

A large teal graphic element consisting of a triangle at the top and a trapezoid below it, forming a shape that resembles a stylized 'M' or a building facade.

New Islay Vessel Enabling Works - Colonsay Outline Construction Environmental Management Plan (Construction at Ferry Terminal)

February 2024

This page left intentionally blank for pagination.

Mott MacDonald
St Vincent Plaza
319 St Vincent Street
Glasgow G2 5LD
United Kingdom

T +44 (0)141 222 4500
mottmac.com

New Islay Vessel Enabling Works - Colonsay Outline Construction Environmental Management Plan (Construction at Ferry Terminal)

February 2024

Issue and Revision Record

Revision	Date	Originator	Checker	Approver	Description
0	31/03/2023	GC	JC	BR	For Issue
1	04/08/2023	GC	FH	MR	Update to include Navigational Risk Assessment/Vessel Management.
2	29/02/2024	RM	LA	MR	Updated to reflect Contractor's Alternative Proposals

Document reference: | | | 105612-MMD-CO-ZZ-RP-O-0004-S2-P02

Information class: Standard

This document is issued for the party which commissioned it and for specific purposes connected with the above-captioned project only. It should not be relied upon by any other party or used for any other purpose.

We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

This document contains confidential information and proprietary intellectual property. It should not be shown to other parties without consent from us and from the party which commissioned it.

Contents

1	Introduction	1
1.1	Project Background	1
1.2	Location	2
1.3	Purpose of the Outline Construction Environmental Management Plan	2
1.4	Structure of the Outline Construction Environmental Management Plan	2
1.5	Change Control	3
2	Proposed Development	4
2.1	Proposed Development	4
2.2	Site Operations	4
2.2.1	Construction Method	4
2.2.2	Working Hours	5
2.2.3	Deliveries and Transportation of Materials, Plant and Equipment to Site	5
2.2.4	Storage of Materials	6
2.2.5	Programme	6
3	Roles and Responsibilities	7
3.1	Introduction	7
3.2	Client	7
3.3	Principal Contractor	7
3.3.1	Principal Contractor's – Site Agent	7
3.3.2	Principal Contractor's – Project Manager (PM)	8
3.3.3	Principal Contractor's Environmental Manager	9
3.3.4	Principal Contractor's Environmental Clerk of Works	9
4	Training and Induction	11
4.1	Site Induction	11
4.2	Environmental Training	11
5	Environmental Auditing and Monitoring	13
5.1	Inspections	13
5.2	Auditing	13
6	Environmental Reporting	15
6.1	Key Performance Indicators and Objectives	15
6.2	Reporting	15
6.3	CEMP Review	16

7	Consultation and Communication	17
7.1	Internal Communication	17
7.2	Meetings and Records	17
7.3	Public Communication	17
7.4	Consultation Feedback	17
8	Pollution Prevention Control	18
8.1	Water Management Plan	18
8.1.1	Potential Pollution Sources, Release Scenarios and Preventative Measures	18
8.1.2	General Pollution Prevention Measures	20
8.1.3	Water Supply	21
8.2	Site Waste Management Plan	21
8.2.1	Types and Predicted Volume of Waste	21
8.2.2	Waste Storage	21
8.2.3	Waste Controls and Handling	21
8.2.4	Waste Exemptions and Licensing	22
8.2.5	Waste Monitoring and Reporting	22
9	Environmental Mitigation	23
9.1	Environmental Setting and Key Constraints	23
9.1.1	Ecology	23
9.1.2	Air Quality, Noise and Vibration and People	25
9.1.3	Water Environment	25
9.1.4	Cultural Heritage	25
9.1.5	Landscape	26
9.2	Relevant Legislative Requirements	26
9.3	Consents and Permissions Required	27
9.4	Environmental Management	27
9.5	Ecology Mitigation Plan	27
9.5.1	Otter	27
9.5.2	Birds	29
9.5.3	Marine Mammals and Basking Sharks	30
9.6	Marine Biosecurity Plan	31
9.6.1	Overview	31
9.6.2	Legislation	32
9.6.3	Non-native Species Known to be Present	33
9.6.4	Risk Factors for Vessel Types Involved in the Construction	33
9.6.5	Initial Identification of Biosecurity Risk	33
9.6.6	Biosecurity Risk Assessment	34
9.6.7	Development of Control Measures and Control Points	34
9.6.8	Development of Biosecurity Action Plan	36
9.6.9	Communication and Reporting Responsibilities	36
9.7	Construction Noise Management Plan	37

9.7.1	Working Hours	37
9.7.2	Best Practicable Means	37
9.7.3	Noise Control Measures	38
9.7.4	Site area;	38
9.7.5	Reversing	39
9.7.6	Training	39
9.8	Air Quality Management Plan	39
9.8.1	Construction Management and Mitigation Measures	39
9.9	Archaeology	40
9.9.1	Archaeological Mitigation Scheme and Protocol for Archaeological Discoveries	40
9.10	Navigation Risk Assessment/Vessel Management Plan	40

A.	Proposed Development Drawings	42
B.	Appendix B Environmental Constraints Plans	43
C.	Appendix C Environmental Reports	45

Tables

Table 5-1	Scope of Environmental Audit	13
Table 6-1	Environmental Reporting	15
Table 7-1	Internal Communications	17
Table 8-1	Potential Pollution Sources, Release Scenarios and Preventative measures	18
Table 9-1	Summary of PMF Habitats around Colonsay Ferry Terminal	25
Table 9.1:	Critical Control Points and Control Measures	35
Table 9.2:	Biosecurity Action Plan	36

Figures

Figure 1-1	Terminals on the Islay Ferry Service	1
Figure 9-1	Legally protected otter shelters (hovers) and 30m buffer zones	24

Maps

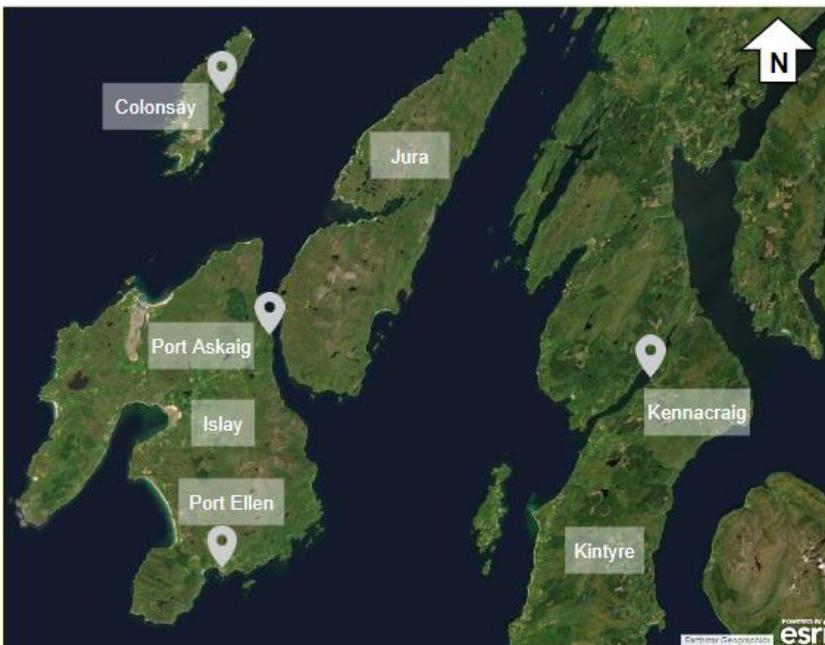
Map 1	Environmental Constraints Plan	43
Map 2	Ecological Constraints Plan	44

1 Introduction

1.1 Project Background

Caledonian Maritime Assets Limited (CMAL) seek to undertake upgrade works at the four terminals (Port Ellen, Kennacraig, Port Askaig and Colonsay (shown in Figure 1-1) on the Islay route prior to the introduction of new vessels, which are planned to be operational around mid-2024.

Figure 1-1 Terminals on the Islay Ferry Service



Maps created using ArcGIS® software by Esri. ArcGIS® and ArcMap™ are the intellectual property of Esri and are used herein under license. Copyright © Esri. All rights reserved. For more information about Esri® software, please visit www.esri.com.

The new vessels are planned to have a larger beam, length, draught and displacement than the current vessels that serve the route, as well as having a hybrid diesel-electric propulsion system. Enabling works to the four terminals are therefore necessary to safely and reliably berth, moor, load and unload the vessels at all four ports together with shore power for charging the vessels at Port Ellen, Kennacraig and Port Askaig.

The focus of this outline Construction Environmental Management Plan (CEMP) is the New Islay Vessel Enabling Works at Colonsay Ferry Terminal, which would comprise upgrading existing assets (replacement of bollards and fenders), introduction of new gangways and toe protection around existing timber piles, and dredging works to accommodate new vessels with deeper draught and higher displacement.

It should be noted that for the purposes of this outline CEMP and to aid the application for marine licences for construction projects and dredging and sea disposal, two outline CEMPs have been developed. As the application for marine licences will be applied for separately, with the marine licence application for dredging and sea disposal likely to be submitted a few months after, due to the requirement to obtain further sampling data. This outline CEMP considers all activities with the exception to dredging works.

The activities not included within this outline CEMP (dredging) will be covered within a separate outline CEMP (Colonsay Outline Construction Environmental Management Plan (Dredging and Sea Disposal)).

Further details are outlined in Section 2.

1.2 Location

The location of the New Islay Vessel Port Enabling Works at Colonsay Ferry Terminal are the east coast of the island of Colonsay in Scalasaig, the Inner Hebrides, Scotland. The existing Colonsay Ferry Terminal is centred at NGR NR 39600 94100 and is located within the small village of Scalasaig (see Appendix B, Map 1). The village comprises a small residential community and local shops/businesses.

1.3 Purpose of the Outline Construction Environmental Management Plan

The purpose of this outline CEMP is to provide details of the various site-specific environmental control measures that will be implemented to avoid, minimise or mitigate effects on the environment and surrounding area during construction of the New Islay Vessel Enabling Works at Colonsay Ferry Terminal (Construction at Ferry Terminal), hereafter referred to as the 'Proposed Development'. The CEMP accompanies the marine licence application submission and draws together environmental assessment work undertaken during the design of the Proposed Development.

This outline CEMP has been prepared in advance of appointment of the Principal Contractor and will be adopted and expanded upon into a detailed CEMP by the Principal Contractor in advance of the work commencing on site and when full construction details are known.

The aim of the CEMP is to:

- Define environmental roles and responsibilities during construction;
- Detail the environmental monitoring, reporting and reviewing procedures that will be adhered to during construction;
- Detail the required environmental permits, licences and consents; and
- Set out the site-specific environmental mitigation and control requirements that will be adhered to during construction, to limit the impact of the construction phase of the Proposed Development on the environment.

1.4 Structure of the Outline Construction Environmental Management Plan

The following structure has been adopted for this CEMP:

- Section 1 – Introduction;
- Section 2 – Proposed Development;
- Section 3 – Roles and Responsibilities;
- Section 4 – Training and Induction;
- Section 5 – Environmental Auditing and Monitoring;
- Section 6 – Environmental Reporting;
- Section 7 – Consultation and Communication;
- Section 8 – Pollution Prevention Control; and
- Section 9 – Environmental Mitigation.

1.5 Change Control

This CEMP is a live document that the Principal Contractor will review and update prior to the start of construction, where required. It is not expected that the CEMP will need major revisions following commencement of construction. However, if changes are required due to exceptional circumstances, the Principal Contractor's change control process will be followed to record documentation revision requests and their final approval status. The revised CEMP and changes will be communicated to personnel on site in line with Section 7 Consultation and Communication.

2 Proposed Development

2.1 Proposed Development

The Proposed Development would upgrade the ferry terminal to facilitate future accommodation of a new vessel with deeper draught and higher displacement. The new vessel will moor to the existing bollards positioned at the roundhead, along the existing pier and on both the inner and outer lifting dolphins. The works to accommodate this new type of vessel would comprise the following proposed modifications and alterations:

- **Replacement of existing fenders with new;**
- **Replacement of two bollards at the roundhead from T Head bollards to mushroom bollards;**
- **Provision of gangways which are to be at least 17m long;**
- **Installation of existing pile toe protection, in the form concrete mattress and insitu concrete toe beam to replace the overburden on the pile toe;**
- Dredging to 5.5m below Chart Datum (CD) in order to maintain at least 1 metre of underkeel clearance. The dredged area would be approximately 4120m² and volume 6000m³.

Further details of the Proposed Development are shown in the Proposed Development Drawings in Appendix A.

Works below the mean high water springs (MHWS) include:

- installation of toe protection; and
- dredging works.

It should be noted that for the purposes of the outline CEMP and to aid the application for marine licences for construction projects and dredging and sea disposal, two outline CEMPs have been developed. As the application for marine licences will be applied for separately, with the marine licence application for dredging and sea disposal likely to be submitted a few months after, due to the requirement to obtain further sampling data. This outline CEMP considers all activities (see those activities in bold) with the exception to dredging works.

The activities not included within this outline CEMP (dredging) will be covered within a separate outline CEMP (Colonsay Outline Construction Environmental Management Plan (Dredging and Sea Disposal)).

2.2 Site Operations

2.2.1 Construction Method

Replacement of fenders, bollards and provision of gangways

A total of ten fenders are to be removed from the roundhead and replaced with new. As with the existing fenders, the new ones may be located partially in the intertidal zone. Replacement bollards would be installed within the existing roundhead. The provision of gangways would be installed within the existing pier structure and would accommodate passenger embarkation and disembarkation from ferries. Crane, construction operatives and any other equipment (e.g. welding machines where required) will be supported on the existing structure (jetty deck) for access to the fenders.

The existing fenders will be slung, and their weight taken by the crane positioned on the deck/barge. The operative will unbolt the existing fender and it will be lifted out of position. The

crane will offer the new fender to position, and the operative will bolt the fender into the support structure behind. Materials will comprise fenders (rubber fenders, UHMW-PE panels and stainless steel fixings) and, where required, steel brackets and beams for connection to the existing structure.

Toe protection

The proposed dredging has the potential to undermine the toes of some of the pier support piles and fender piles. As such toe protection around existing timber piles is required. The proposed method of protecting the toes of the piles is to place structural collars around the toes of the piles with dowels into the bedrock below the piles and installation of Proserve micro concrete filled mattresses to replace the overburden on the pile toe in addition an insitu concrete beam will be poured to provide additional lateral restraint to the existing timber piles.

The installation method for steel collars is likely to be as follows:

- Works for the collars would be carried out by divers;
- Removal of seabed material locally around the pile until sound bedrock is exposed;
- Bedrock is to be prepared to accommodate the steel collar which would act as a permanent formwork and the installation of dowel bars;
- The void between the existing pile and the steel collar would be infilled with concrete; and

The installation method for concrete mattresses and insitu concrete beam is likely to be as follows:

- Works for the mattress would be carried out by divers;
- Removal of seabed material locally around the pile to anticipated dredge level;
- Fabric formwork is to be positioned around the pile to replicate the lost overburden due to dredging;
- The diver in the water will zip together two adjacent mattress formworks before either are filled;
- Once the formwork is positioned and sealed, filling then commences by pumping the concrete from above water through filling tubes;
- The insitu concrete toe restraint beam will be installed following dredging works, the installation of beam will likely be placement of shutters, sealing shutters to avoid dispersing of concrete into water, and washout of grout during construction. An appropriate underwater concrete mix will be placed through tremie pipes from above water, works are likely to be conducted and monitored by divers.

2.2.2 Working Hours

Standard working hours for non-dredging activities will be between 08:00-1800 Monday to Friday and 08:00-13:00 Saturday. No works will be undertaken on Sunday.

2.2.3 Deliveries and Transportation of Materials, Plant and Equipment to Site

Deliveries including the transport of materials, plant, and equipment to the development site will only take place during the following hours:

- 07:00 to 18:00 on Monday to Friday; and
- No deliveries on Saturdays, Sundays or Bank Holidays and local Public Holidays to reduce disruption to local road networks.

Site access will typically be via road, i.e. wagon haulage. However, it is possible that some material may be transported by sea, e.g. by barge or ship.

Construction transport is expected to use local roads within the vicinity and it is anticipated that one delivery per week during the construction works would be required.

2.2.4 Storage of Materials

Materials to be used on site would likely be stored within the hardstanding of a temporary site compound, located at NGR NR 39400 94100 within the existing harbour area. Storage of materials will be segregated in designated areas within the compound. Following contract award this would be further determined by the Principal Contractor.

2.2.5 Programme

It is anticipated that construction would start during March 2024 and would last approximately 6-8 months dependent on weather conditions and planned downtime. Note this construction period is not continuous and avoids winter working and includes construction works around the ferry terminal.. It is anticipated that dredging works (included as part of a separate CEMP) will take place from March to August 2024 (approximately 8 weeks in total), note there will be an initial bulk dredge in March-May 2024 and then local rock dredging as works progress.

3 Roles and Responsibilities

3.1 Introduction

To ensure that environmental standards are maintained throughout the construction works, it is necessary that every person working on the site is aware of their responsibilities. Specific roles and responsibilities have been set out below. The Principal Contractor will have overall responsibility for implementation of the CEMP and will ensure that the provisions and commitments set out within the CEMP, including permits, licences, consents and associated mitigation measures that apply to the site work are adhered to.

3.2 Client

The Client shall provide general oversight and strategic direction to the works. Client representation on site relevant to the implementation of the CEMP would include a Project Manager (PM) and an Environmental Project Manager to ensure delivery of the commitments set out in the CEMP. They will liaise with the Key Principal Contractor roles as described below. The phasing in the works will result in changes in the parties responsible for these roles.

3.3 Principal Contractor

The Principal Contractor shall execute the work and would have direct responsibility for updating and implementing the CEMP. The Principal Contractor would ensure that all members of the Project Team, including sub-contractors, comply with the procedures set out in the CEMP. The Principal Contractor would also ensure that all persons working on site area provided with sufficient training, supervision and instruction to fulfil this requirement.

The Principal Contractor shall ensure that all persons allocated specific environmental responsibilities area notified of their appointment and confirm that their responsibilities area clearly understood.

3.3.1 Principal Contractor's – Site Agent

The Site Agent's environmental management responsibilities will include but are not limited to:

- Ensure that all personnel have received and understood the site induction;
- Undertake suitable checks to confirm that personnel are suitably qualified and have undertaken appropriate environmental training to cover tasks to be carried out in compliance with the CEMP;
- Sign off relevant work permit forms for staff;
- Undertake regular inspections at the site. This will include daily considerations of weather conditions, with reference to the three-day weather forecast in order to ensure that appropriate mitigation measures are in place to manage weather challenges;
- Report any public complaint matters to the Principal Contractor PM as soon as practicable, completing the complaints log;
- Ensure that environmental incidents are reported to the Client Project Manager within 30 minutes for further communication to all relevant parties;
- If the Client Project Manager or Environmental Project Manager cannot be contacted, the Principal Contractor's Site Agent must notify the Client within 30 minutes by telephone;
- Ensure that any such events are subsequently reported via the Principal Contractor's incident reporting system;

- Undertake investigations into environmental incidents or near misses to determine the root/direct cause and present the findings, recommendations and lessons learnt;
- Oversee site works, alongside the Principal Contractor's Environmental Manager, with a view to eliminating/reducing the environmental impact of the works and raising any environmental concerns with the Principal Contractor's Environmental Manager;
- Ensure Toolbox Talks are carried out and recorded on relevant environmental topics;
- Carry out environmental checks keeping records as appropriate;
- Ensure that environmental emergency plans are prepared by Principal Contractor's Environmental Manager and tested;
- Ensure that the risk assessments for control of substances hazardous to health regulations (COSHH), noise and environmental risk are prepared by the Principal Contractor's Environmental Manager and effectively monitored, reviewed, and communicated on site,
- Managing the preparation and implementation of method statements;
- Ensure that the Principal Contractor's Environmental Manager reviews all method statements and that relevant environmental protocols are incorporated and appended;
- Regular weekly survey to monitor environmental/ecological sensitivities at the site;
- Ensure the period and frequency of environmental monitoring, reflects higher risk areas and conditions – such as silt run off and changing weather. These high-risk areas will be monitored on a daily basis when higher risk activities.
- Produce environmental emergency plans and conduct monthly checks to ensure that they are effective by means of emergency drills;
- Inspect the site to ensure effective implementation/operation of any environmental mitigation measures, including inspections of construction activities in close proximity to sensitive environmental receptors;
- Review/comment on site Risk Assessments and Method Statements (RAMS) as necessary with respect to environmental impacts and controls;
- Provide weekly report on environmental works on site, inclusive of programme updates;
- Assist with investigations into environmental incidents or near misses to determine the root/direct cause and present the findings, recommendations and lessons learnt; and
- Ensure the required audits and inspections are completed as per Section 5 of the CEMP.

3.3.2 Principal Contractor's – Project Manager (PM)

The Principal Contractor's PM will:

- Facilitate dissemination of specific environmental requirements to the Project Team;
- Oversee the implementation and review of environmental procedures throughout the project. Monitor the environmental performance of the project through maintaining an overview of incidents, inspections and audits;
- Ensure that environmental reviews are undertaken as part of regular project meetings;
- Implement and maintain a project communications strategy to manage project public relations and complaints;
- Review environmental matters with the Client Project Manager on a regular basis and as per project requirements;
- Stop works, if necessary, should an environmental incident occur;
- Ensure that arrangements for liaison with respective regulatory bodies on all environmental issues is appropriate and maintained; and
- Ensure that all environmental incidents are reported to the Client in accordance with the detailed reporting requirements (Client Project Manager or Environmental Project Manager)

within 30 minutes of the Contractor being notified) and the respective regulatory bodies (where required) as soon as possible.

3.3.3 Principal Contractor's Environmental Manager

The Principal Contractor's Environmental Manager will work with the Principal Contractor's PM on environmental matters.

Key responsibilities and duties include:

- Implement, review and update the Construction Environmental Management Plan (in conjunction with the Project Team) in accordance with marine licence conditions, Client requirements, Contractor's procedures, licence/ consent requirements and current legislation;
- Ensure that specific environmental management plans are implemented for: pollution, water, site waste, ecology, marine biosecurity, archaeology, noise and air quality management ;
- Lead the implementation of environmental mitigation particularly management of noise and vibration impacts during construction;
- Regularly provide training and Tool Box Talks for site staff to make sure that all personnel work strictly in accordance with the environmental requirements defined in consents/licenses and CEMP;
- Ensure that all appropriate consents and licences are in place prior to work starting on site;
- To be a key interface point for the Client Environmental Project Manager;
- Monitor and report on site environmental performance including key performance indicators;
- Engage and manage specialist sub-contractors/consultants;
- Manage and update the environmental programme, with site surveys, mitigation measures, and monitoring;
- Investigate and report on environmental incidents;
- Approve the closure of any environmental corrective actions and non-compliance from audits/inspections;
- Provide the necessary updates and reports to the project team and Client Environmental Project Manager;
- Interface with Contractor's site staff and subcontracted companies on environmental issues; and
- Check environmental control measures have been effectively implemented.

3.3.4 Principal Contractor's Environmental Clerk of Works

The Principal Contractor's Environmental Clerk of Works will work with the Principal Contractor's PM and Environmental Manager on environmental matters, particularly those relating to specialist knowledge such as ecology and biosecurity.

Key responsibilities and duties include:

- Ensure that specific environmental management plans are implemented e.g. the marine biosecurity plan;
- Regularly provide training and Tool Box Talks for site staff to make sure that all personnel work strictly in accordance with the environmental requirements defined in consents/licenses and CEMP;
- Investigate and report on environmental incidents;
- Approve the closure of any environmental corrective actions and non-compliance from audits/inspections;

- Provide the necessary updates and reports to the project team and Client Environmental Project Manager; and
- Check environmental control measures have been effectively implemented.

4 Training and Induction

4.1 Site Induction

All personnel involved in construction of the Proposed Development will receive environmental awareness training. The environmental training and awareness procedure will ensure that staff are familiar with the principles of the CEMP, the environmental constraints and mitigation and consequences of departures from these procedures.

All documentation relating to the environmental management of the Proposed Development will be kept within the Principal Contractor's site office. As part of the site audit, checks will be made to ensure that appropriate documentation is being held and maintained on site. On completion of the Proposed Development, the final versions of the CEMP and all other documents that record environmental risks, best practice examples, mitigation measures, commitments, environmental incidents, and other relevant information will be provided for inclusion in the project file.

4.2 Environmental Training

The risk of adverse environmental effects can be minimised through training and awareness. A project specific training plan that identifies the competency requirements for all personnel allocated with environmental responsibilities will be produced by the Principal Contractor and a register of completed training will be kept by the Principal Contractor's Site Agent including the dates on which all personnel undertook environmental training.

The purpose of environmental training is to ensure that all site personnel have the knowledge to successfully implement the environmental requirements of the Proposed Development. In order to ensure the CEMP is implemented on site, the following environmental training will be carried out.

- Emergency response training;
- Induction, which would include all environmental aspects of the site such as waste management, working in or near water bodies, surface water pollution and control, ecology, dust management, noise management, sediment management, archaeology, waste management, and emergency preparedness and response;
- Environmental awareness including 'Toolbox talks' will be carried out, by the Principal Contractor's Environmental Manager, at a minimum of one per week appropriate to the construction works being carried out at that time and also to all existing and new persons carrying out work on site (site personnel, sub-contractors and any other visitors). Toolbox talks are required as part of the European Protected Species licence for otter and marine mammals, noise and marine biosecurity. Training would cover as a minimum:
 - Legal responsibilities;
 - Noise reduction and abatement;
 - Dust abatement;
 - Water management/pollution control / sedimentation;
 - Waste management;
 - Discovery of archaeological remains;
 - Local terrestrial and marine ecology;
 - Biosecurity;
 - Spill management/emergency preparedness and response;

- Management and storage of materials, fuel, lubricants and oils;
 - Good housekeeping requirements;
 - Communication with the public; and
 - Individuals' responsibilities.
- Environmental bulletins/legalisation briefings/best practice briefings will be used to brief all those carrying out work on site (site personnel, subcontractors and visitors);
 - Task specific training e.g. IOSH Working with Environmental Responsibilities, IOSH Managing Environmental Responsibilities, Site Water Management, Use of Pollution Prevention Equipment, Sediment Management, Noise Management, will be provided for specific personnel with environmental responsibilities e.g. surface water management for site supervisors/managers; and
 - Project specific information, including relevant elements of the CEMP and the marine licence conditions would be delivered to all site staff by the Principal Contractor's Environmental Manager.

5 Environmental Auditing and Monitoring

5.1 Inspections

Routine inspections to check that environmental control measures are in place would be undertaken by the Principal Contractor’s Environmental Manager, who will produce inspection reports. Inspections will be carried out weekly, or more frequently, depending on the work activity.

Daily inspections will be made by the Principal Contractor’s Site Agent during each shift and any environmental problems or risks that are identified would be actioned as soon as is reasonably practicable. Any issues arising from the daily inspections will be notified to the Principal Contractor’s Environmental Manager, by email or phone if the Principal Contractor’s Environmental Manager is not on site.

Environmental monthly inspections and quarterly audits shall be carried out by the Principal Contractor’s Environmental Manager to check compliance with the CEMP and any specific environmental licence conditions. Findings of the inspection/audits shall be recorded and reported by the Project Team during progress meetings.

5.2 Auditing

An internal audit schedule would be prepared. This would include audits of the CEMP and audits of the sub-contractor and supplier’s environmental performance by the Principal Contractor’s Environmental Manager. Table 5-1 sets out the scope of environmental audits.

Table 5-1 Scope of Environmental Audit

Monitoring Area	Audit Element
Environmental Documentation	CEMP copy kept on site and available to all relevant employees
	Changes made in accordance with change management procedures
	All contractor environmental policies up to date
	Site inductions include relevant elements of the CEMP
Waste Management	Waste correctly separated and stored in suitable, designated containers
	Site kept litter free
	Duty of care assessments carried out on all waste contractors
	Waste Transfer Notes (WTN) received for all controlled waste transfers
	Appropriate European Waste Codes (EWC) quoted on all WTNs
	Waste Electronic and Electrical Equipment (WEEE) waste disposed of appropriately
	Recycling maximised
	Evidence of licences and exemptions, licencing control measures followed
	Appropriate storage and disposal of special/hazardous waste in accordance with waste management licences exemptions and legal requirements
	Monthly waste audits undertaken in line with the Site Waste Management Plan and any recommendations implemented
	All potential impacts of specific earthworks activities mitigated including dewatering operations during soil strip/top soil strip, storage of soils and reinstatement
	Drainage systems, including foul drainage, inspected at regular intervals
	Water flush volumes minimised where relevant
	Water use monitored during construction

Monitoring Area	Audit Element
Pollution Prevention and Management	Discharges from site drainage to surface water environment clear (not silty)
	Material storage areas appropriately designated and utilised
	Vehicles parked in designated area of hard standing
	COSHH stored will be secure and appropriately ventilated
	Tank sites on impermeable surface and at least 10m from water courses
	Fully stocked Emergency Response Trailer/Spill Kits available on site, in vehicles and close to high risk activities
	Use of plant nappies for plant when not in use
	Plant and equipment kept in a good state of repair
	Mobile fuel storage/refuelling areas 10m from water courses or surface water drainage
Ecological Management	Evidence of appropriate ecology briefings carried out when relevant
	Works undertaken in accordance with the ecological mitigation plan
	Works undertaken in accordance with the marine biosecurity plan
	Otter checks carried out in advance of works
	Marine mammal observation checks carried out just prior works
	Environmentally sensitive areas clearly demarcated
Noise Management	Evidence of working hours undertaken in accordance with the noise management plan
	Evidence of regular communication with local residents
	Plant and machinery in good state of repair
	Contractor's compound area noise, fumes and dust controlled
	Noisy operations timed to avoid impact on sensitive receptors and appropriately controlled
	Plant and machinery switched off when not in use
Environmental Emergency Response	Incident response plan briefed and available to all relevant personnel
	Spill kits available at all areas of the site
	Environmental incidents reported to the employer within the required time period
	SEPA notified of any emergency incidents
	Incidents appropriately recorded, including lessons learned
	Emergency response drill held with appropriate frequency
Management of Communication and Training	Environmental training records stored appropriately, including record of CEMP briefings
	Any changes to working hours which have been agreed with Argyll and Bute Council will be communicated to local residents in advance of the works taking place

6 Environmental Reporting

6.1 Key Performance Indicators and Objectives

The Principal Contractor will set Environmental Performance Indicators in order to continuously improve environmental performance on site. They will be based on each environmental topic considered within the CEMP and will be reviewed, and revised, if necessary, on a monthly basis. Procedures, monitoring requirements and key performance indicators will be measured against achievable targets and will include objectives to:

- Ensure construction activities are carried out in accordance with any Mitigation Measures, any Licences/Consents and the additional measures detailed within the CEMP;
- Provision of mandatory environmental inductions, toolbox talks and awareness to all project personnel ensuring that all staff involved in the Proposed Development are made aware of the potential impact to the environment;
- Reduce, re-use and recycle materials and reducing the amount of material sent to landfill in accordance with the Site Waste Management Plan; and
- Reduce energy consumption e.g. by switching off all unnecessary equipment and using energy efficient equipment where possible (lighting).

6.2 Reporting

The Principal Contractor will prepare environmental reports summarising progress made during construction and the findings of inspections, audits and other regular monitoring as set out in Table 6-1 below.

Table 6-1 Environmental Reporting

Activity	Frequency	Responsibility
Key Environmental Issues	Monthly	Principal Contractor's Environmental Manager
Summary of progress made during construction		
Findings of inspections		
Findings of audit		
Findings of regular monitoring		
Review of CEMP	Monthly	Principal Contractor's Environmental Manager / Project Manager
Results of the internal monitoring environmental audit		
Non-conformance audits		
Achievements of environmental audits		
Records of complaints and concerns of relevant external agencies and parties		
Means for improving performance		

6.3 CEMP Review

The Principal Contractor's Project Manager and Principal Contractor's Environmental Manager will review the CEMP every month following commencement of the construction activities, and should the need arise, regarding:

- Results of the internal monitoring/environmental audits;
- Non-conformance audits;
- Achievements of environmental audits;
- Records of complaints and concerns of relevant external agencies and parties; and
- Means for improving performance.

Any changes/revisions to the CEMP shall be communicated to relevant members of the site team to ensure agreed changes are implemented on site.

7 Consultation and Communication

7.1 Internal Communication

Internal communications on environmental matters will be undertaken through briefings to site personnel, use of notice boards on site, tool box talks, inductions etc. Information will include but not limited to information provided in Table 7-1.

Table 7-1 Internal Communications

Briefing	Detail	To be carried out by	Frequency
Site Inductions	For all personnel attending site, which must be carried out on the first attendance to the site prior to any work commencing. Any further inductions will be carried out at the discretion of the Contractor.	Principal Contract's Project Manager / Site Agent	As required
Team briefs	For all personnel undertaking works at the site	Principal Contract's Project Manager / Site Agent	Daily
Risk Assessment / Method Statement briefings	Undertaken for each job task for all personnel undertaking works at the site.	Principal Contract's Project Manager / Site Agent	As required
Environmental Toolbox Talks	Environmental practices for all site personnel on a weekly basis or more frequently as required.	Principal Contractor's Environmental Manager	Weekly/As required
Periodic stand down events	Site briefing	Principal Contract's Project Manager / Site Agent	As required

7.2 Meetings and Records

Environmental issues relevant to the Proposed Development will be discussed during weekly Site Progress Meetings attended by the Principal Contractor's Site Agent and Principal Contractor's Environmental Manager. Environmental performance will also be discussed at regular meetings. This will include dissemination of the findings of audits, reports and other inspections.

7.3 Public Communication

The Client shall ensure that the public is kept informed of operations that may have an effect upon them. This may involve letter drops and meetings to keep local residents up to date with progress with the Proposed Development and any new operations that are to be carried out. The Principal Contractor's Site Agent will provide details of contacts within the project team for the public to contact, should any issues arise.

7.4 Consultation Feedback

Feedback from consultation with Statutory Stakeholders received to date have been considered within the proposed mitigation and control measures in this CEMP.

8 Pollution Prevention Control

8.1 Water Management Plan

The following sections describe environmental control measures that will be put in place to prevent pollution of the water environment during construction. Good practice guidance ¹ (e.g. CIRIA guidance C584 - Coastal and Marine Environmental Site Guide) will be followed to ensure controls are in place to avoid adverse effects.

8.1.1 Potential Pollution Sources, Release Scenarios and Preventative Measures

Based on a review of the construction activities an assessment of potential pollutant sources, release scenarios and prevention measures have been developed. These are set out in Table 8-1.

Table 8-1 Potential Pollution Sources, Release Scenarios and Preventative measures

Potential Pollutant Source	Pollution Release Scenario	Prevention Measure
Concrete	<ul style="list-style-type: none"> Release of contaminated concrete to the environment 	<p>The following measures will be required to prevent discharges of cementitious materials and alkaline wastewaters to the surface water drainage system, subsoil and groundwater or directly to local watercourses and the marine environment:</p> <ul style="list-style-type: none"> Marine grade, non-toxic compounds and materials will be utilised for construction and any materials utilised will be fully cured before exposure to the marine environment. Risk assessments for wet concreting will be completed by the Principal Contractor prior to works being carried out; Concrete washout will not drain to any waterbody, drainage channel or marine environment. Impermeable areas will be designated for concrete handling/mixing and for washing and cleaning, at least 10m from surface drainage systems, local waterbodies and marine environment; There will be a designated area for the washout of concrete wagons, shoots and mortar bins at the site. This will be either a lined skip or a pit lined with an impervious membrane to prevent the escape of the alkaline and silty waters entering the groundwater, surface water or marine environment; and Excess concrete remaining in the delivery wagon at the end of a pour will be returned to a designated collection area. Once work sites are completed any solid concrete in the washout area will be broken out and used either as suitable fill or disposed of to a licensed waste facility.
Welfare facilities	<ul style="list-style-type: none"> Release of untreated waste to the environment 	<p>Effluent from the site compound will be collected in an effluent holding tank and removed from site as controlled waste. The foul effluent can only be removed from site by licensed waste disposal companies and the effluent must be taken to a fully recognised and licensed sewerage treatment works.</p>
Fuel, Oil and Chemicals	<ul style="list-style-type: none"> Failure of fuel, oil and chemical storage facilities; Theft and vandalism; and 	<p>The following pollution prevention measures will be required:</p> <ul style="list-style-type: none"> Adherence to all Pollution Prevention Guidelines (PPGs) and Guidance for Pollution Prevention (GPPs); Good housekeeping during construction including the use of drip trays underneath plant and pumps, and the

¹ Engineering in the Water Environment, Good Practice Guide – Temporary Construction Methods” by SEPA

Potential Pollutant Source	Pollution Release Scenario	Prevention Measure
	<ul style="list-style-type: none"> Leaks and spills from construction vehicles 	<p>inspection of all plant for fuel and oil leaks before being accepted for delivery into the construction site;</p> <ul style="list-style-type: none"> Re-fuelling points will be located away from water bodies (>10m), in line with SEPA guidelines; All fuel tanks and oil drums will be bunded with impervious material. Where more than one container is stored, the bund will be capable of storing 110% of the largest tank or 25% of the total storage capacity, whichever is the greater. Bunds will be constructed in accordance with PPG 2. Any valve, filter, sight gauge, vent pipe or other ancillary equipment must be kept within the bund when not in use. No drainage valve may be fitted to the bund for the purpose of draining out rainwater; All tanks and containers will be kept in a secure compound and be protected from vandalism and will be clearly marked with their contents. Stores shall be located at least 10m from any waterbody; All mobile plant will be refuelled in a designated area on a temporary bunded impermeable surface and away from drains. In case of any spillages there will be a spill response kit available at each refuelling point and within each machine working within the site. Where it is impractical to refuel within a bunded area, a drip tray will be available to catch any spills caused by over fuelling; Oil absorbers and grab packs will be available on all vehicles and further materials, including booms; Spill kits will be available on all plant / machinery and centrally in each area. Drip trays will be placed at the point where oils/fuels are transferred from one container to another. An Environmental Emergency Response Plan will be prepared by the Principal Contractor prior to construction. This will be issued as a tool box talk and kept in site offices for consultation. The storage of materials in the construction compound and work sites will be controlled in a such a manner to ensure that materials are not damaged prior to use either through vehicle or people movements or through exposure to the elements. The storage and activities involving the use of materials, chemicals and oils shall also be inspected daily to ensure all relevant controls are in place and effective in preventing pollution of the water environment. All fuel, oil and chemical deliveries will be supervised by a refuelling marshal who will be trained to deal with any spillage to prevent a pollution problem occurring.
	<ul style="list-style-type: none"> Materials stored on site being blown/washes away 	<p>All building, and construction materials will be stored at designated locations within the site compound, this will be marked up on a site environmental plan that will be posted on the site office wall. All storage will be established, implemented and maintained according to best practice as set out in current GPPs/PPGs with regard to containment at source. Spill kits will be located within the site compound and be clearly signed.</p> <p>Stockpiles of materials will be positioned at least 10m away from sensitive receptors where possible and suitable measures implemented to prevent runoff and dispersion if left for any length of time. Any powders will be stored in sealed bags or silos prior to use. Dust suppression measures to be used where required.</p>

Potential Pollutant Source	Pollution Release Scenario	Prevention Measure
		Good housekeeping practices will be implemented on site at all times, any areas where hazardous substances have been used e.g., concrete will be sufficiently covered at the end of each day.

8.1.2 General Pollution Prevention Measures

General pollution prevention measures which will be implemented include:

- Pollution prevention measures will be adhered to during works to avoid pollution/run-off of any material into the harbour. These will include current Scottish Environment Protection Agency (SEPA) and Construction Industry Research and Information Association (CIRIA) guidance.
- All staff will undergo toolbox talks regarding pollution prevention.
- The Principal Contractor will set-up a monitoring and response programme to determine the effectiveness of measures applied to control water movement in and around the site. This shall include undertaking and recording visual inspections of waterbodies, any steps taken to control surface water, any scientific analysis of water samples and any communications with regulatory authorities.
- The Principal Contractor's Site Agent shall undertake a site walkover on a daily basis and make notes on anything affecting the water environment. These inspections will be recorded in the site-specific environmental diary.
- Daily and weekly operators check/inspections will be undertaken by the Principal Contractor's Environmental Manager.
- All site personnel shall be encouraged to identify potential pollution or hydrological problems or concerns and report them to the Principal Contractor's Environmental Manager. The cause of any pollution incident will be investigated, and measures or corrective actions put in place in order to prevent its reoccurrence.
- The Principal Contractor will monitor licence/consent requirements for compliance, i.e. implement regular inspections of controls to monitor for colour changes, oil, and suspended solid load. This will be recorded at least twice daily on either a site-specific inspection sheet or the site diary. If a breach of consent is identified, work will be stopped immediately.
- All applicable vessels that travel to the site from outside of UK waters will comply with the IMO Ballast Water Management (BWM) Convention 2004 which establishes standards and procedures for the management and control of ships' ballast water and sediments. Under the Convention, all ships of 400 gross tonnes (gt) and above in international traffic are required to manage their ballast water and sediments to a certain standard, according to a ship-specific ballast water management plan. All ships will also have to carry a ballast water record book and an international ballast water management certificate.
- All vessels will also comply with the Merchant Shipping (Anti-fouling Systems) Regulations 2009, which prohibit the use of harmful organotin compounds in anti-fouling paints used on ships and establish a mechanism to prevent the potential future use of other harmful substances in anti-fouling systems and places into UK law Regulation (EC) 782/2003 on the prohibition of organotin compounds on ships.
- All vessels will ensure compliance with standard marine vessel policies, such as the Convention for the Prevention of Collisions at Sea (COLREGs) (International Maritime Organisation (IMO), 1972), International Convention for the Prevention of Pollution from Ships (MARPOL)(IMO, 1997), and the Convention of the Prevention of Marine Pollution by Dumping of Wastes and other matter (IMO, 1996).

8.1.3 Water Supply

During construction, temporary water supply for Principal Contractor's welfare facilities will be provided within the CDM compound e from a nearby water supply. The Principal Contractor will apply to Scottish Water for a temporary water supply and any temporary water supply pipeline will be contained on-site and removed by the Principal Contractor when completed.

8.2 Site Waste Management Plan

The purpose of a Site Waste Management Plan (SWMP) is to ensure that waste is managed in a structured and auditable manner to minimise the generation of waste and maximise the reuse of materials. In addition, it ensures that the waste produced during the construction phase is dealt with in accordance with the relevant requirements of Scottish legislation, as well as any other requirements specified by the relevant regulatory authorities.

8.2.1 Types and Predicted Volume of Waste

The main activities that will lead to waste being generated are:

- Wastes arising from construction and replacement of assets; and
- Wastes arising from plant maintenance

8.2.2 Waste Storage

All waste materials will be handled and disposed of in compliance with waste management legislation. All storage of waste will be established, implemented, and maintained according to best practice as set out in current GPPs/PPGs² with regard to containment at source.

A waste management storage area will be designated by the Principal Contractor to facilitate the segregation of waste prior to removal from the site for final disposal at appropriately licenced facilities and this will be shown on the site environmental plan. This area will be delineated and separate from where new material is stored with recycling and waste bins kept clean and clearly marked in order to avoid cross-contamination of materials.

Any special (hazardous) wastes requiring remediation or removal will be kept separate from other construction waste materials in order to avoid further contamination and will be classified in accordance with the Waste (Scotland) Regulations 2012. They will be stored in separate containers that are appropriately labelled. In accordance with the Landfill (Scotland) Regulations (as amended) mixing inert, non-hazardous and special wastes will not be permitted.

Site offices and canteens will also generate waste, much of which are recyclable. Separate waste bins will be available in the site offices to facilitate collection of recyclables such as paper, cardboard, aluminium cans and plastic bottles. Site Operatives will be regularly reminded of the office/ canteen waste recycling procedures and bins will be labelled to assist in their correct usage.

Any other waste storage requirements will be agreed with the Principal Contractor's Environmental Manager.

8.2.3 Waste Controls and Handling

Transfers of non-hazardous waste will be accompanied by a waste transfer note (WTN). The Principal Contractor's Environmental Manager will ensure these are checked and include the

² Including GPP1, GPP2, PPG3, GPP5, PPG6, GPP8, GPP13, GPP21, GPP22 and GPP26

necessary information e.g. a written description of the waste and appropriate EWC code(s), in line with Duty of Care responsibility as correct coding on its own is not sufficient to adequately describe the waste. A clear written description is also necessary to ensure safe onward management of the waste. The Principal Contractor's Environmental Manager will ensure the WTN includes:

- A description of the waste;
- Any processes the waste has been through;
- How the waste is contained or packaged;
- The quantity of the waste;
- The place, date and time of transfer;
- The name and address of both parties;
- Details of the permit, license or exemption of the person receiving the waste;
- The appropriate European Waste Catalogue (EWC) code for waste; and
- The Standard Industry Code of the business.

Only registered carriers of waste will be employed for transport purposes and copies of all waste management permits, licences, and exemptions will be obtained and held on site prior to any movement of waste taking place. For all waste transfers, the Principal Contractor will obtain a copy of the receipt, or a copy of the invoice, from the authorised disposal site as proof that the waste reached the proposed destination.

All controlled waste transfer notes will be filed on site for a minimum of two years and hazardous waste transfer notes for a minimum of three years. Each consignment of waste taken from the site will be subject to documentation to ensure full traceability of the material to its final destination.

8.2.4 Waste Exemptions and Licensing

The Principal Contractor will ensure that a register of waste management licence (WML) and waste management exemptions (WME) is created and maintained in line with SEPA regulatory and duty of care requirements. This information will be sought from all waste carriers and if relevant any subcontractors.

8.2.5 Waste Monitoring and Reporting

The Principal Contractor's Environmental Manager will record all waste removed from the site using an appropriate management tool and the following information will be provided:

- The identity of the person removing the waste;
- The waste carrier registration number of the waste carrier;
- A copy of, or reference to, the written description of the waste;
- The site that the waste is being taken to; and
- Whether it is a permitted or exempt site must also be recorded.

9 Environmental Mitigation

9.1 Environmental Setting and Key Constraints

The following environmental appraisals and assessments were undertaken prior to the production of this outline CEMP.

- Colonsay Enabling Works Otter Survey Report (Mott MacDonald, 2022).
- Colonsay Otter European Protected Species Licence Application: Licence Application and Otter Species Protection Plan (Mott MacDonald, 2022)
- EIA Screening Report (note this screened out a statutory EIA).
- Habitats Regulations Appraisal (HRA).
- Enabling Works Colonsay Underwater noise modelling report (105612-MMD-00-ZZ-RP-O-0006-S2-P01-NIV Enabling Works Colonsay Underwater Noise Assessment)
- New Islay Vessel Enabling Works Colonsay Dredge Dispersion Modelling Report (105612-MMD-CO-ZZ-RP-O-0007-S2-P01-New Islay Vessel Enabling Works Colonsay Dredge Dispersion Modelling Report)

The following sections summarise the key environmental constraints which must be considered within this CEMP.

9.1.1 Ecology

9.1.1.1 Designated Sites

The Proposed Development boundary is directly within the footprint of Inner Hebrides and the Minches Special Area of Conservation (SAC). This SAC been designated to protect harbour porpoise on the west coast of Scotland (Map 1, Appendix B).

9.1.1.2 Species and Habitats

The primary habitats within the footprint of the Proposed Development boundary is littoral rock and other hard substrata, infralittoral coarse sediments, coastal waters and constructed hard surfaces around the port.

A data search and literature review identified a number of species records within the Proposed Development boundary. Protected species recorded include:

- Harbour Porpoise; and
- Bottle-nosed Dolphin.

In addition, a review of Hague et al (2020)³ and recent sightings reported by the Hebridean Whale and Dolphin Trust indicate the following protected species also use the waters around the Proposed Development boundary:

- Short-Beaked Dolphin;
- Minke Whale;
- Grey Seal;
- Harbour Seal; and

³ Hague, E.L., Sinclair, R.R. and Sparling, C.E., 2020. Regional baselines for marine mammal knowledge across the North Sea and Atlantic areas of Scottish waters Scottish Marine and Freshwater Science Vol 11 No 12. [online] Scottish Marine and Freshwater Science, <https://doi.org/10.7489/12330-1>

- Basking Sharks.

Further species are known to transit through the wider area around that may be affected by the works

9.1.1.3 Otter

Otters have been reported to be historically present near to Colonsay Ferry Terminal. An otter survey was undertaken by Mott Macdonald Ltd in March 2022 within the surrounding 250m of the Proposed Development. [Redacted]

Figure 9-1

[Redacted]

[Redacted]



Source: Extract from Otter Survey Results Map, Drawing: 105612-MMD-CO-GIS-001-CMML (2022)

9.1.1.4 Priority Marine Features

A desktop review was conducted for Priority Marine Feature (PMF) habitats and species within 10km of the Proposed Development. PMFs that have the potential to be at risk from the types of proposed construction activities for Proposed Development have been detailed in Table 9-1 below. The PMFs are sequenced with the most vulnerable features⁴ first, then according to distance from their closest recordings to the works as well as their sensitivities to impacts.

⁴ Scottish Government. Priority Marine Features. The 11 most vulnerable PMFs are: blue mussel beds, cold water coral reefs, fan mussel aggregations, flame shell beds, horse mussel beds, maerl beds, maerl or coarse shell gravel with burrowing sea cucumbers, native oysters, northern sea fan and sponge communities, seagrass beds, serpulid aggregations. Accessed on 16 March 2023. <https://www.gov.scot/policies/marine-environment/priority-marine-features/>

Table 9-1 Summary of PMF Habitats around Colonsay Ferry Terminal

Priority Marine Feature	Number of recordings	Distance from the closest recording to the works	Mobility ⁽¹⁾	Sensitivity to Work-related Impact
Seagrass bed	1	7km southwest	Sedentary	High Sensitivity: <ul style="list-style-type: none"> ● Siltation changes (high & low) ● Water clarity changes Medium Sensitivity: <ul style="list-style-type: none"> ● Water flow (tidal current) changes ● Wave exposure changes ● Introduction or spread of non-indigenous species & translocations (competition) Sensitive: <ul style="list-style-type: none"> ● Synthetic compound contamination ● Non-synthetic compound contamination
Burrowed mud	3	3.2km southwest	Sedentary	Sensitive: <ul style="list-style-type: none"> ● Synthetic compound contamination ● Non-synthetic compound contamination

Note: (1) Reference: Tyler-Walters, H., James, B., Carruthers, M. (eds.), Wilding, C., Durkin, O., Lacey, C., Philpott, E., Adams, L., Chaniotis, P.D., Wilkes, P.T.V., Seeley, R., Neilly, M., Dargie, J. & Crawford-Avis, O.T. 2016. Descriptions of Scottish Priority Marine Features (PMFs). Scottish Natural Heritage Commissioned Report No. 406.

9.1.2 Air Quality, Noise and Vibration and People

There are no declared AQMAs within the Argyll and Bute Council area. The Proposed Development is not within a noise management area.

The nearest receptors to the Proposed Development boundary are located approximately 200-300m north and west. This includes the art gallery, the Pantry Store to the west, Colonsay General Store and residential properties to the north just off the B8087, and users of the ferry terminal and sea.

9.1.3 Water Environment

The Proposed Development is located within an area where each year there is a 10% chance of flooding from coastal sources. There is no specific likelihood of river flooding identified for this area but as the SEPA maps do not include estimates of flooding from watercourses with catchments under 3 km² in area, there could still be localised effects from flooding in some places. There is no specific likelihood of surface water flooding identified for this area but there could still be localised effects from flooding in some places. The Proposed Development is partially within the footprint of Colonsay groundwater (ID: 150496) which is monitored and classified by SEPA as good overall. The Proposed Development is located within the footprint of Colonsay coastal water body (ID: 200053) which is 308.6 km² in area and monitored and classified by SEPA as good overall.

9.1.4 Cultural Heritage

There are six Listed Buildings and one Scheduled Monument within 1km of the Proposed Development boundary. Additionally, there are twelve terrestrial non-designated heritage assets and one maritime non-designated asset within 500m of the Proposed Development boundary (see Map 1, Appendix B).

The closest assets include:

- Scalasaig Harbour, Port Na Feamainn (Listed Building - Category C, approximately 100m west of the Proposed Development boundary);
- Colonsay, Scalasaig, Scalasaig Harbour (ID: 161285) (terrestrial non-designated asset, within the footprint of the Proposed Development boundary); and
- Unknown, Port an Obain, Shipwreck (ID: 119193) (maritime non-designated asset, approximately 170m east of the Proposed Development boundary).

9.1.5 Landscape

The Proposed Development and onshore areas are within Landscape Character Type 49: Island Mixed Farmland. The nearest visual receptors to the Proposed Development boundary are located approximately 200-300m north and west. This includes the art gallery, the Pantry Store to the west, Colonsay General Store and residential properties to the north just off the B8087 and users of the ferry terminal and sea.

9.2 Relevant Legislative Requirements

All construction work will be carried out in compliance with the relevant requirements of UK environmental law, which includes but is not limited to the following:

- Marine (Scotland) Act 2010;
- Marine and Coastal Access Act 2009;
- Environmental Protection Act 1990;
- The Water Environment and Water Services (Scotland) Act 2003;
- The Water Environment (Controlled Activities) (Scotland) Regulations (2011) and amendment regulations (2013), more commonly known as the Controlled Activity Regulations (CAR);
- The Water Environment (Shellfish Water Protected Areas: Designation) (Scotland) Order 2013;
- Groundwater Regulations 1998;
- The Flood Risk Management (Scotland) Act 2009;
- Nature Conservation (Scotland) Act 2004;
- Nature Conservation (Scotland) Act 2004 (as amended);
- The Conservation (Natural Habitats, &c.) Regulations 1994 (as amended In Scotland);
- Wildlife and Countryside Act 1981 (as amended);
- Land Reform (Scotland) Act 2003;
- Ancient Monuments and Archaeological Areas Act (AMAAA) 1979;
- The Environmental Protection (Duty of Care) (Scotland) Regulations 2014;
- The Waste (Scotland) Regulations 2012;
- The Waste Management Licensing Amendment (Scotland) Regulations 2011;
- Air Quality Standards (Scotland) Regulations 2010 as amended;
- The Water Environment (Oil Storage) (Scotland) Regulations 2006; and
- Environmental Noise (Scotland) Regulations 2006.

The Principal Contractor will be responsible for complying with all legislative requirements as well as any other requirements specified by the relevant regulatory authorities including Marine Scotland, NatureScot, SEPA and Argyll and Bute Council.

9.3 Consents and Permissions Required

The Proposed Development will require consents/licences from various regulatory bodies in advance of construction activities including:

- Marine Licence for Construction Projects
- Marine Licence for Dredging and Sea Disposal;
- European Protected Species (EPS) Licence for Otter (note this licence was granted (Licence Number 218152);
- EPS Licence for Marine Mammals
- Basking Shark Licence; and
- Marine noise registry application draft (see application number 3379 and 3380).

Copies of legal consents, permits assents and licenses of exemptions obtained will be held in the site environmental file by the Principal Contractor's Environmental Manager.

9.4 Environmental Management

The Principal Contractor's Environmental Manager will prepare and maintain an Environmental Risk Register (ERR) which will cover the Principal Contractor's compliance with legal requirements, project environmental commitments and potential aspects of works to cause significant environmental impact. The risk register will be reviewed and updated both prior to and during construction.

At this stage, environmental management plans and mitigation measures have been provided for the following environmental topics given the environmental constraints on site, shown in Section 9.1. These plans will be further expanded upon and developed in more once the Principal Contractor has been appointed, and developed to ensure the methodology statements are in line with these plans.

9.5 Ecology Mitigation Plan

9.5.1 Otter

A European Protected Species mitigation licence from NatureScot with regard to disturbance of otters in a place of shelter is in place for the Enabling works (Licence Number 218152). The licence permits the legal disturbance of otters within the confirmed rest site, during the Enabling Work programme, with a duration from 19 September 2022 to 31 December 2024.

The licence is accompanied by a project specific Otter Species Protection Plan (Appendix C.1.1.1) which details the measures which must be implemented by the Principal Contractor. A summary of the measures which must be implemented are set out in Section 9.5.1 to 9.5.3 below. Further details are shown in Appendix C.1.1.1.

9.5.1.1 Requirements for EPS Licence for Works Affecting Otter

- Prior to the commencement of the vessel enabling works, a review of the EPS mitigation licence (Otter) (Appendix C.1.1.3), including Species Protection Plan (Appendix C.1.1.1) will be undertaken. Where appropriate, this will be informed both by the final design (e.g. capturing any minor amendments) and an updated Pre-Works Otter Checking Survey, as outlined in Section 9.5.2.
- Upon completion of the licensable works, a licence return form will be completed and submitted to NatureScot within four weeks. This is a statutory requirement and a licence condition of the EPS licence.

9.5.1.2 Pre-Works Otter Checking Survey

- To update the baseline in relation to otter, a pre-works otter checking survey will be undertaken by an appropriately qualified ecologist(s) no later than 2 months prior to the commencement of the works programme.
 - The aim of the pre-works survey will be to confirm presence/absence of any additional otter shelters within the zone of influence of the vessel enabling works, as well as confirm the status of known otter shelters.
 - Upon completion of the checking survey, an appropriate qualified ecologist will review the existing EPS Licence, including Species Protection Plan (Appendix C.1.1.1), to identify any requirements to amend the EPS Licence.
 - Otter surveys must be conducted every 12 months throughout the licence period by a suitably qualified and experienced ecologist to identify any new holts or resting places and any change in use of existing active holts or resting places. Surveys must extend for a minimum of 200m beyond the working areas, including access tracks. If new holts or resting places are found, no further works are permitted until NatureScot has been consulted and agreed an appropriate course of action. Results of the otter survey must be submitted as part of the annual licence return to NatureScot.
 - If evidence of breeding or young is found within 200m of the development site at any time, no further works must be carried out until all cubs can be shown to be sufficiently mobile to make use of alternative holts, unless agreed by an NatureScot licensing officer.

9.5.1.3 Mitigation Measures and Appropriate Working Methods

- Prior to the commencement of the vessel enabling works programme, a site-specific Toolbox Talk will be briefed to all Contractors as part of their overall Site Induction Package.
 - The aim of the Toolbox Talk will be to inform all site personnel of the presence of otters at the site, the legal status of otters, mitigation measures to be employed on site to minimise the risk and disturbance/obstruction to otters (including the planned use of protection zones) and what to do if an otter is observed within working areas. This will be extended to all boat/water-based operations, to ensure all boat operatives are made aware of the otter rest sites and the potential for otter within the water.
 - A plan of the site showing the locations of all confirmed otter shelters will be maintained throughout the duration of the investigation works programme at an appropriate location at the site compound, to promote awareness of the locations of legally protected otter shelters.
- A 30m protection (exclusion) zone around the otter shelters will be implemented for the duration of the vessel enabling works programme. Only elements of works (e.g. terrestrial access to working zones) that cannot be avoided shall be permitted within protection zones.
 - Contractors will avoid storage of equipment/ materials etc. where feasibly possible within 30m protection zones for the duration of the vessel enabling programme.
- All works within 30m of an otter couch or holt must be carried out during daylight hours, restricted to between two hours after sunrise and two hours before sunset from 1st March to 31st October, and restricted to between one hour after sunrise and one hour before sunset from 1st November to 28th February
- All works carried out within restricted works zones must be under the direct supervision of a suitably experienced ecologist
- To prevent entrapment or harm to otters, any excavated/exposed working locations will be covered using protection boards outside of working hours.
 - Where this is not possible a mammal ladder will be installed within the excavated area to allow for a means of escape or fencing shall be placed around the excavation to prevent access.

- Excavations will be checked by the contractor each morning.
- Any site lighting used on site will be directed away from the identified shelters and where possible from the south of the pier onto adjacent shoreline. Where appropriate, lights will have lighting hoods and cowls to avoid any light spillage into surrounding habitats.
- Pollution prevent measures will be implemented on site to negate adverse impacts to the aquatic habitats. Measures will include current Scottish Environment Protection Agency (SEPA) and Construction Industry Research and Information Association (CIRIA) guidance.
- Good housekeeping practices will be implemented on site at all times, any areas where hazardous substances have been used e.g., concrete will be sufficiently covered at the end of each day.
- All vehicles will be maintained to a high standard to minimise noise and vibration generated during the works. They will also be switched off when not in use to minimise noise and reduce air pollution.
- All terrestrial vehicles will be limited to a maximum speed of 20mph when using the access road. Boats will be subject to a minimum speed requirement when operating within surrounding water to the Port.
- Prior to the use / removal of any equipment on site, Contractors will undertake a thorough check to ensure no otters are present within working areas.
- If at any stage an otter is encountered within the working area, all works will be temporarily halted until the otter has naturally dispersed. In particular, this includes temporary suspension of vehicle movements (including boat), particularly within the vicinity of where the otter has been encountered.

9.5.2 Birds

9.5.2.1 Visual Disturbance

To minimise any visual disturbance to designated species that may be present in the area during works the following will be undertaken:

- Where deemed appropriate (through risk assessment), physical barriers will be erected around terrestrial activities that are expected to generate particularly high noise levels (which lowers receptor threshold to visual disturbance) or large amount of movement to provide screening. Care will be taken to optimise the position of any barriers proposed where practicable and may be considered in conjunction with noise barriers that also provide visual screening;
- The use of sensitive lighting when working during hours of darkness will be implemented to reduce light spill onto marine habitats (such as directional lighting, hoods and cowls); and
- Toolbox talks given to all workers to advise on how best to minimise disturbance.

9.5.2.2 Vessel Strike

To minimise risk of vessel strike and airborne noise impacts on birds the following mitigation measures will be implemented:

- Where birds are observed to be rafting⁵ the vessel shall avoid driving through the aggregated birds and maintain a 50m separation where practicable and safe to do so.
- Where there are birds situated on the water, the vessel shall maintain a speed below 6 knots where safe to do so.

⁵ Rafting is a behaviour where birds sit, often in groups, on the water close to their colony or nests.

- See measures under Section 9.8 construction noise management plan to minimise airborne noise.

9.5.3 Marine Mammals and Basking Sharks

9.5.3.1 Underwater Noise and Vibration

To minimise underwater noise and vibration the following mitigation will be implemented:

- All equipment will be maintained to a high standard to minimise noise and vibration generated during the works. They will also be switched off when not in use to minimise noise and reduce air pollution.
- Prior to starting any noise-generating activities a 500m zone around non-impulsive sources and 1km zone around impulsive sources shall be monitored for marine mammal for 30 minutes in good daylight conditions (Beaufort Sea state 3 or less) by suitably trained (JNCC methods) and dedicated observers.
- Passive acoustic monitoring shall also be used to aid monitoring of the mitigation zones for vocalising species.
- Should marine mammals be observed, the start of operations will should be delayed until 20 minutes after the last sighting of a marine mammal within the buffer zone.
- Where possible equipment shall be soft started with either a ramp up in energy or gradual decreasing intervals between strikes over a period of 20-40 minutes duration. In the case of Cardox, detonations will be conducted with sequential delays between detonations to minimise shockwaves.
- The Scottish Marine Wildlife Watching Code (SMWWC)⁶ will also be adhered to during any vessel-based operations and activities which generate less noise will precede the noisier activities.
- No rock breaking works shall take place from dusk to dawn nor in poor weather conditions (i.e. greater Beaufort sea state 3 and less than 500m visibility)..

9.5.3.2 Vessel Strike

To reduce incidental collisions occurring between marine mammals and reduce effects of propeller cavitation, the following mitigation is proposed:

- Vessels in transit and manoeuvring in coastal waters during construction will be within speeds outlined by Maritime and Coastguard Agency's (MCAs) legislation and guidance⁷.
- The SMWWC⁶ will be adhered to, measures include:
 - All vessels and equipment will be well maintained and be inspected prior to use to minimise unnecessary noise.
 - Should a marine mammal be encountered whilst underway outside of noise emitting operations, the vessel shall avoid sudden unpredictable changes in speed, direction and engine noise.
 - The vessel shall seek to maintain a minimum of 100m separation unless directly approached whereupon the vessel shall maintain a steady speed and course whilst not presenting propellers to the approaching animal.

⁶ NatureScot, 2016 [Online] Available at: [The Scottish Marine Wildlife Watching Code SMWWC | NatureScot](#)

⁷ Maritime and Coastguard Agency, May 2014. Active marine guidance notes (MGNs) [Online] Available at: [Active marine guidance notes \(MGNs\) - GOV.UK \(www.gov.uk\)](#)

- The use of a suitable Code of Conduct, such as the WiSe Scheme⁸; primarily for wildlife watching however, outlines measures for vessel operation around marine wildlife and will be considered for use as mitigation for any collision risk posed to marine mammals during construction works and transit.

9.5.3.3 Pollution Event

To avoid potential pollution events the mitigation measures outlined in Section 8.

9.5.3.4 Introduction/spread of INNS

The works have the potential to introduce and/or spread INNS to the site. In order to mitigate for the introduction and/or spread of INNS during the construction of the Proposed Development, certain biosecurity protocols need to be adhered to. These include the following:

- Pre-construction walkover surveys to look for presence of existing INNS across the accessible areas of the Proposed Development will be undertaken. If identified, these areas will be made aware to site workers and suitable buffers set up around them to avoid potential spread through the site.
- Toolbox talks will be held with site workers to raise the awareness of how to avoid, deal with and identify INNS (if present).
- Production of a marine biosecurity plan (Section 9.6) which would include measures to reduce/eliminate the risk of introducing or spreading INNS on site. The Principal Contractor's Biosecurity Manager or Environmental Clerk of Works (ECoW) will update and maintain a site-specific Marine Biosecurity Plan. Measures include the following:
 - Sections of the plant that would come into direct contact with the intertidal area (track/wheels) will be thoroughly cleaned before and after use to avoid the spread of any INNS (e.g. wheel washing facilities will be provided).
 - Where possible, existing material will be reclaimed, therefore lowering the risk of the introduction of invasive species. Any brought in material will be bespoke. If this is not possible, it will be ensured that brought in material hasn't been utilised in the marine environment previously. Again, if this is not possible, material brought in will be screened for INNS ahead of its use on site.

9.6 Marine Biosecurity Plan

9.6.1 Overview

This outline of the Marine Biosecurity Plan is produced with biosecurity risks initially assessed and control measures suggested. The Principal Contractor's Biosecurity Manager or Environmental Clerk of Works (ECoW) will update and maintain a site-specific Marine Biosecurity Plan. The plan will be based on construction method statement for considering more specific details, such as all vessel types, on-site equipment, site activities and tasks. The plan will aim to manage marine biosecurity on site operations to reduce the likelihood of introducing non-native species (NNS), and to determine when the control measures will be applied.

According to guidance⁹, the Marine Biosecurity Plan will contain:

⁸ See [Home | The WiSe Scheme](#)

⁹ Payne, R.D., Cook, E.J. and Macleod, A. (2014). Marine Biosecurity Planning – Guidance for producing site and operation-based plans for preventing the introduction of non-native species. Report by SRSL Ltd. in conjunction with Robin Payne to the Firth of Clyde Forum and Scottish Natural Heritage 39 pp. https://www.webarchive.org.uk/wayback/archive/20210929132843mp_/https://www.nature.scot/sites/default/files/2019-02/Marine%20Biosecurity%20Planning.pdf

- Site Name or Description of Operation
- Site/Operation Location:
- Plan period
- Biosecurity Manager or ECoW (to be appointed by the Principal Contractor) who will be the main point of contact relating to NNS, undertake biosecurity inspection, surveillance, recording, and update this plan as required
- Site features affecting biosecurity (brief description of salinity, submerged structures and non-native species known to be present)
- Vessel types using the site/involved in the operation
- Site activities which have a significant risk of introducing or spreading NNS
- Biosecurity Control Measures – instructions for staff/contractors/site users (Who, What Where, When)
- Site surveillance and reporting procedure
- Action/Contingency Plan (Action, Responsibility, Location of Equipment)
- Location of biosecurity logbook
- Biosecurity Plan Review Date

9.6.2 Legislation

9.6.2.1 International Convention for the Control and Management of Ships' Ballast Water and Sediments

All applicable vessels that travel to the site from outwith UK waters will comply with the IMO Ballast Water Management (BWM) Convention 2004 which establishes standards and procedures for the management and control of ships' ballast water and sediments.

Under the Convention, all ships of 400 gross tonnes (gt) and above in international traffic are required to manage their ballast water and sediments to a certain standard, according to a ship-specific ballast water management plan.

All ships will also have to carry a ballast water record book and an international ballast water management certificate.

9.6.2.2 Wildlife and Countryside Act 1981 & The Wildlife and Natural Environment (Scotland) Act 2011

Section 14 of the Wildlife and Countryside Act 1981 & The Wildlife and Natural Environment (Scotland) Act 2011 made significant amendments to the law in Scotland and strengthened the legal requirement for everyone to take all reasonable steps to ensure biosecurity. This legislation is about prevention rather than cure and contains the following relevant offences:

- Releasing an animal to a place outwith its native range
- Otherwise causing an animal outwith the control of any person to be at a place outwith its native range
- Otherwise causing a plant to grow in the wild at a place outwith its native range

9.6.2.3 The Merchant Shipping (Anti-fouling Systems) Regulations 2009

The Merchant Shipping (Anti-fouling Systems) Regulations 2009 prohibit the use of harmful organotin compounds in anti-fouling paints used on ships and establish a mechanism to prevent the potential future use of other harmful substances in anti-fouling systems and places into UK law Regulation (EC) 782/2003 on the prohibition of organotin compounds on ships.

The Regulations provide powers for the Maritime Coastguard Agency to issue an International Anti-fouling System Certificate to ships of 400gt or above and every ship which is certified to carry 15 or more persons.

9.6.3 Non-native Species Known to be Present

According to the marine NNS assessment data from 2018 by Marine Scotland¹⁰, there are three verified high-impact NNS records in the Argyll region, as listed below:

- Leathery sea squirt (*Styela clava*)
- Common cord-grass (*Spartina anglica*)
- Carpet sea squirt (*Didemnum vexillum*)

There are also two verified records of “medium, low and unknown impact NNS” in the Argyll marine region which are wireweed (*Sargassum muticum*) and Pacific oyster (*Magallana gigas*).

Other marine invasive NNS that are widespread and well established in Scotland¹¹ are listed below:

- Green sea-fingers (*Codium fragile subsp. fragile*)
- Red alga (*Heterosiphonia japonica*)
- Acorn barnacle (*Austrominius modestus*)
- Japanese skeleton shrimp (*Caprella mutica*)
- Orange tipped sea squirt (*Corella eumyota*)
- Orange ripple bryozoan (*Schizoporella japonica*)

9.6.4 Risk Factors for Vessel Types Involved in the Construction

The risk of introducing NNS by vessel is considered as high. Slow moving construction barges, equipment or stock arriving at a construction site from another water body could be covered in bio-fouling or containing additional algae/animals. Construction vessels/ barges are one of the vessel types with greater biosecurity risk as they are more likely to have fouling and NNS such as algae, barnacles and sea squirts settling on their hull and anchors.

9.6.5 Initial Identification of Biosecurity Risk

Site activities which may have a significant risk of introducing or spreading NNS are outlined below.

Overall construction

- Use of construction barges and slow moving vessels, and possibly vessels from locations outside local water body – bio-fouling and NNS settling on hull, tug and anchor

Toe protection

- Removal of seabed material potentially causing movement of materials containing NNS
- Upon completion of toe collar installation, the new steel surfaces in the water provide structures that favour NNS settlement, increasing risk of NNS introduction and establishment.

¹⁰ The Scottish Government (2023). Non-native species. https://marine.gov.scot/sma/sites/default/files/sma2020_-_non-native_species_-_healthy_and_biologically_diverse.pdf. Accessed 17th March 2023.

¹¹ NatureScot (2023). <https://www.nature.scot/professional-advice/land-and-sea-management/managing-coasts-and-seas/marine-non-native-species>. Accessed 17th March 2023.

The Biosecurity Manager or ECoW will consider splitting each of these activities into tasks for updating risk assessment and control measures when there are more details available from the construction method statement.

9.6.6 Biosecurity Risk Assessment

The risk assessment for the biosecurity risk initially identified in Section 9.6.4 is outlined in Table 9.1. This assessment is undertaken in a precautionary manner as it relies on the best available information on site operations for the Proposed Development which is provided in **Section 2** of this CEMP.

9.6.7 Development of Control Measures and Control Points

Typical control measures for the initially identified biosecurity risks are suggested and listed below. The critical control point, i.e., if control measures are most effectively applied at this stage, will be considered by the Biosecurity Manager or ECoW when the detailed construction method statements are available.

The suggested control measures are also incorporated into Table 9.1 for the relevant biosecurity risks.

Table 9.2: Critical Control Points and Control Measures

Task (site activity for this initial plan)	Initial Risk Assessment – Significant?	Justification	Critical Control Point	Control Measure	Who
Use of construction barges and slow moving vessels	Yes	Overall, it is likely that high impact NNS settled as bio-fouling will be introduced to the waters of the site area.	Yes	<ul style="list-style-type: none"> ● Removal of NNS at source: Inspection of vessels (external hull/ tug/ anchor), ballast water and sediment in the tanks immediately prior to entering the waterbody of site, and before leaving the site. ● All vessels used on site will ensure they have a copy of their Bio-fouling Management Plan on board with clear information outlining efforts to reduce bio-fouling of the vessel, e.g. through anti-fouling treatments or use of biocides. ● Routine inspections of vessels and equipment for NNS and biosecurity measures taken if NNS found. ● Checking logs of last inspection of hull and ensuring relatively recent records are kept. ● Anchors for vessels used on site will be cleaned when opportunity arises. 	Site Agent and site staff
Toe protection – installation of steel collars	Yes	Increasing risk of NNS introduction and establishment on the new steel surfaces in the water	Yes	<ul style="list-style-type: none"> ● Possible measures for preventing NNS and removing bio-fouling, for example, use of non-toxic anti-fouling paints to prevent NNS¹², and treatment of NNS present by wrapping around the toe pile collar to remove NNS¹³. 	Site staff
Toe protection – installation of concrete mattress	No	Disturbance to the seabed and possible spread of NNS are not anticipated to be significant as the removal of seabed material is localised around the pile.	No	None	None

¹² GB Non-native Species Secretariat (2023). https://www.nonnativespecies.org/assets/Document-repository/Marine_Engineering_Biosecurity_Solutions.pdf. Accessed 10th February 2023.

¹³ Cook, E.J., Payne, R.D. & Macleod, A. 2014. Marine biosecurity planning – Identification of best practice: A review. Scottish Natural Heritage Commissioned Report No. 748.

9.6.8 Development of Biosecurity Action Plan

An initial Biosecurity action plan is provided in Table 9.2 that sets out the person/party responsible for carrying out the control measure, the details of action including any materials needed, and when the control measure will be applied.

Table 9.3: Biosecurity Action Plan

When	How	Who
At entry of construction vessels and barges	<ul style="list-style-type: none"> ● Check the copy of Bio-fouling Management Plan on board of each vessel and barge ● Inspect the vessels (external hull/ tug/ anchor), ballast water and sediment in the tanks prior to entering 	Site Agent
Use of construction vessels and barges on site throughout the construction phase	<ul style="list-style-type: none"> ● Routinely inspect vessels and equipment for NNS and biosecurity measures taken if NNS found ● Regularly check logs of last inspection of hull and ensuring relatively recent records are kept 	Site Agent
	<ul style="list-style-type: none"> ● Clean the anchors for vessels and barges whenever necessary and opportunity arises 	Site staff
Toe protection	Implementing anti-fouling treatment for piles as instructed	Site staff

9.6.9 Communication and Reporting Responsibilities

In the event of a potential NNS contamination, it will be immediately reported to either the Environmental Manager or Biosecurity Manager / ECoW. The ECoW will be trained in the identification of NNS. Relevant identification sheets can be found on the Great Britain Non-Native Species Secretariat Website¹⁴. In the event of an emergency, the following procedures will be followed:

- The ECoW must determine if the species reported is a NNS, if necessary, Scotland’s Environmental and Rural Services (SEARS) will be contacted immediately at this stage if identification needs confirmation. A sample will be collected, placed in plastic bag and sent to the nearest SEARS location.
- If the NNS is confirmed by the ECoW/SEARS it must be reported to Marine Scotland Licensing Operations Team and Marine Scotland -Science immediately.
- The ECoW will inform other water-users and vessel operators. A construction marine coordinator, if any, will be contacted.
- A record of the findings will be logged and include:
 - The scientific and or common name of the species
 - Location of the find with an accurate grid reference or GPS coordinates
 - How it was found (e.g. attached to equipment)
 - Date
 - Name of individual who identified the NNS and who confirmed the identification (e.g. ECoW)
 - Photographs of the NNS and surrounding area; and
 - Approximate numbers and or area of NNS recorded.
- In the event of a high impact species:
 - Immediate containment measures will be initiated, including restricted vessel movements (to be coordinated by the construction marine coordinator, if any)

¹⁴ Great Britain Non-Native Species Secretariat Identification Sheets: <https://www.nonnativespecies.org/non-native-species/id-sheets/>

- Wider surveys of vessels and structures will be undertaken
- In the event of NNS being found, the Environmental Manager will seek further advice from NatureScot

9.7 Construction Noise Management Plan

This Construction Noise Management Plan (CNMP) describes the procedures to control and minimise noise impacts during the construction phase. Noise may cause a statutory nuisance under Section 79 of the Environmental Protection Act 1990. Local Authorities have the power to stop construction activities, or limit working hours for the use of noisy plant and equipment where a nuisance has been reported.

Given the distances between the site and the nearest residential receptors it is considered unlikely that construction noise would have a significant impact on residential receptors.

The impact on sensitive receptors within the vicinity of the Proposed Development can be controlled when undertaken in accordance with good practice as set out in BS 5228 Parts 1 and 2 as described in the following sections.

9.7.1 Working Hours

Standard working hours for non-dredging activities will be restricted to the hours between 08:00-1800 Monday to Friday and 08:00-13:00 Saturday. No works will be undertaken on Sunday.

9.7.2 Best Practicable Means

Best Practicable Means (BPM) are defined in Section 72 of the Control of Pollution Act 1974 and Section 79 of the Environmental Protection Act 1990 as those measures which are:

“reasonably practicable having regard among other things to local conditions and circumstances, to the current state of technical knowledge and to financial implications”.

BPM will be applied to all construction works and will follow the general guidance contained within the British Standard 5228 ‘Code of practice for Noise and Vibration Control on Construction and Open Sites’ (2009) together with the specific requirements of this CNMP.

Noise from construction processes will be controlled and limited where identified as likely to cause nuisance. Noise-emitting plant will be managed on site, and activities will be programmed and timed sensitively to minimise impact on Noise Sensitive Receptors (NSRs) receptors (human and ecological receptors) over the proposed working period. See Section 9.7.3 to 9.7.6 below for further details

All plant and equipment used will comply with the noise limits quoted in the relevant European Commission Directive 2000/14/EC/United Kingdom Statutory Instrument 2001/1701.

Plant and equipment liable to create noise and/or vibration whilst in operation will, as far as reasonably practicable, be located away from sensitive receptors. The use of barriers to absorb and/or deflect noise away from noise sensitive areas will be employed where appropriate. Where a temporary acoustic barrier is to be used, the barrier material will have a mass per unit area exceeding 7 kg/m² in accordance with the recommendations of BS 5228 – Part 1:2009. For example, plywood panels with a minimum thickness of 13 mm. This will be large enough to obscure the source of noise from the affected NSR and as close as possible to the source taking into account, where appropriate, aspects such as access, electrical and fire requirements, and inlet and exhaust air flows.

All plant, equipment and noise control measures applied to plant and equipment will be monitored by the Principal Contractor’s Environmental Manager, maintained in good efficient

working order and operated such that noise emissions are minimised. Plant, equipment or items fitted with noise control equipment found to be defective will not be operated until it is repaired.

Vehicles and mechanical plant employed during the construction works will, where reasonably practicable, be fitted with effective exhaust silencers and will be maintained in good working order and operated in a manner such that noise emissions are controlled and limited as far as reasonably practicable.

Machines in intermittent use will be shut down or throttled down to a minimum during periods between works. Static noise emitting equipment operating continuously will be housed within suitable acoustic enclosure.

9.7.3 Noise Control Measures

The Principal Contractor will comply with the recommendations set out in BS 5228-1:2009 and in particular with the following noise requirements:

- Noise levels will be kept to a minimum throughout the works areas by turning plant and machinery off when not in use and avoid unnecessary revving of engines, particularly during the night, so as to minimise disturbance to roosting birds in the local area;
- Avoid unnecessary revving of engines and switch of equipment when not required;
- Ensure site speed limits are adhered to;
- Use rubber linings in, for example, chutes and dumpers to reduce impact noise;
- Minimise drop height of materials;
- Agreement of HGV routes with Argyll and Bute Council through the development of a construction traffic management plan;
- Vehicles use smart reversing alarms;
- Quiet equipment is sourced and attenuated, ducted or silenced by best practice means and under manufacturer guidance;
- Screens or fencing will be located as near to the source as reasonably practical;
- Fixed plant will be located as far as reasonably practical away from noise sensitive receptors;
- Any plant which has directional noise propagation will be orientated away from NSRs;
- Soft-start technology will be implemented, where possible over a period of approximately 20 minutes, to enable birds time to flee the area;
- Maintain all equipment so that loose panels and cover plates do not cause unnecessary noise;
- Keep good relations with the local community and ensure advanced warning is given when any significant noisy activity is undertaken
- Where deemed appropriate (through risk assessment), physical barriers will be erected around activities that are expected to generate particularly high noise levels to provide screening attenuation. Noise barriers are most effective if located close to the noise source or close to the receptor. Care will be taken to optimise the position of any barriers proposed where practicable.

9.7.4 Site area;

All construction work activities will be undertaken within the designated operational site boundaries; including areas designed to accommodate stockpiles and haul routes.

9.7.5 Reversing

The contractor will manage the noise from reversing alarms by means of the following:

- a) The site layout will be designed to limit and where reasonably practicable, avoid the need for the reversing of vehicles
- b) A banksman will be utilised to avoid the use of reversing alarms
- c) Reversing alarms incorporating one or more of the features listed below or any other comparable system will be used: highly directional sounders, broad band signals, self-adjusting output sounders, flashing warning lights

Reversing alarms will be set to the minimum output noise level required for health and safety compliance.

9.7.6 Training

All site personnel will receive training appropriate to the nature of their roles and responsibility; the training will include specific information in relation to noise and vibration management. If their work activities are assessed as being particularly noise/vibration emission prone, all staff will receive induction training that will incorporate environmental awareness training, plus specific training in relation to noise and vibration. On site toolbox training will enable site workers to understand how their actions will interact with the environment and potentially impact upon sensitive receptors close to their work areas.

9.8 Air Quality Management Plan

This Air Quality Management Plan sets out measures to control dust emissions that may affect local air quality. Construction works have the potential to affect local air quality through emissions from plant and vehicle operations and to generate dust, particularly during dry weather and strong winds. Good site management is essential to control emissions and respond to weather conditions.

9.8.1 Construction Management and Mitigation Measures

Proactive measures that prevent dust from becoming airborne are the most effective mitigation tools for dust management, along with pre-planning to locate dust generating activities as far as possible from receptors.

The following measures will be implemented during construction to manage the generation of dust:

- Stockpiles of materials will be positioned at least 10m away from sensitive receptors where possible and suitable measures implemented to prevent runoff and dispersion if left for any length of time. Any powders will be stored in sealed bags or silos prior to use. Dust suppression measures to be used where required.
- All vehicles and machinery will be switched off when not in use to minimise noise and reduce air pollution.
- Dust generating activities will be located away from sensitive receptors (human and ecological receptors);
- Adequate supplies of water, sourced by the Principal Contractor, will be available at all times for the dust suppression units that will be operated at times of dust nuisance;
- Stockpiles of dust prone materials will be sprayed in periods of dry weather;
- Hand operated or vehicle mounted spray equipment will be used to spray stockpiles of materials, overburden, access tracks and other sources of dust as required;

- Dust suppression techniques will be used expeditiously, a fine spray will be used to avoid runoff and over-spraying will be avoided;
- Spraying units will be available and in good working order at all times;
- Standby bowsers will be available to be used will the main units be out of service, and as supplementary units in periods of dry weather;
- A 10mph site speed restriction will be observed at all times;
- Material drop heights will be minimised;
- Wheel wash facilities will be located on site, within the construction compound, to be utilised;
- Dust monitoring will be undertaken by the Principal Contractor's Environmental Manager to evaluate the effectiveness of dust suppression measures and to aid the improvement of dust management on site;
- Should dust suppression measures prove inadequate, operations will cease until additional mitigation measures are taken or conditions improve; and
- Adequate supplies of water will be made available at all times for the dust suppression units.

All personnel on site will be aware of the need to control dust emissions and be pro-active in the prevention of airborne dust. During periods of dry weather or extensive dust generating activities the Principal Contractor's Environmental Manager will deliver a toolbox talk to all site personnel.

9.9 Archaeology

9.9.1 Archaeological Mitigation Scheme and Protocol for Archaeological Discoveries

Historic Environment Scotland recommended that an Archaeological Mitigation Scheme and Protocol for Archaeological Discoveries for construction is developed, to take account for potential impacts on undesignated archaeological remains. This will be developed by the Principal Contractor in advance of the work commencing on site and when full construction details are known. Appendix A Proposed Development Drawings.

9.10 Navigation Risk Assessment/Vessel Management Plan

Colonsay is a Statutory Harbour, for which the Statutory Harbour Authority is Caledonian Maritime Assets Ltd. (CMAL). CMAL's Harbour Master has responsibility for safe navigation within the harbour limits. Colonsay harbour is operated in full compliance with the Port Marine Safety Code, and members of the CMAL Board undertake the role of "duty holder" under the code. The harbour is operated by CalMac Ferries Ltd. (CFL). As the proposed development is located within an operational harbour, the following measures have been specified and will be implemented by the Principal Contractor to manage navigational risks and manage vessels during the construction of the works:

- The Principal Contractor shall comply with specific constraints and special requirements in relation to Caledonian Maritime Assets Ltd, CalMac Ferries Limited (CFL) and Statutory Bodies. The works shall be carried out in accordance with all statutory requirements or regulations of the Client, or any other competent authority.
- The Principal Contractor shall maintain safe access along, around and through the structures.
- The Principal Contractor shall liaise with CFL's relevant Port Manager / Port Supervisor regarding ferry operations. The Principal Contractor shall liaise with the Terminal Operator and Project Manager at a mutually agreed time daily to update on progress and any changes to the planned works and activities within the harbour.
- Unless an area has been provided to the Principal Contractor for sole use, the Principal Contractor shall provide unhindered access to port and ferry operators staff to facilitate ferry operations. The normal operation of the ferry terminal shall continue during the contract

period and the Principal Contractor shall ensure that the normal operation of the ferry terminal is not affected or disrupted by the Works, unless specifically allowed for within this contract.

- The Principal Contractor shall use current published timetables for planning purposes. The Principal Contractor shall liaise with the relevant Port Manager / Port Supervisor to identify deviation from published timetables.
- The Proposed Development Boundary includes areas where the Principal Contractor will have full access and ferry operational areas where access will be limited to timed periods in accordance with the permit system.
- The Principal Contractor shall not block or otherwise impede full operation of the ferry terminal at any time.
- The Principal Contractor is required to stop work and ensure that all shared areas are cleared of personnel and in a fit state for operation of the ferry service at least 30 minutes before scheduled arrival of each ferry. The Principal Contractor may restart work after departure of the ferry.
- The Principal Contractor shall comply with the directions of the Project Manager (as advised by CFL Port Manager / Port Supervisor) in relation to deployment or movement of equipment, whether floating or land based, within the harbour.
- Subject to adequate notice and approval the Principal Contractor shall be permitted a small number of Scheduled Closures and Possessions to complete the Works. Scheduled Closures and Possessions are formal procedures to limit access and suspend ferry operations in an area to permit the Principal Contractor to carry out their activities safely.
- Should the Principal Contractor's floating equipment require an anchor spread then it shall be contained entirely within the Proposed Development Boundary. The location of anchors shall be agreed with the Project Manager (who shall liaise with the Operator). Where the Principal Contractor's equipment and/or methods require an anchor spread, the Principal Contractor shall be required to drop anchors to allow the passage of other vessels using the harbour.

All floating plant shall be appropriately lit and marked, VHF radio shall be provided and appropriate Notices to Mariners shall be issued.

A. Proposed Development Drawings

B. Appendix B Environmental Constraints Plans

Map 1 Environmental Constraints Plan

Map 2 Ecological Constraints Plan

C. Appendix C Environmental Reports

C.1.1.1 Colonsay Otter Species Protection Plan

C.1.1.2 Habitats Regulations Appraisal Report

C.1.1.3 European Protected Species Licence (Otter)

