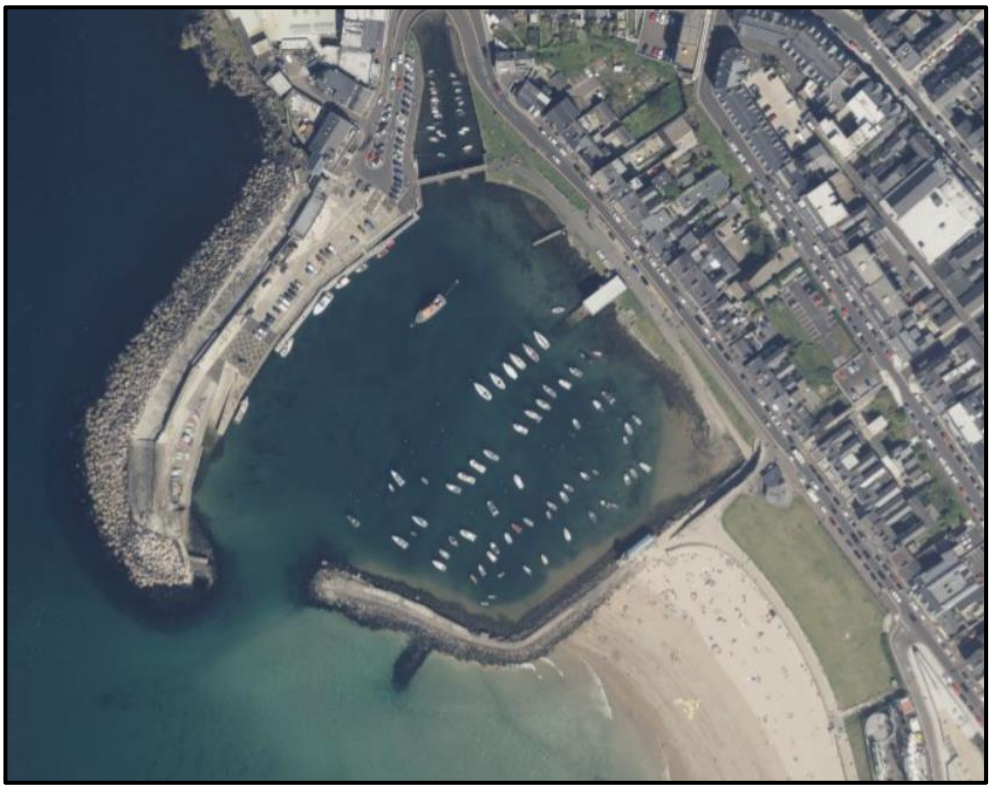
South Pier, Portrush Harbour
Essential Remedial Works
Habitats Regulations Assessment

May 2024



Ref: JN 355.18 HRA Rev 1.1 2024

[redacted] *CEnv MIEMA*
Environmental Consultant

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1.0 INTRODUCTION

Causeway Coast & Glens Borough Council (CC&GBC) is proposing to undertake essential remedial works at the South Pier, Portrush Harbour Irish Grid Reference (IGR) C 85503 40613 (Figure 1.1). The proposed works are for the repair of voids underneath the pier structure by concrete infilling and the replacement of rock armour in areas where there are slippages/depressions in the existing rock armour. They are essential remedial works to ensure the safe and practical operation of the pier, within the operational harbour and are 'like-for-like'. The works were preceded by a Condition Assessment Survey undertaken by Doran Consulting in order to facilitate the design of remedial works options.

Figure 1.1: Site Location, South Pier, Portrush Harbour

This report includes the HRA and takes cognisance of the Outline CEMP prepared specifically for this project (Section 6.0). The appointed approved Contractor will work to the requirements of the CEMP that takes into account the following DAERA 'Standing Advice' and Guidance:

- Development that may have an Effect on the Water Environment
  - Discharge to the Water Environment
  - Pollution Prevention Guidance
  - Marine Litter
- Development that may effect Natural Heritage Interests
  - Invasive Alien Species
  - Priority Habitats
  - Priority Species
- Marine Non-Native Species
- Marine Wildlife Disturbance

The HRA will be submitted in support of a Marine Licence Application for the proposed essential remedial works. The HRA is supported by the following summary methodology for the essential remedial works at the South Pier, Portrush Harbour. In addition, relevant engineering drawings are presented in Section 6.0 Supporting Documentation.

SOUTH PIER, PORTRUSH HARBOUR ESSENTIAL REMEDIAL WORKS SUMMARY METHODOLOGY

The proposed works (Figure 1.2) will be put out to competitive tender and upon appointment of a successful Contractor a full detailed methodology will be available. The following statement provides a summary of the proposed works, based on the information available at the time of submission.

A condition survey of the South Pier at Portrush Harbour has identified several areas of voids/depressions/slippages within the rock armour revetment. In addition, a GPR survey of the concrete deck has identified voids below the concrete slab on top of the pier.

Rock Armour Revetment – Proposed Remedial Works

The proposed works comprise installation of new rock armour to reinstate the defective areas within the existing revetment. The voids/depressions within the existing revetment will be filled with HMA 1000 / 3000 rock armour in accordance with BS EN 13383-1:2002.

A temporary stockpile of suitable rock armour will made on-site (Figure 1.2). There are two options for placing the rock armour:

1. **Land-based plant**: Long-reach excavator located on top of the pier or operating from the beach along the revetment.
2. **Marine plant**: Long-reach excavator located on a floating pontoon.

The profile of the placed rock armour will be monitored closely until the required profile has been achieved.

Voids Below Concrete Slab – Proposed Remedial Works

End of Casing grout injection will be used to fill existing voids caused by wash-out of granular fill and to densify surrounding fill.

The casings will be drilled (120 mm diameter) and installed through the concrete deck slab. The casings will be taken to the base of the void and grout injected through the casings under gravity. The casings will be lifted 0.5 m and grouting procedure repeated. The number of lifts required will be determined based on the extent of the void.

Temporary shuttering will be installed along the edge of the pier slab to prevent any grout loss into the marine environment.

The voids will be filled using a high flow concrete (S4 consistency) with an underwater/anti-washout admixture such as Sika UCS Pak to prevent washout.

A secured Contractors Compound will ensure that hazardous material storage containers and fuelling points are located a minimum of 10 m from the water's edge (Figure 1.2).

The construction will not involve any piling works and the concrete slab repairs will be by drilling and casing grout injection. Any waste material will be disposed of in accordance with Duty of Care Regulations.

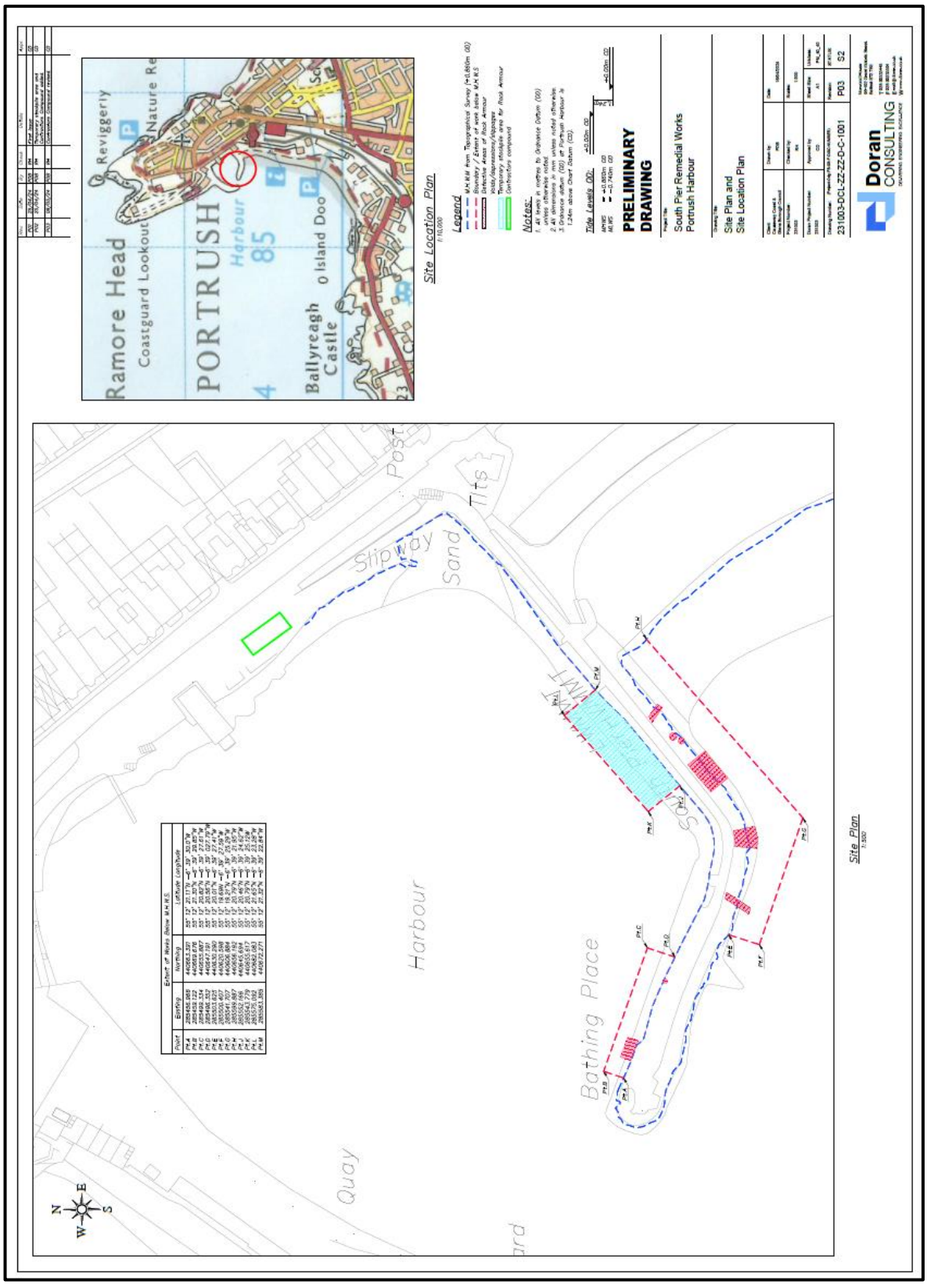

Figure 1.2: Site Plan, South Pier, Portrush Harbour

2.0 HRA PROCESS

Where a proposal involves a project with potential to affect an area that contributed to the UK National Site Network, such as a Special Area of Conservation (SAC) or Special Protection Area (SPA), the appointed competent authority is legally obliged to carry out a HRA. SACs and SPAs contribute to a UK National Site Network on land and at sea, including both the inshore and offshore marine areas.

A HRA is a tool put in place to ensure that a project will not have an adverse effect on the integrity of any SAC and SPA sites and must be undertaken if there is any potential for the designated site to be affected. The outcome of the assessment is the responsibility of the competent authority.

In respect of this proposed project, the developer is a designated competent authority and therefore this submission is a HRA.

The first step under the HRA procedure is what is commonly referred to as The Test of Likely Significance or Screening Test and this is presented in Section 3.0. Where the competent authority deems a project not likely to have a significant effect on any SAC or SPA, either alone or in combination with other plans or projects, then the HRA procedure is complete. Where the competent authority deems that a project is likely to have a significant effect on any SAC or SPA then a further stage in the HRA process must take place. This involves conducting an Appropriate Assessment (AA) where the implications of the project must be considered in respect of the relevant designated sties' conservation objectives. The competent authority may then agree to the project if it decides that it will not adversely affect the integrity of the relevant SAC and SPA sites, having considered the mitigation measures proposed by the developer. For this proposed project an AA is presented in Section 4.0

This HRA has been prepared in accordance with Regulation 43(1) of the Conservation (Natural Habitats, etc.) (Northern Ireland) 1995 (as amended). It takes cognisance of the HRA requirement to take into account mitigation measures along with all legally enforceable obligations designed to avoid environmental effects. It also reflects the requirement for the competent authority to apply the precautionary approach set out in Commission Guidance: Managing Natura 2000 Sites and as required by the European Court of Justice in C 127/02 (Waddenzee).

3.0 STAGE 1: TEST OF LIKELY SIGNIFICANCE (SCREENING)

Screening Matrix

Name of Project or Plan:
South Pier, Portrush Harbour Essential Remedial Works

The site is located at the South Pier, Portrush Harbour Irish Grid Reference (IGR) C 85503 40613 (Figure 1.1, Section 1.0). The proposed works are for the repair of voids underneath the pier structure by concrete infilling and the replacement of rock armour in areas where there are slippages/depressions in the existing rock armour (Figure 1.2, Section 1.0). They are essential remedial works to ensure the safe and practical operation of the pier, within the operational harbour and are 'like-for-like'. The works were preceded by a Condition Assessment Survey undertaken by Doran Consulting in order to facilitate the design of remedial works options. The essential remedial works will be undertaken by an approved contractor, who will be required to implement a robust CEMP that takes into account the following DAERA 'Standing Advice' and Guidance: *Development that may have an Effect on the Water Environment (Discharge to the Water Environment; Pollution Prevention Guidance; Marine Litter); Development that may effect Natural Heritage Interests (Invasive Alien Species; Priority Habitats; Priority Species); Marine Non-Native Species; Marine Wildlife Disturbance.* In respect of potential water pollution risk, the appointed approved Contractor will work to strict protocols in respect of chemicals, hazardous materials and fuelling arrangements; concrete wash water; and vehicle washing. An Outline CEMP has been prepared (Section 6.0)

Recognising that there are currently approximately 100 invasive non-native freshwater and marine species established in Northern Ireland, strict protocols will be in place in respect of plant and equipment used on-site. These protocols will be based on the 'Inspect, Remove, Clean, Dispose & Report' approach promoted by DAERA and Invasive Species NI. Plant and equipment will be subject to the following prior to leaving its previous location:

- **Inspect** all equipment that has been in a waterbody (boats, trailers, engines, outboards, dredgers, weed cutting or harvesting boats, cruisers or even clothing) or terrestrial site for attached vegetation, contaminated soil or obvious animal life before moving to another waterway, catchment or site
- **Remove** any adhering plant, soil or animal material from your equipment for disposal before relocating to another watercourse, section of waterway or site. Ensure that all water is drained from your boat and equipment before transportation to another site and all soil is removed from machinery, as this may contain seed or plant fragments
- **Clean** all equipment with a power hose away from the waterbody. Use hot water (>60 degrees centigrade) where possible
- **Dispose** of all plant and animal material in bags or containers for disposal in bins. Do not throw them back into the water or leave them lying at the water's edge
- **Report** and take photos of species you think may be an INNS on INNI website

The above will also be applied to plant and equipment prior to removal from site on completion of works. The works do not involve piling and a Marine Licence is being applied for.

Name and Location of National Site Network site:

Skerries & Causeway SAC
Maidens SAC (Grey Seal only)
North Channel SAC (Harbour Porpoise only)
**In respect of the nature of the proposed works, the features, conservation objectives and connection distances, no conceivable effects on the following designated sites are envisaged: North Antrim Coast SAC; Bann Estuary SAC; Magilligan SAC.*

National Site Network site features (Figure 2a – 2c):

Skerries & Causeway SAC
Sandbanks which are Slightly Covered by Sea Water all the Time
Reefs
Submerged or Partially Submerged Sea Caves
Harbour Porpoise

Maidens SAC
Grey Seal

North Channel SAC
Harbour Porpoise

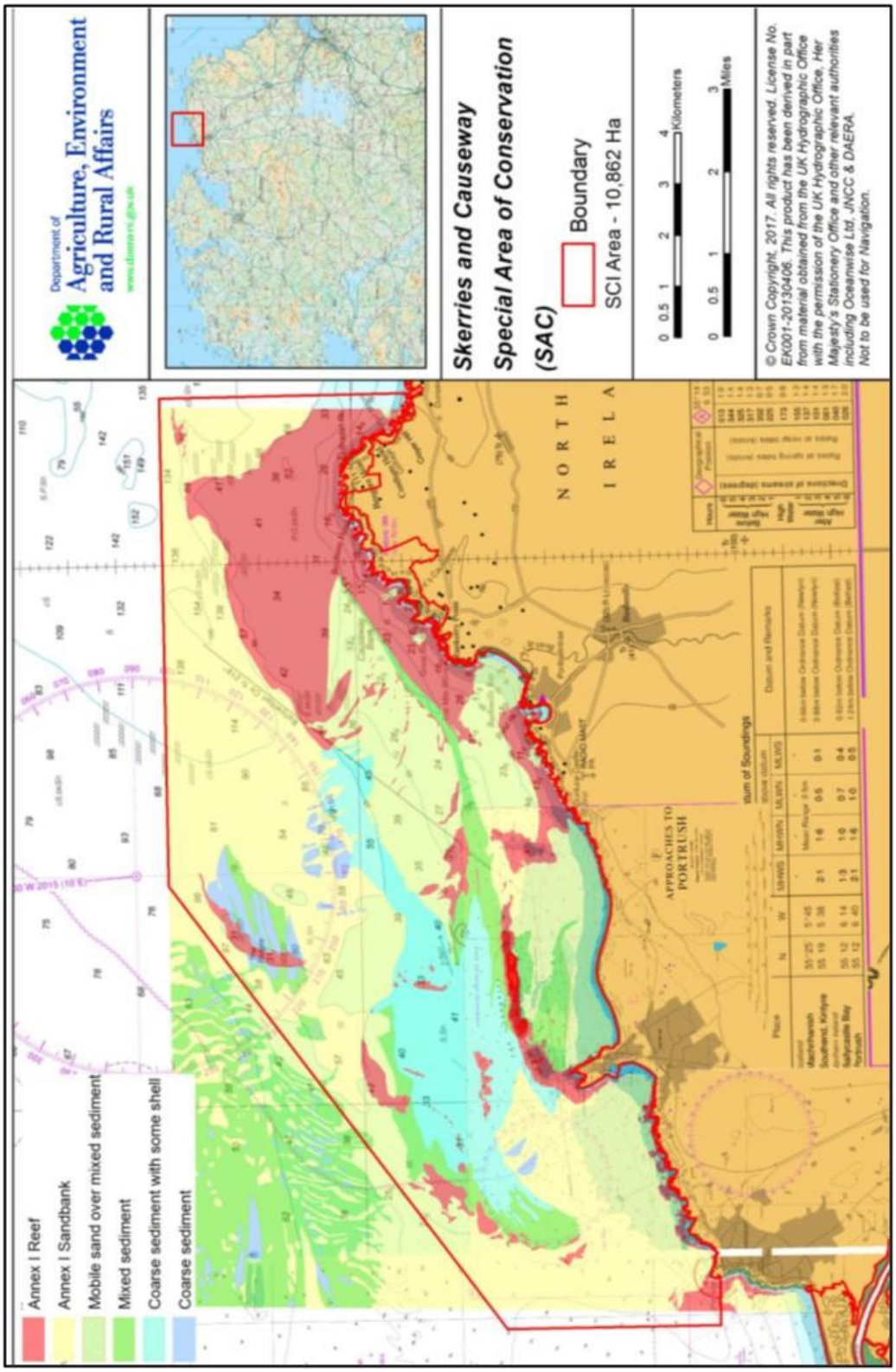

Figure 2a: Skerries & Causeway SAC Boundary (DAERA)

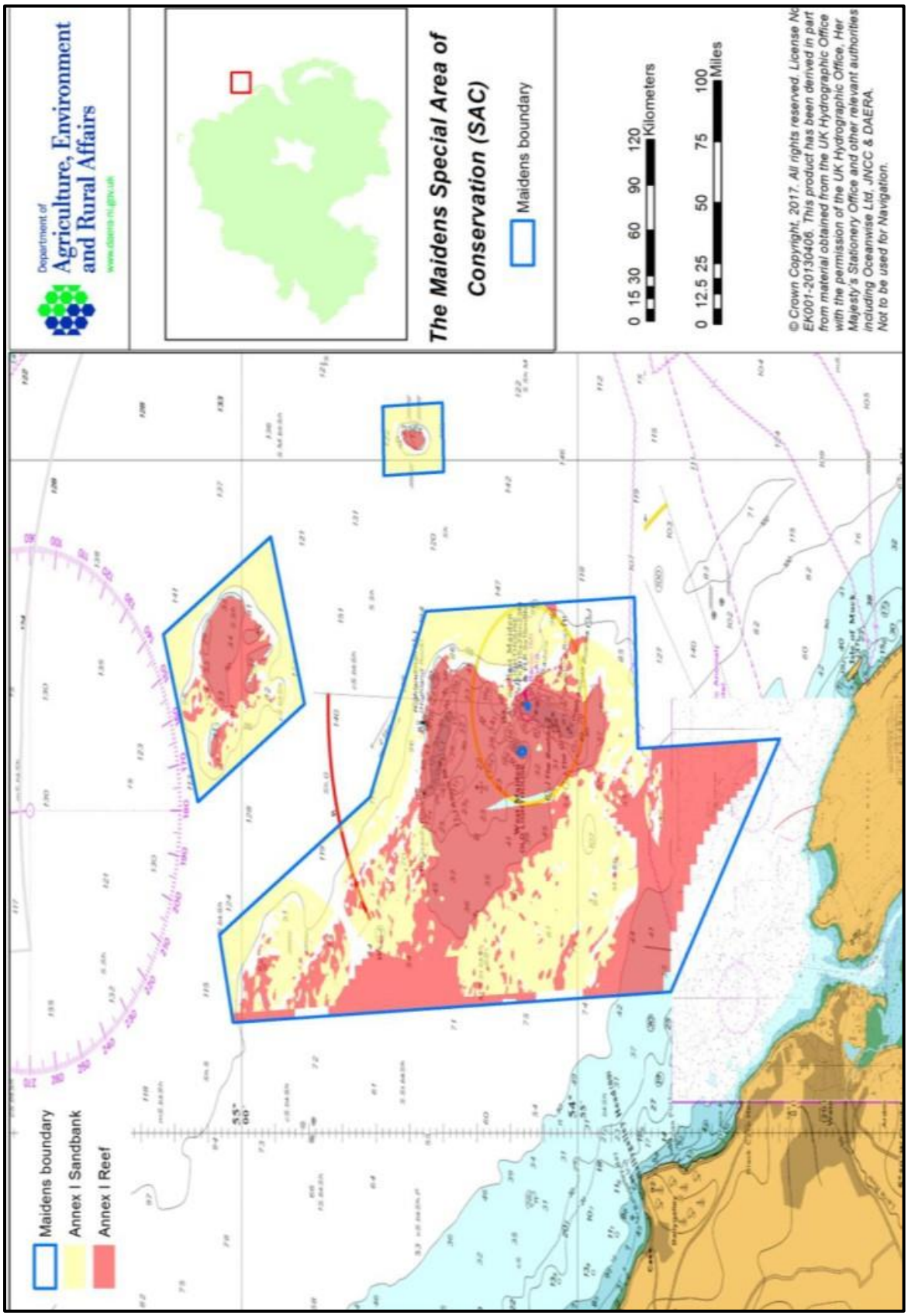

Figure 2b: The Maidens SAC Boundary (DAERA)

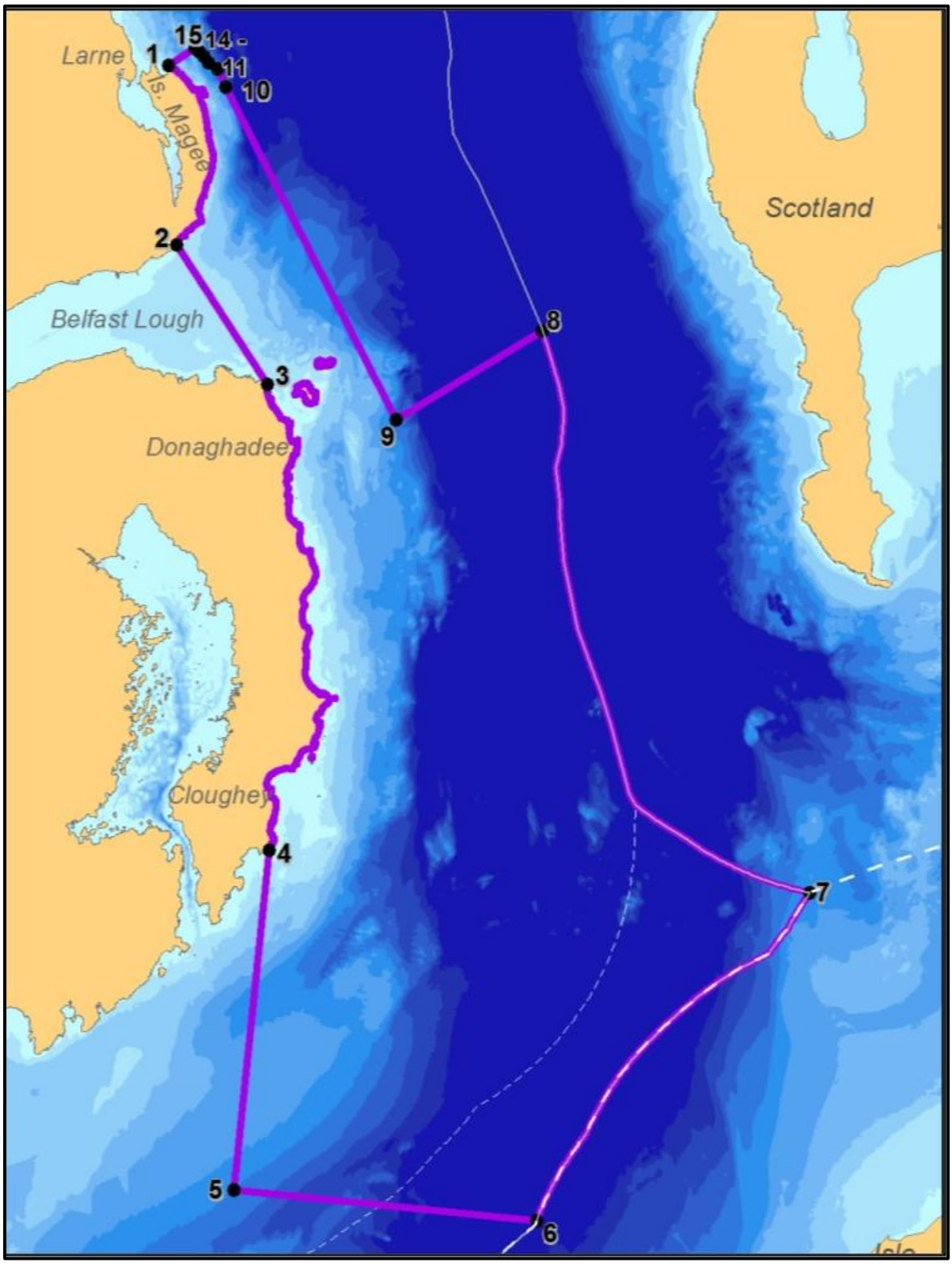

Figure 2c: North Channel SAC Boundary (DEFRA & JNCC)

Marine Habitats

Skerries and Causeway SAC is a 30 km wide embayment on the North Coast of Northern Ireland comprising an area of 10,862 ha. The site is bordering the coastline, which the towns of Portrush, Portstewart, Bushmills and the Giants Causeway World Heritage site reside. Within the SAC lies the Skerries Islands, located off Portrush. The marine habitats of the SAC are influenced by the warm Gulf Stream and strong currents which run through the North Channel, to which the SAC is exposed. The site is highly exposed to wave action as a result of its location, and regions of the SAC also experience a significant freshwater influence with large influxes from the River Bann and the River Bush. Skerries and Causeway was designated an SAC on the following features: reef, sandbanks slightly covered by seawater at all times, submerged or partially submerged sea caves and harbour porpoise. The closest Annex 1 marine habitats include reef (adjacent) mudflats & sandflat not covered by seawater at all times (adjacent) and submerged sandbanks (~0.15 km). The reefs of Skerries and Causeway SAC is sand scoured by the nearby sedimentary habitats and supports rare and priority species. The sandbank habitats have eelgrass communities and in some regions are comprised of large banks, up to 30 m high. Harbour porpoises are residents of the Skerries and Causeway SAC throughout the year. The Skerries islands within the SAC boundary are a breeding habitat for seabirds and also provide shelter to a bed of eel grass Zostera marina. The associated subtidal habitats are known to support species which normally only occur in more southern areas, because of the increased temperatures produced by the Gulf Stream.

Given the nature and scale of the proposed essential remedial works and the proximity of Skerries & Causeway SAC, there is potential for adverse impact from the project on water quality and spread of invasive species. Therefore, potential risk to the achievement of the conservation objectives.

Marine Mammals

Harbour porpoise is a selection feature of the adjacent Skerries & Causeway SAC and has been consistently recorded during more than 140 dedicated effort watches at six sites within the proposed boundary. These records span every month of the year, including months outside of the breeding and calving seasons and confirm the continuous presence of harbour porpoise within this area. Continuous or regular presence is graded A (excellent conservation). The SAC also contains non-qualifying Annex II species, grey seal, common seal, and bottlenose dolphin. Harbour porpoise is also a selection feature of North Channel SAC (~83 km), while grey seal is a selection feature of Maidens SAC (~71 km).

The essential remedial works will not involve any piling and the concrete slab repairs will be by drilling and casing grout injection. Therefore, there is no requirement to apply the JNCC, NRW, DAERA and Natural England '*Guidance for assessing the significance of noise disturbance against Conservation Objectives of Harbour Porpoise SACs.* Given the nature of the proposed essential remedial works, including the absence of piling, the disturbance impact on harbour porpoise and other marine mammals is insignificant. However, there remains the potential for adverse impact from the project on water quality and therefore potential risk to the achievement of relevant conservation objectives in respect of harbour porpoise in the adjacent SAC.

Coastal Processes & Climate Change

These are essential remedial works to ensure the safe and practical operation of the pier, within the operational harbour and are 'like-for-like'. The works are located inside the working harbour and will not impact the existing topography. The harbour area is designated as 'low' in respect of the NI Coastal Erosion Risk Appraisal (DAERA Marine Map Viewer). There will be no land-take or impact on flood risk. Therefore, the proposed essential remedial works are deemed not to represent a detrimental impact on coastal processes, taking into account future sea level rise and coastal erosion.

Other Relevant Designations

In addition to SPA & SAC features, CC&GBC is aware that the project site is close to Portrush West Strand Area of Special Scientific Interest (ASSI). The ASSI is important because of the underlying geology. The area is underlain by layers of peat and dune sands that reflect a complex pattern of coastal changes in the area dating from at least 7,300 years ago. This means that the site allows us to understand better, and date, sea level changes on the north coast since the last ice age. The lowest of the buried dune sands are potentially some of the earliest known post-glacial dunes in the British Isles. The West Strand peat was first studied in 1949 by the pioneer Danish environmental scientist Professor Knud Jessen. In summary, the site suggests the following environmental history. More than 7,300 years ago low sand dunes developed at the site. As sea level began to rise waterlogging occurred between the dunes encouraging peat formation and growth. The peat was mainly formed from Common Reed but also contains abundant fossil wood especially of Alder and Birch. At its maximum height, some 5,900 years ago, the sea-level rose above the surface of the peat and deposited the beach sand. Following the subsequent fall in relative sea level, windblown sands were deposited inland, forming part of the old dune series east of the site. A borehole put down through the beach near Castle Erin has shown that an even older peat is present some 4.5 m below the beach. The evidence from the borehole confirms that this site can contribute further to our understanding of environmental change since the last Ice Age.

Ramore Head & The Skerries has been declared an ASSI because of its fauna and geological features. The site is located just north of Portrush Harbour.

Given the location, nature and scale of the proposed essential remedial works, and notwithstanding the proximity of Portrush West Strand ASSI and Ramore Head & The Skerries ASSI, potential impacts on the key ASSI features are deemed insignificant.

These essential remedial works are programmed to commence in September 2024. This timing facilitates avoidance of the main bird nesting season.

Description of the Project or Plan:

Size and scale

The proposal is for essential remedial works to ensure the safe and practical operation of the pier, within the operational harbour and are 'like-for-like'. The proposed works are for the repair of voids underneath the pier structure by concrete infilling and the replacement of rock armour in areas where there are slippages/depressions in the existing rock armour. The works were preceded by a Condition Assessment Survey undertaken by Doran Consulting in order to facilitate the design of remedial works options.

A summary methodology has been prepared as detailed below:

SOUTH PIER, PORTRUSH HARBOUR ESSENTIAL REMEDIAL WORKS
SUMMARY METHODOLOGY

The proposed works will be put out to competitive tender and upon appointment of a successful Contractor a full detailed methodology will be available. The following statement provides a summary of the proposed works, based on the information available at the time of submission.

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The profile of the placed rock armour will be monitored closely until the required profile has been achieved.

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A secured Contractors Compound will ensure that hazardous material storage containers and fuelling points are located a minimum of 10 m from the water's edge (Figure 1.2, Section 1.0).

The construction will not involve any piling works and the concrete slab repairs will be by drilling and casing grout injection. Any waste material will be disposed of in accordance with Duty of Care Regulations.

The appointed approved Contractor will work to the requirements of the CEMP that takes into account the following DAERA 'Standing Advice' and Guidance: *Development that may have an Effect on the Water Environment (Discharge to the Water Environment; Pollution Prevention Guidance; Marine Litter); Development that may effect Natural Heritage Interests (Invasive Alien Species; Priority Habitats; Priority Species); Marine Non-Native Species; Marine Wildlife Disturbance.* In respect of potential water pollution risk, the appointed approved Contractor will work to strict protocols in respect of chemicals, hazardous materials and fuelling arrangements; concrete wash water; and vehicle washing.

Recognising that there are currently approximately 100 invasive non-native freshwater and marine species established in Northern Ireland, strict protocols will be in place in respect of plant and equipment used on-site. These protocols will be based on the 'Inspect, Remove, Clean, Dispose & Report' approach promoted by DAERA and Invasive Species NI. Plant and equipment will be subject to the following prior to leaving its previous location. The above will also be applied to plant and equipment prior to removal from site on completion of works.

The construction will not involve any piling and a Marine Licence application is being applied for.

An Outline CEMP has been prepared specifically for this project (Section 6.0).

Land-take
There will be no land-take within any designated site.

Distance from NSN site or key features of the site
The proposed essential remedial works are adjacent to and within Skerries & Causeway SAC at the entrance to Portrush Harbour. The site is approximately 6 km north east of Bann Estuary SAC, approximately 8 km south west of North Antrim Coast SAC, approximately 10 km north east of Magilligan SAC, approximately 71 km north west of Maidens SAC and approximately 83 km north west of North Channel SAC.

Resource requirements (water abstraction etc.)
There are no resources required for the proposed works.

Emission (disposal to land, water or air)
There will be no emissions during the construction phase of the project.

Excavation requirements
Excavation works will be minimal as the key elements are: repair of voids underneath the pier structure by concrete infilling and the replacement of rock armour in areas where there are slippages/depressions in the existing rock armour. The construction will not involve any piling works and the concrete slab repairs will be by drilling (120 mm diameter) and casing grout injection. Any waste material will be disposed of in accordance with Duty of Care Regulations.

Transportation requirements
There will be no transportation issues in any designated site. Construction traffic will access from the local road network and will operate exclusively within the project boundary.

Duration of construction, operation, decommissioning etc.
The essential remedial works will take place between September 2024 and June 2025, taking up to 20 weeks.

Other: N/A
Is the Project or Plan directly connected with or necessary to the management of the site (provide details)?

No The proposed works are essential remedial works to ensure the safe and practical operation of the pier, within the operational harbour.

Describe the individual elements of the project (either alone or in combination with other plans or projects) likely to give rise to effects on the SAC/SPA site:		
Feature affected:	**Likely direct, indirect effects to the feature arising as a result of:**	**Significant/Not Significant (inc. explanation):**
Sandbanks which are Slightly Covered by Sea Water all the Time	**Reduction of habitat area:** None	Not Significant: feature not impacted
	Disturbance: No disturbance	Not Significant: feature not impacted
	Habitat or species fragmentation: None	Not Significant: feature not impacted
	Reduction in species density: None	Not Significant: feature not impacted
	Changes in key indicators of conservation value (e.g. water quality, climate change): Water Quality	**Potentially Significant: Contractor required to adhere to CEMP**
Reefs	**Reduction of habitat area:** None	Not Significant: feature not impacted
	Disturbance: No disturbance	Not Significant: feature not impacted
	Habitat or species fragmentation: None	Not Significant: feature not impacted
	Reduction in species density: None	Not Significant: feature not impacted
	Changes in key indicators of conservation value (e.g. water quality, climate change): Water Quality	**Potentially Significant: Contractor required to adhere to CEMP**
Submerged or Partially Submerged Sea Caves	**Reduction of habitat area:** None	Not Significant: feature not impacted
	Disturbance: No disturbance	Not Significant: feature not impacted
	Habitat or species fragmentation: None	Not Significant: feature not impacted
	Reduction in species density: None	Not Significant: feature not impacted
	Changes in key indicators of conservation value (e.g. water quality, climate change): Water Quality	**Potentially Significant: Contractor required to adhere to CEMP**
Harbour Porpoise	**Reduction of habitat area:** None	Not Significant: feature not impacted
	Disturbance: No disturbance	Not Significant: feature not impacted (No piling or rock breaking)
	Habitat or species fragmentation: None	Not Significant: feature not impacted
	Reduction in species density: None	Not Significant: feature not impacted
	Changes in key indicators of conservation value (e.g. water quality, climate change): Water Quality	**Potentially Significant: Contractor required to adhere to CEMP**
Grey Seal	**Reduction of habitat area:** None	Not Significant: feature not impacted
	Disturbance: No disturbance	Not Significant: feature not impacted (No piling or rock breaking)
	Habitat or species fragmentation: None	Not Significant: feature not impacted
	Reduction in species density: None	Not Significant: feature not impacted
	Changes in key indicators of conservation value (e.g. water quality, climate change): Water Quality	Not Significant: feature not impacted (Contractor required to adhere to appropriate CEMP)

Describe any potential effects on the National Site Network site as a whole in terms of: interference with the key relationships that define the structure or function of the site	**Effect considered significant/non-significant: Finding of No significant effects Matrix**
Potential impact from construction activities in respect of pollution risk and spread of invasive species due to proximity to open water taking cognisance of hydrological linkage to Skerries & Causeway SAC.	Potentially significant - due to risk of pollution and spread of invasive species.
Provide details of any other projects or plans that together with the project or plan being assessed could (directly or indirectly) affect the site.	**Provide details of any likely in-combination effects and quantify their significance -**
None	None
Is the potential scale or magnitude of any effect likely to be significant?	
Alone?	**No** ☐ **Yes** ☒
In-combination with other projects of plans?	**No** ☒ **Yes** ☐
List of Agencies Consulted: Provide contact name and telephone or email address.	DAERA Marine Licensing Branch MarineLicensingTeam@daera-ni.gov.uk
Summary of response to consultation received	Potential significant effects identified
Conclusion: Is the proposal likely to have a significant effect on an NSN site?	**No** ☐ **Yes** ☒

Who carried out the assessment?	[redacted] Environmental Consultant
Sources of data	DAERA (Consultation & data provision) Doran Consulting (Project design)
Level of assessment completed	Test of Likely Significance & Appropriate Assessment Report
Where can the full results of the assessment be accessed and viewed?	Doran Consulting Norwood House 96-102 Great Victoria Street Belfast BT2 7BE
Summary of response.	Potential impact from construction activities in respect of pollution risk and spread of invasive species due to proximity to open water taking cognisance of hydrological linkage to Skerries & Causeway SAC.

4.0 STAGE 2: APPROPRIATE ASSESSMENT

Assessment of Effects of the Project or Plan on the Integrity of the Site	
Describe the elements of the project or plan (alone or in combination with other projects or plans) that are likely to give rise to significant effects on the site (from screening assessment)	Construction activities present potential risk of pollution and spread of invasive species.
Set out the Conservation Objectives of the site	From *SKERRIES & CAUSEWAY SAC, UK0030383 CONSERVATION OBJECTIVES, DAERA 20th March 2017*: For Sandbanks which are slightly covered by sea water all the time: *To maintain (or restore where appropriate) to favourable condition and to:* 1. *Maintain the extent and volume of sandbanks which are slightly covered by sea water all the time, subject to natural processes.* 2. *Allow the natural processes which determine the development, structure and extent of sandbanks which are slightly covered by sea water all the time, to operate appropriately.* 3. *Maintain and enhance, as appropriate, the viability, distribution and diversity of typical species within this habitat.* For Reefs: *To maintain (or restore where appropriate) to favourable condition* and to 1. *Maintain and enhance, as appropriate the extent of the reefs.* 2. *Allow the natural processes which determine the development, structure, function and distribution of the habitats associated with the reefs, to operate appropriately.* 3. *Maintain and enhance, as appropriate, the viability, distribution and diversity of typical species within this habitat.* For Sea Caves: *To maintain (or restore where appropriate) to favourable condition* and to 1. *Maintain and enhance, as appropriate the extent of the sea caves.* 2. *Allow the natural processes which determine the development, structure, function and distribution of habitats associated with the sea caves, to operate appropriately.* 3. *Maintain and enhance, as appropriate, the viability, distribution and diversity of typical species within this habitat.* For Harbour Porpoise: *To maintain (or restore where appropriate) to favourable condition* and to*:* 1. *Ensure the species is a viable component of the site* 2. *Ensure there is no significant disturbance of the species* 3. *Ensure the supporting habitats and processes relevant to Harbour Porpoises and their prey are maintained.*

Describe how the project or plan will affect key species, key habitats and the integrity of the site (determined by structure and function and conservation objectives). Acknowledge uncertainties and any gaps in information.	Potential impact from construction activities in respect of pollution risk and spread of invasive species due to proximity to open water taking cognisance of hydrological linkage to Skerries & Causeway SAC.
Describe what mitigation measures are to be introduced to avoid or reduce the adverse effects on the integrity of the site. Acknowledge uncertainties and any gaps in information.	1. Full adherence to Marine Licence 2. Full adherence to CEMP, ensuring the following DAERA 'Standing Advice' and Guidance is fully considered: • *Development that may have an Effect on the Water Environment (Discharge to the Water Environment; Pollution Prevention Guidance; Marine Litter)* • *Development that may effect Natural Heritage Interests (Invasive Alien Species; Priority Habitats; Priority Species)* • *Marine Non-Native Species* • *Marine Wildlife Disturbance* 3. Full adherence to Marine Non-Native Species 'Inspect, Remove, Clean, Dispose & Report' approach

Appropriate Assessment: Mitigation Measures			
List measures to be introduced	**Explain how the measures will avoid the adverse effects on the integrity of the site.**	**Explain how the measures will reduce the adverse effects on the integrity of the site.**	**Provide evidence of how they will be implemented and by whom.**
(i) Full adherence to Marine Licence	Marine Licence will impose appropriate conditions to protect SAC site designation features during construction phase.	Conditions will minimise potential for adverse pollution impacts.	Contractor will be required to adhere to all statutory licence conditions.
(ii) Full adherence to CEMP	Comprehensive CEMP established to maintain an ethos of environmental best practice throughout the project.	Procedural control over identified potential environmental risks.	Project Contractor will be required to retain evidence that CEMP is fully implemented and that appropriate 'Tool-Box Talks' have been delivered.
(iii) Full adherence to Marine Non-Native Species 'Inspect, Remove, Clean, Dispose & Report' approach	CEMP will include specific reference to marine non-native species.	Specific procedural control over marine non-native species risks.	Project Contractor will be required to retain evidence that CEMP is fully implemented and that appropriate 'Tool-Box Talks' have been delivered (including in relation to marine non-native species).

Appropriate Assessment: Mitigation Measures			
List mitigation measures (as above)	**Provide evidence of the degree of confidence in their likely success**	**Provide time-scale, relative to the project of plan, when they will be implemented**	**Explain the proposed monitoring scheme and how any mitigation failure will be addressed**
(i) Full adherence to Marine Licence	Statutory compliance will be a key requirement for Project Contractor.	Clear instruction on all statutory compliance issues will be delivered prior to commencement of works and will be audited during construction phase. Statutory Agencies will conduct site inspections at their discretion.	Project Contractor will be audited by Design Engineers. Issues identified will be subject to immediate corrective action.
(ii) Full adherence to CEMP	The specific CEMP procedures for pollution control and invasive species, including mitigation, represent current best practice techniques for pollution prevention.	The CEMP has been established prior to commencement of works.	The CEMP will be subject to appropriate review. Issues identified will be subject to immediate corrective action.
(iii) Full adherence to Marine Non-Native Species 'Inspect, Remove, Clean, Dispose & Report' approach	This approach is recommended by DAERA to ensure the risk of spread of marine non-native species is negligible.	This approach will be embedded in CEMP which has been established prior to commencement of works.	The CEMP will be subject to appropriate review. Issues identified in respect of marine non-native species will be subject to immediate corrective action.

5.0 CONCLUSIONS

Following a Stage 1 Test of Likely Significance (Section 3.0) this found that the proposed essential remedial works at the South Pier, Portrush Harbour would result in:

> *'Potential impact from construction activities in respect of pollution risk and spread of invasive species due to proximity to open water taking cognisance of hydrological linkage to Skerries & Causeway SAC.'*

Consequently, a Stage 2 Appropriate Assessment (AA) was conducted (Section 4.0). This AA concentrated on the Skerries & Causeway SAC.

Conservation objectives relevant to the designated site selection features were considered, current site information assessed, and the precautionary principle applied. In addition, potential impacts were considered alone and in combination with other relevant projects.

In respect of potential water pollution risk, the appointed Contractor will work to the requirements of the CEMP that takes into account the following DAERA 'Standing Advice' and Guidance: *Development that may have an Effect on the Water Environment (Discharge to the Water Environment; Pollution Prevention Guidance; Marine Litter); Development that may effect Natural Heritage Interests (Invasive Alien Species; Priority Habitats; Priority Species); Marine Non-Native Species; Marine Wildlife Disturbance.* In addition, the appointed Contractor will work to strict protocols in respect of chemicals, hazardous materials and fuelling arrangements; concrete wash water; and vehicle washing.

Recognising that there are currently approximately 100 invasive non-native freshwater and marine species established in Northern Ireland, strict protocols will be in place in respect of plant and equipment used on-site. In accordance with DAERA 'Standing Advice' on Marine Non-Native Species, these protocols will be based on the 'Inspect, Remove, Clean, Dispose & Report' approach promoted by DAERA and Invasive Species NI. Plant and equipment will be subject to the following prior to leaving its previous location:

- **Inspect** all equipment that has been in a waterbody (boats, trailers, engines, outboards, dredgers, weed cutting or harvesting boats, cruisers or even clothing) or terrestrial site for attached vegetation, contaminated soil or obvious animal life before moving to another waterway, catchment or site
- **Remove** any adhering plant, soil or animal material from your equipment for disposal before relocating to another watercourse, section of waterway or site. Ensure that all water is drained from your boat and equipment before transportation to another site and all soil is removed from machinery, as this may contain seed or plant fragments
- **Clean** all equipment with a power hose away from the waterbody. Use hot water (>60 degrees centigrade) where possible

- **Dispose** of all plant and animal material in bags or containers for disposal in bins. Do not throw them back into the water or leave them lying at the water's edge
- **Report** and take photos of species you think may be an INNS on the Invasive Species NI website

The above will also be applied to plant and equipment prior to removal from site on completion of works.

The AA concludes that in consideration of the appropriate mitigation measures proposed, there will be no adverse impact on the integrity of Skerries & Causeway SAC or any other designated site.

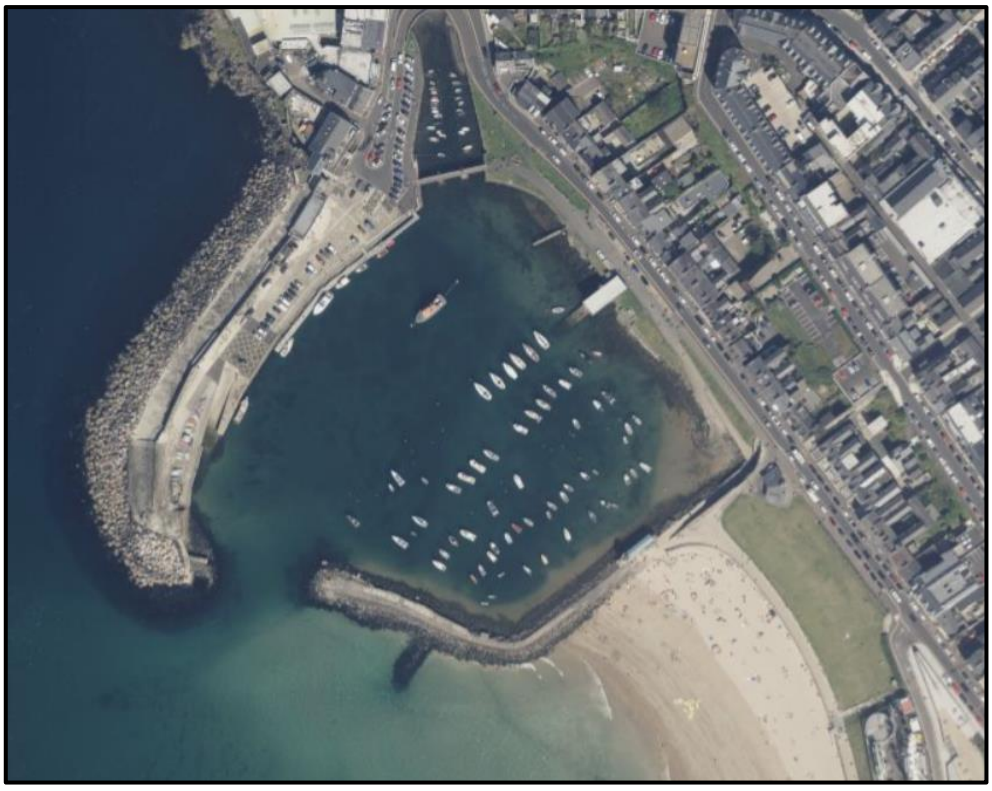
6.0 SUPPORTING DOCUMENTATION

Outline CEMP

DRAWINGS

South Pier, Portrush Harbour
Essential Remedial Works
Outline Construction Environmental Management Plan (CEMP)

May 2024



Ref: JN 355.18 CEMP Rev 1.1 2024

PAUL MCARDLE ***CEnv MIEMA***
Environmental Consultant

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1.0 INTRODUCTION

1.1 Outline CEMP Overview

This Outline Construction Environmental Management Plan (CEMP) has been prepared by Paul McArdle Environmental Consultant as commissioned by Causeway Coast and Glens Borough Council. The Outline CEMP is designed to direct the appointed Contractor in respect of legislative requirements and best practice principles. This approach ensures that potential to cause detrimental impact to the environment is negligible.

In preparing this Outline CEMP, cognisance has been taken of key DAERA requirements that a CEMP should identify the perceived risks to the aquatic environment, potential pollution pathways and mitigation measures to negate such risks. Elements considered within the Outline CEMP include:

- Construction Method Statement, including details of construction and excavation
- Pollution Prevention Plan, including details of a suitable buffer of 10 m between the location of refuelling, storage of oil/fuel/substrate/construction materials/machinery, concrete mixing and washing areas and the adjacent designated site boundary
- Site Drainage, including details of foul waste disposal and surface water discharge
- Environmental Emergency Plan, including details of emergency spill procedures and regular inspections of machinery onsite.

In ensuring that there is a management framework for implementing procedures for environmental protection and mitigation, this Outline CEMP requires the appointed Contractor to plan, train, monitor and audit the construction processes during the course of the proposed works.

As an Outline CEMP, the appointed Contractor has ultimate responsibility to finalise the CEMP and submit to Causeway Coast & Glens Borough Council for full approval prior to works commencement in conjunction with a detailed Construction Method Statement. It is the responsibility of the appointed Contractor to ensure that the CEMP is compatible with other necessary systems (e.g. Health & Safety, Quality etc.).

1.2 Project Overview

Causeway Coast & Glens Borough Council (CC&GBC) is proposing to undertake essential remedial works at the South Pier, Portrush Harbour, Irish Grid Reference (IGR) C 85503 40613 (Figure 1.1). The proposed works are for the repair of voids underneath the pier structure by concrete infilling and the replacement of rock armour in areas where there are slippages/depressions in the existing rock armour. They are essential remedial works to ensure the safe and practical operation of the pier, within the operational harbour. The works were preceded by a Condition Assessment Survey undertaken by Doran Consulting in order to facilitate the design of remedial works options.

Figure 1.1: Site Location, South Pier, Portrush

The proposed works will be put out to competitive tender and upon appointment of a successful Contractor a full detailed methodology will be available. The following statement provides a summary of the proposed works, based on the information available at the time of submission.

A condition survey of the South Pier at Portrush Harbour has identified several areas of voids/depressions/slippages within the rock armour revetment. In addition, a GPR survey of the concrete deck has identified voids below the concrete slab on top of the pier (Figure 1.2).

Rock Armour Revetment – Proposed Remedial Works

The proposed Works comprises installation of new rock armour to reinstate the defective areas within the existing revetment (Figure 1.3). The voids/depressions within the existing revetment will be filled with HMA 1000 / 3000 rock armour in accordance with BS EN 13383-1:2002.

A temporary stockpile of suitable rock armour will made on-site. There are two options for placing the rock armour:

1. **Land-based plant**: Long-reach excavator located on top of the pier or operating from the beach along the revetment.
2. **Marine plant**: Long-reach excavator located on a floating pontoon.

The profile of the placed rock armour will be monitored closely until the required profile has been achieved.

Voids Below Concrete Slab – Proposed Remedial Works

End of Casing grout injection will be used to fill existing voids caused by wash-out of granular fill and to densify surrounding fill (Figure 1.4).

The casings will be drilled (120 mm diameter) and installed through the concrete deck slab. The casings will be taken to the base of the void and grout injected through the casings under gravity. The casings will be lifted 0.5 m and grouting procedure repeated. The number of lifts required will be determined based on the extent of the void. Temporary shuttering will be installed along the edge of the pier slab to prevent any grout loss into the marine environment.

The voids will be filled using a high flow concrete (S4 consistency) with an underwater/anti-washout admixture such as Sika UCS Pak to prevent washout.

A secured Contractors Compound will ensure that hazardous material storage containers and fuelling points are located a minimum of 10 m from the water's edge.

The construction will not involve any piling works and the concrete slab repairs will be by drilling and casing grout injection. Any waste material will be disposed of accordance with Duty of Care Regulations.

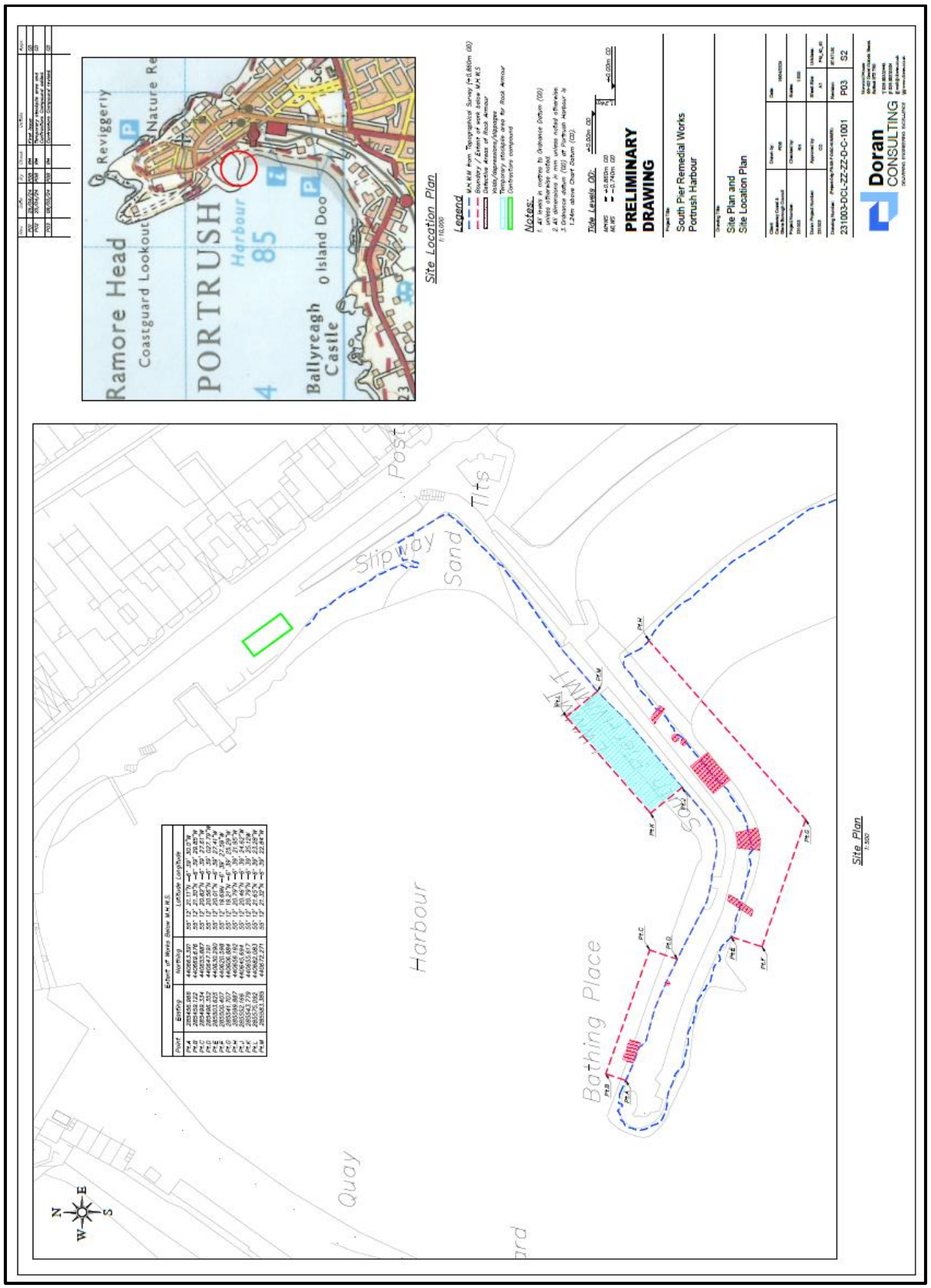


Figure 1.2: Site Plans, Portrush South Pier

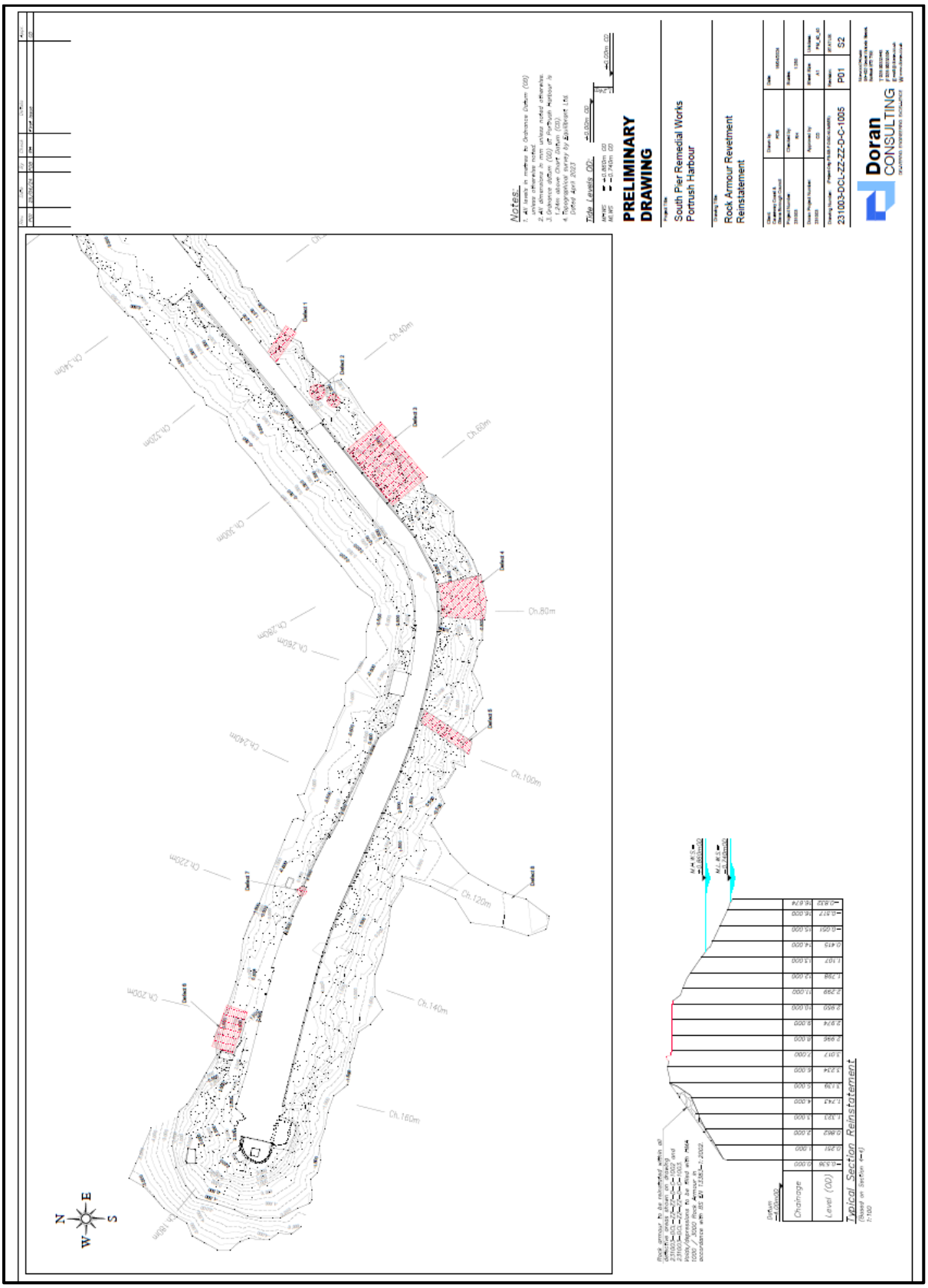


Figure 1.3: Rock Armour Revetment Reinstatement, Portrush South Pier

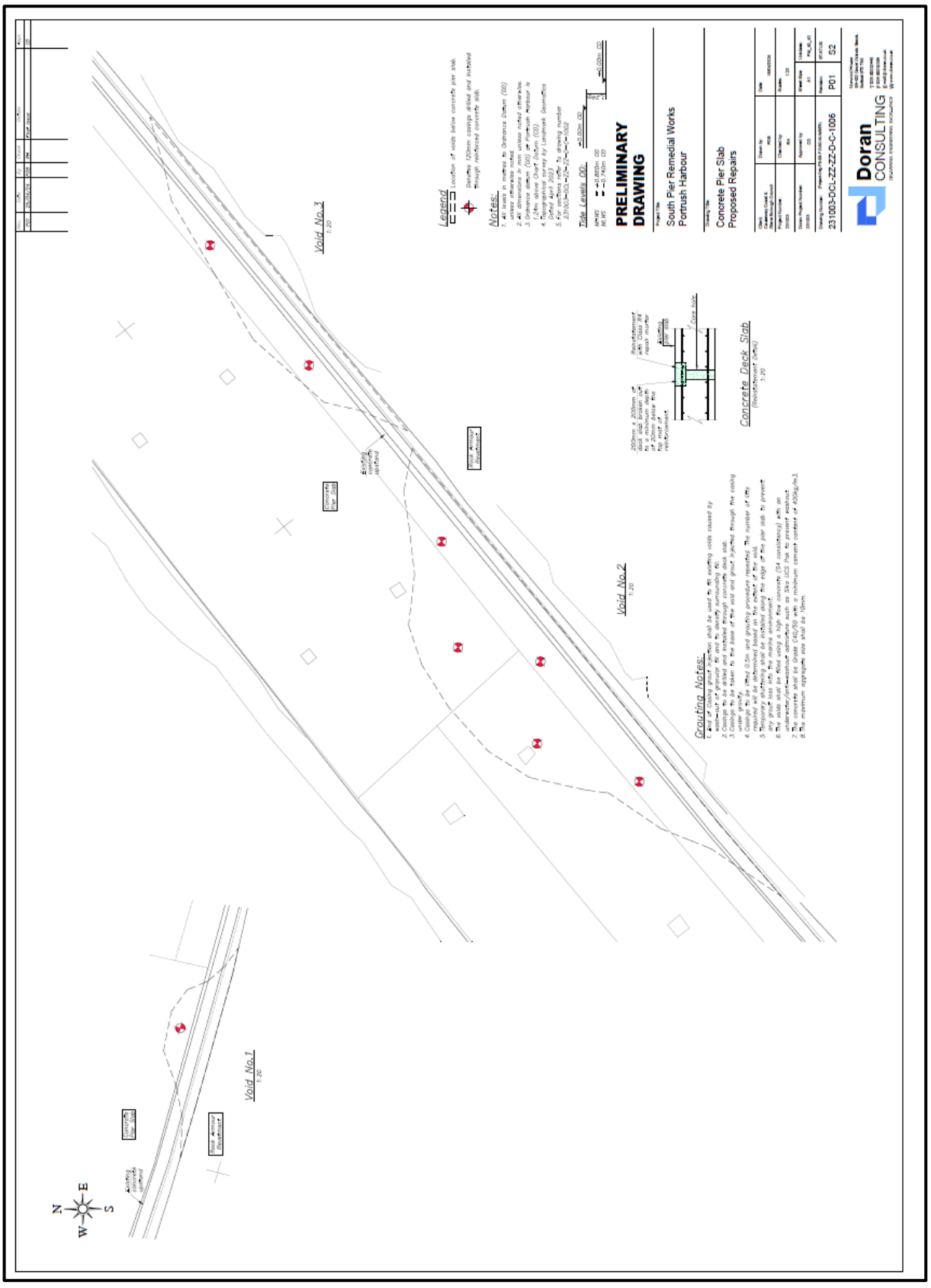


Figure 1.4: Concrete Pier Slab Proposed Repairs, Portrush South Pier

1.3 Relevant Documentation

The following documents should be reviewed and, where appropriate, implemented in line with the requirements of this Outline CEMP:

- South Pier Portrush Harbour Habitats Regulations Assessment, Paul McArdle Environmental Consultant, May 2024
- South Pier Portrush Harbour Condition Assessment, Doran Consulting, 8/8/2023
- Skerries & Causeway SAC Conservation Objectives, March 2017

1.4 Relevant Legislation & Guidance

Subject	Legislation / Guidance
Marine Licence	• Marine & Coastal Access Act 2009 • The Marine Licensing (Exempted Activities) Order (NI) 2011
DAERA 'Standing Advice' *Development that may have an effect on the Water Environment*	• Discharge to the Water Environment • Pollution Prevention Guidance • Marine Litter
DAERA 'Standing Advice' *Development that may effect Natural Heritage Interests*	• Invasive Alien Species • Priority Habitats • Priority Species
DAERA Guidance	• Marine Non-native Species • Marine Mammal Disturbance
Air Quality	• The Air Quality Standards Regulations (NI) 2010 as amended to 2017 • Clean Air Act 1993
Noise	• Environmental Noise Regulations (NI) 2006 • Control of Noise (CoP for Construction and Open Sites) Order (NI) 2002 • The Construction Plant & Equipment (Harmonization of Noise Emission Standard) (Amendment) Regulations 1995
Climate Change	• Climate Change Act 2008
Archaeological	• Historic Monuments and Archaeological Objects (NI) Order 1995
Waste Management	• Controlled Waste & Duty of Care Regulations (NI) 2013 as amended to 2014 • Hazardous Waste Regulations (NI) 2005 as amended to 2015 • Registration of Carriers & Seizure of Vehicles Regulations (NI) 1999 • GPP 4: Treatment & Disposal of Wastewater • DAERA RPS: Construction/Demolition Waste & Recycled Aggregate 2016
Water & Pollution Control	• Water (NI) Order 1999 as amended to 2004) • Water & Sewerage Services (NI) Order 2006 • Control of Pollution (Oil Storage) Regulations 2010 • GPP 2: Above Ground Oil Storage • GPP 5: Works & Maintenance in or Near Water • GPP 6: Working on Construction & Demolition Sites • GPP 21: Pollution Incident Response Planning • GPP 22: Dealing with Spills • GPP 26: Safe Storage: Drums & IBCs
Nature Conservation	• Wildlife (NI) Order 1985 • Nature Conservation & Amenity Lands (NI) Order 1985 as amended to 1989 • Environment (NI) Order 2002 • Wildlife and Natural Environment Act (NI) 2011 • Conservation (Natural Habitats, etc.) Regulations (NI) 1995 • The Invasive Alien Species (Enforcement & Permitting) Order (NI) 2019

1.5 Marine Licence & HRA

These works are subject to the granting of a Marine Construction Licence. No works shall be carried out prior to receipt of the Marine Construction Licence. The appointed contractor shall adhere to all conditions set out in the Marine Construction Licence and, where appropriate, retain records of monitoring and auditing.

In addition, all mitigation measures identified in the HRA Report shall be incorporated into the finalised CEMP by the appointed Contractor.

2.0 METHODOLOGY

2.1 Site Access

Access and egress at the site will be via Kerr Street, Portrush. Where possible, plant will be fitted with rubber tracks or temporary mats will be used to minimise potential for damage to existing roads or concrete structures. Prior to work commencing, the Site Manager will cordon off the working areas with Heras Fencing. Minimal impact on the users of the local road network is anticipated during the construction phase relating to the delivery of plant, equipment and materials associated with the Works. The main activities that will give rise in road vehicles visiting the site include:

- Mobilisation (arrival of plant, temporary office, fencing)
- Materials delivery (construction materials, concrete, fuels)
- Demobilisation (departure of plant, temporary office, fencing)

It is envisaged that site plant will be restricted to one excavator and one dumper. The appointed Contractor shall ensure that an appropriate Traffic Management Plan is established (Section 6.0).

Note: If pontoon based long excavator option is preferred, onshore site plant will be minimised.

2.2 Pre-Works Set-Up

To ensure there will be no unauthorised access, the site shall be enclosed with appropriate security fencing (Heras Fencing).

Within the Contractors Compound, areas for storage (including plant, refuelling and chemicals) shall be clearly demarcated with appropriate signage.

2.3 Foul & Storm Discharge

There will be no impact on existing foul or storm drainage systems. The site shall be kept clean and appropriate procedure for fuel/chemical storage and delivery shall be enforced. Construction workers facilities will include portable toilets (or existing public toilets) with no direct discharge to watercourse or ground.

3.0 MANAGEMENT OF THE WORK

3.1 Management Structure

A detailed Management Structure and Responsibility Matrix shall be provided by the appointed Contractor prior to commencement of works. It will identify individuals responsible for:

- Senior Project Management
- Contract Management
- Site Management
- Environmental & Planning Consent Compliance
- Health and Safety Management

3.2 Staff Competence

The appointed Contractor shall deliver the works in accordance with the requirements of the finalised CEMP to ensure negligible detrimental impact on the environment. This will involve implementing appropriate mitigation measures, seeking advice from specialist advisors and suitable training of employees, sub-contractors and third parties. The appointed Contractor shall be responsible for overseeing all ecological and environmental aspects during construction.

Staff training will be delivered by an experienced Site Manager, or a specialist third party. Training delivery may include Site Inductions, Briefings and 'Tool-Box' Talks. It is imperative that all personnel engaged in activities that may have an effect on the environment receive suitable training and are competent to carry out their duties. All staff and contractors will be made aware of the requirements set out in the finalised CEMP. All staff must be briefed on their roles in the event of an environmental incident.

As a minimum, staff training shall include:

- Risk Assessment and Method Statement (RAMS) site specific procedures, requiring all personnel to be aware of and sign off the appropriate RAMS for the task(s) in which they are engaged
- Ecological precautionary working method statements to protect sensitive ecology during the works
- Full Health and Safety induction with emphasis on the correct PPE which is to be provided by the appointed Contractor
- Awareness of the potential for harm to both personnel and the environment from the works
- Awareness of the sensitivity of the environment surrounding the site
- General stakeholder awareness

3.3 Risk Assessments and Method Statement (RAMS)

The appointed Contractor shall prepare RAMS in conjunction with expert third parties, if necessary. These will include a review of the environmental risks and commitments so that appropriate control measures can be developed and included within the construction process.

Risk assessments shall:

- Identify the significant environmental effects that can be anticipated
- Assess the risk from these effects
- Identify the control measures to be taken and re-calculate the risk
- Report where and inappropriate level of residual risk is identified so that actions can be taken through design changes, or alternative method of working to reduce the risk to an acceptable level

RAMS shall be submitted prior to works commencing. If the works are changed from the approved method, then works shall cease until suitable authorisation is obtained.

3.4 Programme

The appointed Contractor shall submit a detailed programme of works for approval by Causeway Coast & Glens Borough Council. The expect timescale to complete the works is approximately 20 weeks within the period September 2024 to June 2025.

3.5 CDM Management Structure

The following information will be completed by the appointed Contractor:

Role	Company	Contact	Phone & Email
Client	CC&GBC		
Project Manager			
Principal Designer			
Principal Contractor			

4.0 SITE ENVIRONMENT DETAILS

4.1 Location

The site is located at the South Pier, Portrush Harbour, Irish Grid Reference (IGR) C 85503 40613. It is bound to the immediate north by Portrush Harbour, to the west and south by open water and to the east by the town of Portrush (Figure 1.1, Section 1.0). The proposed works are for the repair of voids underneath the pier structure by concrete infilling and the replacement of rock armour in areas where there are slippages/depressions in the existing rock armour. They are essential remedial works to ensure the safe and practical operation of the pier, within the operational harbour.

4.2 Designated Environmental Sites

The most significant designated environmental site is the Skerries & Causeway Special Area of Conservation (SAC) and an Area of Special Scientific Interest (ASSI) (Figure 4.1). The proposed essential remedial works are adjacent to and within SAC at the entrance to Portrush Harbour. The SAC selection features are:

- Sandbanks which are Slightly Covered by Sea Water all the Time
- Reefs
- Submerged or Partially Submerged Sea Caves
- Harbour Porpoise

In respect of other SACs, the site is approximately 6 km north east of Bann Estuary SAC, approximately 8 km south west of North Antrim Coast SAC, approximately 10 km north east of Magilligan SAC, approximately 71 km north west of Maidens SAC and approximately 83 km north west of North Channel SAC.

The site is also adjacent to Portrush West Strand Area of Special Scientific Interest (ASSI). The ASSI is important because of the underlying geology and is underlain by layers of peat and dune sands that reflect a complex pattern of coastal changes in the area dating from at least 7,300 years ago.

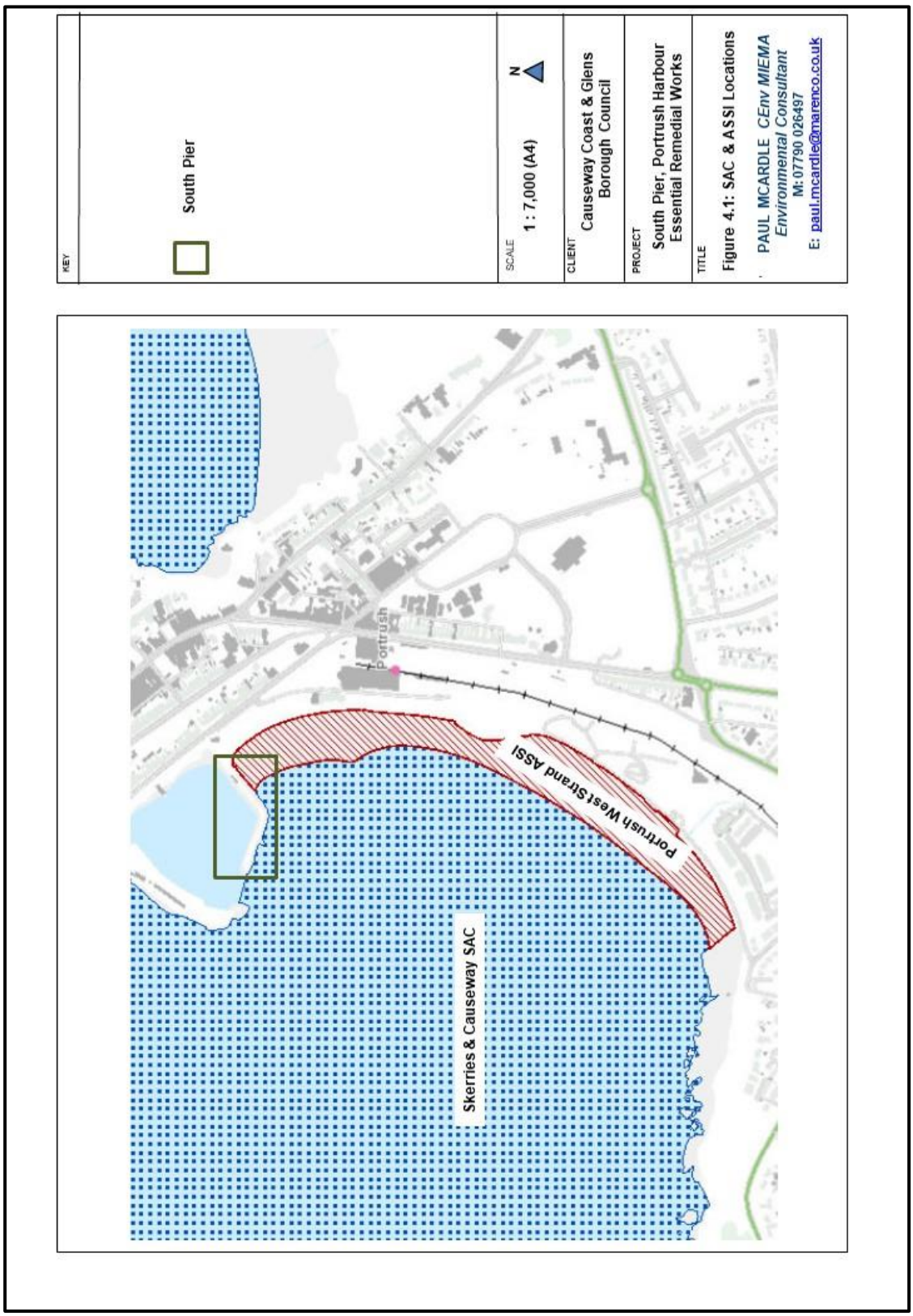


Figure 4.1: Skerries & Causeway SAC & Portrush West Strand ASSI

4.3 Archaeology and Cultural Heritage

There are remains of a buried Drontheim shipwreck approximately 10 m south of the nearby Old Slipway toe. The contractor will be made aware of this and the works shall not impact on the site. Otherwise, the proposed project presents no known archaeological or cultural heritage implications. However, if any suspected archaeological or cultural heritage items are identified during the works, DAERA's Marine Historic Environment Advisor shall be contacted for immediate advice and works in that area suspended.

4.4 Flora & Fauna

Skerries and Causeway was designated an SAC on the following features: reef, sandbanks slightly covered by seawater at all times, submerged or partially submerged sea caves and harbour porpoise. The closest Annex 1 marine habitats include reef (adjacent), mudflats & sandflats not covered by seawater at all times (adjacent) and submerged sandbanks (~0.15 km). The essential remedial works will not involve any piling. Therefore, the disturbance impact on harbour porpoise and other marine mammals is insignificant. However, there remains the potential for adverse impact from the project on water quality and therefore potential risk to the achievement of relevant conservation objectives in respect of harbour porpoise in the adjacent SAC.

In addition to the designated site selection features, it is recognised that concerns around invasive alien species are relevant, especially given the proximity to open water. Many invasive alien species have been intentionally or unintentionally introduced into Northern Ireland from around the world. Once established invasive alien species can have a wide range of economic and social impacts. The ecological effects of invasive alien species are often irreversible and, once established, they can be extremely difficult and costly to control and eradicate. Significant threats are now posed by invasive alien species. Therefore, strict protocols shall be in place in respect of plant and equipment used on-site.

These essential remedial works are programmed to commence in September 2024. This timing facilitates avoidance of the main bird nesting season.

4.5 Stakeholders

Local stakeholders include:

- Causeway Coast & Glens Borough Council
- Residents
- Tourists (especially using West Strand Beach)

A Traffic & Pedestrian Management Plan for the interface of the works with the public shall be provided.

5.0 POLLUTION CONTROL & MITIGATION

5.1 Guidance

In considering pollution control and mitigation, the appointed Contractor shall take account of the legislation and guidance in Section 1.4, with particular reference to the following DAERA 'Standing Advice' and Guidance:

- Development that may have an Effect on the Water Environment
  - Discharge to the Water Environment
  - Pollution Prevention Guidance
  - Marine Litter
- Development that may effect Natural Heritage Interests
  - Invasive Alien Species
  - Priority Habitats
  - Priority Species
- Marine Non-Native Species
- Marine Wildlife Disturbance

5.2 Site Drainage

The site is an open pier and storm run-off is directly to open water, thus providing a diverse pollution pathway.

During construction, the appointed Contractor shall ensure that:

- Only clean storm water is allowed to drain directly to open water
- Portable toilets and wash facilities are be established with no on-site drainage (or public toilets will be used by construction workers)

5.3 Invasive Alien Species

To mitigate the threat of alien invasive species spreading as a result of the proposed works, an 'Inspect, Remove, Clean, Dispose & Report' approach shall be implemented. Plant and equipment shall be subject to the following prior to leaving its previous location:

- **Inspect** all equipment that has been in a waterbody or terrestrial site for attached vegetation, contaminated soil or obvious animal life before moving to another waterway, catchment or site
- **Remove** any adhering plant, soil or animal material from your equipment for disposal before relocating to another site. Ensure that all residual water is drained from equipment before transportation to another site and all soil is removed from machinery, as this may contain seed or plant fragments
- **Clean** all equipment with a power hose away from the waterbody. Use hot water (>60 degrees centigrade) where possible

- **Dispose** of all plant and animal material in bags or containers for disposal in bins.
- **Report** and take photos of species you think may be an INNS on the Invasive Species NI website

The above shall also be applied to plant and equipment prior to removal from site on completion of works.

5.4 Chemicals and Hazardous Materials

Chemicals and hazardous materials shall be stored on site during the construction phase. These may include Fuels, Oils, Cements and Paints/Coatings.

The appointed Contractor shall be responsible for finalising the site layout plan which will show the location of the Contractors Compound, including bunded storage facilities for fuels and other chemical and hazardous materials (at least 10 m from any watercourse).

Strict adherence to relevant Guidelines for Pollution Prevention (GPP) shall be required:

- GPP 2: Above Ground Oil Storage
- GPP 5: Works and Maintenance in or Near Water
- GPP 6: Working on Construction & Demolition Sites
- GPP 21: Pollution and Response Planning
- GPP 22: Dealing with Spills
- GPP 26: Safe Storage/Drums and Intermediate Bunk Containers

5.5 Fuelling Procedures

The appointed Contractor shall be responsible for ensuring that fuelling procedures are strictly adhered to. As a minimum the following shall apply:

- Only authorised personnel permitted to refuel plant & vehicles
- All fuel deliveries to be supervised by authorised personnel
- Locate fuelling point at least 10 m from any watercourse
- Provide fully stocked Spill Kit with Spill Procedure (Figure 5.1)
- Ensure fuel tank is protected from accidental damage, collision or vandalism
- Ensure distribution hose is fitted with a shut-off type filling nozzle and lock
- Ensure a drip tray is in place below the hose and nozzle when not in use
- Record fuel tank level on daily basis

Figure 5.1: Spill Response Procedure Template

5.6 Ready-mix Wash Water

There shall be no ready-mix wash-out on site or along adjacent roadside. Suppliers will be required to return to their location to wash-out in accordance with best practice.

5.7 Vehicle Washing

There shall be no vehicle washing on site unless required in accordance with the Invasive Alien Species Procedure (Section 5.3).

5.8 Air Quality

The appointed Contractor shall ensure that all vehicles and machinery are well-maintained, engines and machinery are not left running unnecessarily when not in use and that vehicles are kept clean.

The appointed Contractor shall ensure that entrance and internal hardstanding areas are kept free from material that could be transferred to adjacent Kerr Street. Any such material on Kerr Street is to be clean-up immediately. No water spraying is permitted.

5.9 Noise & Vibration

The appointed Contractor shall ensure that all plant and equipment is suitably maintained and serviced.

6.0 TRANSPORT & ACCESS

Access and egress at the site will be via Kerr Street, Portrush. Where possible, plant will be fitted with rubber tracks or temporary mats will be used to minimise potential for damage to existing roads or concrete structures. Prior to work commencing, the Site Manager will cordon off the working areas with Heras Fencing. Minimal impact on the users of the local road network is anticipated during the construction phase relating to the delivery of plant, equipment and materials associated with the Works. The main activities that will give rise in road vehicles visiting the site include:

- Mobilisation (arrival of plant, temporary office, fencing)
- Materials delivery (construction materials, concrete, fuels)
- Demobilisation (departure of plant, temporary office, fencing)

It is envisaged that site plant will be restricted to one excavator and one dumper. The appointed Contractor shall ensure that an appropriate Traffic Management Plan is established to include:

- Large scale vehicle movements shall be timed to avoid peak hours on the local road network
- Loading and Off-loading of all plant shall occur on-site and not on the public road
- Vehicular and pedestrian management plan shall be provided to ensure a safe interface of the site compound with the public
- Road shall be open for the public at all times
- Appropriate speed limit shall be enforced
- Entrances to the site shall be kept clean of mud and other debris
- Local streets and roads shall be monitored for mud and debris
- Suitable out-of-hours storage area shall be provided for all plant & vehicles

Note: If pontoon based long excavator option is preferred, onshore site plant will be minimised.

7.0 WASTE MANAGEMENT

The appointed Contractor shall ensure that waste is managed in accordance with Duty of Care requirements. Specifically, the DAERA Regulatory Position Statement of November 2016 on Construction/Demolition Waste and Recycled Aggregate shall be followed.

A material is likely to be Construction and Demolition Waste if:

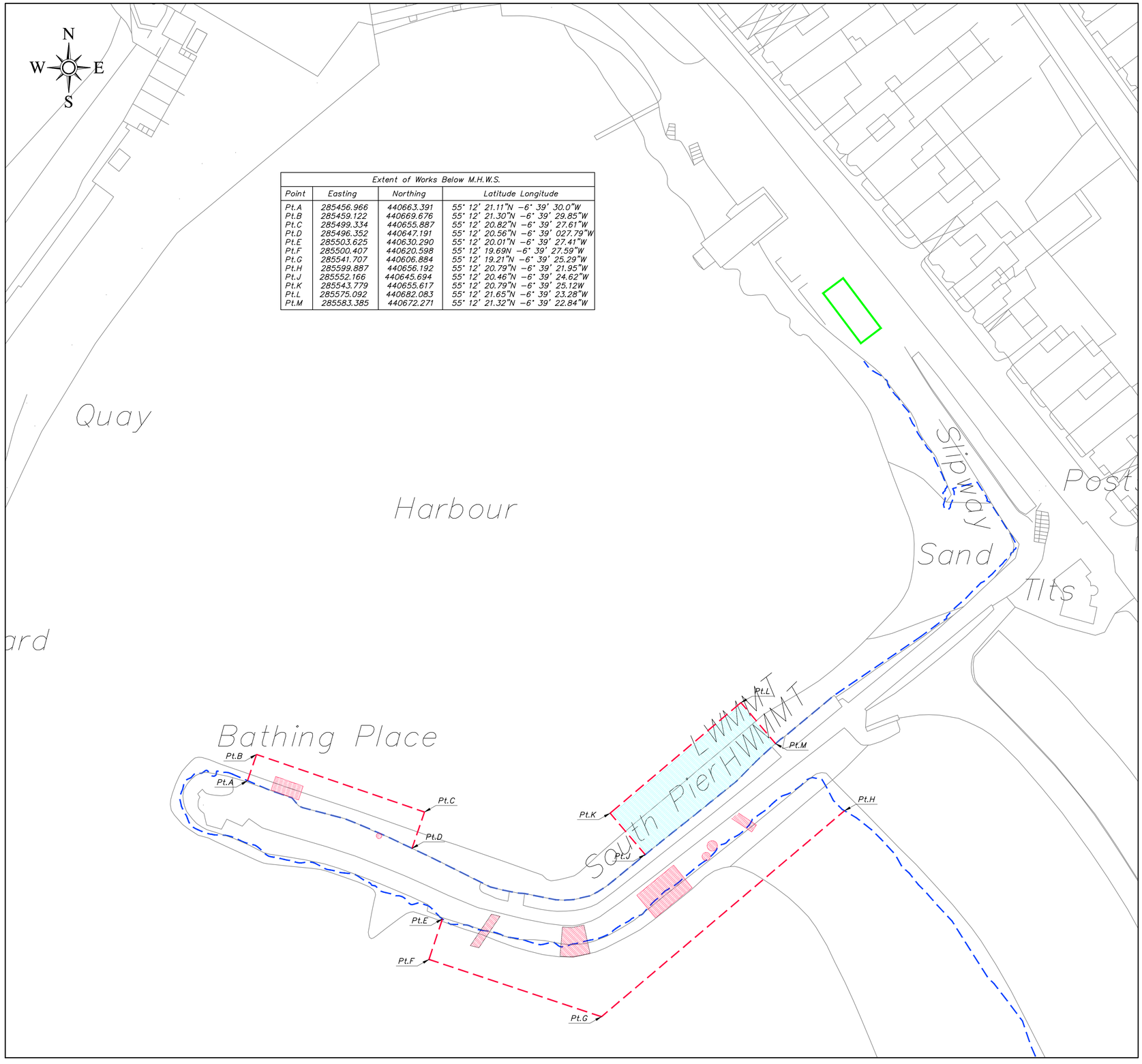
- It's left over, unwanted or a burden, e.g. building rubble from knocking down buildings
- It can no longer be used for its original purpose, it's out of date or has become damaged or unsuitable for use, e.g. machines beyond repair, materials past their use by dates
- Once it is deemed to be waste, even if it has a commercial value to other people, it will remain a waste until it is turned into a new product and achieves End of Waste e.g. scrap metal waste remains waste until it is recycled into new product

The appointed Contractor shall ensure the following within a Waste Management Plan:

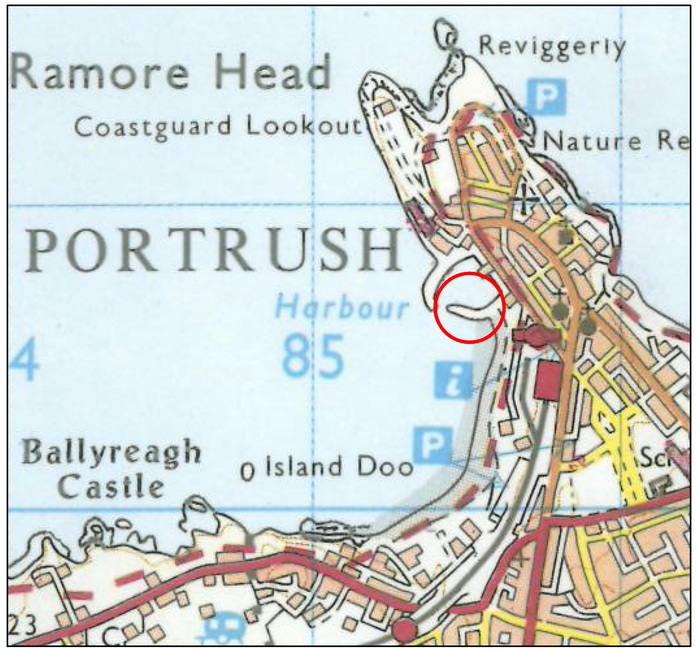
- Designated roles & responsibilities
- Designate waste handling areas and segregate/label waste correctly for collection, in accordance with the collectors' instructions
- Establish a Reduce, Reuse & Recycle Procedure in accordance with the Waste Hierarchy
- Any waste materials arising from the works which are suitable for reuse on the proposed development shall be retained and stockpiled where possible to incorporate such materials into the subsequent remediation and construction process
- Seal/cover stockpiles where practicable
- Ensure litter collection
- Incineration of waste on site is strictly prohibited
- Obtain a copy of any waste carriers licence
- Retain waste transfer notes for all inert and non-hazardous waste removed for a minimum of two years
- Retain consignment notes for all hazardous waste removed for a minimum of three years
- Ensure that waste is only transferred to a waste management facility that is authorised to accept it (retain copy of site authorisation)
- Monitor waste management procedures, including waste contractors

Rev.	Date	By	Check	Details	Appr.
P01	25/04/24	PDB	RH	First Issue	CD
P02	25/04/24	PDB	RH	Temporary stockpile area and Contractors Compound added.	CD
P03	08/05/24	PDB	RH	Contractors Compound revised.	CD

Extent of Works Below M.H.W.S.			
Point	Easting	Northing	Latitude Longitude
Pt.A	285456.966	440663.391	55° 12' 21.11"N −6° 39' 30.0"W
Pt.B	285459.122	440669.676	55° 12' 21.30"N −6° 39' 29.85"W
Pt.C	285499.334	440655.887	55° 12' 20.82"N −6° 39' 27.61"W
Pt.D	285496.352	440647.191	55° 12' 20.56"N −6° 39' 027.79"W
Pt.E	285503.625	440630.290	55° 12' 20.01"N −6° 39' 27.41"W
Pt.F	285500.407	440620.598	55° 12' 19.69N −6° 39' 27.59"W
Pt.G	285541.707	440606.884	55° 12' 19.21"N −6° 39' 25.29"W
Pt.H	285599.887	440656.192	55° 12' 20.79"N −6° 39' 21.95"W
Pt.J	285552.166	440645.694	55° 12' 20.46"N −6° 39' 24.62"W
Pt.K	285543.779	440655.617	55° 12' 20.79"N −6° 39' 25.12W
Pt.L	285575.092	440682.083	55° 12' 21.65"N −6° 39' 23.28"W
Pt.M	285583.385	440672.271	55° 12' 21.32"N −6° 39' 22.84"W



Site Plan
1:500



Site Location Plan
1:10,000

Legend

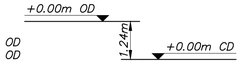
- M.H.W.M from Topographical Survey (+0.860m OD)
- Boundary / Extent of work below M.H.W.S
- Defective Areas of Rock Armour
- Voids/depressions/slippages
- Temporary stockpile area for Rock Armour
- Contractors compound

Notes:

1. All levels in metres to Ordnance Datum (OD) unless otherwise noted.
2. All dimensions in mm unless noted otherwise.
3. Ordnance datum (OD) at Portrush Harbour is 1.24m above Chart Datum (CD).

Tide Levels OD:

MHWS = +0.860m OD
MLWS = −0.740m OD



PRELIMINARY DRAWING

Project Title:

South Pier Remedial Works
Portrush Harbour

Drawing Title:

Site Plan and
Site Location Plan

Client:	Drawn by:	Date:	
Causeway Coast & Glens Borough Council	PDB	16/04/2024	
Project Number: 231003	Checked by: RH	Scales: 1:500	
Doran Project Number: 231003	Approved by: CD	Sheet Size: A1	Uniclass: PM_40_40
Drawing Number: (Project-Orig-FB-SB-F-DISC-NUMBER) 231003-DCL-ZZ-ZZ-D-C-1001		Revision: P03	STATUS: S2

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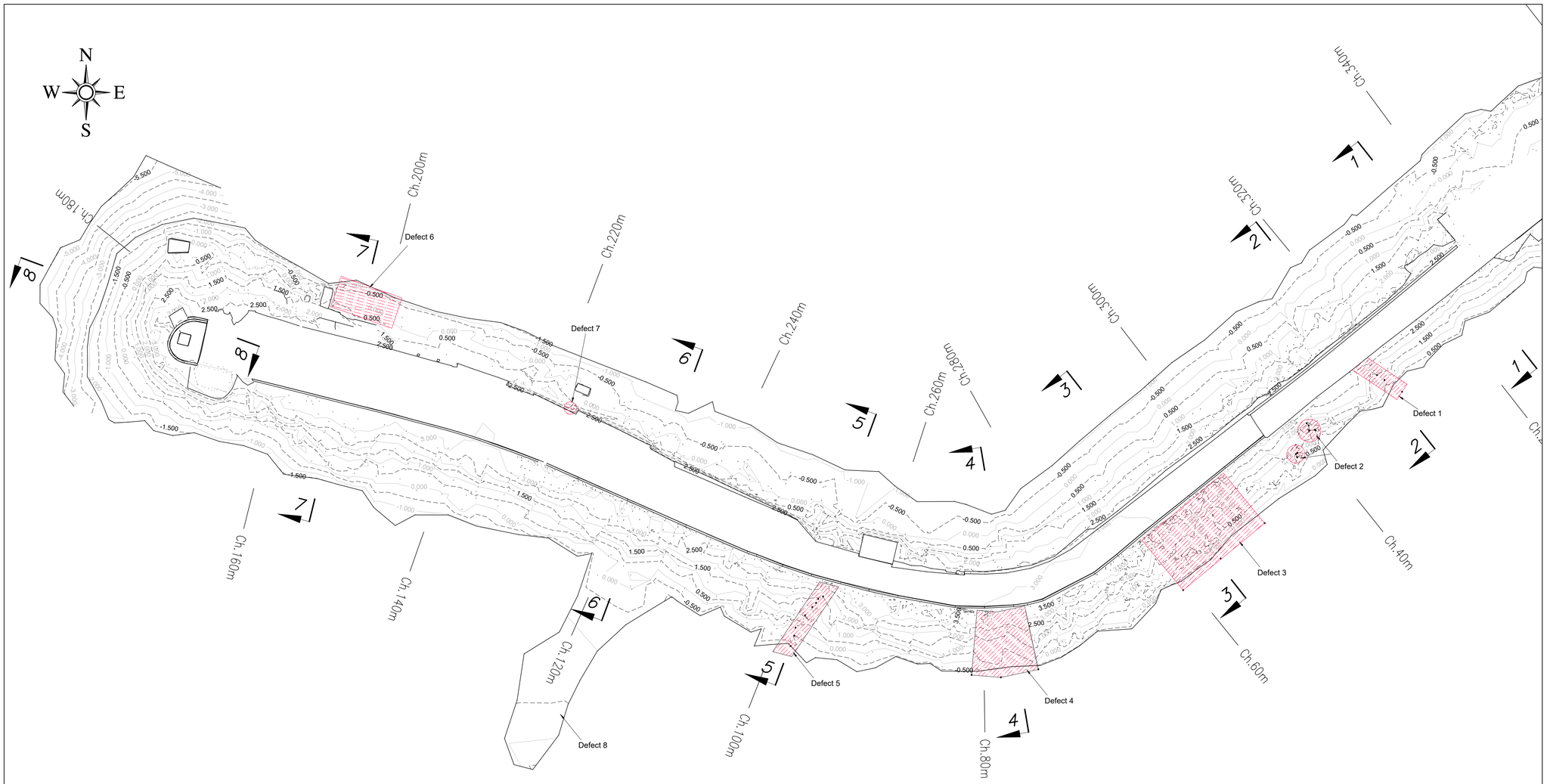
Rev.	Date	By	Check	Details	Appr.
P01	25/04/24	PDB	RH	First Issue	CD



Legend

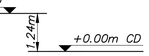
Defective Areas – Voids/depressions/slippages

Notes:

1. All levels in metres to Ordnance Datum (OD) unless otherwise noted.
2. All dimensions in mm unless noted otherwise.
3. Ordnance datum (OD) at Portrush Harbour is 1.24m above Chart Datum (CD).
4. Topographical survey by Equilibrant Ltd. Dated April 2023
5. For sections refer to drawing number 231003-DCL-ZZ-ZZ-D-C-1003

Tide Levels OD:

MHWS = +0.860m OD
MLWS = −0.740m OD



PRELIMINARY DRAWING

Project Title:

South Pier Remedial Works
Portrush Harbour

Drawing Title:

Rock Armour Revetment
Defects Plan

Client: Causeway Coast & Glens Borough Council	Drawn by: PDB	Date: 16/04/2024	
Project Number: 231003	Checked by: RH	Scales: 1:250	
Doran Project Number: 231003	Approved by: CD	Sheet Size: A1	Uniclass: PM_40_40
Drawing Number: (Project-Orig-FB-SB-F-DISC-NUMBER) 231003-DCL-ZZ-ZZ-D-C-1002		Revision: P01	STATUS: S2

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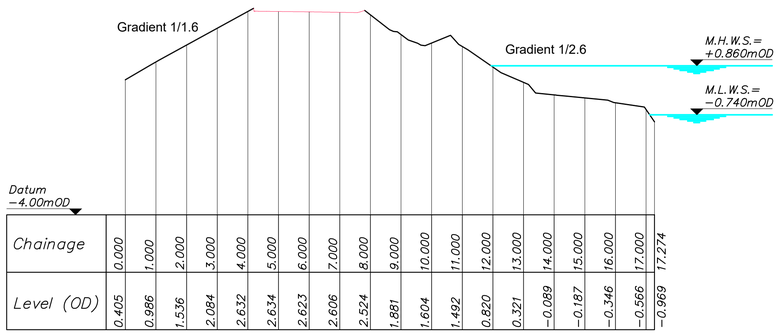
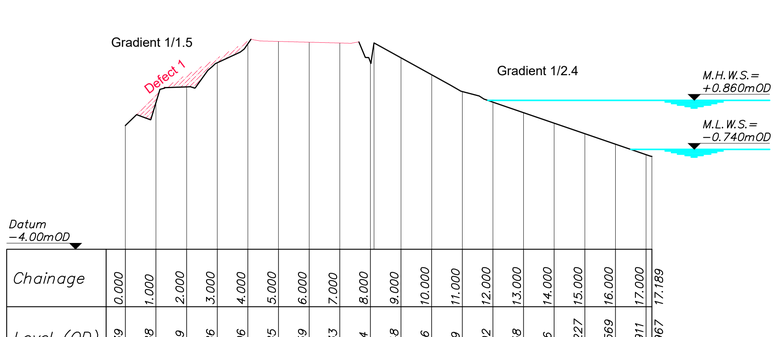
Rev.	Date	By	Check	Details	Appr.
P01	25/04/24	PDB	RH	First Issue	CD



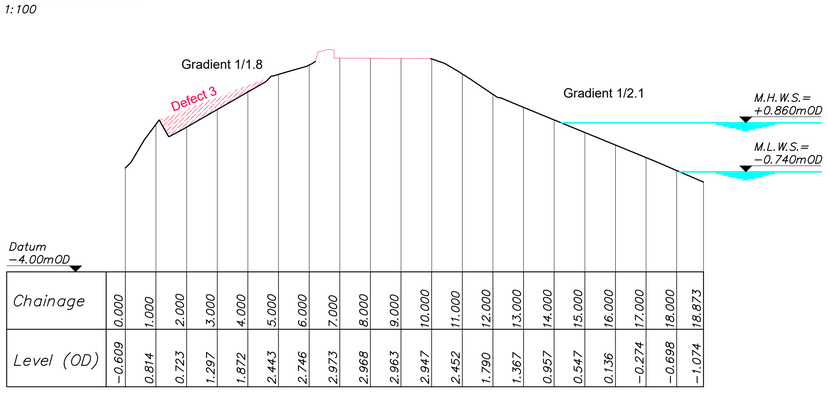
Chainage	0.000	1.000	2.000	3.000	4.000	5.000	6.000	7.000	8.000	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000	17.274
Level (OD)	0.405	0.986	1.536	2.084	2.632	2.634	2.623	2.606	2.524	1.881	1.604	1.492	0.820	0.321	−0.089	−0.187	−0.346	−0.566	−0.969

Section 1–1
1:100



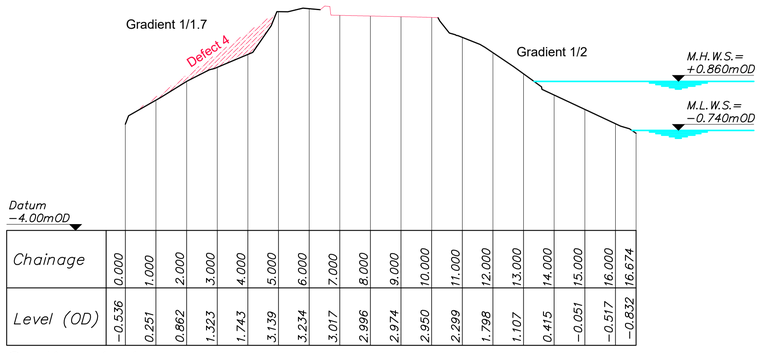
Chainage	0.000	1.000	2.000	3.000	4.000	5.000	6.000	7.000	8.000	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000	17.189
Level (OD)	0.039	0.788	1.299	2.086	2.706	2.785	2.759	2.733	2.114	2.248	1.696	1.149	0.802	0.458	0.116	−0.227	−0.569	−0.911	−0.967

Section 2–2
1:100



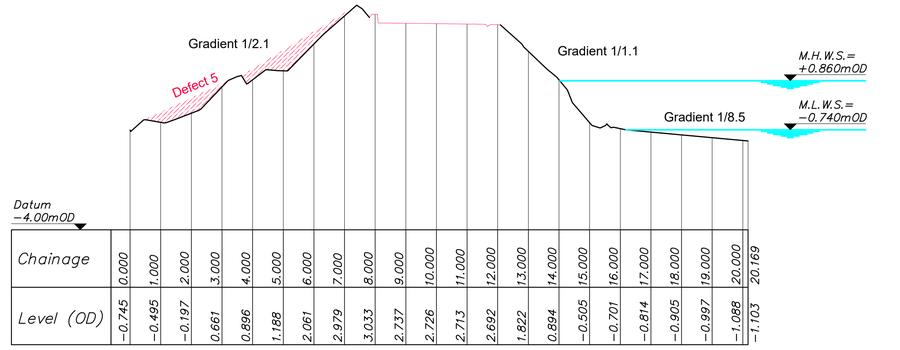
Chainage	0.000	1.000	2.000	3.000	4.000	5.000	6.000	7.000	8.000	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000	18.000	18.873
Level (OD)	−0.609	0.814	0.723	1.297	1.872	2.443	2.746	2.973	2.968	2.963	2.947	2.452	1.790	1.367	0.957	0.547	0.136	−0.274	−0.698	−1.074

Section 3–3
1:100



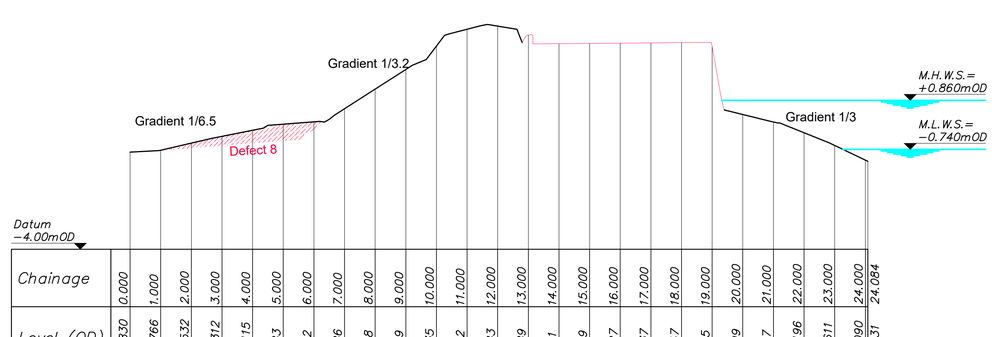
Chainage	0.000	1.000	2.000	3.000	4.000	5.000	6.000	7.000	8.000	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	16.674
Level (OD)	−0.536	0.251	0.862	1.323	1.743	3.139	3.234	3.017	2.996	2.974	2.950	2.299	1.798	1.107	0.415	−0.051	−0.517	−0.832

Section 4–4
1:100



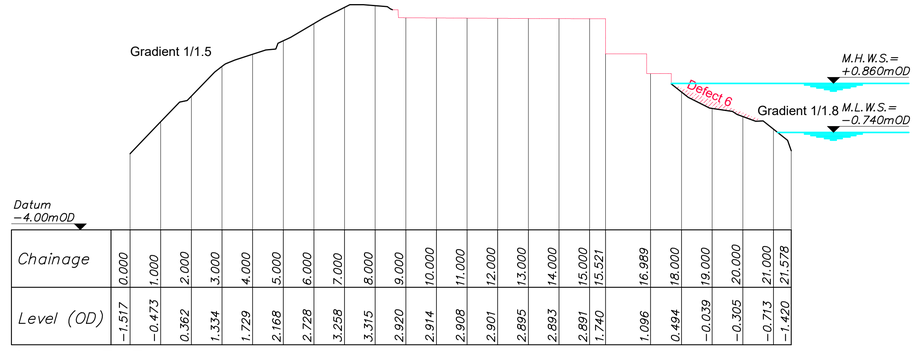
Chainage	0.000	1.000	2.000	3.000	4.000	5.000	6.000	7.000	8.000	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000	18.000	19.000	20.000	20.169
Level (OD)	−0.745	−0.495	−0.197	0.661	0.896	1.188	2.061	2.979	3.033	2.737	2.726	2.713	2.692	1.822	0.894	−0.505	−0.701	−0.814	−0.905	−0.997	−1.088	−1.103

Section 5–5
1:100



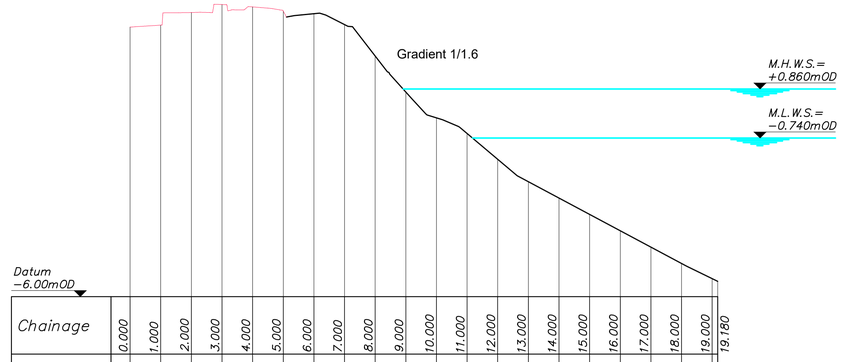
Chainage	0.000	1.000	2.000	3.000	4.000	5.000	6.000	7.000	8.000	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000	18.000	19.000	20.000	21.000	22.000	23.000	24.000	24.084
Level (OD)	−0.830	−0.766	−0.532	−0.312	−0.115	0.083	0.162	0.586	1.228	1.869	2.635	3.182	3.283	2.989	2.711	2.719	2.727	2.737	2.747	2.615	0.399	0.157	−0.196	−0.611	−1.090	−1.131

Section 6–6
1:100



Chainage	0.000	1.000	2.000	3.000	4.000	5.000	6.000	7.000	8.000	9.000	10.000	11.000	12.000	13.000	14.000	15.000	15.521	16.989	18.000	19.000	20.000	21.000	21.578
Level (OD)	−1.517	−0.473	0.362	1.334	1.729	2.168	2.728	3.258	3.315	2.920	2.914	2.908	2.901	2.895	2.893	2.891	1.740	1.096	0.494	−0.039	−0.305	−0.713	−1.420

Section 7–7
1:100



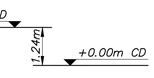
Chainage	0.000	1.000	2.000	3.000	4.000	5.000	6.000	7.000	8.000	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	17.000	18.000	19.000	19.180
Level (OD)	2.801	2.861	3.273	3.535	3.456	3.319	3.234	2.879	1.852	0.680	−0.167	−0.675	−1.518	−2.249	−2.782	−3.315	−3.849	−4.382	−4.915	−5.413	−5.502

Section 8–8
1:100

Legend
Defective Areas – Voids/depressions/slippages

Notes:
1. All levels in metres to Ordnance Datum (OD) unless otherwise noted.
2. All dimensions in mm unless noted otherwise.
3. Ordnance datum (OD) at Portrush Harbour is 1.24m above Chart Datum (CD).
4. Topographical sections by Equilibrant Ltd. Dated April 2023.
5. For locations of sections refer to drawing number 231003–DCL–ZZ–ZZ–D–C–1002

Tide Levels OD:



MHWS = +0.860m OD
MLWS = −0.740m OD

PRELIMINARY DRAWING

Project Title:

South Pier Remedial Works
Portrush Harbour

Drawing Title:

Rock Armour Revetment
Defects Sections

Client: Causeway Coast & Glens Borough Council	Drawn by: PDB	Date: 16/04/2024	
Project Number: 231003	Checked by: RH	Scales: 1:100	
Doran Project Number: 231003	Approved by: CD	Sheet Size: A1	Uniclass: PM_40_40
Drawing Number: (Project-Orig-FB-SB-F-DISC-NUMBER) 231003-DCL-ZZ-ZZ-D-C-1003		Revision: P01	STATUS: S2

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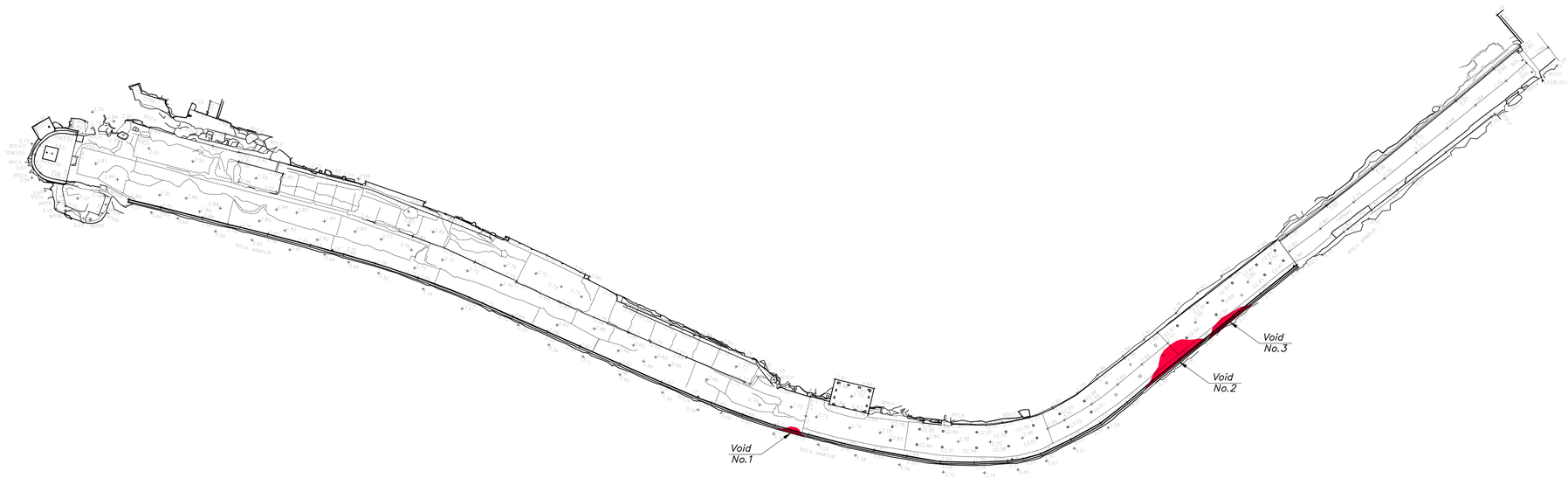
P01	25/04/24	PDB	RH	First Issue	CD



Legend

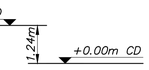
Location of voids below concrete pier slab.

Notes:

1. All levels in metres to Ordnance Datum (OD) unless otherwise noted.
2. All dimensions in mm unless noted otherwise.
3. Ordnance datum (OD) at Portrush Harbour is 1.24m above Chart Datum (CD).
4. Topographical survey by Landmark Geomatics Dated April 2023

Tide Levels OD:

MHWS = +0.860m OD
MLWS = −0.740m OD



PRELIMINARY DRAWING

Project Title:

South Pier Remedial Works
Portrush Harbour

Drawing Title:

Concrete Pier Slab
Defects Plan

Client: Causeway Coast & Glens Borough Council	Drawn by: PDB	Date: 16/04/2024	
Project Number: 231003	Checked by: RH	Scales: 1:250	
Doran Project Number: 231003	Approved by: CD	Sheet Size: A1	Uniclass: PM_40_40
Drawing Number: (Project-Orig-FB-SB-F-DISC-NUMBER) 231003-DCL-ZZ-ZZ-D-C-1004		Revision: P01	STATUS: S2

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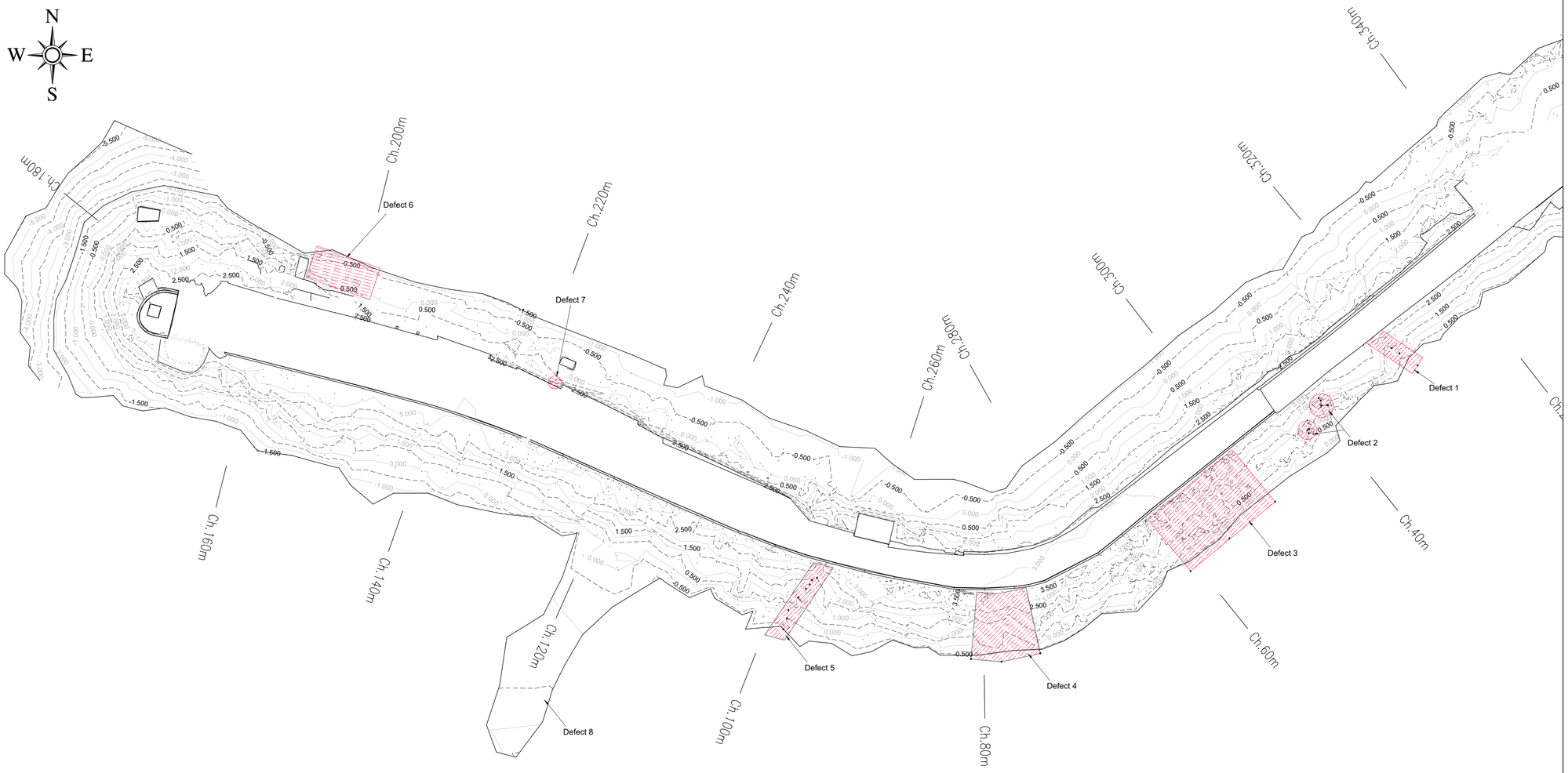
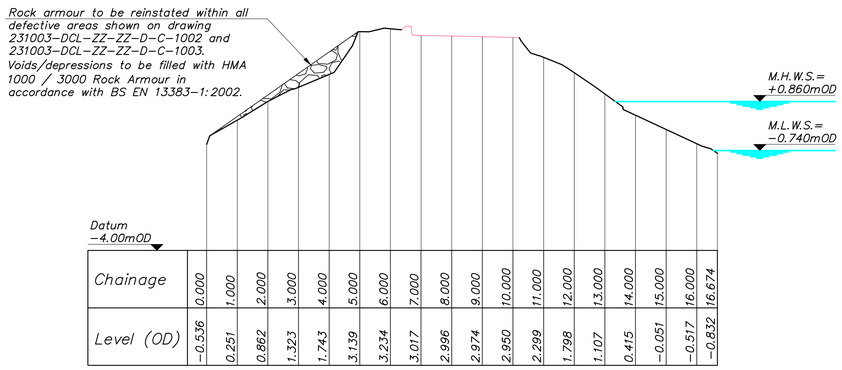
Rev.	Date	By	Check	Details	Appr.
P01	25/04/24	PDB	RH	First Issue	CD





Chainage	0.000	1.000	2.000	3.000	4.000	5.000	6.000	7.000	8.000	9.000	10.000	11.000	12.000	13.000	14.000	15.000	16.000	16.674
Level (OD)	-0.536	0.251	0.862	1.323	1.743	3.139	3.234	3.017	2.996	2.974	2.950	2.299	1.798	1.107	0.415	-0.051	-0.517	-0.832

Typical Section Reinstatement

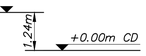
(Based on Section 4-4)
1:100

Notes:

1. All levels in metres to Ordnance Datum (OD) unless otherwise noted.
2. All dimensions in mm unless noted otherwise.
3. Ordnance datum (OD) at Portrush Harbour is 1.24m above Chart Datum (CD).
4. Topographical survey by Equilibrant Ltd. Dated April 2023

Tide Levels OD:

MHWS = +0.860m OD
MLWS = -0.740m OD



PRELIMINARY DRAWING

Project Title:

South Pier Remedial Works
Portrush Harbour

Drawing Title:

Rock Armour Revetment Reinstatement

Client: Causeway Coast & Glens Borough Council	Drawn by: PDB	Date: 16/04/2024	
Project Number: 231003	Checked by: RH	Scales: 1:250	
Doran Project Number: 231003	Approved by: CD	Sheet Size: A1	Uniclass: PM_40_40
Drawing Number: (Project-Orig-FB-SB-F-DISC-NUMBER) 231003-DCL-ZZ-ZZ-D-C-1005		Revision: P01	STATUS: S2

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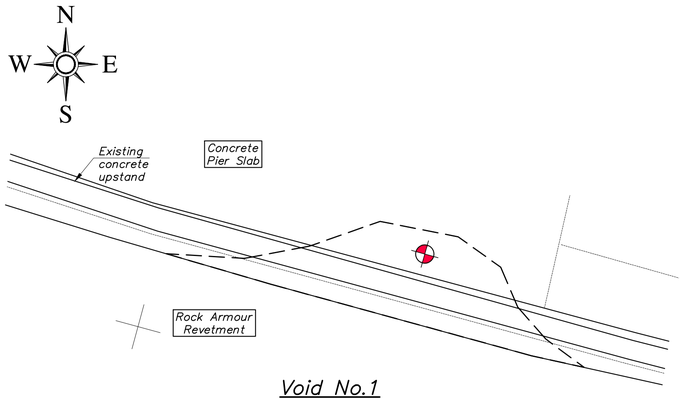
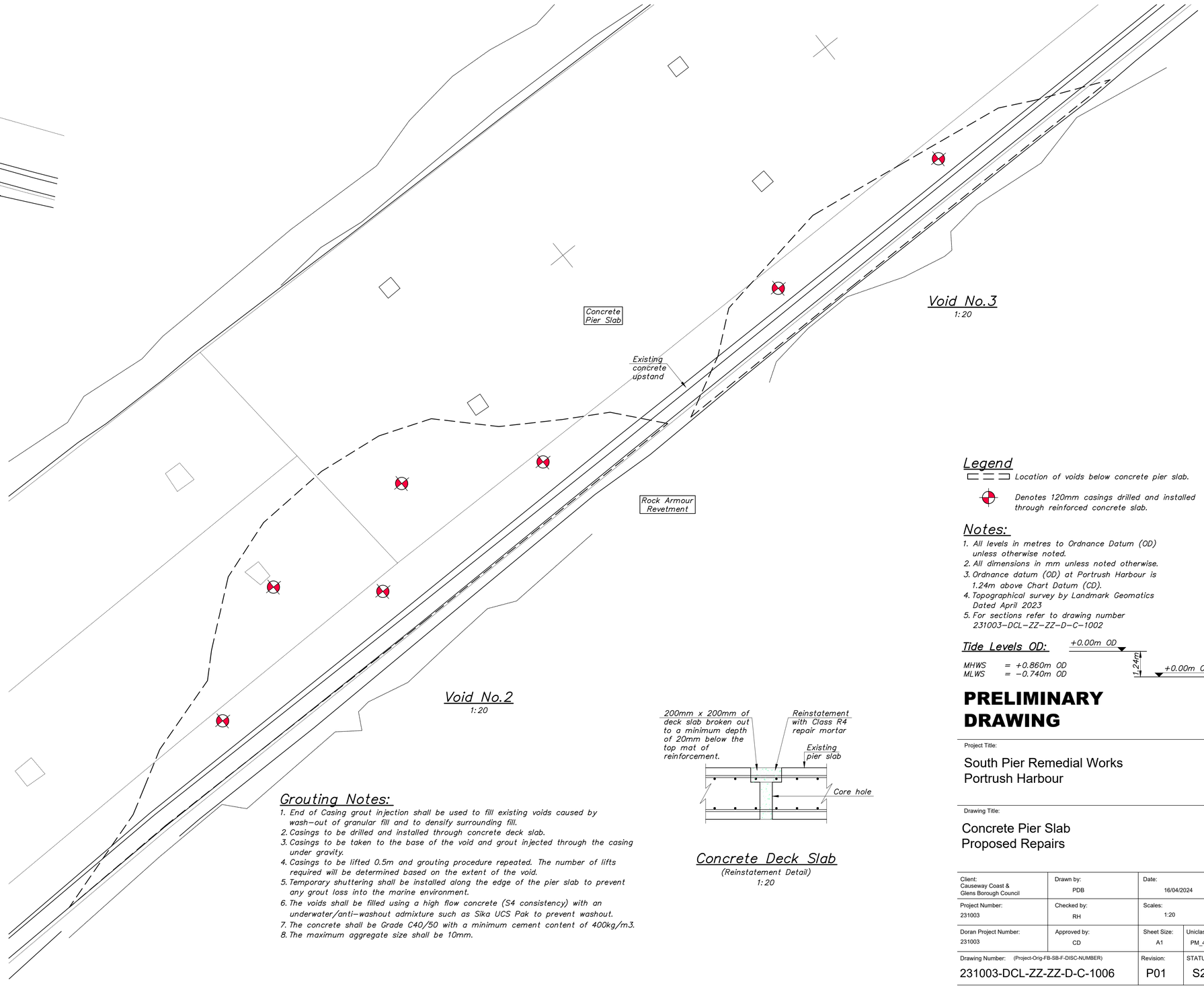
Rev.	Date	By	Check	Details	Appr.
P01	25/04/24	PDB	RH	First Issue	CD



Void No.1
1:20



Void No.3
1:20

Void No.2
1:20

Grouting Notes:
1. End of Casing grout injection shall be used to fill existing voids caused by wash-out of granular fill and to densify surrounding fill.
2. Casings to be drilled and installed through concrete deck slab.
3. Casings to be taken to the base of the void and grout injected through the casing under gravity.
4. Casings to be lifted 0.5m and grouting procedure repeated. The number of lifts required will be determined based on the extent of the void.
5. Temporary shuttering shall be installed along the edge of the pier slab to prevent any grout loss into the marine environment.
6. The voids shall be filled using a high flow concrete (S4 consistency) with an underwater/anti-washout admixture such as Sika UCS Pak to prevent washout.
7. The concrete shall be Grade C40/50 with a minimum cement content of 400kg/m3.
8. The maximum aggregate size shall be 10mm.

Concrete Deck Slab
(Reinstatement Detail)
1:20

Legend
Location of voids below concrete pier slab.

Denotes 120mm casings drilled and installed through reinforced concrete slab.

Notes:
1. All levels in metres to Ordnance Datum (OD) unless otherwise noted.
2. All dimensions in mm unless noted otherwise.
3. Ordnance datum (OD) at Portrush Harbour is 1.24m above Chart Datum (CD).
4. Topographical survey by Landmark Geomatics Dated April 2023
5. For sections refer to drawing number 231003-DCL-ZZ-ZZ-D-C-1002

Tide Levels OD:
MHWS = +0.860m OD
MLWS = -0.740m OD

PRELIMINARY DRAWING

Project Title:

South Pier Remedial Works
Portrush Harbour

Drawing Title:

Concrete Pier Slab
Proposed Repairs

Client: Causeway Coast & Glens Borough Council	Drawn by: PDB	Date: 16/04/2024	
Project Number: 231003	Checked by: RH	Scales: 1:20	
Doran Project Number: 231003	Approved by: CD	Sheet Size: A1	Uniclass: PM_40_40
Drawing Number: (Project-Orig-FB-SB-F-DISC-NUMBER) 231003-DCL-ZZ-ZZ-D-C-1006		Revision: P01	STATUS: S2

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