



**Port of Glensanda  
Dredge and Disposal Licence  
Environmental Supporting  
Document**



**Report No. 144\_REP\_02\_1**

**Date: 10/12/2025**

## Document Control

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**Effective Date:** 10/12/2025

Revision No:	Signature	Comments	Date
1A	[Redacted]	For internal review.	03/12/2025
1B	[Redacted]	For client review.	05/12/2025
1	[Redacted]	For issue.	10/12/2025

## Contents

1	Introduction.....	1
2	Works Description .....	1
2.1	Location .....	1
2.2	Project Need .....	2
2.3	Dredging Methodology.....	3
2.3.1	Dredge Material Characteristics .....	3
3	Statutory Context.....	3
4	Environmental Sensitivities.....	8
4.1	Biodiversity .....	8
4.1.1	Designated Sites.....	8
4.1.2	Shellfish.....	9
4.1.3	Marine Mammals .....	9
4.1.4	Otter.....	9
4.1.5	Ornithology .....	9
4.1.6	Fish.....	10
4.1.7	Benthic Ecology .....	11
4.1.8	Marine Invasive Non-native Species .....	11
4.2	Archaeology .....	12
4.3	Water Quality.....	12
4.4	Seabed.....	12
4.5	Marine Navigation .....	12
5	Consideration of Potential Impacts.....	13
6	Mitigation.....	15
7	Summary .....	17
8	References.....	18
9	Glossary.....	21
	Drawings.....	

## 1 Introduction

A marine licence for dredging and sea disposal is required under the Marine (Scotland) Act 2010, as amended, for proposed dredge works at the Port of Glensanda, operated by Holcim UK Ltd (previously Aggregate Industries Ltd). The Port is one of the largest in the UK, serving as the distribution point for the Glensanda Granite Quarry which lies just inland of the Port and is only accessible by water. Dredging is required in four areas in the Port of Glensanda harbour limits where there has been a build-up of material within berthing areas. Dredging is necessary to maintain safe operations and navigational access.

The purpose of this document is to provide information to support the marine licence application. It includes details of the location of the proposed dredge, the proposed methodologies, outlines how the works align with Scotland's National Marine Plan (NMP) and considers potential environmental impacts. Furthermore, this report details mitigation measures which will be implemented to reduce any potential negative environmental effects.

The marine dredge licence application is supported by:

- A Best Practicable Environmental Option (BPEO) Report (Affric, 2025a) and pre-dredge sediment sampling results, to consider the disposal of marine sediments arising from the dredging work; and
- A Habitats Regulation Appraisal (HRA) Supporting Document (Affric, 2025b) to consider the potential effects on qualifying features of designated sites.

## 2 Works Description

### 2.1 Location

Located at 56° 34'N 05° 32'W, the Port of Glensanda is situated on the western shore of lower Loch Linnhe 17km north-north-west of Oban and 14km north-east of the Isle of Mull (see Figure 2.1.1A & C). The Port of Glensanda's statutory limits span ~9km along the coastline and ~2km into Loch Linnhe (Marine Scotland, 2025; Figure 2.1.1B).



**Figure 2.1.1: (A) Location of the Port of Glensanda (red arrow), (B) statutory limits of the Port of Glensanda (purple dashed line), (C) aerial view of the Port (Holcim UK, 2025a)**

Four berths within the Port accommodate different vessels, including the private ferry service that docks at the small harbour, and the main berth area that serves ships up to 120,000 tonnes. The proposed dredge works will occur within these four areas (see Drawing: 2434-WS-XX-XX-D-C-0051 P04):

1. Main berth (see Drawing: 2434-WS-XX-XX-D-C-0052 P04)
2. Armour berth (see Drawing: 2434-WS-XX-XX-D-C-0053 P05)
3. Small boat harbour (see Drawing: 2434-WS-XX-XX-D-C-0054 P05)
4. Service jetty ramps (see Drawing: 2434-WS-XX-XX-D-C-0055 P04)

## 2.2 Project Need

The Glensanda Quarry is the largest hard rock quarry in Europe. Operating since 1986, the quarry shipped its 200 millionth tonne of granite in early 2025 (Holcim UK, 2025b). Granite from the quarry is used across the UK and Europe. The quarry operation contributes millions of pounds to the local economy (The Scottish Government, 2015).

As the quarry and Port of Glensanda is reliant on access by sea, it is critical that appropriate operational depths are maintained within the port to allow vessels to safely dock. The proposed maintenance dredge at four areas within the port will allow for the continuation of services. All products from the quarry are exported by sea, and a private ferry crossing from

Port Appin transports employees to allow the quarry and port facilities to operate 24 hours a day, year-round (Holcim UK, 2025a).

Operational depths of between -1 and -12.3 metres (m) Chart Datum (CD) are required (see Table 2.1.1). To maintain safe operational depths at the Port of Glensanda, maintenance dredges are proposed to be conducted in subsequent years within the three-year licensing period, as and when required, to remove any build-up of material. Expected quantities to be moved within each of the dredge areas per year are shown in Table 2.1.1. The total amount to be moved in the four berths throughout the three-year maintenance dredge period is expected to be 18,300m<sup>3</sup>, with the highest dredge spoil volumes associated with the main berth.

**Table 2.1.1: Expected Dredge Quantities in Cubic Metres per Year**

Berth	Operational Depth (m Chart Datum)	Volume to Dredge Year 1 (m <sup>3</sup> )	Volume to Dredge Year 2 (m <sup>3</sup> )	Volume to Dredge Year 3 (m <sup>3</sup> )	Total Dredge Volume per Berth (m <sup>3</sup> )
Main Berth	-12.3	4,000	4,000	4,000	12,000
Armour Berth	-5	100	100	100	300
Small Boat Harbour	-2	1,500	1,500	1,500	4,500
Service Jetty	-1	500	500	500	1,500
<b>Total Dredge Volumes per Year (m<sup>3</sup>)</b>		<b>6,100</b>	<b>6,100</b>	<b>6,100</b>	<b>18,300</b>

## 2.3 Dredging Methodology

Plough dredging of the four berths will be conducted to redistribute accumulated material to elsewhere within the berth areas. Due to the proximity of the accumulated material to quay walls, dredging will be primarily conducted with a backhoe to drag seabed material into deeper waters. A plough attachment may then be utilised to further level off material on the seabed if required. Material will not be lifted off the seabed. This method was identified as being the most appropriate for the site in the BPEO Report (Affric, 2025a).

### 2.3.1 Dredge Material Characteristics

Pre-dredge sampling was undertaken in June 2025. A full description of this sampling is reported in the BPEO Report (Affric, 2025a). The sampled solids were made up of an average of 31% gravel, 63% sand and 6% silt, with an average total solids component across the samples of 85.4%. The dredged material does not exceed any of the Marine Directorate's Action Levels (AL), AL1 or AL2 thresholds for trace metals, and below AL1 thresholds for Polycyclic Aromatic Hydrocarbon (PAH) concentrations.

## 3 Statutory Context

As the proposed maintenance dredge works will be conducted entirely below Mean High Water Springs (MHWS) and within 12 nautical miles (nm) of the Scottish Coastline, the project falls within the remit of the Marine (Scotland) Act 2010, as amended. The 2015 Scottish NMP (The Scottish Government, 2015) lays out the Scottish Minister's policies for the sustainable

development of Scotland's seas. The Glensanda Quarry is mentioned specifically in Scotland's NMP in the sector chapter Aggregates, under Supporting Economically Productive Activities:

"Glensanda Quarry on the Morvern peninsula contributes significantly to the Scottish economy, with a business turnover of approximately £40 million. With access only via sea, it relies entirely on the marine environment for transportation of aggregate, supplies and personnel." (NMP Section 16.6; The Scottish Government, 2015).

The Policy provides General Planning Principles (GENs), consideration of GENs applicable to the works detailed here have been identified in Table 3.1.1. Additionally, the applicable NMP Objectives and Policies in relation to Shipping, Ports, Harbours and Ferries sectors (NMP Chapter 13) are outlined in Table 3.1.2.

**Table 3.1.1: Applicable Scottish National Marine Plan General Planning Principles**

General Planning Principles (GENs)	Requirements	Port of Glensanda Maintenance Dredge Considerations
GEN 2: Economic Benefits	Sustainable development and use which provides economic benefit to Scottish communities is encouraged when consistent with the objectives and policies of this Plan.	Port and Quarry operations are dependent on the maintenance of accessible berths for the vessels that service it. The aggregates extracted from the Glensanda Quarry and distributed from the Port contribute significantly to Scotland’s economy and infrastructure (Moffat <i>et al.</i> 2021), as well to infrastructure internationally. Maintenance dredging will continue to allow Port of Glensanda to facilitate work at the Glensanda granite quarry as well as support employees, over 60% of whom are locally based (Holcim UK, 2025a).
GEN 3: Social Benefits	Sustainable development and use which provides social benefits is encouraged when consistent with the objectives and policies of this Plan.	Maintenance of Port and Quarry operations will continue to sustain highly skilled employees, as well as the benefits from this local employer.
GEN 5: Climate Change	(a) Marine planners and decision makers must act in the way best calculated to mitigate, and adapt to, climate change.	The proposed plough dredge technique, primarily using a backhoe for moving materials within the berths, as determined by the BPEO Report (Affric, 2025a), minimises vessel movements in comparison to transport of material for disposal elsewhere.
GEN 8: Coastal Process and Flooding	Developments and activities in the marine environment should be resilient to coastal change and flooding and not have unacceptable adverse impact on coastal processes or contribute to coastal flooding.	The proposed maintenance dredge campaign will take the Port of Glensanda depths back to the operational depths that for which the facilities were designed and will not impact upon coastal processes or flooding risks.
GEN 9: Natural Heritage	<p>Development and use of the marine environment must:</p> <ul style="list-style-type: none"> <li>(a) Comply with legal requirements for protected areas and protected species.</li> <li>(b) Not result in significant impact on the national status of Priority Marine Features.</li> <li>(c) Protect and, where appropriate, enhance the health of the marine area.</li> </ul>	<p>No Priority Marine Features (PMFs) are expected within the dredging works area or to be impacted by sedimentation/smothering.</p> <p>Designated sites in the local area have been identified in Section 4: Environmental Sensitivities and potential impacts to these sites are discussed in Section 5: Consideration of Potential Impacts. Designated Sites have also been considered in the HRA Supporting Document which has been developed to support the licence application (Affric, 2025b). In summary, the proposed works are highly unlikely to give rise to any significant impacts to any protected species or habitats.</p>

General Planning Principles (GENs)	Requirements	Port of Glensanda Maintenance Dredge Considerations
GEN 10: Invasive Non-Native Species	Opportunities to reduce the introduction of invasive non-native species to a minimum or proactively improve the practice of existing activity should be taken when decisions are being made.	No records of invasive non-native species have been found in the works area. Appropriate mitigation has been identified to minimise the risk of introduction of invasive non-native species, including inspection of machinery prior to works, and further clearing before machinery is used in further works elsewhere (see Table 5.1.1 and Table 6.1.1).
GEN 12: Water Quality and Resource	Developments and activities should not result in a deterioration of the quality of waters to which the Water Framework Directive, Marine Strategy Framework Directive or other related Directives apply.	<p>The development is within Water Framework Directive (WFD) Coastal Waterbody: Loch Linnhe South (Waterbody ID 200081). It is also approximately 4.5km from the Lismore Shellfish Waters Protected Area (Marine Scotland, 2025). The closest bathing waters at Ganavan in Oban are 20km SE, thus too far away to be impacted by the proposed dredge activities.</p> <p>Water quality will not be affected by the dredge works proposed here. By employing dredge methods outlined here where material is not removed from or deposited onto the seabed, sedimentation is minimal. Additionally, best practice for the use and storage of fuels, oils or hazardous materials associated with equipment and vessels will be employed (see Table 5.1.1 and Table 6.1.1).</p>
GEN 13: Noise	Development and use in the marine environment should avoid significant adverse effects of man-made noise and vibration, especially on species sensitive to such effects.	The dredge methods identified for these works (plough dredging utilising a backhoe and plough to move seabed materials within berths) minimises in-air and underwater noise by limiting vessel movement. No removal of materials from the seabed avoids the need for offsite disposal. For further consideration of noise effects and mitigation, see Table 5.1.1 and Table 6.1.1.
GEN 14: Air Quality	Development and use of the marine environment should not result in the deterioration of air quality and should not breach any statutory air quality limits.	The dredge works proposed will occur within an already busy port area, where vessels have been continually operating. As such, no significant effects on air quality from the proposed dredging works are predicted.

**Table 3.1.2. Applicable Scottish National Marine Plan Objectives and Marine Planning Policies**

Objective/Policy	Requirements	Port of Glensanda Maintenance Dredge Considerations
Chapter 13: Objective 1	Safeguarded access to ports and harbours and navigational safety.	The proposed dredge works will allow continued safe access for the vessels providing transport, servicing, and distribution for the Port.
Chapter 13 Policies: Transport 1	Navigational safety in relevant areas used by shipping now and in the future will be protected.	Safe navigation within the Port and berths will be supported through maintenance of appropriate operational depths for the shipping of materials from the Glensanda Quarry.
Chapter 13 Policies: Transport 4	Maintenance, repair and sustainable development of port and harbour facilities in support of other sectors should be supported in marine planning and decision making.	The Port of Glensanda operates as one of the largest in the UK due to the high amount of material moved from the Glensanda Quarry. The maintenance of these important facilities contributes to the continued economic benefits provided by the quarry operation.

## 4 Environmental Sensitivities

### 4.1 Biodiversity

#### 4.1.1 Designated Sites

A desk-based search was undertaken to identify designated sites with ecological connectivity to the proposed maintenance dredge works. Designated sites include Special Protected Areas (SPAs), Special Areas of Conservation (SACs), Sites of Special Scientific Interest (SSSI), Marine Protected Areas (MPAs), and haul-out sites for seals. Designated sites identified are listed in Table 4.1.1 and detailed further in the Habitats Regulation Appraisal (HRA) Supporting Document (Affric, 2025b). Potential impacts to qualifying features have been considered here and in the HRA (Affric, 2025b).

**Table 4.1.1: Designated Sites Relevant to Proposed Works**

Designated Site	Approximate Distance & Direction from Dredge Site	Qualifying Feature(s)
<b>Special Areas of Conservation</b>		
Eileanan agus Sgeiran Lios mor	3.4km SE	Harbour seal ( <i>Phoca vitulina</i> )
Morvern Woods	5km SW	Otter ( <i>Lutra lutra</i> )
Inner Hebrides and the Minches	6.3km SW	Harbour porpoise ( <i>Phocoena phocoena</i> )
Sunart	13.2km NNW and 19km NW	Otter
Glen Creran Woods	14.5Km ESE	Otter
Loch Etive Woods	17.4km SE and 18.5km ESE	Otter
Mull Oak Woodlands	18km SSW	Otter
Treshnish Isles	50.9km W	Grey seal ( <i>Halichoerus grypus</i> )
<b>Special Protection Areas</b>		
Glas Eileanan	13.6km SW	Common tern ( <i>Sterna hirundo</i> )
<b>Seal Haul Out</b>		
East End of Sound of Mull Haul-out Site	13.6km SW	Harbour seal

### 4.1.2 Shellfish

The Lismore Shellfish Water Protected Area is approximately 4.5km SE from the proposed dredge sites in the Port of Glensanda (Marine Scotland, 2025). This area is situated on the north shore of the island of Lismore within lower Loch Linnhe. There is one active shellfish farming site in Shellfish Water Protected Area, Eilean Nam Meann, site ID SS0553 (Scotland's Aquaculture, 2025a) which lies 5km SE from the Port of Glensanda. The site is licensed for Pacific oyster (*Magallana gigas*), with the registered operator being Lismore Shellfish. An inactive shellfish farming site, Port Ramsay site ID SS0552, also lies within the Shellfish Water Protected Area registered to Lismore Shellfish and was licensed for common mussel (*Mytilus edulis*; Scotland's Aquaculture, 2025b).

### 4.1.3 Marine Mammals

As stated in Table 4.1.1 the Inner Hebrides and the Minches SAC (designated for harbour porpoise as a qualifying feature) is located approximately 6km southwest of the dredge areas.

Eileanan agus Sgeiran Lios mor SAC, designated for harbour seals, lies approximately 3.5km east-south-east of the dredge areas. Harbour seal also have a designated non-breeding haul-out site, East End of Sound of Mull Haul-out Site, approximately 13.5km southwest of the dredge areas.

As expected, given the proximity to the aforementioned designated sites, harbour porpoise and harbour seal have been recorded regularly in the waters of Loch Linnhe near to the Port of Glensanda and further up the Loch (Hebridean Whale and Dolphin Trust (HWDT), 2025; National Biodiversity Network (NBN), 2025). Irregular visits from grey seal, short-beaked common dolphin (*Delphinus delphis*), bottlenose dolphin (*Tursiops truncatus*) and minke whale (*Balaenoptera acutorostrata*) have also been recorded passing the proposed dredge areas (HWDT, 2025; NBN, 2025). As such, potential impacts have been considered here and in the HRA Supporting Document (Affric, 2025b).

### 4.1.4 Otter

Otter have been recorded utilising the habitat in the island of Lismore adjacent from the dredge areas (NBN, 2025). There are no records of otters in the immediate vicinity of the Port of Glensanda, nor of any protected features (i.e. holts or other places used for shelter or protection) on the shorelines within the Port area.

They are a qualifying feature of some designated sites in the region, five of which have been included (Table 4.1.1) as they are within the expected range of the species in a coastal and freshwater environment (Chanin, 2003). With works being marine based, they will not impact upon the otters terrestrial habitat. Otters are therefore expected to be present within the marine environment during dredging and may also utilise floating plant when not in use. As such, potential impacts have been considered here and in the HRA Supporting Document (Affric, 2025b).

### 4.1.5 Ornithology

Baseline information on ornithological features and their designated sites are considered within the HRA Supporting Document (Affric, 2025b). Other ornithological species, not

designated under an SPA, could also be present in the area with a number of marine bird species recorded within 5km of the site in the past 10 years (NBN, 2025), these include:

- Herring gull (*Larus argentatus*)
- Cormorant (*Phalacrocorax carbo*)
- Common gull (*Larus canus*)
- Great black-backed gull (*Larus marinus*)
- Shag (*Gulosus aristotelis*)
- Black guillemot (*Cephus grylle*)
- Red-breasted merganser (*Mergus serrator*)
- Arctic tern (*Sterna paradisaea*)
- Little grebe (*Tachybaptus ruficollis*)
- Eider (*Somateria mollissima*)
- Gannet (*Morus bassanus*)
- Red-throated diver (*Gavia stellata*)
- Great northern diver (*Gavia immer*)

Glas Eileanan SPA is located 13.6km southwest of Glensanda and is designated for the conservation of breeding common tern. This qualifying feature can have a breeding foraging range of up to 100km, thus the species has been considered in detail in the HRA Supporting Document (Affric, 2025b).

There are three designated sites within 20km of the works with Golden eagle (*Aquila chrysaetos*) as the qualifying feature; these are considered in detail in the HRA Supporting Document (Affric, 2025b). Golden Eagle have a core range of 6km and a maximum range of 9km, therefore the dredge site is outwith their expected range from Moidart & Ardgour SPA, Glen Etive & Glen Fyne SPA, and Cnuic agus Cladach Mhuile SPA.

Risks of disturbance associated with vessel traffic, and potential fuel oil or other hazardous materials release into the marine environment to birds have been considered in Section 5.

#### 4.1.6 Fish

Potentially sensitive fish species that use and move through Loch Linnhe are Atlantic salmon (*Salmo salar*), sea trout (*Salmo trutta*), and European eel (*Anguilla anguilla*). All three species are diadromous meaning they migrate between fresh and saltwater environments.

Atlantic salmon and sea trout have both been identified utilising the Glensanda River (NBN, 2025), and River Nevis North of Loch Linnhe (Lochaber, 2025), which is within the Loch Linnhe catchment area and ~40km north-east of the proposed maintenance dredge. Additionally, several other rivers that flow into Loch Linnhe have been identified as Scottish Salmon Rivers (Marine Scotland, 2025). Atlantic salmon populations through the west of Scotland are in poor conservation status (Marine Directorate, 2025). The status of sea trout populations is less certain, though their catch numbers in Scotland over the last 20 years indicate an overall decline in their populations (Moffat et al. 2021).

There are records of European eel using the Kingairloch River, Glengalmadale River, and the Glensanda River (NBN, 2025). The International Union for the Conservation of Nature has classified the European eel as critically endangered (Jacoby & Gollock, 2014). Migration routes and timing for eel in this the region are not known, however adults generally travel

from freshwater to the sea to spawn generally in the autumn (August to October; Malcom *et al.* 2010). Considerations of interactions from proposed dredge with fish are further discussed in Section 5.

#### 4.1.7 Benthic Ecology

A desk-based assessment of PMFs was conducted on NMPi (Marine Scotland, 2025) and NBN Atlas (NBN, 2025). The following features were found to be present within Loch Linnhe and adjoining water bodies:

- Burrowed mud;
- Flame shell (*Limaria hians*) beds;
- Horse mussel (*Modiolus modiolus*) beds;
- Kelp beds;
- Kelp and seaweed communities on sublittoral sediment
- Native flat oyster (*Ostrea edulis*);
- Northern sea fan (*Swiftia pallida*) and sponge communities
- Ocean quahog (*Arctica islandica*)
- Serpulid aggregations

The only benthic PMF identified with proximity to the Port of Glensanda was burrowed mud identified ~400m from the small harbour berth area from a drop camera survey conducted in 2011 (at 56° 33' 44.849088" N, 05° 31' 55.863372"W; Marine Scotland, 2025; Nickell *et al.* 2013). Burrowed mud describes areas of finer sediments in sheltered areas which are habitat to species of burrowing crustacean, anemones, and seapen (MarLIN, 2025; Tyler-Walters *et al.* 2016). Pre-dredge sampling at the berths in the Port of Glensanda show that the berth areas composed of coarse sediments not mud therefore burrowed mud habitats will not be impacted by the proposed dredge activities.

The next closest PMF, kelp and seaweed communities on sublittoral sediment, is approximately 4.5km from the Port, too far from the dredge works to be impacted.

Oyster has been identified as possibly being within the region but not as an established reef or as a qualifying feature for any sites in the vicinity (iRecord, 2025; Moffat *et al.* 2021). Given the localised nature of the proposed maintenance dredge, and very low likelihood of oysters being present in any high densities, physical pressures on native flat oyster populations are highly unlikely to occur because of dredging activities.

#### 4.1.8 Marine Invasive Non-native Species

There are a number of marine Invasive Non-Native Species (INNS) currently impacting Scottish Waters. The presence of a high-impact non-native species, Leathery sea squirt (*Styela clava*), has been recorded in the area. The nearest record is on the western shore of the island of Lismore, approximately 4km from the Port of Glensanda, in 2010 (Seasearch, 2010; Moffat *et al.* 2021).

A search using iRecord did not find any other marine INNS in the area (iRecord, 2025). However, it is noted that shoreline around the Port of Glensanda is not easily accessed nor is it inhabited by those other than employees of the Port or the quarry, so reporting effort is low in this area. Therefore, potential for INNS spread is considered in Section 5.

## 4.2 Archaeology

A review of marine archaeology assets was completed during a desk-based assessment. Only maritime archaeology was considered given that all works will be undertaken below MHWS. This search on NMPi (NMPi, 2025) and Historic Environment Scotland's (HES) tool, PastMap (HES, 2025), did not show any maritime assets in the vicinity of the proposed works or harbour limits. As such, archaeology is not considered further.

## 4.3 Water Quality

The Port of Glensanda is within the WFD Coastal Waterbody: Loch Linnhe South (Waterbody ID 200081). The most recent classification in 2023 determined overall status of the waterbody to be of 'good' condition with 'good' water quality status (Scottish Environment Protection Agency (SEPA), 2025). The closest classified Bathing Water is Ganavan in Oban. Located 20km southeast by sea, the area has a current classification of 'Excellent' from the most recent assessment in 2024 (SEPA, 2024). The location of the Bathing Water in relation to the port is such that it will not be affected by the works and will therefore not be considered further. Water quality in the immediate vicinity of the dredge works is considered further in Section 5.

## 4.4 Seabed

Pre-dredge sampling of the dredge material has been undertaken, and the results of the analysis have been used to inform the baseline. As detailed here in Section 2.3.1 and in the accompanying BPEO report (Affric, 2025a), results of sampling showed that the material within the proposed dredged areas is primarily composed of sand and gravel, with very low amounts of silt. Further, no chemical contamination was detected within pre-dredge samples.

Therefore, potential impacts associated with seabed contamination due to dredge activities were not considered further. Potential physical impacts to seabed which could affect habitat quality are considered for benthic ecology (Section 4.1.7).

## 4.5 Marine Navigation

Marine users in the area include vessels transiting Loch Linnhe, including recreational and commercial vessels accessing other facilities in Loch Linnhe and Loch Eil or passing through the Caledonian Canal, as well as those associated with the Port of Glensanda. The port operates year-round, 24 hours a day and, as such, experiences constant vessel traffic, including the private ferry crossing from Port Appin which transports employees to the site. The mobilisation and demobilisation of dredge vessels will not adversely affect other marine users. Dredge works will only affect the berths where dredging is being carried out. Dredging will have to be programmed around other activities within the port to allow dredging to be carried out when the berth is not required for other activities.

## 5 Consideration of Potential Impacts

Several potential impacts arising from the proposed maintenance dredge and disposal works at the Port of Glensanda have been identified and are summarised in Table 5.1.1. It should be noted that impacts on designated sites and their features have been fully considered within the HRA Supporting Document (Affric, 2025b) and are therefore not duplicated here.

**Table 5.1.1: Potential Impacts of Proposed Dredging Works at the Port of Glensanda**

Source	Potential Impact	Receptor	Considerations
Dredge operations	Increased sediment loading in the water column	<ul style="list-style-type: none"> <li>• Water Quality</li> <li>• Fish</li> <li>• Marine Mammals</li> <li>• Otter</li> <li>• Ornithology</li> </ul>	<p>There is expected to be low levels of sediment re-suspension resulting from dredging operations. This because sediments within dredging areas are composed of primarily coarse sediment, as well as the dredging methodology proposed will not remove any materials from the seabed. Additionally, any increases in sediment loading in the water column and changes in turbidity will be short lived, and localised.</p> <p>Therefore, risk of impacts to water quality, fish, ornithology, marine mammal and otter from re-mobilisation of sediments during dredge operations are expected to be very low.</p>
	Sedimentation or smothering	<ul style="list-style-type: none"> <li>• Benthic Ecology</li> <li>• Seabed</li> </ul>	<p>Due to the limited movement of dredged materials, within the berth areas only, risk of sedimentation or smothering of ecologically sensitive benthic areas is low. Sediment structure within dredge areas is not suitable to support burrowed mud habitat, it is unlikely that this habitat type or any other PMF's are present within the dredge areas.</p>
Operations and movement of vessels	Underwater noise	<ul style="list-style-type: none"> <li>• Marine mammals</li> <li>• Fish</li> <li>• Otter</li> </ul>	<p>The proposed maintenance dredging will be conducted at a working port with regular vessel movements. Dredging vessels are typically a source of low frequency, non-impulsive and continuous underwater noise (de Jong <i>et al.</i> 2010; Robinson <i>et al.</i> 2011). Underwater noise levels from dredge activities are not anticipated to cause any elevation of ambient underwater noise levels within the Port of Glensanda. Any marine mammals, fish or otter that regularly use area near the Port are likely to be habituated with vessel movements and ambient noise associated with the working port.</p>

Source	Potential Impact	Receptor	Considerations
	Physical disturbance or collision	<ul style="list-style-type: none"> <li>• Marine Mammals</li> <li>• Ornithology</li> <li>• Fish</li> <li>• Otter</li> </ul>	The dredge vessel will be operating in an area very close to the berths where, as noted, it is unlikely marine mammals will be in proximity. In addition, the dredge vessel will be moving slowly and therefore collision with marine mammals is highly unlikely. The works are in an area with regular vessel movement. It is therefore not expected that the works will cause disturbance. Similarly, as vessel movements will not increase significantly beyond those already operable around the port, disturbance to birds and otter is unlikely.
Operations and movement of vessels	Introduction or transport of marine Invasive Non-Native Species	<ul style="list-style-type: none"> <li>• Marine Invasive Non-Native Species</li> </ul>	<p>There are records of detection of a marine INNS, Leathery Sea Squirt, within Loch Linnhe. Plough dredging will only move materials a small distance and is unlikely to move any INNS from an area affected to an area not affected by INNS, if present.</p> <p>The equipment mobilised to carry out the maintenance dredge will be inspected and operate within biosecurity procedures. These procedures are outlined in Section 6.</p>
	Disruption of marine navigation	<ul style="list-style-type: none"> <li>• Marine Users</li> </ul>	Vessel movement associated with dredge activities will be localised and is expected to have little to no disruption to marine navigation in the Port Limits or the wider Loch Linnhe area. Vessel operations associated with dredge activities will be under the direction of the Harbour Master of the Port of Glensanda, minimising any potential disruption to navigation, this is detailed in Section 6.
	Accidental spill of fuel/oil or hydraulic fuels and oils – also related to machinery faults	<ul style="list-style-type: none"> <li>• Water Quality</li> <li>• Shellfish</li> <li>• Fish</li> <li>• Marine Mammals</li> <li>• Ornithology</li> <li>• Otter</li> </ul>	The dredge vessel will use fuel oil and may have hydraulic fluids or other hazardous materials on board. In event of an incident, there is a risk that these could be released to the marine environment and impact water quality with knock-on ecological implications for ecological receptors such as shellfish, fish, otter, marine mammals, or birds if not dealt with promptly. Mitigation measures are outlined in Section 6.

## 6 Mitigation

Mitigation measures have been identified to minimise environmental impacts during the maintenance dredge works and are collated below in the Table 6.1.1.

**Table 6.1.1: Schedule of Mitigation**

Potential Impact	Mitigation Measures
Underwater noise	<ul style="list-style-type: none"> <li>Regular maintenance of the vessel and equipment associated with dredging activities will be conducted, including maintenance related to underwater noise emissions.</li> </ul>
Physical disturbance or collision	<ul style="list-style-type: none"> <li>A copy of the Scottish Marine Wildlife Watching Code will be present on the dredge vessels (Scottish Natural Heritage (SNH) (Now NatureScot), 2017);</li> <li>The dredge vessel crew will be advised to watch out for marine mammals and align with disturbance avoidance guidance; and</li> <li>Works will be carried out during day light hours where practical.</li> </ul>
Introduction or transport of marine Invasive Non-Native Species	<ul style="list-style-type: none"> <li>Equipment mobilised to conduct dredging works will be inspected to ensure it is free from soilage and/or marine material;</li> <li>Appropriate steps will be taken to ensure that the equipment is cleared of material and allowed to dry out prior to its next deployment; and</li> <li>All vessels utilising the Port of Glensanda are expected to be compliant with the relevant requirements of the International Convention for the Control and Management of Ships' Ballast Water and Sediments 2004 and where appropriate follow Guidelines for the Control and Management of Ships Biofouling to Minimize the Transfer of Invasive Aquatic Species (Marine Environment Protection Committee, 2023).</li> </ul>
Disruption of marine navigation	<ul style="list-style-type: none"> <li>All vessels operating in the area will be under direction of the Port of Glensanda Harbour Master to ensure the operational area is clear of vessels during works;</li> <li>There will be clear communications channels (VHF Radio and telephone) established to ensure the dredge vessel and port control have adequate communications in place at all times; and</li> <li>A Notice to Mariners will be issued in advance of the works.</li> </ul>

Potential Impact	Mitigation Measures
Accidental spill of fuel/oil or hydraulic fuels and oils – also related to machinery faults	<ul style="list-style-type: none"><li>• Appropriate maintenance will be conducted on the dredge vessel to minimise the risk of leaks;</li><li>• Bunded fuel, oil and chemical storage will be provided on the vessel and will be locked when not in use;</li><li>• The contractor will be required to align to the Port of Glensanda spill plans and spill kits will be in place with operatives trained in their use; and</li><li>• The Port of Glensanda spill response procedures would be implemented in event of an incident.</li></ul>

## 7 Summary

Continued safe operation of the Port of Glensanda and Glensanda Quarry is dependent on maintaining accessible berths for the vessels that service it. It is proposed that dredge maintenance works be undertaken at the Port of Glensanda including the main berth, armour berth, small boat harbour and service jetty. The BPEO Report (Affric 2025a) concluded that plough dredge shall be employed to move seabed material within dredge areas, in order to maintain the Port of Glensanda's operational depths.

Scottish NMP policies have been considered, and the proposed maintenance dredge works are in alignment with both general and relevant specific policies. Potential impacts associated with the works have been identified and evaluated, and appropriate mitigation has been proposed to minimise potential negative effects on stakeholders and the environment. Due to the relatively short duration of works each year, and with the implementation of mitigation measures as detailed here, dredging activities are not anticipated to result in significant effects to the environment.

The award of a maintenance dredge licence will allow for the continued operations of the Port of Glensanda. In turn this will facilitate the use of the berths by the Glensanda granite quarry to export large volumes of granite to supply markets in the UK and the rest of Europe.

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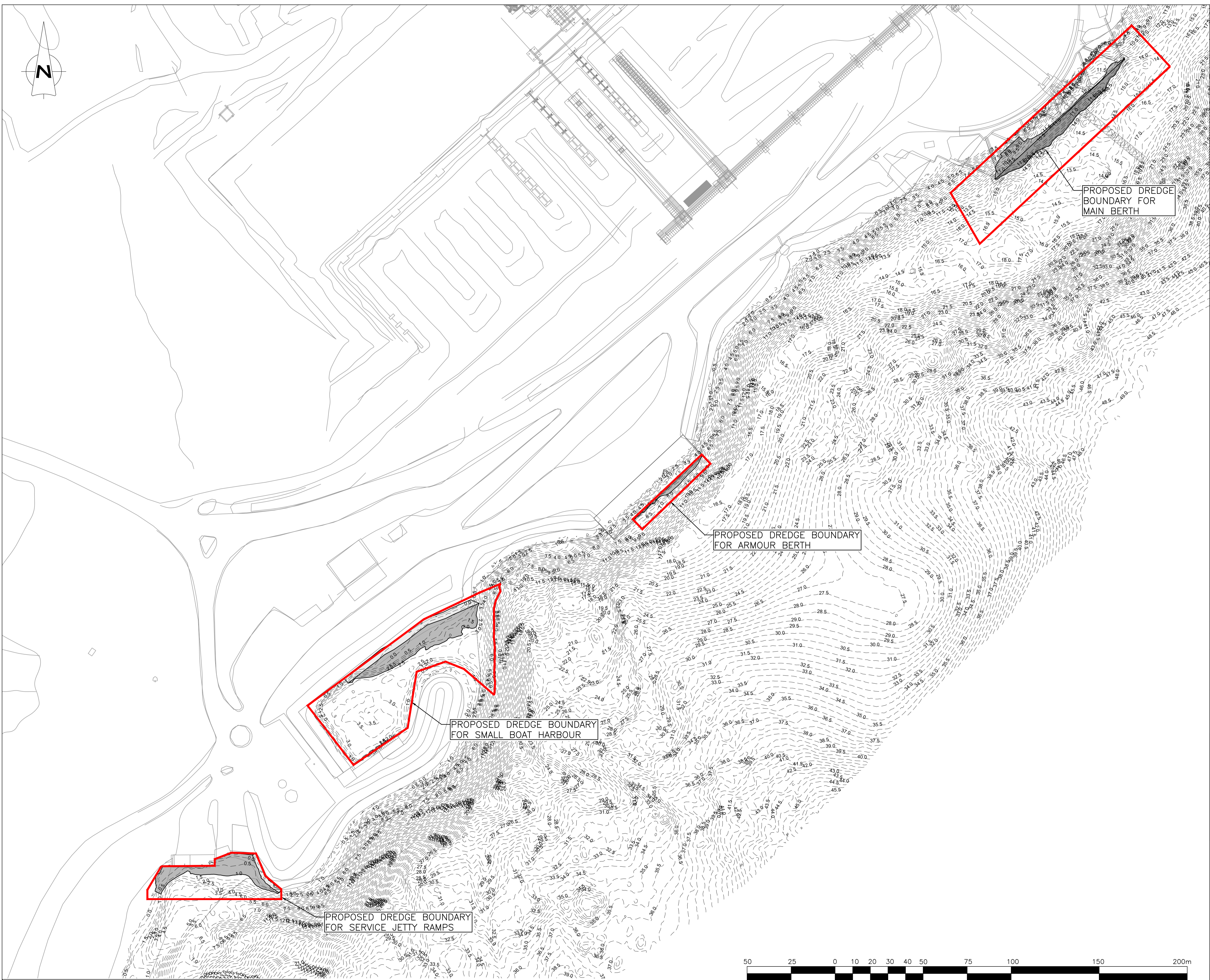
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## 9 Glossary

Acronym	Definition
AL	Action Level
BPEO	Best Practicable Environmental Option
CD	Chart Datum
ESE	East-south-east
GEN	General Planning Principles, Scotland's National Marine Plan
HES	Historic Environment Scotland
HRA	Habitats Regulations Appraisal
HWDT	Hebridean Whale and Dolphin Trust
INNS	Invasive Non-native Species
km	kilometres
m	metres
MHWS	Mean High Water Springs
MPA	Marine Protected Area
NBN	National Biodiversity Network
nm	nautical miles
NMP	National Marine Plan
NMPi	National Marine Plan Interactive
NW	Northwest
PAH	Polycyclic Aromatic Hydrocarbon
PMF	Priority Marine Feature
SAC	Special Area of Conservation
SE	Southeast
SEPA	Scottish Environment Protection Agency
SNH	Scottish Natural Heritage
SPA	Special Protected Area
SSSI	Sites of Special Scientific Interest
SSW	South-south-west
SW	Southwest
UK	United Kingdom
W	West
WFD	Water Framework Directive

## Drawings



- GENERAL NOTES
1. ALL DIMENSIONS ARE IN MILLIMETRES, UNLESS NOTED OTHERWISE.
  2. ALL LEVELS ARE IN METRES AND RELATE TO CHART DATUM, UNLESS NOTED OTHERWISE.
  3. TIDE LEVELS ARE AS FOLLOWS  
 HAT +4.7mCD  
 MHS +4.2mCD  
 MLWS +0.8mCD  
 LAT +0.1mCD
  4. CHART DATUM IS 1.95m BELOW ORDNANCE DATUM.
  5. CONTOURS BASED ON ASPECT SURVEYS MULTIBEAM BATHYMETRIC SURVEY CARRIED OUT ON 21st APRIL 2021
  6. TO BE READ IN CONJUNCTION WITH DRAWINGS 2434-WS-XX-XX-D-C-0052 TO 0055.

REV	DATE	DETAILS	DRAWN	CHK'D	APP'D
P04	21.08.25	BOUNDARY REVISED	TC	JA	GB
P03	24.04.25	SMALL BOAT HARBOUR DREDGE OUTLINE REVISED.	JR	GB	GB
P02	08.04.25	DREDGE BOUNDARY AREA TITLE REVISED.	AB	GB	GB

AMENDMENTS

CLIENT  
**AGGREGATE INDUSTRIES**

PROJECT  
**GLENSANDA HARBOUR  
 MAINTENANCE DREDGING**

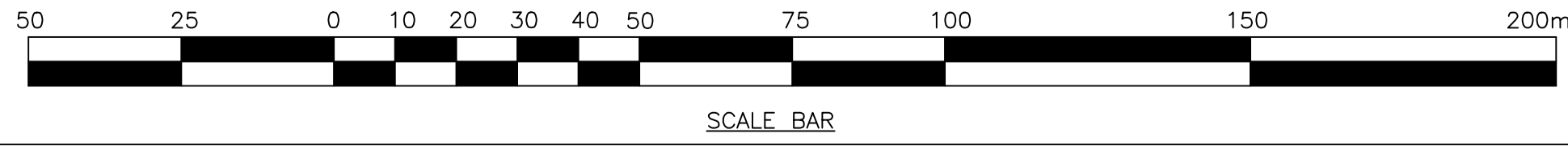
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DRAWING TITLE  
**PROPOSED DREDGE AREAS  
 LOCATION PLAN**

DRAWN	CHECKED	APPROVED
AB	GB	GB
DATE	DATE	DATE
MAR 25	MAR 25	MAR 25
SCALE (A1)	STAGE	REV
1:1000	CONSENTS	P04

DRAWING No.  
**2434-WS-XX-XX-D-C-0051**





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 HAT +4.7mCD  
 MHWS +4.2mCD  
 MLWS +0.8mCD  
 LAT +0.1mCD
4. CHART DATUM IS 1.95m BELOW ORDNANCE DATUM.
5. CONTOURS BASED ON ASPECT SURVEYS MULTIBEAM BATHYMETRIC SURVEY CARRIED OUT ON 21st APRIL 2021.

MAXIMUM DEPTH OF DREDGE = 4m

- = MAINTENANCE DREDGE BOUNDARY
- DB1 = MAINTENANCE DREDGE BOUNDARY SETTING OUT POINTS
- VC1 = VIBROCORE LOCATION

DREDGE BOUNDARY SETTING OUT		
LOCATION	EASTING	NORTHING
DB001	183021.845	747343.264
DB002	183124.694	747438.258
DB003	183146.439	747414.973
DB004	183038.378	747314.373

VIBROCORE SETTING OUT		
LOCATION	EASTING	NORTHING
VC1	183060.709	747360.974
VC2	183092.760	747390.702

REV	DATE	DETAILS	DRAWN	CHK'D	APP'D
P04	21.08.25	DREDGE AND BOUNDARY REVISED.	TC	JA	GB
P03	24.04.25	GENERAL REVISION.	JR	GB	GB
P02	08.04.25	DREDGE AREA INFORMATION ADDED.	AB	GB	GB

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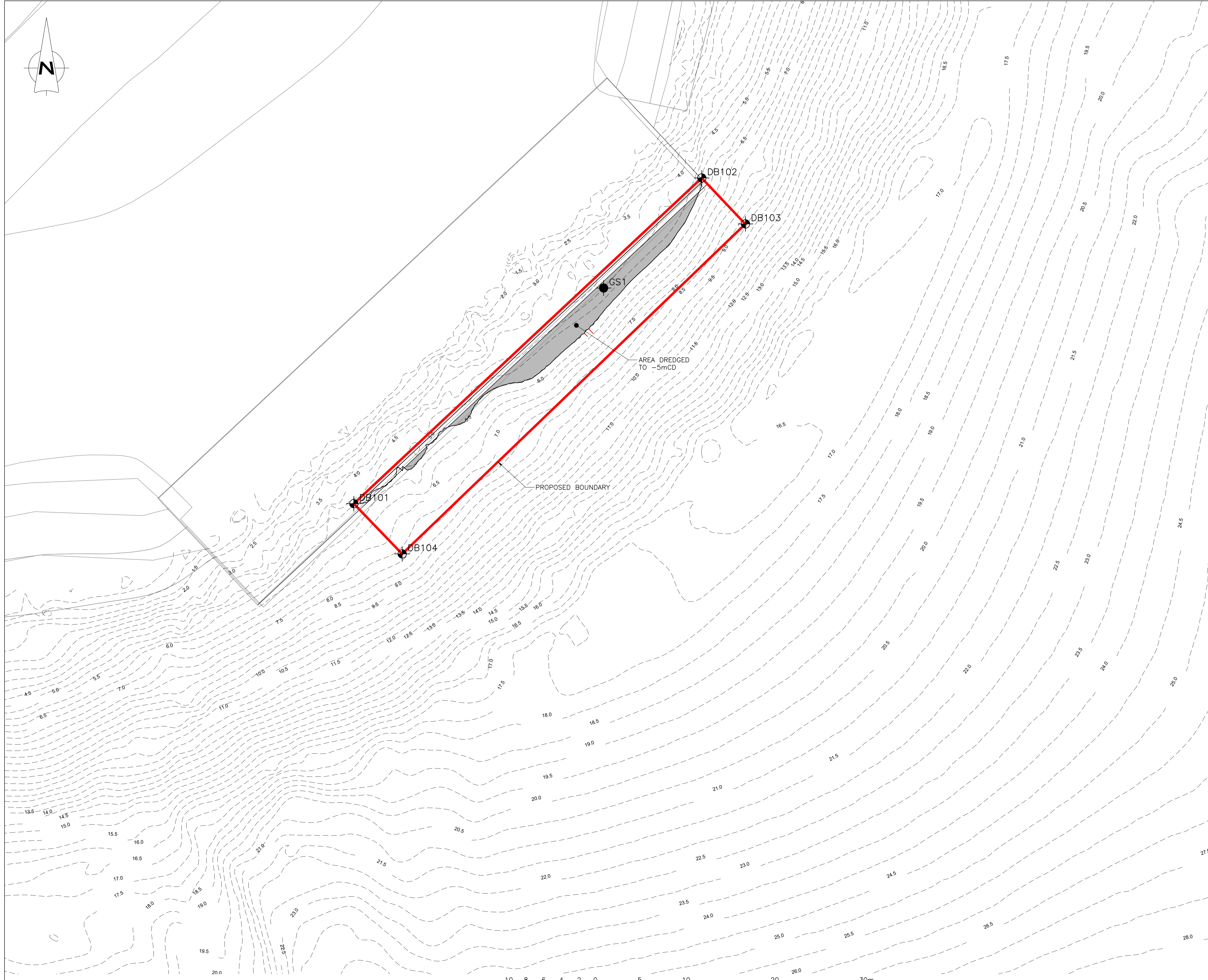
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DRAWN JA	CHECKED GB	APPROVED GB
DATE MAR 25	DATE MAR 25	DATE MAR 25
SCALE (A1) 1:250	STAGE CONSENTS	REV P04

DRAWING No.  
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 LAT +0.1mCD
4. CHART DATUM IS 1.95m BELOW ORDNANCE DATUM.
5. CONTOURS BASED ON ASPECT SURVEYS MULTIBEAM BATHYMETRIC SURVEY CARRIED OUT ON 21st APRIL 2021.

MAXIMUM DEPTH OF DREDGE = 1m

- = MAINTENANCE DREDGE BOUNDARY
- DB1 = MAINTENANCE DREDGE BOUNDARY SETTING OUT POINTS
- GS1 = GRAB SAMPLE LOCATION

DREDGE BOUNDARY SETTING OUT		
LOCATION	EASTING	NORTHING
DB101	182841.247	747157.934
DB102	182880.494	747194.658
DB103	182885.426	747189.480
DB104	182846.696	747152.263

GRAB SAMPLE SETTING OUT		
LOCATION	EASTING	NORTHING
GS1	182869.424	747182.245

AMENDMENTS					
REV	DATE	DETAILS	DRAWN	CHK'D	APP'D
P05	27.11.25	SETTING OUT REVISED	TC	JA	GB
P04	21.08.25	BOUNDARY REVISED	TC	JA	GB
P03	24.04.25	GENERAL REVISION	JR	GB	GB
P02	08.04.25	DREDGE AREA INFORMATION ADDED.	AB	GB	GB

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PROJECT  
**GLENSANDA HARBOUR  
MAINTENANCE DREDGING**

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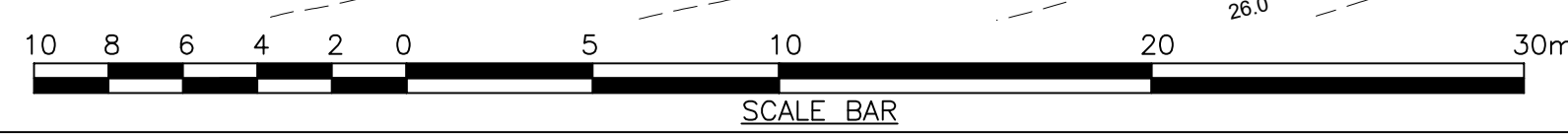
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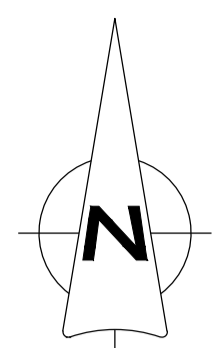
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PROPOSED DREDGE  
SETTING OUT**

DRAWN AB	CHECKED GB	APPROVED GB
DATE MAR 25	DATE MAR 25	DATE MAR 25
SCALE (A1) 1:200	STAGE CONSENTS	REV P05

DRAWING No.  
**2434-WS-XX-XX-D-C-0053**

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 HAT +4.7mCD  
 MHWS +4.2mCD  
 MLWS +0.8mCD  
 LAT +0.1mCD
4. CHART DATUM IS 1.95m BELOW ORDNANCE DATUM.
5. CONTOURS BASED ON ASPECT SURVEYS MULTIBEAM BATHYMETRIC SURVEY CARRIED OUT ON 21st APRIL 2021.

MAXIMUM DEPTH OF DREDGE = 2m

- = MAINTENANCE DREDGE BOUNDARY
- DB1 = MAINTENANCE DREDGE BOUNDARY SETTING OUT POINTS
- VC1 = VIBROCORE LOCATION

DREDGE BOUNDARY SETTING OUT

LOCATION	EASTING	NORTHING
DB201	182656.553	747052.122
DB202	182722.750	747101.150
DB203	182766.370	747121.308
DB204	182762.540	747058.184
DB205	182745.440	747072.877
DB206	182734.992	747077.080
DB207	182718.547	747071.345
DB208	182713.417	747039.463
DB209	182682.671	747018.400

VIBROCORE SETTING OUT

LOCATION	EASTING	NORTHING
VC3	182704.034	747078.295
VC4	182731.007	747096.168

REV	DATE	DETAILS	DRAWN	CHK'D	APP'D
P05	27.11.25	SETTING OUT REVISED	TC	JA	GB
P04	21.08.25	GENERAL REVISIONS.	TC	JA	GB
P03	24.04.25	DREDGE AREA AMENDED.	JR	GB	GB
P02	08.04.25	DREDGE AREA INFORMATION ADDED.	AB	GB	GB

AMENDMENTS

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**AGGREGATE INDUSTRIES**

PROJECT  
**GLENSANDA HARBOUR  
MAINTENANCE DREDGING**

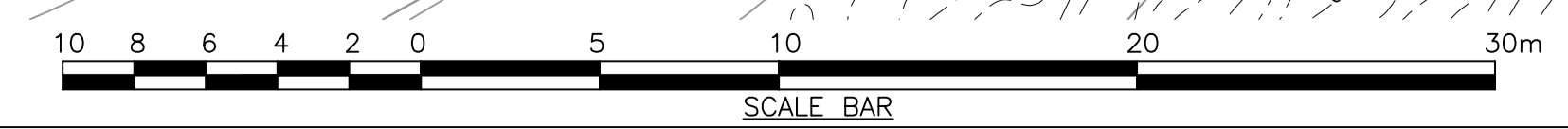


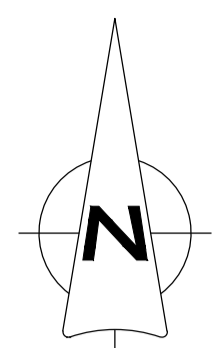
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DRAWING TITLE  
**SMALL BOAT HARBOUR  
PROPOSED DREDGE  
SETTING OUT**

DRAWN	CHECKED	APPROVED
AB	GB	GB
DATE	DATE	DATE
MAR 25	MAR 25	MAR 25
SCALE (A1)	STAGE	REV
1:200	CONSENTS	P05

DRAWING No.  
**2434-WS-XX-XX-D-C-0054**





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 HAT +4.7mCD  
 MHWS +4.2mCD  
 MLWS +0.8mCD  
 LAT +0.1mCD
4. CHART DATUM IS 1.95m BELOW ORDNANCE DATUM.
5. CONTOURS BASED ON ASPECT SURVEYS MULTIBEAM BATHYMETRIC SURVEY CARRIED OUT ON 21st APRIL 2021.

MAXIMUM DEPTH OF DREDGE = 1m

- = MAINTENANCE DREDGE BOUNDARY
- = MAINTENANCE DREDGE BOUNDARY SETTING OUT POINTS
- = GRAB SAMPLE LOCATION

DREDGE BOUNDARY SETTING OUT

LOCATION	EASTING	NORTHING
DB301	182565.598	746947.441
DB302	182573.513	746960.868
DB303	182603.848	746961.126
DB304	182603.881	746964.917
DB305	182613.301	746968.563
DB306	182627.340	746968.102
DB307	182632.662	746955.356
DB308	182641.647	746947.819
DB309	182641.647	746942.205
DB310	182565.598	746942.205

GRAB SAMPLE SETTING OUT

LOCATION	EASTING	NORTHING
GS2	182614.049	746961.652

REV	DATE	DETAILS	DRAWN	CHK'D	APP'D
P04	21.08.25	BOUNDARY REVISED	TC	JA	GB
P03	24.04.25	GENERAL REVISION.	JR	GB	GB
P02	08.04.25	DREDGE AREA INFORMATION ADDED DRAWING TITLE REVISED..	AB	GB	GB

AMENDMENTS

CLIENT

AGGREGATE INDUSTRIES

PROJECT

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MAINTENANCE DREDGING



GLASGOW 0141 554 8233 glasgow@wallacestone.co.uk  
 DINGWALL 01349 866775 dingwall@wallacestone.co.uk

DRAWING TITLE

SERVICE JETTY RAMPS  
PROPOSED DREDGE  
SETTING OUT

DRAWN	CHECKED	APPROVED
AB	GB	GB
DATE	DATE	DATE
MAR 25	MAR 25	MAR 25

SCALE (A1)	STAGE	REV
1:200	CONSENTS	P04

DRAWING No.  
2434-WS-XX-XX-D-C-0055

