



Supplementary Environmental Information
Immediate Habitat Losses within the Designated Site
Supplementary Report EX 11.23

23rd May 2012
Revision: 0
Able UK Ltd

	SUPPLEMENTARY ENVIRONMENTAL INFORMATION IMMEDIATE HABITAT LOSSES WITHIN THE DESIGNATED SITE	MAY 2012
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APPROVAL & REVISION REGISTER

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Checked by:	R. Cram		29/05/2012
Approved by:	R. Cram		29/05/2012

REVISION	COMMENTS	DATE
A		29/05/2012

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	<p align="center">SUPPLEMENTARY ENVIRONMENTAL INFORMATION</p> <p align="center">IMMEDIATE HABITAT LOSSES WITHIN THE DESIGNATED SITE</p>	<p align="center">MAY 2012</p>
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1 INTRODUCTION

- 1.1.1 Able Marine Energy Park (AMEP) requires the reclamation of a section of intertidal and subtidal mudflat. The Humber Estuary is a designated Special Protection Area (SPA), Special Area of Conservation (SAC), Site of Special Scientific Interest (SSSI) and Ramsar site.

- 1.1.2 Construction of AMEP will result in the immediate loss of habitats within the designated site. The table below details the locations, size and type of habitat affected plus the activities associated with the immediate habitat loss.

- 1.1.3 This report should be read together with Drawing AME – 06077 B, Habitat Impact drawing and the associated documents listed in the table below and reproduced in the appendices of this report.

REF.	DESCRIPTION OF WORKS	HABITAT TYPE	AREA (ha)	DESCRIPTION OF HABITAT	ASSOCIATED DOCUMENTS
A	<p><u>Reclamation Area (Intertidal)</u></p> <p><i>Piling:</i> Approximately 550 No. tubular and 1,100 No. sheet steel perimeter piles will be driven into the bed of the estuary to form the external face of the quay. Two return walls comprising 2,300 No. steel piles and earthwork revetments (75,000 tonnes of rock armour protection) will be constructed between the ends of the quay and the existing flood defence wall. Perimeter piles will be fixed to 450 No. flap anchor piles which will be seated in a trench on the bed of the estuary. Up to 70 No. steel anchor piles will be driven into the bed of the estuary and fixed to perimeter piles. The piles will be driven via vessels moored in the Estuary. Earthwork revetments and the rock armour shall be constructed using land based plant. Drainage outfalls and cooling water outfalls will be incorporated into the piled quay.</p> <p><i>Reclamation:</i> The area of estuary enclosed by the quay perimeter piles and the two return walls will be reclaimed using marine dredged sands and gravels. Two granular dams are to be constructed that extend from the existing flood defence wall to around the level of MLWS. These dams will divide the reclaim area into three approximately equal cells. Vessels shall pump fluidized granular material into each cell in sequence until the reclaim area is raised to its design level. Estuarine water that is retained within each cell will overflow the dams as the fluidized material is deposited and settles within the cell. The activity will continue until all cells attain their design level.</p>	1140	31.5	Mudflats and sandflats not covered by seawater at low tide.	AME - 06077 B – Appendix 1 AME – 06065 B (Drawing A9 from ES Annex 13.1 FRA) – Appendix 2 Hochtief Design Drawings (Appendix 3): <ul style="list-style-type: none"> • AMEP_P1D_D_002_G: Piling layout • AMEP_P1D_D_003_G: Quay Sections 1 of 2 • AMEP_P1D_D_004_E Quay Sections 2 of 2 • AMEP_P1D_D_006_G: Northern Return Wall Elevation • AMEP_P1D_D_007_D: Southern Return Wall Elevation • AMEP_P1D_D_101_G: Indicative Sequence Plan View 1/3 • AMEP_P1D_D_102_G: Indicative Sequence Plan View 2/3 • AMEP_P1D_D_103_G: Indicative Sequence Plan View 3/3 • AMEP_P1D_D_104_C: Indicative Sequence Cross Section 1/2 • AMEP_P1D_D_105_E: Indicative Sequence Cross Section 2/2



AMEP ENVIRONMENTAL STATEMENT
IMMEDIATE HABITAT LOSSES WITHIN THE DESIGNATED SITE

MAY 2012

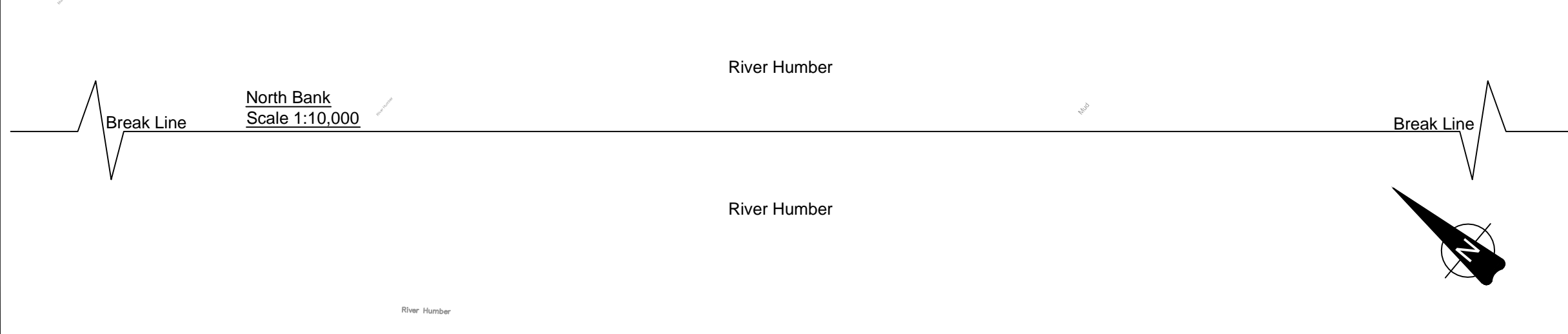
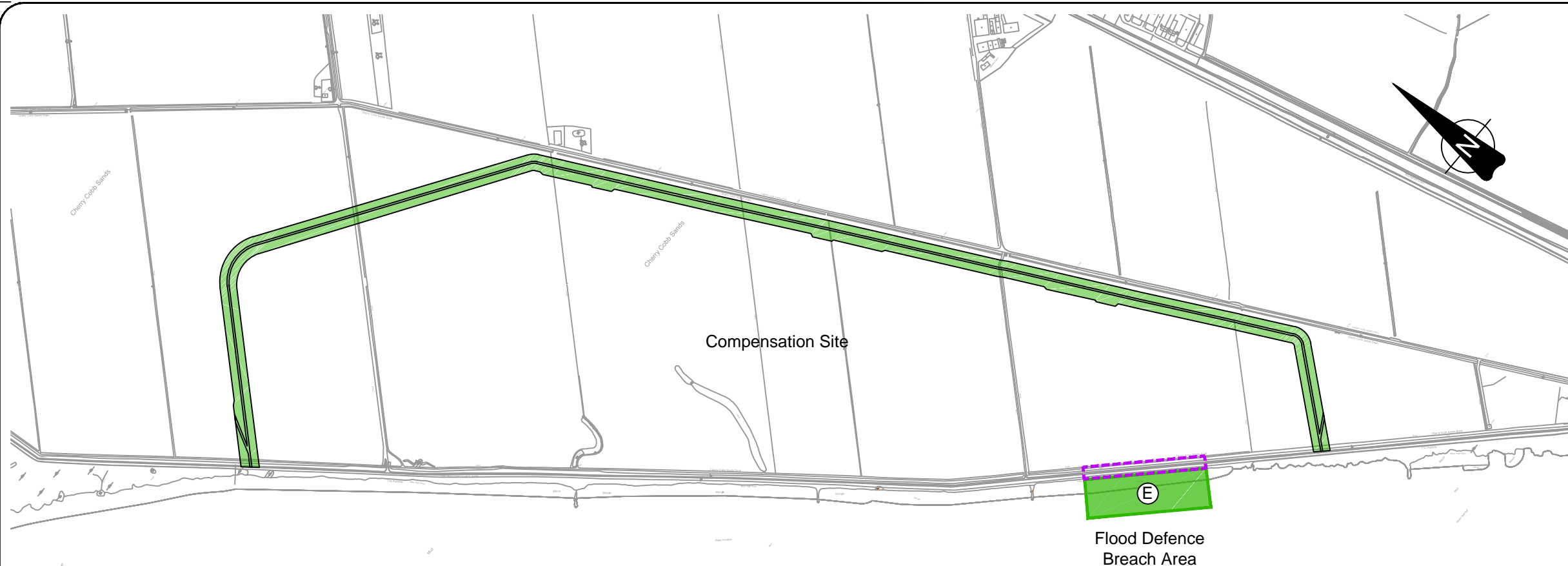
REF.	DESCRIPTION OF WORKS	HABITAT TYPE	AREA (ha)	DESCRIPTION OF HABITAT	ASSOCIATED DOCUMENTS
B	<p><u>Reclamation Area (Subtidal)</u></p> <p>Works as described above plus:</p> <p><i>Temporary dolphins:</i> Seven temporary dolphins to be installed within the berthing pocket. Each temporary dolphin to comprise three tubular steel braced with interconnecting steelwork. The dolphins to be used to moor vessels involved in the construction of the quay, the reclamation of the estuary or the backfilling of the berthing pocket for any such works permitted by this licence.</p>	1130	13.5	Estuaries	<p>AME - 06077 B – Appendix 1 Hochtief Design Drawings (Appendix 3):</p> <ul style="list-style-type: none"> • AMEP_P1D_D_002_G: Piling layout • AMEP_P1D_D_003_G: Quay Sections 1 of 2 • AMEP_P1D_D_004_E Quay Sections 2 of 2 • AMEP_P1D_D_005_E: Front Wall Elevation • AMEP_P1D_D_006_G: Northern Return Wall Elevation • AMEP_P1D_D_007_D: Southern Return Wall Elevation • AMEP_P1D_D_009_G: Concrete Deck General Arrangement • AMEP_P1D_D_101_G: Indicative Sequence Plan View 1/3 • AMEP_P1D_D_102_G: Indicative Sequence Plan View 2/3 • AMEP_P1D_D_103_G: Indicative Sequence Plan View 3/3 • AMEP_P1D_D_104_C: Indicative Sequence Cross Section 1/2 • AMEP_P1D_D_105_E: Indicative Sequence Cross Section 2/2

REF.	DESCRIPTION OF WORKS	HABITAT TYPE	AREA (ha)	DESCRIPTION OF HABITAT	ASSOCIATED DOCUMENTS
C	<p><u>Functional Loss due to Operational Disturbance</u></p> <p>Once the development is operational, activity within the site may cause intermittent disturbance to the functional intertidal mudflats to the south of the quay for a distance of 275m from the quay. Area to the south of the quay will also be cut through by a new drainage channel that will be formed by the discharge of surface water.</p>	1140	11.6	Mudflats and sandflats not covered by seawater at low tide	AME - 06077 B – Appendix 1
D	<p><u>Pumping Station & Drainage Channel</u></p> <p>Surface water runoff will be collected in a network of ditches behind the shoreline embankment and discharged into the estuary; during extreme events and during high tide the discharge will be pumped onto the foreshore. The pumping station will discharge through concrete pipes onto the intertidal mudflat. Rock armour (0.01ha) will be placed at the pumping station outfall to prevent undermining of the outfall. This rock armour lies within the area of function loss.</p>	1140	Included within C	Mudflats and sandflats not covered by seawater at low tide	<p>Section 4 ES Annex 8.3</p> <p>Location of pumping station and drainage channel is shown on AME - 06077 B (Appendix 4)</p> <p>AME - 02013 A Surface Water Pumping Station Indicative Layout</p> <p>AME - 02014 A Surface Water Pumping Station Indicative Elevation</p>
E	<p><u>Flood Defence Breach Area</u></p> <p>The works will comprise a 250 m long breach with an approximate invert level of 1.8mAOD. Removal of some of the saltmarsh fronting the breach site down to 1.8mAOD. All the saltmarsh fronting the breach site will be eroded away fairly rapidly, leading to a direct loss of about 2 ha of saltmarsh.</p>	1310 / 1330	1.8	Salicornia and other mud and sand colonising annuals / Atlantic Salt Meadow	ES Annex 32.3 Breach Design Report

	<p align="center">AMEP ENVIRONMENTAL STATEMENT</p> <p align="center">IMMEDIATE HABITAT LOSSES WITHIN THE DESIGNATED SITE</p>	<p align="center">MAY 2012</p>
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APPENDIX 1

AME – 06077 B: Habitat Impact



KEY		
	Berthing Pocket	
	Intertidal Habitat Loss -	31.50ha
	Subtidal Habitat Loss -	13.50ha
	Limit of Operational Disturbance -	11.6ha
	Drainage Channel & Pumping Station	
	Flood Defence Breach Area -	1.8ha
	Mean Low Water Spring	
	Limit of Operational Boundary	

Notes:

1. Limit of disturbance is defined by 150m offset from a point source (+).

B	17/05/12	North Bank Added	RK	JD	RC
A	13/04/12	Preliminary Issue	JH	RC	RC
Rev	Date	Comments	Drw	Chk	App



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Project:	ABLE Marine Energy Park
Client:	ABLE UK Ltd
Title:	Habitat Impacts

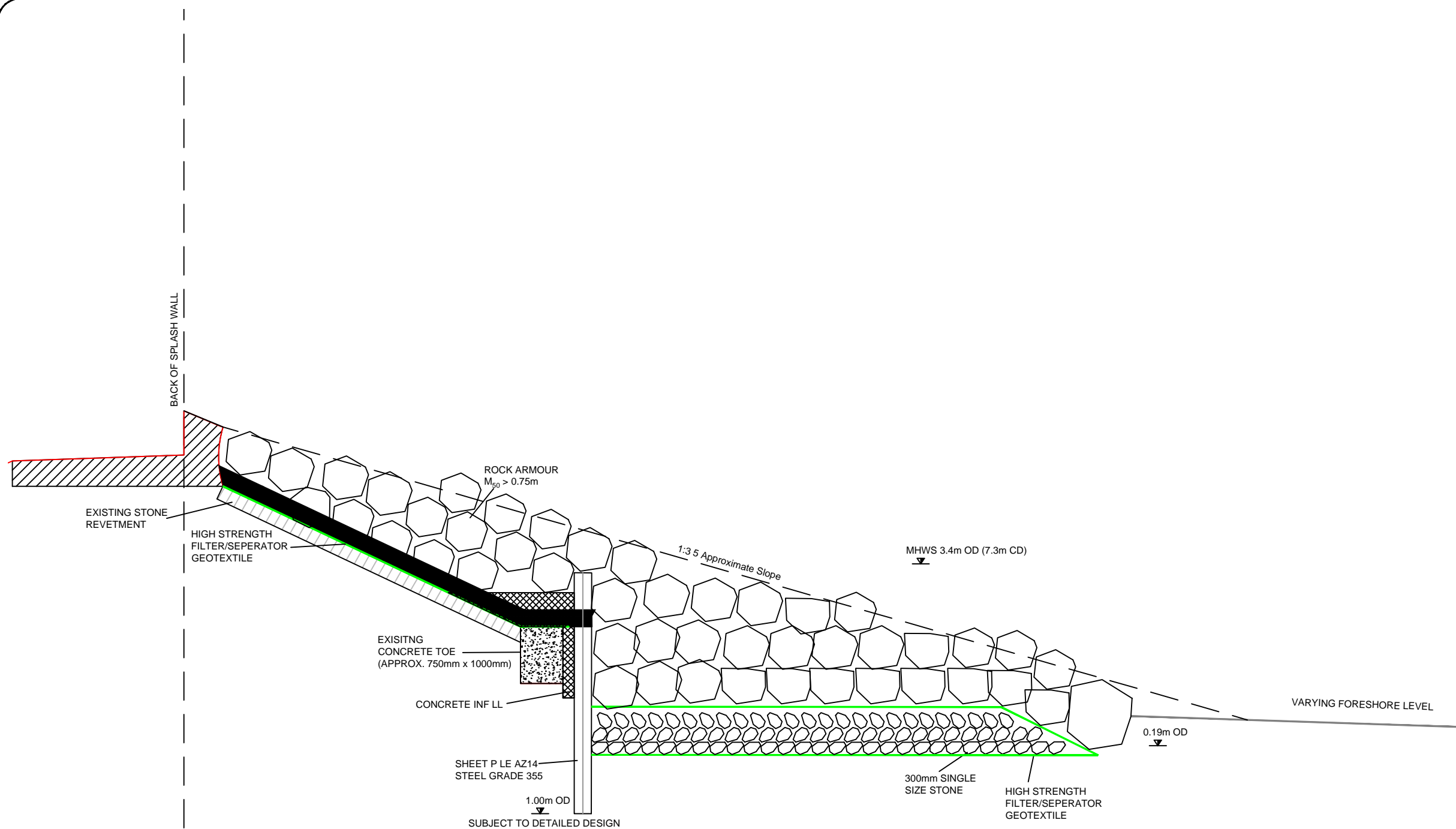
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	<p align="center">AMEP ENVIRONMENTAL STATEMENT</p> <p align="center">IMMEDIATE HABITAT LOSSES WITHIN THE DESIGNATED SITE</p>	<p align="center">MAY 2012</p>
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APPENDIX 2

AME – 06065A: Rock Armour North Section

(Drawing A9 Flood Risk Assessment Environmental Statement Annex 13.1)



KEY

B	07/12/11	Splash Wall Removed	JH	RC	RC
A	03/11/11	Preliminary Issue	JH	RC	RC
Rev	Date	Comments	Drw	Chk	App



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Project:	ABLE Marine Energy Park
Client:	ABLE UK Ltd
Title:	Indicative Rock Armour Protection to Existing Northern Defences

PRELIMINARY

Scale:	Drawn	Checked	Approved
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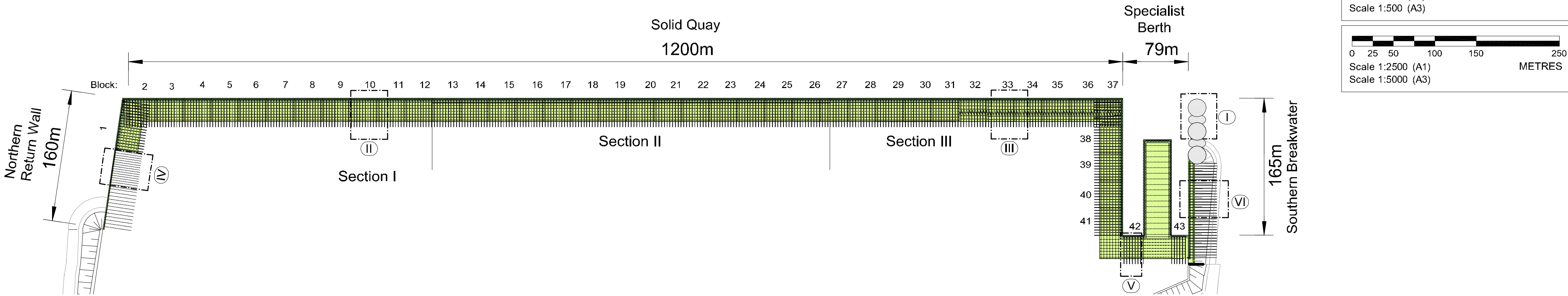
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APPENDIX 3

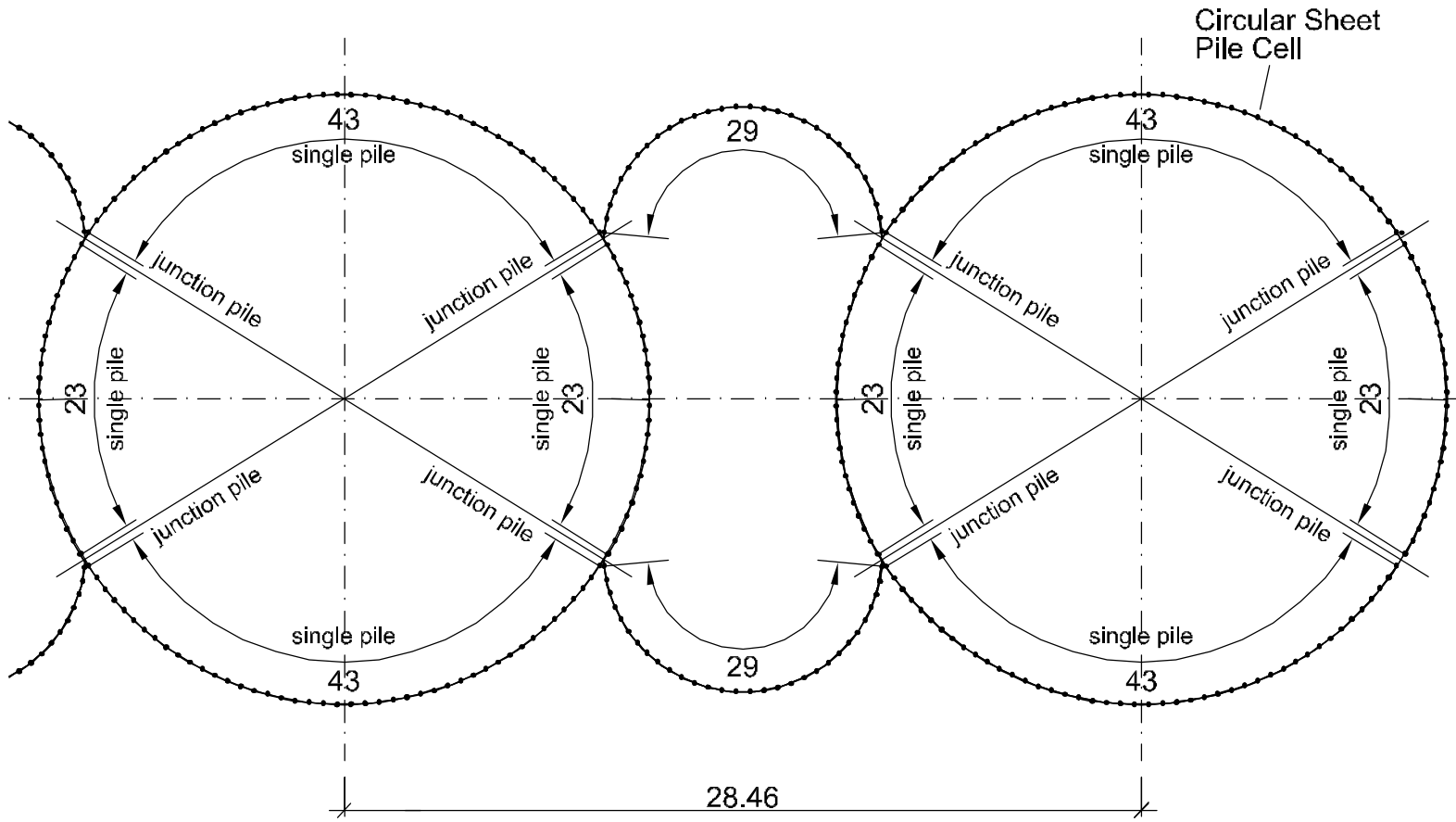
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AMEP_P1D_D_004_E Quay Sections 2 of 2
AMEP_P1D_D_005_E: Front Wall Elevation
AMEP_P1D_D_006_G: Northern Return Wall Elevation
AMEP_P1D_D_007_D: Southern Return Wall Elevation
AMEP_P1D_D_009_G: Concrete Deck General Arrangement
AMEP_P1D_D_101_G: Indicative Sequence Plan View 1/3
AMEP_P1D_D_102_G: Indicative Sequence Plan View 2/3
AMEP_P1D_D_103_G: Indicative Sequence Plan View 3/3
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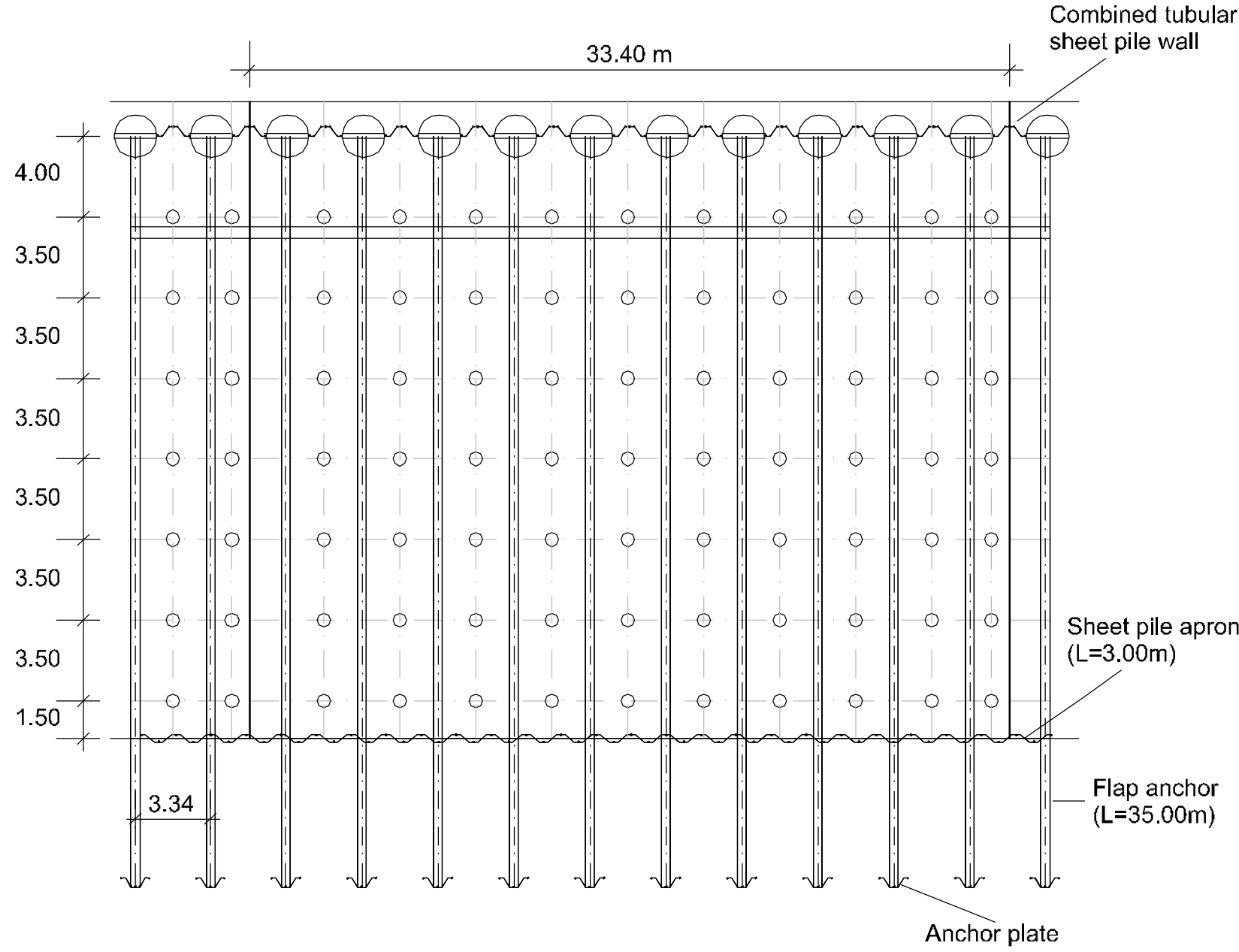
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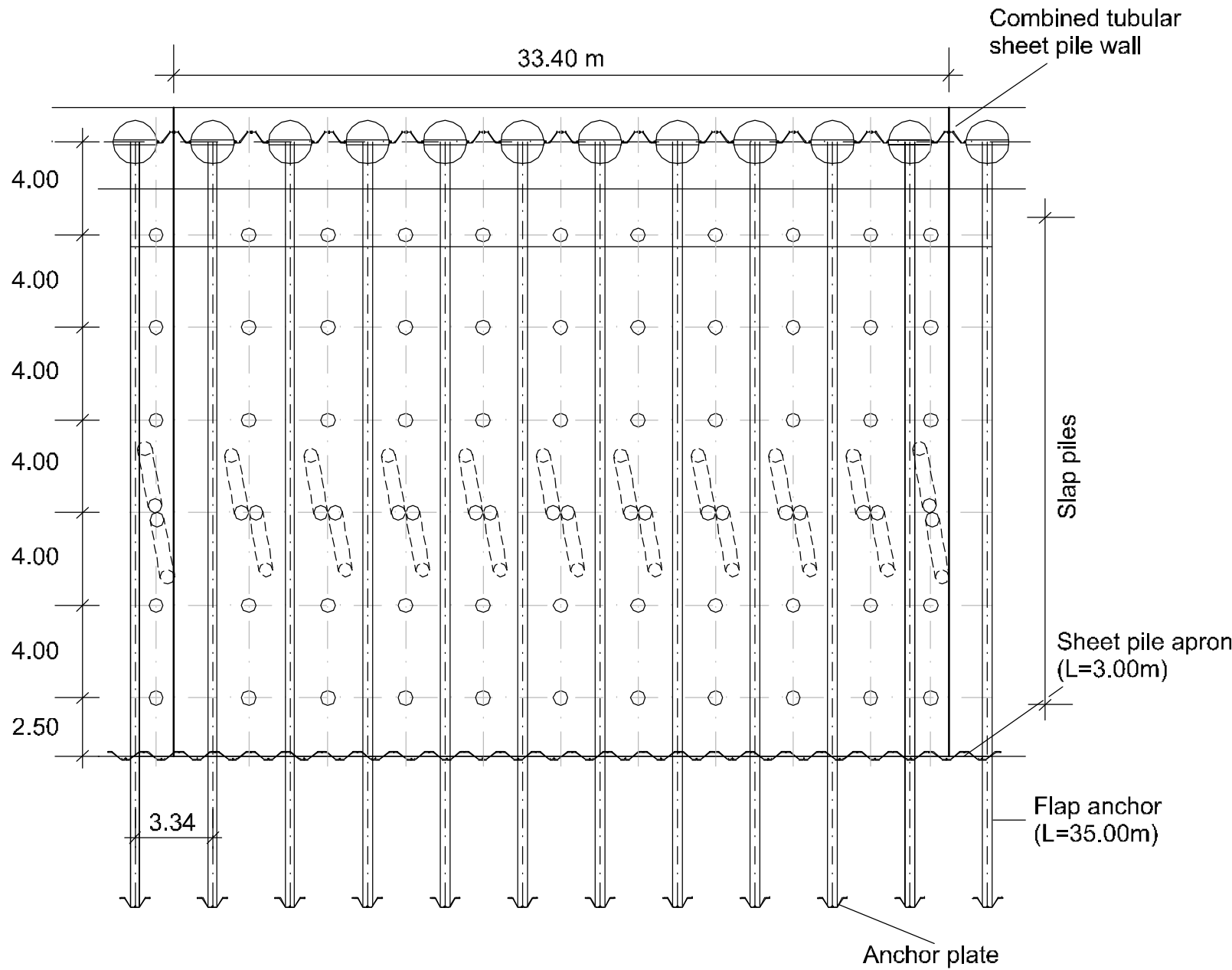
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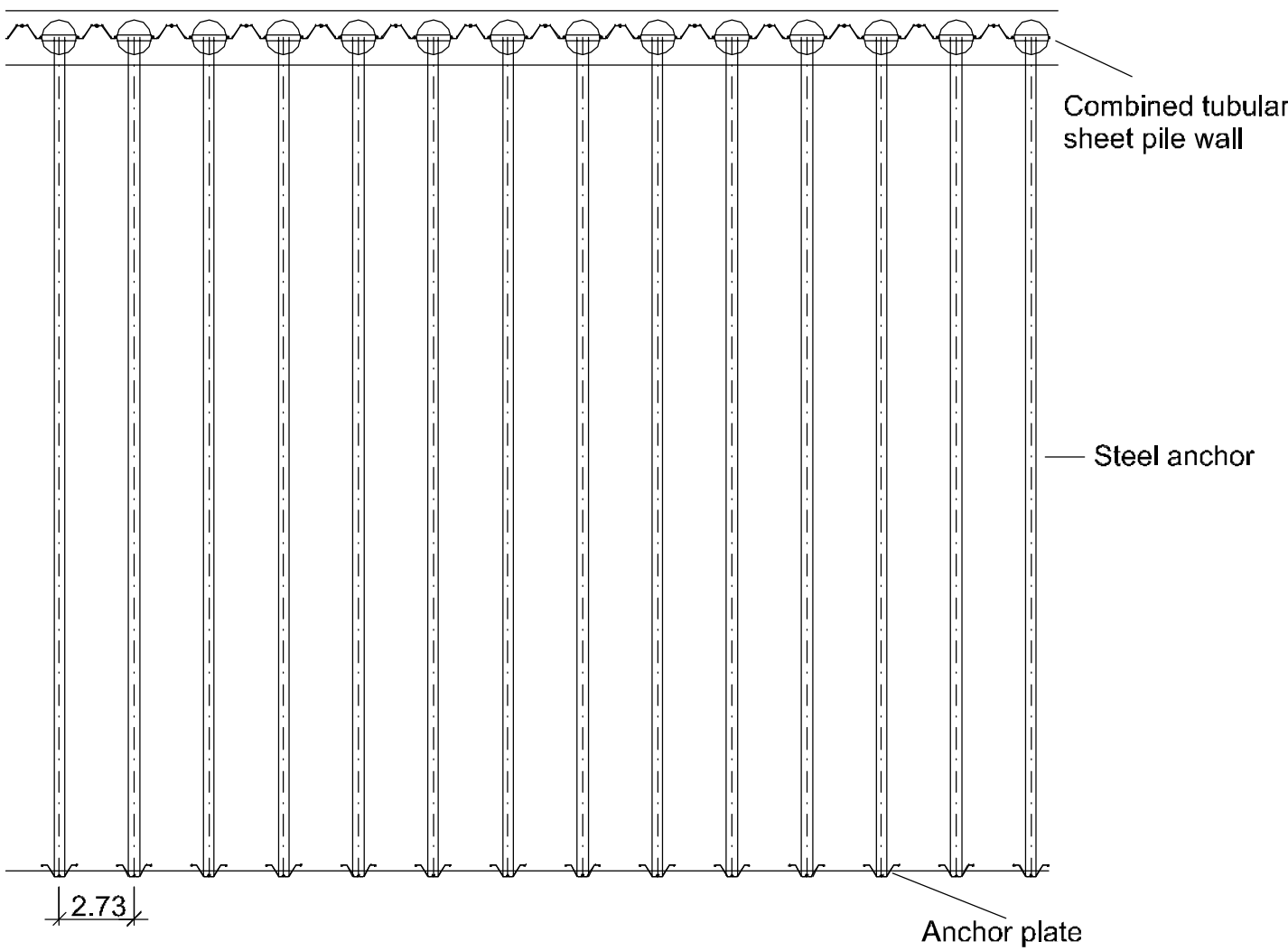
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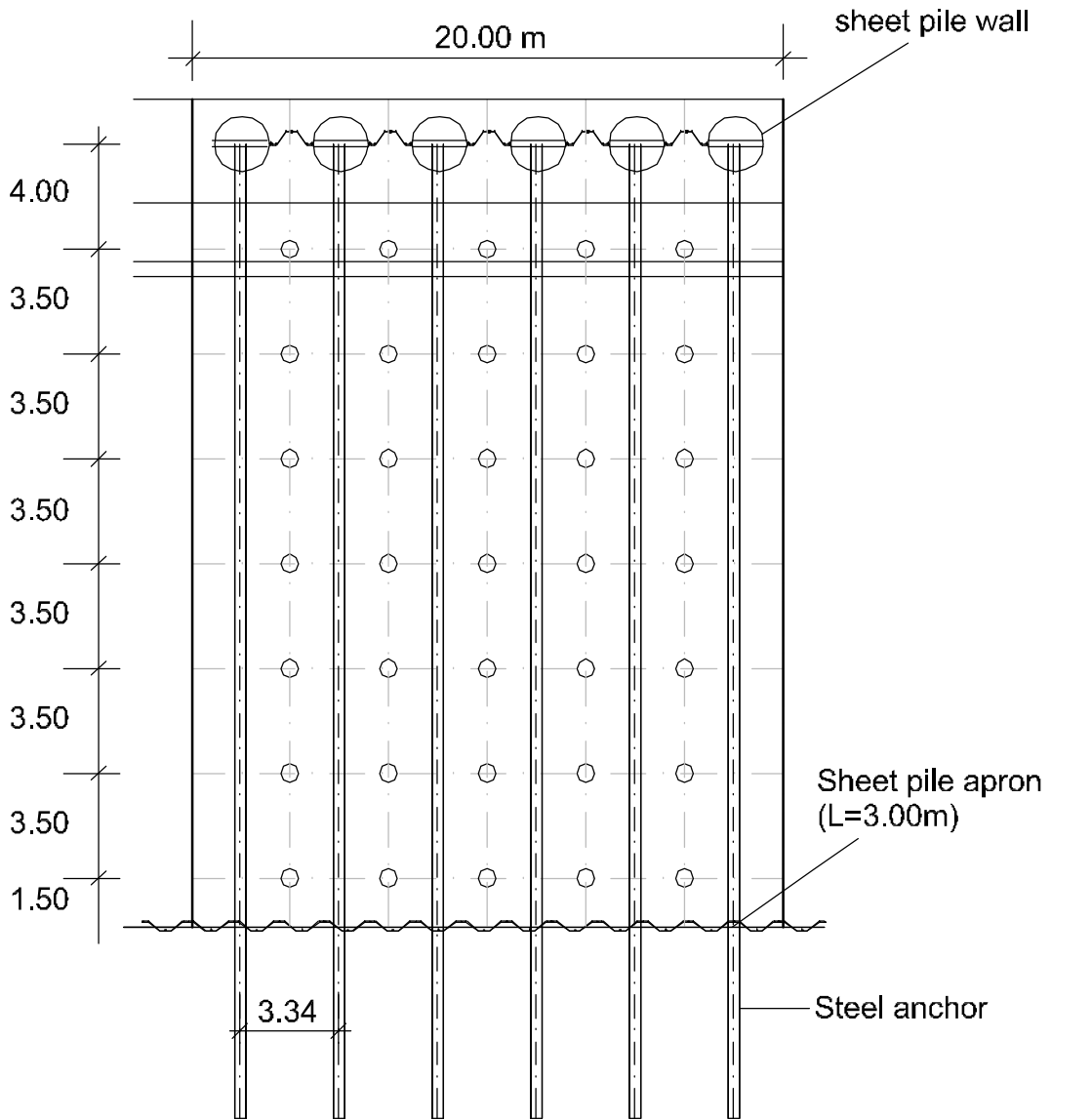
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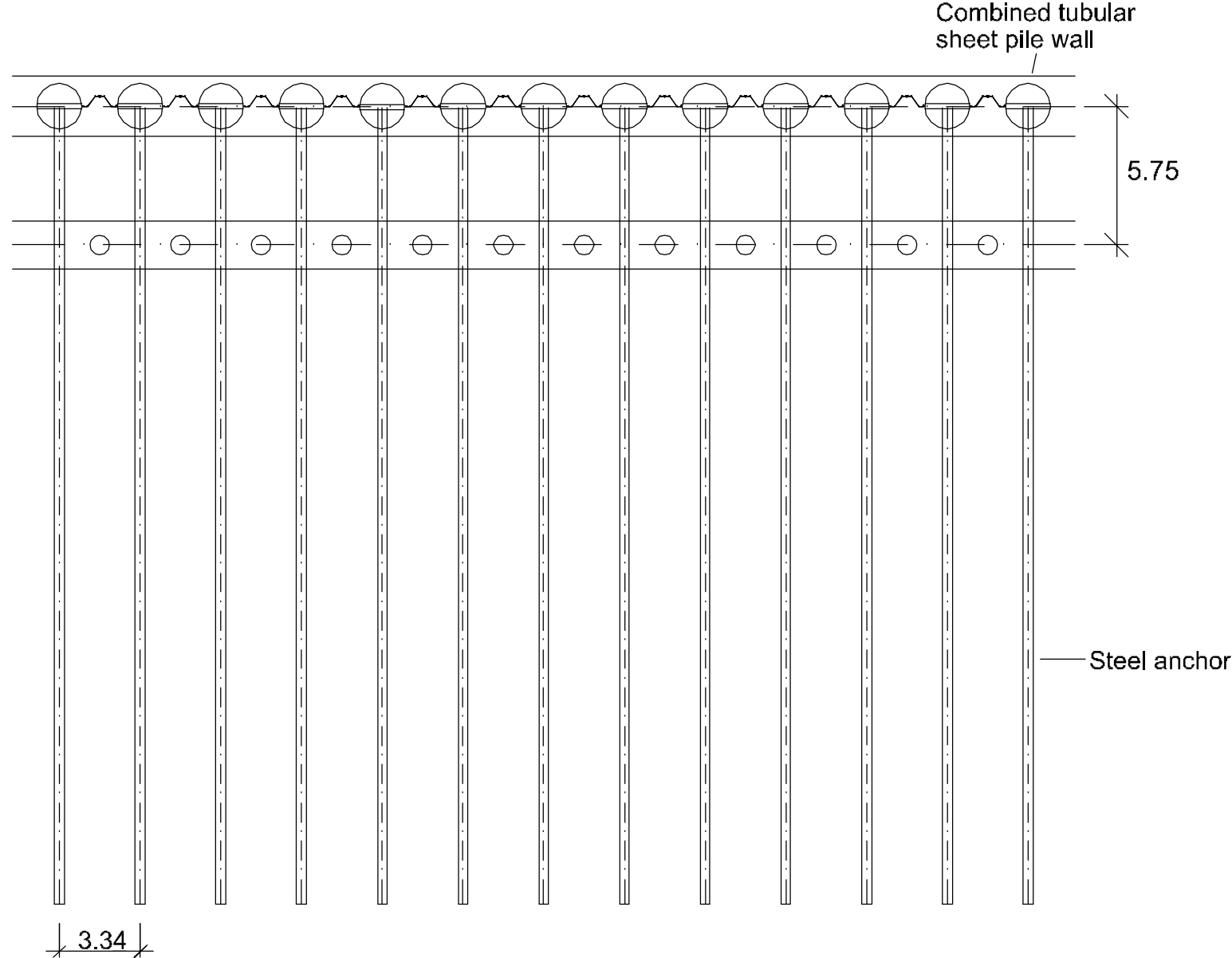
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V Solid Quay Block 42 1:250



VI Southern Breakwater 1:250



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E	16.09.11	Revision IPC Application	ASS	SVF	HTA
D	31.08.11	Revision IPC Application	ASS	SVF	HTA
C	30.08.11	Revision IPC Application	ASS	SVF	HTA
B	21.01.11	Revision of Northern Revetment/Breakwater	ASS	SVF	HTA
A	07.01.11	EIA Masterplan Revision	ASS	SVF	HTA
0	17.09.10	Preliminary Issue	CBR	SVF	HTA
Rev	Date	Description	By	Chk	App




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Client:	ABLE UK Ltd
Title:	Indicative Piling Layout

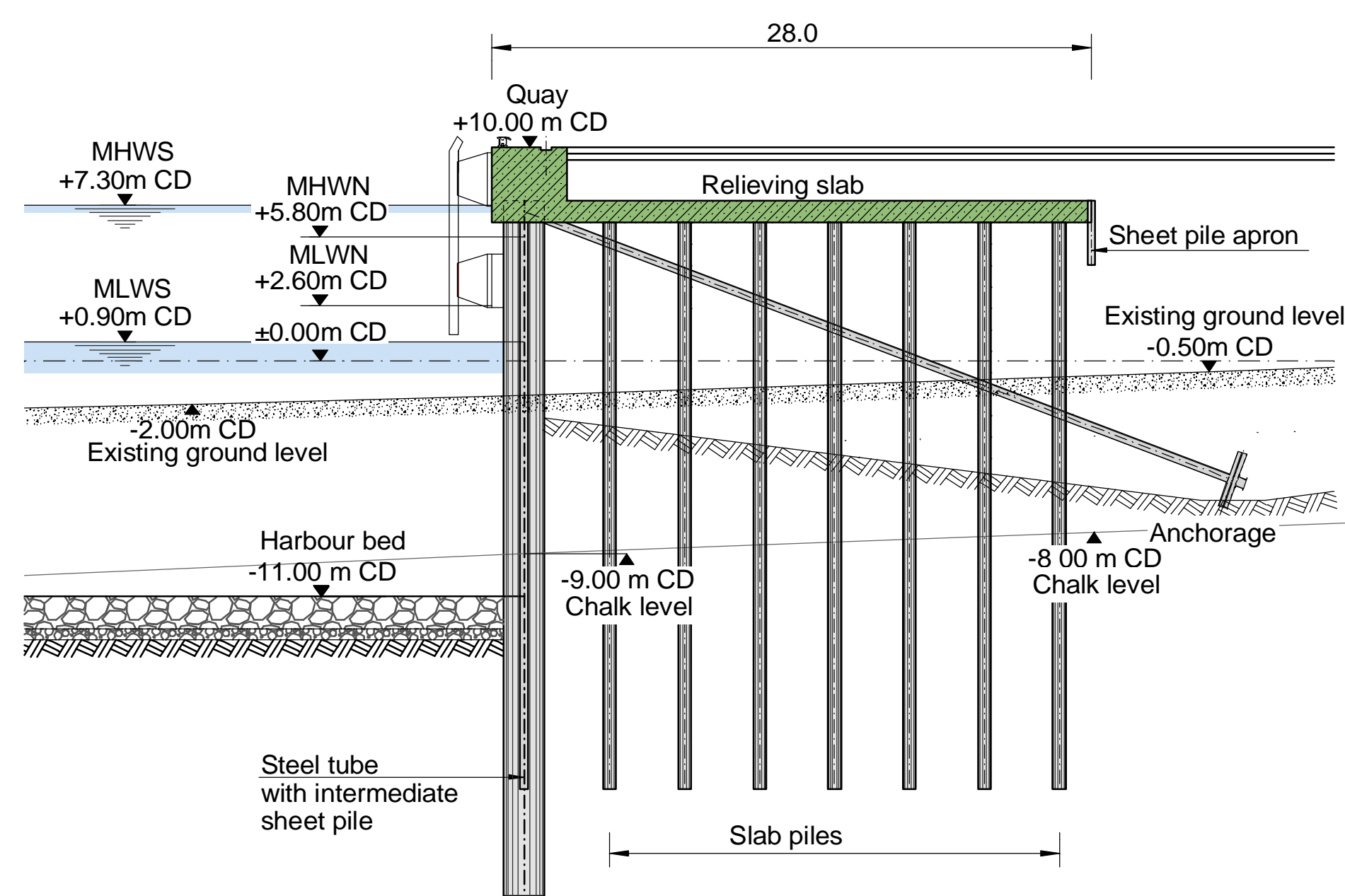
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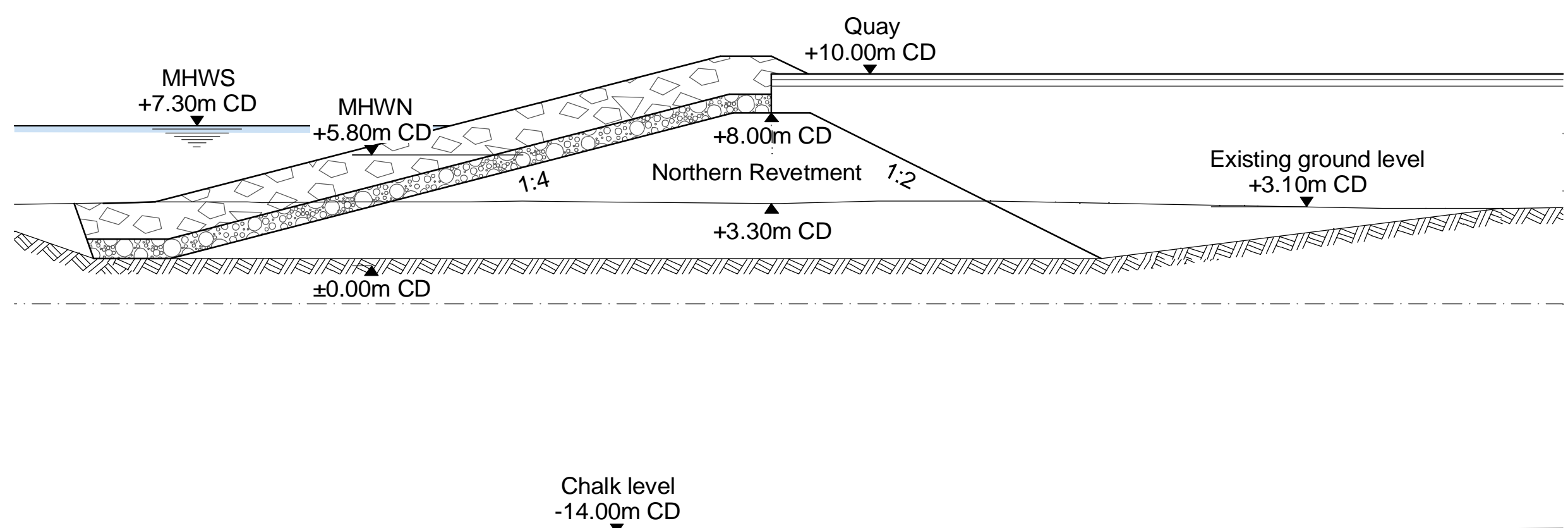
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Lübeckertordamm 1
20099 Hamburg / Germany
Tel. 0049- 40 / 21 986 - 0
Fax. 0049- 40 / 21 986 - 200

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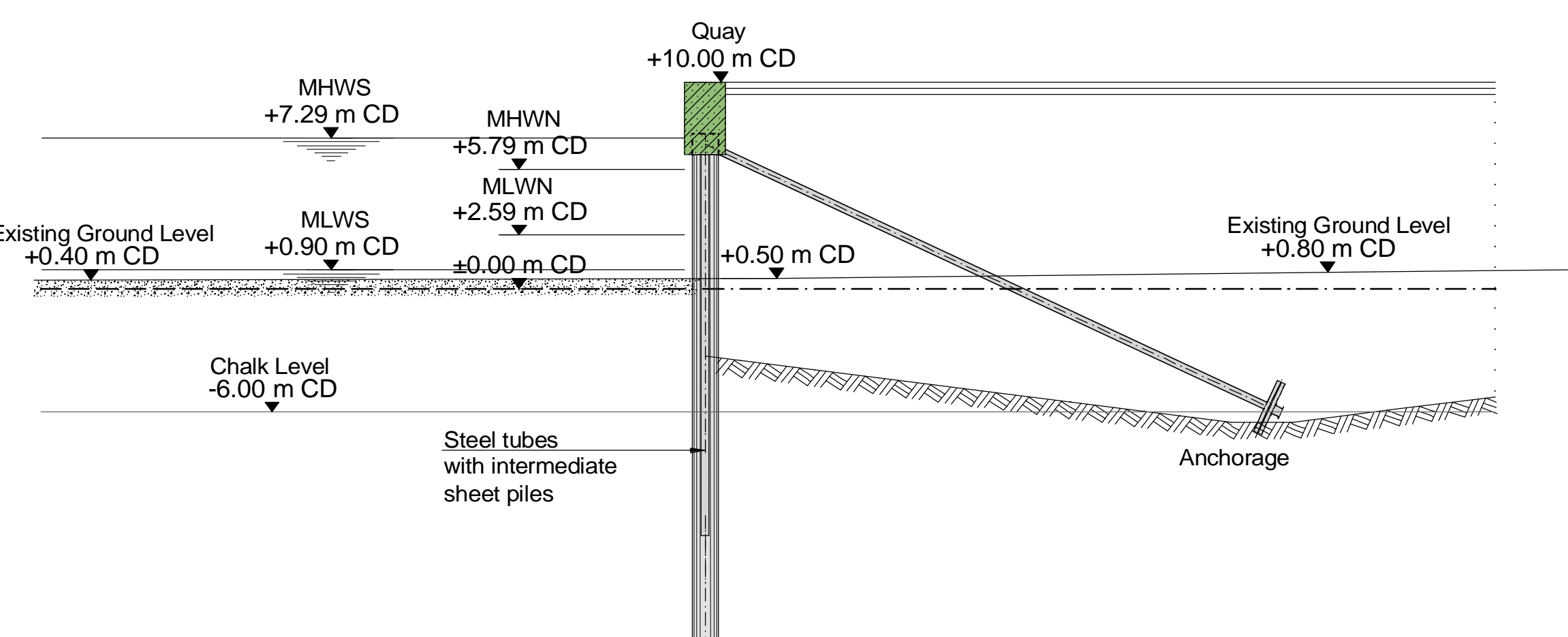
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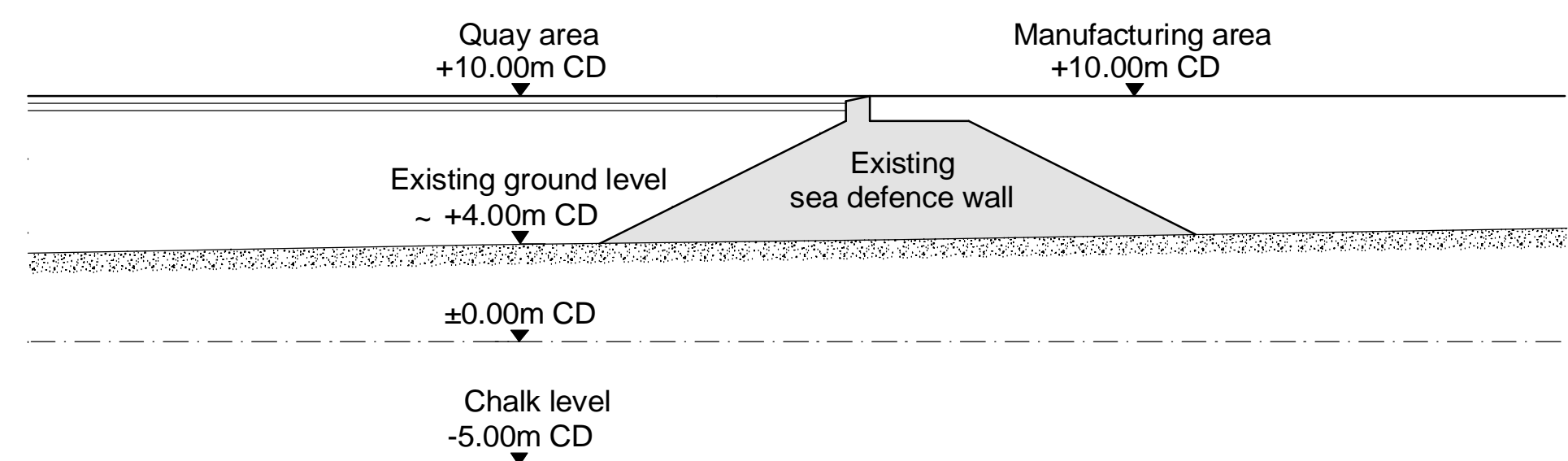
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Cross Section H-H



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D	31.08.11	Revision IPC Application	ASS	SVF	HTA
C	30.08.11	Revision IPC Application	ASS	SVF	HTA
B	19.01.11	Revision of Northern Revetment/ Breakwater	ASS	SVF	HTA
A	07.01.11	EIA Masterplan Revision	ASS	SVF	HTA
0	17.09.10	Preliminary Issue	BKY	SVF	HTA
Rev	Date	Description	By	Chk	App




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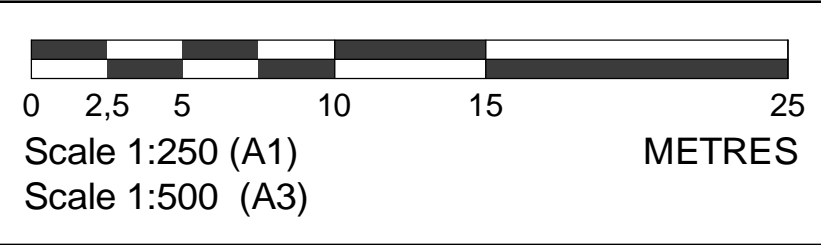
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PRELIMINARY

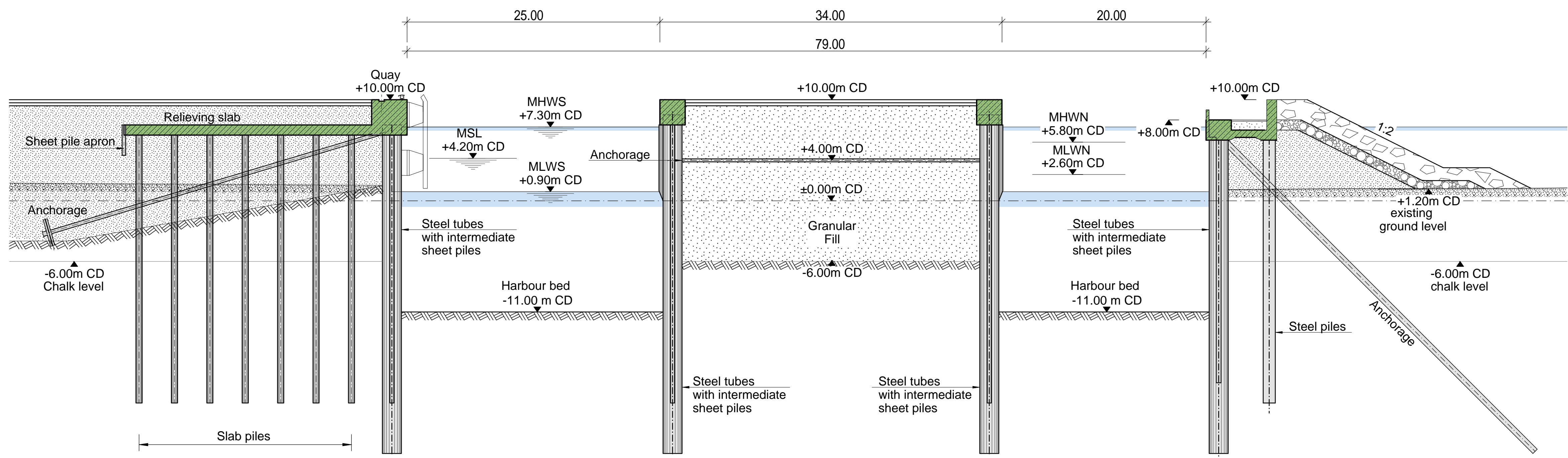


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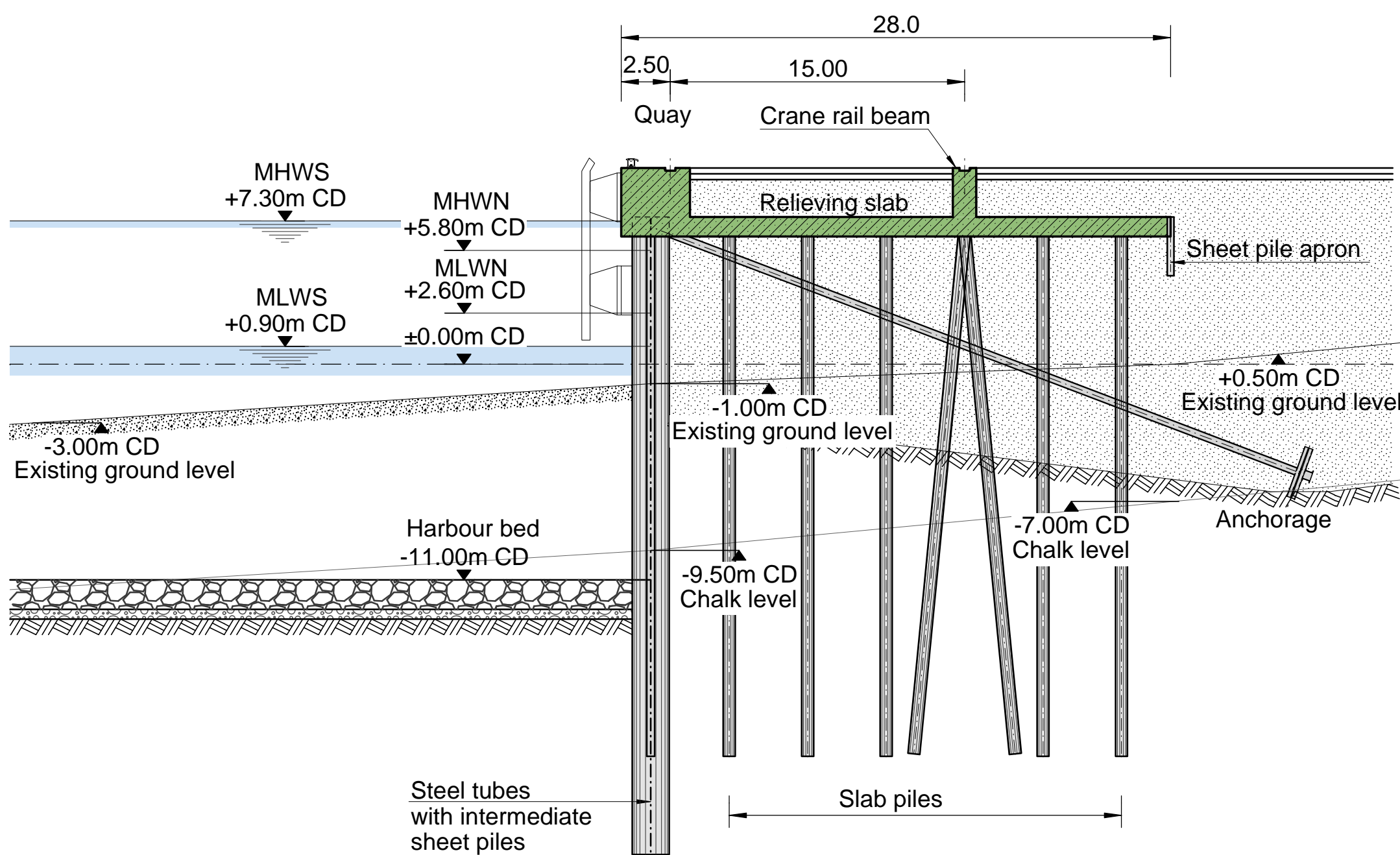
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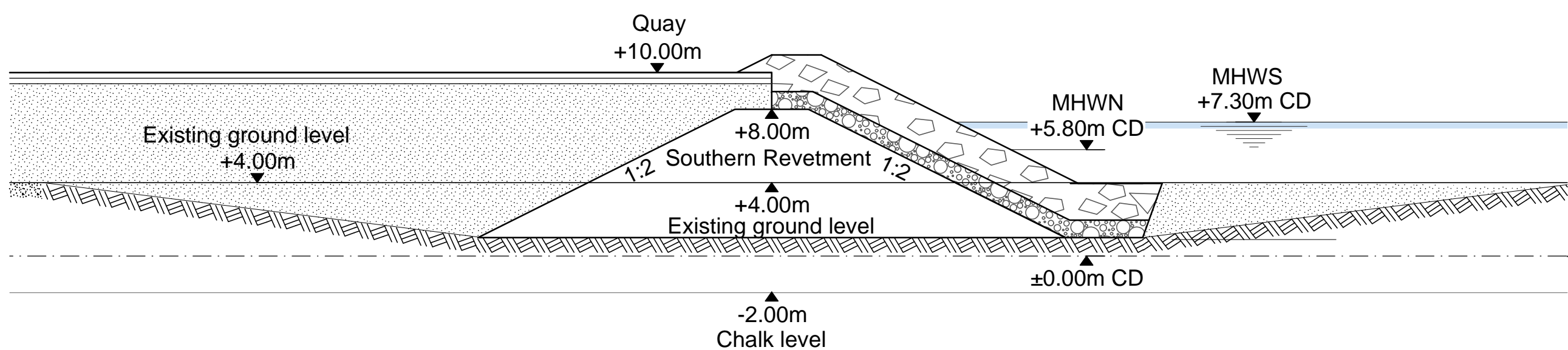
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- Levels to Chart Datum
- Details based on preliminary design
- Levels given for the Approach Channel and the Harbour Bed are the maximum maintained levels

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A	07.01.11	EIA Masterplan Revision	ASS	SVF	HTA
0	17.09.10	Preliminary Issue	BKY	SVF	HTA
Rev	Date	Description	By	Chk	App



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Project:	ABLE Marine Energy Park
Client:	ABLE UK Ltd
Title:	Quay Sections 2 of 2

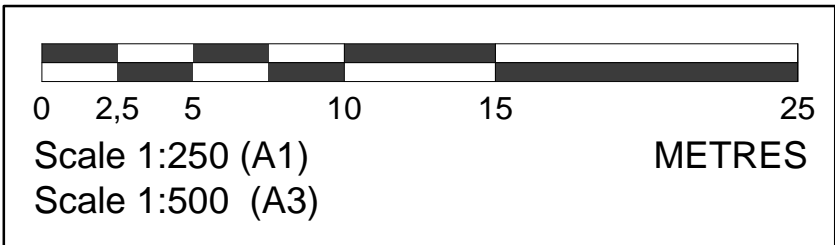
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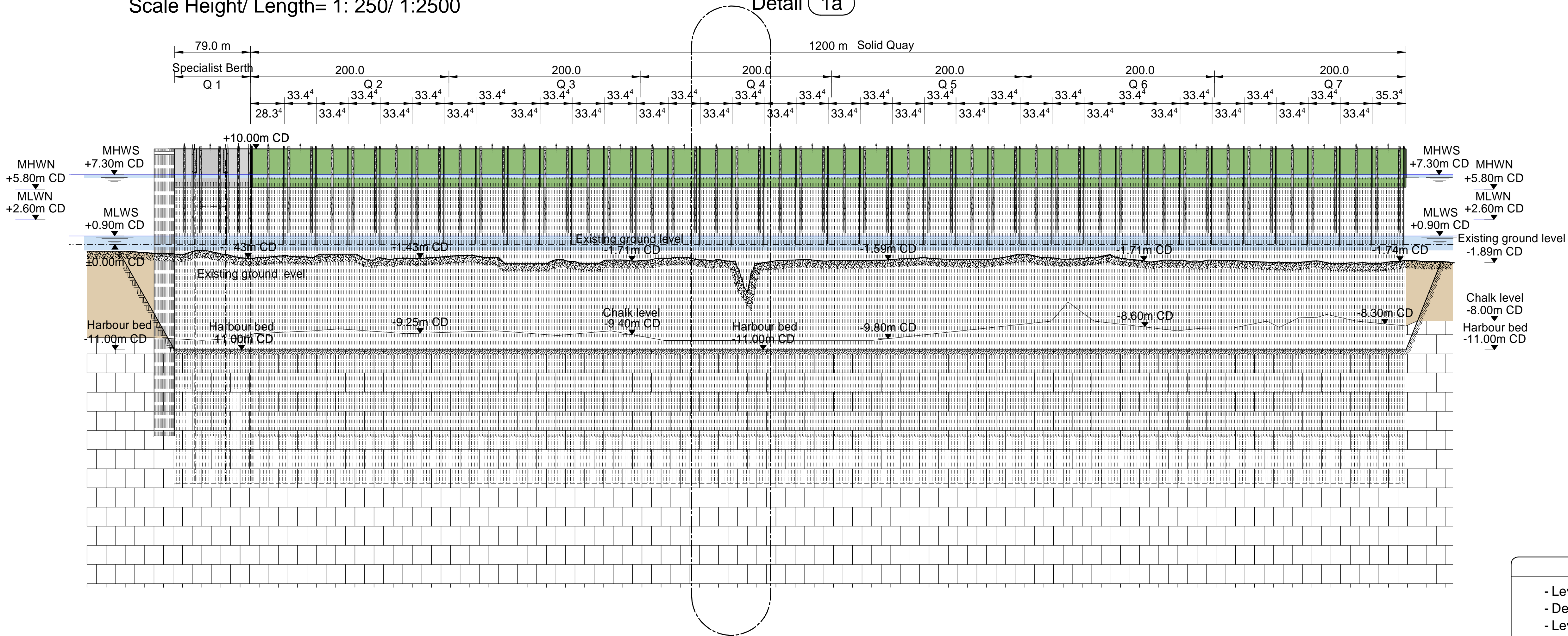
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Front Wall Elevation 1

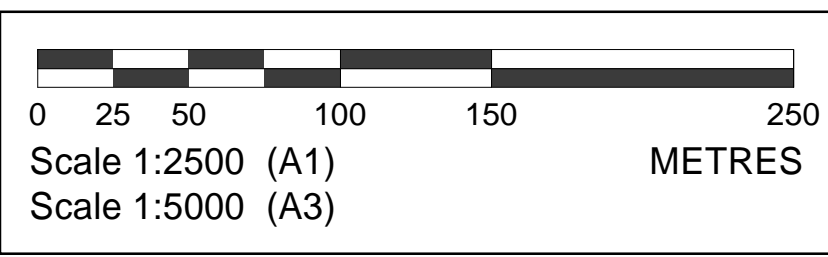
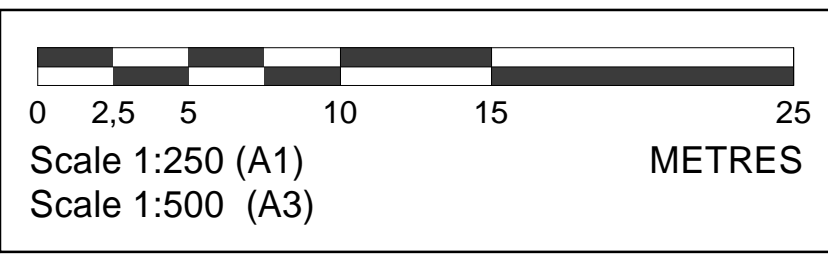
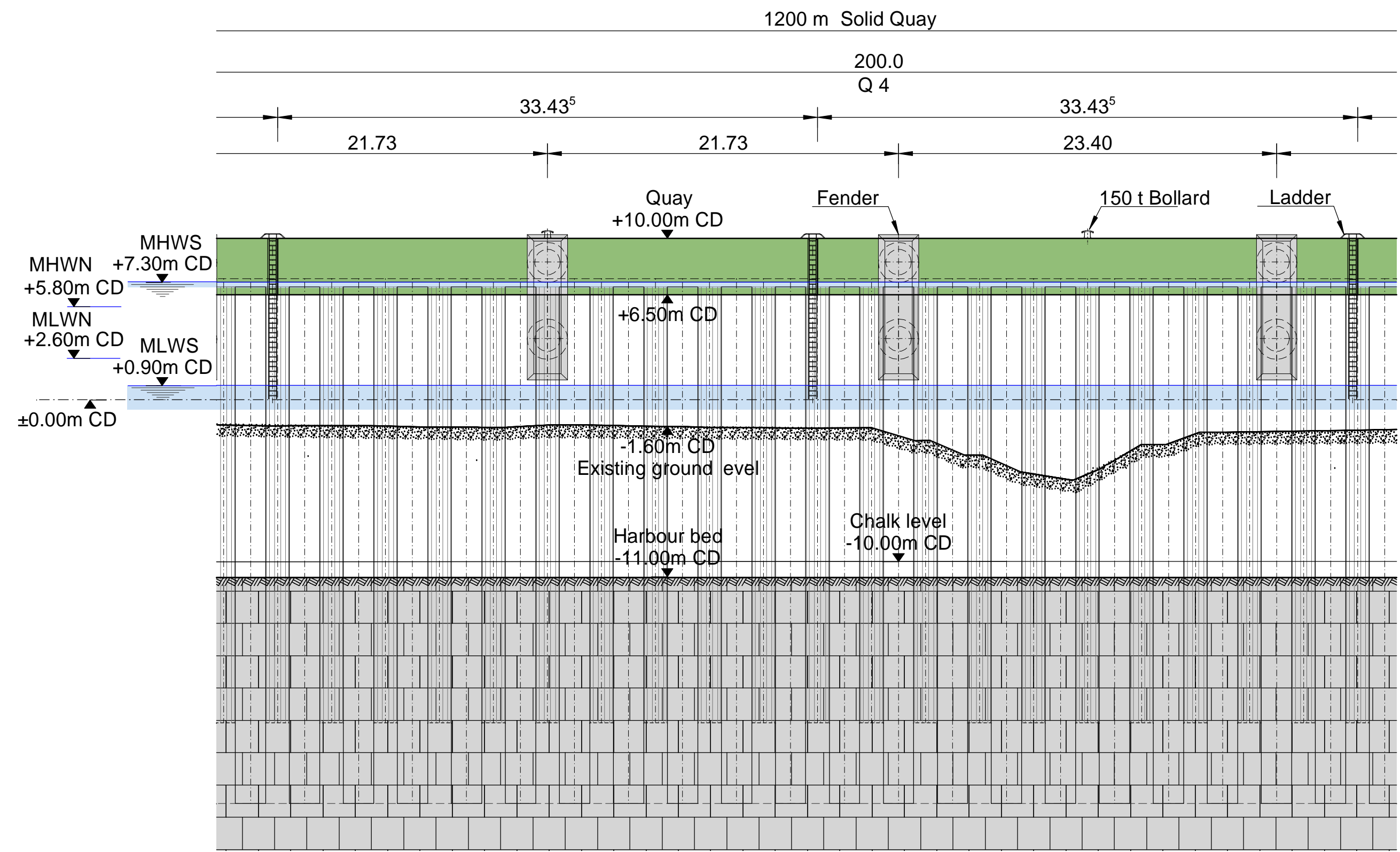
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Detail 1a

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KEY

- Levels to Chart Datum
- Details based on preliminary design
- Levels given for the Approach Channel and the Harbour Bed are the maximum maintained levels.

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C	19.09.11	Revision IPC Application	BKY	SVF	HTA
B	30.08.11	Revision IPC Application	BKY	SVF	HTA
A	07.01.11	EIA Masterplan Revision	BKY	SVF	HTA
0	17.09.10	Preliminary Issue	BKY	SVF	HTA



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Project:	ABLE Marine Energy Park
Client:	ABLE UK Ltd
Title:	Front Wall Elevation

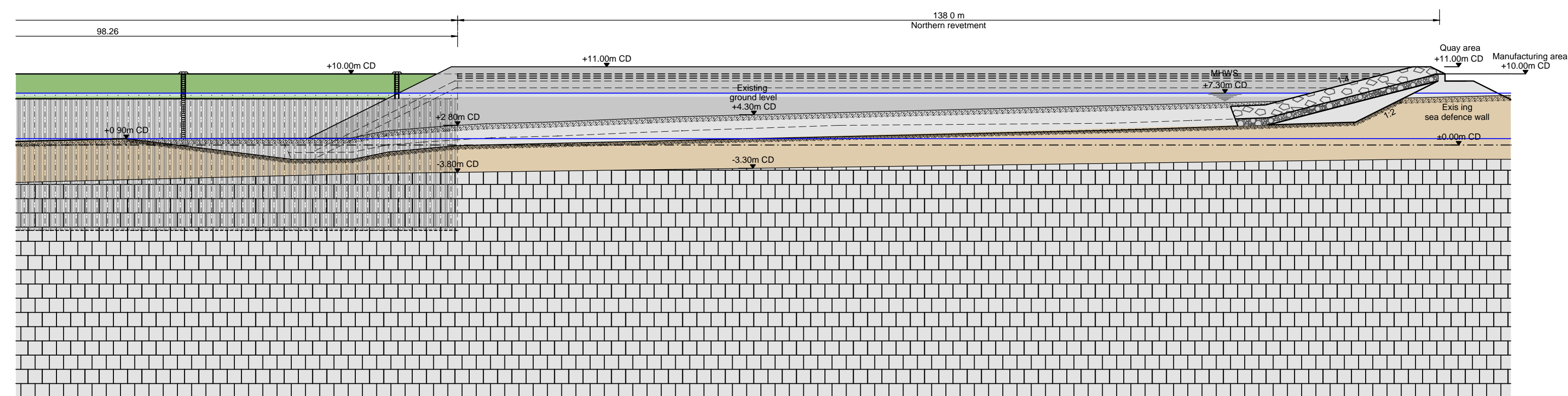
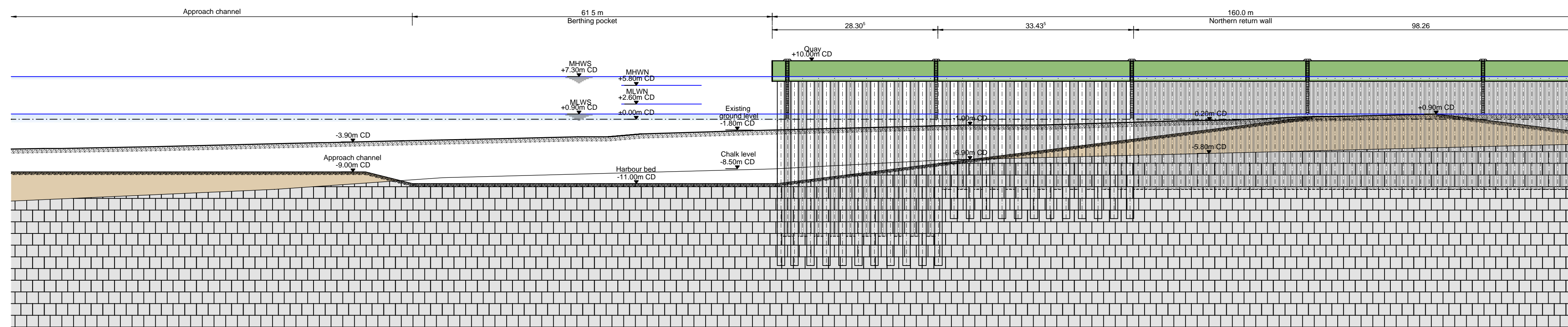
PRELIMINARY



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Fax. 0049-40/ 21986-200

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Drawing No.	AMEP_P1D_D_005		Revision:
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Northern Return Wall Elevation (2)



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C	30.08.11	Revision IPC Application	BKY	SVF	HTA
B	19.01.2011	Revision of Northern Revetment/ Breakwater	ASS	SVF	HTA
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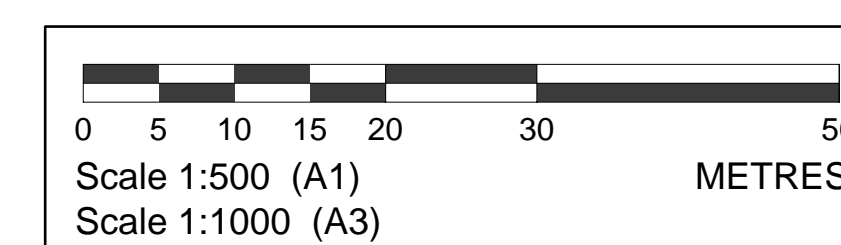


Project:	ABLE Marine Energy Park
Client:	ABLE UK Ltd
Title:	Northern Return Wall Elevation

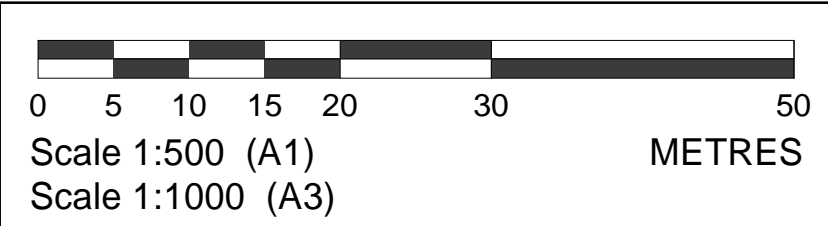
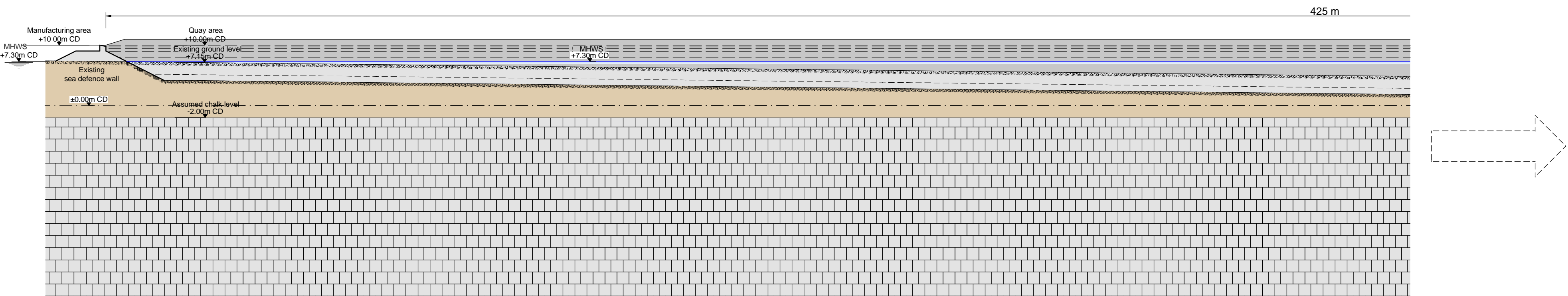
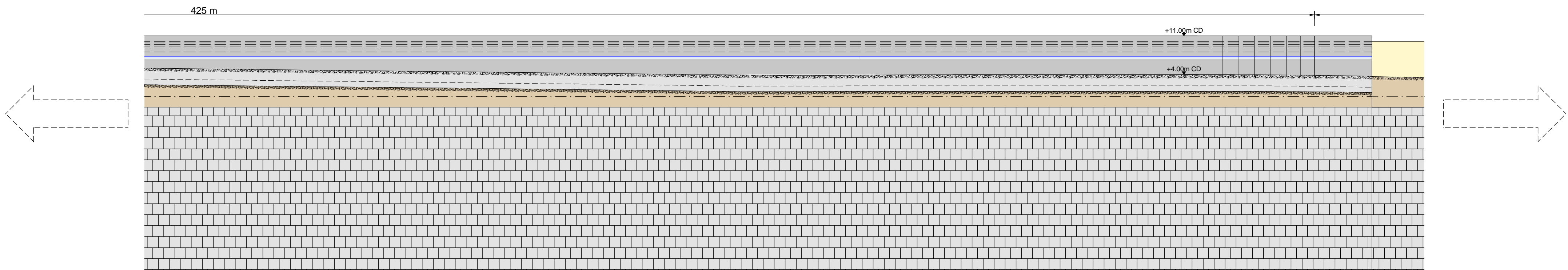
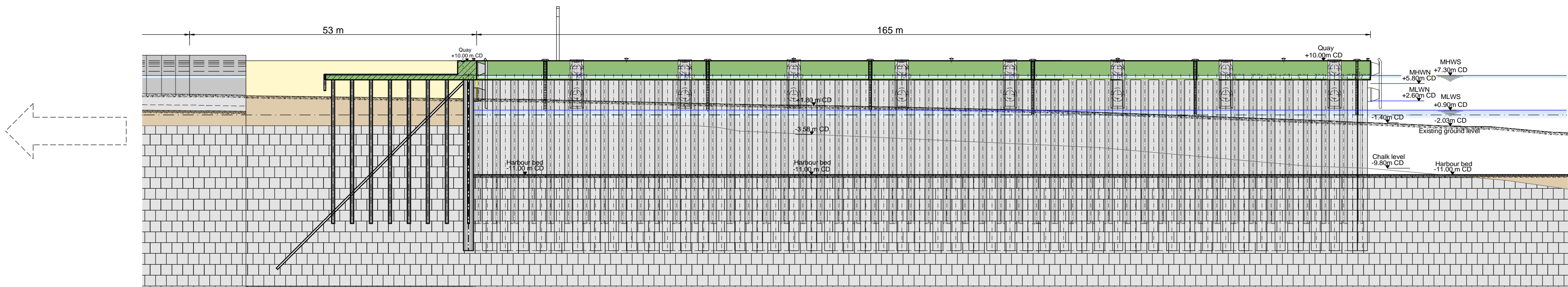
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Drawing No.	AMEP_P1D_D_006		Revision: G



Southern Return Wall Elevation (3)



KEY

- Levels to Chart Datum
- Details based on preliminary design
- Levels given for the Approach Channel and the Harbour Bed are the maximum maintained levels.

D	21.10.11	Revision IPC Application	BKY	SVF	HTA
C	19.09.11	Revision IPC Application	BKY	SVF	HTA
B	30.08.11	Revision IPC Application	BKY	SVF	HTA
A	07.01.11	EIA Masterplan Revision	ASS	SVF	HTA
0	17.09.10	Preliminary Issue	BKY	SVF	HTA
Rev	Date	Description	By	Chk	App




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Project:	ABLE Marine Energy Park
Client:	ABLE UK Ltd
Title:	Southern Return Wall Elevation

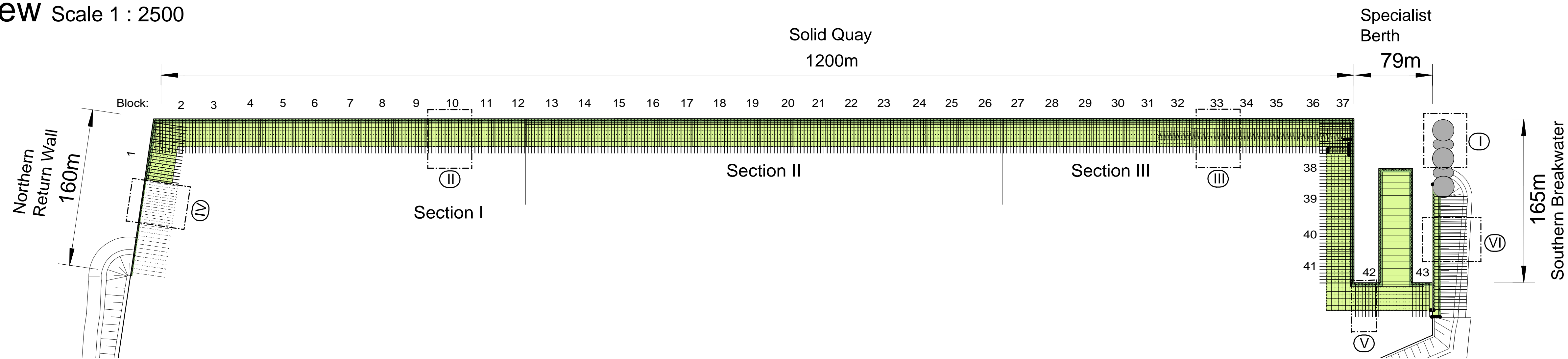
PRELIMINARY



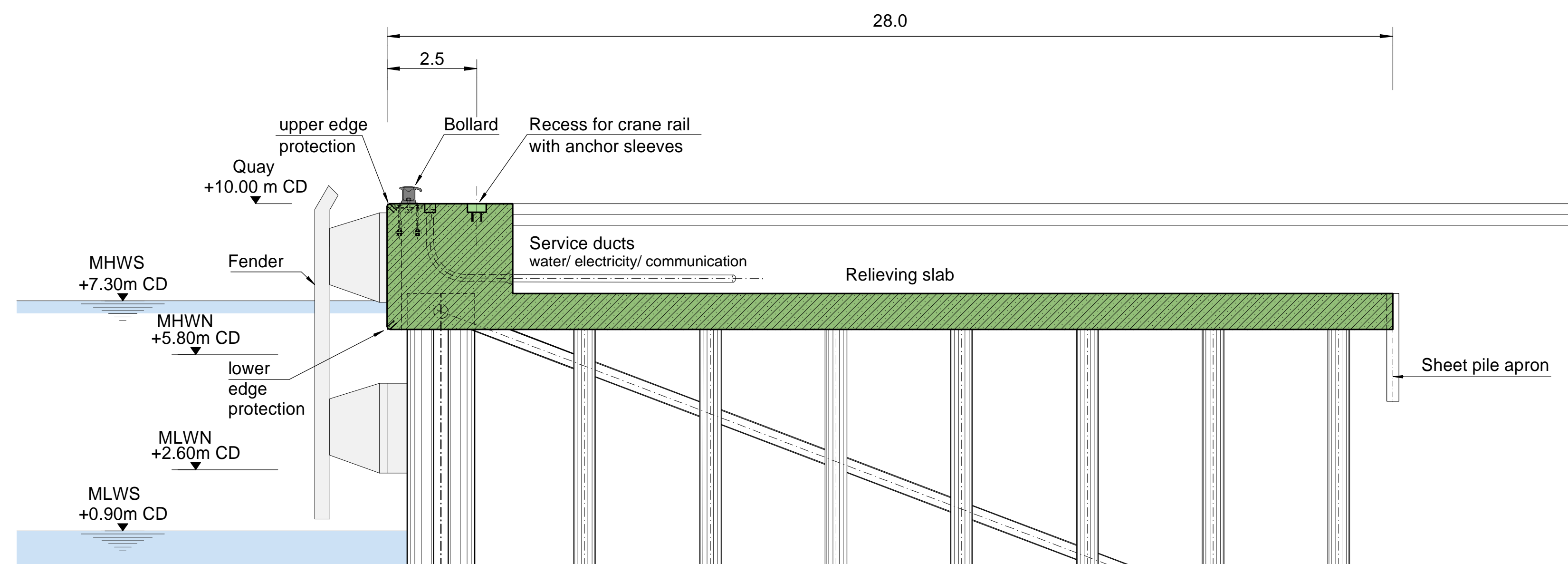
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Fax. 0049-40/ 21986-200

Scale:	Drawn By	Checked By	Approved By
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Date:	17.09.2010	17.09.2010	17.09.2010
Drawing No.	AMEP_P1D_D_007		Revision: D

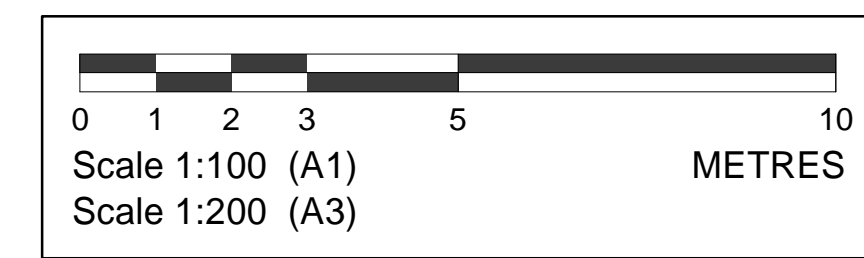
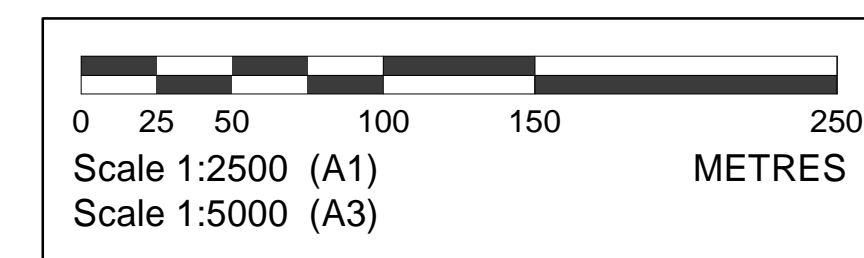
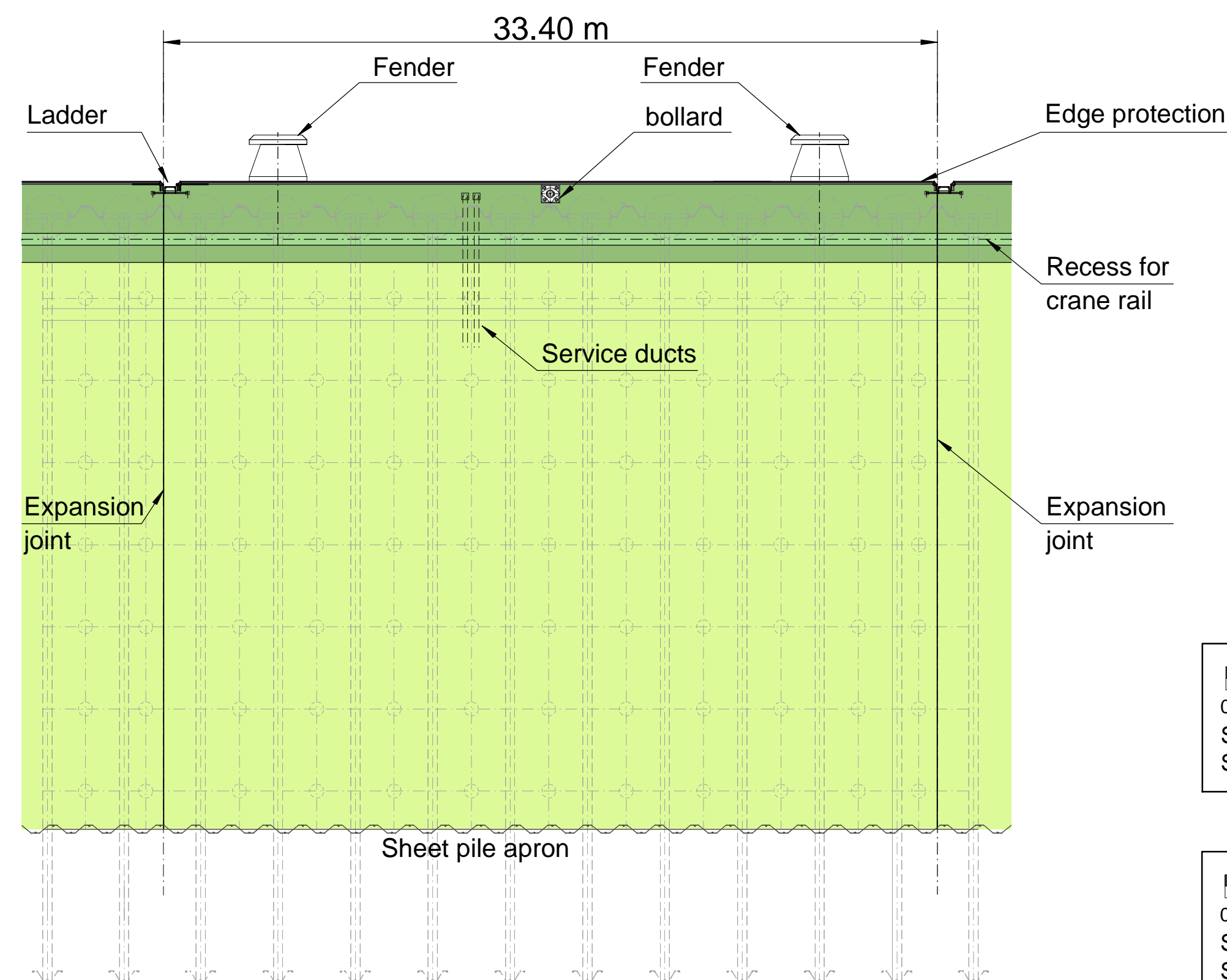
Overview Scale 1 : 2500



Cross Section
Solid Quay Block 10
Scale 1:100



Detail ① Top View
Solid Quay Block 10
Scale 1:200



KEY

- Levels to Chart Datum
- Details based on preliminary design
- Levels given for the Approach Channel and the Harbour Bed are the maximum maintained levels

G	02.11.11	Revision IPC Application	BKY	SVF	HTA
F	21.10.11	Revision IPC Application	ASS	SVF	HTA
E	16.09.11	Revision IPC Application	ASS	SVF	HTA
D	31.08.11	Revision IPC Application	ASS	SVF	HTA
C	30.08.11	Revision IPC Application	ASS	SVF	HTA
B	19.01.11	Revision of Northern Revetment/ Breakwater	BKY	SVF	HTA
A	07.01.11	EIA Masterplan Revision	BKY	SVF	HTA
0	17.09.10	Preliminary Issue	BKY	SVF	HTA
Rev	Date	Description	By	Chk	App



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Project:	ABLE Marine Energy Park
Client:	ABLE UK Ltd
Title:	Concrete Deck General Arrangement

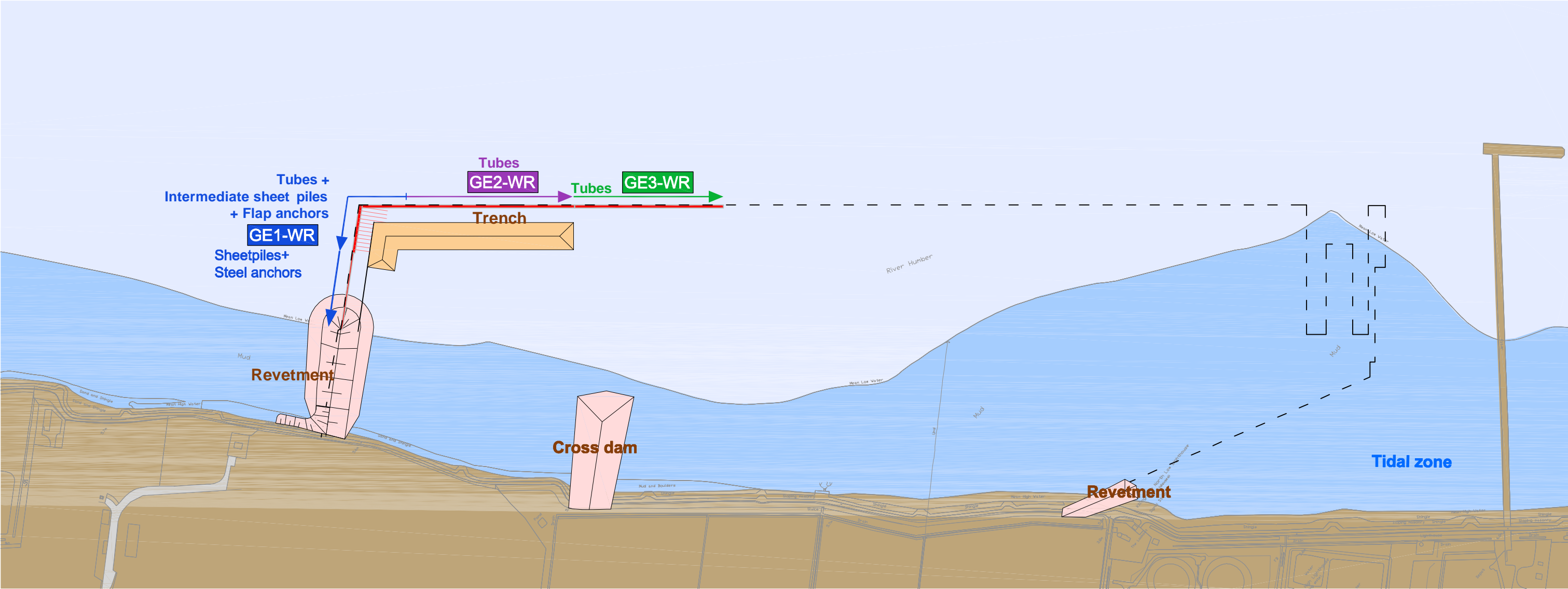
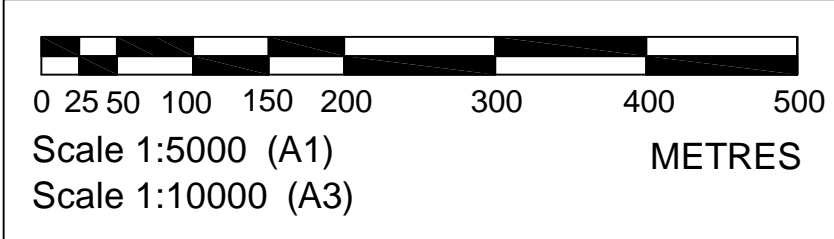
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Fax. 0049-40/ 21986-200

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Scale:	Drawn By	Checked By	Approved By
as shown @A1	BKY	SVF	HTA
Date:	17.09.2010	17.09.2010	17.09.2010
Drawing No.	AMEP_P1D_D_009		Revision: G



STAGE 1

- Dredging + Reclamation works**
- Dredging*
- Potential removal of silt from quay footprint
 - Trench for flap anchors*
 - Section I
- Revetments*
- North
 - South
- Cross dams*
- Section I/II
- Piling works**
- Solid Quay*
- Section I + II: Tubes
 - Northern Return wall*
 - Section I: Intermediate sheet piles and flap anchors
 - Section I: Sheet piles and steel anchors

KEY

- Levels to Chart Datum
- Levels given for the Approach Channel and the Harbour Bed are the maximum maintained levels

LEGEND

IN PROGRESS	COMPLETED
<div></div> Reclamation + Dams	<div></div> Reclamation + Dams
<div></div> Piling Works	<div></div> Piling Works
<div></div> Concrete Works	<div></div> Concrete Works
<div></div> Flap Anchor Trench	<div></div> Pavement
<div></div> Dredging Area	

EQUIPMENT UNITS

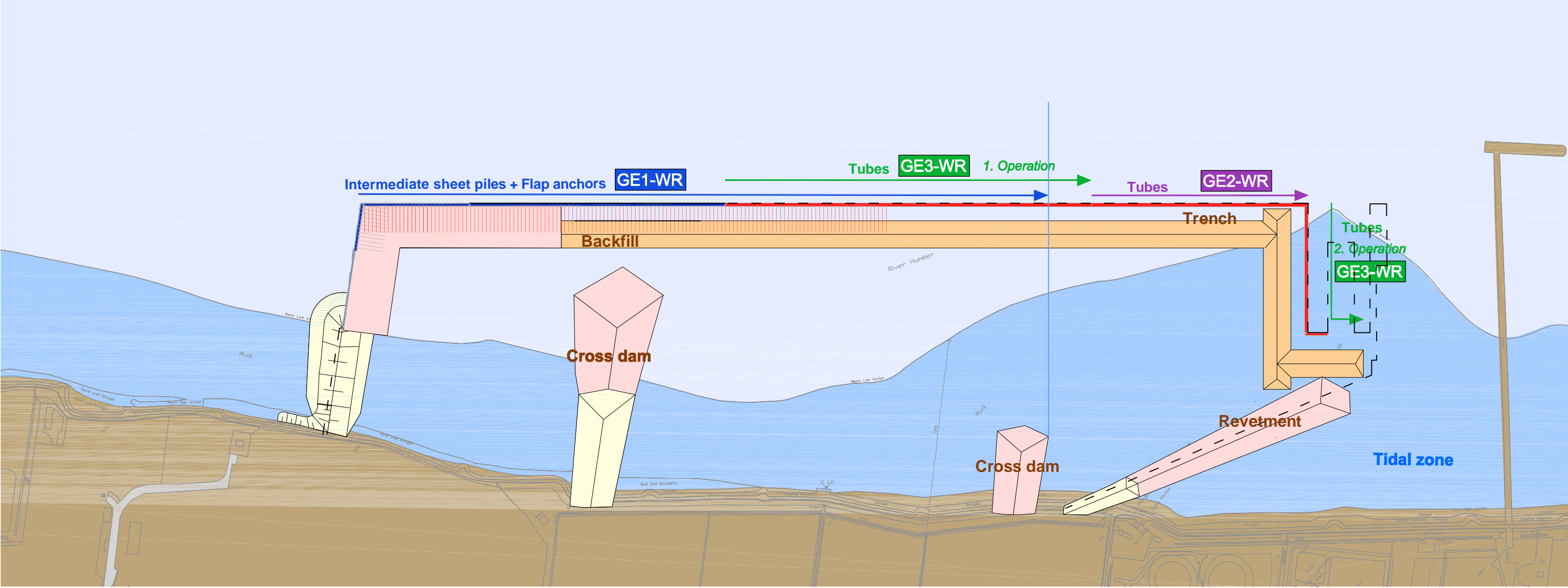
Seaside units		Landside units	
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<div>GE2-WR</div>		<div>GE6+7-LR</div>	

G	28.11.11	Adjustment of scales	AGR	SVF	HTA
F	21.10.11	Revision IPC Application	AGR	SVF	HTA
E	19.09.11	Revision IPC Application	AGR	SVF	HTA
D	31.08.11	Revision IPC Application	AGR	SVF	HTA
C	30.08.11	Revision IPC Application	AGR	SVF	HTA
B	19.01.11	Revision of Northern Revetment / Breakwater	JSE	SVF	HTA
A	07.01.11	EIA Masterplan Revision	JSE	SVF	HTA
0	17.09.10	Preliminary Issue	JSE	SVF	HTA
Rev	Date	Description	By	Chk	App



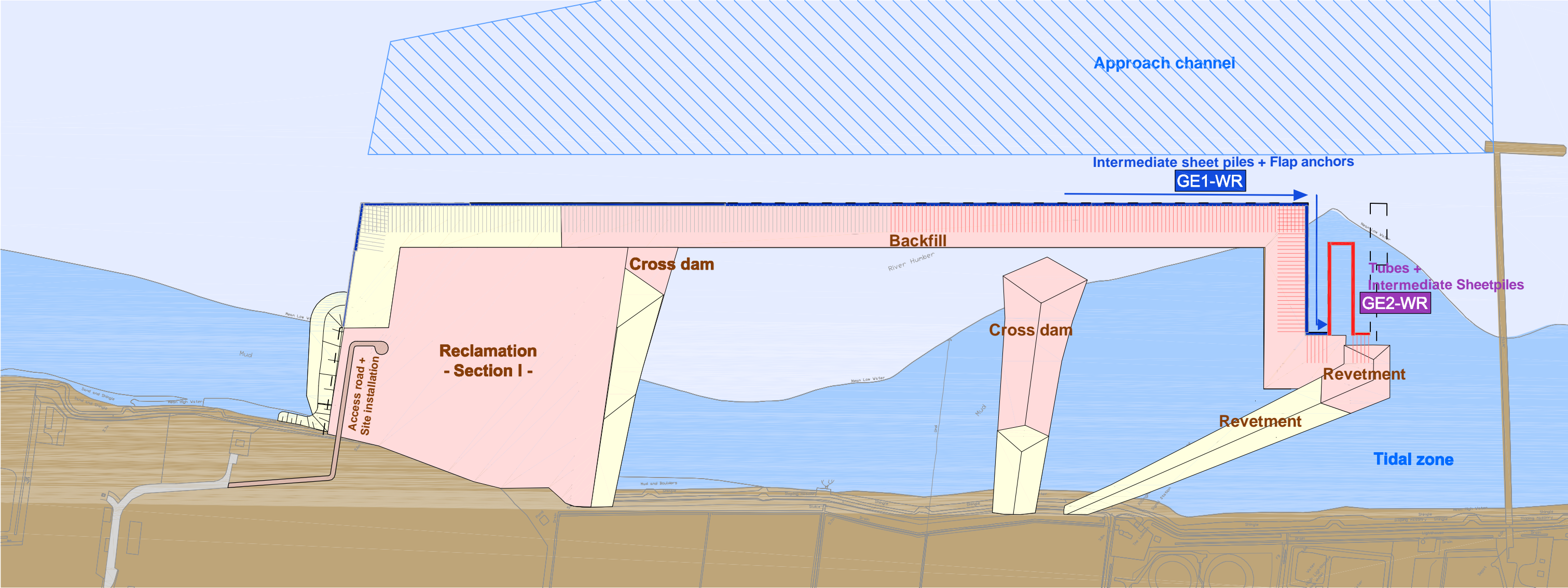
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STAGE 2


- Dredging + Reclamation works**
- Trench for flap anchors*
- Section II + III
- Backfill*
- Section I
- Revetments*
- South
- Cross dams*
- Section I/II
 - Section II/III
- Piling works**
- Solid Quay*
- Section I + II: Intermediate sheet piles and flap anchors
 - Section II + III: Tubes

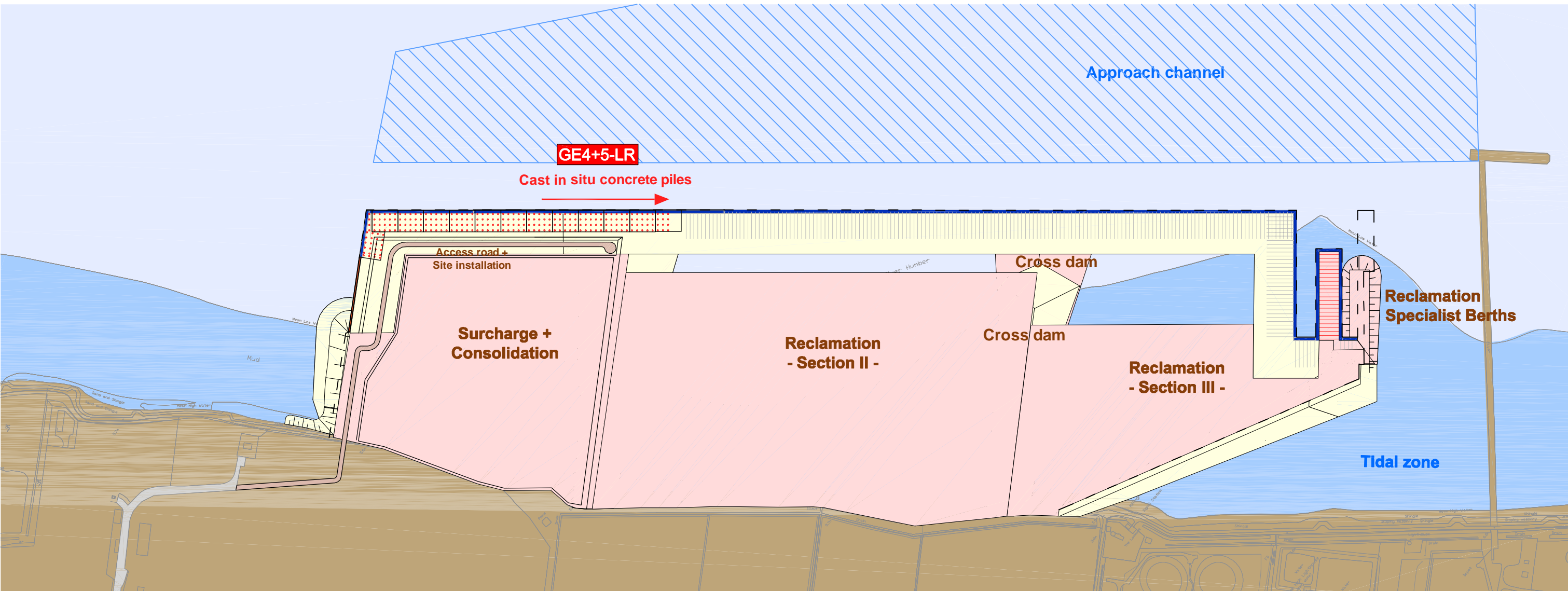
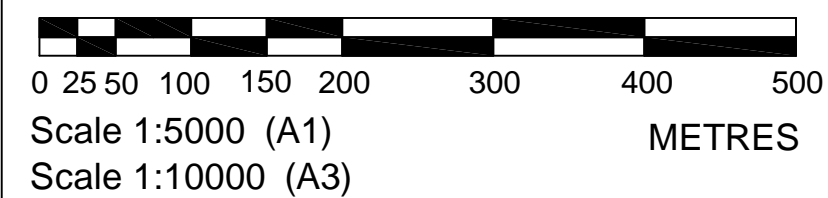


STAGE 3

- Dredging + Reclamation works**
- Dredging*
- Approach channel
- Backfill*
- Section II + III
 - Return wall south
- Revetments*
- South
- Cross dams*
- Section I/II
 - Section II/III
- Reclamation*
- Section I
- Piling works**
- Solid Quay*
- Section III: Intermediate sheet piles and flap anchors / steel anchors
- Specialist Berth*
- Tubes & Intermediate sheet piles

PRELIMINARY

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Scale: 1 : 5000 @A1	Drawn By JSE	Checked By SVF	Approved By HTA
Date: 17.09.2010	17.09.2010	17.09.2010	17.09.2010
Drawing No. AMEP_P1D_D_101	Revision: G		



STAGE 4

- Dredging + Reclamation works**
Dredging
- Approach channel & Turning Area
- Revetments*
- Southern Breakwater
- Reclamation*
- Section II + III
- Specialist Berth
- Surcharge + Consolidation*
- Section I
- Crossdams*
- Section II+III
- Piling works**
Cast in situ concrete piles
- Section I
Specialist Berth
- Horizontal ties
- Reinforced concrete works**
Return wall north
- Capping beam
- Solid Quay*
- Section I: Slabs

KEY

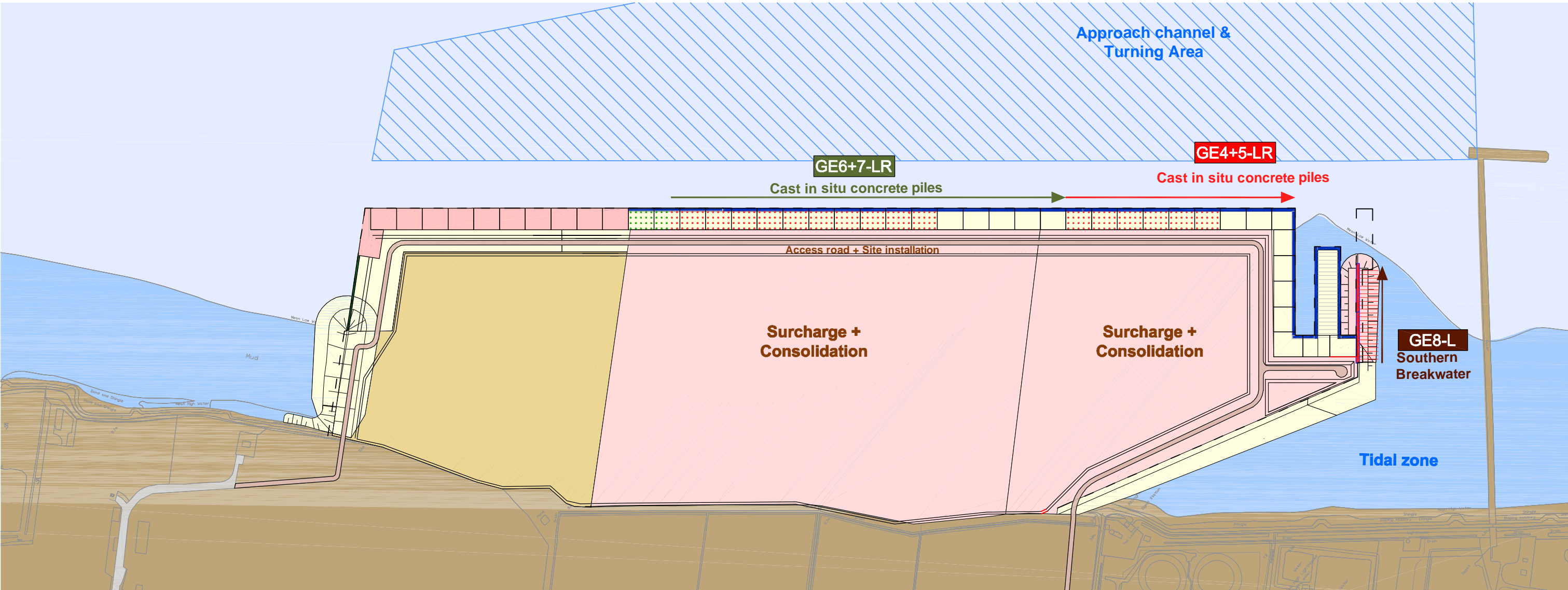
-Levels to Chart Datum
-Levels given for the Approach Channel and the Harbour Bed are the maximum maintained levels

LEGEND

IN PROGRESS	COMPLETED
Reclamation + Dams	Reclamation + Dams
Piling Works	Piling Works
Concrete Works	Concrete Works
Flap Anchor Trench	Pavement
Dredging Area	

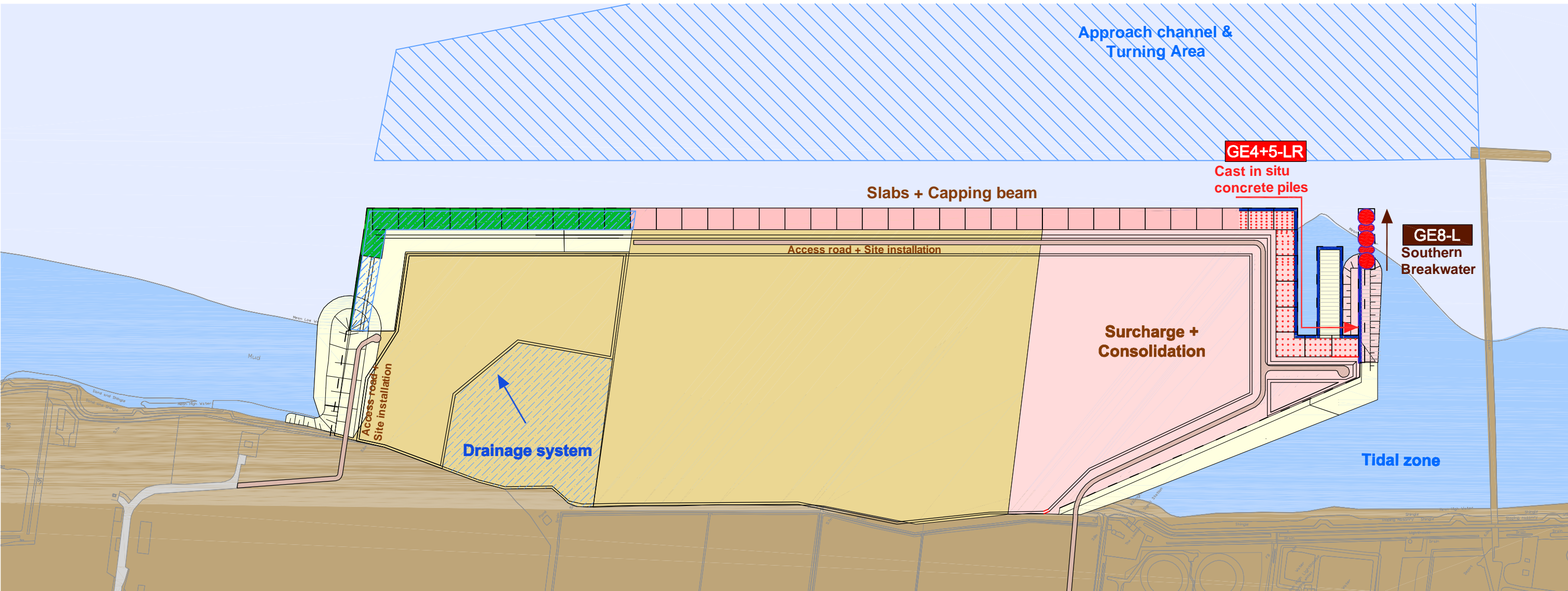
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Seaside units			Landside units		
<div>GE1-WR</div>	<div>GE3-WR</div>		<div>GE4+5-LR</div>	<div>GE8-L</div>	
<div>GE2-WR</div>			<div>GE6+7-LR</div>		
G	28.11.11	Adjustment of scales	AGR	SVF	HTA
F	21.10.11	Revision IPC Application	AGR	SVF	HTA
E	19.09.11	Revision IPC Application	AGR	SVF	HTA
D	31.08.11	Revision IPC Application	AGR	SVF	HTA
C	30.08.11	Revision IPC Application	AGR	SVF	HTA
B	19.01.11	Revision of Northern Revetment / Breakwater	JSE	SVF	HTA
A	07.01.11	EIA Masterplan Revision	JSE	SVF	HTA
0	17.09.10	Preliminary Issue	JSE	SVF	HTA
Rev	Date	Description	By	Chk	App



STAGE 5

- Dredging + Reclamation works**
Dredging
- Approach Channel & Turning Area
- Reclamation*
- Section II + III
- Surcharge + Consolidation*
- Section II + III
- Piling works**
Cast in situ concrete piles
- Section II + III
- Breakwater*
- South
- Reinforced concrete works**
Solid Quay
- Section I: Slabs + Capping beam



STAGE 6


- Dredging + Reclamation works**
Dredging
- Approach Channel & Turning Area
Surcharge + Consolidation
- Section III
- Backfill above relieving slabs*
- Section I
- Landside reuse of surcharge material*
- Section I
- Piling works**
Cast in situ concrete piles
- Section III
- Breakwater*
- South
- Reinforced concrete works**
Solid Quay
- Section II + III: Slabs + Capping beam
- Drainage system**
- Section I
- Equipment**
- Section I
- Pavement**
- Section I: Drainage system

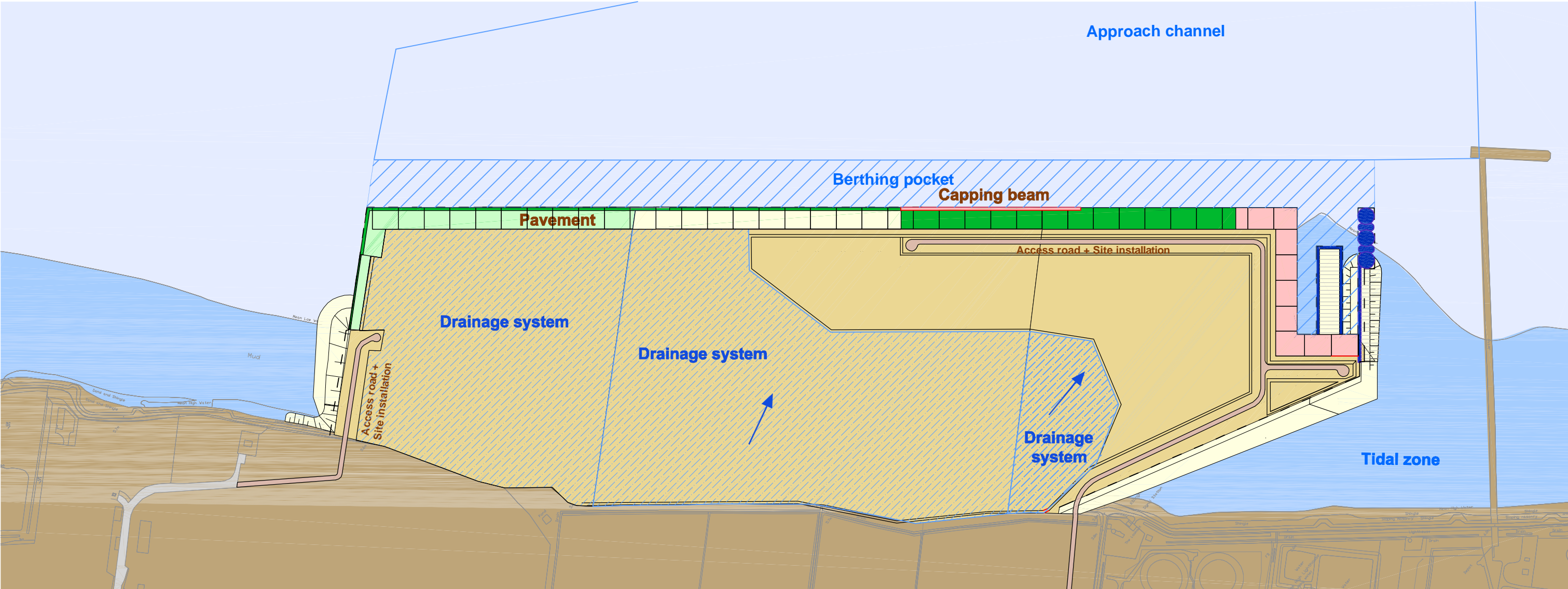
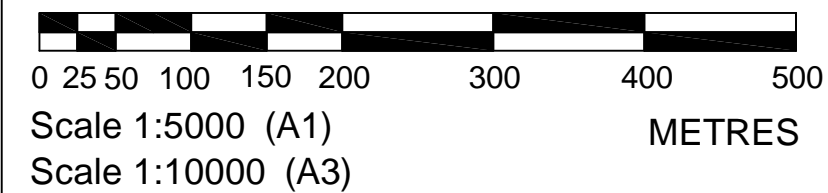


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Project:	ABLE Marine Energy Park
Client:	ABLE UK Ltd
Title:	Indicative Sequence Plan View 2/3

PRELIMINARY			
		Civil Engineering and Marine Works Lübeckertordamm 1 20099 Hamburg / Germany Tel. 0049- 40 / 21 986 - 0 Fax. 0049- 40 / 21 986 - 200	
Scale: 1 : 5000 @A1	Drawn By JSE	Checked By SVF	Approved By HTA
Date: 17.09.2010	17.09.2010	17.09.2010	17.09.2010
Drawing No. AMEP_P1D_D_102	Revision: G		



STAGE 7

Dredging works

- Dredging*
- Berthing pocket
- Backfill above relieving slabs*
- Section II
- Landside reuse of surcharge material*
- Section II + III

Reinforced concrete works

- Solid Quay*
- Section II: Capping beam
 - Section III: Slabs + Capping beam

Drainage system

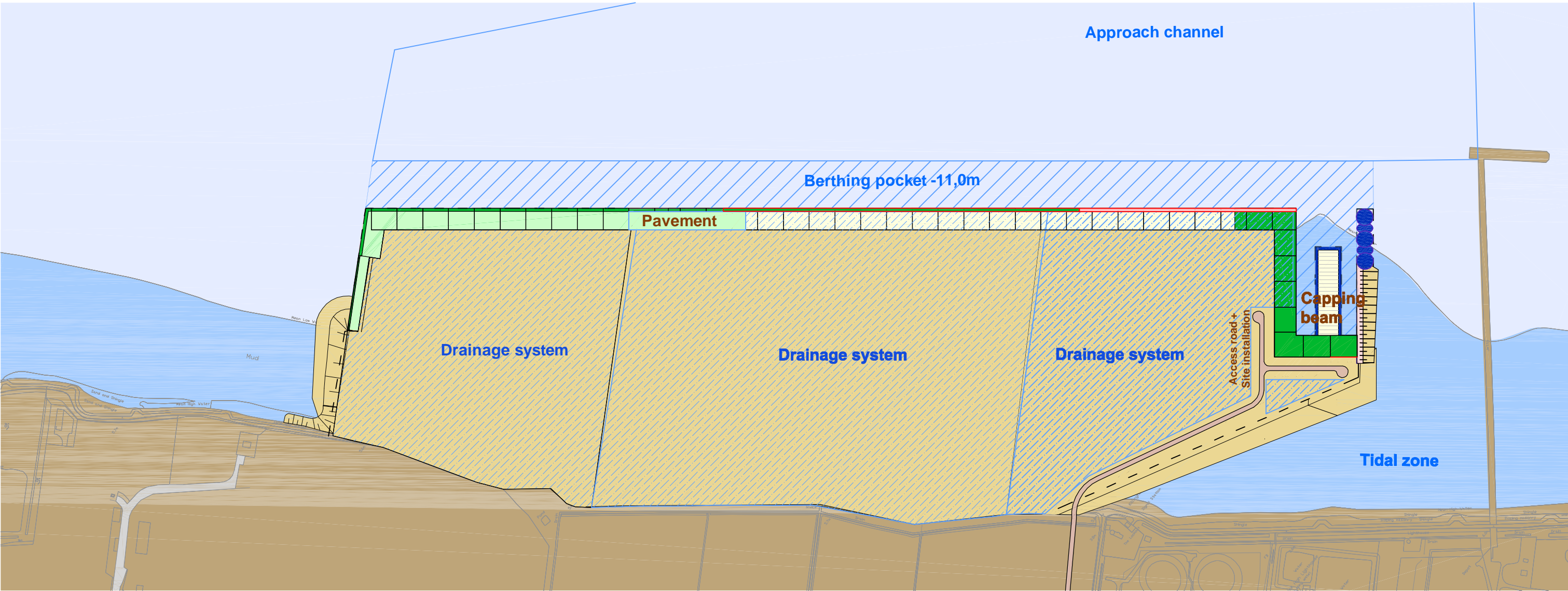
- Section I + II + III

Equipment

- Section I + II

Pavement

- Section I: Concrete
- Section II: Drainage system



STAGE 8

Dredging works

- Dredging*
- Berthing pocket
- Backfill above relieving slabs*
- Section II + III
- Landside reuse of surcharge material*
- Section III

Reinforced concrete works

- Solid Quay*
- Section III: Capping beam
 - Specialist Berth - Capping Beam

Drainage system

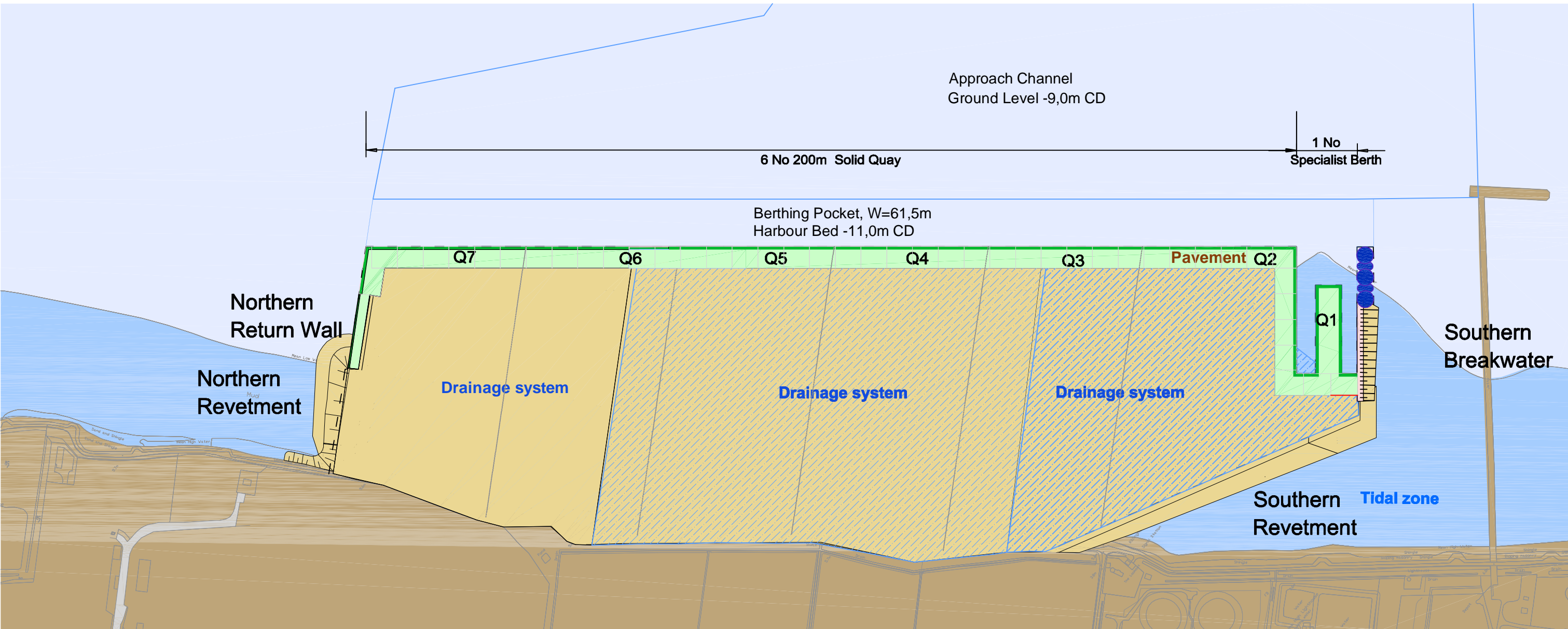
- Section I + II + III

Equipment

- Section I + II + III

Pavement

- Section II: Drainage system + Concrete
- Section III: Drainage system



STAGE 9

Drainage system

- Section II + III

Equipment

- Section II+ III
- Specialist Berth

Pavement

- Section II + III: Concrete
- Specialist Berth

Section I

- Completion: 31.01.2014

Section II

- Completion: 03.03.2014

Section III

- Completion: 01.04.2014

KEY

- Levels to Chart Datum
- Levels given for the Approach Channel and the Harbour Bed are the maximum maintained levels

LEGEND

IN PROGRESS	COMPLETED
Reclamation + Dams	Reclamation + Dams
Piling Works	Piling Works
Concrete Works	Concrete Works
Flap Anchor Trench	Pavement
Dredging Area	

EQUIPMENT UNITS

Seaside units		Landside units	
GE1-WR	GE3-WR	GE4+5-LR	GE8-L
GE2-WR		GE6+7-LR	
	28.11.11	Adjustment of scales	AGR SVF HTA
	21.10.11	Revision IPC Application	AGR SVF HTA
	19.09.11	Revision IPC Application	AGR SVF HTA
	31.08.11	Revision IPC Application	AGR SVF HTA
	30.08.11	Revision IPC Application	AGR SVF HTA
	19.01.11	Revision of Northern Revetment / Breakwater	JSE SVF HTA
	07.01.11	EIA Masterplan Revision	JSE SVF HTA
	17.09.10	Preliminary Issue	JSE SVF HTA
Rev	Date	Description	By Chk App



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Project:	ABLE Marine Energy Park
Client:	ABLE UK Ltd
Title:	Indicative Sequence Plan View 3/3

PRELIMINARY

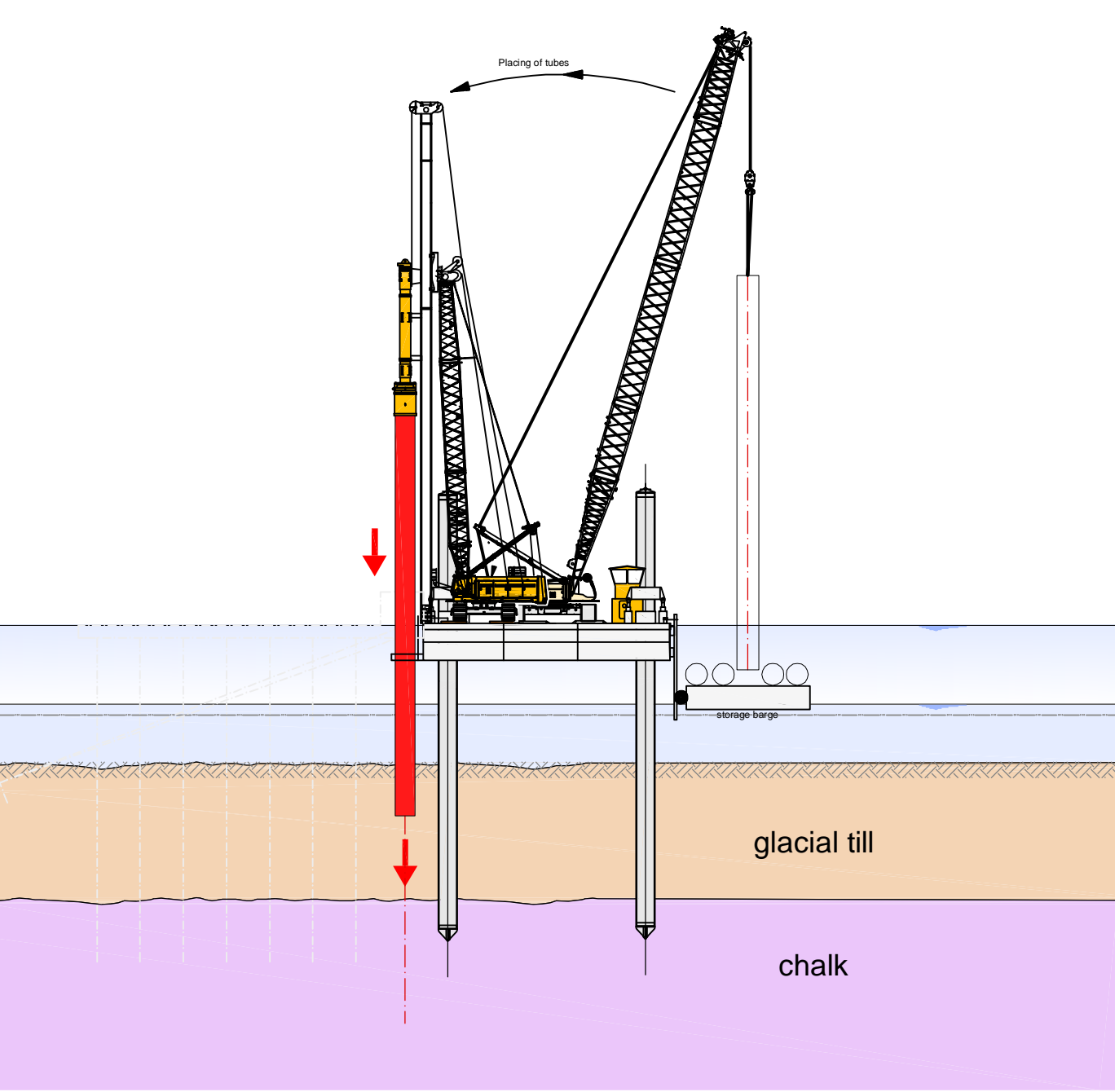


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Scale:	Drawn By	Checked By	Approved By
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Drawing No.	Revision:		
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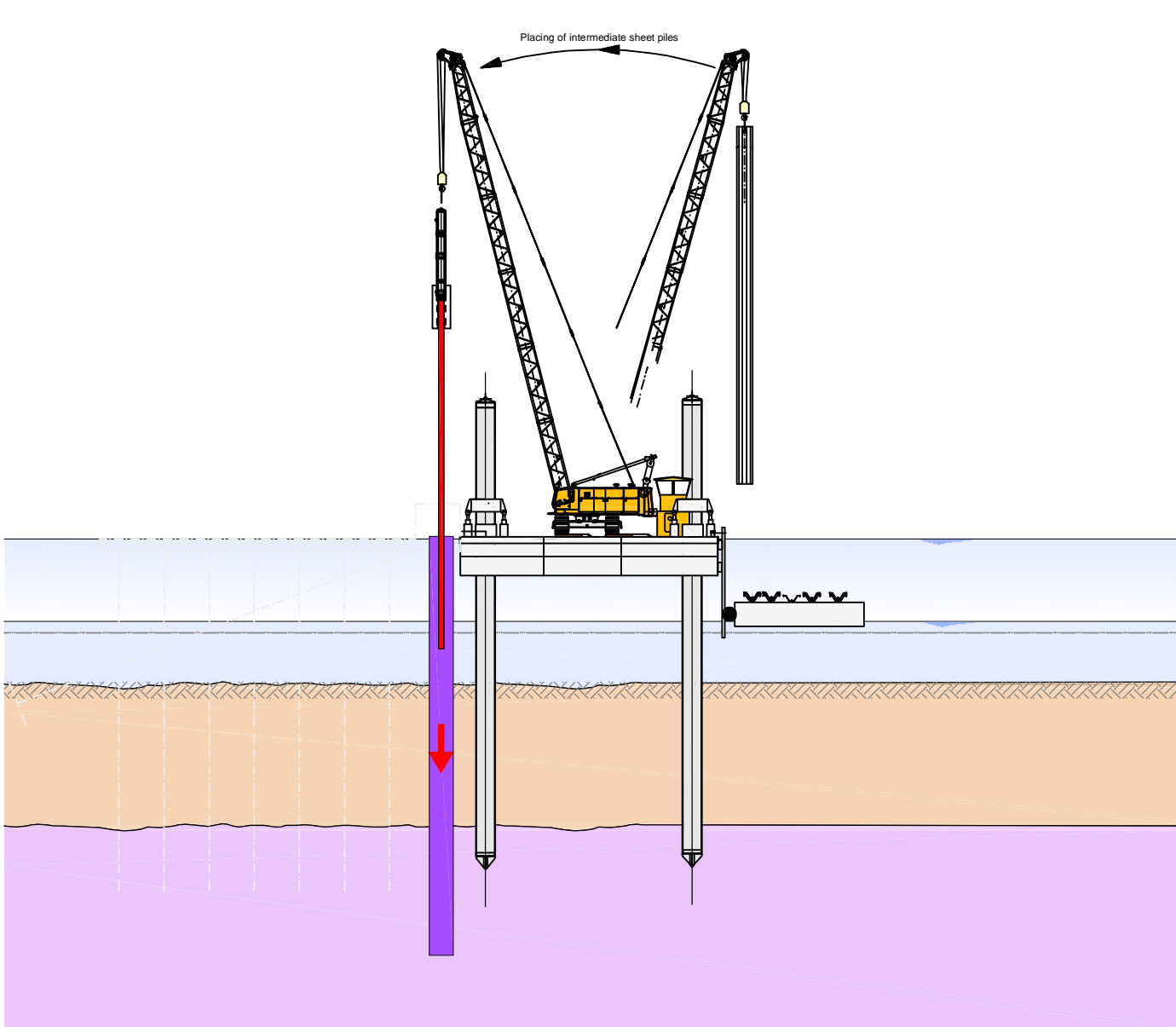
STAGE 1

- Driving of tubes



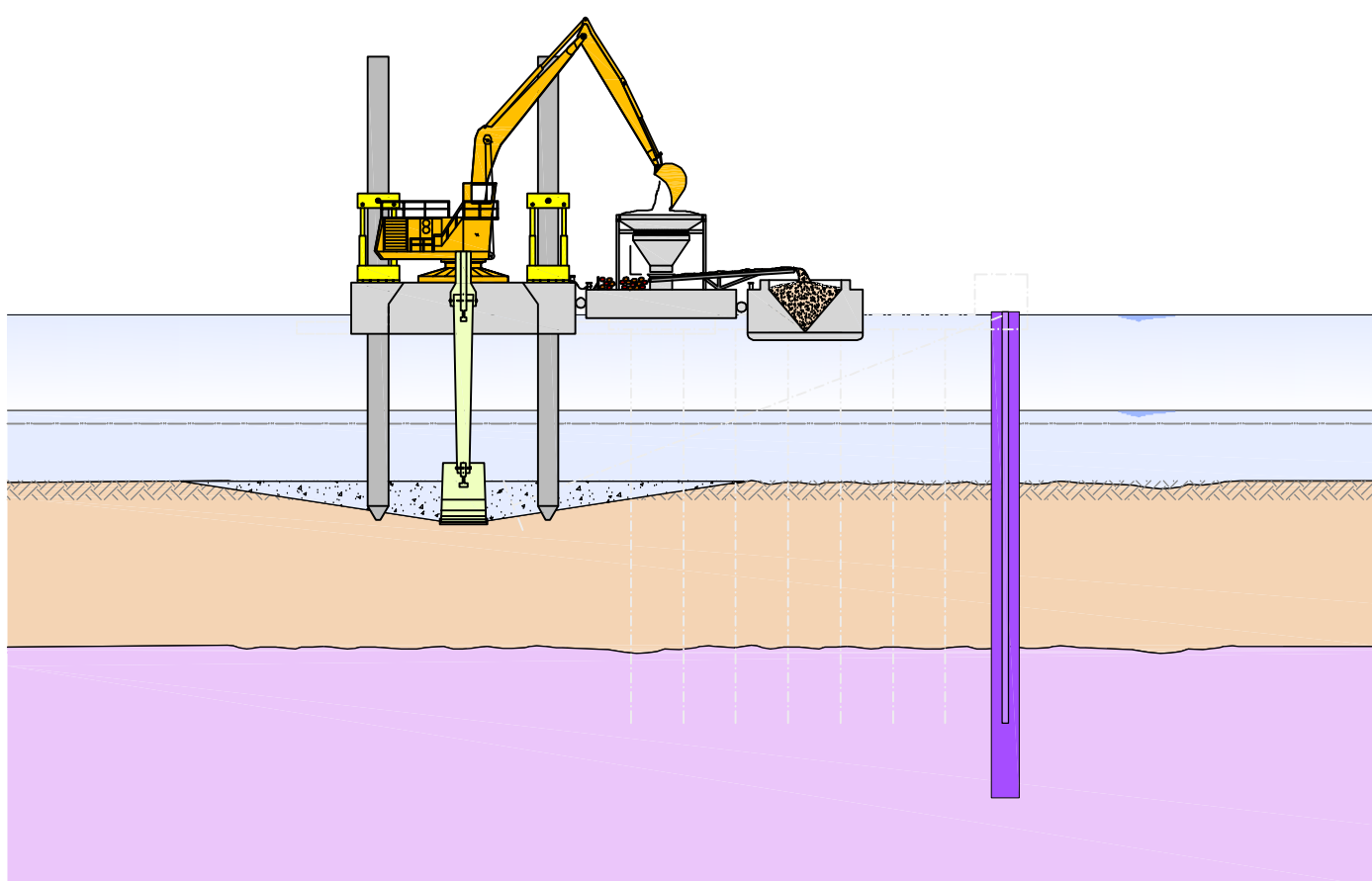
STAGE 2

- Driving of intermediate sheet piles



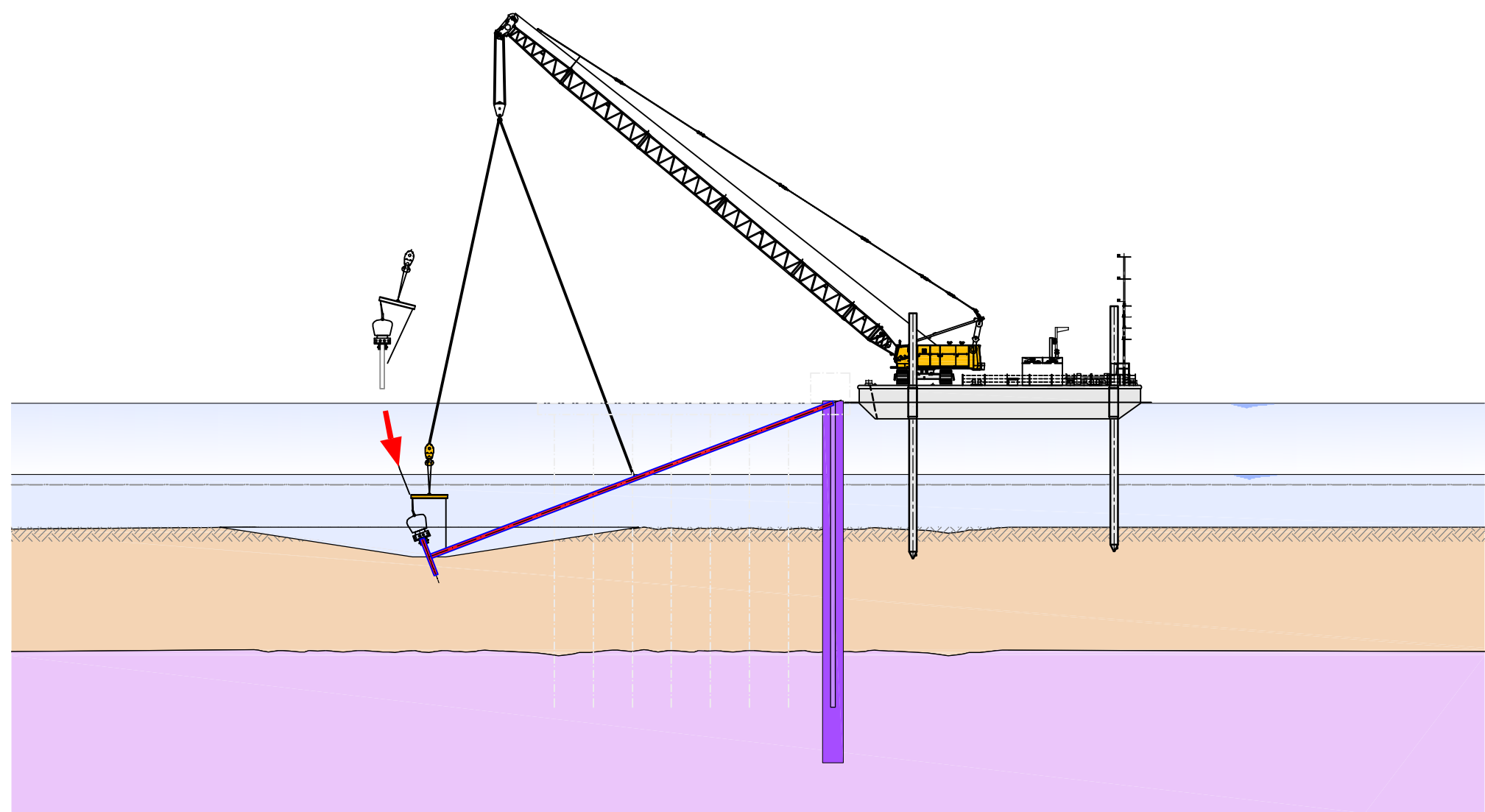
STAGE 3

- Dredging of flap anchor trench



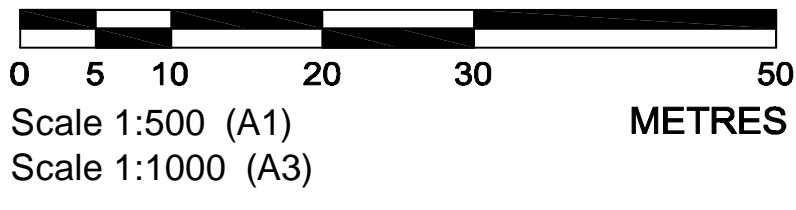
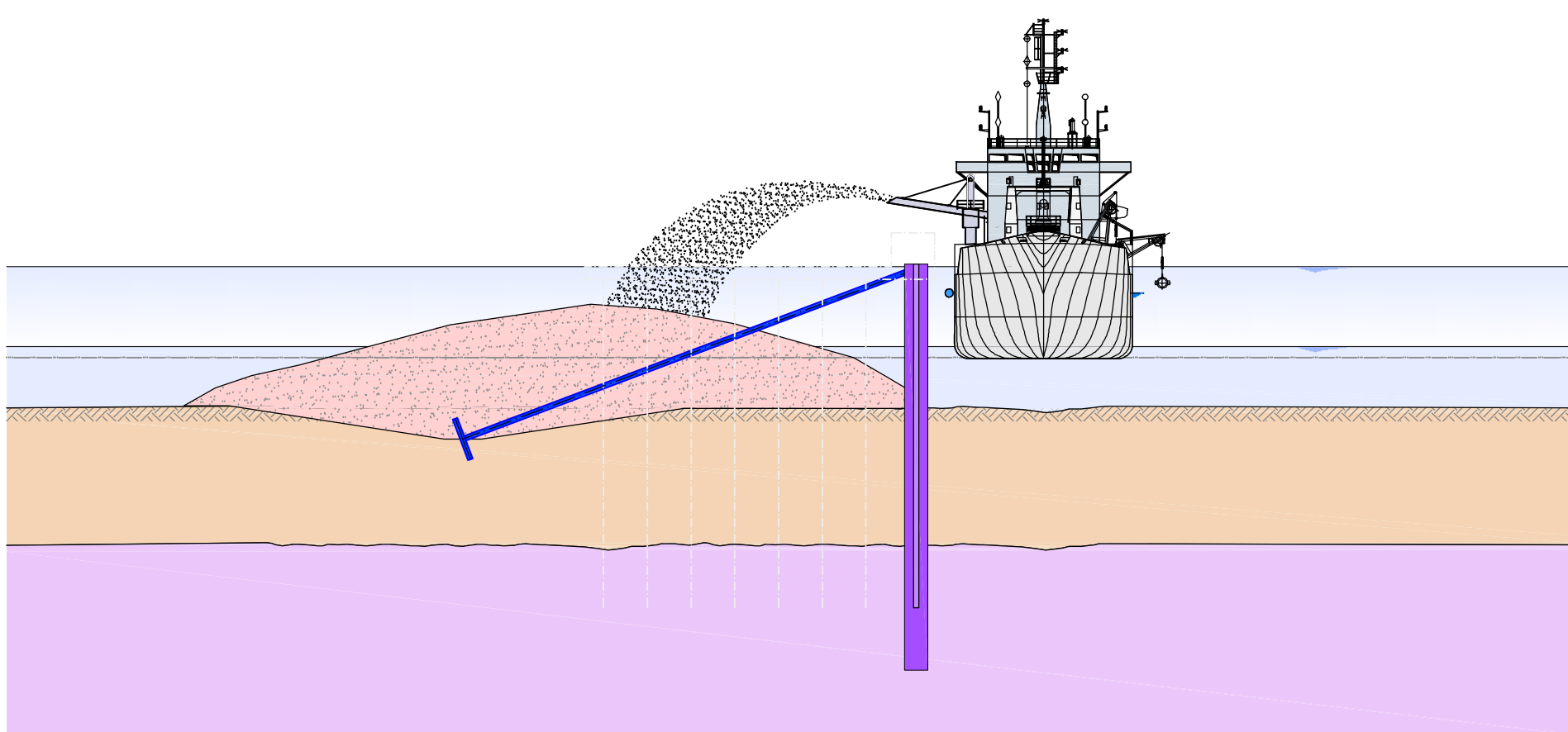
STAGE 4

- Installation of flap anchors



STAGE 5

- Backfilling



KEY

- Levels to Chart Datum
- Details based on preliminary design
- Levels given for the Approach Channel and the Harbour Bed are the maximum maintained levels

C	28.11.11	Adjustment of scales	AGR	SVF	HTA
B	19.09.11	Revision IPC Application	AGR	SVF	HTA
A	30.08.11	Revision IPC Application	AGR	SVF	HTA
0	17.09.10	Preliminary Issue	JSE	SVF	HTA
Rev	Date	Description	By	Chk	App



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Project:	ABLE Marine Energy Park
Client:	ABLE UK Ltd
Title:	Indicative Sequence Cross Section 1/2

PRELIMINARY

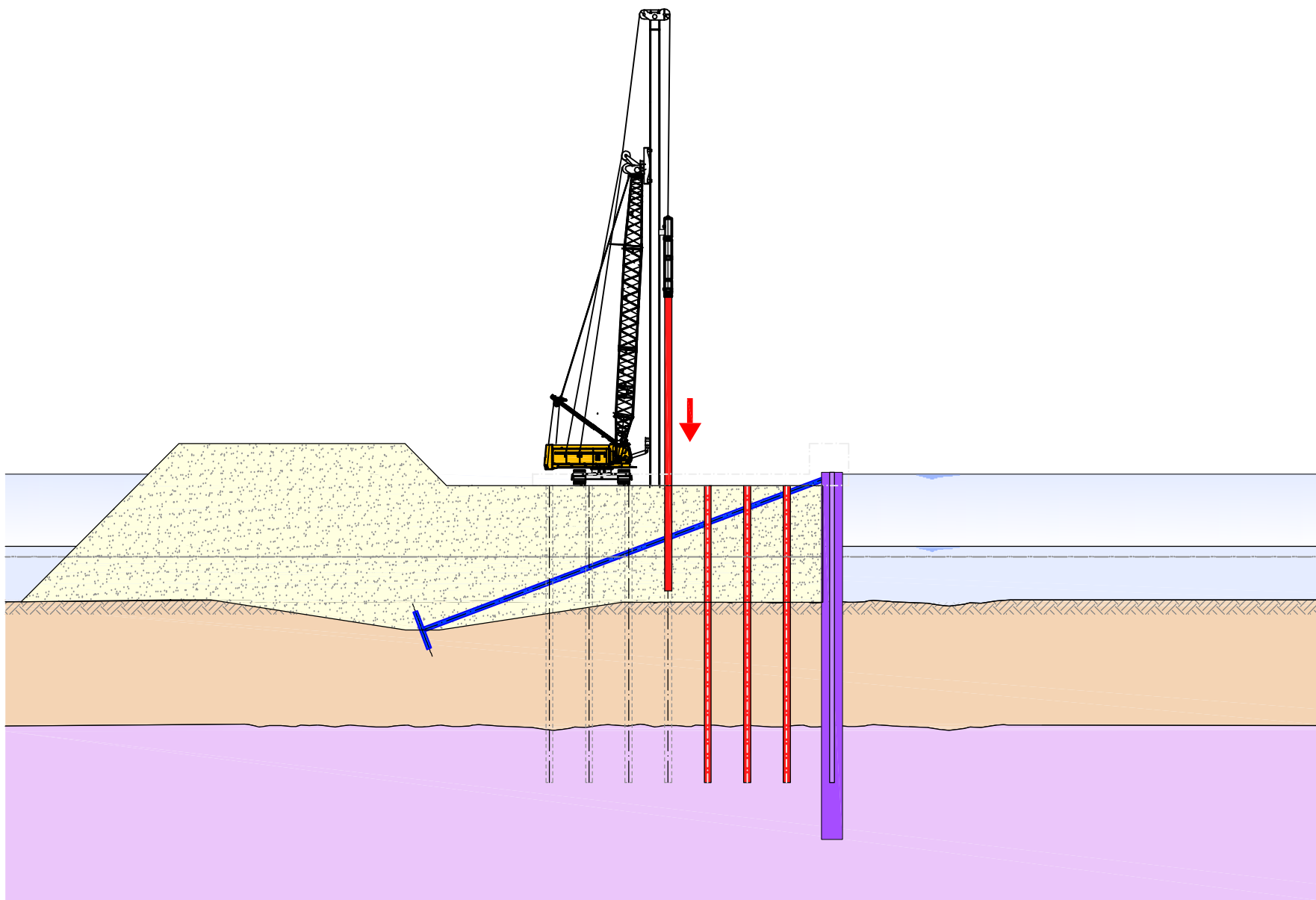


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Fax. 0049- 40 / 21 986 - 200

Scale:	Drawn By	Checked By	Approved By
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Date:	17.09.2010	17.09.2010	17.09.2010
Drawing No.	Revision:		
AMEP_P1D_D_104	C		

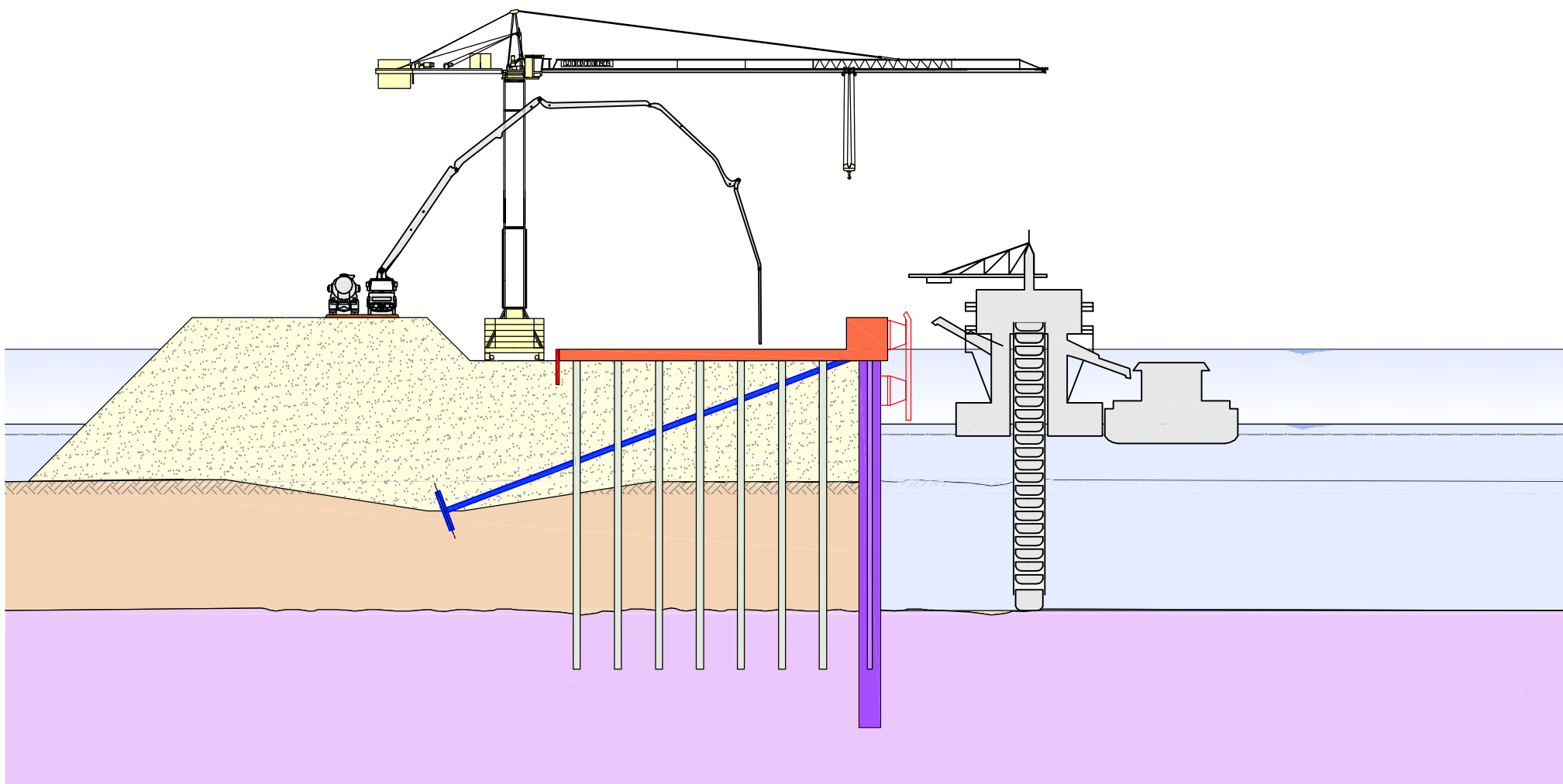
STAGE 6

- Driving of cast in situ concrete piles



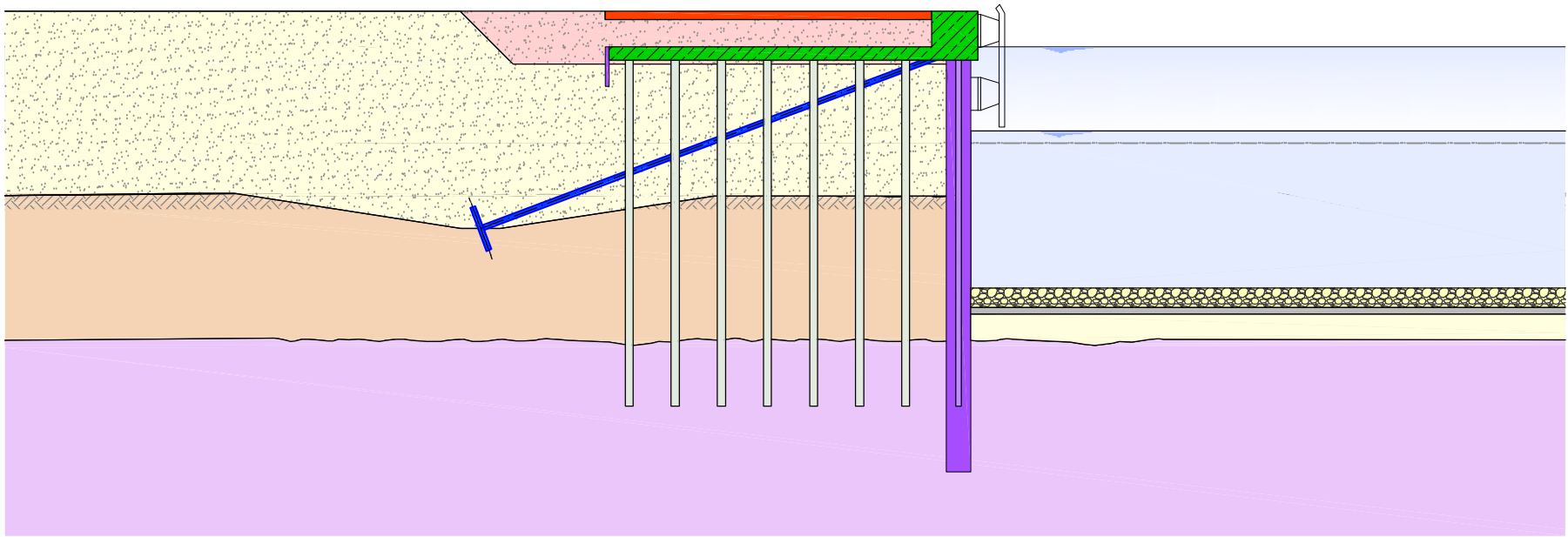
STAGE 7

- Casting of capping beam + concrete slab
- Installation of equipment
- Dredging of berthing pocket to top of chalk



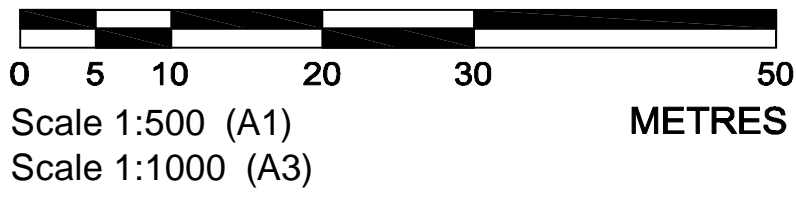
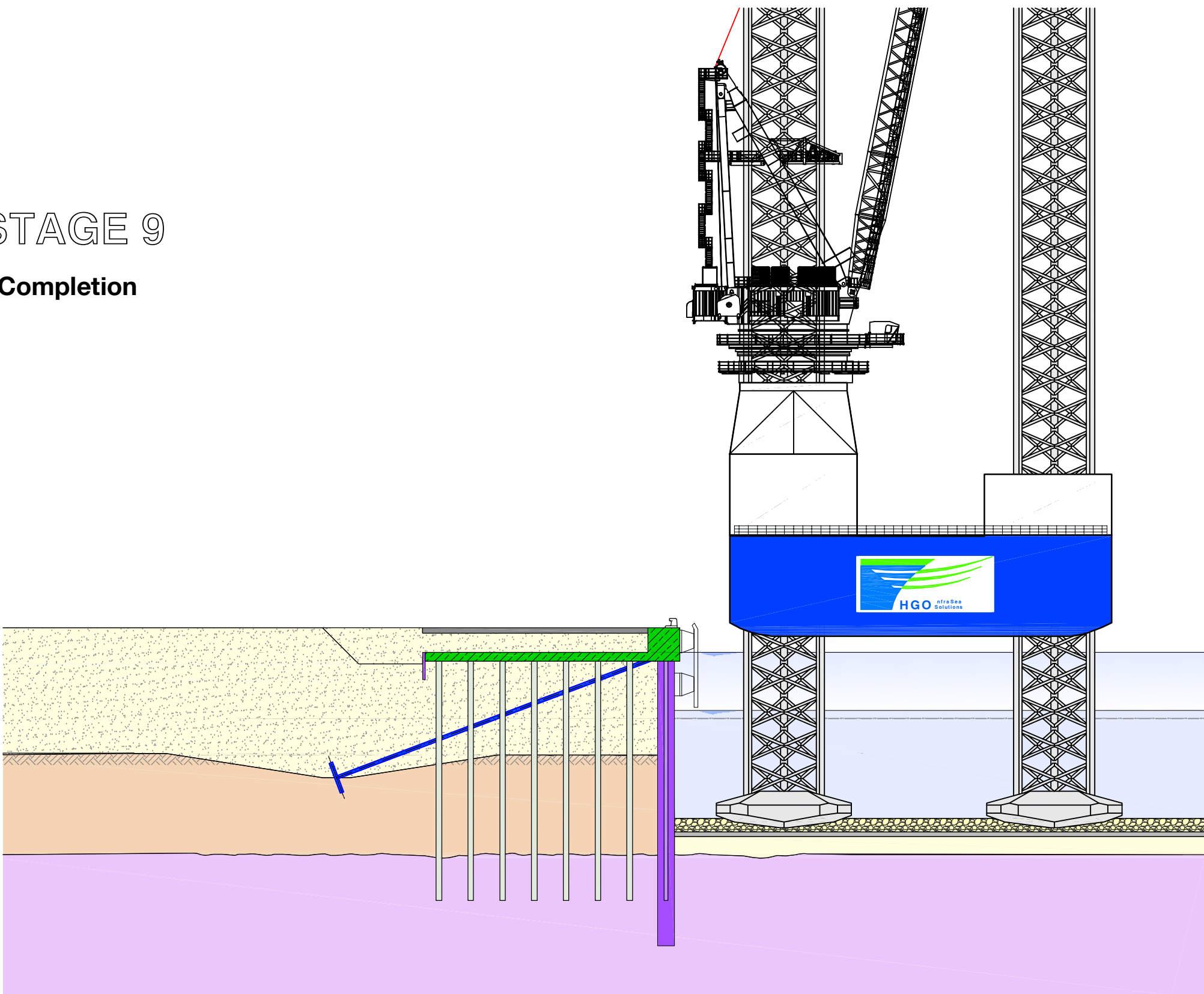
STAGE 8

- Refilling of berthing pocket with granular / rock fill
- Pavement works



STAGE 9

- Completion



KEY

- Levels to Chart Datum
- Details based on preliminary design
- Levels given for the Approach Channel and the Harbour Bed are the maximum maintained levels

E	28.11.11	Adjustment of scales	AGR	SVF	HTA
D	19.09.11	Revision IPC Application	AGR	SVF	HTA
C	31.08.11	Revision IPC Application	AGR	SVF	HTA
B	30.08.11	Revision IPC Application	AGR	SVF	HTA
A	07.01.11	EIA Masterplan Revision	RBS	SVF	HTA
0	17.09.10	Preliminary Issue	JSE	SVF	HTA
Rev	Date	Description	By	Chk	App




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Project:	ABLE Marine Energy Park
Client:	ABLE UK Ltd
Title:	Indicative Sequence Cross Section 2/2

PRELIMINARY

 <div>Civil Engineering and Marine Works Lübeckertordamm 1 20099 Hamburg / Germany Tel. 0049- 40 / 21 986 - 0 Fax. 0049- 40 / 21 986 - 200</div>			
Scale:	Drawn By	Checked By	Approved By
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Date:	17.09.2010	17.09.2010	17.09.2010
Drawing No.	AMEP_P1D_D_105		Revision: E

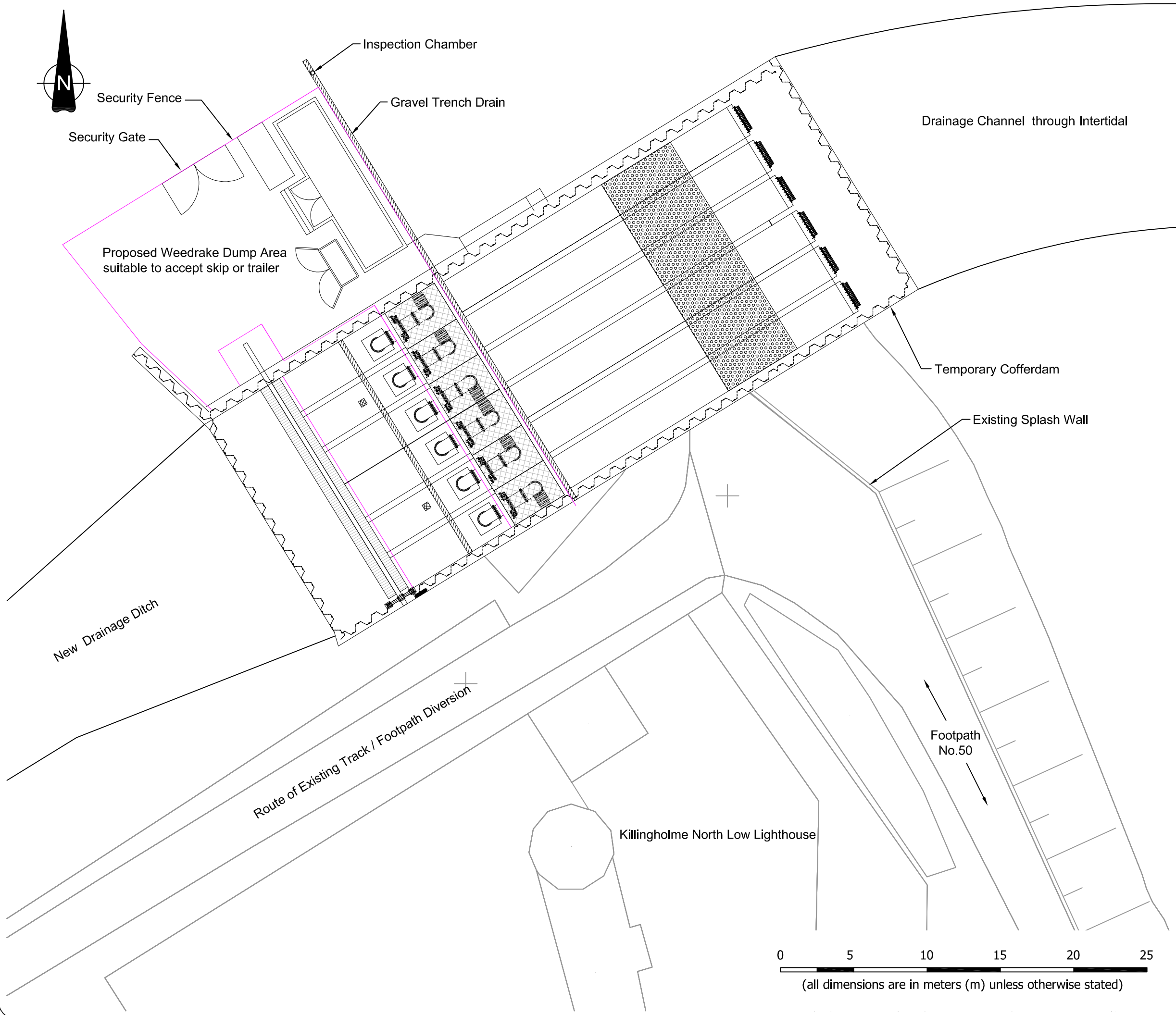
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APPENDIX 4

PUMPING STATION DRAWINGS

AME - 02013 A: Surface Water Pumping Station Indicative Layout

AME - 02014 A: Surface Water Pumping Station Indicative Elevation



KEY

A	12/12/11	Preliminary Issue	RK	RC	RC
Rev	Date	Comments	Drw	Chk	App

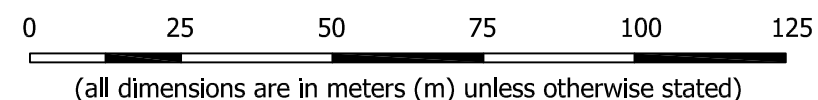
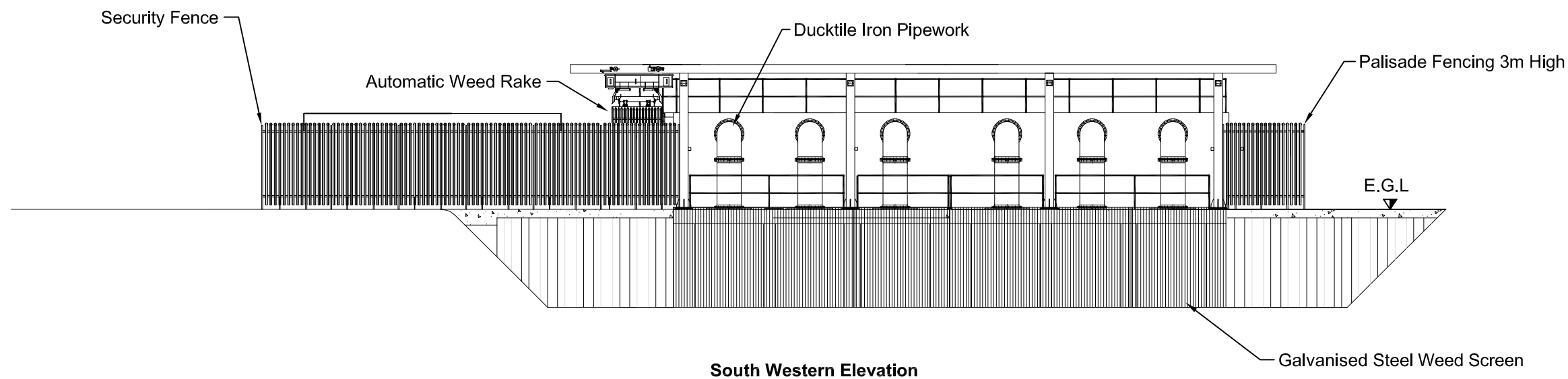
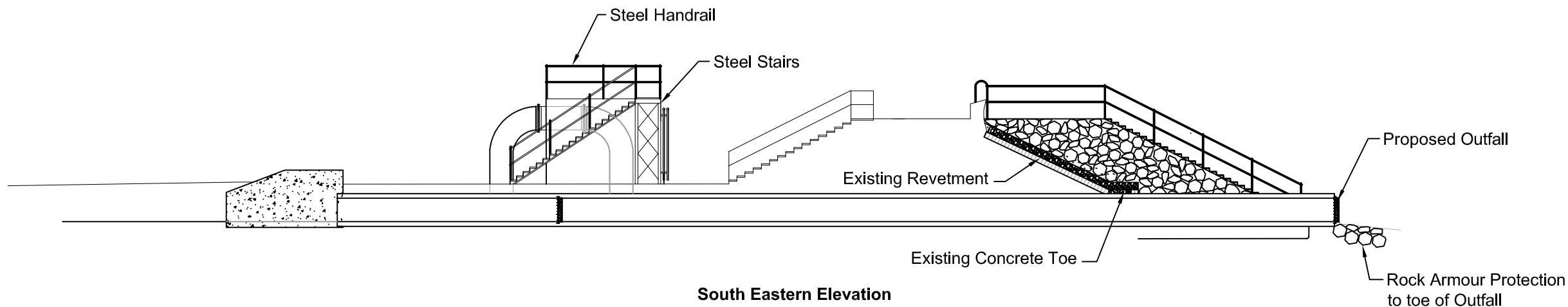


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Project:	ABLE Marine Energy Park
Client:	ABLE UK Ltd
Title:	Surface Water Pumping Station Indicative Layout

PRELIMINARY

Scale:	Drawn	Checked	Approved
1:250@A3	R Keirl	R Cram	R Cram
Date	12/12/2011	12/12/2011	12/12/2011
Drawing No.	AME - 02013		Revision: A



KEY

Notes

1. Surface water to be discharged by gravity unless the outfall is tide locked or under extreme weather conditions, then the pumps will operate at total discharge rate.
2. A sheet pile coffer dam will be erected around the site during the construction phase of the pumping station.

A	12/12/11	Preliminary Issue	RK	RC	RC
Rev	Date	Comments	Drw	Chk	App



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Client:	ABLE UK Ltd
Title:	Surface Water Pumping Station Indicative Elevation

PRELIMINARY

Scale:	Drawn	Checked	Approved
1:1,250@A3	R Keir	R Cram	R Cram
Date	12/12/2011	12/12/2011	12/12/2011
Drawing No.	AME - 02014		Revision: A