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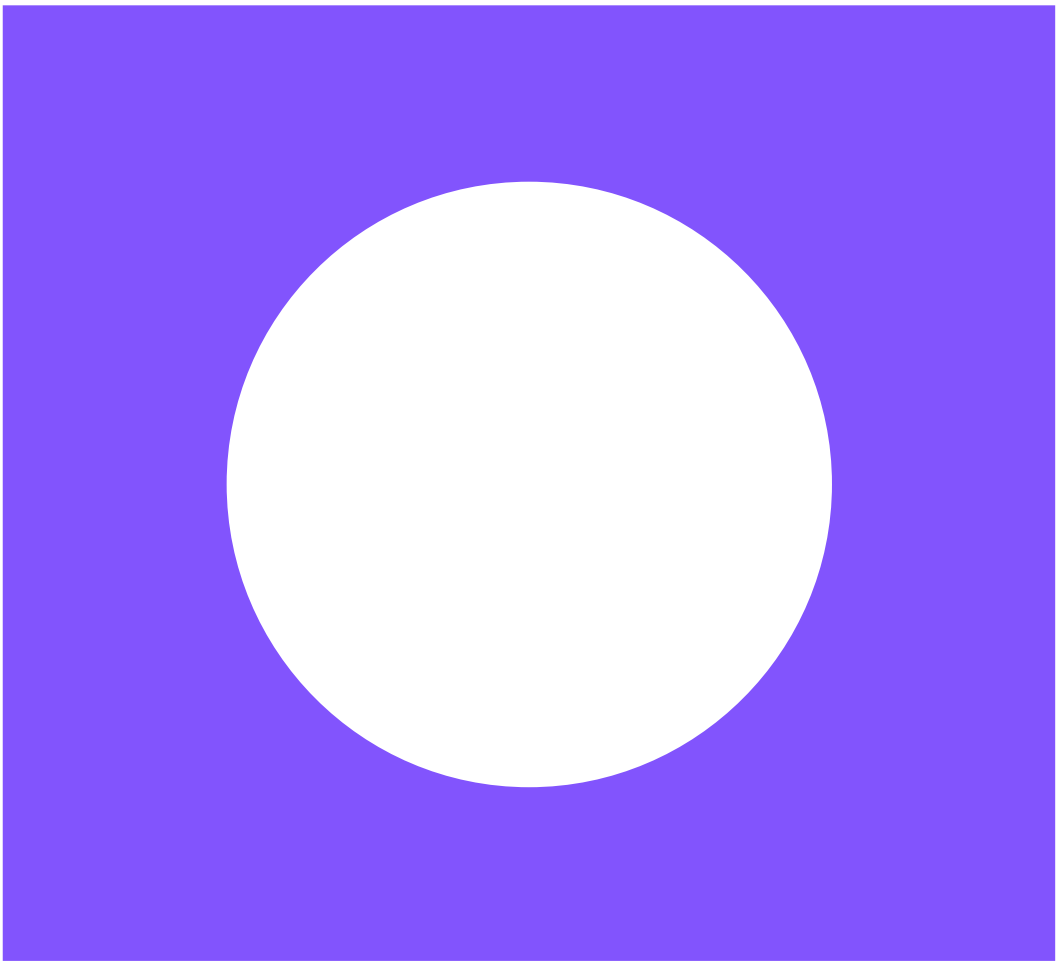

Port Ellen Terminal Development

Environmental Impact Assessment Report Addendum

February 2026

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Port Ellen Terminal Development

Environmental Impact Assessment Report Addendum

February 2026

Issue and Revision Record

Revision	Date	Originator	Checker	Approver	Description
01	23/02/2025	Graduate Environmental and Sustainability Consultant	Principal Environmental and Sustainability Consultant	Technical Director	First issue

Document reference: 115031-MMD-PE-XX-RP-O-0024

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Glossary

Term	Definition
Baseline	The existing conditions which form the basis or start point of the environmental assessment.
Decibel	Sound and noise levels are commonly described using the decibel scale, which is logarithmic in nature.
Effect	The result of change or changes on environmental receptors.
EIA	An Environmental Impact Assessment is an assessment of the environmental consequences (positive and negative) of a project
Environmental impact Assessment Report	An Environmental impact Assessment Report is a publicly available document setting out the developer's assessment of the likely environmental effects of a project
Impact	Any changes attributable to the proposed development that have the potential to have environmental effects (i.e. the causes of the effects).
$L_{Aeq,}$ T	Equivalent continuous A-weighted sound pressure level (in decibels, dB), over a given time interval. Where a time interval is not given it is typically considered as a continuous level.
Marine	Anything related to the sea or ocean
Maritime	Anything related to shipping or commerce and travel on the sea
Outfall	Discharge location for drainage network
Permanent Threshold Shift	Level at which hearing loss arises in marine fauna and is permanent. Reduced hearing fidelity may impact the ability to communicate and ability to detect predators and prey.
Proposed development	Port Ellen Terminal Development
Temporary Threshold Shift	Short or long term changes in hearing sensitivity that may or may not reduce fitness. Within Popper A.N. *et al.* (2014) is also defined as any change in hearing of 6dB or greater that persists.
Visual Amenity	The overall pleasantness of a view that people enjoy of their surroundings, which provides an attractive visual setting or backdrop for the enjoyment of activities of the people in that area.
Visual Effect	Effects on specific views and on the general visual amenity experienced by people.

Abbreviations

Abbreviation	Term
BHD	Backhoe dredger
CEMP	Construction Environmental Management Plan
CIEEM	Chartered Institute of Ecology and Environmental Management
CMAL	Caledonian Maritime Assets Ltd
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
EPS	European Protected Species
HD	Hydrodynamic
HRO	Harbour Revision Order
INNS	Invasive Non-Native Species
LCA	Landscape character area
LF	Low-frequency Cetaceans
NIV	New Islay Vessels
PT	Particle tracking
PTS	Permanent Threshold Shift
SAC	Special Areas of Conservation
SCA	Seascape Character Area
SCC	Suspended Sediments Concentrations
SEPA	Scottish Environment Protection Agency
SPA	Special Protection Area
SSC	Suspended sediment concentration
SSSI	Site of Special Scientific Interest
TTS	Temporary Threshold Shift
ZoI	Zone of Influence

1 Introduction

An Environmental Impact Assessment Report[1] (EIAR) was prepared in January 2025 by Mott MacDonald on behalf Caledonian Maritime Assets Limited (CMAL) to assess the environmental effects of the proposed redevelopment of Port Ellen Ferry Terminal (hereafter referred to as 'the proposed development'), on the island of Islay, Scotland. The EIAR was submitted to Marine Directorate as part of the marine licencing process in March 2025 and was available for consultation alongside the Port Ellen Harbour Revision Order during March and April 2025.

This Environmental Impact Assessment (EIA) Report Addendum has been prepared in response to a change in construction methodology proposed by the Contractor to ensure that the environmental effects of construction activities have been assessed and mitigated as far as possible.

The following changes to the construction of proposed development are proposed:

1. Extended Working Hours for Dredging Activities

Proposal to change the hours of working for dredging (previously planned as 7am to 7pm) and extend the working hours to either:

- Working hours 7am to 11pm, 7 days a week; or
- 24 hours working 7 days a week.

The update to dredging working hours would be agreed with the relevant authority prior to starting. It should be noted that the working hours of 7am to 11pm, 7 days a week for dredging works is the preferred option at the point of this submission. However, this EIAR has assessed all options in consideration of the Contractor, as such 24 hours working 7 days a week was also assessed to consider worst case.

Working hours for all other construction activities will remain the same i.e. working hours of 7am to 7pm, and dredging disposal operations 24 hours, 7 days a week. This proposed change brings the dredging work into line with the disposal operations, and seeks to significantly shorten the overall dredging period, reducing the risk of weather-related delays, and reducing the overall impact of this activity.

2. Alternative Dredge Disposal Site at Port Ellen (MA030)

The disposal site MA035 which lies approximately 20 km west of Port Ellen was anticipated to be used to dispose of dredge material. An alternative licensed disposal site MA030 is located approximately 900 m south of Port Ellen at the harbour entrance. Previously MA030 was discounted as a suitable disposal site because dredging and disposal were expected to occur concurrently with ferry operations and subsequently may have caused navigational and logistical issues. However, as ferries would be diverted to Port Askaig, it has been identified that the MA030 disposal site could be used to dispose of dredge material.

MA030 is proposed to be used as the disposal site with:

- A significantly shorter transit distance (900 m versus 20 km);
- Reduced exposure to adverse weather;
- Lower vessel emissions and fuel consumption;

[1] Mott MacDonald (2025) Port Ellen Terminal Development Environmental Impact Assessment Report (115031-MMD-PE-XX-RP-O-0002)

- Reduced risk of weather-related delays;
- Overall lower environmental impact.

This EIAR Addendum supports applications to vary marine, European Protected Species and basking shark licences. The following licences were previously issued:

- Licence to construct, alter or improve works in the Scottish Marine Area (Licence Number MS-00011158) – Issued October 2025;
- Licence to carry out any form of dredging and deposit any substance or object in the Scottish Marine Area (Licence Number MS-00011157) - Issued October 2025;
- European Protected Species Licence – Licence to disturb marine species (Licence Number: EPS/BS-00011246 - Issued October 2025; and
- Basking Shark Licence – Licence to disturb basking sharks (Cetorhinus maximus) (Licence Number: EPS/BS-00011247) - Issued October 2025

It reports the findings of the environmental assessment undertaken for the proposed changes to the construction methodology and considers whether there are any changes to the environmental effects reported in the EIAR[2], and identifies if further mitigation measures are required.

As described in Chapter 2 of the EIAR, the proposed development refers to a full redevelopment of the ferry terminal to expand marshalling space, provide a new terminal building, improve facilities and facility access for larger New Islay Vessels (NIV).

The proposed changes to the construction activities do not affect all of the environmental topics scoped into the EIAR and the following chapters have no changes from the submission of the EIAR (July 2025).

- Chapter 1: Introduction;
- Chapter 2: Proposed development;
- Chapter 4: EIA process and method;
- Chapter 5: Cultural heritage;
- Chapter 10: Climate;
- Chapter 11: Commercial and recreational navigation;
- Chapter 12: Population and human health/socio-economic;
- Chapter 13: Major accidents and disasters;
- Chapter 14: Cumulative effects;
- Chapter 16: Summary

The following chapters are reviewed and updated as required within this EIA Report Addendum:

- Chapter 1: Introduction;
- Chapter 2: Construction;
- Chapter 3: Landscape, seascape and visual amenity;
- Chapter 4: Ecology;
- Chapter 5: Airborne noise and vibration;
- Chapter 6: Water environmental and coastal processes;
- Chapter 7: Schedule of mitigation and monitoring

[2] 115031-MMD-PE-XX-RP-O-0002

It should be noted that only relevant sections of the above topics have been updated within this addendum and any details not covered within this document should refer to the EIA report (July 2025), Chapter 3: Construction, Chapter 6: Landscape, seascape and visual amenity, Chapter 7: Ecology, Chapter 8: Airborne noise and vibration, Chapter 9: Water environmental and coastal processes and Chapter 15: Schedule of Mitigation and Monitoring.

2 Construction

2.1 Introduction

This chapter describes the proposed changes to the construction methodology from that assessed in the EIAR. All other information on the anticipated construction approach remains unchanged and is described in Volume 2, Chapter 3 of the EIA report.

2.2 Construction phasing

The construction phasing remains largely the same as identified within Volume 2, Chapter 3 of the EIAR. The only exception is the duration of the dredging phase which is expected to reduce from 6 months to 3 months. Table 2-1 sets out the expected durations of each construction activity.

Table 2-1: Assumed duration of construction works

Phase		Overall timescale	Construction activity (some activities overlap during the course of the works)	Approximate construction duration (including overlaps and representing worst case)
0	Site establishment and enabling works (No changes anticipated)	(3 months)	Site establishment and enabling works	(3 months)
1	Dredging	3 months	Dredging	3 months
2 and 3	Partial demolition of pier Construction of finger pier, fixed ramp, linkspan, fish quay and commercial berth and rock revetment (No changes anticipated)	(30 months)	Construction of new sheet piled walls	(22 months)
			Infill reclaimed area (excluding commercial quay)	(14 months)
			Concrete works	(20 months)
			Infill behind between new sheet piled walls and the existing quay walls / pier	(11 months)
			Install rock bund around northern extent of reclaim area, place rock armour	(7 months)
			Construct fixed ramp	(7 months)
			Construct linkspan	(6 months)
4	Construction of new terminal building, surfacing and ancillary works (No changes anticipated)	(12 months)	Construct new terminal building	(12 months)
		(4 months)	Complete surfacing and ancillary works on new reclaimed area	(4 months)
	Demolition works (No changes anticipated)	(5 months)	Demolition works	(5 months)

2.3 Construction activities

No changes are proposed to the construction activities with exception to changes to working hours which is set out below. See Volume 2, Chapter 3, Construction of the EIA report for other details.

It is proposed to change the hours of working for dredging (previously assumed as 7am to 7pm) and extend the working hours to either:

- Working hours 7am to 11pm, 7 days a week; or
- 24 hours working 7 days a week

Working hours for all other construction activities will remain the same i.e. working hours of 7am to 7pm, and dredging disposal operations 24 hours, 7 days a week.

For the purposes of the EIA, both scenarios have been assessed to consider the worst case as these have yet to be agreed with the relevant authority. The proposed changes to dredging working hours would be agreed with the relevant authority prior to starting.

2.4 Material requirements

No change. See Volume 2, Chapter 3, Construction of the EIA report.

2.5 Construction plant and equipment

No change with exception to the requirement for additional lighting to facilitate dredging works. See Volume 2, Chapter 3, Construction of the EIA report for other details.

2.6 Site compound

No change. See Volume 2, Chapter 3, Construction of the EIA report.

2.7 Construction workforce

The following workforce is expected to be required for each construction activity, and not all the activities will be undertaken concurrently:

- Piling gang – 20 people;
- Ground works – 15 people;
- Concrete works - 15 people;
- Dredging – 20 people;
- Terminal building – 20 people;
- Surfacing works – 10 people;
- Rock revetement works – 6 people;
- Mechanical and electrical – 10 people;
- Miscellaneous works – 10 people;
- Management / supervision – 15 people

2.8 Construction traffic

No change. See Volume 2, Chapter 3, Construction of the EIA report.

2.9 Construction waste

Table 2.2 identifies typical waste that is anticipated to be generated during construction generated during construction, along with the management considerations. The only change is in relation to the dredge disposal site.

Table 2.2: Anticipated waste during construction

Waste material types	Description	Management consideration
Dredged material	Sediments / rock removed from the seabed during dredging operations.	Dredge material highly unlikely to be suitable for reuse and it is assumed all will be disposed of at the sea disposal site at MA030, approximately 900 m south of Port Ellen at the harbour entrance.
Excavated soil and rock	No change. See Volume 2, Chapter 3, Construction of the EIA report.	
Steel		
Concrete		
General waste		
Plastics		
Timber		
Rubber		
Bitumen or coal tar		
Asbestos		
Packaging materials		
Electrical waste		
HVAC and plumbing waste		
Fenders		

Table 2.3 identifies the likely locations for waste disposal and recycling, and the expected transportation method of waste management. The only change is in relation to the dredge disposal site.

Table 2.3: Waste disposal locations and recycling

Waste materials	Disposal location	Distance from Proposed Development	Transportation method
Dredge Material	Disposal at sea	Site ID MA030 approximately 900m south of Port Ellen	Split Hopper Barges
General Waste	No change. See Volume 2, Chapter 3, Construction of the EIA report.		
Steel			
Crushed Concrete			

3 Landscape, Seascape and Visual Amenity

3.1 Introduction

No change. See Volume 2, Chapter 6, Landscape, Seascape and Visual Amenity of the EIA report.

3.2 Policy context, legislation, guidance and standards

No change. See Volume 2, Chapter 6, Landscape, Seascape and Visual Amenity of the EIA report.

3.3 Consultation

No change. See Volume 2, Chapter 6, Landscape, Seascape and Visual Amenity of the EIA report.

3.4 Methodology

3.4.1 Study area

No change. See Volume 2, Chapter 6, Landscape, Seascape and Visual Amenity of the EIA report.

3.4.2 Baseline

No change. See Volume 2, Chapter 6, Landscape, Seascape and Visual Amenity of the EIA report.

3.4.3 Assessment of lighting impacts

No change. See Volume 2, Chapter 6, Landscape, Seascape and Visual Amenity of the EIA report.

3.4.4 Assumptions and limitations

No change. See Volume 2, Chapter 6, Landscape, Seascape and Visual Amenity of the EIA report.

3.5 Baseline environment

No change. See Volume 2, Chapter 6, Landscape, Seascape and Visual Amenity of the EIA report.

3.6 Assessment of effects

3.6.1 Overview

The assessment methodology, as set out in Volume 2, Chapter 6, Landscape, Seascape and Visual Amenity of the EIA report, takes into account the effects of lighting in construction and operation on landscape, seascape and the visual amenity of residential receptors. The

extension of working hours for dredging would increase the length of time that construction lighting would be required during the hours of darkness but it should be noted that in the summer months, when nights are short, this would be less noticeable and therefore have fewer effects than in the winter months, when nights are long.

3.6.2 Embedded mitigation

No change. See Volume 2, Chapter 6, Landscape, Seascape and Visual Amenity of the EIA report.

3.6.3 Construction

For landscape and seascape effects during construction, the EIA report states that a temporary increase in light levels around the ferry terminal site would be apparent in the Port Ellen Landscape Character Area (LCA), the Port Ellen to Ardbeg Sounds, Narrows and Islands Seascape Character Area (SCA) and the Port Ellen to Port na Luinge Low Rocky Island Coasts SCA. However, in all three cases, construction lighting would be seen against the backdrop of street lighting in Port Ellen and at the existing terminal and therefore would not noticeably affect the character of the landscape or seascape. Therefore, extending the hours of dredging and potentially the time construction lighting was required would not noticeably increase adverse effects on the character of the landscape or seascape of the study area.

For visual effects during construction, the EIA report states that construction lighting would slightly affect views from residential properties in Charlotte Street (VP 14), residential properties and holiday accommodation on Pier Road and Sràid na Sgoile (VP16) and residential properties on Frederick Crescent (VP 21 and VP 22). In all four cases, construction lighting would be extended into currently dark areas of sea but as the existing terminal is already lit, it would only slightly change the night-time view. Therefore, extending the hours of dredging and potentially the hours that construction lighting would be required would only slightly increase existing adverse visual effects.

On this basis, it is concluded that the proposed extension to dredging hours would not give rise to any new or materially different landscape or visual effects from those previously reported, and that the overall findings and significance of effects set out in the original EIA remain unchanged.

3.6.4 Operation

No change. See Volume 2, Chapter 6, Landscape, Seascape and Visual Amenity of the EIA report.

3.7 Mitigation measures

3.7.1 Construction

Due to extended working hours for dredging, lighting would be required during hours of darkness. The following measures will be implemented for managing lighting:

- Use task-specific, downward-facing lighting only; no general floodlighting;
- All lights to be fully shielded and angled below the horizontal, facing into the harbour basin, not towards shore;
- Minimum brightness necessary for safety; dim or switch off lights when not actively required;
- No direct illumination towards the south-east coastline;
- Avoid moving, sweeping, flashing or high-intensity temporary lights at night; and
- Lighting design and operation to follow Institution of Lighting Professionals GN01 principles.

It should be noted that the above measures are additional to those reported in the EIA Report produced in July 2025. Mitigation measures for construction were also captured within Volume 3, Appendix A.6 Outline Construction Environmental Management Plan (CEMP). However, at the time of writing this EIA Report Addendum, a detailed CEMP was in development by the Contractor. The additional mitigation measures set out within this EIA Report Addendum will be captured in the Contractor's detailed Construction Environmental Management Plan.

3.7.2 Operation

No change. See Volume 2, Chapter 6, Landscape, Seascape and Visual Amenity of the EIA report.

3.8 Enhancements

No change. See Volume 2, Chapter 6, Landscape, Seascape and Visual Amenity of the EIA report.

3.9 Summary of significant effects

There would be no new significant landscape, seascape or visual effects due to the extension of the working hours for dredging.

3.10 In-combination effects

There would be no new in combination effects on landscape, seascape or visual amenity due to the extension of the working hours for dredging.

3.11 Monitoring

No change. See Volume 2, Chapter 6, Landscape, Seascape and Visual Amenity of the EIA report.

3.12 Conclusions

Extending the hours of dredging and, as a consequence, the time construction lighting would potentially be required would not noticeably increase effects on landscape or seascape character but might slightly increase effects on a small number of visual receptors, especially if the work was carried out in the winter months.

4 Ecology

4.1 Introduction

No change. See Volume 2, Chapter 7, Ecology of the EIA report.

4.2 Policy context, legislation, guidance and standards

No change. See Volume 2, Chapter 7, Ecology of the EIA report.

4.3 Consultation

No change. See Volume 2, Chapter 7, Ecology of the EIA report.

4.4 Methodology

4.4.1 Zone of Influence (ZoI)

No change to the methodology for determining ZoI – See Volume 2, Chapter 7, Ecology of EIA report. The ZoI presented in the original Figure 7-1 is changed due to slight adjustment of the ZoI from the proposed development taking the disposal site MA030 at the harbour into account, and removal of the ZoI associated with the disposal site MA035 as it is no longer considered. The updated ZoI is shown in Volume 4, EIA Addendum Figures, Figure 7-1 Ecological Designated Sites.

4.4.2 Baseline data collection methodology

No change. See Volume 2, Chapter 7, Ecology of the EIA report.

4.4.3 Modelling

4.4.3.1 Wave modelling

No change. See Volume 2, Chapter 7, Ecology of the EIA report.

4.4.3.2 Dredging and sediment dispersion modelling

An updated dredging and sediment dispersion model has been produced to simulate the transport of suspended sediment released into the marine environment by dredging and disposal of sediment. This has been updated due to a proposed change in disposal site location, now located approximately 900m south of Port Ellen (Site ID MA030). Details of this modelling are provided in the Technical Note on Dredging and Sediment Dispersion Modelling – Alternative Disposal Location, as detailed in Volume 3, Technical Appendices, Appendix E.4. These modelling results were used to inform potential impacts and effects on marine ecology receptors in this addendum.

4.4.3.3 Underwater noise modelling

The underwater noise model has been updated in response to the proposed change in construction methodology. Details of the updated underwater noise modelling are provided in the Addendum to Underwater Noise Assessment, as detailed in Volume 3, Technical Appendices, Appendix D.11.

4.4.4 Assessment methodology

No change. See Volume 2, Chapter 7, Ecology of the EIA report.

4.4.5 Assumptions and limitations

No change. See Volume 2, Chapter 7, Ecology of the EIA report.

4.5 Baseline environment

4.5.1 Baseline conditions

No change apart from removal of Rinns of Islay SPA, SAC, Ramsar and SSSI from the description of the baseline as these sites were within the ZoI of the disposal site MA035. Now the disposal site is no longer proposed to be used, these sites are no longer within the study area. See Volume 2, Chapter 7, Ecology of the EIA report.

4.5.2 Future baseline

No change. See Volume 2, Chapter 7, Ecology of the EIA report.

4.6 Assessment of effects

4.6.1 Embedded mitigation and good practice measures

4.6.1.1 Embedded mitigation

No change. See Volume 2, Chapter 7, Ecology of the EIA report.

4.6.1.2 Good practice measures

In view of the proposed extended dredging hours, there are additional good practice measures for night dredging works for the proposed development which include:

- Lighting (safety with nuisance and ecology control)
  - Use task-specific, downward-facing lighting only; no general floodlighting.
  - All lights to be fully shielded and angled below the horizontal, facing into the harbour basin, not towards shore.
  - Minimum brightness necessary for safety; dim or switch off lights when not actively required.
  - No direct illumination towards the south-east coastline or known seal haul-outs.
  - Avoid moving, sweeping, flashing or high-intensity temporary lights at night.
  - Lighting design and operation to follow Institution of Lighting Professionals GN01 principles.
- Noise (residential nuisance)
  - Apply best practicable means in line with BS 5228.
  - Use quiet, well-maintained plant; no defective exhausts, rattles or tonal alarms.
  - Generators, pumps and power packs to be enclosed or acoustically screened where practicable.
  - Avoid impulsive or irregular noise at night (e.g. banging buckets, dropping steel, etc.).
  - Maintain a 24-hour contact number and respond promptly to any complaints.
- Marine mammals (e.g. seals)
  - No vessel approaches or manoeuvres towards known haul-out areas during darkness.

  - Support vessels to use predictable routes and steady speeds; avoid sudden acceleration, horn use or sharp turns at night.
  - If seals are observed close to operations, reduce speed and maintain course to minimise disturbance.
  - Brief all crews on seal disturbance awareness and legal protections before night works commence.
- Management
  - Measures to be included in the CEMP
  - Brief all crews and provide toolbox talks on the measures.
  - Any exceedance of agreed noise or lighting controls to trigger immediate review and adjustment of working methods.

It should be noted that the above measures are additional to those reported in the EIA Report produced in July 2025. Mitigation measures for construction were also captured within Volume 3, Appendix A.6 Outline Construction Environmental Management Plan (CEMP). However, at the time of writing this EIA Report Addendum, a detailed CEMP was in development by the Contractor. The additional mitigation measures set out within this EIA Report Addendum will be captured in the Contractor's detailed Construction Environmental Management Plan.

4.6.2 Construction

4.6.2.1 Water quality changes from increased turbidity and suspended solids

The dredging works and disposal of dredge material have the potential to increase the amount of suspended sediment in the water column within Port Ellen and the surrounding area. This could result in direct impacts on the designated sites and habitats, and indirect impacts on the notable species and designated features through impacts on their supporting habitats/prey.

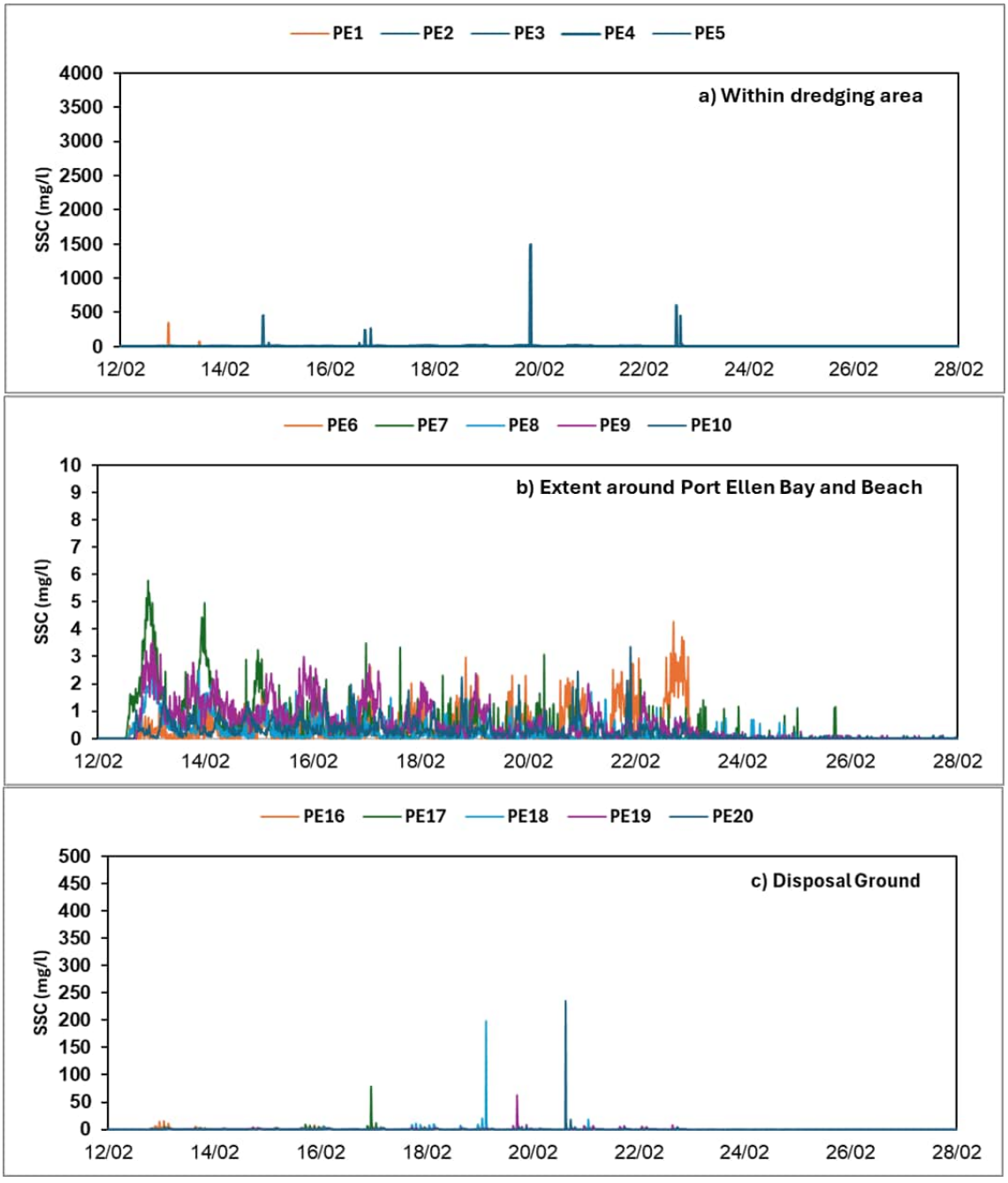
Sediment dispersion modelling with a scenario of sediment comprising 70% fines for combined dredging and disposal activities has been undertaken as the worst-case scenario for these works, and is described in detail in Chapter 6 Water Environment and Coastal Processes and the Technical Note on Dredging and Sediment Dispersion Modelling – Alternative Disposal Location, detailed in Volume 3, Technical Appendices, Appendix E.4. Key findings are:

- Within the dredging footprint, as shown in the spatial plot of modelled maximum suspended sediment concentrations (SSC) in Chapter 6 Water Environment and Coastal Processes, Figure 6-4, the predicted maximum SSC exceeds 1000 mg/l within the dredge footprint. However, the peaks in the SSC within the dredge area are short-lived, while in general, the SSC remains low (around 30 mg/l) during dredging, as shown in the SSC time series plots shown in Chart 4.1. At locations outside the dredging area, there are no short-duration peaks in SSC demonstrating that peaks in SSC within the dredging area are locally associated with sediment release during dredging. SSC remains below 6 mg/l around Loch Leòdamais and surrounding areas.
- Within the designated disposal area located to the south of the dredging site and within approximately 1km of the disposal site, the predicted maximum SSC peaks exceeding 500mg/l at the point of release, but these concentrations quickly reduce, falling to below 50 mg/l within the disposal footprint. Across the broader 1 km radius of influence, the model predicts maximum SSC values ranging between 20 and 80 mg/l. Around Port Ellen and the nearby island chain, maximum concentrations are generally above 40 mg/l, with some isolated locations experiencing levels exceeding 80 mg/l. Beyond these areas, SSC values typically range between 10 and 20 mg/l. From the SSC time series plots shown in Chart 4.1, at the disposal ground the SSC is characterised by brief peaks of up to 150–250 mg/l during disposal events, rapidly returning to background levels (<5 mg/l). No sustained or far-field

turbidity occurs, confirming that suspended sediment remains confined to the immediate disposal footprint.

- Further afield beyond both the Port Ellen development area and Kilnaughton Bay concentrations diminish to negligible levels at distances of approximately 4–5 km from the dredging source.
- The cumulative effect of dredging and disposal increases the spatial extent and elevated SSC relative to either activity alone. The highest concentrations remain confined to the immediate dredge footprint and disposal area. Beyond these zones, SSC elevations towards Port Ellen, the island chain, and Kilnaughton Bay are low.
- It should be noted that suspended sediment increases are shown by the model to be localised and short-lived as supported by Chapter 6 Water Environment and Coastal Processes, Figure 6-1 and Chart 4.1 respectively.

Chart 4.1: Modelled SSC during dredging and disposal operations at the selected locations within (a) the dredged area, (b) around Loch Leòdamais (Port Ellen Bay) and (c) at the disposal ground for 70% fine fraction for tide-plus strong wind



Source: Extracted from Dredging and Sediment Dispersion Modelling – Alternative Disposal Location, included in the EIA Addendum (Mott MacDonald, 2026)

Further details of assessment assumptions and assessment of impacts on water quality changes are provided in Chapter 6 Water Environment and Coastal Processes.

Designated sites

The closest marine-related designated sites to the proposed development are the Oa SPA, approximately 4.1km to the southwest, and South-East Islay Skerries SAC located at approximately 4.4km to the southeast of the proposed development. In light of the predicted

distances of SSC increases within the vicinity of the proposed development area, there will not be any increased turbidity or SSC at the designated sites resulting from dredging and disposal activities, and it is not expected that the sediment dispersal would impact the designated sites directly.

The mobile features of these sites, i.e., harbour seal and bird species, have a low to not-sensitive levels of sensitivity to increased turbidity or suspended solids[3]. As seals do not have a high fidelity for foraging at this area[4,5] and birds can forage more widely where their prey species also occur readily, this localised and small increase in SSC is not anticipated to cause indirect impacts on these designated features through affecting their prey. Therefore, with the very high value of the designated sites but negligible magnitude of impact, the significance of effect is considered to be **minor adverse**.

Habitats

The following habitats assessed are those habitats with medium/high value identified within the survey area.

At maerl beds that are distributed generally across the middle of the Kilnaughton Bay, the predicted maximum SSC levels are 3–10mg/l. Maerl bed is considered to have a medium sensitivity to water clarity changes (a change from clear to intermediate for one year, while these ranks are mean suspended particulate matter in units of mg/c: 10-100 - intermediate; <10 – clear; refer to FeAST[6]) that is caused by suspended solids. In view of the negligible change (ranked clear) within a sub-local area only, the magnitude of impact is considered negligible. Maerl bed has a high ecological value, and the potential effect from water quality changes, increased turbidity and suspended solids on maerl bed is considered to be **minor** adverse and not significant.

Kelp beds are located in areas where the maximum SSC level is predicted to be 10–20mg/l though kelp recorded closest to the proposed dredge area could be subject to short-live elevated SSC levels. As kelp's sensitivity to changes in water clarity is low (refer to FeAST[6]) and the scale of predicted change is low (ranked clear[6]) within a sub-local spatial scale only, the magnitude of impact is considered as low. Therefore, as kelp has a medium value, the effect is **minor adverse** and not significant.

Seagrass bed is located in areas where the maximum SSC level is predicted to be 10–20mg/l. For seagrass beds the sensitivity to changes in water clarity is high given its high sensitivity to reduction of light attenuation due to turbidity. Referring to Chart 4.1, as the maximum SSC is predicted to remain below 6mg/l without short-duration peaks in SSC, the scale of predicted change is low (ranked clear[6]). It is unlikely that the dredging within a sub-local area would cause a reduction of light attenuation at the seagrass bed identified, and the magnitude of impact is considered negligible. Therefore, as seagrass bed has a high value, the effect is **minor adverse** effect and not significant.

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[3] The mobile features of these sites, i.e., harbour seal and bird species, have a low to not-sensitive levels of sensitivity to increased turbidity or suspended solids[131]. As seals do not have a high fidelity for foraging at this area[132,133] and birds can forage more widely where their prey species also occur readily, this localised and small increase in SSC is not anticipated to cause indirect impacts on these designated features through affecting their prey. Therefore, with the very high value of the designated sites but negligible magnitude of impact, the significance of effect is considered to be **minor adverse**.

[4] Paterson, W., Russell, D. J. F, Wu, M., McConnell, B. J. & Thompson, D. 2015. Harbour seal haul-out monitoring, Sound of Islay. Scottish Natural Heritage Commissioned Report No. 894. [Online] Available at: SNH Commissioned Report 894: Harbour seal haul-out monitoring, Sound of Islay (nature.scot)

[5] Russell, D. J. F. (2015) Changes in at-sea foraging trips of harbour seals and grey seals in south-east Scotland. Sea Mammal Research Unit, University of St Andrews, Report to Scottish Government, no. CSD 5, St Andrews, 11 pp. [Online] Available at: CSD5_at_sea_activity_report_VF1.pdf (st-andrews.ac.uk)

[6] FeAST working group, 2023. [Online] Available at: feature-activity-sensitivity-tool.scot

Species

Marine mammals and birds

In general, marine mammals (including otters) and birds have a range of sensitivity to increased turbidity or suspended solids[7] from being not sensitive to having a low sensitivity. Within Loch Leòdamais and Kilnaughton bay and its immediate vicinity, harbour seal and otter are able to forage in turbid waters, however, increased turbidity may impact benthic communities and reduce prey availability. Similarly, diving and wading birds could be indirectly affected by increased turbidity that may cause a reduction of their food source (fish and marine invertebrates). The increased suspended solids levels are predicted to be small (between 3mg/l and 20 mg/l) in Kilnaughton Bay and localised to the dredging area and disposal site (sub-local) only. While these species are highly mobile with their prey being readily available in the wider area, the works are unlikely to cause any significant effect on these species through affecting their prey. It is considered a negligible magnitude of impact and as mammal and bird species are of high value, effects are determined to be **minor adverse**, which are not significant.

Fish and shellfish

Increased suspended sediment can lead to negative impacts on fish spawning, settlement, avoidance behaviour and feeding. Physical harm from suspended sediment can also occur when sediment damages fish gills. Harming this organ can affect the oxygen uptake on the individual species, which can lead to a decline in fish populations, temporary displacement and a reduction in foraging. Increased turbidity can also impact cockles, shellfish and other marine invertebrates by reducing filter-feeding or irritating/inhibiting the respiration mechanism. Peak suspended sediments are predicted to be low in concentration (<10mg/l) within range of expected baseline variation and would occur for a very short timescale (see Chart 4.1) across a sub-local scale area. As such, these are considered to have a low magnitude of impact and as the feature is low value, effects on fish and shellfish are determined to be of **negligible** significance.

Other species

Outwith Kilnaughton Bay the increased suspended solids levels are expected to be negligible and will not affect species present within the ZoI. Effects of increased turbidity and suspended solids on species are considered as **minor adverse** and not significant.

4.6.2.2 Water quality changes from resuspension of contaminants

No change. See Volume 2, Chapter 7, Ecology of the EIA report.

4.6.2.3 Water pollution events

No change. See Volume 2, Chapter 7, Ecology of the EIA report.

4.6.2.4 Temporary effects on habitats from dredging and smothering

Designated sites

The designated sites at over 4km from the proposed development boundary and disposal site are not expected to be affected by temporary habitat effects of dredging and disposal activities. Sediment depositions resulting from dredging and disposal have been simulated and presented in Chapter 6, Water Environment and Coastal Processes Figure 6-6 and there is negligible sedimentation (below 0.05mm) predicted beyond 1km of the works, thus, no impact from

[7] Sinclair, R., Lacey, C., Tyler-Walters, H., Sparling, C. & Tillin, H.M. 2020. Developing FeAST for mobile marine species. Scottish Natural Heritage Research Report No. 1175. [Online] Available at: SNH Research Report 1175: Developing FeAST for mobile marine species (nature.scot)

smothering on designated sites is expected. Therefore, the magnitude of impact from dredging and smothering is negligible and the significance of effect is minor adverse.

Habitats

It is estimated that 19628m^2 of habitats recorded within the proposed development area will be affected due to dredging. Moreover, vessels and jack up barge (if used) anchoring during construction works could directly impact habitats present within the site area. However, this is unquantifiable and considered of a negligible extent. The temporary habitat loss from dredging is detailed in Table 4-1, showing this accounts for 0.12% of kelp habitat, 0.76% of mixed sediments habitat and 1.77% of muddy sand habitat present in the survey area. The low percentage of habitat affected is considered a low magnitude of impact in relation to temporary habitat loss.

Table 4-1: Area of temporary habitat loss from dredging (no change)

Habitat type	Surveyed habitat area		Area affected by dredging		Percentage of habitat in survey area affected
	(m^2)	(ha)	(m^2)	(ha)	
Kelp	164786	16.48	194	0.02	0.12%
Infralittoral mixed sediments*	884715	88.47	6688	0.67	0.76%
Infralittoral muddy sand	720055	72.01	12746	1.27	1.77%

Note: All area values in square metre are rounded to the nearest unit whilst the remaining values are rounded to 2 d.p.
* denotes that although a mosaic habitat of “Infralittoral mixed sediments / *Lithothamnion glaciale* maerl beds in tide-swept variable salinity infralittoral gravel” was assigned within the from benthic survey result, maerl beds were confirmed for the middle portion of the Kilnaughton Bay, a few hundred metres from the proposed development (Figure 7-5), therefore, only infralittoral mixed sediments habitat is considered within the proposed development area.

Sediment deposition resulting from dredging has the potential to adversely affect important habitats such as the seagrass beds and maerl beds. The predicted sediment deposition at Port Ellen arising from loss of sediment comprising 70% fines representing the worst-case scenario is shown in Chapter 6 Water Environment and Coastal Processes, Figure 6-6 and detailed in the Technical Note on Dredging and Sediment Dispersion Modelling – Alternative Disposal Location, as detailed in Volume 3, Technical Appendices, Appendix E.4. Sediment accretion of around 10 mm is predicted within the dredge area. Within Loch Leòdamais and the beach to the northwest, accretion is predicted to be less than 0.5 mm. In the broader region, accretion is predicted to be less than 0.05 mm.

At the new proposed disposal site the deposition is close to maerl beds (refer to record from the subtidal survey). Maerl beds have a high sensitivity to smothering if deposition of fine material added to the habitat is above 5cm^3. The results of sedimentation modelling for dredging at Port Ellen show a predicted sediment accretion of around 10 mm is predicted within the dredge area and less than 0.5 mm in the broader region. In view of the localised sedimentation shown in Map 4.2, no significant sedimentation on seagrass beds or maerl beds is expected. No sedimentation is predicted at the maerl location closet to the proposed development, and therefore no likely significant effect on maerl beds is anticipated.

In summary, considering the negligible magnitude of impact in relation to dredging and smothering, the significance of temporary habitat loss would be **minor adverse**.

Species

Mobile and fast-moving notable species in the marine environment such as marine mammals, otters, sharks, fish and waterbirds are not subject to the potential effect of smothering, while the indirect impact of temporary habitat loss from dredging on these species is considered negligible given the low percentage of area affected compared with the availability of their supporting habitats in the wider area. Immobile species or species with limited mobility that are

listed as PMF, such as Ocean Quahog and European spiny lobster have been identified through records located at 2.5km and 4.4km from the proposed development respectively. With the temporary habitat effects from dredging and smothering being localised (up to 1km as shown in Chapter 6 Water Environment and Coastal Processes, Figure 6-6), the magnitude of impact is considered as negligible. In summary, considering the negligible magnitude of impact from dredging and smothering, the significance of temporary habitat effects on the notable species would be **minor adverse**.

4.6.2.5 Permanent Habitat Loss

No change. See Volume 2, Chapter 7, Ecology of the EIA report.

4.6.2.6 Introduction and/or spread of INNS

No change. See Volume 2, Chapter 7, Ecology of the EIA report.

4.6.2.7 Vessel strike

No change. See Volume 2, Chapter 7, Ecology of the EIA report.

4.6.2.8 Underwater noise

Underwater modelling was undertaken to assess the impact on marine species in relation to dredging activities with assumptions of extended hours of operation for backhoe dredging (16-hour and 24-hour working periods), the dredge material disposal at the Port Ellen disposal site (MA030) and cumulative impacts of both changes for continuous noise.

Marine Mammals

The most sensitive hearing group affected by the use of a backhoe dredger is Low Frequency (LF) cetaceans. The maximum ranges for temporary threshold shift (TTS) are estimated at 290m for a 16-hour period of dredging and 370m for a 24-hour period of dredging. For permanent threshold shift (PTS), the corresponding maximum ranges are 10m and 20m respectively. Behavioural disturbance from backhoe dredging is assessed using the L_{rms} metric, which is not dependent on the exposure duration. Hence, the predicted disturbance range at 830m remains consistent with the previous underwater noise assessment result (see Volume 3 Technical Appendices, Appendix D.9: Underwater Noise Assessment of the EIA report).

For dredge material disposal at the proposed new site, PTS and TTS are not expected to arise due to the low auditory sensitivity of marine mammals at the dominant dredge disposal frequency, while the maximum disturbance range is predicted to be approximately 370m from the disposal site. Given the brief and intermittent nature of dredge disposal events, cumulative impacts of continuous noise arising from periods where dredging and disposal may occur simultaneously are considered unlikely.

The underwater noise assessment results for all other activities generating continuous and impulsive noise, such as vibropiling, rock socket pile, impact piling, rock breaking and Cardox blasting, remain unchanged.

Fish

For both the dredging activity and disposal site the impact of continuous noise is assumed to be the same. For fish without swim bladder, fish eggs and larvae, in the absence of a numerical threshold, PTS and TTS impacts are generally considered *low* within tens to hundreds of metres from the source, except TTS in fish without swim bladders which is predicted as *moderate* within tens of metres. However, given the brief and intermittent nature of dredge disposal events, the magnitude of potential cumulative impacts of continuous noise on fish arising from dredging and disposal are considered negligible. The underwater noise assessment results for all other

activities generating continuous and impulsive noise, such as vibropiling, rock socket pile, impact piling, rock breaking and Cardox blasting, remain unchanged.

Cumulative impact

For the potential cumulative impact of both changes, it is anticipated that backhoe dredging will be undertaken in parallel with dredge disposal. Cumulative PTS or TTS effects are considered unlikely, as the disposal site is located approximately 1km from the dredging location. Potential cumulative behavioural disturbance arising from these two construction activities is expected to be minimal. The maximum disturbance zones associated with dredging (830m) and disposal (370m) only overlap at a small area (approximately 15m), and dredge-disposal events occur for approximately 10 minutes every 2 hours. Any simultaneous exposure would be brief and intermittent. Therefore, the cumulative effect of dredging and dredge disposal on marine species is anticipated to be **minor adverse.**

The cumulative assessment of all other construction activities remains unchanged from that presented in Volume 3 Technical Appendices, Appendix D.9: Underwater Noise Assessment of the EIA report.

4.6.2.9 Airborne noise and visual disturbance (including light)

No change. See Volume 2, Chapter 7, Ecology of the EIA report.

4.6.3 Operation

No change. See Volume 2, Chapter 7, Ecology of the EIA report.

4.6.4 Summary

No change. See Volume 2, Chapter 7, Ecology of the EIA report.

4.7 Mitigation measures

No change. See Volume 2, Chapter 7, Ecology of the EIA report.

4.8 Residual effects

No change. See Volume 2, Chapter 7, Ecology of the EIA report.

4.9 In-combination effects

No change. See Volume 2, Chapter 7, Ecology of the EIA report.

4.10 Monitoring

No change. See Volume 2, Chapter 7, Ecology of the EIA report.

4.11 Conclusions

The proposed changes to the construction activities, i.e., extended working hours for dredging and the alternative dredge disposal site at Port Ellen (MA030) have been assessed for any changes in effects on ecological receptors.

Considering potential effects from changes in suspended sediment concentration, sediment deposition and underwater noise, there would not be any significant adverse effects on ecological receptors due to these proposed changes to the construction activities.

5 Airborne Noise and Vibration

5.1 Introduction

No change. See Volume 2, Chapter 8, Airborne Noise and Vibration of the EIA report.

5.2 Policy context, legislation, guidance and standards

No change. See Volume 2, Chapter 8, Airborne Noise and Vibration of the EIA report.

5.3 Consultation

A meeting was held with Argyll and Bute Council on 23 January 2026 to discuss the proposed changes to construction activities. Subsequent to that meeting, an email on 11 February 2026 from the council included the following statements:

> *As an overview, we would generally expect the following for all similar types of noise generating works:-*
>
> *In order to protect the amenity of the neighbouring properties then we would expect the following to be achieved in the bedroom of the nearest Noise Sensitive Receptor:*
>
> 1. *A Noise Rating of NR25 between the hours of 1900-0700hrs.*
> 2. *In any case, to limit in impact of percussive noise, no more than 4 exceedances of *45dBA (F-Max) between the hours of 1900-0700hrs over the course of the works.*
>
> **45dBA taken from the WHO Guidelines for Community Noise 1999, Table 1.*

It should be noted that these criteria are based on World Health Organisation guideline and are both internal noise criteria. A response to this comment is provided in section 5.4.3 below.

5.4 Methodology

5.4.1 Study area

No change. See Volume 2, Chapter 8, Airborne Noise and Vibration of the EIA report.

5.4.2 Baseline data collection

No change. See Volume 2, Chapter 8, Airborne Noise and Vibration of the EIA report.

5.4.3 Assessment methodology

EIA Criteria

The assessment methodology from Volume 2, Chapter 8, Airborne Noise and Vibration of the EIA report has been reiterated below.

Construction activities

BS 5228-1:2009+A1:2014 “Code of practice for noise and vibration control on construction and opens sites – Part 1: Noise” (referred to as BS 5228-1) does not define strict criteria to determine the significance of noise impacts however, it provides two methods for assessing construction noise.

In order to determine the potential for significant change, Method 2, called the 5dB(A) Change method from Annex E has been applied for this assessment. This method has been chosen as BS 5228-1 specifically relates this method to a range of receptors, namely:

- Residential buildings;
- Hotels and hostels;
- Buildings in religious use;
- Buildings in educational use;
- Buildings in health and/or community use.

Whereas for the ABC method (method 1) 5228-1 refers only to *"dwellings".*

BS 5228-1 states the following for the +5dB Change method (method 2):

"Noise levels generated by site activities are deemed to be potentially significant if the total noise (pre-construction ambient plus site noise) exceeds the pre-construction ambient noise by 5 dB or more, subject to lower cut-off values of 65 dB, 55 dB and 45 dB $L_{Aeq,\ T}$ from site noise alone, for the daytime, evening and night-time periods, respectively; and a duration of one month or more, unless works of a shorter duration are likely to result in significant effect."

Where application of the +5dB Change method has indicated the potential for a significant adverse effect, the following three tests have been applied to confirm that the effect is indeed significant. All three tests must be achieved for significant effects to occur:

1. Predicted construction noise $L_{Aeq,T}$ exceeds the thresholds* in Table 5-1 (originating from BS 5228 Part 1 Table E.2).

Table 5-1: Noise thresholds for significant of effects from construction activities

Time of day	Threshold	Period
Daytime	75dBA Façade (72dBA Free Field)	07:00 to 19:00 weekdays, 07:00 to 13:00 Saturdays
	65dBA Façade (62dBA Free Field	13:00 to 19:00 Saturdays, 07:00 to 19:00 Sundays
Evening	65dBA Façade (62dBA Free Field)	19:00 to 23:00 weekdays,
	55dBA Façade (52dBA Free Field)	19:00 to 07:00 Saturdays and Sundays
Night time	55dBA Façade (52dBA Free Field)	Any 1 hour 23:00 to 07:00 weekdays and weekends

* or a level of 5dB or more above the existing pre-construction ambient noise level (subject to lower cut-off values of 65 dB, 55 dB and 45 dB Laeq, T from site noise alone, for the daytime, evening and night-time periods) for the corresponding time of day, whichever is the higher

2. Construction noise added to pre-construction ambient noise level is at least 5dB higher than pre-construction ambient noise level (i.e. 5dB change with construction); and

3. Duration of noise generating works is 10 or more days in any 15 consecutive days or a total number of days exceeding 40 in any six consecutive months.

In summary the threshold of significance for dredging in the evening is 62dB$L_{AEq,4hr}$ free-field and for nighttime is 52dB$L_{AEq,8hr}$ free-field.

Argyll and Bute Council Criteria

As stated, above Argyll and Bute Council expressed their opinion on noise criteria within an email summarised in Section 5.3. These are internal noise criteria (within dwellings). Equating these to exterior noise criteria is difficult as the attenuation between exterior noise levels and interior noise levels is dependent on the structure and glazing specification of the individual

dwelling when windows are closed. This can be highly variable from dwelling to dwelling. The following should therefore be viewed as indicative.

A further difficulty is presented by the fact that there is no recognised method for predicting L_{Amax} values from construction noise.

It is widely accepted that a partially open window provides around 13dBA attenuation. The above criteria would therefore equate to the following with windows partially open:

- L_{Aeq}, of 43dBA (NR25 equates to around 30dBA)
- L_{AMAX} of 58dBA

With windows closed the attenuation of typical thermal double glazing can vary between 25dBA and 35dB. Assuming the worst case of 25dB the above criteria would equate to:

- L_{Aeq}, of 55dBA (NR25 equates to around 30dBA)
- L_{AMAX} of 70dBA

5.4.4 Assumptions and limitations

The plant items used in the dredging noise calculations are listed in Table 5-2 below along with the % on time for the shift.

Table 5-2: Plant and equipment assumed for construction noise calculations

Construction activity	Main activity description	Duration	Working hours*	Plant	Number of plant items	% Time in use during shift (excludes recognised work break)	Sound Pressure Level L_{Aeq}@10m (dB)	Source Ref (BS 5228-1:2009+A1:2014) for Sound Pressure Level @10m
Demolitions	**No change. See Volume 2, Chapter 8, Airborne Noise and Vibration of the EIA report**.							
Quay Wall & Land Reclamation Works								
Finger Pier, Linkspan and Fixed Ramp								
Terminal Building								
Roads & Marshalling Area								
Dredging	Dredging of areas around Port Ellen Terminal	3 months	7am – 11pm OR 24 hour working 7 days a week.	Backhoe dredger	1	80	69	Table C.4 #66
				Split hopper barge	2	50	76	Aberdeen Harbour Expansion Project Volume 3: Environmental Statement Appendix 20-C: Construction Noise Assessment
				Harbour tug	1	40	82	Table C.7 #2
				Multicat vessel / workboats	1	40	82	Table C.7 #2

5.5 Baseline environment

5.5.1 Baseline conditions

No change. See Volume 2, Chapter 8, Airborne Noise and Vibration of the EIA report.

5.5.2 Future baseline

No change. See Volume 2, Chapter 8, Airborne Noise and Vibration of the EIA report.

5.6 Assessment of effects

5.6.1 Embedded mitigation

No change. See Volume 2, Chapter 8, Airborne Noise and Vibration of the EIA report.

5.6.2 Good practice

No change. See Volume 2, Chapter 8, Airborne Noise and Vibration of the EIA report.

5.6.3 Construction effects

No change is anticipated in relation to construction effects, with exception to dredging construction activities which is further assessed below. For other construction effects, see Volume 2, Chapter 8, Airborne Noise and Vibration of the EIA report.

Construction Activities

The predicted $L_{Aeq,T}$ for the evening and nighttime dredging using the BS5228 methodology are shown on Table 5-3 below for the assessment locations shown in Volume 4, Figure 8-1 of the EIA report and reproduced below as Figure 5-1..

Table 5-3: Predicted noise levels due to proposed Evening and Night time dredging

	Distance to nearest part of dredge area (m)		Predicted $L_{Aeq,T}$ (dB)	
Location	**Evening (19:00-23-00)**	**Night (23:00-07:00)**	**Evening (19:00-23:00)**	**Night (23:00-07:00)**
LT1	37	70	70	65
LT2	98	160	62	58
ST1	127	182	60	57
ST2	270	302	53	52
ST3	450	510	49	48
ST4	440	500	49	48
ST5	110	182	61	57
ST6	150	195	58	56
ST7	370	395	50	50

Note: LT1 was located on the Ferry Terminal and was not immediately adjacent to a dwelling. It is not therefore mentioned in the discussion below.

Figure 5-1 Baseline Monitoring and Assessment Locations

BS 5228-1 method

It is evident that the threshold for significance of 62dBA (free field) is reached but not exceeded at LT2/ST5 (the south end of Frederick Crescent) during the evening.

At ST1 (40 Pier Road) dredging noise levels are predicted to reach 60dBA during the evening. At all other locations the predicted noise levels due to evening dredging are below 60dBA.

In summary therefore, for proposed evening dredging the thresholds for significance are not exceeded. Noise levels from evening dredging works are considered **Not Significant.**

During nighttime the predicted dredging noise levels are up to 57dBA at ST1 (40 Pier Road) and ST5 (the south end of Frederick Crescent) and 58dBA at LT2 (the south end of Frederick Crescent). This is in exceedance of the nighttime threshold for significance of 52dBA (free field). This nighttime threshold of significance is exceeded at night at all locations except ST3, ST4 (northeastern shore of Port Ellen harbour and ST7(shore adjacent to Charlotte Street). Noise levels during night dredging works are considered **Significant.**

Argyll and Bute Council's criteria

Discussion with Argyll and Bute Council have stated that their evening and nighttime internal noise criteria within dwellings are: NR25 and 45dBL_{Amax} (no more than 4 exceedances per night between 19:00 and 07:00 over the course of the works).

In relation to Argyll and Bute Council's criteria and assuming a partially open window, providing around 13dB attenuation, the council's internal noise criteria are likely to be exceeded at all assessment locations for both evening and night.

With closed windows and assuming an external to internal attenuation of 25dB, the council's internal noise criteria are likely to be exceeded at all assessment locations except ST2 (49 Frederick Cres), ST3, ST4 (north-eastern shore of Port Ellen harbour) and ST7 (shore adjacent to Charlotte Street) for both evening and night.

When considering Argyl and Bute Council's criteria, noise levels from evening and night dredging works are considered **Significant.**

5.6.3.1 Construction traffic

No change. See Volume 2, Chapter 8, Airborne Noise and Vibration of the EIA report.

5.6.3.2 Construction vibration

No change. See Volume 2, Chapter 8, Airborne Noise and Vibration of the EIA report.

5.6.4 Operational activities

No change. See Volume 2, Chapter 8, Airborne Noise and Vibration of the EIA report.

5.7 Mitigation measures

5.7.1 Construction

It should be noted that of the plant and equipment proposed for evening and nighttime works the workboat and tug are the noisiest. The use of these vessels should therefore be minimised during this period. It may be possible to procure quieter alternatives.

5.7.2 Operation

No change. See Volume 2, Chapter 8, Airborne Noise and Vibration of the EIA report.

5.8 Summary of significant effects

The proposed dredging works are not predicted to exceed EIA significance criteria during evening (19:00-23:00) at any of the assessment locations.

During nighttime dredging, noise levels would exceed the threshold for significance at all locations except ST3, ST4 (at the north-eastern shore of Port Ellen Harbour) and ST7 (the shore adjacent to Charlotte Street).

It is difficult to predict internal noise levels with dwellings accurately due to the variation in glazing specifications etc. However, it is likely that Argyll and Bute Council's internal noise criteria would be exceeded during evening and nighttime for dwellings with windows open and closed.

5.9 In-combination effects

In the event that evening dredging works is approved there would be no in combination effects other than that, on a daily basis, the duration of construction noise would be longer. Daytime construction noise levels would not increase. This would potentially however reduce the overall dredging period commensurately with dredging expected to be undertaken within three months rather than six months.

5.10 Monitoring

No monitoring was proposed in relation to airborne noise and vibration during daytime. If dredging is proposed for the evening period it is recommended that noise monitoring be conducted near Location LT2/ST5 (the south-western end of Frederick Street). This would be agreed with Argyll and Bute Council prior to any works commencing.

In the event that monitoring of evening dredging shows exceedances of noise criteria, then evening dredging would be suspended whilst noise mitigation measures or alternative methods can be investigated and introduced.

5.11 Conclusions

The proposed dredging works are not predicted to exceed significance criteria during evening (19:00-23:00) but would exceed significance criteria during nighttime (23:00-07:00).

It is difficult to predict internal noise levels with dwellings accurately due to the variation in glazing specifications etc. However, it is likely that Argyll and Bute Council's internal noise criteria would be exceeded during evening and night-time.

Noise levels due to dredging may be reduced by minimising the use of work boats and tugs during the evening shift, and it is expected that the duration of dredging would reduce.

6 Water Environment and Coastal Processes

6.1 Introduction

This chapter assesses the likely significant effects of the proposed changes to construction activities for the Port Ellen Terminal Development on the water environment and coastal processes, encompassing hydrodynamics (tides, waves, currents), water quality (including suspended sediments and contaminants), geomorphology and sedimentation, during construction and operation. It updates the original Chapter 9 to incorporate the relocated dredge disposal site (MA030) and the new sediment dispersion modelling that compares outcomes against the original offshore site MA035.

Key changes since the original EIAR chapter are:

- Disposal ground proposed relocation from MA035 (offshore, ~20–35 km WSW of Port Ellen, deeper water) to MA030 (near-field, ~1 km SE of Port Ellen, minimum disposal depth ≥10 m).
- Updated sediment dispersion modelling: using the existing MIKE3 hydrodynamic model with a coupled MIKE Particle Tracking (PT) framework to quantify suspended sediment concentration (SSC) plumes and deposition for combined dredging plus near-field disposal scenarios under wind-augmented tides.

6.2 Consultation

No change. See Volume 2, Chapter 9, Water Environment and Coastal Processes of the EIA report.

6.3 Methodology

No change. See Volume 2, Chapter 9, Water Environment and Coastal Processes of the EIA report.

6.3.1 Study Area

There is no change in the boundaries of the study area. Within the study area, the proposed new MA030 disposal ground lies approximately 1 km southeast of the dredge area, between the main navigation channel and the Island Chain, with a 300 m radius operational footprint constrained to depths ≥10 m.

6.3.2 Baseline data collection

No change. See Volume 2, Chapter 9, Water Environment and Coastal Processes of the EIA report.

6.3.3 Numerical modelling

No change. See Volume 2, Chapter 9, Water Environment and Coastal Processes of the EIA report.

6.3.4 Assessment methodology

No change. See Volume 2, Chapter 9, Water Environment and Coastal Processes of the EIA report.

6.3.5 Assumptions and limitations

For the new round of modelling the following limitations are noted:

1) The model's high SSC spikes inside the immediate point-release cell in shallow water are recognised as numerical artefacts. The released material would disperse and settle rapidly through the water column, resulting in peak concentrations that are substantially lower than the modelled maximum. As such, the modelling is conservative with estimations.
2) Weather downtime, small operational pauses, and fine-scale turbulence are not explicitly simulated; this is conservative for impact screening.

6.3.6 Baseline environment

6.3.7 Site description

While the dredge disposal site is proposed to change location to plot MA030, there are no changes in the baseline environment. See Volume 2, Chapter 9, Water Environment and Coastal Processes of the EIA report.

6.3.8 Hydrodynamics

6.3.8.1 Astronomical Tides

No change. See Volume 2, Chapter 9, Water Environment and Coastal Processes of the EIA report.

6.3.8.2 Modelled Currents

The update in proposed disposal location will result in a change to the tidal regime that will affect SSC from disposal activities. The tidal flows at the previously agreed disposal ground were relatively strong and directed northwest during the flood tide and to the southeast during the ebb tide. Additionally, interactions between the strong offshore flow and weaker flows within the shallow bay during the ebb tide would have resulted in eddies near the proposed disposal ground (MA035), increasing sediment dispersion during the disposal process.

As per Figure 6-1 and Figure 6-2, the updated hydrodynamic model outputs show that peak tidal currents in the vicinity of the new disposal ground (MA030) are generally gentle, with markedly lower current speeds than those observed further offshore or within the main channel approaches to Port Ellen. The refined spatial plots of flood and ebb tide conditions under both neap and spring tidal cycles demonstrate a consistent pattern of weak, predominantly tide-driven flow, with only limited local acceleration near constricted parts of the coastline.

Figure 6-1: Spatial current flow around Port Ellen and the new disposal ground for the calibration period during neap tide showing flood tide (right) and ebb tide (left)

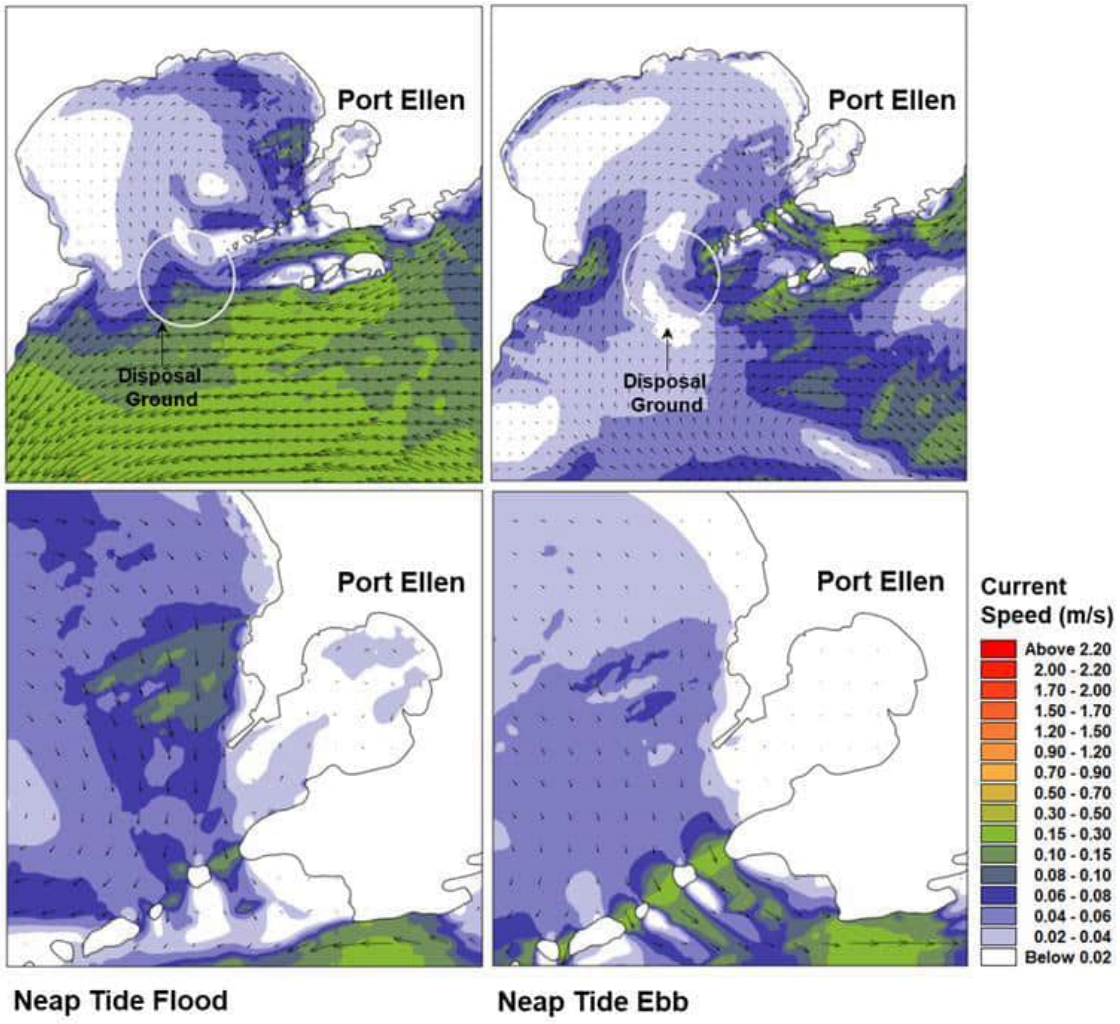
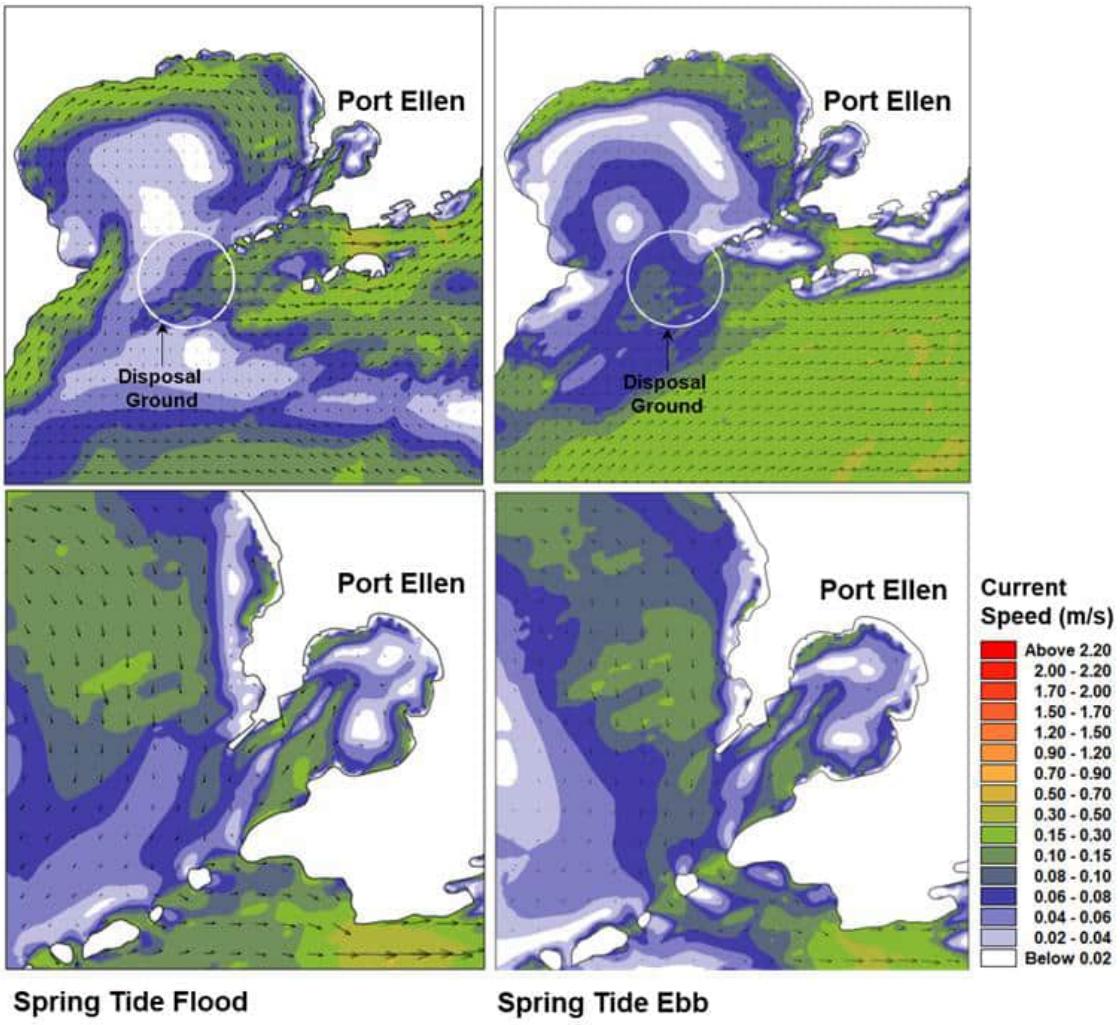


Figure 6-2: Spatial current flow around Port Ellen and the new disposal ground for the calibration period during spring tide showing flood tide (right) and ebb tide (left)



6.3.8.3 Waves

No change. See Volume 2, Chapter 9, Water Environment and Coastal Processes of the EIA report.

6.3.8.4 Measured Waves

No change. See Volume 2, Chapter 9, Water Environment and Coastal Processes of the EIA report.

6.3.8.5 Modelled Waves

No change. See Volume 2, Chapter 9, Water Environment and Coastal Processes of the EIA report.

6.3.9 Wind

No change. See Volume 2, Chapter 9, Water Environment and Coastal Processes of the EIA report.

6.3.10 Fluvial

No change. See Volume 2, Chapter 9, Water Environment and Coastal Processes of the EIA report.

6.3.11 Geology

No change. See Volume 2, Chapter 9, Water Environment and Coastal Processes of the EIA report.

6.3.12 Coastal sediments

No change. See Volume 2, Chapter 9, Water Environment and Coastal Processes of the EIA report.

6.3.13 Marine sediment

No change. See Volume 2, Chapter 9, Water Environment and Coastal Processes of the EIA report.

6.3.14 Total suspended sediment concentrations

No change. See Volume 2, Chapter 9, Water Environment and Coastal Processes of the EIA report.

6.3.15 Water quality

As the disposal site has moved from Laggan Bay coastal water body (SEPA ID 200302) to South East Islay coastal water body (SEPA ID 200304) (Figure 6-3), Laggan Bay coastal water body should be referenced only as a nearby water body. Additionally, water body classifications for Laggan Bay should no longer be considered within the baseline of Volume 2, Chapter 9, Table 9-8 of the EIA report.

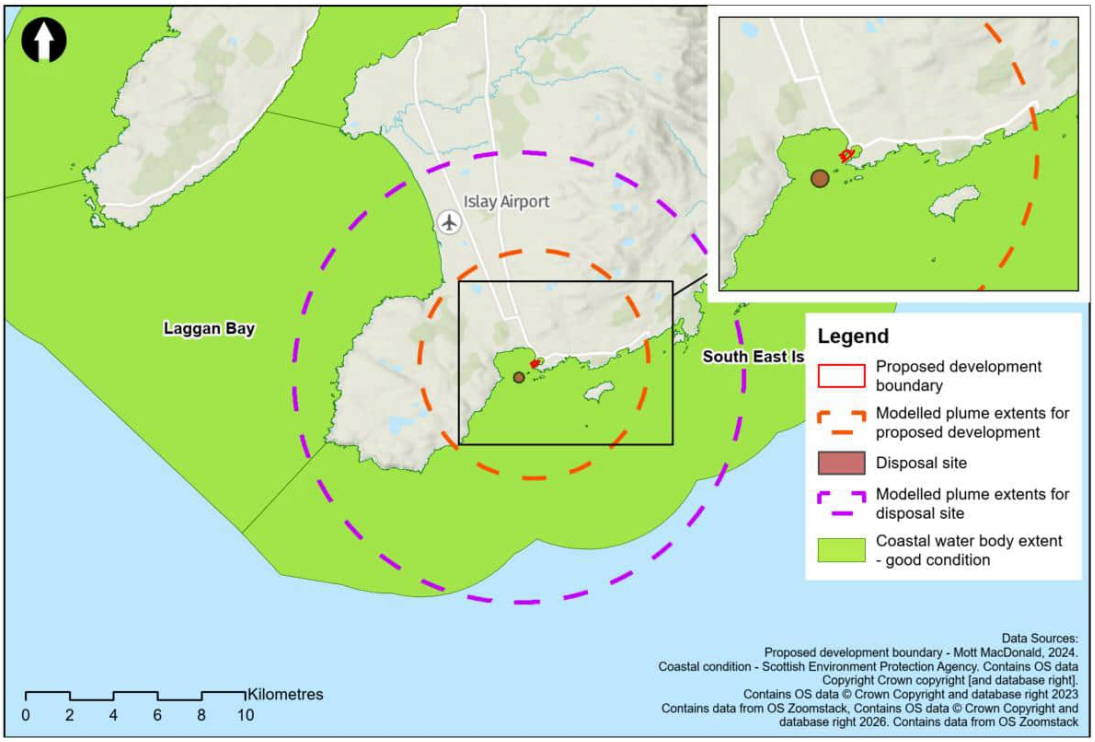


Figure 6-3: Water bodies surrounding the proposed development and disposal site

6.3.16 Outfalls and spills

No change. See Volume 2, Chapter 9, Water Environment and Coastal Processes of the EIA report.

6.3.17 Receptor sensitivity

As the disposal site has moved from Laggan Bay coastal water body (SEPA ID 200302), reference to this water body should no longer be considered within the baseline of Volume 2, Chapter 9, Table 9-9 of the EIA report.

6.4 Assessment of effects

6.4.1 Embedded mitigation

No change. See Volume 2, Chapter 9, Water Environment and Coastal Processes of the EIA report.

6.4.2 Good practice

No change. See Volume 2, Chapter 9, Water Environment and Coastal Processes of the EIA report.

6.4.3 Impact pathways

6.4.3.1 Impacts from construction

Impact pathways at both the ferry terminal site and the proposed disposal site during construction include:

- Changes to the suspended sediment concentration (SSC);
- Changes to the sediment deposition; and
- Changes to the water quality.

6.4.3.2 Operational impacts

No change. See Volume 2, Chapter 9, Water Environment and Coastal Processes of the EIA report.

6.4.4 Construction

As a result of the revised disposal location, updated modelling has been undertaken to reassess the construction-phase effects on suspended sediment concentrations (SSC), sediment deposition, and hydrodynamic behaviour. The refined outputs indicate that, although the disposal ground has moved closer to the dredging site, the effects remain localised and short-lived, driven primarily by the gentle tidal currents characteristic of this part of Port Ellen Bay.

6.4.4.1 Changes to the suspended sediment concentration (SSC)

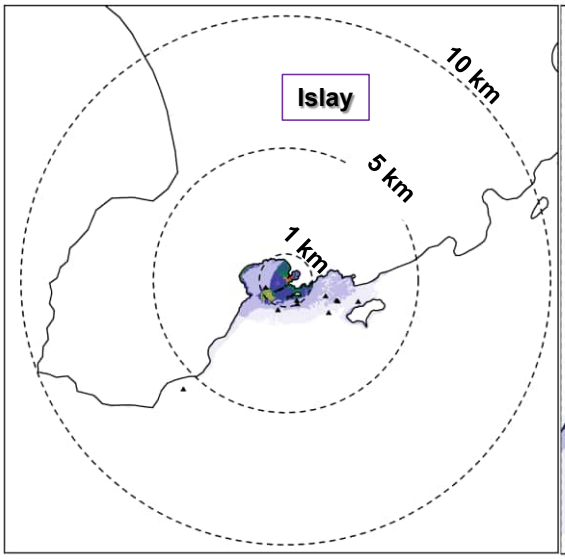
The revised modelling incorporates the new disposal ground (MA030), located approximately 1 km south-east of Port Ellen. Source-term sediment release from both dredging and disposal has been reassessed using the MIKE Particle Tracking (PT) model over a 16-day construction simulation, details provided in the Technical Note on Dredging and Sediment Dispersion Modelling – Alternative Disposal Location, Volume 3, Technical Appendices, Appendix E.4. The

spatial outputs illustrate the pattern of sediment spread and show the maximum predicted SSC attributable to construction activities.

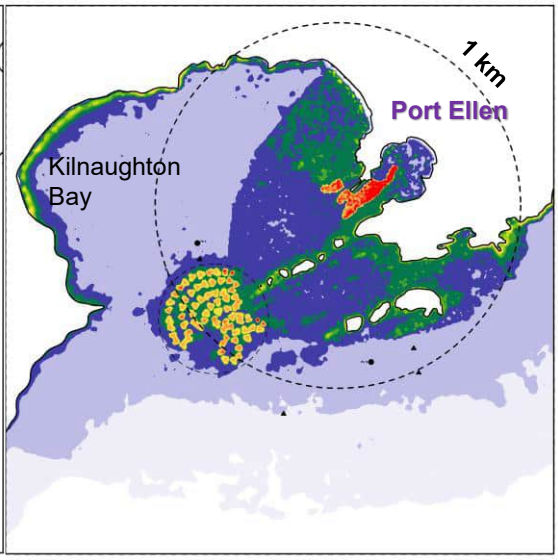
As per Figure 6-4 and Figure 6-5 modelled SSC results for 70% fines and 30% fines under wind-forced conditions show that the highest concentrations occur within the immediate dredge footprint, where the model predicts short-duration peaks exceeding 1,000 mg/l. These values reflect the numerical representation of a point-source release in shallow water, where dilution is artificially constrained; in reality, rapid settling and mixing would occur.

Within the designated disposal area, predicted maximum SSC values exceed 500 mg/l at the moment of release but decrease quickly to <50 mg/l. Across the broader 1 km radius surrounding the disposal ground, SSC maxima range from 20 to 80 mg/l. Around Port Ellen and the island chain, modelled maxima are generally above 40 mg/l, with isolated pockets exceeding 80 mg/l. Further afield—beyond the Port Ellen development area and Kilnaughton Bay—concentrations reduce to 10–20 mg/l, diminishing to negligible levels by approximately 5–10 km from the source.

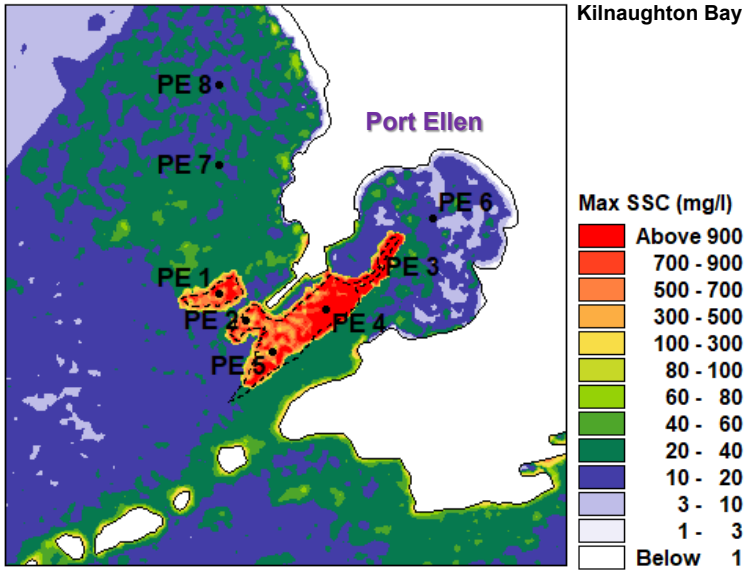
Figure 6-4: Modelled maximum SSC for sediment comprising 70% fines (with wind) (a) within 10 km of Port Ellen, (b) within 1 km of Port Ellen, and (c) around Port Ellen for combined Dredging and Disposal



(a) – Maximum SSC within 10 km radius of dredging



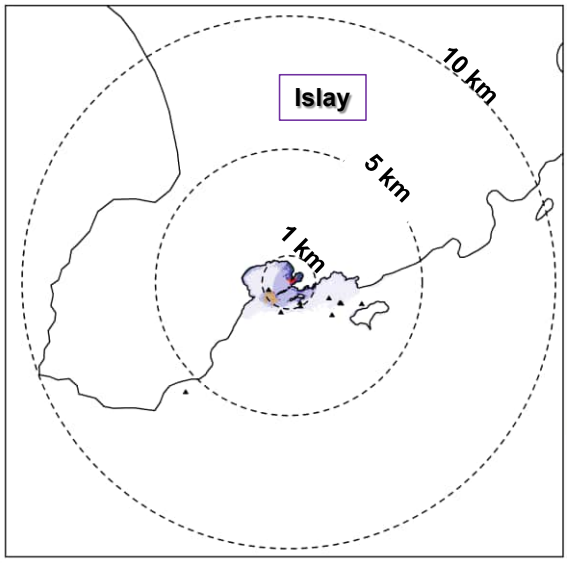
(b) – Maximum SSC within Port Ellen and Kilnaughton Bay



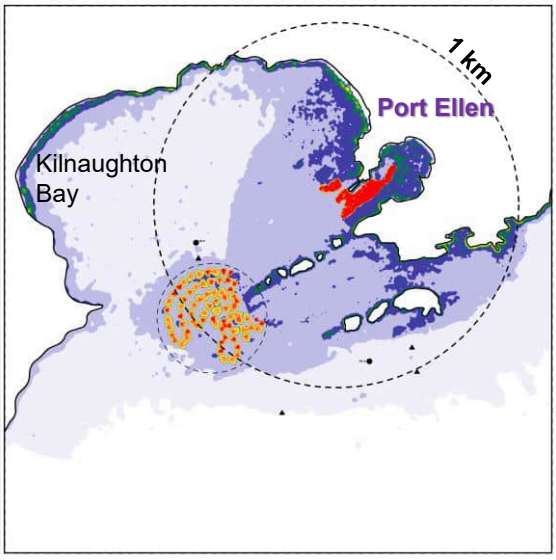
(c) – Maximum SSC around Port Ellen

Source: Mott MacDonald, 2026

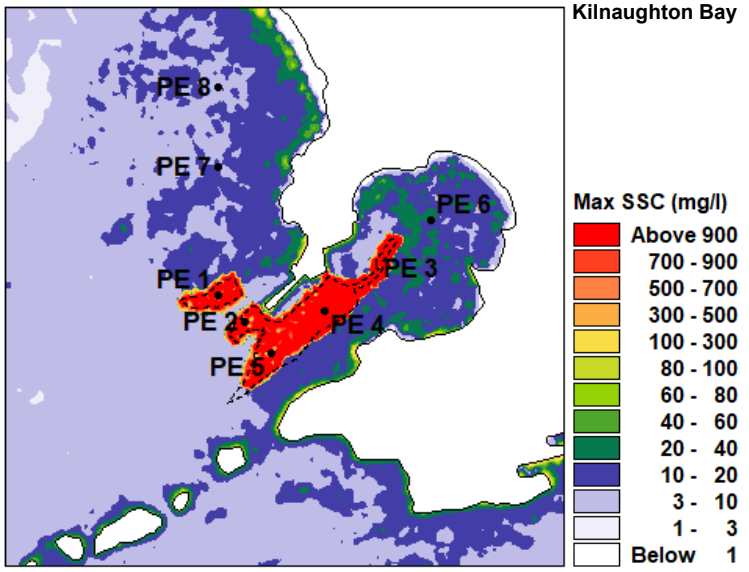
Figure 6-5: Modelled maximum SSC for sediment comprising 30% fines (with wind) (a) within 10 km of Port Ellen, (b) within 1 km of Port Ellen, and (c) around Port Ellen for combined Dredging and Disposal



(a) – Maximum SSC within 10 km radius of dredging



(b) – Maximum SSC within Port Ellen and Kilnaughton Bay



(c) – Maximum SSC around Port Ellen

Source: Mott MacDonald, 2026

Influence of hydrodynamics

Updated hydrodynamic plots for both neap and spring tides show that the MA030 disposal ground lies in a gentle-current, low-energy zone, with typical velocities of:

- Greater than 0.10–0.15 m/s across most of the disposal area,
- Extensive areas at <0.08 m/s,
- Localised pockets <0.04 m/s.

These weak tidal currents significantly constrain plume dispersion, preventing far-field transport. While strong winds modify circulation within the Port Ellen development area and promote some movement of fine sediment into shallow areas (including Kilnaughton Bay), conditions at the

disposal ground remain predominantly tide-driven, with wind having minimal influence on overall current speeds.

Within Kilnaughton Bay, where circulation is slow and depth is shallow, combined dredging-and-disposal scenarios predict maximum SSC >60 mg/l, although these elevations are still short-lived and decay rapidly with distance.

Temporal SSC behaviour

Temporal time-series outputs show that the peak SSC values are brief and episodic, returning quickly to background conditions after each release event.

70% fines scenario:

- Dredge-area peaks >1,500 mg/l are short-lived and decay rapidly.
- Outside the dredge area, no short-duration peaks occur; SSC remains <6 mg/l around Port Ellen Bay.
- At the disposal ground (PE16–PE20), brief peaks 150–250 mg/l occur during disposal pulses, consistently returning to <5 mg/l.

30% fines scenario:

- Dredge-area peaks >3,000 mg/l occur during excavation but are highly transient, decaying to background rapidly (<7 mg/l outside the footprint).
- Disposal-ground peaks of 350–400 mg/l are again short-lived, returning to <5 mg/l.

Across both sediment types, no sustained or far-field turbidity is observed, reinforcing that SSC increases remain confined to the immediate dredge and disposal areas and do not present environmental concern.

6.4.4.2 Changes to the sediment deposition

Sediment deposition predictions have been reassessed to account for the revised disposal site (MA030). The updated model outputs capture both the spatial extent and the thickness of material settling from dredging and disposal activities. The resulting deposition patterns are illustrated in Figure 6-6 and reflect the combined influence of sediment loss, tidal currents, wave-driven resuspension, and local bathymetry

Deposition at dredge site

Figure 6-6 (c) and Figure 6-7 (c) illustrate the predicted sediment deposition associated with the dredging operations, based on sediment loss scenarios containing 70% and 30% fines, respectively. The modelling indicates that the deposition associated with dredging remains highly localised, with:

- A maximum deposition thickness of ~10 mm occurs within the dredge footprint.
- This material is expected to be re-disturbed and removed during continued dredging cycles.
- Deposition decreases sharply with distance, reducing to <0.5 mm along the northern and north-western inner-bay shoreline.
- At the regional scale, deposition is <0.05 mm, indistinguishable from natural variability.

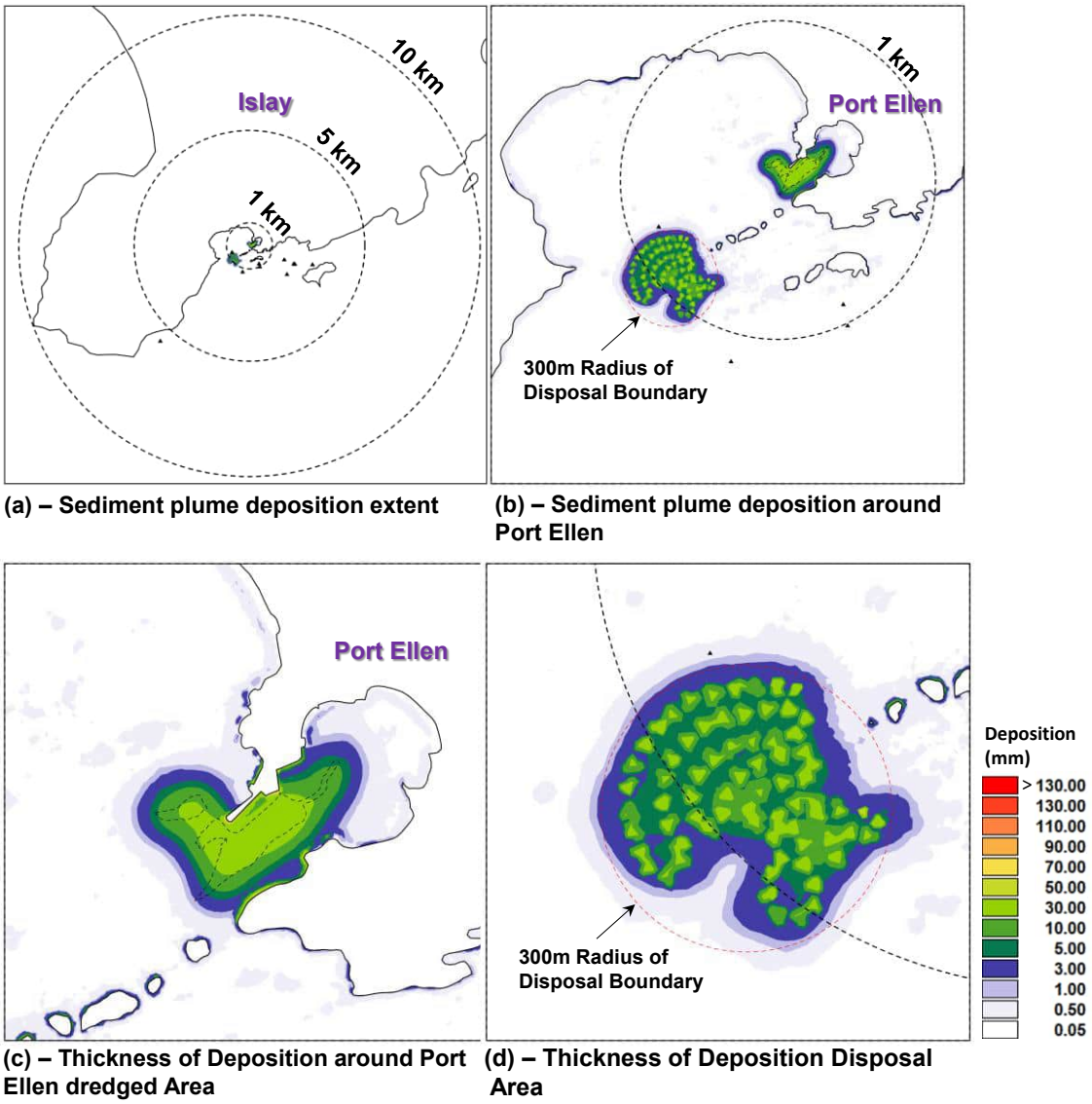
No measurable far field accumulation is therefore anticipated as a result of the dredging works.

Deposition at disposal ground:

Figure 6-6 (d) and Figure 6-7 (d) illustrates the predicted sediment deposition associated with the dredging operations at the disposal ground. Sediment deposition at MA030 forms a small, well-defined mound, consistent with the low energy hydrodynamic environment:

- Peak deposition thickness reaches 100–130 mm at the mound centre.
- Thickness gradually decreases to 30–50 mm across most of the disposal footprint.
- Deposition is <0.5 mm across wider Port Ellen Bay beyond the 300 m boundary.
- Regional deposition remains <0.05 mm, confirming that the disposal mound is tightly confined and does not contribute to broader morphological change.

Figure 6-6: Modelled sedimentation at the end of dredging for 70% fine fraction and wind



(a) – Sediment plume deposition extent

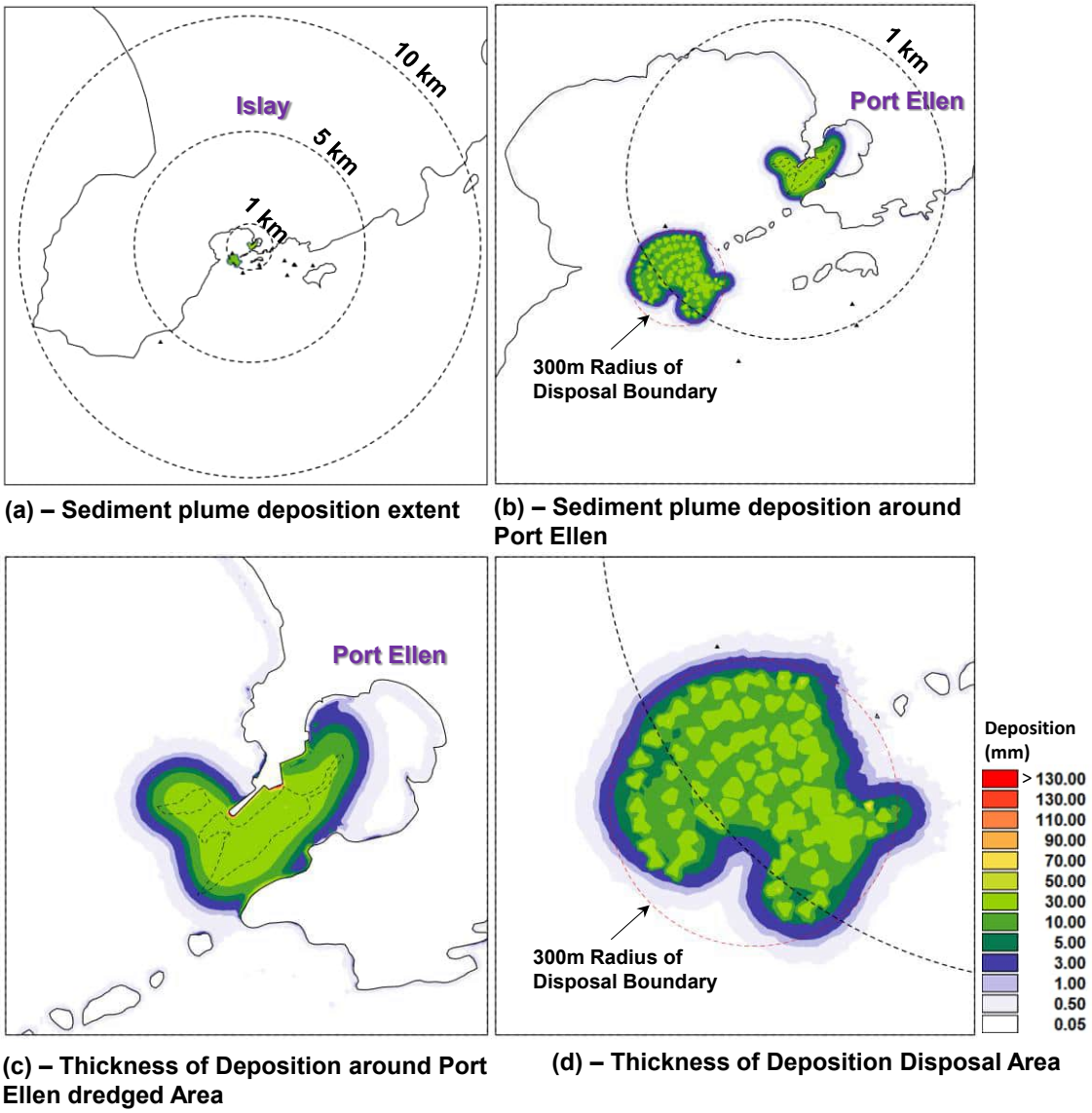
(b) – Sediment plume deposition around Port Ellen

(c) – Thickness of Deposition around Port Ellen dredged Area

(d) – Thickness of Deposition Disposal Area

Source: Mott MacDonald, 2026

Figure 6-7: Modelled sedimentation at the end of dredging for 30% fine fraction and wind



(a) – Sediment plume deposition extent

(b) – Sediment plume deposition around Port Ellen

(c) – Thickness of Deposition around Port Ellen dredged Area

(d) – Thickness of Deposition Disposal Area

Source: Mott MacDonald, 2026

Potential for resuspension

The behaviour of the sediment placed at the disposal ground is governed mainly by wave-driven movement at the seabed, because tidal currents at this location are weak and only provide a small background flow. In water depths of less than 15 m, wave orbital motion regularly reaches the seabed and can generate increased bed shear stresses. When these stresses exceed the critical entrainment threshold for the sediment, particles on the surface of the disposal mound can be lifted into suspension.

The modelling shows that fine-grained material is the most responsive to this process. Shallow-water wave activity can intermittently disturb the upper layer of the deposit, resulting in short-lived resuspension events. Once resuspended, these finer particles drift slowly away from the mound under the influence of the weak tidal and residual currents present in this part of the

bay. Although the rate of transport is low, repeated disturbance over time can gradually thin the fine surface layer and create a diffuse spread of material in the immediate surrounding area.

Any sediment that becomes mobilised—whether as suspended load or bedload—may cause temporary, small increases in local suspended sediment concentration (SSC). However, because ambient currents are very weak, these increases are not sustained and do not contribute to elevated SSC levels at greater distances from the disposal ground.

6.4.4.3 Changes to the water quality

Impacts on water quality due to the construction of the proposed development are likely due to increased suspended sediment concentrations (SSC) due to dredging activity at the proposed development site and the disposal site. Impacts on water quality can include:

- Increased suspended sediment concentration (SSC) reduces sunlight penetration, leading to reduced photosynthesis;
- Where suspended sediment is high in organic matter, dissolved oxygen concentrations can be reduced, potentially leading to fish mortality;
- Contaminated sediment can release toxins, metals, chemicals, hydrocarbons and other pollutants into the receiving water body; and
- Where the dredged plume is close to sensitive receptors (e.g. sensitive ecological features or bathing waters) extra attention should be given to particular site sensitivities.

A reduction in sunlight penetration from increased suspended sediment loads is likely during construction, however, as discussed in Section 6.4.4.1, modelling has shown that the peaks in SSC are both short-lived and localised to the dredging area. This is, therefore, considered unlikely to impact the water body as a whole. Further details of the modelling are included in Volume 3, Appendix E.1.

Results of the recent sediment sampling at the dredging site (see details in the Best Practicable Environmental Options Assessment Report, Document Reference: 115031-MMD-PE-XX-RP-G-0003) identified the followings exceedances to Marine Directorate Revised Action Level 1:

- Chromium;
- Nickel;
- Zinc; and
- Various polycyclic aromatic hydrocarbons (PAHs).

Increases in contaminants such as metals and PAHs in the water column due to sediment resuspension can adversely impact marine ecology (assessed in Chapter 4: Ecology) and deterioration of WFD status if large-scale and permanent. However, the suspended sediment modelling suggests both short-term and localised sediment plumes; it is unlikely that this will significantly impact the water body as a whole.

Furthermore, the proximity of the disposal site to the dredged area reduces the changes that the disposal of sediment will add new contaminants to the area surrounding the disposal site, as this location is already very likely to be contaminated with the same pollutants.

The impacts of temporarily increased SSC to sensitive receptors near the disposal site such as seagrass and mearl beds, are assessed in Chapter 4: Ecology.

Considering the short term and localised impacts of the increases in SSC, and considering the chemical analysis of sediment from the proposed dredge area found nothing that might lead to a deterioration in water quality at the water body scale, the significance of sediment disposal on water quality at the proposed development site and proposed dispersal site is considered **minor adverse**.

6.4.5 Operation

No change. See Volume 2, Chapter 9, Water Environment and Coastal Processes of the EIA report.

6.5 Mitigation measures

No change. See Volume 2, Chapter 9, Water Environment and Coastal Processes of the EIA report.

6.6 Summary of significant effects

No change. See Volume 2, Chapter 9, Water Environment and Coastal Processes of the EIA report.

6.7 Monitoring

No change. See Volume 2, Chapter 9, Water Environment and Coastal Processes of the EIA report.

6.8 Conclusions

The effects of relocating the disposal site were evaluated using updated sediment dispersion modelling. The modelling applies conservative assumptions to represent worst-case construction conditions, ensuring that any potential effects on sensitive environmental receptors are appropriately captured. The outputs include spatial and temporal predictions of suspended sediment concentrations (SSC) and sediment deposition, enabling a comparison of expected effects from both dredging and disposal activities.

6.8.1 SSC at Port Ellen

Simulations undertaken with wind forcing show that dredging of sediments containing 70% fines and 30% fines results in short-duration peaks in SSC exceeding 1,500 mg/l within the immediate dredge footprint. These high values are a modelling artefact, caused by the release of sediment into a shallow water column where instantaneous mixing is constrained. In practice, the released material would settle and disperse quickly, meaning real-world peak concentrations would be substantially lower.

SSC levels decline rapidly with distance from the dredge area. A few hundred metres from the source, and within 1 km, the maximum predicted SSC is less than 3 mg/l. Further afield, within Kilnaughton Bay, maximum SSC values remain below 10 mg/l.

6.8.2 SSC at Disposal ground (MA030)

Within the designated disposal area, located approximately 1 km south of the dredging site, the model predicts short-lived SSC peaks exceeding 500 mg/l at the point of release. These concentrations reduce quickly, falling to below 50 mg/l within the disposal footprint.

Across the broader 1 km radius of influence, predicted maximum SSC values range from 20 to 80 mg/l. Around Port Ellen and the nearby island chain, maximum concentrations are generally above 40 mg/l, with small, isolated areas experiencing values exceeding 80 mg/l. Beyond these locations, SSC typically ranges between 10 and 20 mg/l, consistent with rapid dispersion and settling in this low-energy environment.

6.8.3 Deposition at Port Ellen

Sediment deposition resulting from dredging is highly localised. Within the dredge footprint, deposition of around 10 mm is predicted, although much of this material is likely to be re-disturbed and removed during the dredging process itself.

Deposition decreases sharply away from the dredged area. Along the northern and north-western shores of Loch Leòdamais, deposition is predicted to be less than 0.5 mm. At wider spatial scales, deposition reduces further to below 0.05 mm, indicating that the dredging activities will not result in measurable far-field sedimentation.

6.8.4 Deposition at Disposal Ground (MA030)

The sediment released at the offshore disposal ground forms a clear, well-defined deposit centred on the disposal footprint. The thickness of accumulation is around 100 to 130 mm close to the centre of the disposal point creating mound tapering to 30 to 50 mm across most of the site.

Beyond the disposal area, deposition declines rapidly. Sediment deposition at the offshore disposal ground forms a distinct, well-confined accumulation centred on the disposal footprint.

6.8.5 Water Quality at Port Ellen

Considering the short term and localised impacts of the increases in SSC and considering the chemical analysis of sediment from the proposed dredge area found nothing that might lead to a deterioration in water quality at the water body scale, the significance of sediment disposal on water quality at the proposed development site and proposed dispersal site is considered minor adverse.

Impacts to ecological receptors is studied in Section 4.

7 Schedule of Mitigation and Monitoring

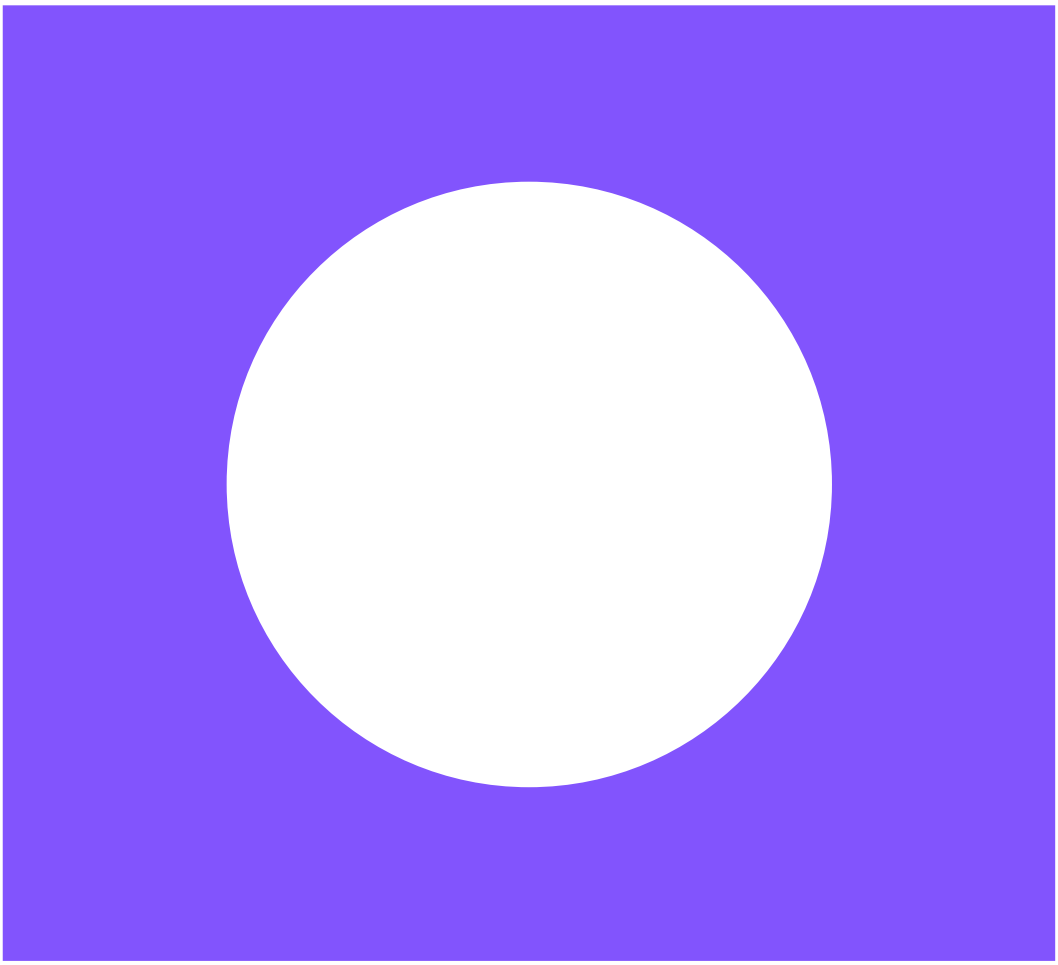
Table 7-1 sets out the additional items identified from the assessment of proposed changes to construction activities that are added to the Schedule of Mitigation and Monitoring. See Volume 2, Chapter 15, Schedule of Mitigation and Monitoring of the EIA report for the remaining mitigation and monitoring measures. All mitigation measures will be incorporated into a detailed CEMP which is currently in preparation by the Contractor.

Table 7-1: Schedule of Mitigation and Monitoring

Mitigation / Monitoring Measure Reference	Timescale	Description	Reference Document
Landscape, seascape and visual amenity			
LSV4	Construction	In view of the proposed development there are additional good practice measures for night dredging works for the proposed development, relating to lighting which include: ● Use task-specific, downward facing lighting only, no general floodlighting ● All lights to be fully shieled and angled below the horizontal, facing into the harbour basin, not towards the shore ● Minimum brightness necessary for safety, dim or switch off lights when not actively required ● No direct illumination towards the south-east coastline ● Avoid moving, sweeping, flashing or high intensity temporary lights at night ● Lighting design and operation to follow institution of Lighting Professionals GN01 principles	EIA Report Addendum Chapter 3 Landscape, Seascape and Visual Amenity – Section 3.7.1 To be included within the Contractor's detailed Construction Environmental Management Plan (CEMP)
Ecology			
ECO29	Construction	Good practice measures for night dredging works for the proposed development which include: ● Lighting (safety with nuisance and ecology control): ● Use task-specific, downward-facing lighting only; no general floodlighting. ● All lights to be fully shielded and angled below the horizontal, facing into the harbour basin, not towards shore. ● Minimum brightness necessary for safety; dim or switch off lights when not actively required. ● No direct illumination towards the south-east coastline or known seal haul-outs.	EIA Report Addendum Chapter 4 Ecology – Section 4.6.1.2 To be included within the Contractor's detailed Construction Environmental Management Plan (CEMP)

Mitigation / Monitoring Measure Reference	Timescale	Description	Reference Document
		● Avoid moving, sweeping, flashing or high-intensity temporary lights at night. ● Lighting design and operation to follow Institution of Lighting Professionals GN01 principles.	
ECO30	Construction	Good practice measures for night dredging works for the proposed development which include: Noise: ● Apply best practicable means in line with BS-5228 ● Use quiet, well-maintained plant, no defective exhausts, rattles or tonal alarms ● Generators, pumps and power packs to be enclosed or acoustically screened where practicable ● Avoid impulsive or irregular noise at night (e.g. banging buckets, dropping steel etc) ● Maintain a 24-hour contact number and respond promptly to any complaints	EIA Report Addendum Chapter 4 Ecology – Section 4.6.1.2 To be included within the Contractor's detailed Construction Environmental Management Plan (CEMP)
ECO31	Construction	Good practice measures for night dredging works for the proposed development which include: Marine mammals (e.g. seals): ● No vessel approaches or manoeuvres toward haul out areas during darkness ● Support vessels to use predictable routes and steady speeds, avoid sudden acceleration, horn use or sharp turns at night ● If seals are observed close to operations, reduce speed and maintain course to minimise disturbance Brief all crews on seal disturbance awareness and legal protections before night works commence	EIA Addendum Chapter 4 Ecology – Section 4.6.1.2 To be included within the Contractor's detailed Construction Environmental Management Plan (CEMP)
Airborne Noise and Vibration			
AN13	Construction	It should be noted that of the plant and equipment proposed for evening and nighttime works the workboat and tug are the noisiest. The use of these vessels should therefore be minimised during this period. It may be possible to procure quieter alternatives.	EIA Report Addendum Chapter 5 Airborne Noise and Vibration – Section 5.7.1. To be included within the Contractor's detailed Construction Environmental Management Plan (CEMP)

Mitigation / Monitoring Measure Reference	Timescale	Description	Reference Document
AN14	Construction	No monitoring was proposed in relation to airborne noise and vibration during daytime. If dredging is proposed for the evening period it is recommended that noise monitoring be conducted near Location LT2/ST5 (the south-western end of Frederick Street). This would be agreed with Argyll and Bute Council prior to any works commencing. In the event that monitoring of evening dredging shows exceedances of noise criteria, then evening dredging would be suspended whilst noise mitigation measures or alternative methods can be investigated and introduced.	EIA Report Addendum Chapter 5 Airborne Noise and Vibration – Section 5.10 To be included within the Contractor's detailed Construction Environmental Management Plan (CEMP)



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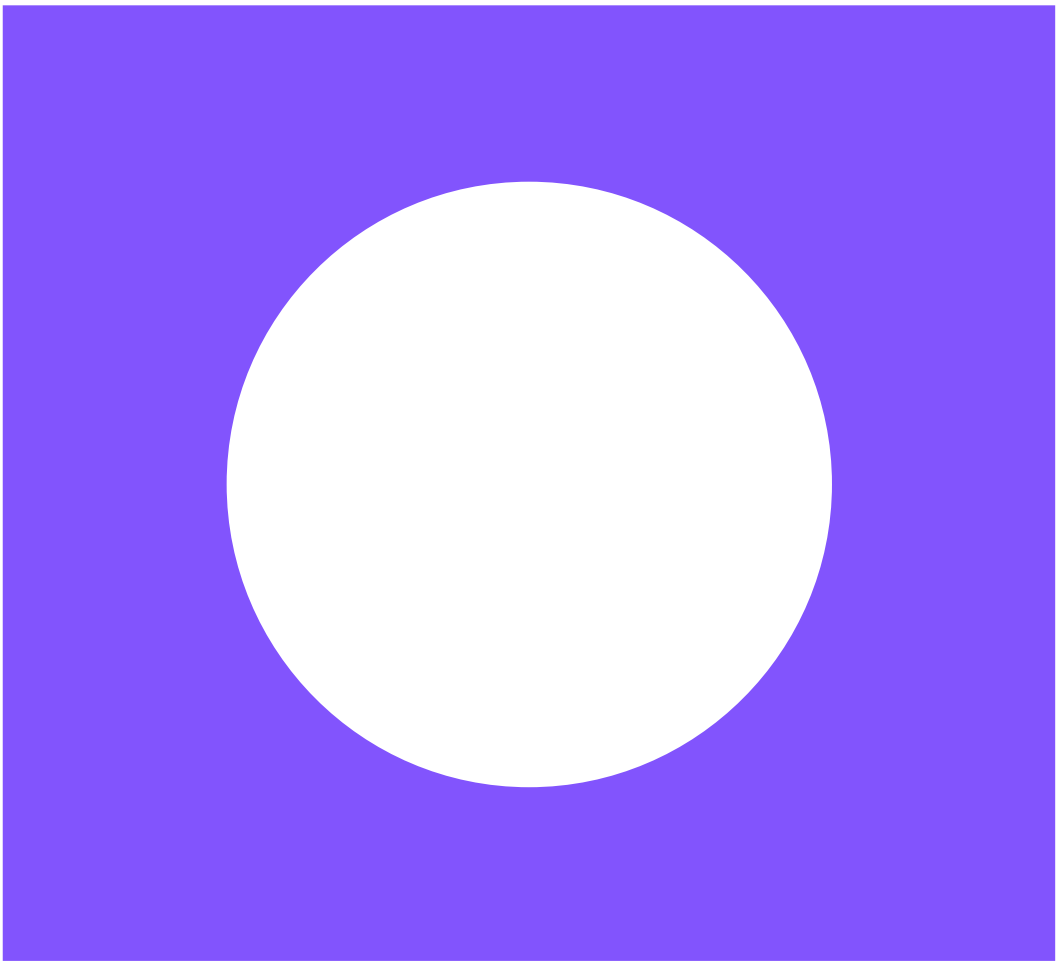

Port Ellen Terminal Development

Volume 4, Environmental Impact Assessment Report Addendum Figures

February 2026

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Port Ellen Terminal Development

Volume 4, Environmental Impact Assessment Report Addendum Figures

February 2026

Issue and Revision Record

Revision	Date	Originator	Checker	Approver	Description
01	23/02/2026	Graduate Environmental and Sustainability Consultant	Principal Environmental and Sustainability Consultant	Technical Director	First Issue

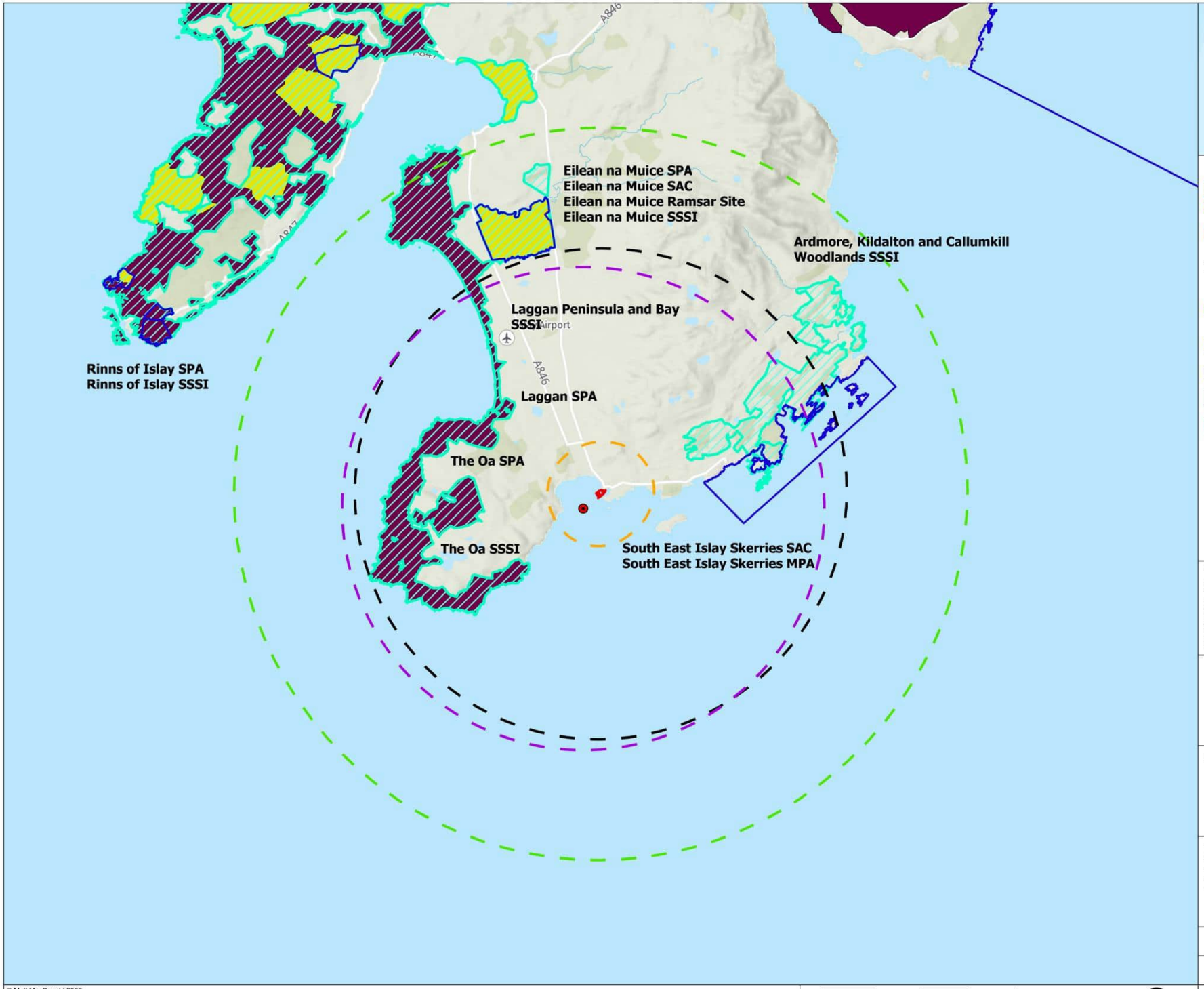
Document reference: 115031-MMD-PE-XX-RP-O-0026

1 Introduction

This Volume 4, Environmental Impact Assessment Report (EIAR) Addendum Figures document has been prepared by Mott MacDonald on behalf of Caledonian Maritime Assets Limited (CMAL) in response to a change in construction methodology proposed by the Contractor. It provides updates to figures in Volume 4, Figures of the Environmental Impact Assessment Report [115031-MMD-PE-XX-RP-O-0021] produced in September 2024. The following updated figures have been produced:

- Updated Figure 7-1: Ecological Designated Sites [115031-MMD-PE-XX-DR-O-0944]
- Updated Figure 7-2a: Priority Marine Features [115031-MMD-PE-XX-DR-O-0930]
- Updated Figure 7-2b: Priority Marine Features [115031-MMD-PE-XX-DR-O-0930-2]
- Updated Figure 9-1: Water Environment and Coastal Processes Study Area [115031-MMD-PE-XX-DR-O-0933]

All other figures included in Volume 4, Figures of the Environmental Impact Assessment Report [115031-MMD-PE-XX-RP-O-0021] remain unchanged.



- Disposal site
- Proposed development boundary
- Disposal site 10km buffer
- Proposed development boundary 2km buffer
- Proposed development boundary 10km buffer
- Proposed development boundary 15km buffer - underwater noise propagation
- RAMSAR
- Special Areas of Conservation (SAC)
- Special Protection Area (SPA)
- Site of Special Scientific Interest (SSSI)

British National Grid; Datum: OSGB 1936

Note: South East Islay Skerries SAC boundary depicts extent of South East Islay Skerries MPA.

Data Sources:
Disposal site: Scottish Government, 2026.
Proposed development boundary: Mott MacDonald, 2024.
Ecological designated site data: NatureScot, 2024.
Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Contains OS data © Crown Copyright and database right 2023
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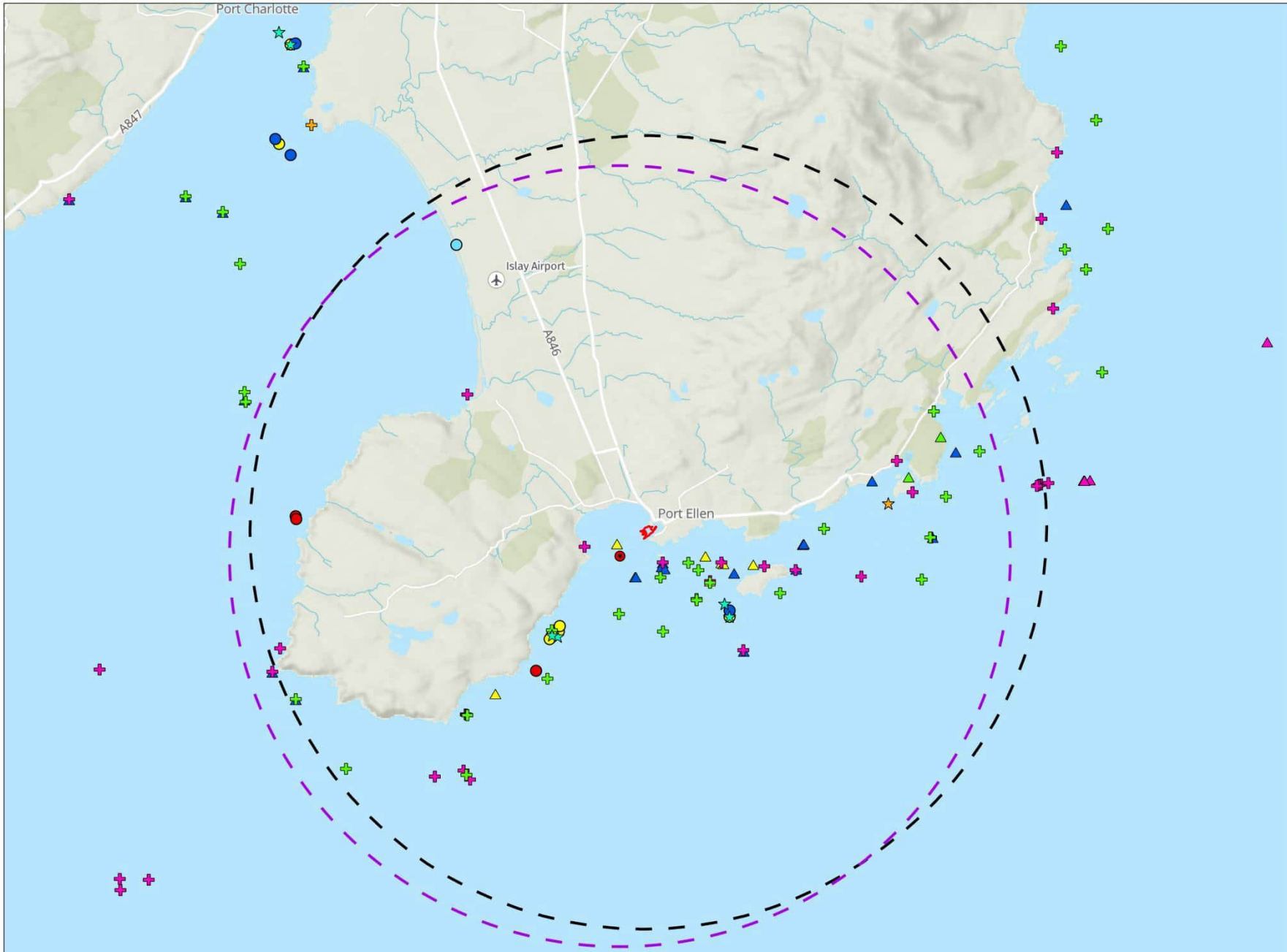
Port Ellen Terminal Development
Figure 7-1
Ecological Designated Sites

Drawn	GIS Checked	Checked	Approved
C Donald	J Lawrie	H Yu	J Craig
Scale at A3	Status	Revision	Security
1:150,000	INF	02	STD

115031-MMD-PE-XX-DR-O-0944

0 2 4 6 8 Kilometres



- Proposed development boundary
- Proposed development boundary 10km buffer
- Disposal site 10km buffer
- Disposal site

Annex 1 Habitats
- Mudflat and sandflat
- Possible sandbank
- Reef

Benthic Species
- Ocean Quahog
- White Cluster Anenome

Habitats
- Burrowed mud
- Kelp bed
- Maerl bed
- Seagrass bed

Species with Some Mobility
- European Spiny Lobster
- Flapper and Blue Skate
- Ling
- Sand Goby

Coordinate system: British National Grid; Datum: OSGB 1936

Data sources
Disposal site: Scottish Government, 2026.
Proposed development boundary: Mott MacDonald, 2024.
Annex 1 habitats, benthic species, habitats, species with some mobility: Nature Scot, 2019

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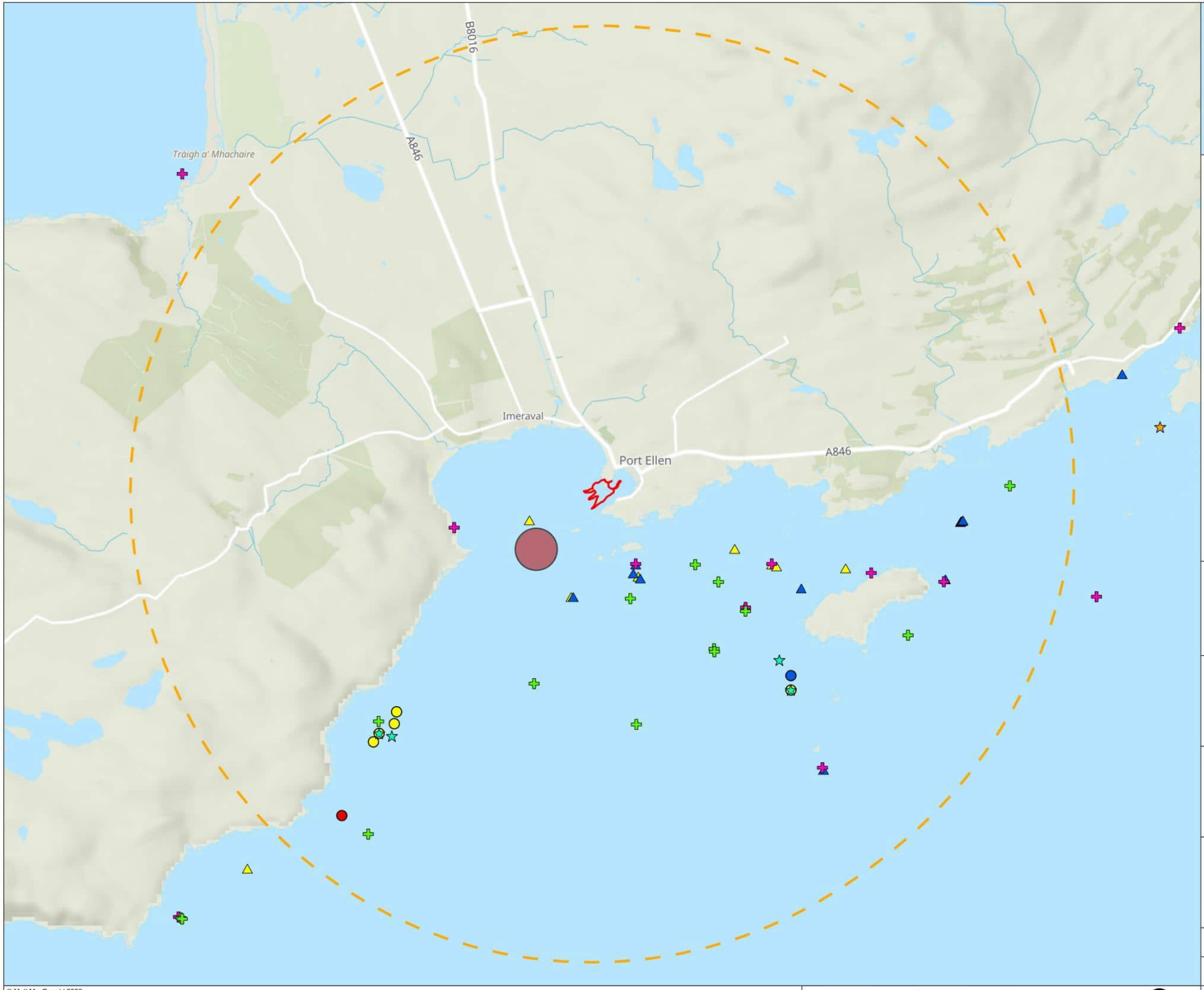
Port Ellen Terminal Development
Figure 7-2a
Priority Marine Features
Port Ellen

Drawn	GIS Checked	Checked	Approved
C Donald	J Lawrie	H Yu	J Craig
Scale at A3	**Status**	**Revision**	**Security**
1:100,000	INF	02	STD

0 1 2 3 4 Kilometres

115031-MMD-PE-XX-DR-O-0930



- Proposed development boundary
- Proposed development boundary 5km buffer
- Disposal site

Annex 1 Habitats
- Annex 1 reef
- Possible sandbank

Benthic Species
- Ocean Quahog
- White Cluster Anenome

Habitats
- Kelp bed
- Maerl bed

Species with Some Mobility
- European Spiny Lobster
- Ling
- Sand Goby

Coordinate system: British National Grid; Datum: OSGB 1936

Data sources
Disposal site: Scottish Government, 2026.
Proposed development boundary: Mott MacDonald, 2024.
Annex 1 habitats, benthic species, habitats, species with some mobility: Nature Scot, 2019.

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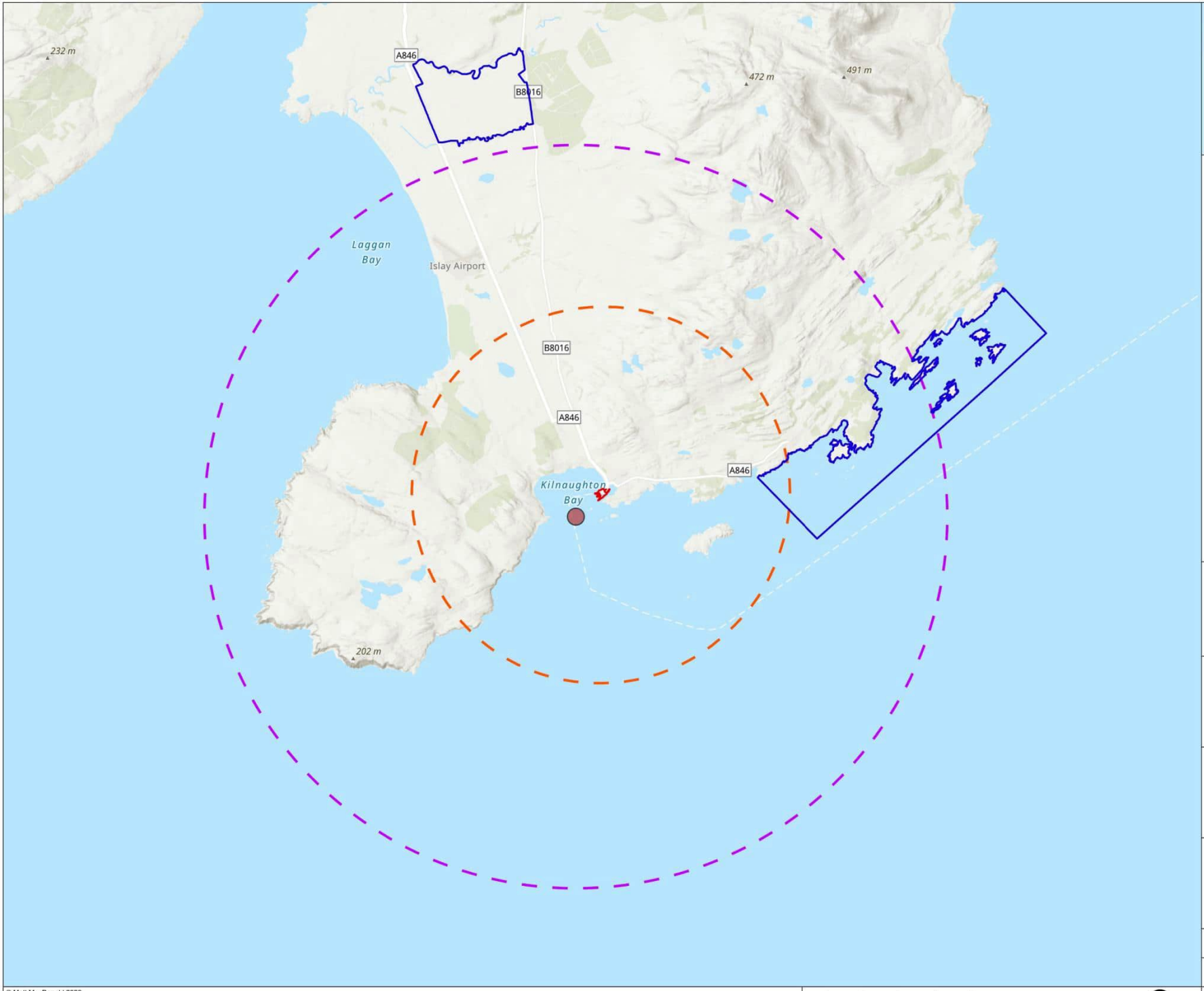
Port Ellen Terminal Development
Figure 7-2b
Priority Marine Features
Port Ellen

Drawn	GIS Checked	Checked	Approved
C Donald	J Lawrie	H Yu	J Craig
Scale at A3	**Status**	**Revision**	**Security**
1:40,000	INF	02	STD

115031-MMD-PE-XX-DR-O-0930

0 0.5 1 1.5 2 Kilometres



- Proposed development boundary
- Disposal site
- Modelled plume extents for proposed development
- Modelled plume extents for disposal site
- Special Areas of Conservation (SAC)

British National Grid; Datum: OSGB 1936

Data Sources:
Disposal site: Scottish Government, 2026.
Proposed development boundary, buffers: Mott MacDonald, 2024.
Ecological designated site data: NatureScot, 2024.

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Port Ellen Terminal Development
Figure 9-1
Water Environment and Coastal Processes Study Area

Drawn	GIS Checked	Checked	Approved
C Donald	J Lawrie	G Chan	J Craig
Scale at A3	Status	Revision	Security
1:100,000	INF	02	STD

0 1 2 3 4 Kilometres

115031-MMD-PE-XX-DR-O-0933