Port of Inverness Barge Berth
EIA Screening Report
for
Inverness Harbour Trust

Port of INVERNESS

Report No. 139_REP_08_1

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Port of INVERNESS

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Port of INVERNESS

Contents

1 Introduction

Inverness Harbour Trust (IHT) own and operate the Port of Inverness (POI). IHT are proposing to construct a new barge berth to accommodate small vessels and barges. The proposed barge berth will consist of a sheet-piled quayside and a floating pontoon, accessed via a linkspan. The new barge berth aims to facilitate renewables projects essential to the United Kingdom's energy resilience and security. The primary purpose is to enable the transport of materials and plant equipment to the proposed and consented Pumped Storage Hydro Schemes in the Great Glen, via the Caledonian Canal, thereby reducing the burden on the local road network and decarbonising the supply chain through utilisation of the historical canal network.

A formal Screening Opinion is requested from The Highland Council (THC) and Marine Directorate - Licensing Operations Team (MD-LOT) to determine whether the proposed POI barge berth (hereafter referred to as 'the proposed works') is an Environmental Impact Assessment (EIA) development. This request is submitted in accordance with Regulation 8 of the Town and Country Planning (Scotland) (EIA) Regulations 2017, as amended, and Regulation 10 of The Marine Works (EIA) (Scotland) Regulations 2017, as amended (hereafter referred to collectively as 'the EIA Regulations'). The proposal falls under Schedule 2 of the EIA Regulations, specifically:

> *Section 10(m): 'Coastal work to combat erosion and maritime works capable of altering the coast through the construction, for example, of dykes, moles, jetties and other sea defence works, excluding the maintenance and reconstruction of such works.'*

Note, the barge berth is designed to accommodate small vessels and barges which can be accommodated by the Caledonian Canal. Hence, it will not be able to take vessels of over 1,350 tonnes and as such the project does not fall under Section 8(2) of Schedule 1 of the EIA Regulations.

This supporting document provides the information required to inform the corresponding screening opinions, namely a description of:

- The location of the proposed works (Section 1.1);
- The proposed works (Section 3);
- The environmental sensitivities of the geographical area (Section 4);
- The aspects of the environment that have the potential to be affected by the works (Section 4 &5);
- The potential significant effects (Section 5); and
- A description of any features or mitigation measures, envisaged as part of the proposed works to prevent significant adverse effects on the environment (Section 5).

1.1 Location

The POI is located at the mouth of the River Ness, close to the river confluence with the Beauly Firth in the City of Inverness. The proposed works will be located entirely within the POI port limits and IHT harbour limits (see Figure 1.1.1). The proposed works will be sited between the existing Longman Quay and North Citadel Quay, adjacent to Cromwell Road/Longman Drive at centre point National Grid Reference (NGR): NH 66306 46463 (see Figure 1.1.2 and Drawing 139_DRG_08_01: Barge Berth Location Plan). The proposed works will be situated in transitional waters, on the east bank of the River Ness. The development boundaries for both marine

licensing and planning permission are shown in Drawing 2021_291: Proposed Barge Berth Location with Development Boundaries.

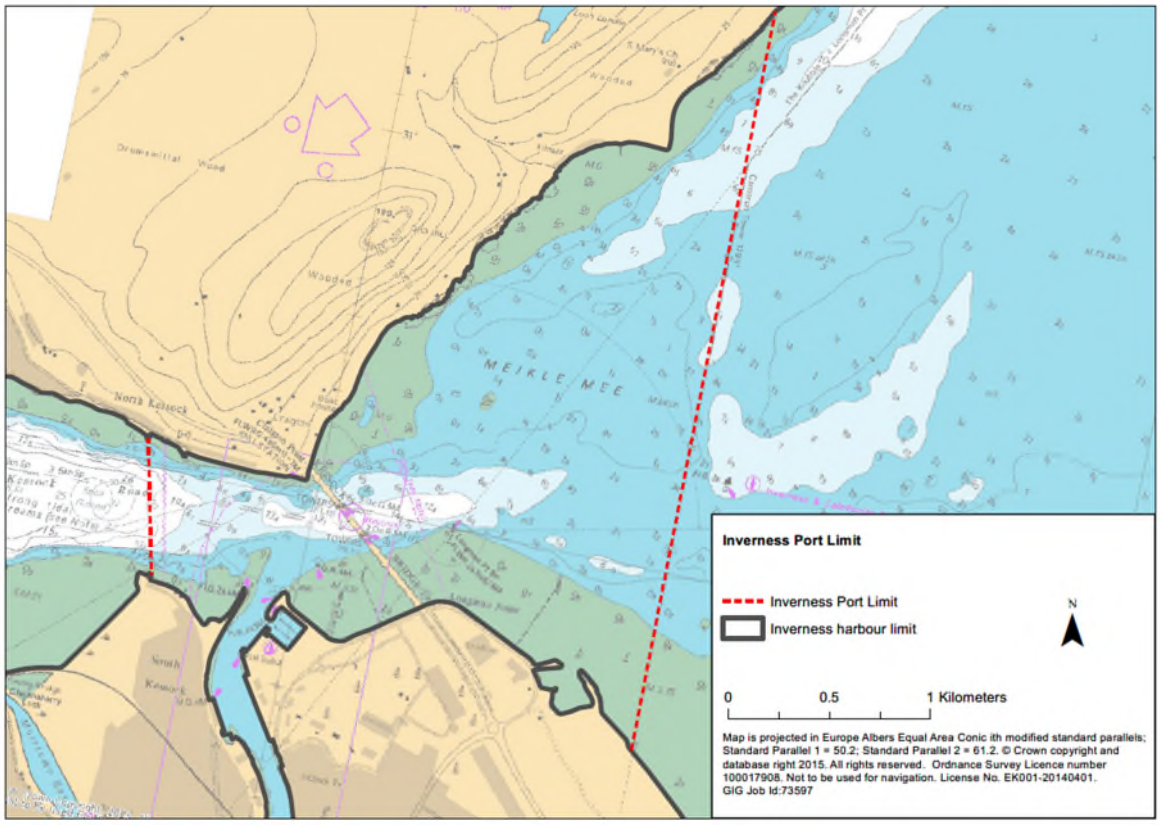

Figure 1.1.1: Inverness Port and IHT Harbour Limits (Marine Directorate, 2026)

Figure 1.1.2: Location of the Proposed Works

2 Background Information

This section briefly discusses the relevant history of the POI and Caledonian Canal and outlines the justification for the proposed barge berth.

2.1 History

Historically, the POI has been a stronghold for a range of industries in the Highlands of Scotland due to its prime location for trade. The mouth of the River Ness is one of the most sheltered harbours in Scotland. The port was, and continues to be, attractive for investment due to its sheltered location, allowing conveyance of goods from the sea for onward travel by road to the north of Scotland regardless of weather conditions (POI, 2026). IHT was constituted by an Act of Parliament in 1847 and has since operated as the POI. As both the Competent and Statutory Harbour Authority, POI have the responsibility of safeguarding the marine environment, safety governance and operational management.

The River Ness does not allow for easy conveyance upstream towards the Ness Islands and onward to Loch Ness due to shallow water depths and at times fast flowing waters. The Caledonian Canal was constructed to enable trade and goods to reach further inland to the Great Glen or further afield within the Scottish Highlands and provides the only goods passage route to the Great Glen inland, by water. Although the canal historically allowed for safe passage of vessels and trade avoiding the need to transit through the Pentland Firth to reach the other side of Scotland, it was designed for the vessels of the time. As such the weight and size restriction of the Caledonian Canal infrastructure limits the use by modern commercial

cargo vessels. As such, the Caledonian Canal is currently primarily utilised for tourist vessels and leisure crafts.

In January 2023, Inverness & Cromarty Firth Green Freeport was designated as one of the two Green Freeports in Scotland. IHT was a founding member of the consortium that submitted the bid. Green Freeports are designed to stimulate economic activity in their designated areas, in particular, associated with the green economy. The Inverness & Cromarty Firth Green Freeport has been operational since 8th April 2024 (UK Government, 2024). The POI is designated as one of five port tax sites, alongside Ardersier, Highland Deephaven, Port of Cromarty Firth, and the Port of Nigg. The associated tax reliefs and customs benefits make the POI and the other tax sites in the Green Freeport highly attractive to renewable energy developers, fabricators and component manufacturers, and as such, drives the increase in the development of renewables projects in the area.

2.2 Current Use

The POI supports multiple industries, with a variety of cargo such as renewables energy components, fuel, oil, timber, wood pellets, steel rebar, road salt and grain (POI, 2025). The POI also offers berthing for small expedition cruise ships, luxury superyachts and leasing of operational land, supporting the tourist and transport sectors. In addition, the Port offers storage, bunkering and laydown facilities as part of a wider industrial area. The berths either side of the proposed new barge berth are in regular use. The Longman Quay to the north is specifically used for the export of timber products and road salt whilst the Citadel Quay to the south is primarily used for fuel deliveries.

The site of the proposed works is currently an area of redundant quayside; the rock armoured bank profile and shallow water depths are currently unsuitable for berthing. There is an unoccupied boatshed located on the site (see Figures 2.2.1, Figure 2.2.2) that has been let to a new tenant for 12 months from August 2026. It is proposed to be demolished as part of the works (refer Section 3.2.2 for further details).

Figure 2.2.1: Boat Shed and Adjacent Flood Defence Wall

Figure 2.2.2: Vacant Boat Shed and Surrounding Plot

2.3 Project Need

IHT plans to diversify POI operations, as the benefits of the Green Freeport are realised by an increasing number of renewable developers. This will include the expansion of services provided, as highlighted in their strategic plan (POI, 2024):

> *'The Port of Inverness is a hub for fuel distribution across the Highlands and will need to provide a wider range of services and cargo handling over the next ten years as various sectors move to alternative fuels.'*

Of particular opportunity, there are two new hydro-power schemes currently consented for construction and operation in the Great Glen in the near future. Further hydro schemes are proposed as a means of generating low carbon electricity, facilitating Scotland's transition to net zero, increasing the resilience of energy security into the future. Construction of these developments will require the transport of considerable volumes of materials, equipment and cargo, with typical construction timescales of approximately seven years.

Utilisation of the road network for construction deliveries using Heavy Goods Vehicles (HGVs) presents considerable challenges. In particular, roads on the southeast side of Loch Ness are single track, with adjacent steep slopes in some places, and are sub-optimal for intensive HGV traffic. Additionally, in the summer months, the roads that run either side of Loch Ness experience an intense increase in traffic from both local and international tourism exacerbating the potential adverse impacts of increased HGV traffic. Deliveries via the Caledonian Canal therefore provides an attractive alternative, to alleviate pressure in the road network and decarbonise the supply chain through utilisation of the historical canal network.

Recognising large volumes of construction materials destined for the hydro schemes will be transported by sea. There is a need for the transfer of materials from larger sea-faring vessels to canal-compatible vessels that meet the navigation requirements of the Caledonian Canal.

As such, new berthing arrangements are required that will accommodate up to eight vessels of two designs, specifically designed for transiting the canal network with materials and equipment. The vessels are similar in dimension; a box, or hopper type barge which will require a berth that allows loading directly from the quayside using a crane, and a landing craft barge with roll-on roll-off ('Ro-Ro') capabilities for cargo. The berth arrangements should allow for operation in all tide states. There will also need to be sufficient space for material storage and movements near to the berth.

As Scotland accelerates the renewable energy sector, it is important to have the infrastructure in place to accommodate the construction and operations of these developments. The POI is well placed to provide this key infrastructure that will meet growing and dynamic commercial needs, particularly with regards to the hydro-power construction projects proposed for the Great Glen and beyond.

3 Project Description

The proposed works for the new barge berth will allow the POI to be used as a transfer hub, for material, cargo and equipment from larger vessels onto canal-compatible vessels/barges for transit via the Caledonian Canal to Loch Ness, the Great Glen and beyond. The proposal involves the installation and operation of a new barge berth consisting of a quay, pontoon, fendering piles, a linkspan with concrete ramp and abutment. This will, in effect, refurbish the existing redundant quay, bringing it back into operational use after a number of years.

The barge berth been designed to accommodate two types of barges, as noted in Section 2.3. The box/hopper barges will be able to berth alongside the quayside and be loaded directly from the quayside using a crane. The barges of a landing craft design will be able to berth alongside fender piles at the north-west end of the pontoon, allowing for Ro-Ro movement of cargo directly onto the barges via the pontoon, from the quay. The floating pontoon will be accessed via a hydraulic linkspan, allowing for Ro-Ro cargo in all tide states. It is envisaged these vessels will utilise a means of low carbon fuel, such as Hydrotreated Vegetable Oil (HVO) (which emits 90% less net greenhouse gas emissions compared to marine gas oil). There is potential too for the vessels to be converted in the near future to hydrogen or electric power, minimising the emissions further.

The existing disused boatshed will be demolished as part of the new quay development to enable space for material and plant movements, supporting the intended diversification of port operations. Localised dredging will be required to create appropriate water depths alongside the new pontoon and fender piles.

The new barge berth will facilitate the delivery and transport of construction materials to renewables projects in the Great Glen via the waterways, alleviating the volume of HGV traffic utilising the local road network and minimising traffic impacts on local communities. With this project, IHT will also re-introduce the ability for material transport via the Caledonian Canal once again, with opportunities to further decarbonise the supply chain or renewable energy developments in the Highlands. The proposed works area is 4,180m^2 as shown in Drawing 139_DRG_08_01: Barge Berth Location Plan.

3.1 Design Elements

The key elements of the development design are described below, with construction techniques described in Section 3.2. The design layout is depicted in Drawing 2021-221: Proposed Barge and Bridge Site Location and Drawing 2021-222: Proposed Barge and Bridge Plan and Elevations.

The new quayside will be comprised of a ~90m sheet-piled quay wall. Sheet piles will be placed perpendicular at the north-west end of the quay to tie the structure back into land, while at the south-east end there will be a short section of piles to tie into the abutment for the linkspan. The quay sheet piles will be laterally supported by tie rods attached to sheet-piled anchor walls set into the ground between 8m and 12m from the quay piles. The top of the quay walls will be set at 5.68m above Ordnance Datum (OD), in line with the adjacent North Citadel Quay, and finished with a reinforced concrete capping beam. The sheet-piled structure will be infilled, compacted and surfaced with aggregate.

A cantilever sheet piled wall will be installed at the north-west end of the 60m quay wall described above, this will be ~40m. The cantilever pile wall is a retaining structure required to facilitate the dredging of the berth. The piles will hold back the ground using the internal strength of the piles and passive resistance from the riverbed without the need for anchors piles and tie rods. The cantilever wall will be trimmed to suit the profile of the surrounding ground, such that it doesn't protrude from the seabed significantly and will not all be visible above the water level.

Two steel tubular fender piles will be installed in front of the cantilever wall to aid the vessels whilst they are manoeuvred into position, and to hold position on when accessing the pontoon. These will have associated fendering attached, for absorbing any impacts from vessels.

The abutment on the south-east end of the quay will tie into the North Citadel Quay and provide access to a new linkspan via a concrete slab and a 1:20 gradient concrete ramp. The steel linkspan, fixed at the south-east end to the abutment will be ~40m long and ~8m wide, providing access to a pontoon.

The removeable floating pontoon, fixed in place by four steel tubular mooring piles, will be situated alongside the new quay wall. The pontoon will be sized appropriately for the barge vessels destined to be used for transport via the Caledonian Canal. The proposed pontoon is currently 25m x 15m, but this will be confirmed with the supplier upon further design development. The pontoon will rise and fall with the tide, maintaining the transition from the vessel to the linkspan at all tidal states.

As part of the development of the quay, the redundant boatshed located within the development footprint will be demolished (see Section 3.2.2). Suitable water depth for berthing will be created by dredging to -3m Chart Datum (CD) as described in Section 3.2.7.

3.2 Construction Phase

The works are proposed to begin in 2027, and construction is expected to take 18 months. This roughly aligns with the construction of the first of the hydro schemes proposed for the Great Glen, which is understood to be due to commence within the next couple of years. The construction programme will be phased to allow some tasks to be completed concurrently.

3.2.1 Site Establishment

To ensure public safety throughout the construction works, the boundary of the construction area will be demarcated by temporary security barrier fencing (e.g., Heras type) and signage as appropriate, adjacent to the existing flood wall along Cromwell Road. Construction access will be available via the existing port access gates at either end of the construction area. A fenced, temporary construction compound, including welfare facilities, will be established within the POI, most likely on the North Citadel Quay. Pedestrian walkways for construction and port staff will be segregated from construction plant and equipment by barrier fencing and signage as appropriate.

The Highland Council-owned flood gate located at the entrance to the site, adjacent to the vacant boatshed, will remain operational at all times, ensuring continuity of the River Ness Flood Alleviation Scheme throughout the construction phase.

3.2.2 Boatshed Demolition

Construction of the new quay will be facilitated by the removal of the existing boatshed on the site (see Figure 3.2.1) and isolating and disconnecting all utilities. The boatshed is understood to be constructed of single skin brick walls and a sheet metal roof, previous test results confirmed the building does not contain asbestos. It may contain stored scrap metal, timber or other redundant materials, these will be removed prior to demolition. The boatshed will be demolished using heavy plant (i.e., excavators) and demolition materials will be segregated and recovered for reuse or recycling where practicable. Where materials cannot be reused or recycled, these will be disposed of to a licensed offsite facility.

Figure 3.2.1: Boat Shed Due for Demolition

3.2.3 Site Clearance

A small area of existing concrete hardstanding behind the boatshed (see Figure 3.2.2) will be broken up and removed by mechanical plant. Any debris on site will be cleared and removed.

Figure 3.2.2: Hardstanding Behind Boatshed

Vegetation, predominantly including gorse and grass (see Figure 3.2.3) will be stripped to prepare the site.

Figure 3.2.3: The Site of the New Quay showing Vegetation for Removal

3.2.4 Pile Installation

The sheet piles of the outer quay wall and abutment are proposed to be of a 'Z-section' profile (AZ-700), specified as no larger than 700mm in width and 500mm between back and front face. Piles will likely arrive at the POI by sea. A temporary piling gate will be used to ensure correct alignment, and piles will be installed by a crane-mounted vibro-piling hammer working from land or marine based plant. Once each pile is installed into place, the gate is moved, and the process is repeated along the quay. Vibro-piling techniques are expected to be adequate for installation (as the piles are not to be driven into rock) and will be used preferentially to minimise noise nuisance. Though highly unlikely, percussive piling techniques may be utilised if required.

Anchor walls will be installed via sheet piling into the ground using vibro-piling (or percussive piling, though highly unlikely). Anchor piles will be installed using a leader rig; an item of self-propelled plant used to guide and drive the piles into place. Tie rods will be installed between the outer quay walls and the anchor walls, then tensioned to provide lateral support.

The cantilever piled wall at the north-west of the development will be installed from land or marine based plant using a crane-mounted vibro-piling hammer (or percussive piling, though highly unlikely). Anchor piles will be installed using a leader rig. Following completion of the outer quay wall piling, four tubular mooring piles and the two fender piles will be installed and piled to their required depth. As for the other piling works, it is expected vibro-piling will be sufficient to achieve design depth, though percussive piling may be required if especially hard material is encountered. Land or marine based plant may be used to pile the fender, mooring and cantilever piles.

3.2.5 Quay Infilling & Surfacing

Once the tie rods have been installed, the sheet-piled structure forming the new quay will be infilled to design height of 5.68mCD with crushed rock. The quay will be top dressed in a Type 4 sub-base aggregate to allow percolation whilst providing a firm trafficable surface.

As the proposed works are small in scale, relatively minimal quantities of materials are required. Materials arising from the site, such as inert demolition material or aggregate, will be reused wherever practicable. Any additional infill, which (if required) will be up to 1,000m^3, will be brought to site by road.

3.2.6 Concrete Works

Concrete works will be used for the construction of the abutment slab, concrete loading ramp and capping beams for the outer quay walls. The approximately 20m x 20m abutment slab and 1:20 gradient loading ramp will be constructed with a 0.3m thick reinforced concrete slab over Type 1 aggregate sub-base. This slab will tie into the level of the North Citadel Quay (see Figure 3.2.4).

A reinforced concrete capping beam will be constructed along the top of the outer sheet-piled quay wall, to the same height as the adjacent North Citadel Quay. The finished aesthetic will be characteristic of the existing concrete capping beams of the Longman Quay and North Citadel Quay. Concrete pours will be undertaken with washout being conducted within POI treated and disposed of at an offsite facility.

Figure 3.2.4: Proposed Area of Tie-in at The North Citadel Quay

3.2.7 Dredging

A small dredge will be undertaken on the riverbed around the floating pontoon and linkspan to provide suitable water depth for vessels. Dredging is proposed to a maximum depth of -3.0m CD to account for low spring tides, matching the current dredge depths in the river around the area of proposed works. Dredging will be undertaken by a barge-mounted excavator. The outcome of the dredge arisings will be determined by a Best Practicable Environmental Option (BPEO) assessment, as informed by pre-disposal sampling in line with Marine Directorate guidance (Marine Directorate, 2017). It is likely that dredge arisings will be disposed at sea at the nearby Inverness dredge disposal site in the Beauly Firth (site ID CR027).

3.2.8 Deployment of the Pontoon

The pontoon will be delivered to site by sea to POI and floated into place. Pile guides will be attached to the mooring piles, then fixed to the pontoon to hold it in place.

3.2.9 Installation of the Linkspan

The prefabricated linkspan will be craned into place and fixed to the abutment to allow create access to the pontoon.

3.2.10 Furniture and Finishes

Ladders will be installed to the outside of the sheet-piled quay walls, and fenders fixed to the two fender piles. Sacrificial anodes will be installed to the piles as required.

3.2.11 Demobilisation

Post construction, the temporary site compounds, welfare facilities and security fencing will be dismantled and removed, and access routes reinstated.

3.3 Operational Phase

The new barge berth, linkspan and quay will be used to load and unload materials in keeping with existing POI operations. The berth will provide a dedicated transfer point for cargo. In particular, is it intended this will involve the transfer of materials arriving by sea onto vessels that are appropriately sized and compatible for onward transport through the Caledonian Canal, as required to support construction of hydro schemes in the Great Glen. It is envisaged this will considerably alleviate the number of HGV deliveries associated with hydro scheme construction utilising the local road network, thereby minimising traffic impacts on local communities.

Operations will therefore involve predominantly vessel, plant and material movements as is expected for an operational port. Note, there is no additional permanent lighting required or included as part of the scheme.

It is expected that once these schemes have been built, the barges will be handed over to Scottish Canals to operate a legacy freight service connecting the East and West coasts, re-purposing the Caledonian Canal to its original purpose of freight movement.

Maintenance dredging may be required over time and if required, would be adopted into POI's maintenance dredge campaigns, subject to pre-dredge sampling results and licensing. The extent of maintenance dredging would be very small, within POI port limits, and within the boundary of previous dredge licences.

The new infrastructure itself will require very little maintenance. This will be limited to occasional lubrication of the sliding bearings where the bridge lands on the pontoon, and replacement of sacrificial anodes on the barge once every 25 years.

3.4 Decommissioning

The barge berth quayside has a design life of circa 50 years and there are no foreseeable decommissioning plans for the POI. The new infrastructure will be maintained in a useable state for as long as practicable. If the design elements of the proposal were to be decommissioned, the elements could be removed in more-or-less a reverse of the construction process.

4 Environmental Sensitivities

The following sections outline the potential environmental sensitivities (or receptors) for the proposed works.

4.1 Landscape & Visual

Receptors sensitive to landscape and visual impacts include the residential and short-term accommodation properties on the west bank of the River Ness, which will have view of the proposed works across the river. There are no National Scenic Areas, or other local landscape designations in the vicinity of the proposed works. Furthermore, the proposed area cannot be seen from any Local Landscape Area or national designation.

4.2 Geology & Soil

The bedrock geology of the proposed works area consists of sedimentary sandstone rock of fluvial origin. Deposits of sediment range in grain size typical of a coastal river from the erosion of pre-existing rock (British Geological Survey, 2026).

Some alluvial soils and shingle on the riverbank are present as result of estuarine alluvial deposits (Scotland's Environment, 2026). Superficial deposits may also consist of eroded material from the historic and recent anthropogenic reinforcement of the river channel. No part of the proposed works falls within/or adjacent to a statutory site designated for its geological value (NatureScot, 2026).

As an operational port, there is potential for a degree of contamination to be present in the soil. However, volumes of any historic storage of hydrocarbons or other hazardous materials this close to the riverbed would be low. Indeed, a 2016 land and soil study of the lot around the existing boatshed identified hydrocarbon contamination above conservative limits, and consequently remedial works were undertaken to remove the contaminated soil and restore it to a suitable state for future purpose (Envirocentre, 2016). The assessment also concluded that despite previous asbestos containing material being handled, and disposed of on site, no asbestos was detected in the soil (Envirocentre, 2016).

Similarly, a historic section of rail to Inverness Harbour, serving quayside sidings, was laid in 1855 for the conveyance of freight (RailScot, 2026). Activities at rail sidings may also give rise to sources of contamination. However, the rail terminated at the southern end of the current South Citadel Quay (Inverness Local History Forum, 2014), approximately 270m south of the proposed works, and hence soil contamination associated with this historic activity is unlikely.

4.3 Air Quality

A desk-based search for Air Quality Management Areas (AQMAs) in the vicinity of the proposed works identified one AQMA in the city of Inverness, approximately 1.05km from the proposed works, however this was revoked in 2025. The AQMA was a small area in the Inverness City Centre which incorporated the crossroads at 6 Queensgate and 62 Academy Street. The AQMA designated was revoked as this area has met, and is expected to continue to meet, Nitrogen Dioxide (NO_2) limits (Air Quality in Scotland, 2026; THC, 2025).

There are three air monitoring stations in Inverness recording air pollutants hourly, all approximately 1km away from the proposed works with two situated within the now historic AQMA. The Air Quality Annual Progress Report, produced by THC in fulfilment of the Environment Act 2021 declares there was no exceedance of any air quality objectives in 2024 and there has been a trend in reduction of NO_2. As such, the air in Inverness is rated generally as good quality (THC, 2025).

4.4 Water Quality

The River Ness at the proposed works site is part of the Beauly Firth transitional water body (ID: 200441) with an area of 26km^2. It was classified in 2024 as overall good status, which it has been since 2007 (Scottish Environment Protection Agency (SEPA), 2012a). Water quality is deemed as 'high' reflecting favourable physio-chemical and biological conditions (SEPA, 2012a). A known pressure on the water quality of the Beauly Firth is from sewage disposal from urban inputs of wastewater from the city of Inverness (SEPA, 2012b).

Current drainage from the adjacent Longman Quay is in the process of being improved. The POI have applied for a surface water discharge permit from SEPA. This is to allow for the discharge of surface water runoff from the surrounding industrial estate to be discharged from two proposed outfalls via a bypass separator; removing oils, fuels, debris and improving the quality of the surface water runoff that is conveyed into the River Ness.

The closest bathing waters are 13km north-east of the mouth of the River Ness, at Rosemarkie Beach. This is part of the Hilton of Cadboll to Whiteness Head waterbody (Marine Directorate, 2026).

4.5 Seabed & Coastal Processes

The River Ness is a relatively short (10km), fast flowing river that connects the freshwater of Loch Ness and its 55.33 km^2 area to the marine environment of the Beauly Firth and the Moray Firth (SEPA, 2012a; SEPA, 2012c). The estuarine nature of the tidal River Ness means it is subject to both freshwater and marine influences due to riverine flows and tidal exchange.

The River Ness has been heavily modified by humans for centuries to protect infrastructure from the forces of the river. The groyne located approximately 325m upstream of the proposed works directs water flow away from the east side of the river, see Figure 4.5.1 and Figure 4.5.2. The groyne's placement is historic and intended to protect the riverbank and infrastructure from erosion due to the fast-flowing nature of the River Ness. The groyne directs water flow and consequently speeds up water flow in the centre of the river.

Tidal modelling produced by RPS (a Tetra Tech company) shows the River Ness having a velocity of between 0.32 and 0.8 metres per second (m/s) ensuring the river only ever flows downstream despite tidal influence of the Beauly and Moray Firth (RPS, 2023).

There is a stone weir approximately 540m upstream of the proposed works, underneath the railway bridge (known as the Ness Viaduct), as seen in Figure 4.5.1. The bridge was rebuilt in 1990 following a flood event the previous year, and the weir was installed at the same time to stabilise the riverbed and prevent scour (Friends of the Far North Line, 2026). There is a large weir located approximately 3.45 km upstream where River Ness joins Loch Dochfour. This was implemented circa 200 years ago to maintain the depth of Loch Ness and the Caledonian Canal for vessels traffic and conveying materials (Ness Weir II, 2026).

Dredge sample analysis was conducted at the POI in 2025 to support a dredge licence application. The results identified that particle size distribution of the dredge material was comprised on average of 0.24% gravel, 83.06% sand and 16.7% silt. The dredge material analysis showed there to be no trace metals or organotin concentrations above Marine Directorate's Action Level 1 outlined in their Pre-disposal Sampling Guidance (Marine Directorate, 2017). There were some minor exceedances of Action Level 1 of Polycyclic Aromatic Hydrocarbons (PAH) on individual samples, though no Action Level 2 exceedances as presented in the Best Practicable Environmental Option Report used to support the maintenance dredge application (Affric, 2025).

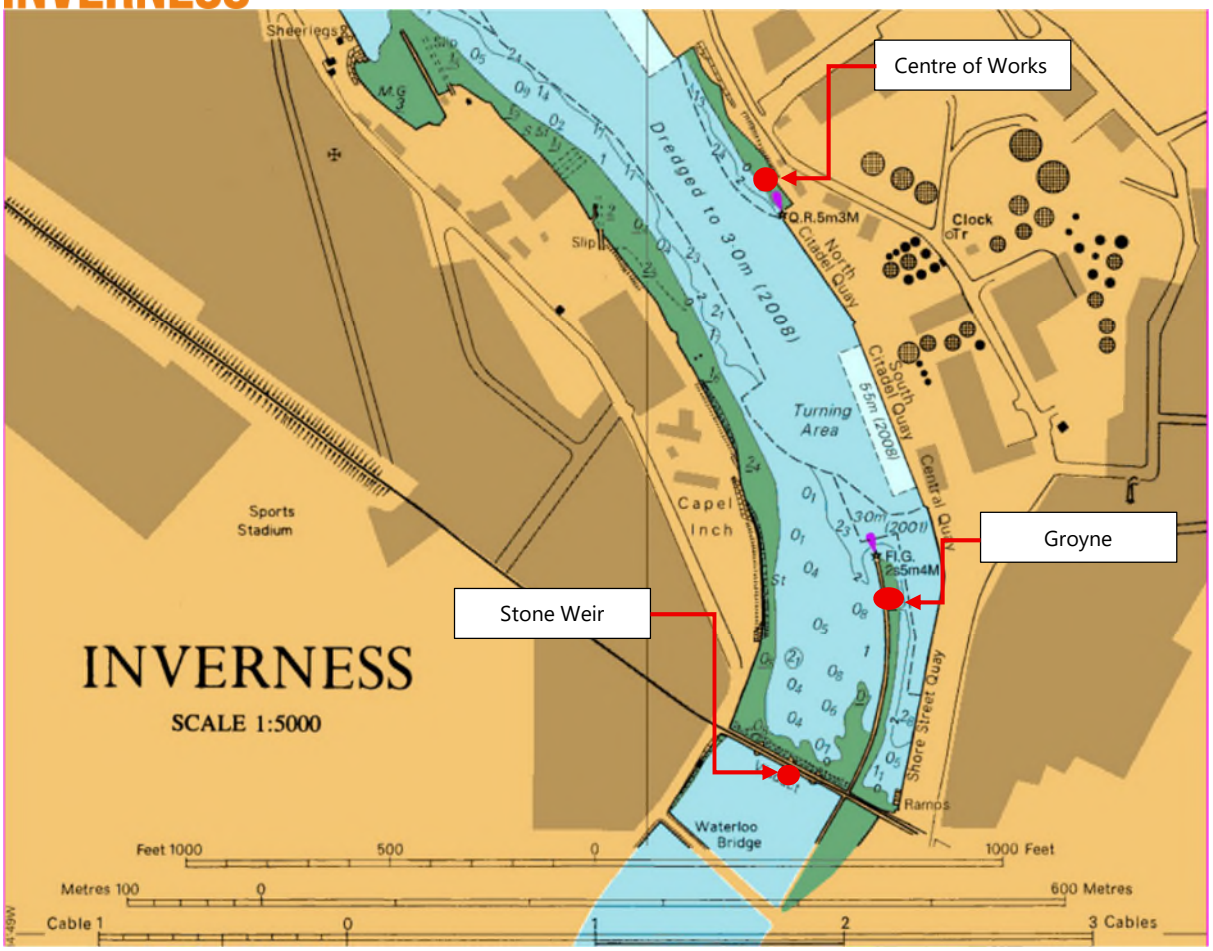

Figure 4.5.1: Location of Groyne and Stone Weir

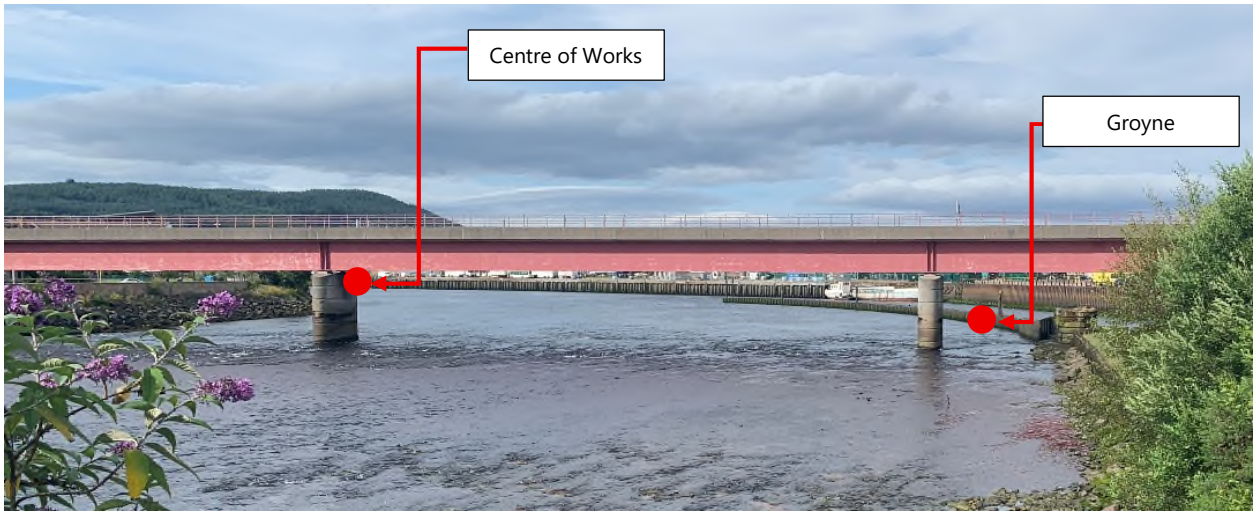

Figure 4.5.2: Location of Groyne in Relation to the Proposed Works (Right)

4.6 Climate Change, Flooding, Major Accidents & Natural Disasters

Fluvial flooding of the River Ness has the potential to impact Inverness, the likelihood and severity of which is expected to increase with climate change. The River Ness currently has an estimated 10% chance of flooding each year (SEPA, 2026).

The River Ness Flood Alleviation Scheme (FAS) was completed in 2015 which protects part of the city against a 1 in 100-year return period climate event. The riverside is lined with three

kilometres of concrete flood defence walls spanning from Ness Bridge in the city centre to the river mouth, with removable flood gates at key access points (McLaughlin & Harvey, 2026). The FAS wall is depicted at the site of the proposed works in Figures 2.2.1 and 2.2.2 and flood gates in this wall allow access to the quaysides. The FAS reduces the risk of flooding to 0.1% annually (SEPA, 2026).

4.7 Underwater Noise

The ambient underwater noise is elevated due to both natural and anthropogenic noise sources within the POI and River Ness. The river is fast-flowing, with a weir located ~540m upstream of the proposed works, which contributes to underwater noise levels. In addition, the proposed works are situated immediately adjacent to several commercial quays which are frequently accessed by vessels (see Section 4.11).

4.8 Biodiversity

The site of the proposed works is part of a wider industrial estate with little habitat of note. The River Ness however is a valuable connective feature between Loch Ness and the Beauly Firth. Together, the river, loch and firth support a diverse array of species and habitats as discussed below.

4.8.1 Designated Sites

The site of the proposed works is part of a wider industrial estate with little terrestrial habitat of note. However, the River Ness feeds into the Beauly Firth, and together these features support a diverse array of marine mammals, waterfowl and habitats integral to several environmental designations.

Designated sites within a 5km buffer of the proposed works have been considered for the purpose of EIA screening. Given the nature and scale of the proposed works, 5km was deemed an appropriate distance to assess the potential for effects on designated sites and their qualifying features. As the works are primarily associated with the marine environment, designated sites that consider only terrestrial and/or landform features have not been considered unless there is a connective pathway with the proposed works.

Designated sites including Special Areas of Conservation (SAC), Special Protection Areas (SPA), Ramsar sites, Sites of Special Scientific Interest (SSSI), Marine Protected Areas (MPA), Local Nature Reserves (LNR) and designated seal haul-out sites within 5km of the proposed works were identified using SiteLink (NatureScot, 2026) and the National Marine Plan interactive (NMPi) mapping tool (Marine Directorate, 2026). Designated sites identified for consideration are outlined in Table 4.8.1 and Drawing: 139_DRG_12_1 Barge Berth Designated Sites within 5km.

Table 4.8.1: Designated Sites within 5km of the Proposed Works

Site	Approximate Distance & Direction	Relevant Designated/Qualifying Features	Further Consideration Required
Moray Firth SAC	0.8km North	**Marine Mammals** • Bottlenose dolphin (*Tursiops truncatus*) **Habitat** • Subtidal sandbank	Yes – marine mammal and habitat features.

Site	Approximate Distance & Direction	Relevant Designated/Qualifying Features	Further Consideration Required
Moray Firth SPA	1km North	**Non-breeding** • Common scoter (*Melanitta nigra*) • Eider (*Somateria mollissima*) • Goldeneye (*Bucephala clagula*) • Great northern diver (*Gavia immer*) • Long-tailed duck (*Clangula hyemalis*) • Red-breasted merganser (*Mergus serrator*) • Red-throated diver (*Gavia stellata*) • Scaup (*Aythya marila*) • Shag (*Gulosus aristotelis*) • Slavonian grebe (*Podiceps auritus*) • Velvet scoter (*Melanitta fusca*) **Breeding** • Shag	Yes – mobile bird features.
Inner Moray Firth SPA	2.4km Southwest (from western site boundary) 2.6km East (from eastern site boundary)	**Non-breeding** • Bar-tailed godwit (*Limosa lapponica*) • Cormorant (*Phalacrocorax carbo*) • Curlew (*Numenius Arquata*) • Goldeneye • Goosander (*Mergus merganser*) • Greylag goose (*Anser anser*) • Oystercatcher (*Haematopus ostralegus*) • Red-breasted merganser • Redshank (*Tringa tetanus*) • Scaup • Teal (*Anas crecca*) • Waterfowl assemblage • Wigeon (*Anas Penelope*) **Breeding** • Common tern (*Sterna hirundo*) • Osprey (*Pandion haliaetus*)	Yes – mobile bird features.
Inner Moray Firth SSSI & Ramsar Site	2.4km West (from west site boundary) 2.6km East (from east site boundary)	**Habitat** • Intertidal mudflats and sandflats • Mudflat • Saltmarsh • Sand dune • Sandflat • Shingle	Yes – mobile bird species.

Site	Approximate Distance & Direction	Relevant Designated/Qualifying Features	Further Consideration Required
	(RAMSAR only)	**Non-breeding** • Bar-tailed godwit • Cormorant • Curlew • Goldeneye • Goosander • Greylag goose • Oystercatcher • Red-breasted merganser • Redshank • Scaup • Teal • Waterfowl assemblage • Wigeon **Breeding** • Common tern • Osprey	
Beauly Firth SSSI	2.4km West (from west site boundary) 2.6km East (from east site boundary) (Marine areas only)	**Habitat** • Saltmarsh **Vascular plants** • Vascular plant assemblage **Non-breeding** • Goosander • Greylag goose • Red-breasted merganser	Yes- mobile bird species. No – habitat and vascular plants, proposed works are not within close enough proximity to have connectivity with these features.
Beauly Seal Haul-out Site	2.3km Northwest	Harbour seal (*Phoca vitulina*). Nb: designated haul-out sites protect all hauled-out species of seal year-round.	No - Designated haul-out sites protect seals while hauled-out. Due to the distance of the proposed works from the land within the designated haul-out site there will not be any potential effects that require consideration.
Merkinch LNR	0.8km Northwest	No specific designated features however are known for: **Habitat** • Tidal pools • Marshlands • Reed beds • Scrubland **Birds** • Waders • Waterfowl	The Merkinch LNR is a local designation closely associated with the Moray Firth SAC and Moray Firth SPA and will be considered as part of these sites when considering potential effects.

4.8.1.1 Habitats Regulations Appraisal

In addition to EIA screening, a HRA Screening Document (Affric, 2026a) has been prepared to inform the Habitats Regulations Appraisal (HRA), as directed under the Conservation (Natural Habitats, &c.) Regulations 1994 (known as 'the Habitat Regulations'). This HRA screening assessment has been undertaken to determine whether the proposed works could have a potential likely significant effect (LSE) on the qualifying features of European sites (SACs, SPAs and Ramsar sites) and hence if an Appropriate Assessment (AA) is likely to be required. This document is provided with this EIA screening request. The potential for LSE was identified in relation to:

- Bottlenose dolphins associated with the Moray Firth SAC;
- Non-breeding goldeneye associated with the Moray Firth SPA;
- Non-breeding cormorant and goldeneye associated with the Inner Moray Firth SPA; and
- Freshwater pearl mussel (*Margaritifera margaritifera)* and Atlantic salmon *(Salmo salar)* associated with the River Moriston SAC.

Subsequently, these qualifying features have been included for consideration as part of this EIA screening assessment in Section 4.8.4: Ornithology, Section 4.8.6: Fish & Shellfish and Section 4.8.8: Marine Mammals.

4.8.2 Terrestrial Habitat

As mentioned, the site has little terrestrial habitat of note. Vegetation is limited to a small patch of gorse and grass near the riverbank (see Figure 3.2.3).

4.8.3 Otter

Otter (*Lutra lutra*) are known to be present in the River Ness and Merkinch LNR, transiting between Loch Ness and the marine environment. The Longman Quay and North Citadel Quay provide no suitable habitat or food resource for otters; however, the existing bank may provide habitat for laying-up.

Two incidental sightings of otter were noted nearby during the wintering bird survey conducted in winter 2025/26 (Affric, 2026b). A camera trap was subsequently installed for 4 weeks adjacent to the proposed works location to ascertain whether a potential lay-up was in use, though no otter were detected utilising this area. A previous otter survey conducted in March 2019 across the POI identified spraints and feeding remains, with hotspots of evidence identified on rock armour to the north-east of the Inverness Harbour Marina and on rock armour to the south of Gaelforce Marine's site compound (Affric, 2019).

4.8.4 Ornithology

The site is bounded by concrete hard standing quaysides, and an industrial estate to the north and east, neither of which are likely to support populations of sensitive avian receptors. A wintering bird survey conducted in the winter of 2025/26 revealed the proposed works area footprint was not a hotspot for any bird activity during high or low tide (Affric, 2026c). The combined survey results showed that Cormorant, Curlew, Coots *(Fulica atra)*, and various species of gulls utilised the River Ness and adjacent quaysides. The narrow band of gorse and existing rock armour may provide limited habitat to wintering and/or nesting birds, but no rare, protected or notable bird species were recorded utilising the area of proposed works

(Affric, 2026c). A 2017 breeding bird survey produced by A9 Consulting, supported by Affric was conducted in the area of the proposed works in preparation of a quay extension. It recorded little bird activity in the area and only one confirmed wren nest (Dr Eric Donnelly & Yvonne Brown, 2017).

4.8.5 American Mink

During a wintering bird survey conducted by Affric over winter 2025/26 there were incidental sightings of the non-native invasive American Mink (*Neogale vison*) utilising the quays approximately 270m to the south of the proposed area (Affric, 2026b). The POI subsequently deployed traps to this location and these are monitored for activity.

4.8.6 Fish & Shellfish

Adult Atlantic salmon migrate upstream on the River Ness past the POI, to several salmon rivers that feed into Loch Ness. Salmon may also pass by the mouth of the River Ness into the Beauly Firth on their way to the River Beauly. Adult migrations upriver to spawning grounds occur between September to December (Cromarty Firth Fisheries, 2008; Malcolm *et al*., 2010). Young salmon smolts will then migrate to sea back past the proposed works between April to May (Beauly Fishery Board, 2022).

Atlantic salmon in the Ness system also act as an essential host species during the early life cycle for the localised freshwater pearl mussel population in the River Moriston SAC (NatureScot, 2023).

Basking shark, (*Cetorhinus maximus*), though occasionally seen during the summer months in the Moray Firth with hotspots off the coast of Nairn, are very rarely reported within the Inverness and Beauly Firths. In May 2025, there was a potential basking shark sighting approximately 0.8km off the Clachnaharry sea lock in the Beauly Firth recorded on the Hebridean Whale and Dolphin Trust (HWDT) sightings map (HWDT, 2026). The river and area of the proposed works are outwith their optimal habitat range.

An active shellfish aquaculture site operated by Beauly Firth Oysters is located on the northern shore of the Beauly Firth is indicated on Scotland's aquaculture map 5.6km northwest of the proposed works (Scotland's Aquaculture, 2026).

4.8.7 Benthic Ecology

The development site area is within the part of the River Ness which is regularly subject to maintenance dredging. As such, the benthic habitat within the development footprint is highly disturbed.

A benthic video survey conducted in 2022 in the Beauly Firth identified two Priority Marine Features (PMF) in the Beauly Firth:

- 'Blue mussel, *Mytilus edulis* beds on mixed infralittoral sediments' (EUNIS Code: A2.721); and
- 'Kelp, *Laminaria hyperborea* on tide-swept infralittoral mixed substrata' (EUNIS Code: A3.213) (Affric, 2022).

These PMFs were recorded along transect lines and their predicted habitat extents mapped. The predicted extent of the blue mussel beds is approximately 900m north (downstream) of the proposed works, where the River Ness transitions to the Beauly Firth. A mixed habitat

consisting of blue mussel and kelp habitat were noted approximately 950m north-northwest of the proposed works.

Another PMF habitat, seagrass (*Zostera noltei*), has been recorded and mapped in multiple locations across the Beauly Firth and along the shorelines of the Inner Moray Firth (Marine Directorate, 2026). This species is reported as euryhaline (Marine Life Information Network (MarLIN), 2026), i.e., able to tolerate reduced salinity, which explains its presence in the estuarine Beauly Firth. However, *Zostera noltei* has not been recorded in very low salinity (freshwater) habitats, and as such is not expected to be present within the River Ness in proximity to the site of the proposed works.

4.8.7.1 Marine Non-native Species

The invasive non-native Slipper limpet (*Crepidula fornicata*) has been recorded in the Inner Moray Firth on the shoreline at Avoch, Fortrose and Chanonry Point in 2024 and 2025 (National Biodiversity Network (NBN) Atlas, 2026a). More recently, the species have been recorded at Arturlie Point, approximately 5.5km north-east of the POI (iRecord, 2025).

A survey was conducted in July 2026 to investigate non-native species presence upon infrastructure at POI (Affric, 2026d); during this survey only one non-native species, Darwin's barnacle (*Austrominius modestus*), was observed. This is a well-established non-native species common across the UK and is not expected to create any severe economic impacts on port operations or ecological impacts on native species. Of note, blue mussels were also observed upon a navigation beacon during this survey, confirming their presence in the wider area.

The POI have developed a Biosecurity Management Plan to minimise the risk of spreading non-native and/or invasive species via vessel movements.

4.8.8 Marine Mammals

Several marine mammals have been sighted in the Inner Moray Firth and Beauly Firth, such as:

- Bottlenose dolphin;
- Common dolphin (*Delphinus delphis*);
- Harbour porpoise (*Phocoena phocoena*);
- Minke whale (*Balaenoptera acutorstrata*);
- Humpback whale (*Megaptera novaeangliae*);
- Grey seal (*Halichoerus grypus*); and
- Harbour seal (Marine Directorate, 2026).

Bottlenose dolphin are qualifying features of the Moray Firth SAC. Those frequenting the Inner Moray Firth are part of the east coast of Scotland bottlenose dolphin population, estimated at 226 individuals (Cheney *et al.*, 2024). Bottlenose dolphin are the most commonly sighted cetacean in the Inner Moray Firth. They inhabit near-shore waters, including Chanonry Point and Fort George at the entrance of the Inverness Firth, and North and South Kessock at the entrance of the Beauly Firth, in groups of 1 – 11 individuals (NatureScot, 2025; HWDT, 2026). There are five reports of a lone bottlenose dolphin entering the lower reaches of the River Ness and Inverness Marina on the HWDT Sightings Map (HWDT, 2026). Typically, sightings in the Inner Moray Firth are highest in the summer months between May and September, although bottlenose dolphins are sighted year-round (Pirotta *et al.*, 2014).

Common dolphin and harbour porpoise are also sighted in the Inner Moray Firth. Common dolphin are sighted in groups of up to 65 individuals, with four reports of groups between 3 – 10 individuals at North Kessock (HWDT, 2026). There are no reports of common dolphin entering the lower reaches of the River Ness (HWDT, 2026). Harbour porpoise are most often sighted at Chanonry Point in the Inner Moray Firth. (HWDT, 2026). There is just one report of a lone harbour porpoise entering the Beauly Firth in 2024 (HWDT, 2026).

Minke whale are occasionally sighted in the Inner Moray Firth, with sightings mainly restricted to the summer months. Minke whale are most sighted alone or in small numbers in the Inner Moray Firth. There are three reports of minke whale in small groups (1 – 3 individuals) sighted at North and South Kessock in the Beauly Firth (HWDT, 2026).

Humpback whales infrequently enter the Inner Moray Firth; one individual was most recently sighted at South Kessock in 2026 (HWDT, 2026). There are also sporadic sightings of large pods of long-finned pilot whales (*Globicephala melas*) entering the Inner Moray Firth; however, these sightings are considered rare (Evans, 1980; Hague *et al.*, 2020).

Grey seals and harbour seals are commonly sighted within the Inner Moray Firth, with heightened abundances during their breeding seasons (September – December and May – October, respectively) (Special Committee on Seals (SCOS), 2025). SCOS (2025) recently estimated the Moray Firth population of grey and harbour seals to be 5,384 and 1,365 individuals, respectively. The Beauly haul-out site is located approximately 3km from the proposed works, and is designated for harbour seals but protects all species of seal. Seals are frequently sighted hauling out around the shores of the Beauly Firth, North and South Kessock, Chanonry Point and Ardersier (Onoufriou *et al.*, 2016; NBN Atlas, 2026b; NBN Atlas, 2026c). Incidental sightings during the 2025/26 wintering bird survey commissioned by POI also included a harbour seal in the Beauly Firth, approximately 800m north of the Inverness Harbour Marina (Affric, 2026b). Incidental sightings of seals have been recorded in the lower reaches of the River Ness, though rare.

4.9 People and Health

The area immediately east of the proposed works comprises an established industrial area used exclusively for commercial and industrial activities. This area represents a key area of industrial development and employment within Inverness. The nearest residential properties on the eastern river frontage are located approximately 300m southeast of the proposed works along Cromwell Road.

The Merkinch residential area is situated approximately 100m west of the proposed works, on the opposite side of the River Ness (see Figure 4.9.1). The nearest educational facility is Merkinch Primary School, located approximately 750m southwest of the proposed works. Community facilities within Merkinch include a community centre, a care home, and a children's play park. According to National Health Service (NHS) Highland (NHS Highland, 2023), Merkinch is recognised as an area of relative socio-economic deprivation, characterised by lower life expectancy and higher rates of hospitalisation compared with regional averages.

The Gael Force Group operates on the Thornbush Quay approximately 160m west of the proposed works, adjacent to the Merkinch residential area. They build fish feeders in the River Ness and have a megastore supplying commercial fishing equipment. To the west of Merkinch lies the Carsegate Industrial Estate, comprising a mix of office-based businesses and vehicle

repair and maintenance premises. Consequently, the local area is characterised by a mixed-use environment, where residential communities exist alongside established industrial and commercial activities.

Figure 4.9.1: Merkinch Residential Area and Location of Proposed Works

At a local scale, the population of Inverness and its surrounding area was estimated at approximately 82,000 in 2022 (NHS Highland, 2022). The population continues to grow, supported by ongoing residential development within and around the city. Between 2002 and 2021, Inverness experienced a population increase of approximately 23%, reflecting its sustained growth as a regional centre for employment, services, and housing (NHS Highland, 2022).

4.10 Traffic & Transport

The proposed works are located between two existing POI Quays; the Longman Quay and the North Citadel Quay which can be accessed by road from the north via Longman Drive and from the south via Cromwell Road.

Cromwell Road provides direct connections to Inverness city centre, including Inverness Bus Station and Inverness Railway Station. Longman Drive connects the POI to the A9, the principal transport corridor linking the Highlands with the rest of Scotland. The A9 is used extensively by commuters, freight operators, service vehicles, and tourists, and has experienced increasing traffic demand in recent years. In response to this, sections of the A9 south of Inverness are being upgraded through a programme of dualling works to increase capacity and improve journey reliability. However, these improvements are not anticipated to be fully realised in the short term, and existing congestion and journey delays are expected to persist in the interim.

Traffic pressures on the regional road network have also been influenced by the growing popularity of the Highlands as a tourist destination, including use of the North Coast 500 (NC500) touring route, which relies in part on the A9 corridor. Road traffic levels have generally increased since the COVID-19 pandemic, with vehicle mileage exceeding pre-pandemic levels (UK Government, 2025). The NC500 promotes visits to attractions in and around Inverness, including Loch Ness and the city centre (Visit Scotland, 2026), further contributing to seasonal traffic demand.

As a result, concerns have been raised locally regarding traffic flow, increasing congestion, and wider road safety issues (THC, 2026). Consequently, there is ongoing interest in identifying and

enhancing alternative transport modes, including the use of waterways, to help reduce pressure on the regional road network and improve transport resilience.

4.11 Navigation

The North and South Citadel Quays are key operational assets of the Port of Inverness (POI), serving as the primary berthing facilities for bulk fuel deliveries to Inverness. The Longman Quay, located immediately north of the proposed works, is used for bulk cargo handling and vessel bunkering operations. The North Citadel Quay was previously used as the Port's secondary fuel delivery quay up until 17 years ago. Maintaining safe and unrestricted navigational access to these quays is therefore essential to both port operations and the continuity of local fuel supply.

Vessel movements within the River Ness are generally confined to the lower reaches of the river, with navigation typically limited to the vicinity of the port and undertaken under the direction of the POI Harbour Master. Consequently, the river's principal function is to support industrial and commercial maritime activity. Recreational and local vessel traffic is largely absent from the River Ness itself; however, these users require safe navigational access through the river mouth to reach the marina facilities.

Access to the Caledonian Canal from the sea is provided via the Clachnaharry Sea Lock. The canal forms the gateway to the Great Glen and is widely used by recreational boaters and independent tourists. Transit through the canal is facilitated by a series of locks, which are staffed during busy periods but may also be operated by canal users when appropriate. The canal is managed by Scottish Canals, which provides operational information, guidance and support to navigators using the waterway (Scottish Canals, 2026).

4.12 Cultural Heritage & Archaeology

There are no protected military remains, historic conservation areas, world heritage sites or battlefields within the immediate vicinity of the proposed works (Historic Environment Scotland, 2019). Table 4.12.1 summarises culturally significant features in the vicinity of the proposed works.

Table 4.12.1: Culturally Significant Features in The Vicinity of The Proposed Works

Site	Type	Description	Location (OS NGR)	Distance & Direction
Inverness Harbour View Post Crane.	National Record of Historic Environment.	19th century wood and cast iron 4-ton post crane.	NH 66297 46499	73m North-West
Cromwell Road Clock Tower.	Listed Building.	18th century square-plan clock tower.	NH 66442 46395	123m East
Remains Of Cromwell's Fort.	Scheduled Monument.	Remains of a Mid-17th Century military fort.	NH 66584 46389	270m East
South Kessock, Thornbush Quay, Sheer Legs.	Listed Building.	20th century hoist, last of its kind in Great Britain.	NH 65990 46553	330m North-West

Six shipwrecks are recorded in the vicinity of the proposed works on the National Record of the Historic Environment (NRHE) Maritime database. Several of these records share co-

ordinates and, upon further review, were found to represent documentary records rather than positions intended for navigational use (Historic Environment Scotland, 2019). In addition, the reported positions fall within, or on the border of, the dredge pockets along the River Ness and the Citadel Quay (Refer to Inverness Harbour Maintenance Dredge River Ness Channel Dredge, Drawing Reference 2021-321K). These areas are subject to regular maintenance dredging and have also been covered by recent bathymetric surveys. Had any significant wreck remains been present at these locations, they would likely have been identified during these previous activities. Consequently, it is considered unlikely that any physical remains of the recorded wrecks are present at the reported positions.

5 Potential Environmental Effects

Potential environmental effects are considered for both the construction and operational phases of the proposed development.

5.1 Construction

Table 5.1.1 considers the potential environmental effects of the proposed works during construction. Even if no significant effect is likely for a construction activity, mitigation will be implemented, where appropriate, to further reduce potential adverse effects. Aspects of construction where there is potential for a likely significant effect have been discussed further in Sections 5.1.1 and 5.1.2.

Table 5.1.1: Potential Construction Effects and Sensitivities

Task	Impact	Sensitivities	Potential for Significant Effect	Proposed Mitigation Measures
General Construction Activities – Vehicle Movements	Traffic increase during construction.	Local road network.	No - The site is situated within an existing industrial estate. Most materials will be delivered by sea minimising the use of HGVs.	No specific mitigation required.
	Interactions with Protected Species.	Protected ecological features, specifically		
General Construction - Site Clearance & Ongoing Works	Potential for disturbance and displacement of nesting birds.	Low potential for nesting birds. Refer Section 4.8.4 for details.	No – Bird nests are afforded legal protection, hence no works which will impact upon nesting birds will be undertaken.	If construction works are to be undertaken in breeding bird season (March – August inclusive) a nesting bird check will be completed prior to and during works. Appropriate exclusion zones will be established if nesting birds are present.
General Construction Activities – Vessel Movements	Increase in vessel traffic, with potential navigation implications and potential for interactions with fauna.	POI operations. Other users of the River Ness. Marine mammals, including otters.	No – The site is within an operational port used to accommodating vessels. Additional vessels associated with construction will be managed by the POI as the Harbour Authority. Interactions with marine mammals will be prevented through use of standard mitigation.	Vessels will follow the Scottish Marine Wildlife Watching Code (SMWWC; Scottish Natural Heritage (SNH), 2017).

Task	Impact	Sensitivities	Potential for Significant Effect	Proposed Mitigation Measures
	Increased Greenhouse Gas (GHG) emissions associated with an increase in vessel traffic.	Air Quality.	No – Scale and number of plant required is minimal.	All vessels used will be well maintained to minimise production of GHG.
	Potential Introduction and Spread of Invasive Non-native Marine Species	Benthic Ecology.	No- Construction vessels will adhere to the POI's existing biosecurity protocols.	All vessels will adhere to the POI's existing biosecurity protocols as outlined in the POI Biosecurity Management Plan.
General Construction Activities – Waste	Generation of general construction waste.	Landfill capacity.	No – Volumes generated, associated with the demolition of the boatshed, will be minimal.	Where practicable, materials will be re-used in proposed works or at the POI. Waste unable to be reused will be taken for disposal offsite to a licensed facility. Waste will be separated on site.
General Construction Activities – Use of Heavy Plant/ Machinery (including piling).	In-air noise.	Residents Local Businesses (refer Section 4.9)	No - see Section 5.1.2 for further details.	A in-air noise impact assessment to be completed taking account of BS5228, to identify appropriate mitigation. If required a Section 61 application under the Control of Pollution Act 1974 as amended will be submitted to the Highland Council prior to works commencing.
	Increased GHG emissions.	Air Quality.	No – Scale and number of plant required is minimal.	All plant used will be well maintained to minimise production of GHG.
General Construction Activities - Use of Fuels/oils.	Potential for a loss of containment/ spill resulting in contamination of the marine environment.	Water quality. Fish & Shellfish (see Section 4.8.6). Benthic Ecology (see Section 4.8.7). Marine Mammals (see Section 4.8.8).	No - Scale and number of plant required is minimal. The risk of loss of containment is greatly minimised through standard pollution prevention mitigation.	In line with the Guidance for Pollution Prevention (GPP) 6: Working at Construction and Demolition Sites (NetRegs, 2023) best practice mitigation will be implemented as below: • Onshore refuelling/storage of oil and fuels will be carried out in a designated area on an

Task	Impact	Sensitivities	Potential for Significant Effect	Proposed Mitigation Measures
				impermeable surface at least 10m away from watercourses and drains; • Plant nappies and/or drip trays will be used where appropriate; and • Spill kits will be easily accessible on site. SEPA's General Binding Rule 26 (GBR) and GBR28 will be adhered to.
Piling	Underwater noise.	Marine Mammals (see Section 4.8.8). Atlantic salmon (see Section 4.8.6).	No - see Section 5.1.1 for further details.	A Marine Mammal Risk Assessment will be completed to identify appropriate mitigation, such as the requirement for a Marine Mammal Mitigation Protocol, and if necessary, an European Protected Species (EPS) licence will be sought. This risk will also consider the potential for effects on fish species in the River Ness. Vessels will follow the Scottish Marine Wildlife Watching Code (SNH, 2017).
Boatshed Demolition	Nuisance effects associated with dust.	Adjacent buildings, public path, and road, as discussed in Section 4.9, the closest residential properties are 105m away.	No – The building to be demolished is small, so dust source is low. Materials will be removed promptly, to make way for the works, hence sources of dust will not be present on site for long.	Prompt removal of demolition waste from site.
Groundworks	Loss of vegetation.	Terrestrial biodiversity (refer Section 4.8.2)	No - Negligible loss of low value flora.	No specific mitigation required.
	Nuisance effects associated with dust.	Adjacent buildings, public path, and road, as discussed in Section 4.9, the closest residential properties are 105m away.	No - minimal area of ground works/excavation, hence dust source is low.	Soil/stockpiles will be dampened down if necessary to prevent resuspension of dust. The public road/paths will be checked and if required swept to remove debris.

Task	Impact	Sensitivities	Potential for Significant Effect	Proposed Mitigation Measures
Concrete Pours	Potential for a loss of containment resulting in contamination of the marine environment.	Water quality.	No - The risk of significant effects will be avoided through the implementation of standard pollution prevention mitigation.	In line with GPP 6: Working at Construction and Demolition Sites (NetRegs, 2023) best practice mitigation will be implemented as below: • Use of marine compatible concrete; • A washout facility will be suitably contained, maintained to retain capacity and established at an appropriate location on site, at least 10m away from the River Ness or drainage systems; • If necessary, excess concrete will be segregated, stored on site and re-used as aggregate; • Washout water will be treated before it is reused in construction activities; and • Concrete and washout will be re-used and/or disposed of appropriately, in line with GPP6.
Dredging	Underwater noise.	Fish & Shellfish (see Section 4.8.6). Marine Mammals (see Section 4.8.8).	No – Dredge is minimal and limited in depth, and therefore duration. Mechanical dredging techniques will not generate underwater noise levels to result in any significant effects.	Dredging will be undertaken in line with the Maintenance Dredge Protocol agreed between IHT, Ness District Salmon Fisheries Board and NatureScot. Dredging and disposal will be subject to a BPEO assessment, as informed by pre-dredge sampling, and the marine licensing process.
	Increase in Solids in the Water Column/ Sedimentation.	Water Quality. Marine ecological receptors.	No – Pre-dredge sampling results in 2025 found the seabed material to consist of predominantly sands with some silt (refer Section 4.5). Any solids in the water column due to dredging will drop out rapidly local to the dredge area and at the dredge disposal site.	

5.1.1 Underwater Noise - Impact of Piling

Pile installation gives rise to underwater noise. High levels of underwater noise have the potential to cause disturbance and/or injury to marine faunal receptors (e.g., marine mammals and fish). In this instance the majority of the piles are sheet piles with only 6 cylindrical piles required (2 fender and 4 mooring piles). Piles will be vibrated into position as far as practicable, however, the need for impact piling to reach the design depths cannot be ruled out. The cylindrical piles are 610mm in diameter, as such noise levels arising from percussion piling is not expected to be excessive. The riverbanks will limit underwater noise propagation, greatly reducing noise levels at the river mouth and in the Beauly Firth, where marine mammals are likely to be present.

A Marine Mammal Risk Assessment will be undertaken to quantify the potential risk to marine receptors (including fish) associated with underwater noise. This will allow the identification of appropriate mitigation, taking account of the Joint Nature Conservation Committee (JNCC) Guidelines for minimising the risk of injury to marine mammals from piling noise if necessary (JNCC, 2010). Assessment of risk to marine receptors will utilise the most recent guidance for generalised hearing ranges and the onset of auditory impacts for marine mammals developed by the United States' National Marine Fisheries Service (NMFS, 2024a). For fish, the generalised hearing ranges and auditory impact thresholds stated by Popper & Hawkins (2019) will be utilised. Effect distances for the onset of auditory impacts for marine receptors will be calculated using the NMFS User Spreadsheet tool (NMFS, 2024b) or be modelled using dBSea software. The effect distance will be used to estimate the number of cetaceans impacted using species' density estimates. The Small Cetaceans in European Atlantic Waters and the North Sea (SCANS) surveys IV (Gilles *et al.,* 2023) provide estimates of mean group sizes and densities of cetaceans for large survey areas. As there is a notable inshore bottlenose dolphin population, the population estimate of the Moray Firth SAC will be used to estimate the number of individuals affected.

The noise levels calculations will identify if there is a potential to harm fish, and hence, the need for mitigation, which may relate primarily to timing. Mitigation will include the development of a Marine Mammal Monitoring Protocol. If the marine mammal risk assessment identifies a potential risk of disturbance and/or injury to cetaceans with mitigation in place, an EPS licence will be sought.

The Marine Mammal Risk Assessment would be submitted with the marine licence application, to ensure that MD-LOT and their consultees have the opportunity to review the assessment, even if an EPS licence is not required.

5.1.2 In-air Noise – General Construction

Due to the location of the proposed works in relation to residential receptors, there is a potential for construction activities to cause disturbance. Construction works will primarily be carried out during daytime; however, some activities may need to be undertaken over weekends. As such, there is a need to have a greater understanding of noise levels arising from the various construction activities, to ensure that works are timed appropriately and that sufficient mitigation is put in place to manage noise. It is therefore proposed that an in-air noise impact assessment is completed, to inform the identification of mitigation in alignment with the BS5228 Code of practice for noise and vibration control on construction and open

sites, Part 1: Noise. If required, a Section 61 application under the Control of Pollution Act 1974 as amended will be submitted to the Highland Council, prior to works commencing.

Similar construction activities were carried out on the Shore Street Quay (which is closer to residential receptors than the works site); with mitigation in place, noise was appropriately managed to avoid nuisance effects. Hence, there is a level of confidence that the works can proceed with mitigation without giving rise to a significant adverse effect.

5.2 Operations

Table 5.2.1 consider the potential environmental effects of the proposed works during the operational phase. Even if no significant effect is likely, mitigation will be implemented, where appropriate, to further reduce potential adverse effects. Aspects of the operational phase of the proposed development where there is potential for a likely significant effect have been discussed further in Section 5.2.1.

Table 5.2.1: Operational Effects and Sensitivities

Aspect/Task	Impact	Sensitivities	Potential for Significant Effect	Proposed Mitigation Measures
New Infrastructure in the River Channel.	Change to coastal processes.	Coastal Processes (water current direction and speed, erosion etc).	No - See Section 5.2.1 for further details.	No specific mitigation required.
	Change to flood risk.	POI operations, infrastructure adjacent to the River Ness.	No – See Section 5.2.1 for details.	No specific mitigation required.
	Visual impacts associated with development of the River Ness bank.	Residents on the opposite bank of the River Ness with views to the site (see Section 4.1).	No – The proposed infrastructure will be low lying, and the design is in keeping with the characteristic of the existing port.	No specific mitigation required.
Storage and Movement of Materials, Plant and Equipment	Potential preferential use of vessel over HGVs to transport materials to projects in the Great Glen.	Users of the local road network and	No – the proposed works are envisaged to reduce overall numbers of HGV road deliveries associated with construction of planning and proposed hydro schemes in the Great Glen. This is expected to have a beneficial effect in comparison to the baseline case without the barge berth proposal.	No specific mitigation required.
		Caledonian Canal.	No – The Caledonian Canal has been capacity to accommodate more vessels. Furthermore, the revenue associated with commercial use of the canal will provide funds to maintain and enhance the canal	No specific mitigation required.

Aspect/Task	Impact	Sensitivities	Potential for Significant Effect	Proposed Mitigation Measures
			for the benefit of commercial and leisure users for many years to come.	
	Potential for a loss of containment/ spill resulting in contamination of the marine environment.	Water quality.	No - The risk of significant effects will be avoided through the implementation of standard pollution prevention mitigation.	SEPA's General Binding Rule (GBR) 26 and GBR28 will be adhered to. Existing Port of Inverness protocols.
Vessel Movements	Potential Introduction and Spread of Invasive Non-native Marine Species	Benthic Ecology.	No- Vessels will adhere to the POI's existing biosecurity protocols.	All vessels will adhere to the POI's existing biosecurity protocols as outlined in the POI Biosecurity Management Plan.
Maintenance Dredging	Underwater noise.	Fish & Shellfish (see Section 4.8.6). Marine Mammals (see Section 4.8.8).	No – Any maintenance dredging required would be is minimal in scale and duration. Mechanical dredging techniques will not generate underwater noise levels to result in any significant effects.	Dredging will be undertaken in line with the Maintenance Dredge Protocol agreed between IHT, Ness District Salmon Fisheries Board and NatureScot. Dredging and disposal will be subject to a BPEO assessment, as informed by pre-dredge sampling, and the marine licensing process.
	Increase in Solids in the Water Column/ Sedimentation.	Water Quality. Marine ecological receptors.	No – The seabed material is predominantly sands with some silt (refer Section 4.5). Any solids in the water column due to dredging will drop out rapidly local to the dredge area and the dredge disposal site.	

5.2.1 Potential Change to Coastal Processes

New infrastructure in the river channel has the potential to impact coastal processes, specifically water flow, speed and therefore sedimentation/flood risk. A flooding and coastal processes assessment, informed by wave and current modelling, considered the impact of the proposed infrastructure on flood levels and coastal processes. Results are presented in Appendix 1 (Tetra Tech, 2026).

This assessment concluding that as the infrastructure footprint does not project forward (into the river channel) of the existing quays in this part of the POI, the proposed new structure will not adversely affect the tidal or river flows in the River Ness at Inverness. Thus, the construction of the proposed barge berth will have no significant influence on the extreme flood water levels in Inverness and therefore will not exacerbate flood risk or interfere with the efficacy of the existing FAS wall at the POI. Furthermore, the floating pontoon will float on the water surface and thus will not interrupt the water flow.

With respect to impacts on sediment transport, the statement acknowledged that there may be some local siltation in a small area in the upstream corner of the cut back excavation for the bank seat of the access linkspan. Otherwise, the barge berth proposal will have no significant impact on the overall sedimentation of the river or adjoining coastal area.

6 Conclusion

The proposed works consist of a new sheet piled quay and abutment, floating pontoon with a linkspan with mooring and fender piles between the existing operational Longman Quay and North Citadel Quay at the POI. The proposed works will create a dedicated transfer point, enabling the transfer of materials, plant and equipment (including Ro-Ro cargo) from vessels arriving by sea onto vessels that are suitable for onward transport through the Caledonian Canal, as required to support the construction of hydro schemes in the Great Glen.

A number of proposed and consented large hydro schemes are expected to be constructed in coming years, with associated material requirements, movements of which could add pressure to the local road network. The barge berth will facilitate and promote the use of the Caledonian Canal for deliveries, alleviating the demand for road-based deliveries to these projects. The proposal will also open up the opportunity to utilise the Caledonian Canal for its historic function as a means of commercial logistics.

The environmental sensitivities of the area surrounding the development has been identified in Section 4 of this report, to allow potential effects of the development to be understood. The potential for significant environmental effects associated with the proposed works during construction and the operational phases have been considered in Section 5. The proposed barge berth will have no impact on the flood levels in Inverness nor affect the coastal process in the river and adjoining coastal area, as informed by a flooding and coastal processes assessment, presented in Appendix 1. The screening assessment concluded that during construction there is potential for impacts from underwater noise and in-air noise that require further consideration to ensure the identification of appropriate, specific mitigation. However, there is sufficient confidence that with the implementation of this mitigation, the proposed works will not result in any significant effects.

As discussed in Section 5.1.1, a Marine Mammal Risk Assessment will be completed to understand the potential effects on marine mammals and fish, to allow appropriate mitigation to be identified. If there is a potential for disturbance to cetaceans with mitigation in place, an EPS licence application will also be submitted to MD-LOT.

A construction in-air noise assessment will be completed as detailed in Section 5.1.2 to identify appropriate mitigation to minimise nuisance nose effects of construction. If deemed appropriate, a Control of Pollution Act 1974 as amended Section 61 application will be submitted to the Highland Council.

Mitigation identified in Tables 5.1.1 and 5.2.1 will be transposed into a Schedule of Mitigation along with any additional mitigation identified for underwater and in-air noise. The Schedule of Mitigation, along with the Marine Mammal Risk Assessment and construction In-air Noise Assessment will be submitted as part of future consent applications. In addition, sufficient information to facilitate the Appropriate Assessment for sites and qualifying features, as agreed through the HRA screening process, will be submitted with the consent applications.

A formal EIA Screening Opinion is requested from THC and MD-LOT with regard to the proposed barge berth project.

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8 Glossary

Acronym	Definition
AA	Appropriate Assessment
AQMA	Air Quality Management Area
BPEO	Best Practicable Environmental Option
CD	Chart Datum
EIA	Environmental Impact Assessment
EPS	European Protected Species
FAS	Flood Alleviation Scheme
GBR	General Binding Rule
GHG	Greenhouse Gas
GPP	Guidance for Pollution Prevention
HGV	Heavy Goods Vehicle
HRA	Habitat Regulations Appraisal
HVO	Hydrotreated Vegetable Oil
HWDT	Hebridean Whale & Dolphin Trust
IHT	Inverness Harbour Trust
JNCC	Joint Nature Conservation Committee
LNR	Local Nature Reserve
LSE	Likely Significant Effect
m/s	metres per second
MarLIN	Marine Life Information Network
MD-LOT	Marine Directorate Licensing Operations Team
MPA	Marine Protected Area
NBN	National Biodiversity Network
NGR	National Grid Reference
NHS	National Health Service
NMFS	National Marine Fisheries Service
NMPi	National Marine Plan Interactive
NO_2	Nitrogen Dioxide
NRHE	National Record of Historic Environment
OD	Ordnance Datum
PAH	Polycyclic Aromatic Hydrocarbons
PMF	Priority Marine Feature
POI	Port of Inverness
Ro-Ro	Roll-on Roll-off
SAC	Special Areas of Conservation
SCANS	Small Cetaceans in European Atlantic Waters and the North Sea
SCOS	Special Committee on Seals
SEPA	Scottish Environment Protection Agency
SMWWC	Scottish Marine Wildlife Watching Code
SNH	Scottish Natural Heritage
SPA	Special Protection Area
SSSI	Sites of Special Scientific Interest
THC	The Highland Council

Port of INVERNESS

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Drawings

Drawing Reference	Drawing Title
139_DRG_08_01	Barge Berth Location Plan.
2021_291	Proposed Barge Berth Location with Development Boundaries.
2021-221	Proposed Barge and Bridge Site Location.
2021-222	Proposed Barge and Bridge Plan and Elevations.
139_DRG_12_1	Barge Berth Designated Sites within 5km.
139_DRG_05_1	Combined Bird Surveys.
2021-321K	Inverness Harbour Maintenance Dredge River Ness Channel Dredge.

Port of INVERNESS

Appendix 1: Tetra Tech Flooding and Coastal Processes Assessment

POI North Citadel Quay Barge Berth

Assessment of impact on flood levels and coastal processes

The proposed Barge Berth is to be located at the down stream end of the existing North Citadel Quay, Port of Inverness, and is to be constructed by recessing the new berth into the existing riverbank and retaining the area behind the new berth with sheet piling. Thus, the proposed new berth will not extend further into the River Ness than the existing North Citadel Quay or the Longman Quay which lie immediately upstream and downstream of the proposed new barge berth respectively.

Since the proposed new berth does not project forward of the existing quays in this part of the Port of Inverness, the proposed new structure will not adversely affect the tidal or river flows in the River Ness at Inverness. Thus, the construction of the proposed barge berth will have no significant influence on the extreme flood water levels in Inverness.

It is expected that there may be some local siltation in a small area in the upstream corner of the cut back excavation for the bank seat of the access linkspan. Otherwise, the proposed barge berth is expected to be self-cleansing, and the proposed scheme will have no significant impact on the overall sedimentation of the river or adjoining coastal area.

In summary the proposed barge berth will have no impact on the flood levels in Inverness nor affect the coastal process in the river and adjoining coastal area.

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