACCESS)	2.4
SAFETY DISTANCE	3.1
MEWP DESIGN CLEARANCE FOR SAFETY (VERTICAL) D_{S2}	7.5
MEWP DESIGN CLEARANCE FOR SAFETY (HORIZONTAL) D_{SH2}	6.6



ELEVATION A
SCALE 1:100



ELEVATION B
SCALE 1:100

REV	DATE	DESCRIPTION	DRN	DES	REV& APP
A	12.01.23	ORIGINAL	EC	EC	MG

OMNIA Projects
The Catalyst, York Science Park, Baird Lane, Heslington, York YO10 5GA
email: office@omniaprojects.co.uk

INDICATIVE ELEVATION VIEWS
SECTIONS A–A AND B–B

PROJECT NAME	GATE BURTON
CUSTOMER	LOW CARBON
CUSTOMER DRAWING NUMBER	****
STATUS	PRELIMINARY
DRAWING NUMBER	OP–PRO1036–LAY001
SCALE	1:100
SIZE	A1
REVISION	A

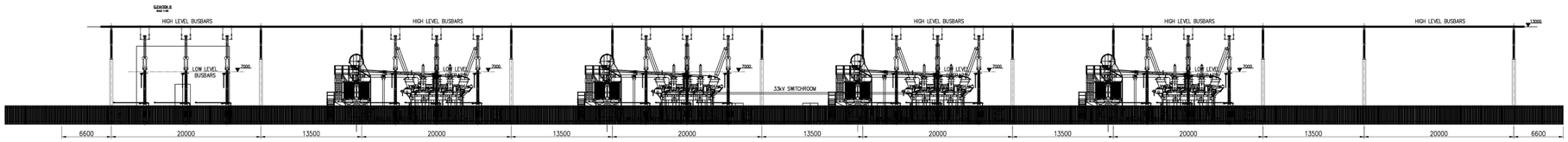
PRELIMINARY
NOT FOR SITE USE

Gate Burton ENERGY PARK

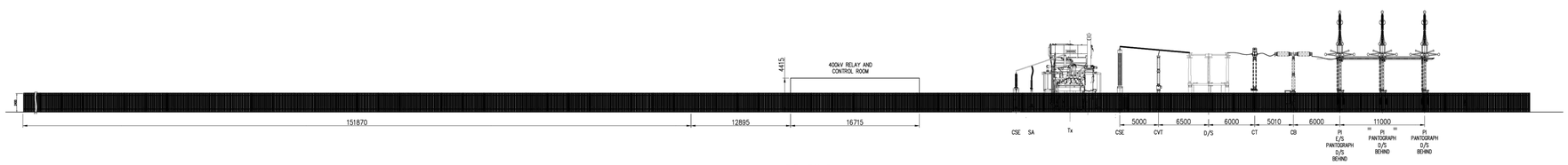
Illustrative Elevation Views Sections A-A and B-B

Date	Writer	Checker	Version	Scale	Page
23/01/23	CDU	GDA	D	-	6

400kV MINIMUM ELECTRICAL CLEARANCES	
DESCRIPTION	DISTANCE (m)
PHASE TO PHASE CLEARANCE	3.6
PHASE TO EARTH CLEARANCE	2.8
DESIGN CLEARANCE FOR SAFETY (VERTICAL) Dw	5.5
DESIGN CLEARANCE FOR SAFETY (HORIZONTAL) Dwh	4.6
INSULATION HEIGHT (PEDESTRIAN ACCESS)	2.4
SAFETY DISTANCE	3.1
MEWP DESIGN CLEARANCE FOR SAFETY (VERTICAL) Dsp	7.5
MEWP DESIGN CLEARANCE FOR SAFETY (HORIZONTAL) Dwe	6.6



ELEVATION C
SCALE 1:100



ELEVATION D
SCALE 1:100

REV	DATE	DESCRIPTION	DRN	DES	REV & APP.
A	12.01.23	ORIGINAL	EC	EC	MG

OMNIA Projects
The Catalyst, York Science Park, Baird Lane, Heslington, York YO10 5GA
email: office@omniaprojects.co.uk

INDICATIVE ELEVATION VIEWS
SECTIONS C-C AND D-D

PROJECT NAME	GATE BURTON
CUSTOMER	LOW CARBON
CUSTOMER DRAWING NUMBER	****
STATUS	PRELIMINARY
DRAWING NUMBER	OP-PR01036-LAY002
SCALE	1:250
SIZE	A0
REVISION	A

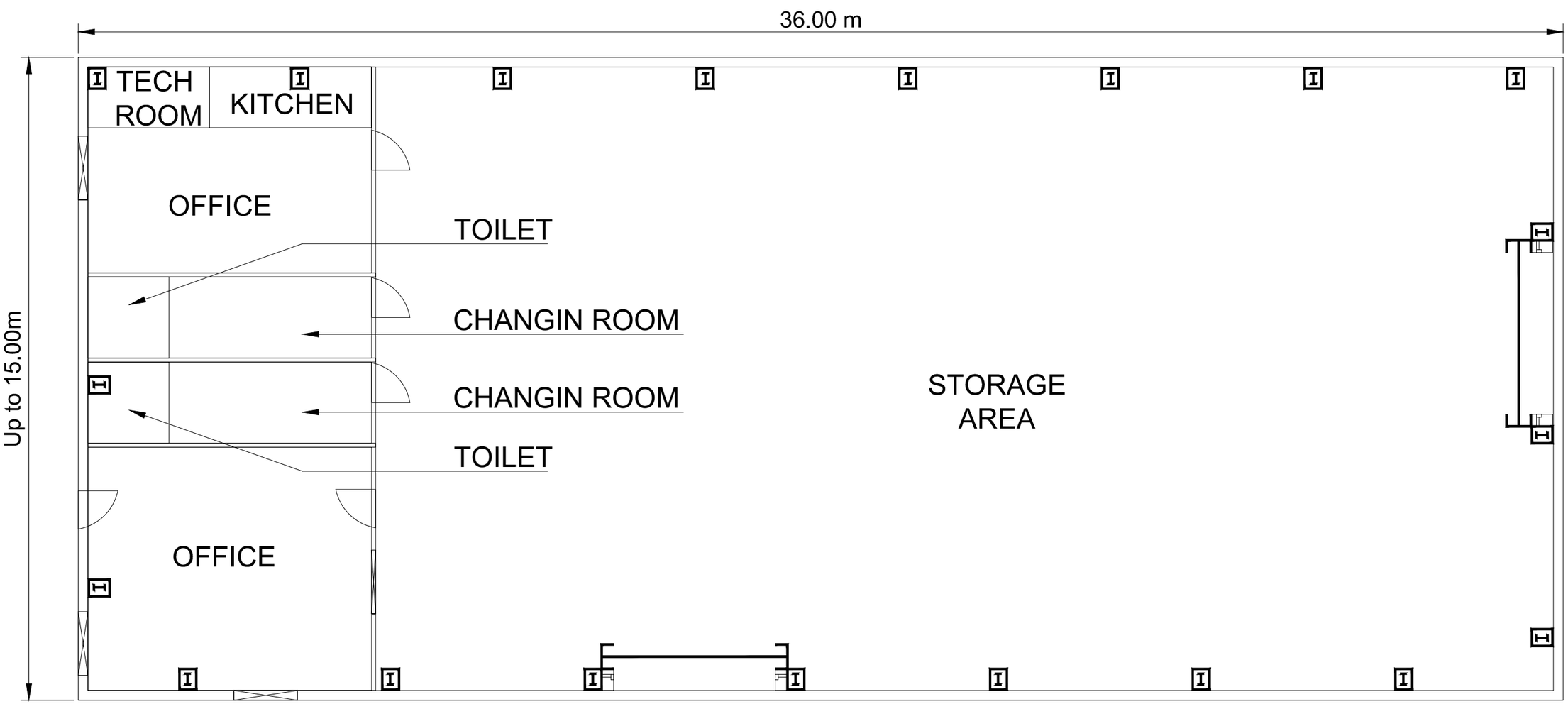
PRELIMINARY
NOT FOR SITE USE

Gate Burton ENERGY PARK

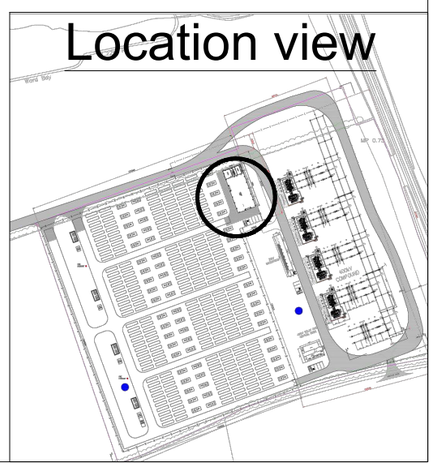
Illustrative Elevation Views Sections C-C and D-D

Date	Writer	Checker	Version	Scale	Page
23/01/23	CDU	GDA	D	-	7

Plan view
1/100



Location view

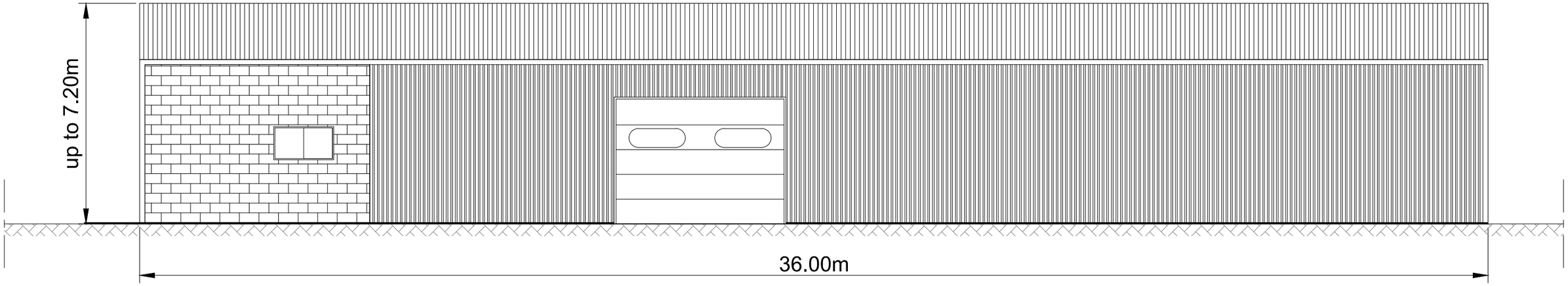


Gate Burton ENERGY PARK

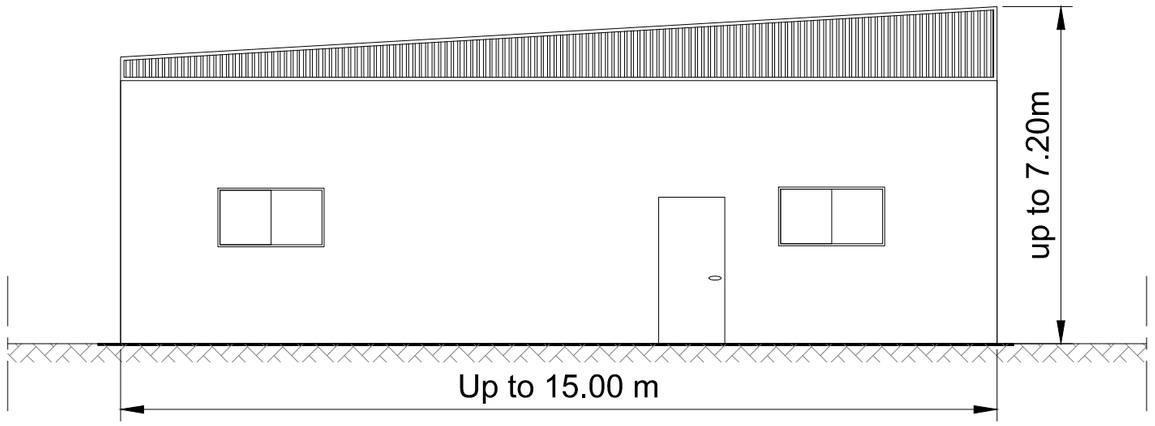
Illustrative Warehouse and Storage Building floorplan

Date	Writer	Checker	Version	Scale	Page
23/01/23	CDU	GDA	D	1/100	8

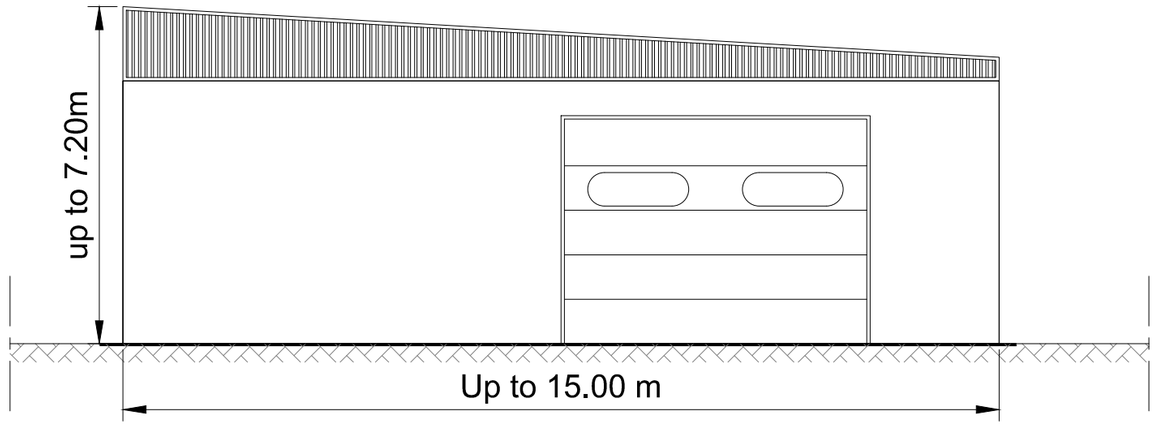
Front view
1/100



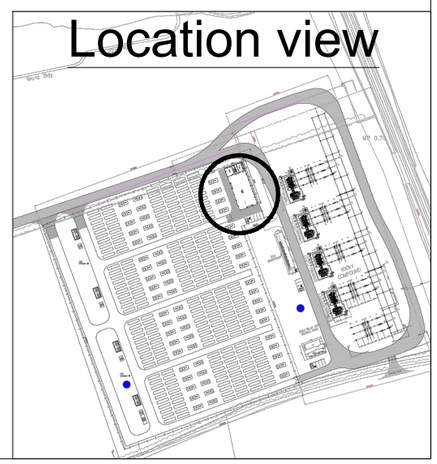
Left side
1/100



Right side
1/100



Location view



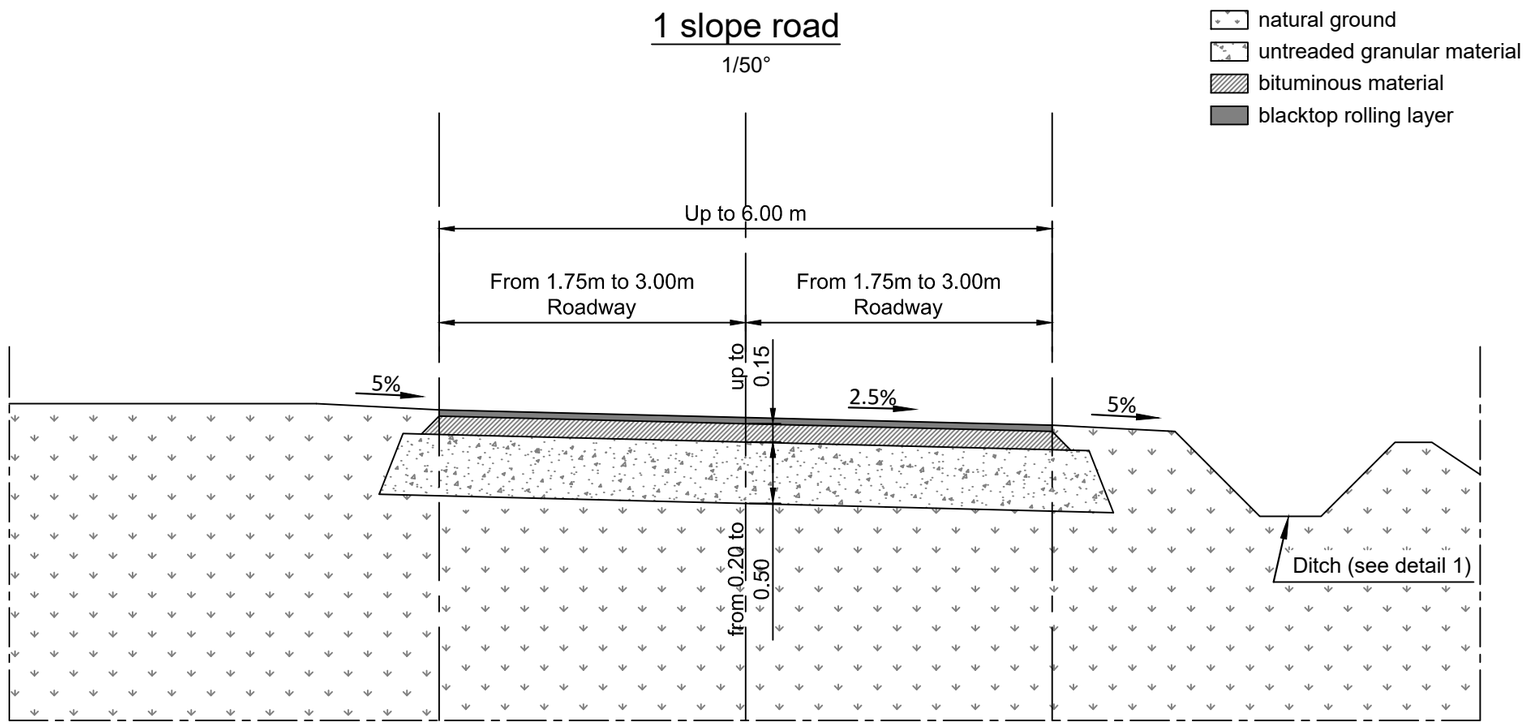
Gate Burton
ENERGY PARK

Illustrative Warehouse and Storage Building elevation

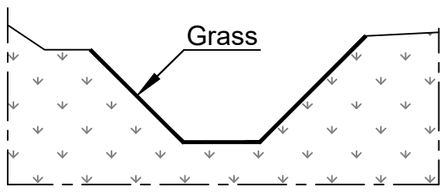
Date	Writer	Checker	Version	Scale	Page
23/01/23	CDU	GDA	D	1/100	9

1 slope road

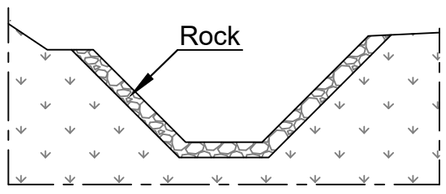
1/50°



Detail 1
Waterway slop < 5%
Grass the ditch to avoid erosion



Detail 1
Waterway slop > 5%
To avoid erosion ditch has to be rockfilled cemented or with a geotextile



NOTES :

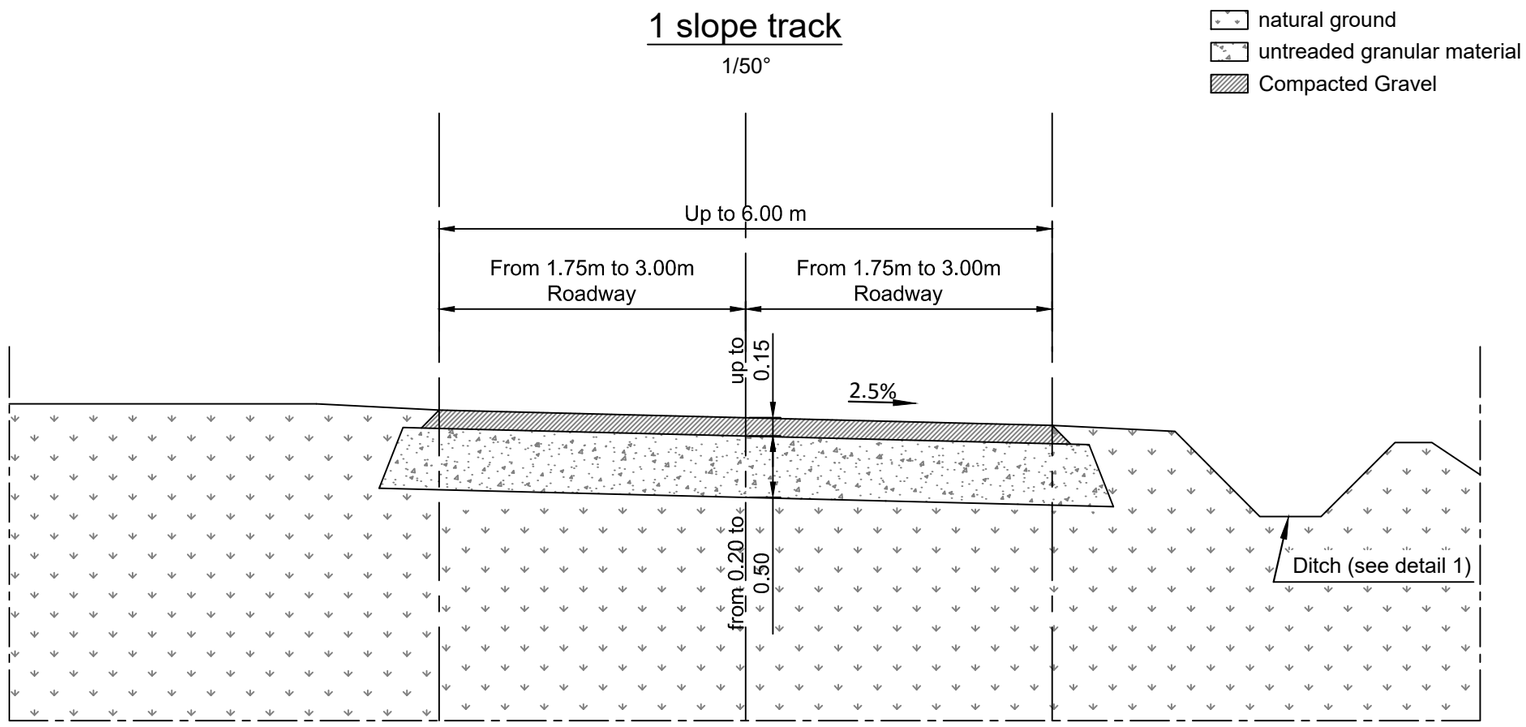
Illustrative proposed design for sections of access roads near the public highway with high frequency use.

Gate Burton ENERGY PARK

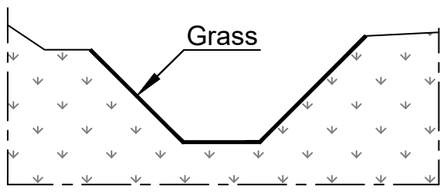
Illustrative Access Road cross-section: single slope					
Date	Writer	Checker	Version	Scale	Page
23/01/23	CDU	GDA	D	1/50	10

1 slope track

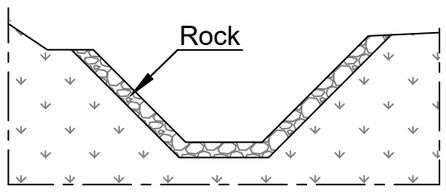
1/50°



Detail 1
Waterway slop < 5%
Grass the ditch to avoid erosion



Detail 1
Waterway slop > 5%
To avoid erosion ditch has to be rockfilled cemented or with a geotextile



NOTES :

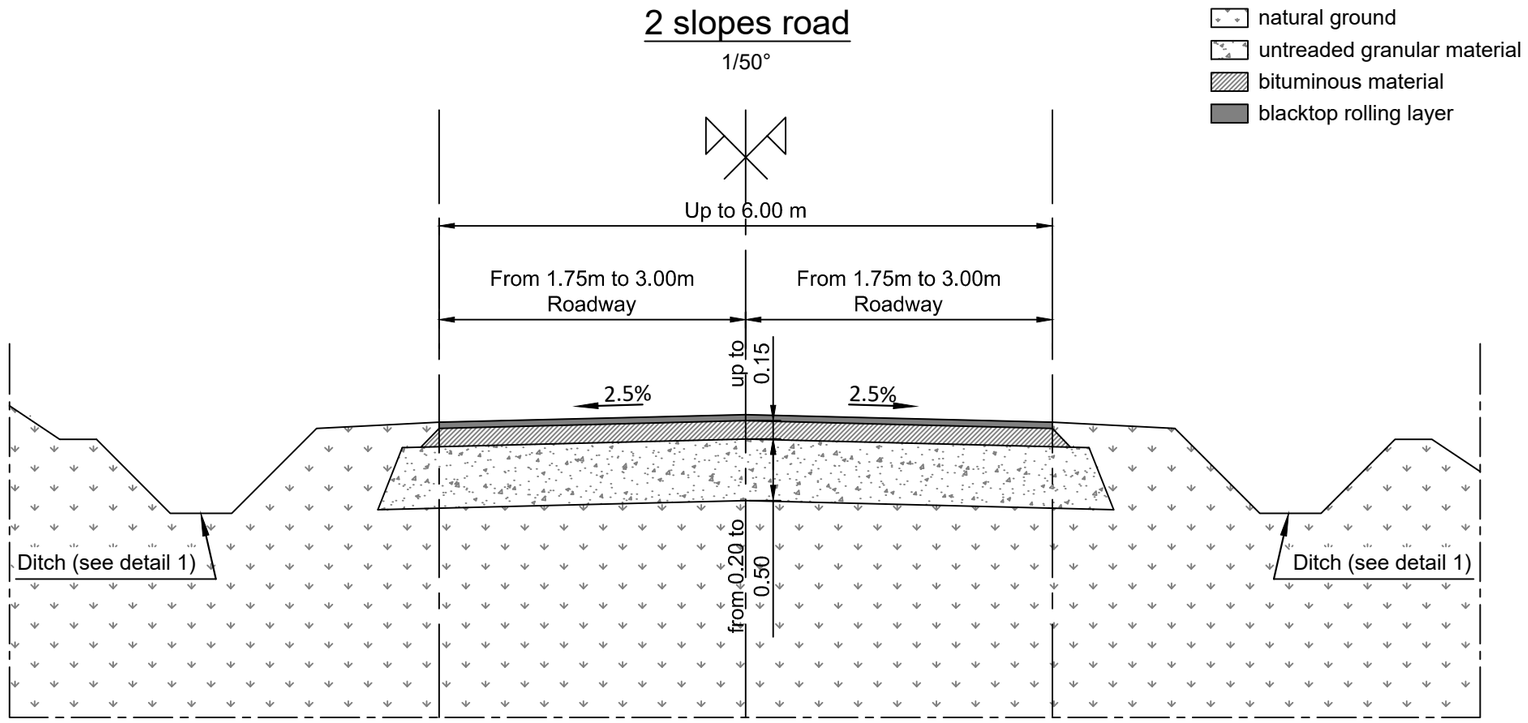
Illustrative proposed design for all internal tracks except main track from the A156 to the BESS and sections near the public highway.

Gate Burton ENERGY PARK

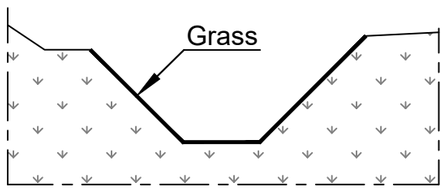
Illustrative Internal Track cross-section: single slope					
Date	Writer	Checker	Version	Scale	Page
23/01/23	CDU	GDA	D	1/50	11

2 slopes road

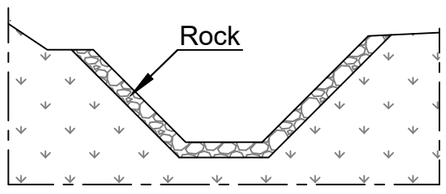
1/50°



Detail 1
Waterway slop < 5%
Grass the ditch to avoid erosion



Detail 1
Waterway slop > 5%
To avoid erosion ditch has to be rockfilled cemented or with a geotextile



NOTES :

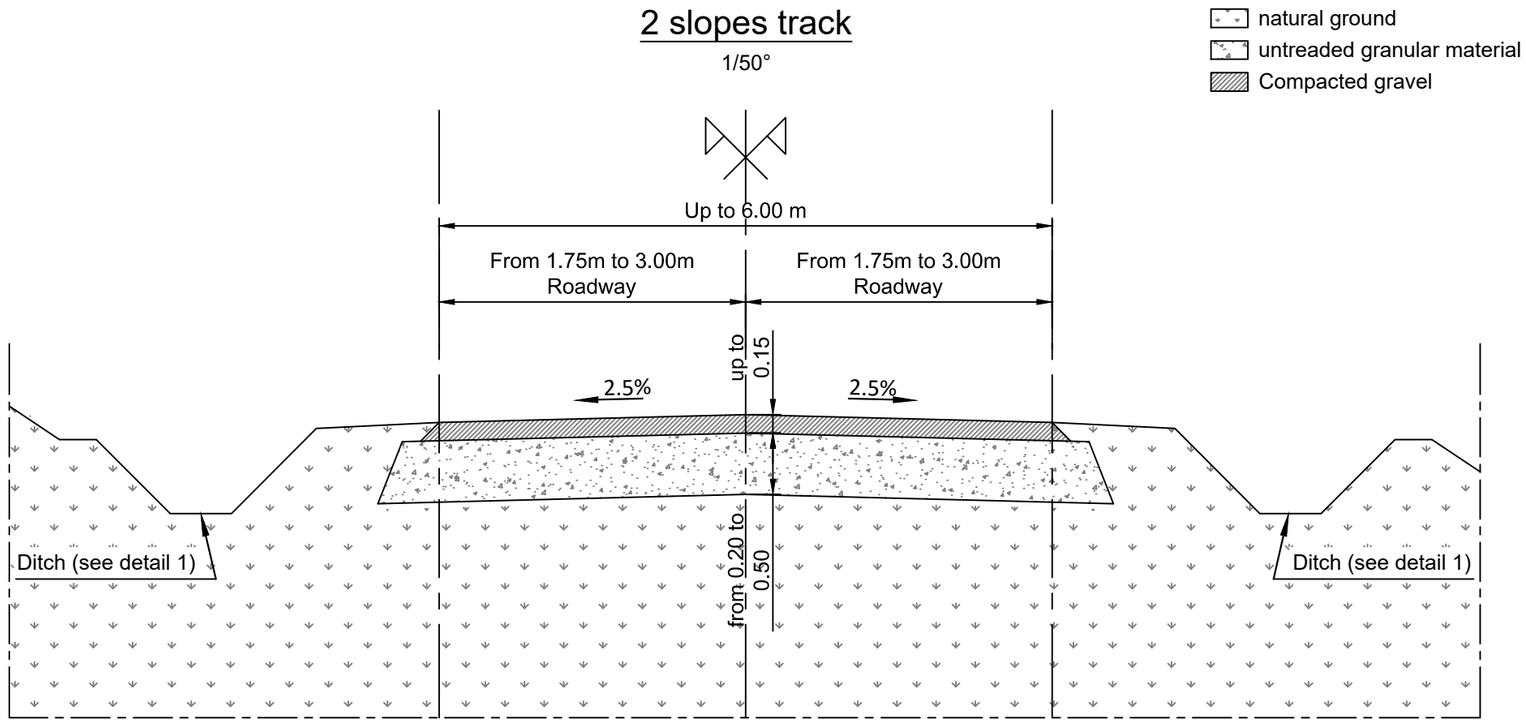
Illustrative proposed design for sections of access roads near the public highway with high frequency use.

Gate Burton ENERGY PARK

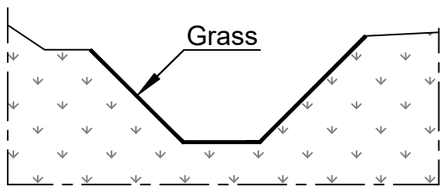
Illustrative Access Road cross-section: dual slope					
Date	Writer	Checker	Version	Scale	Page
23/01/23	CDU	GDA	D	1/50	12

2 slopes track

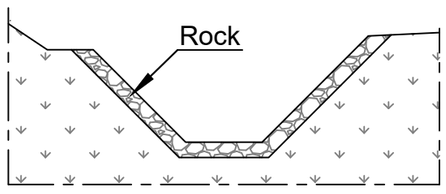
1/50°



Detail 1
Waterway slop < 5%
Grass the ditch to avoid erosion



Detail 1
Waterway slop > 5%
To avoid erosion ditch has to be rockfilled cemented or with a geotextile



NOTES :

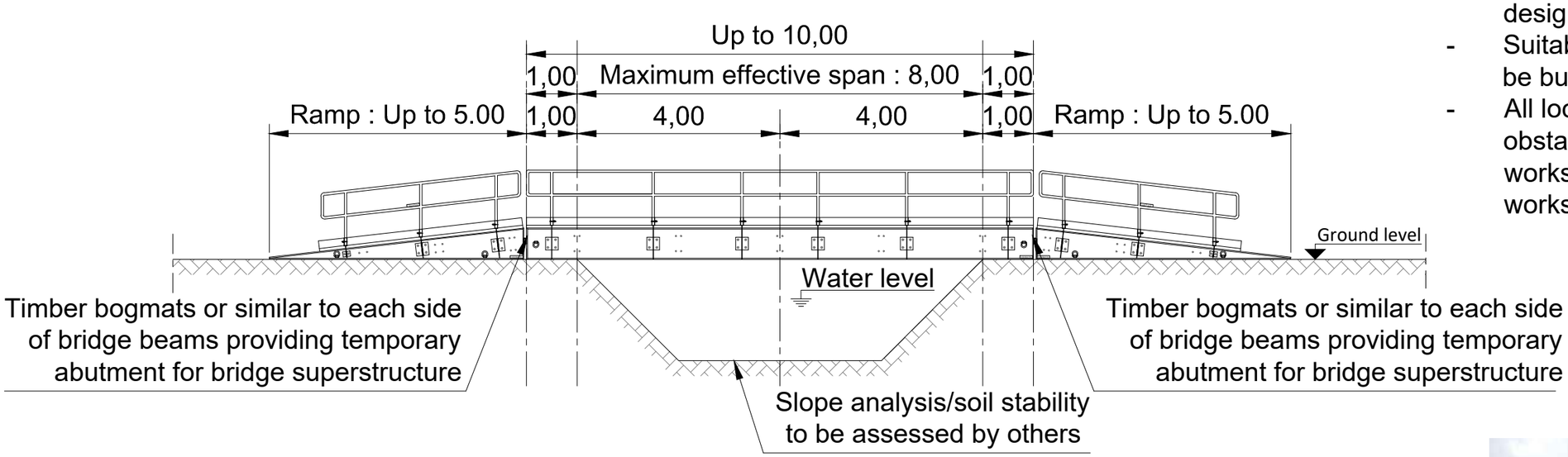
Illustrative proposed design for the main track from the A156 to the BESS.

Gate Burton ENERGY PARK

Illustrative Main Track cross-section: dual slope					
Date	Writer	Checker	Version	Scale	Page
23/01/23	CDU	GDA	D	1/50	13

Temporary bridges - Elevation

Deck dimension 10.0x3.0m

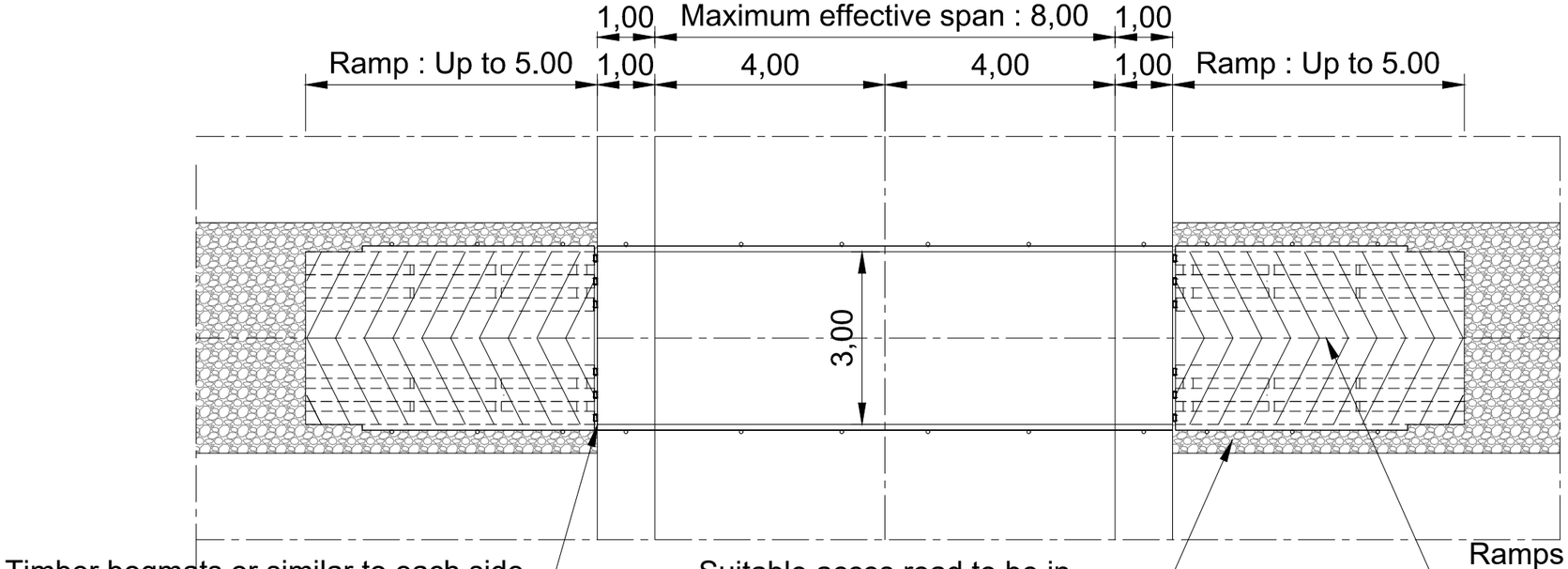


Notes :

- This drawing is indicative only, it has to be design in front of sites problematics
- Suitable access roads to installation site are to be built before the bridge installation.
- All local vegetation deemed as an obstacle/obstruction during the installation works is to be removed prior to installation works commencing.

Temporary bridges - General arrangement

Deck dimension 10.0x3.0m



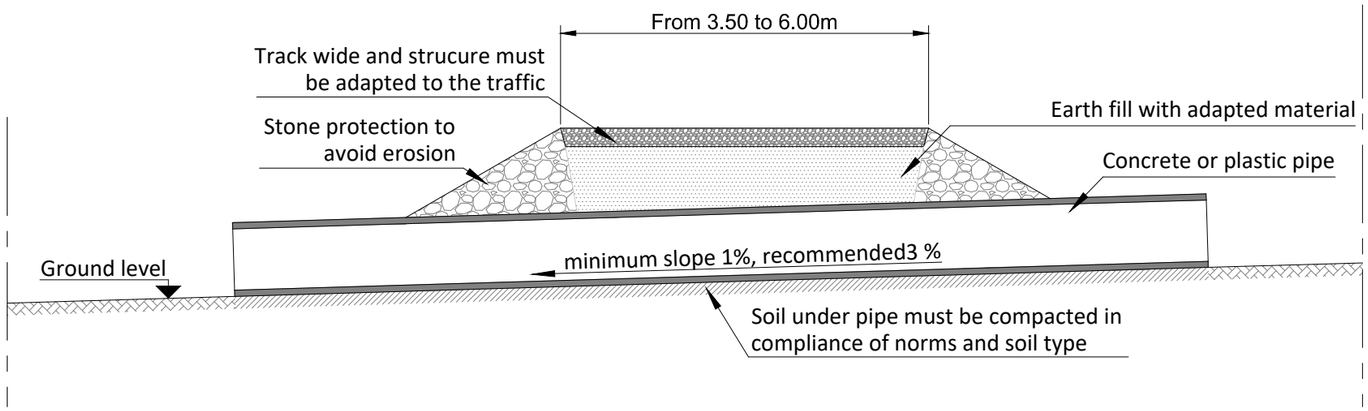
Gate Burton ENERGY PARK

Illustrative Temporary Bridge designs for Bridges over Watercourses

Date	Writer	Checker	Version	Scale	Page
23/01/23	CDU	GDA	D	1/100	14

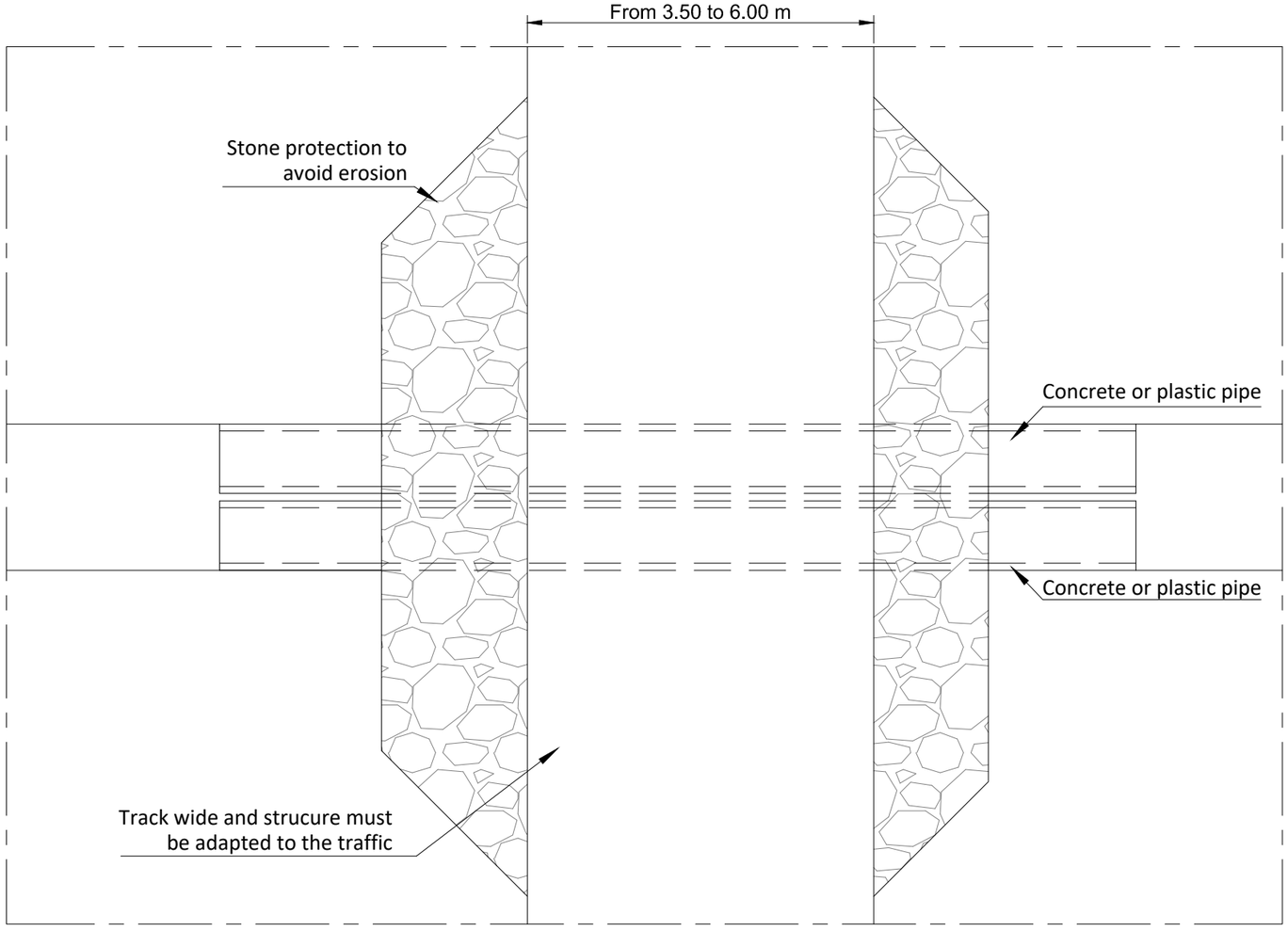
Longitudinal section

1/50°



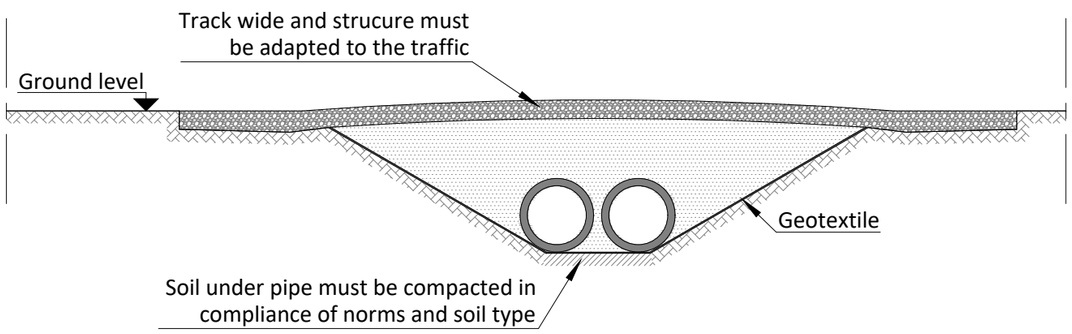
Plan view

1/50°



Transversal section

1/50°

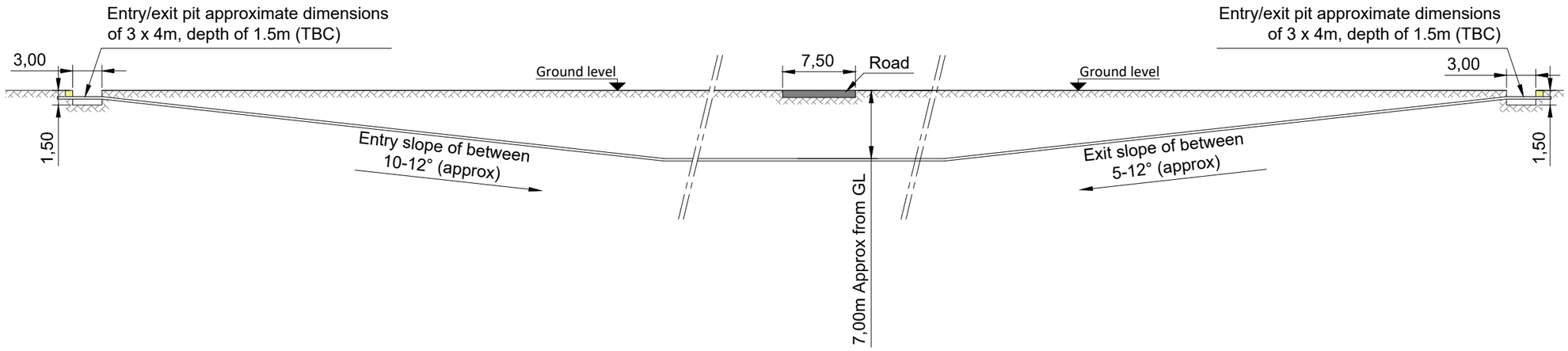


Gate Burton ENERGY PARK

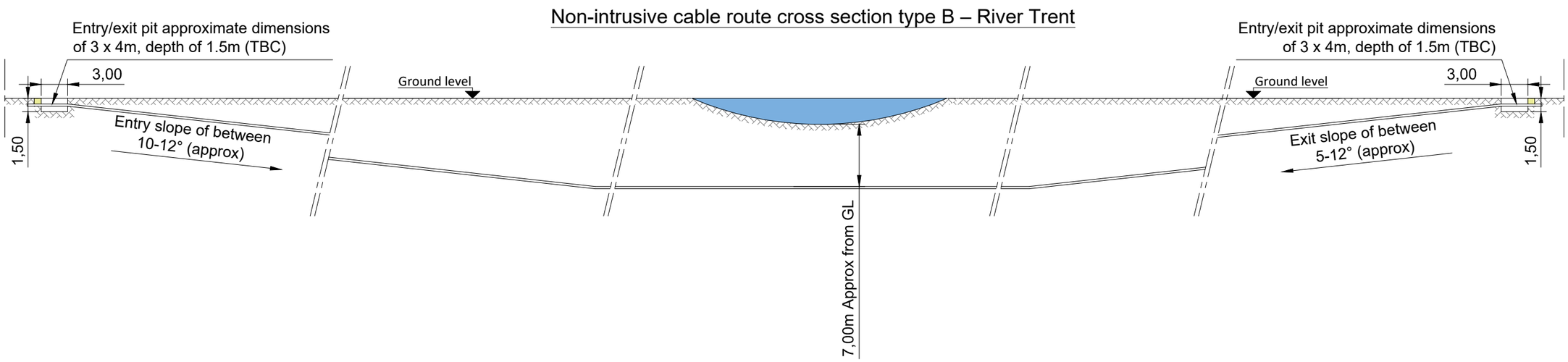
Illustrative Culvert crossing cross-section views

Date	Writer	Checker	Version	Scale	Page
23/01/23	CDU	GDA	D	1/50	15

Non-intrusive cable route cross section type A - Road



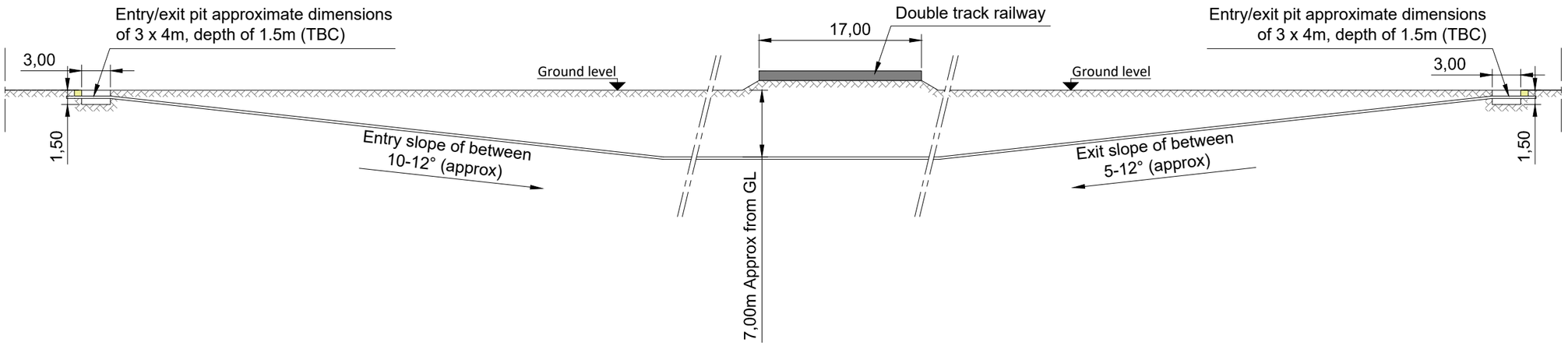
Non-intrusive cable route cross section type B – River Trent



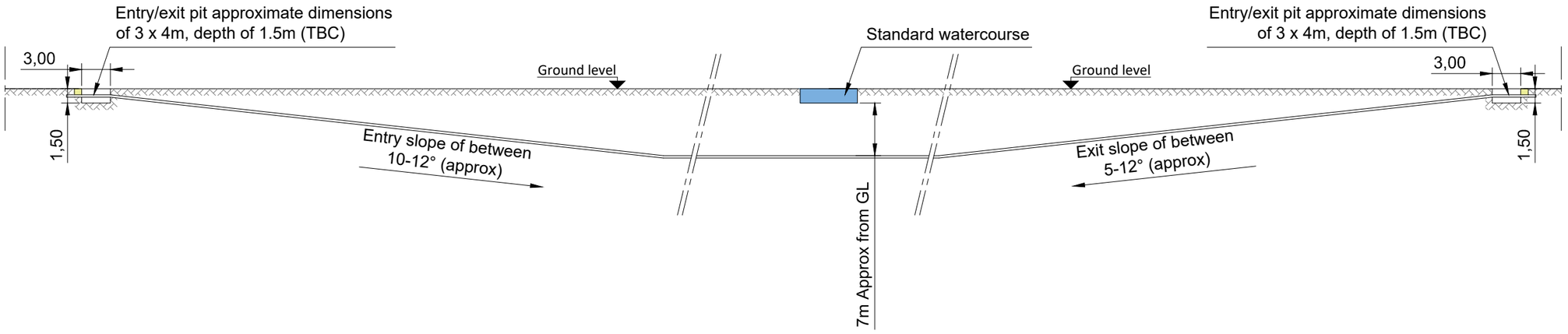
Gate Burton ENERGY PARK

Illustrative Direct drilling type A & B cross-section views					
Date	Writer	Checker	Version	Scale	Page
23/01/23	CDU	GDA	D	1/50	16

Non-intrusive cable route cross section type C – Double track railway



Example non-intrusive cable route cross section type D – Standard watercourse



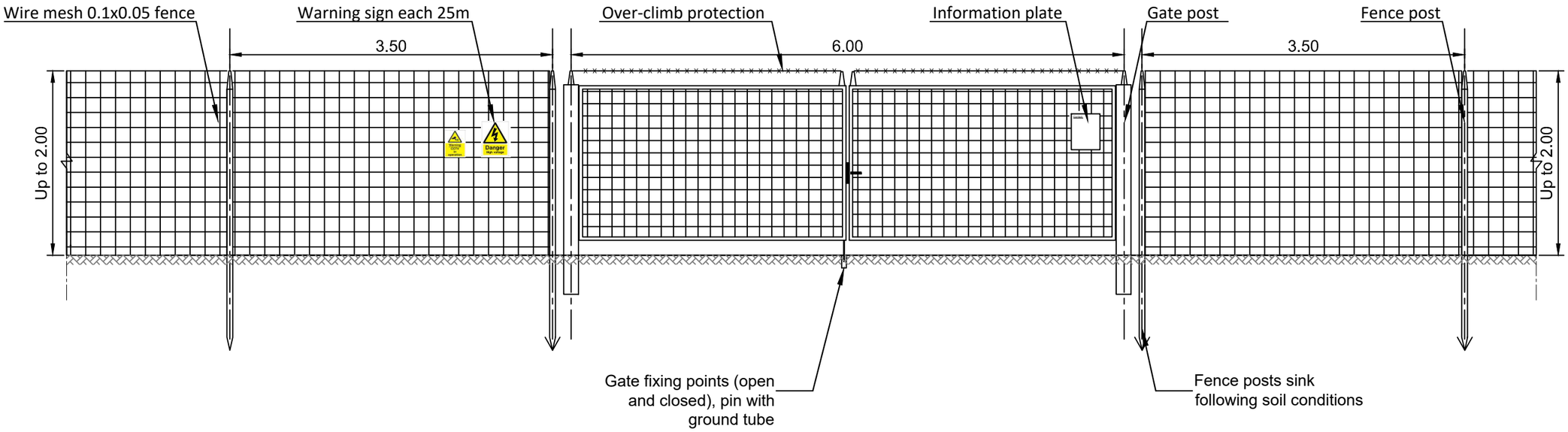
Gate Burton ENERGY PARK

Illustrative Direct drilling type C & D cross-section views

Date	Writer	Checker	Version	Scale	Page
23/01/23	CDU	GDA	D	1/50	17

Fence

1/50°

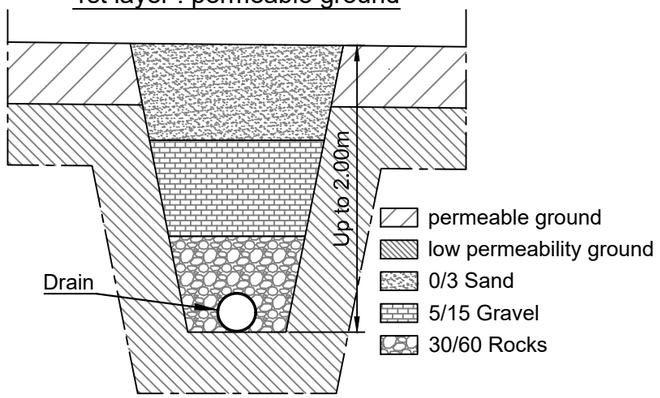


Gate Burton ENERGY PARK

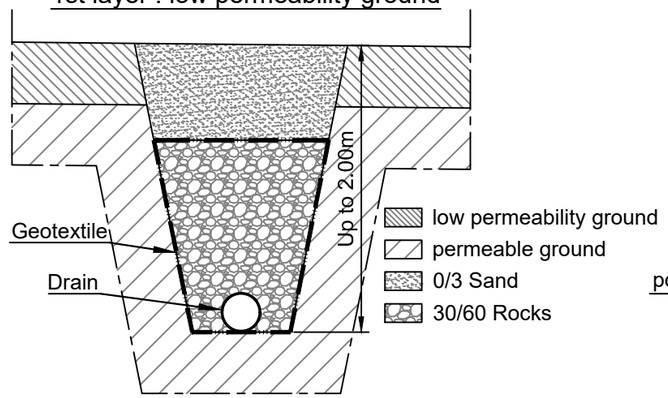
Illustrative Details for Fence on Perimeter of Solar and Energy Storage Park

Date	Writer	Checker	Version	Scale	Page
23/01/23	CDU	GDA	D	1/50	18

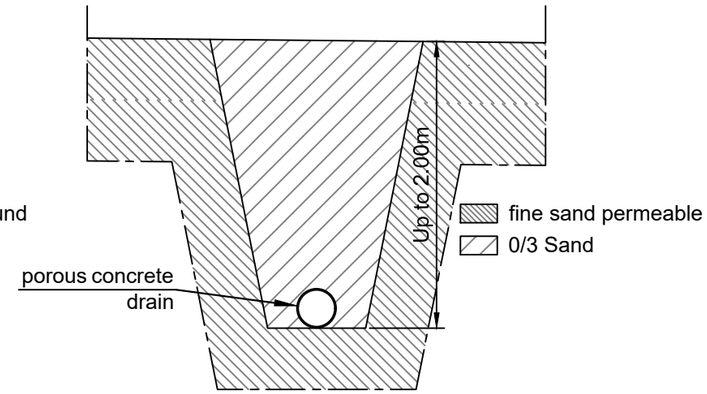
Draining Trench
1st layer : permeable ground



Draining Trench
1st layer : low permeability ground



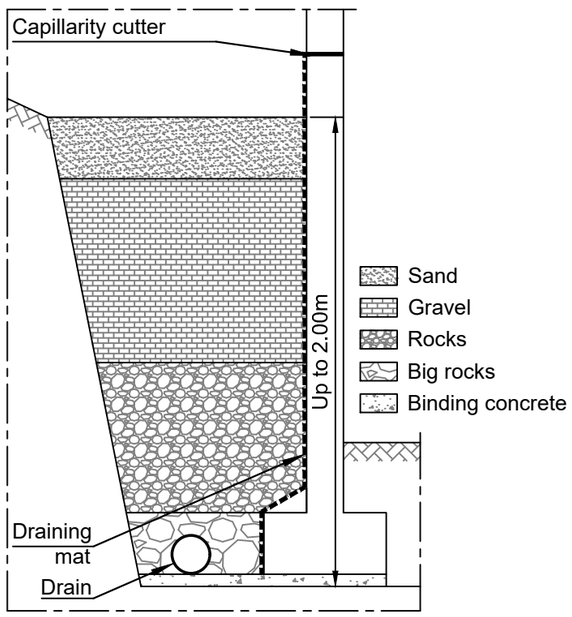
Draining Trench
Fine sand



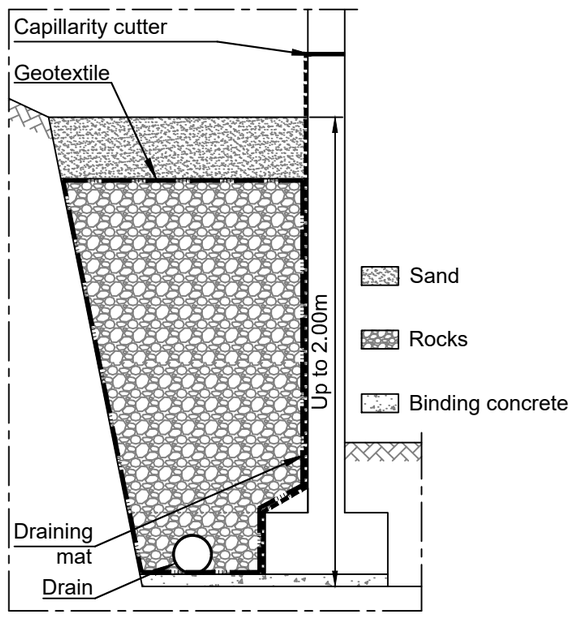
NOTES :

Drainage trench examples above can be used in the field in order to improve drainage on site.

Draining Trench against a wall
Without geotextile



Draining Trench against a wall
With geotextile



NOTES :

Drainage trench against wall examples above can be used for drainage of any building with basement (e.g: substation, storage building).

Gate Burton ENERGY PARK

Illustrative Drainage Trench cross-section views

Date	Writer	Checker	Version	Scale	Page
23/01/23	CDU	GDA	D	-	19