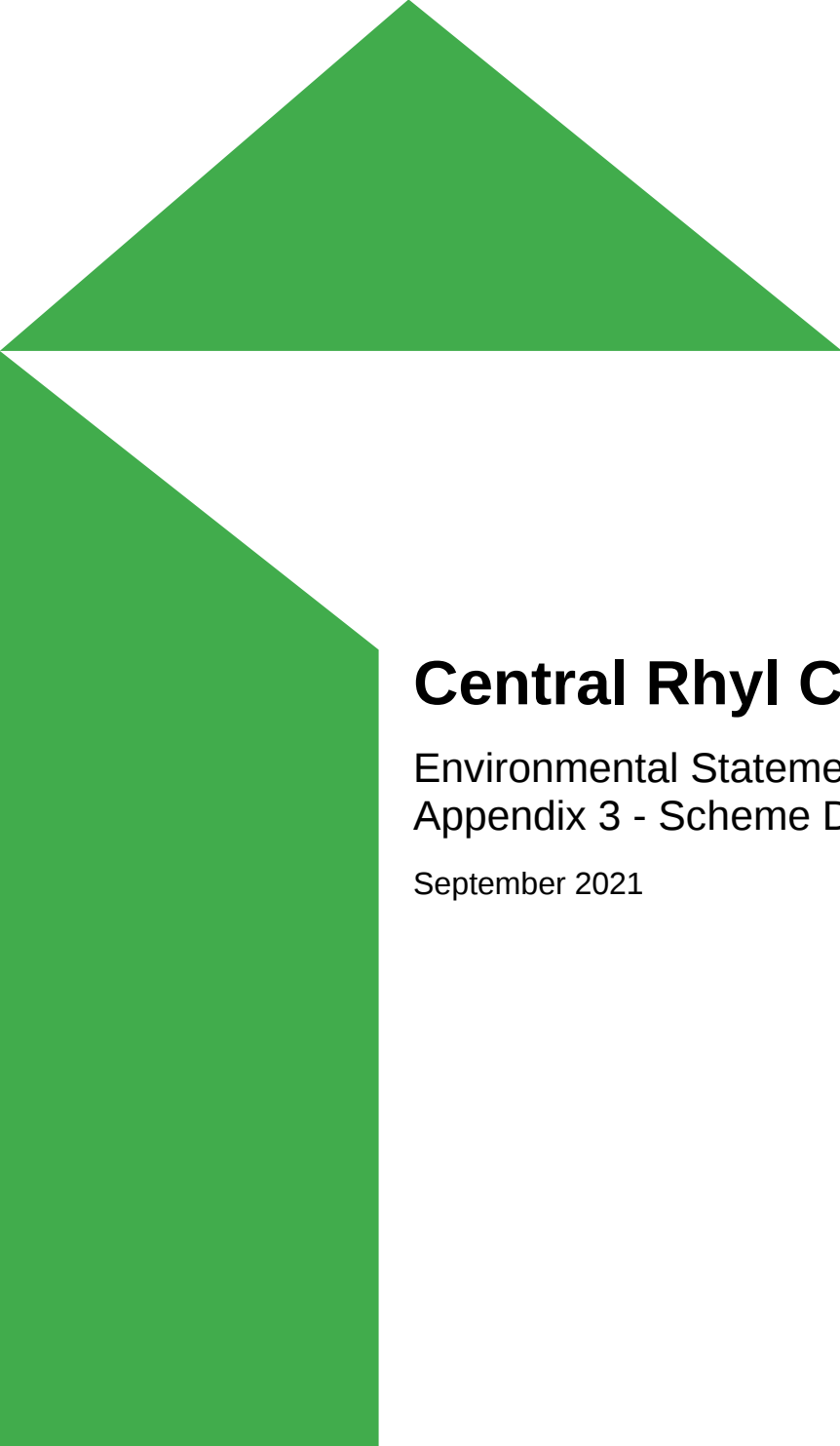




Central Rhyl Coastal Defences

Environmental Statement Volume 2: Technical
Appendix 3 - Scheme Description

September 2021

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Balfour Beatty Civil
Engineering Limited

Central Rhyl Coastal Defences

Environmental Statement Volume 2: Technical Appendix 3 - Scheme Description

September 2021

Issue and Revision Record

Revision	Date	Originator	Checker	Approver	Description
C01	07/09/21	A. Jones	N. Spofforth	N. Price	Published revision

Document reference: 420823 | CR-MMD-00-00-RP-EN-3068 | C01

Information class: Standard

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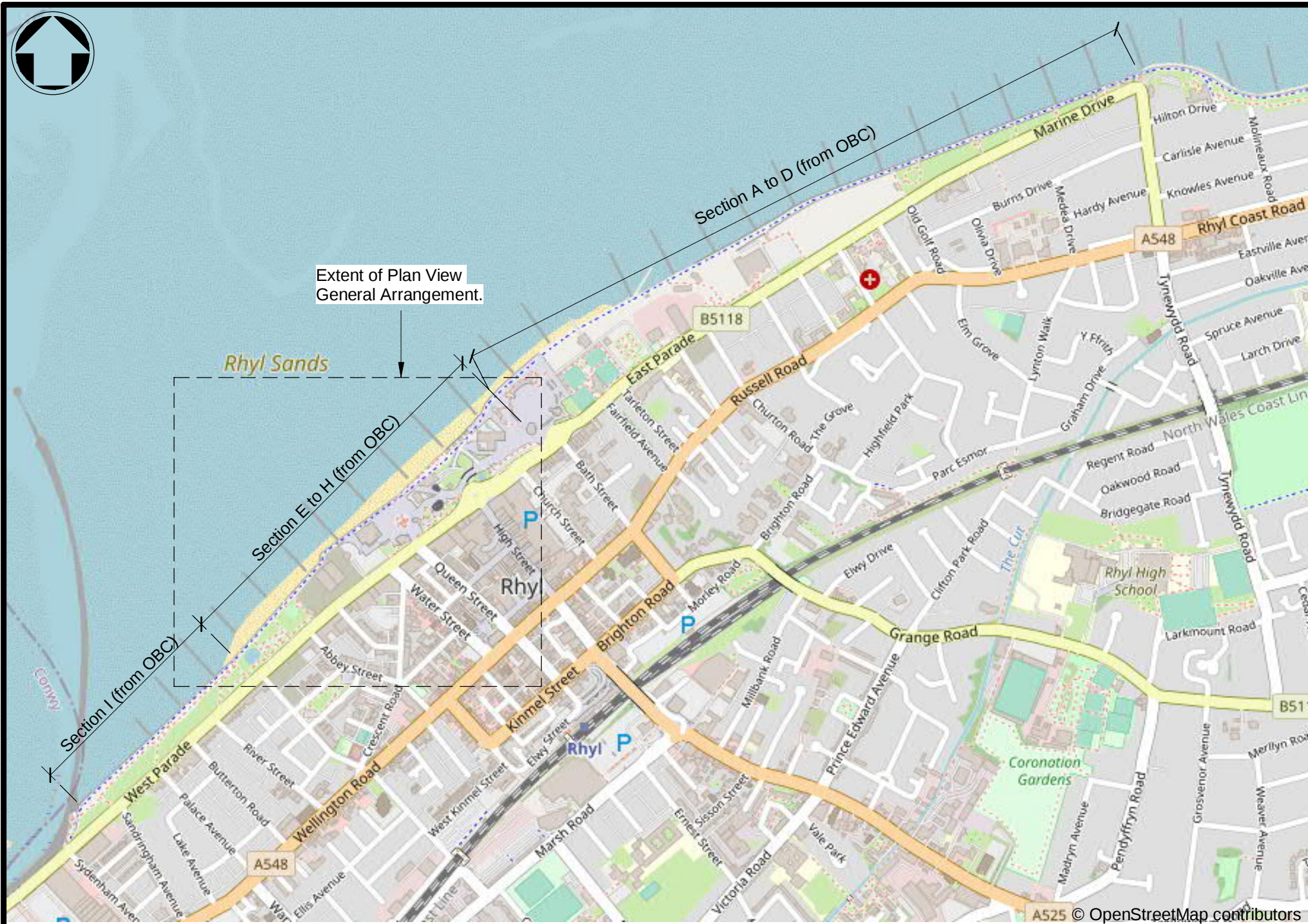
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Contents

Appendix 3.1 – Supplementary Design Drawings	1
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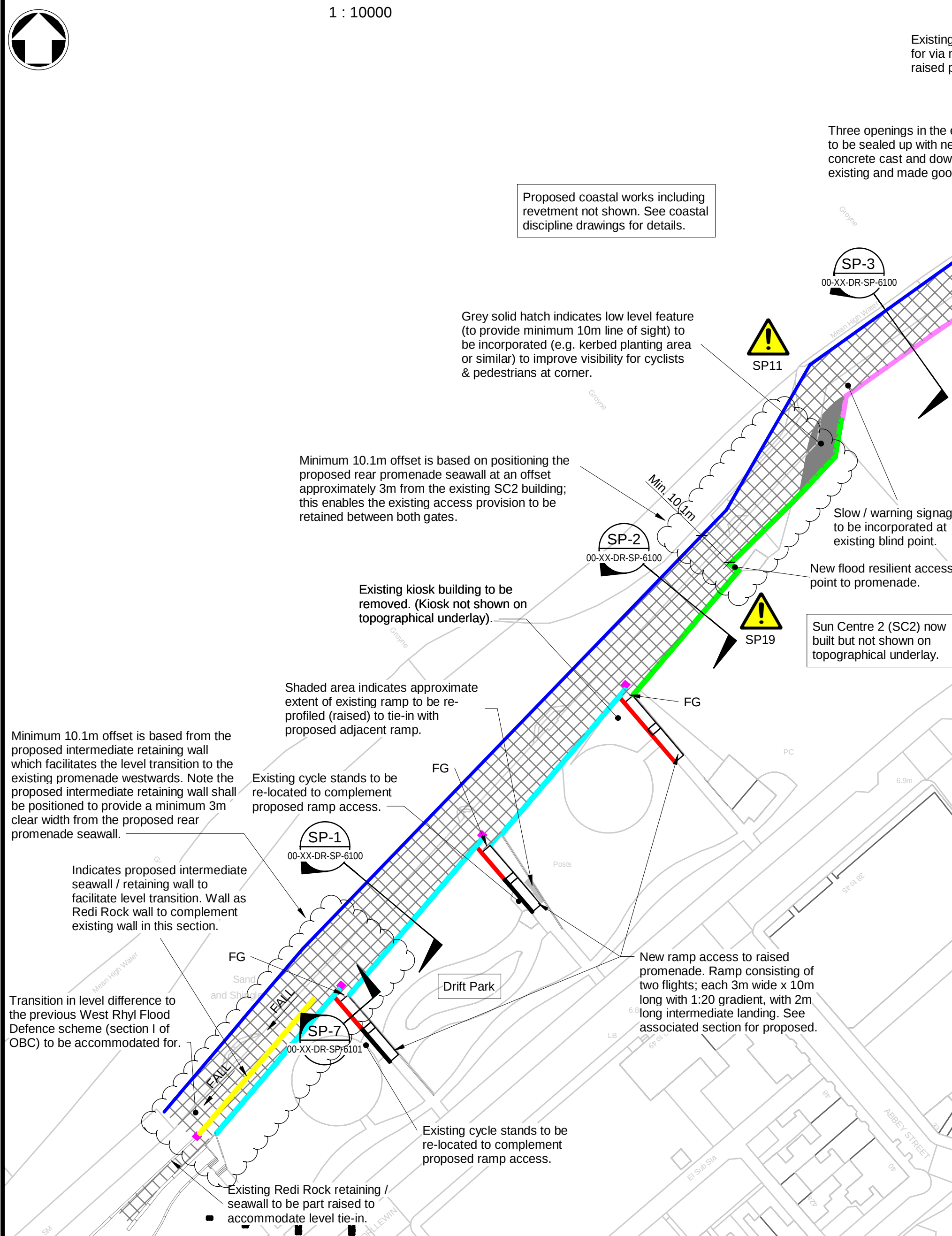
Appendix 3.1 – Supplementary Design Drawings (Reasonable worst case design)

- Central Rhyl Coastal Defences, promenade structures plan view - general arrangement, CR-MMD-00-XX-DR-SP-6001.
- Central Rhyl Coastal Defences, promenade structures plan typical sections, CR-MMD-00-XX-DR-SP-6100 and 6101.
- Central Rhyl Coastal Defences, coastal structures plan view - general arrangement, CR-MMD-00-ZZ-DR-SC-7001 and 7002.
- Central Rhyl Coastal Defences, coastal structures plan typical sections, CR-MMD-00-ZZ-DR-SC-7101 to 7103.



SITE LOCATION PLAN

1 : 10000



PLAN VIEW GENERAL ARRANGEMENT

1 : 1000

SAFETY, HEALTH & ENVIRONMENTAL INFORMATION

It is assumed that all works will be carried out by a competent contractor working where appropriate to an approved method statement.

In addition to the hazards / risks normally associated with the types of work detailed on the drawings, note the following risks & information which are referenced to the Designers' Hazard Elimination and Management Record referenced CR-MMD-00-00-RP-Z-0007.

Ref:	Hazard / risk summary:
SP2 SP3	Damage to or clashes with existing services; including electrical, telecommunication, drainage, water etc. Utility surveys to be undertaken and bridging details to be considered in design.
SP5	Damage to existing walls / structures at rear of promenade due to overloading from additional loads from the proposed construction.
SP9	Possible restricted access to existing manholes / inspection chambers due to proposed construction. Inspection chambers and services possibly need to be raised; consultation needed with utility providers.
SP10	Cyclists falling off the exposed promenade seaward edge. Edge restraint 1.245m high specified along seaward edge, however since this does not provide required 1.4m high protection for cyclists; proposals are subject to keeping cyclists away from the seaward edge by means such as cycle lane markings.
SP11	Collision between cyclists / pedestrians. Design incorporates improvement to some existing pinch points / line of sight.
SP14	Overtopping discharge presenting injury risk to promenade users during storm events. Wave overtopping analysis has been undertaken and promenade is proposed to be raised to reduce overtopping discharge.

Ref:	Hazard / risk summary:
SP17	Restricted beach access to vehicles unless new ramp access is provided. Client to confirm.
SP19	Pedestrians climbing on proposed rear promenade seawalls present risk of injury or unauthorized access to private property. Security recommended along SC2, SeaQuarium and lower level areas of the Children's Village.
SP20	Asbestos Register not provided. Asbestos may be present in structures.
SP32	Unknown / unforeseen ground conditions. Ground conditions could affect extent and arrangement of proposed works.
SP34	Coastal flooding risk. See drawing note 4.
SP37	Crane overloading existing foundations at the rear of the promenade.

The Ordnance Survey mapping shown on this drawing is licensed by emapsite.com Ltd, and was sourced by Mott MacDonald Ltd in October 2020. The topographical features shown may be out of date, including the now built SC2 which is not shown.
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Notes

- This drawing is intended to be used as a basis for the Environmental Impact Assessment for the proposed Central Rhyl Coastal Defences Scheme, and it should not be used for any other purpose. It represents the reasonable worst case arrangement of the Scheme.
- This drawing shall be read in conjunction with all discipline information. Any discrepancies shall be referred to Mott MacDonald before proceeding.
- Unless noted otherwise, all dimensions are in millimetres, all levels in metres above ordnance datum (AOD). Do not scale from drawing, if in doubt ask Mott MacDonald.
- Mott MacDonald has followed accepted procedure in providing the services but given the residual risk associated with any prediction and the variability which can be experienced in flood conditions, Mott MacDonald takes no liability for and gives no warranty against actual flooding of any property (clients or third party) or the consequences of flooding in relation to the performance of the service.
- Drawings do not show extent and location of services. See utility plans / statutory undertakers plans for service information. Contractor to undertake pre construction survey to determine full extent of existing services present within working area.
- Street lighting, street furniture, existing services, existing seawalls, adjoining buildings, movement joints etc not shown.
- These preliminary design promenade structures drawings only include sections E to H of the Central Rhyl Coastal Defence Outline Business Case (OBC) by JBA dated October 2019. Repair work to the existing coastal defences are not shown; for information see the visual condition survey & repair report CR-MMD-00-XX-RP-SC-7005 and associated drawings.
- Design of the rear promenade walls are based on the following load cases:
 - Load case 1: Imposed (variable) water load of 10kN/m² UDL and horizontal wave load of 12kN/m at 335mm above promenade FFL.
 - Load case 2: Imposed (variable) service load of 20kN/m² UDL and horizontal load of 1.5kN/m at 1200mm above promenade FFL.

Proposals subject to change, detailed design, consultation and necessary approvals.

Key to symbols

- Indicates approximate extent of promenade raising.
- Blue line preliminarily indicates unless noted otherwise minimum 10.1m offset from the seaward edge of rear promenade seawall to the possible landward edge of promenade (further offset allowances have been included to consider pinch points, alignment and wall build ups). Note where clearance is already sufficient the alignment of the existing seawall is used. Final alignment of revetment and crest beam to be determined by coastal design team, in conjunction with BB and DCC and subject to stakeholder consultations and approvals.
- Wall Type SP-1: Indicates approximate extent of proposed rear promenade seawall detail adjacent to Drift Park.
- Wall Type SP-2: Indicates approximate extent of proposed rear promenade seawall detail adjacent to SC2.
- Wall Type SP-3: Indicates approximate extent of proposed rear promenade seawall detail adjacent to Sky Tower / Vue Cinema.
- Wall Type SP-4: Indicates approximate extent of proposed rear promenade seawall detail adjacent to Children's Village / underground car park.
- Wall Type SP-5: Indicates approximate extent of proposed rear promenade seawall detail between Children's Village and SeaQuarium.
- Wall Type SP-6: Indicates approximate extent of proposed rear promenade seawall detail adjacent to SeaQuarium.
- Wall Type SP-7: Indicates proposed retaining wall to accommodate ramps or steps.
- Wall Type SP-8: Indicates proposed intermediate seawall / retaining wall to facilitate level transition.
- Indicates proposed flood gate (overall geometry, performance specification and design loadings to be provided by Mott MacDonald Ltd).
- Indicates existing timber & slate beacons to be retained with slate section partially buried by the promenade raising.

Reference drawings

CR-MMD-00-XX-DR-SP-6000:	Promenade Structures General Notes
CR-MMD-00-XX-DR-SP-6001:	Promenade Structures Plan View GA
CR-MMD-00-XX-DR-SP-6100 & 6101:	Prom. Structures Typical Sections & Details
CR-MMD-00-XX-DR-SC-7001 & 7002:	Coastal Structures Plan View GA's
CR-MMD-00-XX-DR-SC-7101 to 7103:	Coastal Structures Typical Sections

C02	03.09.2021	JH	Accepted for EIA following client comments	GWM	NP
P03	10.06.2021	JH	Preliminary design for EIA and consents.	GWM	SS
C01	04.06.2021	JH	Stage 3b - accepted contract revision.	GWM	SS
P02	18.12.2020	JH	Issued for acceptance following client comments.	GWM	NP
P01	30.10.2020	JH	Preliminary issue for comment	GWM	SS
Rev	Date	Drawn	Description	Ch'kd	App'd

Status Stamp

Reasonable worst case design for EIA only

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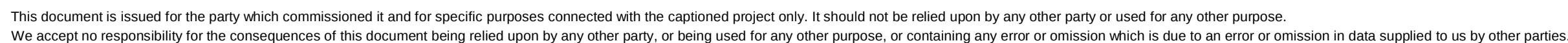
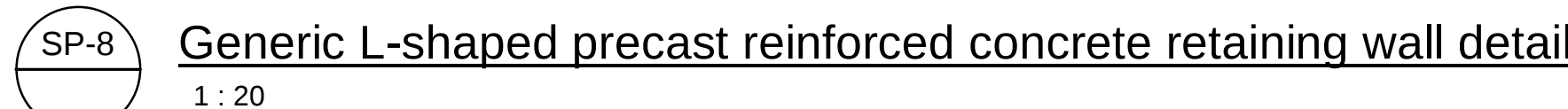
Client



Title

Central Rhyl Coastal Defences
PROMENADE STRUCTURES
Preliminary Design
Plan View General Arrangement

Designed	J. Hughes	Eng.concept	G. Mitchell	
Drawn	J. Hughes	Coordination	M. Cowle	
Dwg.check.	G. Mitchell	Approved	S. Smith	
MMD Project Number	420823	Scale at A1	As indicated	Security STD
Suitability Description	Stage 3b - Accepted	Suit. Code	A4	
Drawing Number	CR-MMD-00-XX-DR-SP-6001	Rev	C02	



Status Stamp
Reasonable worst case design for EIA only

Designed	J. Hughes		Eng.concept	G. Mitchell	
Drawn	J. Hughes		Coordination	M. Cowle	
Dwg.check.	G. Mitchell		Approved	S. Smith	
MMD Project Number 420823		Scale at A1 As indicated			Security STD
Suitability Description Stage 3b - Accepted					Suit. Code A4
Drawing Number CR-MMD-00-XX-DR-SP-6101					Rev C02

Safety, Health & Environmental Information

It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement.

! In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following risks and information which are referenced to the Designers' Hazard Elimination and Management Record referenced CR-MMD-00-00-RP-Z-0007:

Ref: Hazard/ risk summary

- SC1 Proposed steps become inaccessible or difficult to access from the beach as a result of beach levels dropping below bottom landing levels, resulting in injury as pedestrians try to access or egress.
- SC2 Injury through falling due to marine growth on access steps.
- SC7 Geometry of existing structures different to existing as-built information or topographical information, or unknown if below ground, which may affect the design and delay works on site.
- SC11 Excavation collapse resulting in injury to operators and/or damage to plant.
- SC12 UXOs or other buried obstructions are encountered resulting in death and injury.
- SC14 Damage to or clashes with existing service infrastructure particularly during excavation and sheet piling works and particularly to drainage assets extending seaward from the existing sea wall.
- SC17 Risk of undermining of existing structures, or damage to existing structures.
- SC18 Risk of existing seawall instability or collapse due to plant loading on adjacent promenade during construction. This is of particular concern to seawall at Section E.
- SC20 Asbestos may be present in structures.

The transitional arrangement between the proposed new revetment and rock scour protection to be confirmed at detailed design. Worst anticipated general arrangement shown

Proposed promenade works not shown. See promenade structures discipline drawings for details.

Notes

1. This drawing is intended to be used as a basis for the Environmental Impact Assessment for the proposed Central Rhyl Coastal Defences Scheme, and it should not be used for any other purpose. It represents the reasonable worst case arrangement of the scheme.
2. This drawing shall be read in conjunction with all discipline information. Any discrepancies shall be referred to Mott MacDonald before proceeding.
3. Unless noted otherwise, all dimensions are in millimetres, all levels in metres above Ordnance Datum (AOD). Do not scale from this drawing, if in doubt ask Mott MacDonald.
4. Further options maybe possible subject to undertaking Detailed Design, though the reasonable worst case arrangement has been shown.
5. Drawings do not show extent and location of services. See utility plans / statutory undertakers plans for service information. Contractor to undertake pre-construction survey to determine full extent of services present in area.
6. Locations of outfalls are shown approximately
7. Mott MacDonald Ltd. has followed accepted procedure in providing the services but given the residual risk associated with any prediction and the variability which can be experienced in flood conditions, Mott MacDonald Ltd. takes no liability for and gives no warranty against actual flooding of any property (clients or third party) or the consequences of flooding in relation to the performance of the service.
8. Existing ground levels are assumed from NRW's Digital Terrain Model (DTM via LIDAR), downloaded in October 2020 (50cm resolution). A topographical survey is required to confirm existing ground levels. Topographical features will be reviewed upon receipt of pending topographical survey, which could affect extent and arrangement of proposed works, for which a variance of 1m has been included.
9. Signage required such as 'do not climb on rock scour protection' locations to be confirmed in detailed design.

Proposals subject to change following, detailed design, consultation and necessary approvals

Key to symbols

- Proposed designated points of access to the beach from the promenade
- Proposed concrete stepped revetment
- Proposed rock structures (Rock toe scour protection)
- Toe of proposed concrete stepped revetment
- Indicative location of toe of existing seawall or revetment

Reference drawings

CR-MMD-00-ZZ-DR-SC-7000	Scheme Key Plan
CR-MMD-00-ZZ-DR-SC-7002	Preliminary Design Plan View - General Arrangement Sheet 02 of 02
CR-MMD-00-ZZ-DR-SC-7101	Preliminary Design - Typical Sections Sheet 01 of 03
CR-MMD-00-ZZ-DR-SC-7102	Preliminary Design - Typical Sections Sheet 02 of 03
CR-MMD-00-ZZ-DR-SC-7103	Preliminary Design - Typical Sections Sheet 03 of 03
CR-MMD-00-XX-DR-SP-6001	Prom Structures Preliminary Plan View GA
CR-MMD-00-XX-DR-SP-6100	Prom Structures Preliminary Typical Sections and Details
CR-MMD-00-XX-DR-SP-6101	Prom Structures Preliminary Typical Sections and Details
CR-MMD-00-XX-RP-SC-7005	Visual Condition Survey and Recommendations for Repair Works

C02	02/09/2021	PS	Client Reviewed, minor updates - EIA Accepted	GW	ZH
P03	10/06/2021	PS	Preliminary design for EIA and consents	GW	ZH
C01	10/06/2021	PS	Stage 3b accepted	GW	ZH
P02	22/01/2021	PS	Acceptance Issue following Clients Comments	FL	ZH
P01	04/11/2021	PK	Preliminary Issue for Comments	FL	ZH
Rev	Date	Drawn	Description	Ch'k'd	App'd

Status Stamp

Reasonable Worst Case Design for EIA Only

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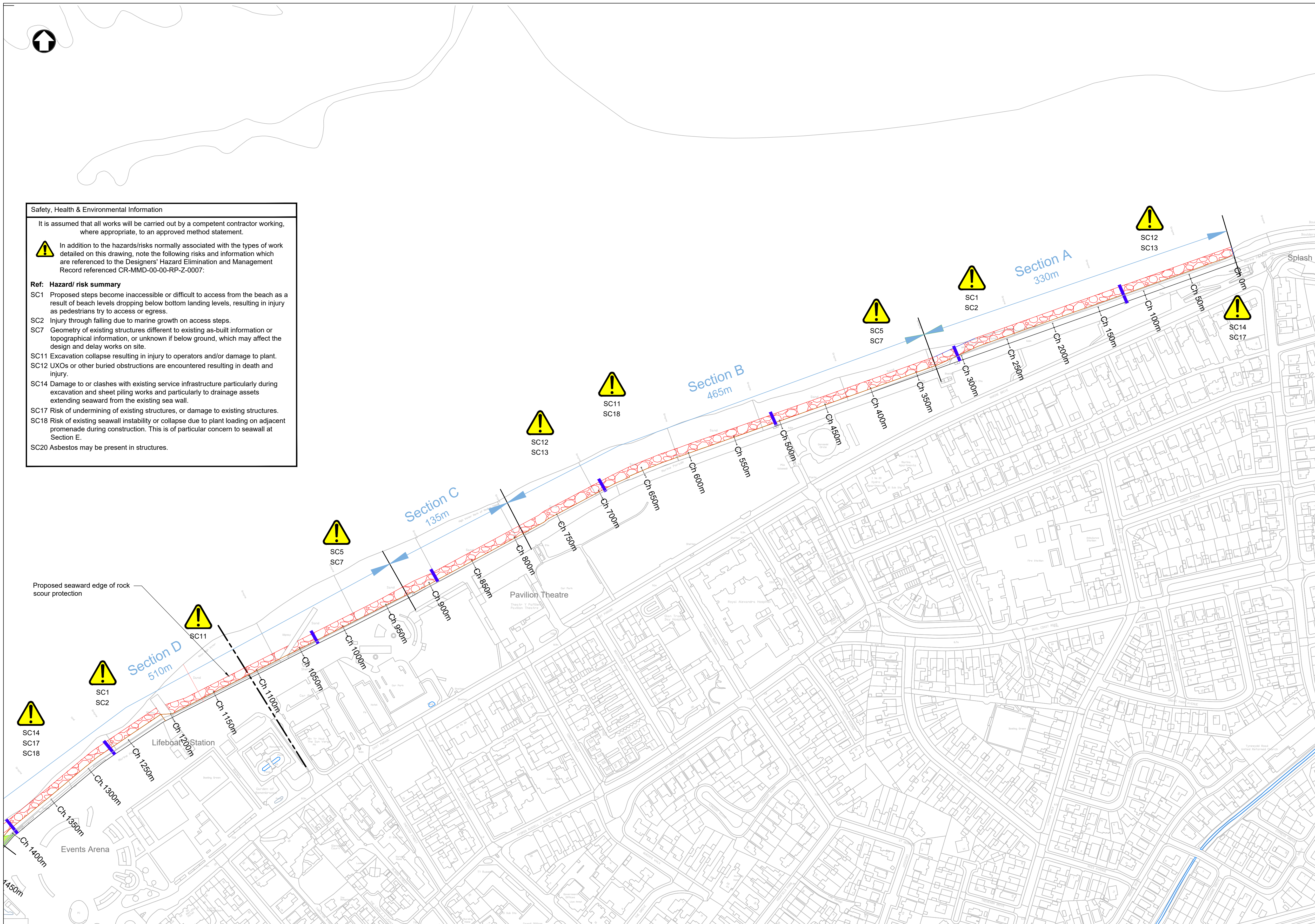
Client



Title

Central Rhyl Coastal Defences
COASTAL STRUCTURES
Preliminary Design
Plan View - General Arrangement
Sheet 01 of 02

Designed	P. Kacperek	PK	Eng check	G Wallace	GW
Drawn	P. Steers	PS	Coordination	M. Cowle	MC
Dwg check	G Wallace	GW	Approved	Z. Hutchison	ZH
MMD Project Number	420823	Scale at A1	1:2000	Security	STD
Suitability Description	Stage 3b - Accepted	Suit. Code	A4	Revision	C02
Drawing Number	CR-MMD-00-ZZ-DR-SC-7001	Revision	C02		



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Notes

Proposals subject to change following, detailed design,
consultation and necessary approvals

Reference drawings

C02	02/09/2021	PS	Client Reviewed, minor updates - EIA Accepted	GW	ZH
P03	10/06/2021	PS	Preliminary design for EIA and Consents	GW	ZH
C01	10/06/2021	PS	Stage 3b accepted	GW	ZH
P02	22/01/2021	PS	Acceptance Issue following Clients Comments	FL	ZH
P01	04/11/2021	PK	Preliminary Issue for Comment	FL	ZH
Rev	Date	Drawn	Description	Ch'k'd	App'd

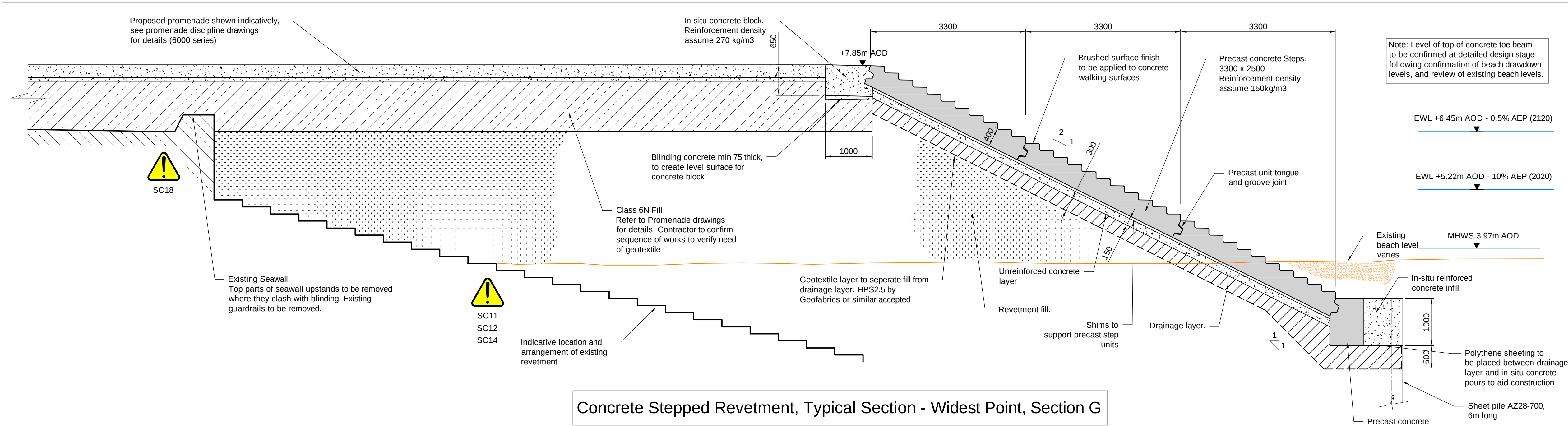
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United Kingdom

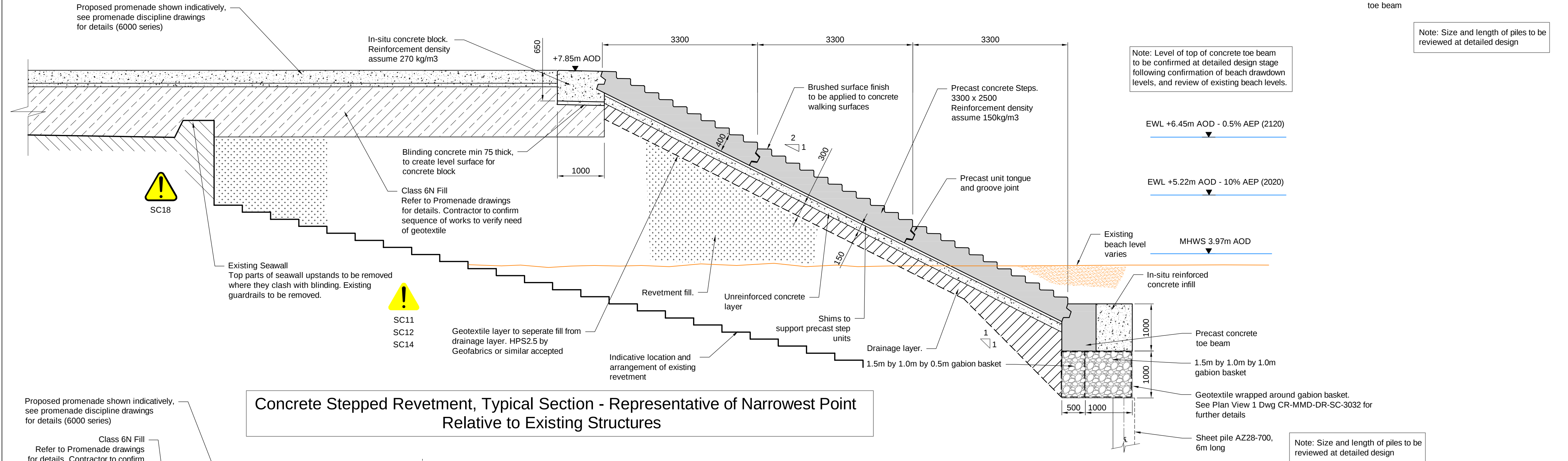
T +44 (0)1492 534601
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Title

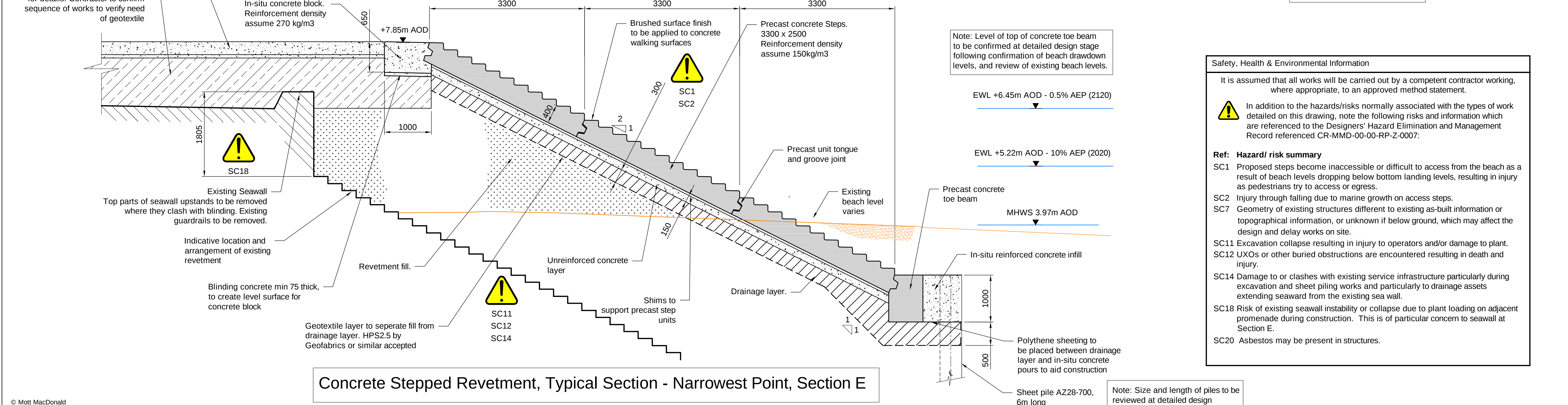
Central Rhyl Coastal Defences
COASTAL STRUCTURES
Preliminary Design
Plan View - General Arrangement
Sheet 02 of 02



Concrete Stepped Revetment, Typical Section - Widest Point, Section G



Concrete Stepped Revetment, Typical Section - Representative of Narrowest Point Relative to Existing Structures



Concrete Stepped Revetment, Typical Section - Narrowest Point, Section E

- Notes
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 - The sheet pile toe detail to be confirmed at detailed design stage.
 - Mott MacDonald Ltd. has followed accepted procedure in providing the services but given the residual risk associated with any prediction and the variability which can be experienced in flood conditions, Mott MacDonald Ltd. takes no liability for and gives no warranty against actual flooding of any property (clients or third party) or the consequences of flooding in relation to performance of the service.
 - Existing street furniture, guardrails, services and outfalls not shown.
 - Tide levels are extracted from Welsh Government: Adopting to Climate Change Guidance, 2017. Extreme water levels are derived from Coastal Flood Boundary Conditions for the UK: 2018 update and UK Climate Projections18 Marine Report, 2018.
 - Existing ground levels are assumed from NRW 's Digital Terrain Model (DMT via Lidar) downloaded in October 2020 (50cm resolution). A topographical survey is required to confirm existing ground levels. Topographical features will be reviewed upon receipt of pending topographical survey, which could affect extent and arrangement of proposed works for which a variance of 1m has been included.
 - Drawings do not show extent and location of services. See utility plans / statutory undertakers plans for service information. Contractor to undertake pre construction survey to determine full extent of existing services present within working area.

Proposals subject to change following detailed design, consultation and necessary approvals.

Key to symbols

	Revetment Fill		Class 6N Fill
	Drainage layer		MHWS: Mean High Water Spring
	In-situ Concrete		EWL: Extreme Water Level
	Precast Concrete		AEP: Annual Exceedance Probability
	Beach Material		

Reference drawings

CR-MMD-00-XX-DR-SC-7000	Scheme Key Plan
CR-MMD-00-ZZ-DR-SC-7001	Preliminary Design Plan View - General Arrangement Sheet 01 of 02
CR-MMD-00-ZZ-DR-SC-7002	Preliminary Design Plan View - General Arrangement Sheet 02 of 02
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Rev	Date	Drawn	Description	Ch'k'd	App'd
C02	02/09/2021	PS	Client reviewed, minor updates - EIA Accepted	GW	ZH
P04	10/06/2021	PS	Preliminary design for EIA and consents	GW	ZH
C01	10/06/2021	PS	Stage 3b accepted	GW	ZH
P03	09/04/2021	PK	Minor amendments incorporated	GH	ZH
P02	22/01/2021	PS	Acceptance following Clients Comments	FL	ZH
P01	04/11/2020	PK	Preliminary Issue for Comments	FL	ZH

Status Stamp

Reasonable Worst Case Design for EIA Only

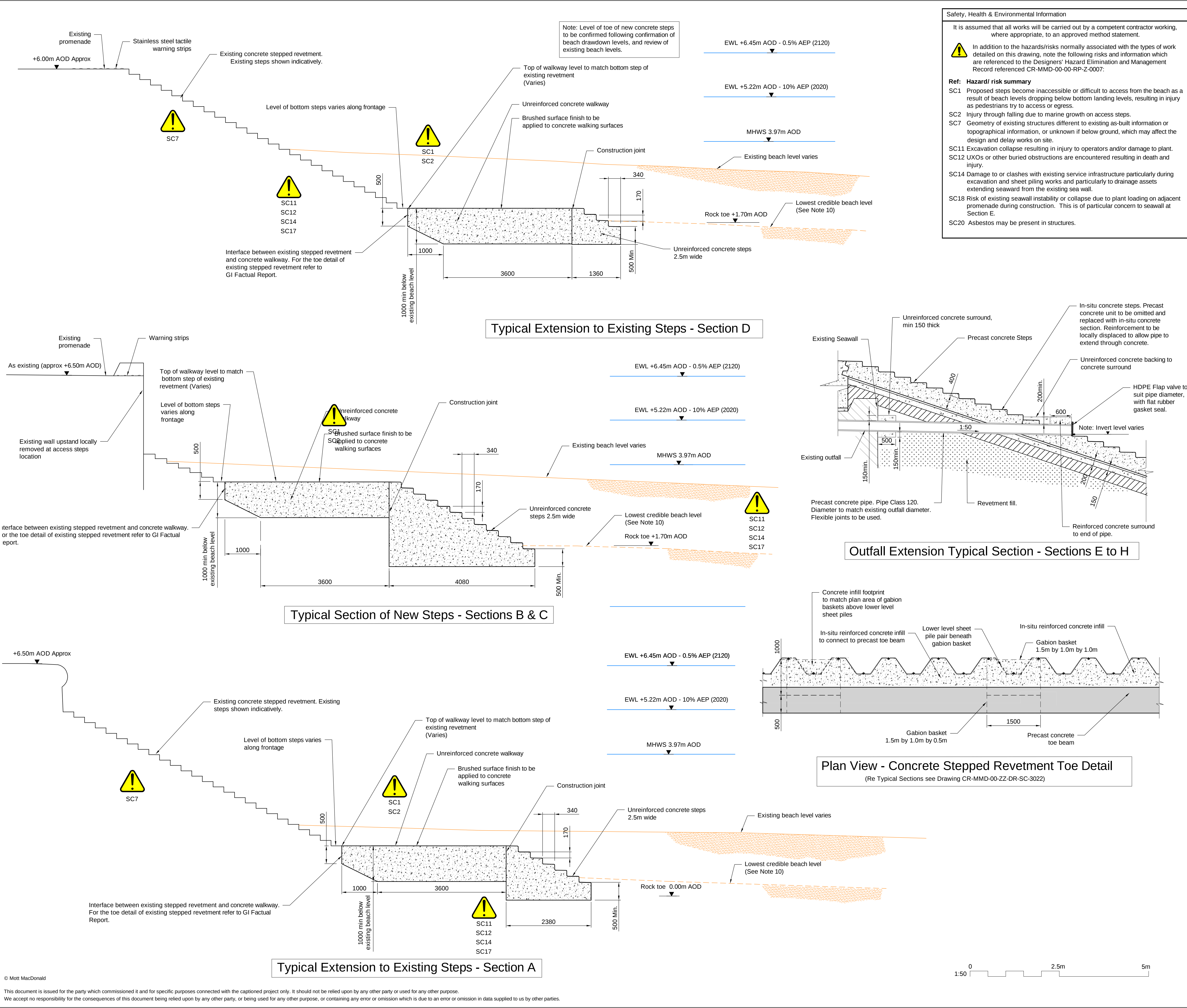
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Client



Title
**Central Rhyl Coastal Defences
COASTAL STRUCTURES
Preliminary Design
Typical Sections
Sheet 01 of 03**

Designed	P. Kacperk	PK	Eng check	G. Wallace	GW
Drawn	P. Kacperk	PS	Coordination	M. Cowle	MC
Dwg check	G. Wallace	GW	Approved	Z. Hutchison	ZH
MMD Project Number	420823	Scale at A1	1:50	Security	STD
Suitability Description	Stage 3b - Accepted	Suit. Code	A4	Revision	C02
Drawing Number	CR-MMD-00-ZZ-DR-SC-7101				



Safety, Health & Environmental Information

It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement.

Hazard/ risk summary

SC1 Proposed steps become inaccessible or difficult to access from the beach as a result of beach levels dropping below bottom landing levels, resulting in injury as pedestrians try to access or egress.

SC2 Injury through falling due to marine growth on access steps.

SC7 Geometry of existing structures different to existing as-built information or topographical information, or unknown if below ground, which may affect the design and delay works on site.

SC11 Excavation collapse resulting in injury to operators and/or damage to plant.

SC12 UXOs or other buried obstructions are encountered resulting in death and injury.

SC14 Damage to or clashes with existing service infrastructure particularly during excavation and sheet piling works and particularly to drainage assets extending seaward from the existing sea wall.

SC18 Risk of existing seawall instability or collapse due to plant loading on adjacent promenade during construction. This is of particular concern to seawall at Section E.

SC20 Asbestos may be present in structures.

- Notes
- This drawing is intended to be used as a basis for the Environmental Impact Assessment for the proposed Central Rhyll Coastal Defences Scheme, and it should not be used for any other purpose. It represents the reasonable worst case arrangement of the scheme.
 - This drawing shall be read in conjunction with all discipline information. Any discrepancies shall be referred to Mott MacDonald before proceeding.
 - Unless noted otherwise, all dimensions are in millimetres, all levels in metres above Ordnance Datum (AOD). Do not scale from this drawing, if in doubt ask Mott MacDonald.
 - Mott MacDonald Ltd. has followed accepted procedure in providing the services but given the residual risk associated with any prediction and the variability which can be experienced in flood conditions, Mott MacDonald Ltd. takes no liability for and gives no warranty against actual flooding of any property (clients or third party) or the consequences of flooding in relation to the performance of the service.
 - Tactile warning strips to cover a 800mm wide area, starting 400mm back from top step nosing.
 - Existing street furniture, guardrails, services and outfalls not shown
 - Tide levels are extracted from Welsh Government. Adopting to Climate Change Guidance, 2017. Extreme water levels are derived from Coastal Flood Boundary Conditions for the UK: 2018 update and UK Climate Projections18 Marine Report, 2018.
 - Existing ground levels are assumed from NRW 's Digital Terrain Model (DMT Via Lidar) downloaded in October 2020 (50cm resolution). A topographical survey is required to confirm existing ground levels. Topographical features will be reviewed upon receipt of pending topographical survey, which could affect extent and arrangement of proposed works, for which a variance of 1m has been included.
 - Drawings do not show extent and location of services. See utility plans / statutory undertakers plans for service information. Contractor to undertake pre construction survey to determine full extent of existing services present within working area.
 - Lowest credible beach level added for illustrative purpose. Rock levels not adjusted at Preliminary Design Stage and are subject to further review of the lowest credible beach level at Detailed Design.

Proposals subject to change following detailed design, consultation and necessary approvals.

Key to symbols		MHWS: Mean High Water Spring EWL: Extreme Water Level AEP: Annual Exceedance Probability * LCB - Lowest Credible Beach Level	
	In-situ Concrete		
	Beach Material		
Reference drawings			
CR-MMD-00-XX-DR-SC-7000	Scheme Key Plan		
CR-MMD-00-ZZ-DR-SC-7001	Preliminary Design Plan View - General Arrangement Sheet 01 of 02		
CR-MMD-00-ZZ-DR-SC-7002	Preliminary Design Plan View - General Arrangement Sheet 02 of 02		
CR-MMD-00-ZZ-DR-SC-7101	Preliminary Design - Typical Sections Sheet 01 of 03		
CR-MMD-00-ZZ-DR-SC-7103	Preliminary Design - Typical Sections Sheet 03 of 03		
CR-MMD-00-XX-DR-SP-6001	Prom Structures Preliminary Plan View GA		
CR-MMD-00-XX-DR-SP-6100	Prom Structures Preliminary Typical Sections and Details		
CR-MMD-00-XX-DR-SP-6101	Prom Structures Preliminary Typical Sections and Details		
CR-MMD-00-XX-RP-SC-7005	Visual Condition Survey and Recommendations for Repair Works		

Rev	Date	Drawn	Description	Ch'k'd	App'd
C02	02/09/2021	PS	Accepted with updated LCB *	GW	ZH
P04	10/06/2021	PS	Preliminary design for EIA and consents	GW	ZH
C01	10/06/2021	PS	Stage 3b accepted	GW	ZH
P03	24/03/2021	PK	Minor amendments made	GW	ZH
P02	22/01/2021	PS	Acceptance Issue following Client Comment	FL	ZH
P01	04/11/2021	PS	Preliminary Issue for Comments	FL	ZH

Status Stamp

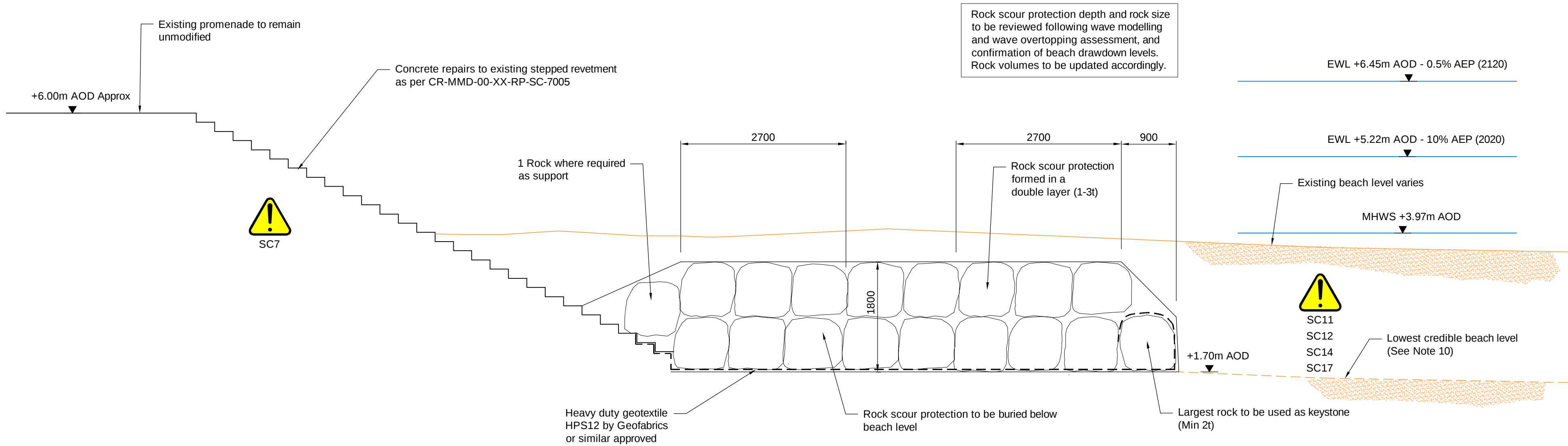
Reasonable Worst Case Design for EIA Only

Mott MacDonald House
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United Kingdom

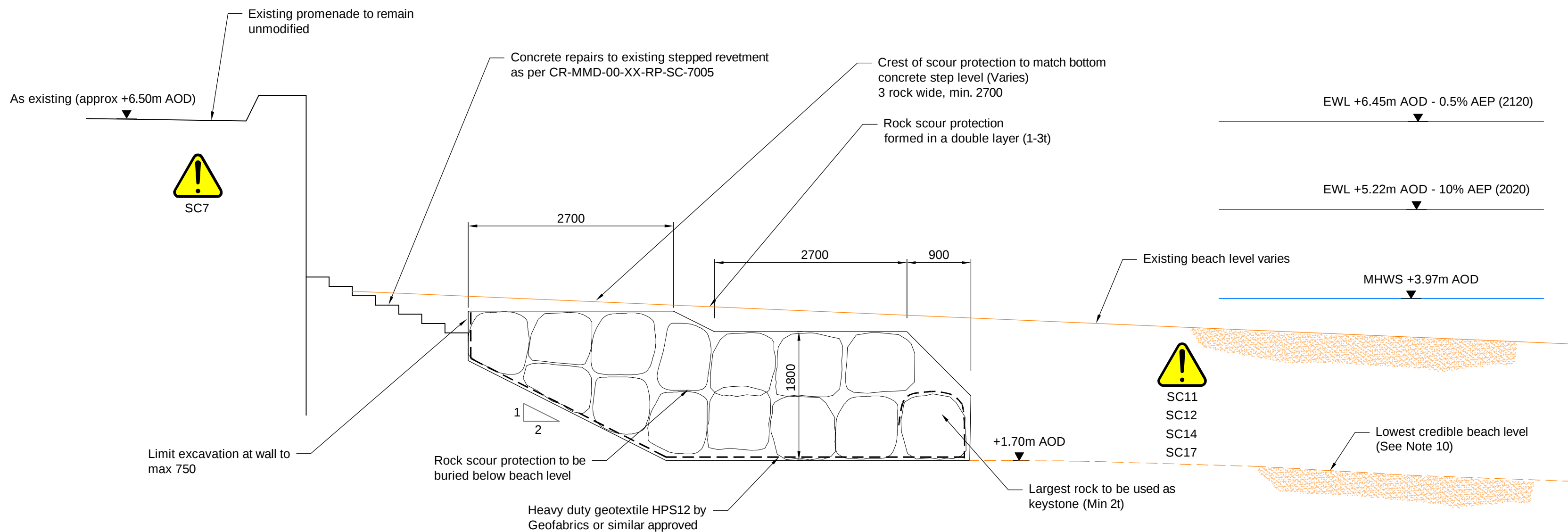
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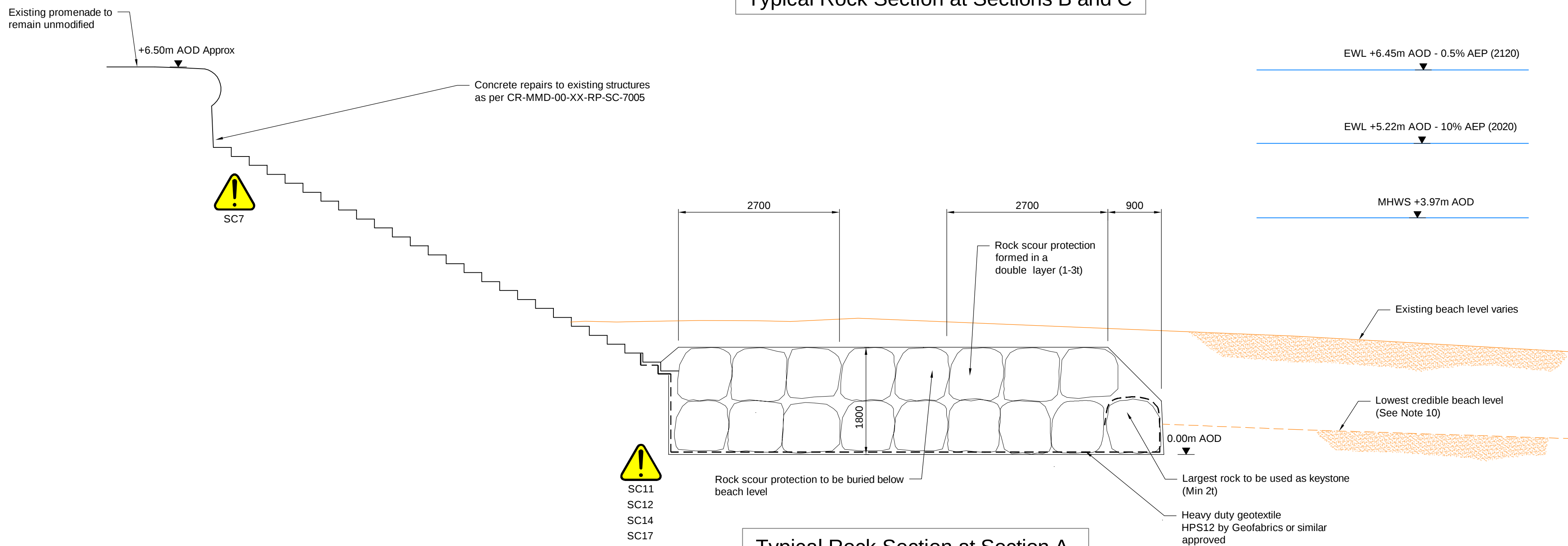
Title					
Central Rhyll Coastal Defences					
COASTAL STRUCTURES					
Preliminary Design					
Typical Sections					
Sheet 02 of 03					
Designed	P. Kacperek	PK	Eng check	G. Wallace	GW
Drawn	P. Kacperek	PK	Coordination	M. Cowle	MC
Dwg check	G. Wallace	GW	Approved	Z. Hutchison	ZH
MMD Project Number		Scale at A1			Security
420823		1:50			STD
Suitability Description					Suit. Code
Stage 3b - Accepted					A4
Drawing Number					Revision
CR-MMD-00-ZZ-DR-SC-7102					C02



Typical Rock Section at Section D



Typical Rock Section at Sections B and C



Typical Rock Section at Section A

Safety, Health & Environmental Information

It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement.

Ref: Hazard/ risk summary
SC7 Geometry of existing structures different to existing as-built information or topographical information, or unknown if below ground, which may affect the design and delay works on site.
SC11 Excavation collapse resulting in injury to operators and/or damage to plant.
SC12 UXOs or other buried obstructions are encountered resulting in death and injury.
SC14 Damage to or clashes with existing service infrastructure particularly during excavation and sheet piling works and particularly to drainage assets extending seaward from the existing sea wall.
SC17 Risk of undermining existing structures, or damage to existing structures.
SC18 Risk of existing seawall instability or collapse due to plant loading on adjacent promenade during construction. This is of particular concern to seawall at Section E.
SC20 Asbestos may be present in structures.

Notes

- This drawing is intended to be used as a basis for the Environmental Impact Assessment for the proposed Central Rhyl Coastal Defences Scheme, and it should not be used for any other purpose. It represents the reasonable worst case arrangement of the scheme.
- This drawing shall be read in conjunction with all discipline information. Any discrepancies shall be referred to Mott MacDonald before proceeding.
- Unless noted otherwise, all dimensions are in millimetres, all levels in metres above Ordnance Datum (AOD). Do not scale from this drawing, if in doubt ask Mott MacDonald.
- Mott MacDonald Ltd. has followed accepted procedure in providing the services but given the residual risk associated with any prediction and the variability which can be experienced in flood conditions, Mott MacDonald Ltd. takes no liability for and gives no warranty against actual flooding of any property (clients or third party) or the consequences of flooding in relation to the performance of the service.
- Existing street furniture, guardrails, services and outfalls not shown.
- Tide levels are extracted from Welsh Government: Adopting to Climate Change Guidance, 2017. Extreme water levels are derived from Coastal Flood Boundary Conditions for the UK: 2018 update and UK Climate Projections18 Marine Report, 2018.
- Existing ground levels are assumed from NRW's Digital Terrain Model (DMT Via Lidar) downloaded in October 2020 (50cm resolution). A topographical survey is required to confirm existing ground levels. Topographical features will be reviewed upon receipt of pending topographical survey, which could affect extent and arrangement of proposed works, for which a variance of 1m has been included.
- Drawings do not show extent and location of services. See utility plans / statutory undertakers plans for service information. Contractor to undertake pre construction survey to determine full extent of existing services present within working area.
- Signage required 'do not climb on rock scour protection' locations to be confirmed in detailed design.
- Lowest credible beach level added for illustrative purpose. Rock levels not adjusted at Preliminary Design Stage and are subject to further review of the lowest credible beach level at Detailed Design.

Proposals subject to change following detailed design, consultation and necessary approvals.

Key to symbols

	Beach Material
	MHWS: Mean High Water Spring
	EWL: Extreme Water Level
	AEP: Annual Exceedance Probability
	★ LCB - Lowest Credible Beach Level

Reference drawings

CR-MMD-00-XX-DR-SC-7000	Scheme Key Plan
CR-MMD-00-ZZ-DR-SC-7001	Preliminary Design Plan View - General Arrangement Sheet 01 of 02
CR-MMD-00-ZZ-DR-SC-7002	Preliminary Design Plan View - General Arrangement Sheet 02 of 02
CR-MMD-00-ZZ-DR-SC-7101	Preliminary Design - Typical Sections Sheet 01 of 03
CR-MMD-00-ZZ-DR-SC-7102	Preliminary Design - Typical Sections Sheet 02 of 03
CR-MMD-00-XX-DR-SP-6001	Prom Structures Preliminary Plan View GA
CR-MMD-00-XX-DR-SP-6100	Prom Structures Preliminary Typical Sections and Details
CR-MMD-00-XX-DR-SP-6101	Prom Structures Preliminary Typical Sections and Details
CR-MMD-00-XX-RP-SC-7005	Visual Condition Survey and Recommendations for Repair Works

Rev	Date	Drawn	Description	Ch'k'd	App'd
C02	02/09/2021	PS	Accepted with updated LCB ★	GW	ZH
P03	10/06/2021	PS	Preliminary design for EIA and Consents	GW	ZH
C01	10/06/2021	PS	Stage 3b accepted	GW	ZH
P02	27/01/2021	PS	Acceptance issue following Clients Comments	GW	ZH
P01	22/01/2021	PS	Acceptance issue following Clients Comments	FL	ZH

Status Stamp

Reasonable Worst Case Design for EIA Only

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Client



Title
**Central Rhyl Coastal Defences
COASTAL STRUCTURES
Preliminary Design
Typical Sections
Sheet 03 of 03**

Designed	P. Kacperek	PK	Eng check	G Wallace	GW
Drawn	P. Steers	PS	Coordination	M. Cowle	MC
Dwg check	G Wallace	GW	Approved	Z. Hutchison	ZH
MMD Project Number	420823	Scale at A1	1:50	Security	STD
Suitability Description	Stage 3b - Accepted	Suit. Code	A4	Revision	C02
Drawing Number	CR-MMD-00-ZZ-DR-SC-7103				

