

**A83 North of Inveraray Sea Wall**  
**F111 Environmental Summary Report**  
**December 2024**



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A83 North of Inveraray Sea Wall	
Document:	Form #111 Environmental Summary Report
Issue:	#5
Related to:	All Contracts



## Document Control Sheet

<b>Report Title</b>	A83 North of Inveraray Sea Wall Environmental Summary Report
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<b>Design Team</b>	Minor Improvements
<b>Scheme Designer</b>	Jake Bovill

### Document Approvals

	Name	Organisation	Signature	Date
<b>Prepared By</b>	Mark Laurie	BEAR Scotland	<b>ML</b>	18/12/2024
<b>Approved By</b>	Lara Currie	BEAR Scotland	<b>LC</b>	18/12/2024

### Revision Status

Revision No.	Date	Revision Details	Authorised By
1.0	18/12/2024	First Issue	Lara Currie

### Document Distribution

Reference	Name of Holder
1	Jake Bovill (BEAR Scotland)

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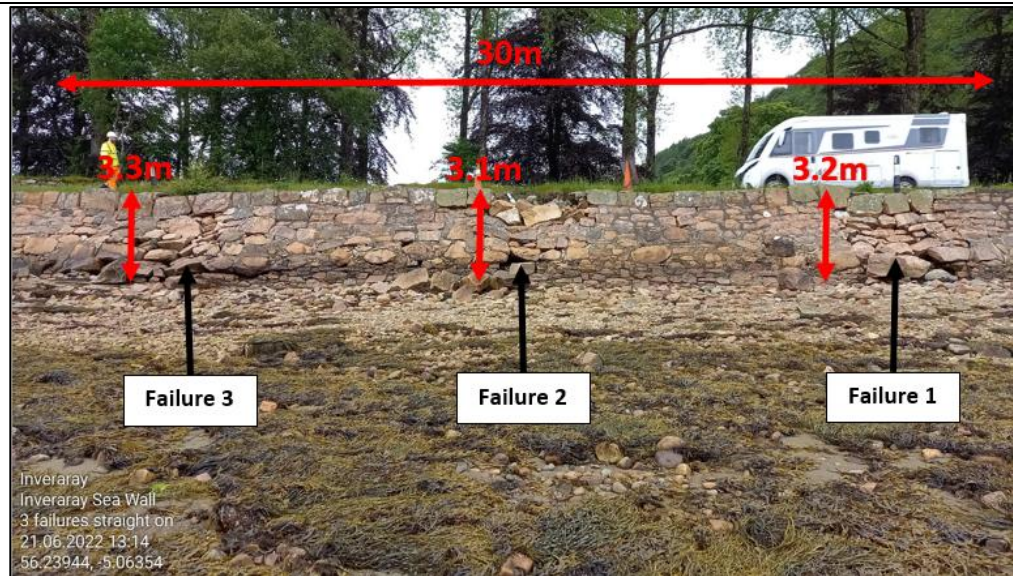
## Scheme Details

<b>Scheme Name</b>	A83 North of Inveraray Sea Wall	
<b>Scheme Reference</b>	22-NW-0309-5	
<b>Environmental Element</b>	E-24-NW-01190-E	
<b>Scheme Designer / Contact</b>	Jake Bovill	
<b>Design Team</b>	Minor Improvements	
<b>Programme</b>	Proposed construction date: 27/01/2025 Duration: 2 weeks Working hours: Daytime hours (08:00 – 17:00), dependant on tide levels	
<b>Works Contract</b>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<b>Estimated Scheme Value</b>	£100,000	
<b>Scheme Area</b>	<1ha	
<b>Scheme Length</b>	Total length = 45m (30m area with major failings, 15m extension of concrete footing).	
<b>Scheme Location</b>	<p style="text-align: center;"><b>Figure 1 - Scheme extents and drawings.</b></p>	

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**Figure 2 - Photograph of three areas of failing sea wall**

<b>Grid Reference</b>	Start: NN 10357 09585 End: NN 10216 09428
<b>Proposed Works</b>	<p>Significant structural issues have been identified on a section of sea wall north of Inveraray, particularly in a 30-meter section that has had 3 areas with failures due to washout. The project aims to restore the revetment to a structurally sound and safe condition and enhance the revetment's resilience against marine forces and potential future issues.</p> <ol style="list-style-type: none"> <li>1. Demolition Phase: <ul style="list-style-type: none"> <li>• Dismantle the 3 existing sections of existing sea wall which have been subject to failures.</li> <li>• Salvage reusable materials, if possible.</li> </ul> </li> <li>2. Foundation Phase: <ul style="list-style-type: none"> <li>• Install guttering around concrete to avoid water damage/concrete runoff.</li> <li>• Inspect and prepare the existing concrete haunch.</li> <li>• Repair or reinforce the haunch if necessary.</li> </ul> </li> <li>3. Stone and Mortar Phase: <ul style="list-style-type: none"> <li>• Rebuild the sea wall.</li> <li>• Select and position stones.</li> <li>• Use appropriate mortar mix to ensure structural integrity.</li> <li>• Pay attention to mortar curing and weather conditions.</li> </ul> </li> </ol>
<b>Need for the Works</b>	Provide structural stability to carriageway and area adjacent to sea wall, to improve road safety.
<b>Site Compound / Site Access</b>	Area surrounding works. Beach closed off at works region.
<b>Traffic Management</b>	2 way temporary traffic lights (TTL) surrounding area of works.

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# 1. Environmental Baseline

This section provides a summary of the environmental baseline, in line with guidance from the [DMRB Environment and Sustainability Discipline](#), of the proposed works area, providing information on relevant environmental and ecological constraints. This section will also assign value to the environmental receptors / resources identified, in line with guidance from [LA 104 of the DMRB](#). Information is collated from multiple sources, including online resources and information held by BEAR Scotland (i.e. inventory from Transport Scotland's Asset Management Performance System (AMPS), information from ecological surveys, etc.).

The study area for the environmental baseline is defined as the surrounding environment over which effects from the proposed scheme are reasonably thought to occur, taking into account cumulative effects. Where not otherwise stated, this is typically considered to be a minimum of 300m from the proposed scheme.

## 1.1. Air Quality

### 1.1.1. Baseline

The scheme is not located within an Air Quality Management Area (AQMA) declared by Argyll and Bute council ([Air Quality in Scotland](#)).

No Air Quality Monitoring Stations (AQMS) are located within 10km of the proposed works. The closest AQMS is approximately 38km southeast of the scheme, at Inverclyde Greenock, where Nitrogen Dioxide (NO<sub>2</sub>) and particulate matter (PM<sub>2.5</sub> and PM<sub>10</sub>) levels were recorded to be low at the time of checking ([Air Quality in Scotland](#)). As the scheme is in a more rural area, it is expected levels would be lower than levels recorded at the Inverclyde Greenock station.

There are no Scottish Pollutant Release Inventory (SPRI) sites which recorded air pollutants, located within 10km of the scheme ([Scotland's Environment](#)).

Baseline air quality is likely to be primarily influenced by traffic along the A83.

### 1.1.2. Value

This report has assigned the 'Air Quality', identified in the baseline, within the scheme location a value of 'low' in line with guidance from LA 104 of the DMRB.

## 1.2. Cultural Heritage

### 1.2.1. Baseline

There are a few cultural heritage sites located within 300m of the proposed works:

- 'Inveraray Castle', Garden & Designed Landscape (GDL), covers the scheme extent.
- 'Dunbarton-Tarbet-Inveraray-Tyndrum Military Road', Historic Environment Record (HER), falls within scheme extent.
- 'Kilmalieu, Inveraray/Glenaray' (church/burial ground), HER and Canmore site, lies within approximately 30-50m from scheme extent.

No Listed Buildings, Scheduled Monuments, Conservation Areas, Battlefields, or World Heritage sites were identified within 300m of the scheme ([PastMap](#)).

The construction of the A83 trunk road will likely have exposed any items of cultural heritage interest present.

### 1.2.2. Value

This report has assigned the 'Cultural Heritage', identified in the baseline, within the scheme location a value of 'low' in line with guidance from LA 104 of the DMRB.

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### 1.3. Landscape and Visual Effects

#### 1.3.1. Baseline

The scheme extent is not located with any National Park or National Scenic Area ([SiteLink](#)). However, as mentioned above, the scheme is located within Inveraray Castle GDL.

The scheme is located in a rural coastal area located approximately 1km north of the town of Inveraray, on the shores of Loch Fyne which lies adjacent to the east of scheme extents. Land surrounding the scheme is dominated by areas of mixed woodland, grasslands, and a rocky shoreline. In addition, Kilmalieu cemetery is located 5-10m to the west of the scheme extent.

The A83 Trunk Road connects Tarbet with Lochgilphead, Kennacraig and Campbeltown. It commences at the A82 / A83 junction within Tarbet leading generally south-westwards for a distance of 158 kilometres to (and including) its junction with New Quay Street at the Campbeltown Ferry Terminal. The A83 is a single carriageway along its length.

The Landscape Character Type (LCT) within the scheme is recorded as 'Plateau Moor and Forest' (LCT No. 39) ([NatureScot](#)), which has the following key characteristics:

- Upland plateau with rounded ridges, craggy outcrops and an irregular slope profile.
- Upland lochs.
- Winding narrow glens and wider glens with rivers.
- Extensive, large-scale mosaic of open moorland and forestry.
- No field boundaries.
- Very few buildings; occasional isolated dwellings on edges of moor.
- Small enclosed pastures and occasional farms and houses on lower hill slopes at the transition with adjacent character types and within the narrow glens which dissect these uplands.
- Little access; roads follow shorelines.

#### 1.3.2. Value

This report has assigned the 'Landscape', identified in the baseline, within the scheme location a value of 'low' in line with guidance from LA 104 of the DMRB.

### 1.4. Biodiversity

#### 1.4.1. Baseline

No European designated sites have been identified within 2km of the works, however the following protected site is located within 300m of the scheme:

- Upper Loch Fyne and Loch Goil Nature Conservation Marine Protected Area (NC MPA), approximately 10-20m east of the scheme location.

The NC MPA extends east of the scheme from the Mean Low Water Springs (MLWS) line of Loch Fyne and is designated for the following qualifying features ([NatureScot Sitelink](#)):

- Burrowed mud
- Flame shell beds
- Horse mussel beds
- Ocean quahog aggregations (*Artica islandica*)
- Sublittoral mud and specific mixed sediment communities

The National Biodiversity Network (NBN) Atlas has record of the following protected species within 2km of the scheme in the last 10 years (only records with open-use attributions (OGL, CCO, CC-BY) were included in the search criteria) ([NBN Atlas](#)):

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- Eurasian otter (*Lutra lutra*)

Numerous bird species are also recorded on NBN Atlas within the same search criteria and under the Wildlife and Countryside Act 1981, all wild birds and their active nests are protected.

The NBN Atlas was also searched using the same criteria for invasive non-native species (INNS) of plants and injurious weeds (denoted with \*) (as listed on the NMC contract), where the following were recorded:

- Curled dock (*Rumex crispus*)\*
- Japanese knotweed (*Fallopia japonica*)
- Rhododendron (*Rhododendron ponticum*)
- Himalayan balsam (*Impatiens glandulifera*)

Japanese knotweed is known to be present along the shoreline of Loch Fyne around this location from previous surveys carried out in the area by BEAR Scotland.

The INNS carpet sea squirt (*Didemnum vexillum*), a marine invertebrate animal is also known to be present within Loch Fyne.

Transport Scotland's Asset Management Performance System (AMPS) holds no records of INNS within 300m of scheme extents.

Habitat in the surrounding area comprises mixed woodland, grasslands, and coastal areas with exposed rock with sheltered spaces within the sea wall. Loch Fyne provides marine habitat and minor watercourses provide freshwater habitat in close proximity to the scheme. Therefore, habitat close to the scheme is suitable for species such as otter, red squirrel, and pine marten.

There are two areas listed on the Ancient Woodland Inventory (AWI) within 300m of scheme extent. The closest of which overlaps with scheme extents and the other lies approximately 100m northeast; both are recorded as 'long established (of plantation origin)' ([NatureScot](#)). There are no areas of woodland or individual trees covered by a Tree Preservation Order (TPO) within 300m of the scheme extents ([Argyll and Bute Council](#)).

### 1.4.2. Value

This report has assigned the 'Biodiversity', identified in the baseline, within the scheme location a value of 'low' in line with guidance from LA 104 of the DMRB.

## 1.5. Geology and Soils

### 1.5.1. Baseline

The scheme does not lie within a Geological Conservation Review Site (GCRS), or within a geologically designated Site of Special Scientific Interest (SSSI) ([NatureScot](#)).

Soils within the scheme extent are recorded as: alluvial soils and mineral podzols. According to the Carbon and peatland 2016 map, the scheme extent has a Class 0 classification. In these soils, peatland habitats and soils are typically not found ([Scotland's Soils](#)).

The bedrock recorded within the scheme extent ([BGS Geology Viewer](#)):

- Ardrishaig phyllite formation- Semipelite, calcareous (Metamorphic bedrock).
- Dalradian supergroup- metagabbro and metamicrogabbro (Metamorphic bedrock).

The superficial deposits recorded within the scheme extent are marine beach deposits- gravel, sand and silt (Sedimentary superficial deposit) ([BGS Geology Viewer](#)).

### 1.5.2. Value



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This report has assigned the 'Geology and Soils', identified in the baseline, within the scheme location a value of 'low' in line with guidance from LA 104 of the DMRB.

## 1.6. Noise and Vibration

### 1.6.1. Baseline

For residential, community and commercial receptors refer to the 'Population and Human Health' section below.

The works do not fall within a Candidate Noise Management Area (CNMA) as defined by the Transportation Noise Action Plan (Road Maps) ([TNAP](#)).

Day, evening and night (Lden) modelled data for the A82 carriageway within scheme extents shows noise levels between 62-68dB ([SpatialData.gov.scot](#)).

Baseline noise levels in the scheme extent are likely to be primarily influenced by traffic along the A83.

In 2023, the average annual daily flow (AADF) of traffic was estimated on the A83 carriageway, approximately 3km south of the scheme and accounted for 2,983 vehicles, including 276 (9.3%) heavy goods vehicles (HGVs) ([Road Traffic Statistics](#)).

### 1.6.2. Value

This report has assigned the 'Noise and Vibration', identified in the baseline, within the scheme location a value of 'low' in line with guidance from LA 104 of the DMRB.

## 1.7. Population and Human Health

### 1.7.1. Baseline

There are no residential properties within 300m of the scheme. Kilmalieu cemetery is located directly north of the A83 carriageway at the scheme extent.

One layby is located within scheme extents and will likely be used to store plant and equipment during works.

There are no core paths ([Scotland's Environment](#)), walking routes are listed on WalkHighlands ([WalkHighlands](#)), or National Cycle Network Routes ([OS Maps](#)) within 300m of the scheme.

Within the scheme extent there is a small footpath, which provides access from the carriageway layby to a public access gate for the Kilmalieu cemetery.

### 1.7.2. Value

This report has assigned the 'Population and Human Health', identified in the baseline, within the scheme location a value of 'low' in line with guidance from LA 104 of the DMRB

## 1.8. Road Drainage and the Water Environment

### 1.8.1. Baseline

Loch Fyne- Upper Basin (ID: 200334) lies adjacent to the scheme and is a coastal water body which has been classified by the Scottish Environment Protection Agency (SEPA) under the Water Framework Directive 2000/60/EC (WFD) in 2023 as having an overall condition of 'good' ([SEPA Water Classification Hub](#)).

As works are required in the marine environment below the level of Mean High Water Springs (MHWS) within Loch Fyne, a marine licence from Marine Directorate will be required prior to works.

One minor unclassified watercourse, considered to be a drainage channel and tributary, lies within 300m of the scheme. This watercourse is culverted under the A83 and discharges into Loch Fyne.

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The scheme is located within the ‘Oban and Kintyre’ groundwater body (ID: 150698), which is classified by SEPA as having an overall status of ‘good’ in 2023 ([SEPA Water Classification Hub](#)).

The scheme also lies within the Drinking Water Protected Area (Ground) (DWPA) of Loch Fyne, which covers an area of 668.8km<sup>2</sup>. ([Scotland's Environment](#)).

There are areas within scheme extents highlighted as high likelihood of river and coastal water flood risks (10% chance of flooding each year) ([SEPA Flood Maps](#)).

### 1.8.2. Value

This report has assigned the ‘Road Drainage and Water Environment’, identified in the baseline, within the scheme location a value of ‘low’ in line with guidance from LA 104 of the DMRB

## 2. Scoping of Environmental Topics

Environmental Topics Scoped out of Further Assessment	
Where it is assessed that an environmental topic has no constraints (as identified in Section 1. Environmental Baseline) that are likely to be impacted by the proposed works, then that topic is scoped out of further environmental assessment.	
The below provides a list of environmental topics scoped out of further assessment, with a brief justification for the scoping decision.	
<b>N/A</b>	No environmental topics have been scoped out from further assessment.

## 3. Assessment of Impacts and Mitigation Requirements

This section provides an assessment of impacts to the environmental baseline as result of the proposed works, in line with guidance from the [DMRB Environment and Sustainability Discipline](#). This section will identify and assess the magnitude and significance of potential impacts as result of works, both during the construction phase and any potential residual impacts.

This section will also provide a summary of mitigation measures and working practices identified as being required to appropriately address any impacts identified as a result of the proposed works. A full copy of mitigation requirements will be produced separately in the F114 Site Environmental Management Plan.

### 3.1. Air Quality

#### 3.1.1. Impacts

During the construction phase, activities undertaken on site could potentially have some minor localised and short-term air quality impacts in proximity to the works. The construction phase will, for example, require a range of ancillary plant, vehicles, and non-road mobile machinery (NRMM) which will contribute to local dust and air pollutants. The main sources are likely to be generated from ancillary plant and vehicles. As a result, there is potential for dust, particulate matter, and exhaust emissions to be emitted to the atmosphere. However, the scheme is located along the coast at Loch Fyne which, additionally with the following mitigation measures, will reduce the impact on the local air quality levels.

#### 3.1.2. Mitigation

- Careful consideration will be given to the siting and orientation of ancillary plant, vehicles, and NRMM, so that it is located, as far as is possible, away from receptors (if possible, > 20m from surrounding properties). Activities which have the potential to produce dust/particulate matter (e.g., cutting and grinding of materials) will also, if possible, be undertaken away from any surrounding properties.
- Materials that have a potential to produce dust will be removed from site as soon as possible, and vehicles that remove material from site will have sheeted covers.

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- Ancillary plant, vehicles and NRMM will have been regularly maintained, paying attention to the integrity of exhaust systems.
- Ancillary plant, vehicles and NRMM will be switched off when stationary to prevent exhaust emissions (e.g., there will be no idling vehicles).
- Where practicable, if powered generators are required, the use of mains electricity or battery powered ancillary plant will be considered in place of diesel or petrol alternatives.
- Cutting, grinding, and sawing equipment will be fitted or used in conjunction with suitable dust suppression techniques e.g., local exhaust ventilation system that fits directly onto tools.
- Regular monitoring (e.g., by engineer or Clerk of Works) will take place when dust generating activities are occurring. In the unlikely event that unacceptable dust/emissions are emanating from the site, the operation will, where practicable, be modified and re-checked to verify that the corrective action has been effective. Actions to be considered include: (a) minimizing cutting and grinding on-site, (b) reducing the operating hours, (c) changing the method of working, etc.

### 3.1.3. Magnitude and Significance

Considering the nature, duration, size, and scale of the scheme, and with implementation of mitigation detailed above, the magnitude (or degree of change) of the works on air quality effects is considered to be negligible adverse.

Taking into account the low environmental value at this location, and the negligible magnitude of impact, significance is assessed as being 'neutral or slight'. Due to the temporary adverse (but negligible) magnitude of impact during construction, the significance has been assessed as slight rather than neutral. Effects with a slight significance are not material in the decision-making process.

## 3.2. Cultural Heritage

### 3.2.1. Impacts

Works will require minor, localised concrete pouring to facilitate sea wall repairs. Concrete pouring will be restricted to areas of previously engineered sea wall adjacent to the A83 carriageway boundary and as such the works are not likely to involve any alterations that would potentially expose or affect cultural heritage features, including the features and character of Inveraray Castle GDL. Argyll and Bute Council (Inveraray Castle GDL) were consulted and confirmed they had no comments on proposed works in relation to potential impacts on these sites.

### 3.2.2. Mitigation

- There will be no storage of vehicles, plant, or materials against any buildings, walls, or fences.
- People, plant and materials shall, as much as is reasonably practicable, only be present on areas of made/engineered ground. Where access out with these areas is required for the safe and effective completion of the scheme, it will ideally be limited to access on foot.
- All site personnel will be briefed on the importance of archaeological finds and are instructed, as part of the site induction, to inform the site supervisor where potential finds are made.
- Should any unexpected archaeological evidence be discovered by the works, construction activities in the vicinity will be halted and the BEAR Scotland NW Environmental Team shall be contacted.

### 3.2.3. Magnitude and Significance

Considering the nature, duration, size, and scale of the scheme, and with implementation of mitigation detailed above, the magnitude (or degree of change) of the works on cultural heritage effects is considered to be negligible adverse.

Taking into account the low environmental value at this location, and the negligible magnitude of impact, significance is assessed as being 'neutral or slight'. Due to the temporary adverse (but negligible) magnitude of impact during construction, the significance has been assessed as slight rather than neutral. Effects with a slight significance are not material in the decision-making process.

## 3.3. Landscape and Visual Effects

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### 3.3.1. Impacts

There is potential for minor, temporary visual impacts to the local landscape during the construction phase as a result of obstructed views due to siting of machinery and materials, and traffic/plant movements. No significant permanent changes to landscape are expected due to the like-for-like nature of the works and restriction to the sea wall adjacent to the A83 trunk road. Upon completion of the works, it is expected that the area of repair will be in keeping with sea wall repairs in this area and as such there will be no visual impact. There will be no changes to land use as a result of the works.

### 3.3.2. Mitigation

- Throughout all stages of the works, the site will be kept clean and tidy, with materials, equipment, plant and wastes appropriately stored, reducing the landscape and visual effects as much as possible.
- Where applicable, upon completion of the works, any damage to the local landscape (i.e. damage to grass verges) will be reinstated as much as is practicable.
- Works will avoid encroaching on land and areas where work is not required or does not have permission to do so. This includes general works, storage of equipment/containers and parking.
- The site will be left clean and tidy following works.

### 3.3.3. Magnitude and Significance

Considering the nature, duration, size, and scale of the scheme, and with implementation of mitigation detailed above, the magnitude (or degree of change) of the works on landscape and visual effects is considered to be negligible adverse during works and negligible beneficial in the operational phase.

Taking into account the low environmental value at this location, and the negligible magnitude of impact, significance is assessed as being 'neutral or slight'. Due to the temporary adverse (but negligible) magnitude of impact during construction, the significance has been assessed as slight rather than neutral. Effects with a slight significance are not material in the decision-making process

## 3.4. Biodiversity

### 3.4.1. Impacts

Works will take place approximately 20-30m from the Upper Loch Fyne and Loch Goil NC MPA. With areas of burrowed mud recorded close to this area, however, consultation with NatureScot concluded that any impact on this feature due to works is likely to be insignificant due to the short duration and the highly localised nature of works to the previously engineered ground around the sea wall. With standard pollution prevention measures also in place, no impact is expected on the features of this MPA. The scheme is not situated within or connected to any other 'sensitive area' designated for biodiversity features (e.g., SPA, SAC, Ramsar, SSSI etc).

The invasive species carpet sea squirt (*Didemnum vexillum*) is known to be present in Loch Fyne. A toolbox talk for carpet sea squirt will be included in the Site Environmental Management Plan along with appropriate biosecurity measures. Due to the localised and contained nature of the works, potential for spread of this invasive species is considered low.

A temporary short-term increase in noise levels may cause disturbance to local wildlife. The works, for example, will require a range of ancillary plant, vehicles and NRMM which will emit noise and create potential disturbance. The works will also require delivery of materials and the presence of personnel to facilitate the improvements to the carriageway drainage. However, the number of construction vehicles and construction operatives required onsite is low given the scale and scope of works and will not result in significantly higher levels of noise than existing traffic levels on the A83. In addition, any species in the area are likely to be accustomed to noise and visual disturbance pertaining to vehicle movements on the A83, and the scheme is of a short duration (2 weeks) undertaken by utilising a daytime working schedule (08:00 – 17:00), depending on tide levels. The potential for significant species disturbance within the area due to proposed works is therefore considered to be low.

Ecological surveys in this area were conducted in November 2024 with a focus on otter, due to their known presence in and around Loch Fyne. No otter or signs of otter (i.e. spraints, pawprints, feeding remains etc.), or otter resting

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places (i.e. couches or holts) were identified during this site visit, however, one spraint was identified at a previous visit to this site during summer 2024, highlighting that otter likely use this area for foraging and commuting purposes. No signs of any other protected species were observed during this survey, as such scope for impact on protected species is limited.

An Ecological Clerk of Works (ECoW) is required to attend site on at least one occasion. They will ensure that no otters (or other protected species) are present in proximity to works, and that there are no invasive plant species in proximity to works (no INNS were recorded at this site previously but Japanese knotweed is well-known in the areas surrounding Loch Fyne).

### 3.4.2. Mitigation

- **ECoW visit to be carried out on the first day of works to ensure no otter (or other protected species) or INNS present are present in proximity to scheme extents.**
  - **In the event otter are recorded, works will not commence until appropriate mitigation and/or consent is in place. Consultation will be undertaken with NatureScot as required.**
- It is not expected INNS (particularly Japanese knotweed) will be encountered on access routes or within working areas; however, the ECoW will advise site staff of nearby INNS and any required biosecurity measures (e.g., boot washing) as necessary.
- All site workers will have received adequate training relevant to their role prior to working on the site, including specific environmental inductions and 'toolbox talks' as required.
- Works will be strictly limited to areas required for works and access. Unnecessary encroachment onto terrestrial or aquatic areas will not be tolerated.
- Site personnel will remain vigilant for protected species and will not approach or touch any animals seen on site. Any sightings of protected species will be reported to BEARs Environmental Team. Should a protected species be encountered or move within 50m of the active works (including compounds), works will be temporarily halted until the animal(s) move at least 50m away from the construction site, or until BEAR's Environmental Team can provide advice.
- The Contractor will employ 'soft-start' techniques for all noisy activity to avoid sudden and unexpected disturbance during works. Each time the activity is started up after a period of inactivity, the noise levels will be gradually increased over a period of 30 minutes to permit animals (including birds) to move away from the disturbance.
- Where possible, artificial lighting used during low light levels will be sufficiently screened and aligned so as to ensure that there is no direct illumination of neighbouring habitat (e.g., locations adjacent to tree shelterbelt, woodland, waterbody etc.) to ensure minimal impact on nocturnal species.
- All equipment stored onsite will be checked at the start of each workday to ensure mammal species are not present. Any storage containers/plant within the compound will also be secured overnight to prevent exploration by mammal species. Any areas where an animal could become trapped (e.g., storage containers) will also be covered at the end of each working day, to avoid mammals falling in and becoming trapped.
- People, ancillary plant, vehicles, NRMM and materials will be restricted to areas of made/engineered ground (as much as is reasonably practicable). If during works unforeseen access to the surrounding environment is required, works will cease in this area and BEAR Scotland's Environmental Team will be contacted to allow consideration of potential environmental effects.
- BEAR Scotland's Environmental Team will be contacted to allow consideration of potential environmental effects if:
  - unforeseen site clearance is required,
  - unplanned works must be undertaken outwith the carriageway boundary,
  - there is any deviation from the agreed plan, programme and/or method of working,
  - nesting birds or other protected species (i.e. otter) are found onsite.
- BEAR Scotland's Control Room will be contacted if there is a pollution incident.

### 3.4.3. Magnitude and Significance

Considering the nature, duration, size, and scale of the scheme, and with implementation of the mitigation detailed above, the magnitude of impacts on biodiversity as a result of the works is considered to be negligible adverse.

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Taking into account the low environmental value at this location, significance is assessed as being 'neutral or slight'. Due to the adverse (but negligible) magnitude of impact during construction, significance is assessed as slight rather than neutral. Effects at this level are not material in the decision-making process.

### 3.5. Geology and Soils

#### 3.5.1. Impacts

Works will involve like-for-like repairs to the sea wall adjacent to the A83 carriageway at Loch Fyne. Works are restricted to a highly localised area and will only be undertaken where absolutely required to do so. No sensitive geological areas are located in proximity of the scheme, and the local soils are not considered to be of significant value.

No soil/earth works are required, and appropriate pollution prevention measures will be in place.

Any damage to local soils through implementation of access routes will be suitably reinstated following completion of the works. With the following mitigation measures in place, the likelihood of significant negative impacts on the geology and soils is low.

#### 3.5.2. Mitigation

- The parking of machinery/vehicles and storage of equipment on road verges and marine/tidal areas will be minimised as far as is reasonably practicable. Presence of plant/vehicles will only be in designated access/storage areas.
- Upon completion of the works, any damage to the local landscape will be reinstated as much as is practicable.
- Mitigation measures to prevent contamination of soils through loss of containment will be strictly adhered to.
- Additional pollution prevention measures as outlined in Road drainage and the water environment will be adhered to during construction.

#### 3.5.3. Magnitude and Significance

Considering the nature, duration, size, and scale of the scheme, and with implementation of mitigation detailed above, the magnitude (or degree of change) of the works on geology and soils is considered to be negligible adverse.

Taking into account the low environmental value at this location, and the negligible magnitude of impact, significance is assessed as being 'neutral or slight'. Due to the temporary adverse (but negligible) magnitude of impact during construction, the significance has been assessed as slight rather than neutral. Effects with a slight significance are not material in the decision-making process.

### 3.6. Materials Assets and Wastes

#### 3.6.1. Impacts

Materials used will consist of the following:

- Guttering materials
- Stone
- Mortar mix
- Waterproofing materials
- Signage and barriers
- Erosion control materials (e.g., silt fences)
- Construction aggregates (sand, gravel)
- Sealants and caulks
- Concrete curing compounds
- Fasteners and anchors
- Salvaged materials

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The scheme will be executed by the operating company as site operations e.g. 'As-of-Right' scheme of value less than £350,000. As a result, a Site Waste Management Plan (SWMP) is not required.

Minimising impacts arising from construction materials are focussed upon making the most efficient use of materials onsite to reduce the need for imported primary materials and minimise the creation and disposal of waste through (i) reduction, (ii) re-use, and (iii) recycling. Potential impacts have been assessed for both the construction and operational phases of this scheme. It is anticipated that most material impacts are likely to arise during construction, though long-term residual impacts could occur post construction during the operational phase e.g., during the disposal of materials arising from routine maintenance operations.

It is considered unlikely that material consumption and waste generation will result in significant impacts as all waste will be removed from site and disposed of safely and legally by a licensed waste carrier. Additionally, relevant good practice guidelines will be included in the SEMP and adhered to on site.

### 3.6.2. Mitigation

- Care will be taken to order the correct quantity of required materials to prevent the disposal of unused materials.
- Where possible, minimal packaging will be requested on required deliveries to reduce unnecessary waste and production of packaging materials.
- The waste hierarchy (Reduce, Reuse, Recycle and Dispose) will be employed throughout the construction works.
- The subcontractor will adhere to waste management legislation and ensure they comply with their Duty of Care.
- Containment measures will be in place to prevent debris or pollutants from entering the surrounding environment.
- All wastes and unused materials will be removed from site in a safe and legal manner by a licensed waste carrier upon completion of the works, unless otherwise stated. The appointed waste carrier will have a valid SEPA waste carrier registration, a copy of which will be provided to and retained by BEAR Scotland as early as possible.
- All appropriate waste documentation will be present on site and be available for inspection. A copy of the Duty of Care paperwork will be provided and filed appropriately in accordance with the Code of Practice (as made under Section 34 of Environmental Protection Act 1990 as amended).
- Re-use and recycling of waste will be encouraged, and the subcontractor will be required to fully outline their plans and provide documentary evidence for waste arising from the works (e.g. waste carrier's licence, transfer notes, and waste exemption certificates).
- Staff will be informed that littering will not be tolerated. Staff will be encouraged to collect any litter seen on site.
- Where applicable, all temporary signage will be removed from site on completion of the works
- Good materials management methods (e.g., 'just-in-time' delivery) will be implemented wherever possible.
- The Contractor will comply with all 'Duty of Care' requirements, ensuring that any surplus materials or waste are stored, transported, treated, used, and disposed of safely without endangering human health or harming the environment. Material transfer notes and/or waste exemption certificates (if required) will also be completed and retained.
- Designated areas will be identified within which all materials and personnel, including construction compounds, will be contained to limit environmental disturbance during construction works. This will include a designated area (if required) for segregation and reuse of waste materials.
- The selection of areas for materials stockpiling will avoid sensitive locations such as road drainage. Stockpiled materials with leachate potential, for example, will be stored away from road drainage to prevent cross-contamination with other materials, wastes, or groundwater.
- Materials will be stored with the appropriate security to prevent loss, theft, or vandalism.
- All temporary road signs and traffic cones will be removed from site on completion of works.
- Wastewater from welfare facilities (if required) will be subject to effluent treatment followed by tanker removal.
- If hazardous substances are used onsite, each substance will be subject to assessment under the Control of Substances Hazardous to Health (COSHH) Regulations 2002. Hazardous substances will also be clearly labelled, and disposed of, in line with COSHH safety data sheets and the Special Waste Regulations 1996. Special waste will also not be mixed with general waste and/or other recyclables.

### 3.6.3. Magnitude and Significance

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Considering the nature, duration, size, and scale of the scheme, and with implementation of the mitigation detailed above, the magnitude of impacts on material assets and waste as a result of the works is considered to be negligible adverse.

The environmental value of material assets and waste is considered to be low and significance is assessed as being 'neutral or slight'. Due to the adverse (but negligible) magnitude of impact during construction, significance is assessed as slight rather than neutral. Effects at this level are not material in the decision-making process.

### 3.7. Population and Human Health

#### 3.7.1. Impacts

During construction, activities undertaken on site have the potential to have temporary adverse impacts on vehicle travellers and NMUs. However, no full road closures are expected. No significant congestion issues are noted during the proposed construction hours, however increased journey times may occur, but these are considered insignificant considering the low traffic counts and short duration of the scheme.

Access to the shoreline surrounding scheme extents will not be accessible for the duration of works, however, this area is tidal so unlikely to be accessed by members of the public regularly. No commercial or residential properties are located within 300m of scheme extents.

#### 3.7.2. Mitigation

- Where appropriate, a communication strategy (e.g., social media, consultation with local authority and other stakeholders, letter drop (for night-time works), etc.) will be initiated to keep local residents and/or businesses informed of the proposed working schedule, particularly the times and durations of noisy construction activities. The communication strategy will also provide a 24-hour contact number for the BEAR Scotland Control Room.
- NMUs will be accommodated within TM arrangements where required to allow safe passage through the site.
- Construction lighting will consider the need to avoid illuminating surrounding properties to avoid a nuisance at low light levels, and non-essential lighting will be switched off.
- A Traffic Management Plan (TMP), which includes measures to avoid or reduce disruption to road traffic, will be produced in accordance with the Traffic Signs Manual (Department of Transport 2009). The TMP will ensure that there is no severance of community assets, access routes or residential develop.
- Traffic management will be appropriately signed on approach.

#### 3.7.3. Magnitude and Significance

Considering the nature, duration, size, and scale of the scheme, and with implementation of mitigation detailed above, the magnitude (or degree of change) of the works on population and human health effects is considered to be negligible adverse.

Taking into account the low environmental value at this location, and the minor beneficial impact following the works, significance is assessed as being 'neutral or slight'. Due to the temporary adverse (but negligible) magnitude of impact during construction, the significance has been assessed as slight rather than neutral. Effects with a slight significance are not material in the decision-making process.

### 3.8. Road Drainage and the Water Environment

#### 3.8.1. Impacts

During the works, there is potential for temporary adverse impacts on the water environment via potential changes in water quality e.g., from pollution events (either by accidental spillage of sediments, particulate matter, chemicals, fuels or by mobilisation of these in surface water caused by rain). These events have the potential to have a direct or indirect effect on surrounding waterbodies, where hydrological connectivity exists, such as connection via road surface drainage.



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Works will take place below the level of MHWS within the marine environment and are therefore subject to authorisation by the Marine Directorate. This Marine Licence (MS-00010838) was issued by Marine Directorate to permit the works on 12<sup>th</sup> December 2024 and remains valid until 21<sup>st</sup> March 2025. A copy of this marine licence will be kept on site and all conditions of this must be adhered to during works.

As such, the potential for a direct pollution incident within a waterbody is unlikely e.g., experience gained from BEAR maintenance schemes elsewhere on the network has shown that where standard best working practice is adopted (e.g., adherence to SEPA good practice guidance, utilisation of drain covers or similar, etc.), water quality is protected.

### 3.8.2. Mitigation

- **All conditions of the Marine Licence (MS-00010838) will be adhered to during works. A copy of the Marine Licence must be retained on site, at the premises of BEAR Scotland, and at the premises of any contractor, and must be made available for inspection when required.**
- The abstraction or transfers of water from, discharges to, or the washing of tools in surface waterbodies is not permitted.
- The Contractor will implement measures to minimise the risk of sediment or accidental spillages entering the road drainage system e.g., prior to works commencing any roadside gullies within 10m of work activities (and drainage pipes) will be bunded (e.g., utilisation of drain covers or similar) to ensure full segregation of the works from the road drainage system. The Contractor will inspect bunds periodically to ensure that they have not been removed, damaged, or interfered with and they will be cleaned of silt and debris as necessary. If it is identified that bunds are not up to standard, the works will not commence until they have been reinstated to the condition, they were originally in.
- All site personnel will be made aware of site spillage response procedures and in the event of a spill, all works associated with the spill will stop, and the incident reported to the Site Supervisor. Small spills that did not leave the site boundary and are cleaned up without material environmental harm or residual environmental impact would most likely not be required to be notified to SEPA or other authorities. However, all such incidents will be recorded and reported to BEAR Scotland's Environmental Team. In the event of a 'serious incident', SEPA will be notified without delay. Such notification will include: (i) the time and duration of the incident, (ii) a description of the cause of the incident, (iii) any effect on the environment as a result of the incident, and (iv) any measures taken to minimise or mitigate the effect and prevent a recurrence.
- All waste, vehicles, ancillary plant, NRMM and fuels will be stored in the compound(s) or laydown area and will be secured and located, if space is available, at least 10m from drainage entry points, in order to comply with GPP 5 'works and maintenance in or near water'.
- Refuelling will only be undertaken at designated refuelling areas (e.g., on hardstanding, with spill kits available, and >10m from drainage entry points, where practicable).
- Spill kits will also be available within all site vehicles and spill kits will be replenished onsite when required. Only designated trained and competent operatives will be authorised to refuel plant.
- Generators, and other ancillary plant and NRMM, where there is a risk of leakage of oil or fuel, will have internal bunding or must have a secondary containment system placed beneath them that meets 110% capacity requirements. Containment systems will also be emptied regularly. All waste, vehicles, ancillary plant, NRMM and fuels will also be stored in a manner that ensures they are protected from damage by collision or extremes of weather.
- Regular visual pollution inspections of the designated laydown area and work site (particularly near road drainage entry points) will be conducted (e.g., site walkover by engineer or Site Supervisor), especially during periods of heavy rain.
- All vehicles and NRMM onsite will have been regularly maintained, paying attention to the integrity of oil tanks, coolant systems, gaskets etc. A checklist must be present to make sure that the checks have been carried out.
- Concrete batching must be undertaken on an impermeable surface at least 10m away from watercourses.
- Any concrete wash-out must be contained and removed off-site for appropriate treatment/disposal. Disposal of wash water into waterbodies or road drainage is not permitted.
- Pollution prevention measures will be in place to manage concrete (including any wash water), and prevent escape to the watercourse.

### 3.8.3. Magnitude and Significance

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Considering the nature, duration, size, and scale of the scheme, and with implementation of the mitigation detailed above, the magnitude of impacts on road drainage and the water environment as a result of the works is considered to be negligible adverse.

Taking into account the low environmental value at this location, significance is assessed as being 'neutral or slight'. Due to the negligible magnitude of impact during construction, significance is assessed as slight rather than neutral. Effects at this level are not material in the decision-making process.

### 3.9. Climate

#### 3.9.1. Assessment of Impacts to Climate

BEAR Scotland, working on behalf of Transport Scotland, undertake carbon monitoring of major projects and operational activities. Emissions from activities are recorded using Transport Scotland's Carbon Management System. BEAR Scotland also undertakes resource efficiency activities to manage and reduce emissions contributing to climate change. The works will also extend the maintenance intervals required for future works. In doing so, the service life of the trunk road is also extended.

During works there is potential for impacts as a result of the emission of greenhouse gases through the use of equipment, vehicles, and NRMM, material use and production, and transportation of material/waste. However, considering the nature, duration, size and scale of the scheme, and the mitigation detailed below, the risk of significant impacts to climate are considered to be negligible adverse in magnitude.

Upon completion of the proposed scheme no residual impacts are anticipated on the climate.

Climate mitigation measures:

- Local contractors and suppliers will be used as far as practicable to reduce fuel use and greenhouse gas emitted as part of the works.
- BEAR Scotland will adhere to its Carbon Management Policy.
- Where possible, waste will be removed to local waste management facilities.

### 3.10. Major Accidents and Disasters

#### 3.10.1. Assessment of Impacts to Major Accidents and Disasters

There will be no change to the likelihood of flooding on the A83 within the scheme extents upon completion of the works.

Works will be restricted to the A83 carriageway boundary and adjacent sea wall. TM will consist of a single lane closure with temporary traffic lights. As such, impact from works on traffic accidents is assessed to be of negligible magnitude. Following the completion of the works, the long term structural integrity of this section of sea wall and adjacent carriageway will be improved, resulting in a residual beneficial impact for road users of the A83 and local residents.

A Site Environmental Management Plan (SEMP) will be produced by BEAR Scotland which sets out a framework to reduce the risk of adverse impacts from construction activities on sensitive environmental receptors. The Contractor will comply with all conditions of the SEMP during works and may be subject to audit throughout the contract.

Considering the above, the vulnerability of the project to risks of major accidents and disasters is considered to be low.

### 3.11. Assessment of Cumulative Impacts

#### 3.11.1. Assessment of Cumulative Impacts

A search using the Argyll and Bute (A&B) Council planning portal ([A&B Council](#)) identified one planning application within 300m of the scheme; this application (24/01324/S36) refers to 'construction and operation of Balliemeanoch

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pumped storage hydro scheme', however, a decision on this application is not expected until the end of February at the earliest, and therefore it is unlikely there will be any overlap with this seawall scheme.

No cumulative effects on people or property receptors are anticipated during operation given there will be no change to the existing road conditions.

The proposed works are not anticipated to result in significant environmental effects. Due to the nature of the proposed works, no cumulative effects are anticipated with any other developments in the vicinity. Any future BEAR Scotland schemes will be programmed to take into account already programmed works and as such, any cumulative effect will be limited.