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Marine Consulting Civil Engineers

Tarbert Ferry Terminal Development

EIA Scoping Report

Prepared by Redacted

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Executive Summary

This scoping report has been prepared in line with Regulation 14 of the Marine Works (Environmental Impact Assessment (EIA)) Regulations 2017 to support the proposed upgrade by Caledonian Maritime Assets Limited (CMAL) to the Tarbert Ferry Terminal on the south-east coast of the Isle of Harris. The upgrade will allow access by the new larger ferry proposed by CMAL.

The information provided aims to give an understanding of the whole proposal; construction, operation, and reinstatement. The environment and potential impacts are discussed on a subject basis, to assess baseline conditions, highlight potential impacts, identify appropriate mitigation techniques and to determine the potential for remaining significant environmental effects and therefore the subject's inclusion in the EIA Report.

This project is an upgrade to the existing harbour; no significant operational changes in environmental impacts from the current baseline are expected, with the exception of traffic and access, landscape, seascape and visual and noise and vibration (traffic only). The pier extension and increase in marshalling area will be visible from properties surrounding the harbour, this impact however will be minimised through the implementation of mitigation measures. The ferry has the capacity to bring more vehicles and passengers to the island. The ferry however will run a similar timetable and route to the current situation. As such, it is suggested that all EIA topics with regard to operation, with the exception of traffic and traffic associated noise, are scoped out of the EIA.

With regards to construction, two topics are proposed to be scoped out of the EIA process as they are not likely to have significant environmental impacts. These are:

- Land and Soil Quality – Marine (elements covered by Water Quality – Marine)
- Population, Human Health and Socio-economics

Additionally, with consideration of standard mitigation measures; five further topics are proposed to be scoped out of the construction assessment. As the implementation of standard mitigation measures, makes them not significant, these topics are:

- Landscape and Visual
- Archaeology and Cultural Heritage
- Climate Change
- Land and Soil Quality - Terrestrial
- Natural Resource Usage and Waste
- Water Quality - Terrestrial

This approach has been taken in line with the 2017 regulations; to ensure the EIA focuses on the significant environmental effects and that the EIA Report is proportionate to the effects of the project. Mitigation measures outlined in this Scoping Report will be included in the Schedule of Mitigation (SoM) and will be implemented through the Construction Environmental Management Plan (CEMP).

CMAL and Affric Limited welcome a scoping opinion to allow the project to tailor the EIA Report to meet the requirements of Marine Scotland, Transport Scotland and their statutory consultees.

1 Introduction

A formal scoping opinion is sought from Marine Scotland for works conducted below mean high-water springs (MHWS) under Regulation 14 of the Marine Works (Environmental Impact Assessment (EIA)) Regulations 2017 ('EIA Regulations'); to determine the scope of the EIA required to support the Marine Licence application for the proposed development of the Tarbert Ferry Terminal.

A formal scoping opinion is also sought from Transport Scotland for works above mean low-water springs (MLWS) will be consented under the Lochmaddy and East Loch Tarbert (Improvement of Piers &c.) Confirmation Act 1984 ('1984 Act') which grants permission to CMAL to provide and improve the facilities of the Tarbert Ferry Terminal. However, the current port limits do not include the entire footprint of the development, and as such a Harbour Revision Order (HRO) is being applied for from Transport Scotland, in order to update the development rights granted by the 1984 Act, to include the proposed works area.

Information on the proposed development is provided to give an understanding of the whole proposal; construction, operation and reinstatement. The environment and potential impacts are then discussed on a subject basis, to assess available baseline, recognise potential construction and operational impacts, identify appropriate mitigation techniques and to review the need for additional baseline data collection and assessment of potential effects. Section 2 of this document provides information about the development; Section 3 outlines the consenting and policy context of the development; Section 4 to 14.1 consider each EIA topic in turn, prior to conclusions being drawn in Section 16.

2 Proposed Development

2.1 Harbour Revision Order

CMAL intend to apply for a HRO to extend the existing harbour area from the 46.22ha (45.7ha marine and 0.52ha terrestrial) outlined in Lochmaddy and East Loch Tarbert (Improvement of Piers &c.) Order Confirmation Act 1984 to cover additional area. This change is depicted in Figure 1973-995 and Figure 1973-996. This will increase the current area by 152.92ha (152.8ha within the marine element and 0.12ha within the terrestrial environment). The proposed changes to the current licences wording are still being developed but the changes aim to cover the following aspects:

- To allow the development of the project described below.
- Extend the Western seaward boundary to include the extended marshalling and access area.
- To bring the order up to date and make the conditions clearer and transparent for all stakeholders.
- To change the existing boundaries to provide one point of authority within the harbour to ensure navigational safety of all vessels. Specifically:
    - To extend the harbour area to the West to include the head of East Loch Tarbert; and

- To extend the harbour area to the East to include the entire bay for ease of reference and to include the existing anchorage close to the ferry navigational route.
- To allow ongoing maintenance to safely facilitate ferry and other vessel operations within East Loch Tarbert.

The updates to the HRO requires the coordination of various stakeholders including CnES and current landholders. The outcome of these consultations will inform the extent and wording of the new HRO. If additional approval is required following these discussions; for example when there is more certainty around the HRO boundaries, a need for planning permission may be identified; then these will be sought.

2.2 Project Description

The Tarbert Ferry Terminal development comprises of the following main components:

- Pier reconstruction and extension;
- Pier fendering;
- Terminal building demolition and reconstruction;
- Dredging works; and
- Marshalling and carpark area extension by reclamation.

2.2.1 Location

Tarbert is located on the south-east coast of the Isle of Harris and has a grid reference centre point of NG 15766 99848 (Figure 39.03). Tarbert is the main community on the Island of Harris. The ferries that utilises this terminal provide the shortest link between Harris and Uig on Skye which has road links to the Scottish Mainland. The harbour is situated to the south of the main village.

Tarbert falls within the administrative area of the Comhairle nan Eilean Siar (CnES). The development is delineated in Figure 39.02 and Figure 1973-906.

2.2.2 Project Phases

2.2.2.1 Construction

Generally, construction works will be conducted between 7am to 7pm Monday to Saturday, with Saturday work generally finishing earlier ~1pm. No Sunday working is anticipated to occur. However, work outwith these hours may be required on an infrequent basis to suit tides and ferry movements. Approval will be sought from the relative authority prior to this occurring.

Pier Reconstruction and Extension

Prior to works on the pier commencing a temporary fendering system will be installed to allow berthing of the ferry throughout the works. Steel piles will be installed into the underlying rockhead, which will then be tied back to the existing structure to form a steelwork frame. Pneumatic fenders will be attached to the temporary steel framework. Following the completion of the permanent works, the temporary fendering system will be removed.

The existing pier will be demolished, reconstructed and extended to the south east of the current structure. This will require driving steel piles into the underlying rock head. A temporary steelwork bracing frame will then be installed to tie the piles together, before the deck is formed from precast reinforced concrete beams and slab, topped with a reinforced concrete slab which will be poured in situ. The existing concrete dolphins will be broken down to the level of the new deck soffit, and tied into the new pier deck.

New steel piles will also be installed into the underlying rock head. New bollards, surface drainage, lighting and power will also be installed to the existing pier.

Pier Fendering

The reconstructed and extended pier will accommodate the new parallel motion fendering system.

The new fendering system will be installed by driving piles into the underlying rock head. The sleeve mounted fenders will then be installed over the fender piles and grouted up. Fendering will be bolted into the new pier structure

Terminal Building Demolition and Reconstruction

The existing Terminal Building will need to be demolished in order to accommodate these works. To compensate for this a new terminal building will be built as part of these works. This will include an upgrade to accommodate an increase in ferry passengers.

Dredging Works

Dredging within East Loch Tarbert will be undertaken to allow for vessel manoeuvres at the harbour. Previous ground investigations indicate that the dredged material will be exclusively granular seabed sediments, consisting of coarse sand to coarse gravel. It is therefore anticipated that backhoe or suction dredging will be suitable to perform these works.

A small volume of rock may need to be removed from the area between the linkspan and existing pier. This would be completed by pneumatic breaker or localised drilling and splitting completed as diver work.

Dredged spoil, if suitable, will be utilised to contribute to the infill material for the reclamation works.

To accommodate the dredge works it will be necessary to temporarily relocate and reinstate the affected existing pontoon system and moorings.

Marshalling and Carpark Area Extension by Reclamation

The marshalling area will be extended and tied into the existing marshalling area and linkspan approach. A roundabout will also be constructed at the entrance to the marshalling area to alleviate current issues of drivers executing inappropriate turning manoeuvres due to insufficient turning space. The total area of this works will be ~13,000m^2. This will include rock armouring to protect the seaward edges, and infilling to reclaim and re-profile the area; dredged spoil will be utilised as the principal infill material if it is suitable. The area will be bituminised to sustain the increase in personnel and vehicle traffic. The works will also include improvements to supporting infrastructure such as surface drainage including appropriate oil and silt interceptors, lighting and power.

The equipment within the existing sub-station will be upgraded to support the new vessel. This process may require additional cabling, ducting and minor infrastructure works.

A new 10m^3 water tank is also proposed to buffer water bunkering operations by the vessel, including all necessary pumps, standby pump, pipework and control systems.

2.2.2.2 Operation

As the project is an extension of an existing ferry terminal significant change in operation from the current conditions are not expected. The new ferry will be working a similar timetable and route. This upgrade is proposed to allow for the berthing and operation of a larger ferry which has a greater vehicle and passenger carrying capacity than the current ferry.

Table 2.1: Capacity changes between the existing and new ferry

	Existing capacity	New capacity
Vehicles	98	135
Passengers	612	1000

The marshalling yard will be capable of handling up to 146% of the vehicle capacity of the new ferry which will relieve pressure on the current situation; whereby traffic can back up into the main access road to Tarbert Terminal during busy periods. The marshalling yard will continue to occupy the additional land take through the life of the project.

Once the fendering, pier and substation are replaced/upgraded minimal operational changes are expected.

Maintenance dredging is not expected to be required during operation.

2.2.2.3 Demolition/Reinstatement

A degree of demolition of the existing fendering, pier, dolphin structures and terminal building is required to facilitate the proposed works. The volumes of demolished material will be minimised through design. However, where required, it is anticipated that the affected infrastructure will be removed and where possible recycled.

As a lifeline ferry service, there are no future plans to discontinue use of this site. Therefore, it is not considered necessary to plan for demolition and reinstatement works for closure of this site.

3 Consenting and Policy Context

3.1 Consenting Permitting and License Process

3.1.1 Marine Licence

A number of activities listed under Part 4, Section 21 of the Marine (Scotland) Act 2010 [Scottish Parliament, 2010], require a Marine Licence issued by the Marine Scotland Licensing Operations Team.

Any activity involving the deposit or removal of substances or objects in the sea, either on or under the seabed, or to construct/alter/improve any works in or over the sea or on or under the seabed, under the MHWS line are all subject to marine licence according to the Acts.

As per the screening request opinion received from Marine Scotland on the 20th of September 2017, under the Marine Works (EIA) Regulations 2017 an EIA Report will be required to support the application for a Marine Licence.

3.1.2 Marine Pre-Application Consultation

The Marine Licensing (Pre-application Consultation (PAC)) (Scotland) Regulations 2013 [Scottish Government, 2013], prescribe the marine licensable activities that are subject to PAC and in combination with the Marine (Scotland) Act 2010 [Scottish Parliament, 2010], set out the nature of the pre-application process. The Tarbert Ferry Terminal falls within regulation 4(d) as a construction activity within the marine area that exceeds 1000m^2 therefore requiring the project to go through the PAC process. Consultation is being carried out to meet the requirements of the Marine Licensing (PAC) (Scotland) Regulations 2013.

3.1.3 Harbour Revision Order

The Lochmaddy and East Loch Tarbert (Improvement of Piers &c.) Confirmation Act 1984 ('1984 Act') grants permission to CMAL to provide and improve the facilities of the Tarbert Ferry Terminal. As such exempting various activities outlined in the HRO above the MLWS from Town and Country Planning (Scotland) Act 1997, under the provisions of the Harbours Act 1964 (as amended). However, the current port limits do not include the entire footprint of the development, and as such a HRO has been applied for from Transport Scotland, in order to update the development rights granted by the 1984 Act, to include the entirety of the proposed works area and additional marine areas. The land based element of the HRO update is dependent on approval from various stakeholders such as CnES and landowners. If the HRO is not able to encapsulate the entire development footprint Planning Permission may be required.

3.1.4 Planning Permission

Depending on the outcome of the revised HRO, Planning Permission may be required to facilitate activities above the MLWS that are not consented under the Lochmaddy and East Loch Tarbert (Improvement of Piers &c.) Confirmation Act 1984 ('1984 Act'). The could potentially include upgrades to the road network system that allows entry into the marshalling area. However, at this point it is assumed that it will not be required.

3.1.5 European Protected Species Licence

If it is determined that the development of construction activities will likely affect European Protected Species (EPS) listed under the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended) [United Kingdom (UK) Government, 1994]; which includes dolphins, harbour porpoises and European otters; an EPS Licence will be required. It is recognised that an EPS licence will only be granted if it is proved that:

1) *The project is on Imperative Reasons of Overriding Public Interest;*
2) *There are not satisfactory alternatives; and*

3) *The proposed action must not be detrimental to the maintenance of the species at 'favourable conservation status'.*

Depending on the construction techniques there is a potential to have disturbance effects on cetaceans and otters, hence EPS licenses may be required.

3.1.6 Habitat Regulation Appraisal

An appropriate assessment (AA) is part of the Habitats Regulations Appraisal (HRA) process [UK Government, 1994], to be undertaken by the competent authority. It is required when a plan or project potentially affects a European Natura site. The Natura sites' network in the UK consists of Special Protection Areas and Special Areas of Conservation. An AA must demonstrate that there will be no adverse effect on site integrity. Should this requirement not be satisfied, a project would only receive consent if:

(1) *Imperative Reasons of Overriding Public Interest are proved; and*
(2) *There are not satisfactory alternatives.*

The intent is to provide appropriate information within the EIA Report to inform any AA's that many need to be undertaken by Marine Scotland as the competent authority in this case.

3.2 Policy

In 2015 the Scottish Government released Scotland's National Marine Plan which provides a comprehensive and overarching framework for managing activities undertaken within the marine environment surrounding Scotland. The vision for the marine environment is underpinned by a series of strategic objectives. These good environmental status descriptors outlined within the relevant sections of this document. The objectives relating to recreation and tourism relevant to the project include:

- *Position Scotland as a world class sustainable coastal and marine tourism and recreation destination through the sustainable development of coastal and marine recreation activities and industries in Scotland.*
- *Promote diversification of the recreation and tourism sector to increase the value of assets in rural towns and exploit opportunities from future climate change.*
- *Continued and improved access to marine and coastal resources for tourism activities and recreational use.*
- *Sustainable improvement and/or development of existing or new facilities, encouraging the sharing of facilities and supporting infrastructure and the use of low carbon energy solutions* [Scottish Government, 2015c].

The relevant planning policy within the Scotland's National Marine Plan to support this is:

- ***REC & TOURISM 1**: Opportunities to promote sustainable development of marine recreation and tourism should be supported* [Scottish Government, 2015c].

The objectives regarding shipping, ports, harbours and ferries relevant to the project include:

- *Sustainable growth and development of ports and harbours as a competitive sector, maximising their potential to facilitate cargo movement, passenger movement and support other sectors.*

- *Safeguarded essential maritime transport links to island and remote mainland communities* [Scottish Government, 2015c].

The relevant planning policy within the Scotland's National Marine Plan to support this is:

- ***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* [Scottish Government, 2015c].

Eleven Scottish Marine Regions have been created which cover sea areas extending out to 12nm. Regional Marine Plans will be developed in turn by Marine Planning Partnerships, allowing more local ownership and decision making about specific issues within their area. The area surrounding the development will be covered by the Outer Hebrides Marine Region. This plan is not yet developed and it will take some time to set up Marine Planning Partnerships and develop marine plans for all of the 11 regions. In the interim period, the Marine Policy Statement and the National Marine Plan will apply [Scottish Government, 2015c].

The Scottish Government provides advice and technical planning information in the form of Planning Advice Notes (PAN)s. While the project will not be consented under the planning regulations the PANs will be considered as examples of best practice guidance throughout the design and EIA process.

Relevant sections of planning policies, will be identified, considered through the project development process and discussed within this scoping report.

4 Air Quality and Climate Change

4.1 Policy and Guidance

Relevant guidance and information sources includes:

- 2016 Air Quality Progress Report for CnES [CnES, 2016]
- Assessment of Dust from Demolition and Construction [Institute of Air Quality Management (IAQM), 2014];
- Air Quality Monitoring in the Vicinity of Demolition and Construction Sites [IAQM, 2012];
- Assessing Greenhouse Gas (GHG) Emissions and Evaluating their Significance [Institute of Environment and Assessment (IEMA) and Arup, 2017];
- 2015 Local Authority Carbon Dioxide Emissions [Department for Business, Energy and Industrial Strategy (BEIS), 2017];
- Mapping Carbon Emissions & Removal for the Land Use, Land Use Change & Forestry Sector [Buys, Thomson, Moxley, & Malcolm, 2014]; and
- Working at construction and demolition sites: PPG6. [Environmental Agency, Northern Ireland Environmental Agency (NIEA) & Scottish Environmental Protection Agency (SEPA), 2012].

4.2 Baseline

There are no Air Quality Management Areas within the Western Isles, and the area does not have any areas where pollutant levels have been exceeded or are close to exceedence levels [CnES, 2016].

The nearest property to the site is the Hotel Hebrides which is situated 10m immediately to the north of the substation (20m from the harbour development). There are community facilities to the north and west including; the Bank of Scotland, Tourist Information, Community Centre and Main Street which has a collection of businesses at the east end. These are all within 150m of the site.

Nitrogen Dioxide (NO_2) monitoring was conducted in Stornoway during 2015, which is ~34km away from Tarbert. This is the largest town in the Western Isles and for this reason the most likely to contain the highest levels of NO_2. During this monitoring no exceedences were recorded. No particulate matter (PM)10 or PM2.5 monitoring sites are located in the Western Isles [CnES, 2016].

Background air emissions levels are not expected to be high at Tarbert as there is limited urbanisation and development on Harris.

"Scotland has the second largest sink of Land Use, Land Use Change and Forestry per capita emissions (-1.0 t carbon dioxide (CO_2) per person) due to forest land occupying a large proportion of land area" when compared to the twelve regions within the UK [BEIS, 2016]. According to local authorities 2015 data, the transport CO_2 emissions per capita on the Harris is between 1.7-2.2 tonnes. This is in the middle range of the scale. The local authorities 2015 data of industrial and commercial emissions on the Harris is between 2.2-2.9tonnes CO_2 per capita [BEIS, 2016].

4.3 Potential Construction Impacts

4.3.1 Dust

Dust has the potential to impact vegetation and human health through inhalation of particles, dust particles in eyes and covering the leaves of plants preventing photosynthesis, dust can also cause a nuisance by coating surfaces such as cars and windows. Earthworks are required for this project to increase the marshalling area and install a roundabout. The use of dredge and infill material to construct additional areas has the potential to cause dust through material movement and placement as well as the additional open area this creates.

Additionally, vehicle movement on this cleared area during construction has the potential to cause dust, and to result in dust/mud track-out onto the public roads. High wind weather events have the potential to spread dust as it blows over the open area prior to it being tarmacked.

Earthworks are being carried out within close proximity (<350m) of human receptors as outlined in Step 1 of the Guidance on the Assessment of Dust from Demolition and Construction [IAQM, 2014] an assessment of construction dust is required.

4.3.2 Climate Change

There are likely to be a GHG emissions associated with the site preparation and construction of the Tarbert Ferry Terminal Development. This is a result of the; construction of the pier extension, fendering and substation works, the burning of fossil fuels by plant and equipment to aid with construction.

4.4 Potential Operational Impacts

4.4.1 Dust

All areas will be finished with concrete, tarmac or replanted, hence there will be no exposed ground to give rise to sources of dust.

4.4.2 Climate Change

Emissions from the harbour during operation are not expected to contribute to a significant negative change in GHG emissions from the current conditions. The new ferry is larger and capable of transporting more vehicles and people that the existing ferry. This vessel will require more fuel and emit more GHG however this is not expected to be significant from the current emissions as it will be working a similar run and timetable.

The new vessel will be able to operate on Liquified Natural Gas (LNG) in addition to using marine gas oil. It is proposed that LNG will be the primary source of fuel for vessel operation and this would reduce GHG emissions. Infrastructure to enable fuelling of the vessel with LNG is being developed as part of a similar ferry terminal improvement project at Uig on the Isle of Skye.

There is also the potential to reduce GHG emissions through the electrical power upgrade works which will reduce the need for the vessel to run its engines to generate electricity while berthed overnight at Tarbert.

The potential for flooding (which may be associated with climate change) is discussed under Water Quality and Coastal Processes in Section 13.

4.5 Mitigation Measures

The following mitigation measures will be employed to reduce GHG emissions during construction:

- Plant and vehicles will be well maintained;
- Plant and vessels will be appropriately maintained; and
- Marshalled vehicles will be requested to switch off engines while waiting.

4.6 Proposed Environmental Impact Assessment

Due to the potential impacts outlined in Sections 4.3.1 it is proposed that air quality during construction is scoped into the EIA process. It is proposed that the operational impact of dust and the construction and operational impacts off climate change is scoped out of the EIA. This is due to the potential impacts outlined in Sections 4.3 and 4.4 and the mitigation measures (Section 4.5). The mitigation measures outlined in Section 4.5 will be included in the SoM and the CEMP to ensure they are successfully implemented.

5 Archelogy and Cultural Heritage

5.1 Policy and Guidance

Relevant policy, guidance and information sources includes:

- PAN 2/2011: Planning and Archaeology [Scottish Government, 2011b];
- Managing Change in the Historic Environment: Setting [Historic Environment Scotland, 2010]; and
- PastMap [Historic Environment Scotland, 2017a].

5.2 Baseline

There are no known features of archaeological importance within the red line boundary.

There are seven listed buildings within a 2km radius of the Tarbert development, these are outlined in Table 5.1. No schedule monuments, conservation areas, world heritage sites or inventory battlefields within 2km of the project area [Historic Environment Scotland, 2017].

The Tarbert Ferry Terminal is a Canmore Site under buildings, pier and storehouse all of unassigned period. Canmore does not signify an area of archaeological importance but provides an online catalogue for national records of various places throughout Scotland. Additional Canmore Sites within a 500m radius are outlined in Table 5.2.

There is one recorded Canmore Maritime site within two kilometres of Tarbert Ferry Terminal see

Table 5.3

Table 5.1: Listed Buildings within 2km of the site [Historic Environment Scotland, 2017]

Site Name	Classification	Distance	Description	GRID.
Church of Scotland Manse	Listed Building (Cat C)	30m	Missionary manse described in 1839. South-facing close to shore above Loch Tarbert and alongside the Church of Scotland.	NG 15859 99834
Church of Scotland	Listed Building (Cat C)	30m	Said to date from 1862, but may incorporate the missionary church described in 1839. T-plan church, close to shore above Loch Tarbert.	NG 15929 99820
The Pier, Tarbert Stores	Listed Building (Cat C)	70m	Probably circa 1900. Prominently sited on the old road leading to Tarbert Pier, Tarbert Stores continues largely as originally purposed in supplying the needs of fishermen and other tradesmen in an area which had virtually no road access before the 20th century. Owing to the lack of local materials and high cost of transport, timber is an unusual building material for the area. However, this simple and practical timber construction is thought to have been funded by a local benefactress, with both the design as well as the timbers deriving from Swedish origins as cargoes of fish were exported to Sweden and the timber purchased for return ballast.	NG 15784 99896
Free Presbyterian Church	Listed Building (Cat B)	120m	Ecclesiastical building in use as such. Occupies prominent position.	NG 15877 99960
West Loch, House at Pier	Listed Building (Cat C)	650m	Probably early 20th century. Variant of a standard pattern design	NB 14865 235
West Loch, Pier	Listed Building (Cat C)	650m	Difficult to date on visual evidence alone - probably late 18th/first half 19th century. All rubble-built, including pier decking.	NB 14703 308
Tarbert Primary School and School House	Listed Building (Cat B)	850m	Stylistically, dissimilar from most other islands schools within the old Inverness county which were designed by Alexander Ross of Inverness.	NB 14974 347

Table 5.2: Canmore Sites within 500m [Historic Environment Scotland, 2017]

Site Name	Site Number	Classification	Distance	Description	GRID.
Pier and Ferry Terminal	NG19NE 1	Buildings, Pier (Period Unassigned)	0m	20th century. A concrete-piled structure. At its head are some interesting wooden buildings. This roll-on roll-off ferry terminal for Harris is situated at Tarbert. It comprises an adjustable pier ramp and concrete pier, with an associated ferry terminal building.	NG 15770 99820
Storehouse	NG19NE 12	Storehouse (Period Unassigned)	0m	Located in area of pier.	NG 158 998
Church of Scotland Manse	NG19NE 14	Manse (Period Unassigned)	30m	Main Street A parade of unpretentious, mostly mid to late 19th-century houses bordering East Loch Tarbert, skewed along the waterfront towards the late 20th-century.	NG 15859 99834
Church of Scotland	NG19NE 13	Church (Period Unassigned)	90m	As above (Church of Scotland Manse)	NG 15929 99820
Main Street, General	NG19NE 16	General View	30m	As above (Church of Scotland Manse)	NG 15637 99936
Mcleod's Motel	NG19NE 9	Hotel (Period Unassigned)	20m	No Information	NG 15780 99870
Pier Road, Ironmongers And General Store	NG19NE 11	Shop (Period Unassigned)	50m	A two-storeyed corrugated-iron building two (gabled) bays deep, now occupied by an Ironmongery business. Probably early 20th century in origin, it may have been dismantled and moved to this site (possibly from the whaling station nearby at Bunavoneader).	NG 15784 99896
New Tourist Information Centre and Public Toilets	NG19NE 10	Information Centre (Modern), Public Convenience (Period Unassigned)	60m	This new tourist information building, incorporating public conveniences, was completed in 1997.	NG 1580 9991

Free Presbyterian Church	NG19NE 15	Church (Period Unassigned)	130m	No Information	NG 15877 99960
Main Street, War Memorial	NG19NE 21	War Memorial (20th Century)	90m	No Information	NG 15553 99957
Parish Church	NG19NE 13	Church (Period Unassigned)	100m	As above (Church of Scotland Manse)	NG 15929 99820
Tarbert	NB10SE 4.06	Township (Period Unassigned)	280m	A crofting township comprising one unroofed, six roofed buildings and two enclosures	Centred on NB 1605 0000
Isle Of Harris Distillery	NG19NE 22	Distillery (21st Century)	180m	No Information	NG 15433 99940
Tarbert Stores	NG19NE 20	Storehouse (Period Unassigned)	230m	No Information	NG 15385 99958
Allt Na Creige	NG19NE 17	Enclosure (Period Unassigned)	250m	2009 - No archaeological features of definite pre-19th-century date were identified.	NG 15369 99848
Reputed Cemetery, Tairbeart	NB10SE 12	Cemetery (Post Medieval)(Possible)	320m	Reputed site of 'strangers' cemetery, initially used as a burial place for shipwreck victims, and last used in the early nineteenth century.	NB 15322 00030
General	NB10SE 4.01	Village (Period Unassigned)	330m	Tarbert The principal settlement of Harris straddles a narrow isthmus, across which Leverhulme dreamt of digging a canal. In the earlier 19th century it consisted of just a handful of cottages at the head of the east bay - the 1841 census records just 27.	Centred on NB 1530 0000
Harris Hotel	NB10SE 2	Hotel (Period Unassigned)	370	Harris Hotel, c.1865 Comfortable, rambling sporting hotel built by the Harris Estate, with dining room added 1895 and less sympathetic modern accretions	NB 1529 0009
Tarbert	NB10SE 4.07	Head Dyke (Post Medieval)	350	A length of head-dyke is depicted 1882. Two of the buildings which comprise the farmstead are attached to this length of head-dyke. Only two fragments of the head-dyke are shown 1997	From NB 1538 0016 to NB 1629 9993

Tarbert	NB10SE 4	Building, Farmstead, Township(s), Village (Period Unassigned), Head Dyke(s) (Post Medieval),	450m	Within the area of the modern settlement of Tarbert, a village, two crofting townships, a farmstead, a building and head-dykes are depicted 1882	Centred on NB 1520 0010
Cnoc Na Greine	NB10SE 17	Building (Modern)	350m	Small rectangular, stone-built structure with remains of corrugated roof	NB 16012 00114
Cnoc Na Greine	NB10SE 14	Well (Period Unassigned)	400	Well. Defined by well-built, single thickness drystone walling of at least 4 courses	NB 16054 00151
Cnoc Na Greine	NB10SE 16	House (Post Medieval)	400	Built of dressed drystone, unmortared, but not traditional 'blackhouse' construction	NB 16013 00171
Cnoc Na Greine	NB10SE 13	Standing Stone (Prehistoric)(Possible)	410	Possible standing stone, 2.55m high. It appears to be of naturally formed irregularly-shaped local rock which has been erected to a standing position, close to a spring, and with commanding views over East Loch Tarbert.	NB 16051 00162

Table 5.3:Canmore Marine Sites within 2km of Tarbert Terminal [Historic Environment Scotland, 2017]

Name	Site Number	Classification	Date	Location	Information
Iola	NG19NE 8001	Brig (19th Century)	1862	Arbitrary	The Iola is stranded on Harris near Tarbert

5.3 Potential Construction Impacts

Due to the nature of the project and the distance between the project site and any areas of archaeology or cultural interest, no significant impacts are expected. Potential impacts of the construction and site works to heritage sites include vibration resulting from construction on the integrity of the structures (Section 10) and visual impacts on the ambiance of the heritage sites (Section 7). Both of which are unlikely as discussed in Sections 10 and 7 respectively. Additionally, the marine heritage site may be impacted by the construction and dredging activities this is unlikely due to previous activity within the proposed footprint.

Previously unknown remains could be uncovered during the construction works, however this is deemed unlikely due to level of development already undertaken on the site.

5.4 Potential Operation Impacts

Due to the project being associated with an existing harbour, no additional cultural and archaeological impacts from the current baseline are expected to result from this development.

5.5 Mitigation Measures

A protocol for archaeological discoveries will be included within the CEMP to ensure it is utilised in the unlikely event of an archaeological find.

5.6 Proposed Environmental Impact Assessment

It is proposed that archaeology and cultural heritage is scoped out of the EIA process due to the lack of significant sites within the vicinity of the project area (Section 5.2) and the minimal impacts to these sites as a result of the project (Section 5.3 and 5.4).

Benthic assessment will be carried out in line with Section 6.6.2 using video transect (following transects depicted in Figure 39.03.06). If this survey identifies any potential archaeological materials then these will be considered as part of the EIA.

6 Biodiversity and Nature Conservation

6.1 Policy and Guidance

Relevant policy and guidance includes:

- PAN 60: Planning for Natural Heritage [Scottish Government,2008];
- Guidelines for Ecological Impact Assessment in the UK, [Chartered Institute of Ecology and Environmental Management (CIEEM), 2006];
- Scottish Planning Policy [The Scottish Government, 2014b];
- Conservation (Natural Habitats, &c.) Regulations 1994 [Scottish Natural Heritage (SNH), 1994];
- Council Directive (92/43/EEC) [Office Journal of the European Communities, 1992];
- The Nature Conservation (Scotland) Act 2004 [Joint Nature Conservation Committee (JNCC), 2004].

- Handbook for Marine Intertidal Phase 1 Biotope Mapping Survey [Wyn, 2006];
- Seabird monitoring handbook for Britain and Ireland: a compilation of methods for survey and monitoring of breeding seabirds [Walsh *et al.*, 1995];
- Guidance on Marine Non-Native Species [GreenBlue, 2013];
- Alien invasive species and the oil and gas industry: Guidance for prevention and management [IPIECA & OGP, 2010];
- Marine Non-Native Species [SNH, 2013]; and
- Guidance on Assigning Benthic Biotopes using EUNIS or the Marine Habitat Classification of Britain and Ireland [Parry, 2015].

The Scottish government has released general policies (GEN) as part of the Scotland's National Marine Plan in favour of sustainable development and use of the marine environment which include:

- ***GEN 9 Natural heritage****: Development and use of the marine environment must:*
    - *Comply with legal requirements for protected areas and protected species;*
    - *Not result in significant impact on the national status of Priority Marine Features;*
    - *Protect, and where appropriate, enhance the health of the marine area; and*
- ***GEN 10 Invasive non-native species****: Opportunities to reduce the introduction of invasive non-native species to a minimum or proactively improve the practise of existing activity should be taken when decisions are being made* [Scottish Government, 2015a].

The Scottish government has released a series of good environmental status (GES) descriptors within Scotland's National Marine Plan. These include:

- ***GES 1:*** *Biological diversity is maintained and recovered where appropriate. The quality and occurrence of habitats and the distribution and abundance of species are in line with prevailing physiographic, geographic and climatic conditions.*
- ***GES 2:*** *Non-indigenous species introduced by human activities are at levels that do not adversely alter the ecosystems.*
- ***GES 4:*** *All elements of the marine food webs, to the extent that they are known, occur at normal abundance and diversity and levels capable of ensuring the long-term abundance of the species and the retention of their full reproductive capacity.*
- ***GES 6:*** *Sea-floor integrity is at a level that ensures that the structure and functions of the ecosystems are safeguarded and benthic ecosystems, in particular, are not adversely affected* [Scottish Government, 2015c].

6.2 Designated Sites

Statutory Designated Sites which are located within a 20km radius of the project are detailed in Table 6.1 and mapped in Figure 39.03.01- 39.03.05 [SNH, 2017]. These include the following designations:

- Sites of Special Scientific Interest (SSSI);
- Special Areas of Conservation (SAC) and proposed Special Areas of Conservation (pSAC);
- Special Protected Areas (SPA); and
- Ramsar Sites.

Table 6.1: Statutory Nature Conservation Designated Sites relevant to the Tarbert harbour development [SNH, 2017]

Site	Designation	Distance Direction	Feature Category/Feature
North Harris	SSSI SAC	5.5km NW	Designated for Bryophyte assemblage (Non-vascular plants), Subalpine wet heath (Upland Habitat). Acidic scree, Alpine and subalpine heaths, Blanket Bog, Depressions on peat substrates, Dry heaths, Montane acid grassland, Plants in crevices on acid rocks and Wet heathland with cross-leaved heath (Upland Habitat), Acid peat-stained lakes and ponds and Clear water lake or lochs with aquatic vegetation and poor to moderate nutrient levels (freshwater habitats), Otter (*Lutra lutra)* (Mammals *(except marine))*, Atlantic Salmon (*Salmo salar)* (Fish).
North Harris Mountains	SPA	5.5km NW	Golden Eagle (*Aquila chrysaetos)* breeding (Birds).
Luskentyre Banks and Saltings	SSSI	6km SW	Designated for its Coastal Geomorphology (Earth Sciences), Dystrophic and oligotrophic lochs (Freshwater habitats), Machair, Saltmarsh and Sand Dunes (Coast), Sandflats (Marine including marine mammals), Breeding bird assemblage (Birds) and Upland assemblage (Upland Habitat).
Inner Hebrides and the minches	pSAC	8.5km SE	Designated for Harbour porpoise (*Phocoena phocoena*) (Marine).
Lewis Peatlands	SPA Ramsar	13 km N	Designated for Breeding Birds, Black throated diver (*Gavia arctica*) breeding, Red throated diver (*Gavia stellata*), Golden Eagle (*Aquila chrysaetos),* Dunlin (*Calidris alpine schinzii*), Golden plover (*Pluvialis apricaria),* Greenshank (*Tringa nebularia),* Merlin (*Falco columbarius)*. Breeding bird assemblage, Dunlin (*Calidris alpine schinzii)* (Birds), Blanket Bog (Upland habitat).
Northton Bay	SSSI	16km WSW	Breeding bird assemblage (Birds), Machair, Saltmarsh and Sand Dunes (Coast), Sandflats, Saline Lagoon (Marine including marine mammals), Mineralogy of Scotland (Earth Sciences) and Transition saltmarsh (Wetlands).

6.3 Baseline

The following ecological studies have been carried out to inform the baseline:

Table 6.2: Completed Baseline Surveys at Tarbert Ferry Development Site

Title	Reference	Appendix
Tarbert Ferry Terminal Phase 1 Habitat and Otter Survey	Tyler, 2017a	Appendix 1
Tarbert Ferry Terminal Ornithological Survey	Tyler, 2017b	Appendix 2

6.3.1 Terrestrial

6.3.1.1 Vegetation and Habitats

A Phase 1 Habitat Survey has been completed for the proposed development area and the adjacent 250m in June 2017. A copy of the Phase 1 Habitat Survey has been provided in Appendix 1. The main findings of which are summarised here.

The Tarbert development area is constrained within the boundaries of previously disturbed terrestrial areas. Within the 250m buffer there is habitat areas of shrub, gardens and intertidal-brown algae. No habitats of major conservation importance were identified during the Phase 1 habitat survey. The shrub areas are located north and east of the terminal building. Much of the scrub is *Ulex europeus*, with some overlap of introduced shrub. *Cotoneaster* and *rhododendron* were present within the periphery of the *Ulex* habitat. There were also small (<5%) areas of *Pteridium aquilinum*. The intertidal areas are located east of the development and on the additional shores surrounding the loch. These contain *Ascophylum nodosum, Fucus vesculosis, Pelvetia canaliculata, Enteromorphia* spp and *Fuscus spiralis* that exposed during low tide. The habitat across Loch an Ear on the southern bank above the intertidal region is dry dwarf shrub. [Tyler, 2017a].

6.3.1.2 Otters

European otters (*Lutra lutra*) have been identified in and around Tarbert [National Biodiversity Network (NBN), 2017], and are afforded protection under the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended).

During the Phase 1 Habitat and Otter Survey no signs of use by otters were found on the north shore of East Loch Tarbert, in the vicinity of the ferry terminal. There were no holts or lie-ups and no signs of them using the rock armour around the ferry terminal. In the immediate vicinity of the ferry terminal, the shore is mainly exposed rock armoured slopes, bed rock and concrete sea wall, which has little potential for otter resting places. The rock armour in the immediate vicinity of the terminal has a few suitable holes for use by otters. The older sea wall further to the east had more potential for otters [Tyler, 2017a].

Recent spraints on the south shore of the loch confirm that they are present in the area, and there is potential for holt and lie-ups in the peaty ground near the shore further east of the development [Tyler, 2017a].

6.3.2 Marine

6.3.2.1 Vegetation and Habitats

Limited information on the benthic ecology within the area means that the sensitivity of this area is unknown. The area within the immediate vicinity of Tarbert is low energy infralittoral seabed and low energy circalittoral seabed. Further south following the coast line the habitat is infralittoral rock and biogenic reef. This changes to circalittoral rock and biogenic reef as we head further in east towards Little Minch [Marine Scotland, 2017].

The Tarbert Harbour development is located within the vicinity of the existing harbour that is currently being used. The water within the harbour is shallow with maximum water depths of 7m.

6.3.2.2 Marine Mammals

The waters around the Isle of Harris and the Outer Hebrides are utilised by numerous marine mammal species, including both cetaceans and seals. Marine mammals are protected under the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended). Eight species of cetacean are regularly encountered in the region and a further three species occur less frequently [Reid, Evans and Northridge, 2003]. In addition, breeding populations of both grey (*Halichorerus grypus*), and common seals (*Phoca vitulina*) are present in the Outer Hebrides [Special Committee on Seals, 2016].

Several species of cetaceans occur regularly in the Minch just east of Tarbert including Risso's dolphin (*Grampus griseus*), Short-beaked common dolphin (*Delphinus delphis*), Killer whale (*Orcinus orca*), Minke whale (*Balaenoptera acutorostrata)*, Bottlenose dolphin (*Tursiops truncatus*) and Harbour porpoise (*Phocoena phocoena*). Harbour porpoise are resident in the region throughout the year while other species occur more frequently during the summer and autumn months [Reid, Evans & Northridge, 2003].

Otters (Section 4.2) may be found within the marine environment as well as the terrestrial environment.

6.3.2.1 Fish

Various fish species are likely to be located in the waters surrounding the Tarbert Ferry Terminal.

6.3.3 Ornithology

There are 108 species of birds recorded as utilising the area within a 5km radius of the site [NBN, 20170].

The North Harris Mountains SPA is approximately 5.5km away from the proposed development. This site is designated for its support of the Golden Eagle with 7 pairs during the breeding season visiting the site, representing 1.8% of the breeding population in Great Britain. Due to the distance from the site and the nature of the development, the proposed works are not likely to affect this species. No Golden Eagles were recorded during the 2017 Ornithology Survey (Appendix 2).

Three breeding birds were recorded during the survey, outwith the proposed site; Collared Dove (*Streptopelia decaocto*), Blackbird (*Turdus merula*) and House sparrow (*Passer domesticus*). These are relatively common species in Harris and are not in habitats that will be affected by the proposed works. Other birds that were recorded during the breeding bird survey include the Wren (*Troglodytes troglodytes*), Pied Wagtail (*Motacilla alba*), and Herring Gull (*Larus argentatus*) [Tyler, 2017b].

Luskentyre Banks and Saltings SPA, Lewis Peatlands SPA, and Northton Bay SPA are sites designated for breeding bird assemblages only. No site in the vicinity of the proposed development area has been designated for winter bird populations. Across the western isles, small numbers of Black-throated divers *Gavia arctica* and Red-throated divers *Gavia stellate* remain over winter, and utilise coastal areas around the islands for winter foraging [Western Isles Wildlife, 2017]. Great northern divers *Gavia immer* are found in large numbers in winter across the Outer Hebrides [Western Isles Wildlife, 2017]. Whooper swans are common passage migrants, with some remaining for the winter. No winter bird survey was deemed necessary as East Loch Tarbet has not previously been identified as of special importance for wintering birds, and no area of intertidal habitat is anticipated to be affected by the development. Furthermore, much of the habitat adjacent to the ferry terminal is concrete reinforcement, boulders, and scrub, which are not suitable habitat for wintering water birds.

6.4 Potential Construction Impacts

6.4.1 Terrestrial

As this development does not requiring any clearing of vegetation no direct impacts are likely on terrestrial habitat and flora.

Construction impacts on terrestrial fauna and habitat resulting from dust (Section 4.3.1), noise (Section 4.3.1), land and soil quality (Section 8.3) and water quality (Section 13.3) are discussed within the relevant section.

6.4.2 Marine

The dredging, construction of the pier extension and extension of the marshalling area will result in loss of marine habitat. Benthic organisms, are the most likely to be affected by this. The loss of habitat will be confined to the boundaries of Tarbert Harbour. The pier construction area is already used by the ferry operation which are likely to cause local seabed disturbance and for this reason it is not expected to have high benthic value.

Both pile driving, dredging and reclamation operations have the potential to cause injury or disturbance to fish and marine mammals through underwater noise emissions (Section 10.3.2). During construction, there may be additional boat movements associated with the delivery of raw materials, hence there is a potential to increase the marine mammal/boat interactions. However, the increase will be short lived and boats will follow designated routes, traveling at steady speeds on a constant course, minimising the chance of collisions.

The use of vessels to transport goods to the site during construction has the potential to introduce marine non-native species to the area. It is possible that some vessels such as work

barges and dredge equipment will be coming to site from outside of the UK but within Europe. The risk of this will be minimised through procedures within the contract to identify recent work history of relevant materials and plant and ensure traceable cleaning prior to mobilisation to site to the minimise risk of alien invasive species.

Construction impacts on marine fauna and habitat resulting from piling and construction noise (Section 10.3), sedimentation and soil quality (Section 8.3) and water quality and coastal processes (Section 13.3) are discussed within the relevant section.

6.4.3 Ornithology

Birds are not likely to be significantly impacted by the site preparation, or construction activities in the proposed work areas in either the breeding period or in the wintering period. Even if there is temporary disturbance, there are plentiful foraging patches around the coastline and inland beyond the Ferry Terminal for birds to utilise. The birds recorded during the baseline breeding bird survey were not recorded as using the Ferry terminal vicinity as a nesting habitat. Furthermore, the species recorded within the extended vicinity of the site were common species to the area and the U.K. [Tyler, 2017b].

Light pollution has the potential to impact on bird movement and feeding habits however this will be minimal, with the majority of construction activity being limited to day time hours (7am-7pm). The construction site is adjacent to the village which is already street lit.

6.5 Potential Operational Impacts

As the project is an upgrade and extension of an existing harbour, boat movements and frequency are expected to remain the same, therefore no additional risks to marine ecology, terrestrial ecology or ornithology are expected from the operation of the site. The habitat removal resulting from the extension of the marshalling area and pier will remain throughout the lifetime of the harbour this area is minimal and in the case of the pier, previously disturbed. The additional rock armouring to support the marshalling area may provide new habitat for otters although this is not expected to be significant.

6.6 Proposed Environmental Impact Assessment

6.6.1 Terrestrial

Extensive terrestrial baseline surveys have already been completed at Tarbert Terminal Development (Appendix 1-2). These have not indicated a gap in the current knowledge base or specific concerns that require more information. As such, no further terrestrial baseline surveys are proposed as part of the EIA report.

6.6.1.1 Construction

It is proposed that construction impacts on the terrestrial biodiversity resulting from the Tarbert Ferry Terminal development are scoped out of the EIA process. This is due to lack of significant impacts likely to result, as outlined in Section 6.4. As discussed in Section 6.3.1.2, otters are not currently believed to be using the harbour, as such they are unlikely to be impacted by this development. A pre-construction otter survey will be undertaken to ensure no otters have moved into the area. If holts, lay-ups or couches are found, appropriate

mitigation will be put in place and a European Protected Species licence will be sought from SNH.

6.6.1.2 Operation

It is proposed that operational impacts on the terrestrial biodiversity resulting from the Tarbert Ferry Terminal development are scoped out of the EIA process. This is due to lack of significant impacts likely to result, as outlined in Section 6.5.

6.6.2 Marine

Due to the lack of recent and specific baseline with regard to the benthic habitat, it is proposed that benthic habitat mapping is undertaken as part of the EIA assessment. This will take the form of benthic video transects and grab sampling for benthic analysis this will be in line with SNH Guidance on Survey and Monitoring, Benthic Habitats [Saunders, Bedford, Trendall, & Sotheran, 2011]. Figure 39.03.06 denotes the proposed transects.

6.6.2.1 Construction

It is proposed that construction impacts on the marine biodiversity is scoped into the EIA process, this will involve assessing any potential impacts on cetaceans, and fish known to be within the area. This impact assessment will be in line with the CIEEM (2010) Guidelines for Ecological Impact Assessment in the Britain and Ireland: Marine and Coastal. It is recognised that underwater noise will be one of the main issues, therefore once the underwater noise model is complete, an assessment of impacts on marine ecology will be conducted, in order to identify potential impacts to fish and marine mammal. The assessment will consider both the predicted noise levels, together with the current understanding of hearing thresholds and injury/disturbance criteria for each species, that are available in the scientific literature.

The assessment will allow effective and proportional mitigation to be implemented for each phase of works, as required. If deemed appropriate Marine Mammal Protocol aligned to the JNCC Guidance (2010) will be developed.

A benthic assessment will be carried out in terms of direct habitat loss by quantifying any losses in terms of percentage loss of certain biotypes/habitats.

A desktop assessment will be undertaken to determine potential sources that may result in the introduction of non-native species and identify appropriate mitigation measure to prevent the introduction.

6.6.2.2 Operation

It is proposed that operational impacts on the marine biodiversity resulting from the Tarbert Ferry Terminal development are scoped out of the EIA process. This is due to lack of significant impacts likely to result, as outlined in Section 6.5.

6.6.3 Ornithology

It is proposed that biodiversity - ornithology is scoped out of the EIA process due to the lack of sensitive features (Section 6.3.3) within the area and the minimal potential for construction and operational impacts (Section 6.4.3 and 6.5) associate with the Tarbert development.

7 Landscape, Seascape and Visual

7.1 Policy and Guidance

Relevant policy and guidance includes:

- Guidelines for Landscape and Visual Impact Assessment, 3rd Edition [Landscape Institute & IEMA, 2013];
- National Scenic Areas (NSA): Scotland's finest landscapes [SNH, 2010];
- Western Isles landscape character assessment [Richards, 1998]; and
- Landscape Character Assessment Guidance for England and Scotland [Countryside Agency & SNH, 2002].

The Scottish Government has released general policies as part of the Scotland's National Marine Plan in favour of sustainable development and use of the marine environment which include:

- ***GEN 7 Landscape/Seascape****: Marine planners and decision makers should ensure that development and use of the marine environment take seascape, landscape and visual impacts into account* [Scottish Government, 2015a].

7.2 Baseline

The Tarbert Ferry Terminal is located within the South Lewis, Harris and North Uist NSA. This stretches from Valtos in the north to Loch Eport in the south covering a total of 112,301ha [SNH, 2010].

NSAs are designated under Section 263A of the Town and Country Planning (Scotland) Act 1997, and are defined as "of outstanding scenic value in a national context." The legislation also states that within an NSA "special attention is to be paid to the desirability of safeguarding or enhancing its character or appearance" [SNH, 2010].

The east coast of Harris is deeply dissected knock-and-lochan topography, with innumerable bays and islets, where the pattern of crofting settlement enjoys a particularly close relationship with the landform. It is a small-scale landscape of detailed variety and visual pleasure that contrasts strongly with the softer, wider landscapes of the island's west coast [SNH, unknown].

The Tarbert development and surrounding area is defined as Crofting 2 Landscape Characteristic Type. This landscape type is characterised by sweeping slightly concave slopes with rocky knolls, rising to rocky or boggy moor inland and sloping down to rocky shores and broad shallow glens [Richards, 1998].

No national trails fall within the project area, although this area is known to attract various tourist through the ferry services.

7.3 Potential Construction Impacts

The increase in the marshalling area, the installation of new fendering and extension of the pier may result in an increased zone of visual influence. The ~20m extension of the pier will make it protrude out further along the coast, it will however wrap around the coast and finish before the end of the landmass on which the harbour is located minimising the extent of visual impacts.

The increase in the marshalling area will require an area of ~13,000m^2 to be infilled. This area is currently rock armoured and other than the increase in plan area there is not anticipated to be any landscape impacts as a result.

Additionally, a new terminal building will be built in a similar location as the existing building. This will be bigger, however this is not anticipated to make it visible from any receptors that do not have a current view of the building.

Tarbert is located within a valley, meaning that the properties surrounding the site will have a view looking down on the construction however the extent of the properties that have a view of the site is limited. These properties are likely to have an existing view of the ferry terminal. The nearest property to the site is the Hotel Hebrides which is situated 20m immediately to the north. There is a small collection of residential properties within a 100m on Main Street to the north-east of the development. There are two residential properties to the south east on the south side of East Loch Tarbert that overlook the existing quay. These are 200m and 250m away, respectively. These properties will have views of the works.

Table 3: Current views from surrounding properties

Current view from south of the development on the elevated road running along the opposite side of the Loch.


Current view from north west and west of the development

A number of individual dwellings surround the site and main access road to the site will have views of vehicle movements used during the construction processes. Traffic impacts will be assessed with Section 12.

Visual, landscape and seascape impacts associated with construction works will be short lived, and affect relatively few receptors.

7.4 Potential Operational Impacts

The new ferry that will be operating at the harbour is slightly larger than the existing ferry; 3m longer, 1.2m wider and 3.3m taller (Appendix 3). This is not considered to be significant as it is not a considerable change from previous conditions and its use of the port is intermittent.

The upgrade of the ferry terminal including the reconstruction and extension to the pier and marshalling area installations, are in keeping with the current use of the area and landscape character. The tallest components of the development are the lighting column in the marshalling area and pier. These are anticipated to be 10m tall. The operation of this site is not expected to increase the zone of visibility from the current baseline. The people within the valley with a current view of the harbour will continue to see the harbour however it is not anticipated that any additional properties will be able to view the site following the development.

A number of individual dwellings surround the site, along the main road and on the adjacent side of the loch will have views of vehicle movements pre and post ferry boarding schedules. Traffic impacts are discussed in Section 12.

7.5 Mitigation Measures

Table 7.4: Landscape, Seascape and Visual Mitigation measures

Phase	Risk/Effect	Cause	Mitigation
Construction	Visual	Construction works and vehicles and lighting.	• Works will generally be conducted between 7am to 7pm Monday to Saturday.

Operation	Visual	Expansion of marshalling area and pier	• Pier designed to follow the landscape. • Colours and construction material will be in line with existing infrastructure.
Operation	Landscape	Expansion of marshalling area and pier	• Sympathetic design in keeping with existing harbour use.
Operation	Visual	Terminal Building	• Material and style will be similar to existing.

7.6 Proposed Environmental Impact Assessment

Taking into account the baseline information (Section 7.2) and the potential impacts mentioned in Section 7.3 and 7.4 and the mitigation outlined in Section 7.5, it is proposed that landscape and visual impacts are screened into the EIA process. The mitigation measures outlined in Table 7.4 will be included in the SoM and CEMP to ensure they are implemented.

8 Land and Soil Quality

8.1 Policy and Guidance

The Scotland National Planning Framework, Version Three [The Scottish Government, 2014a] has four key priorities for the Scottish Government, including '*the protection and promoting of Scotland's key environmental resources, whilst supporting their sustainable use*'.

The Scottish Planning Policy [The Scottish Government, 2014b] identifies two principles guiding policies and decisions relating to land quality. These are: '*Having regard to the principles for sustainable land use set out in the Land Use Strategy*'; and '*Avoiding over-development, protecting the amenity of new and existing development and considering the implications of development for water, air and soil quality*.'

It is stated in the Scottish Planning Policy [The Scottish Government, 2014b] 'Valuing the Natural Environment' that '*The planning system should seek to protect soils from damage such as erosion or compaction*' and that '*Local nature conservation sites designated for their geodiversity should be selected for their value for scientific study and education, their historical significance and cultural and aesthetic value, and for their potential to promote public awareness and enjoyment*'.

The following sources of information and guidance are available:

- Sitelink website [SNH, 2017];
- BS EN 1997-1:2004: Eurocode 7: Geotechnical Design. British Standards Institution British Standards Institution, 2004].

- BS EN ISO 14688-1:2002+A1:2013: Geotechnical Investigation and Testing — Identification and Classification of Soil (Part 1: Identification and description). [British Standards Institution, 2013]; and
- BS 5930: 2015: Code of Practice for Site Investigation [British Standards Institution, 2015].

8.2 Baseline

The British Geological Survey (BGS) 1:50,000 indicates the bedrock formations of Lewisian Complex - Gneiss. Metamorphic Bedrock formed approximately 542 to 4000 million years ago. Originally rocks without interpretation. Later altered by high grade regional metamorphism. The superficial deposits are unknown/unclassified, formed up to 2 million years ago. [BGS, 2017a].

The BGS Bedrock (250K) within the Tarbert harbour indicates Lewisian complex - Gneiss. Further into the Little Minch it changes to Jurassic rocks (undifferentiated); rock, siliciclastic, argillaceous with sandstone (undifferentiated) and limestone. Patches of Unnamed igneous intrusion of unknown age, Microgabbroic – Rock. The BGS Seabed Sediment (250K) within The Little Minch adjacent Tarbert is defined as marine sediment, holocene (undifferentiated) of varying ratios of gravel, mud and sand. The BGS Hard Substrate (250k) contains patches of rock and hard substrate [BGS, 2017b].

Designated sites of land and soil quality importance are listed in Table 6.1 (see Section 6.2).

8.3 Potential Construction Impacts

8.3.1 Terrestrial

During the construction of the Tarbert Terminal no clearing will be undertaken. Construction will remain within the existing terrestrial footprint.

There is the potential for unplanned emissions to occur from the storage of material, equipment and plant use, cement washings, silt water runoff and waste materials across the site. These will be minimised through standard good practice such as regular maintenance, spill prevention and response procedures. Additionally, if required, remedial practices will be undertaken.

8.3.2 Marine

Dredging, reclamation and piling have the potential to affect the land and soil quality within the marine environment through change in the till structure and sediment deposition. The dredge material will potentially be used to infill the marshalling area and therefore reduce the requirement for off-site disposal. No blasting is anticipated to occur within the marine environment.

Additional impacts that have the potential to impact water quality as well as soil quality such as the release of historic contamination during dredging, sedimentation and release of hazardous materials are outlined in Section 0, Marine Water Quality.

8.4 Potential Operational Impacts

As the project is an upgrade to an existing harbour no significant terrestrial land and soil risks are expected from the current baseline as a result from this development.

8.5 Mitigation Measures

Mitigation proposed to minimise effects on land and soil quality within the terrestrial environment during construction are outlined in Table 8.1.

Table 8.1: Terrestrial Land and Soil Quality Mitigation Measures

Phase	Risk/Effect	Cause	Mitigation
Construction and Operation	Soil contamination	Spills Loss of containment	• Correct disposal of hazardous waste and contaminated water. • Storage of chemicals and hydrocarbons in secondary containment, where applicable. • Adequate spill response equipment on site. • Installation of adequate surface water management facilities. • Regular maintenance will be undertaken on equipment. • Designated wash down areas for concrete contaminated equipment and tools.
Construction	Removal of underlying geology.	Dredging, use of drum cutter and drilling	• Removal of rock areas, will be minimised through design informed by ground investigation. • Localised techniques to be utilised.

8.6 Proposed Environmental Impact Assessment

It is proposed that terrestrial land and soil quality is scoped out of the EIA process due to the lack of significant potential impacts associate with the Tarbert Harbour development (Section 8.3) and the mitigation measures proposed to further reduce the impacts (8.5). The mitigation measures outlined in Section 8.5 will be included in the SoM and CEMP to ensure they are implemented.

Effects on land and soil structure within the marine environment associated with normal construction activities are not considered significant due to the lack of significant potential impacts (Section 8.3.2) and the mitigation measures proposed to further reduce the impacts (Section 8.5).

Effects on the land and soil quality within the marine environment associated with unplanned events (such as marine spills, sedimentation and release of seabed contamination) will be considered in the Water Quality Section (Section 13) of the EIA process. This is a result of transferability of risks, assessment and mitigation of these impacts and an attempt to improve

the proportionality of the assessment. As such, it is proposed that Land and Soil Quality is scoped out of the EIA Report.

9 Population, human health and Socio-economy

9.1 Policy and Guidance

Relevant policy and guidance includes:

- Health in EIA [IEMA, 2017]; and
- Scottish Index of Multiple Deprivation 2016 [Crown, 2016].

The Scottish Government has released general policies as part of the Scotland's National Marine Plan in favour of sustainable development and use of the marine environment which include:

- ***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; and*
- ***GEN 3 Social benefits****: Sustainable development and use which provides social benefits is encouraged when consistent with the objectives and policies of this Plan* [Scottish Government, 2015a].

9.2 Baseline

The main economic sectors within the Western Isles are public services, construction, fishing, fish farming and fish processing. There are over 6,000 registered crofts in the islands with the majority of these in use. It is estimated that there are over 100,000 livestock on the island [CnES, 2014]

The nearest property to the site is the Hotel Hebrides which is situated 20 m immediately to the north. There are community facilities to the north and west including; the Bank of Scotland, Tourist Information, Community Centre and the main street which has a collection of businesses at the east end. These are all within 150 m of the site.

There is a small collection of residential properties within a 100 m on Main Street to the north-east of the development. There are two residential properties to the south east on the south side of East Loch Tarbert that overlook the existing pier. These are 200 m and 250 m away, respectively.

The human health within the vicinity of the Tarbert site is anticipated to be above average as Harris is ranked in the 8th decile for health domain range. This area ranks well in levels of crime, education and health. The main issue within Tarbert according to the deprivation scale is linked to the geographical access of the region. Additionally, employment is slightly below average, ranking in the 5th decile [Crown, 2016]. The Scottish Government (2015b) links the level of deprivation to the consumption of unhealthy food, depression, anxiety and alcohol-related morbidity and mortality.

9.3 Potential Construction Impacts

As the construction contract has not yet been appointed, it is not possible at this stage of the development to know where the construction workforce will be obtained from. There is a potential that a proportion of the workforces (approx. 20-40 people) will be sourced from outwith the island and stay on island during the construction period. The local supply of workforce will be encouraged. During the construction period accommodation, food and leisure activities will be required for the workforce. This will have a positive socio-economic impact on the area. Due to the temporary nature and relatively small number of people required for this development, this will bring a small, short-term positive benefit to the area.

The construction of this project is not likely to have significant negative impacts to human health as a result of dust (Section 4.3.1), water quality and coastal processes (Section 13.3), noise (Section 10.2.2), visual amenities (Section 7.3) or due to a major accident or incident (Section 14).

9.4 Potential Operational Impacts

As the project is an upgrade of an existing harbour, no additional population, human health of sociology risks from the current baseline are expected to result from this development.

This project is not expected to directly increase employment. The new ferry does however have the potential to transport more people and their vehicles to Tarbert and Harris which may increase tourism and economic growth within the area and give rise to indirect job creation. This will be dependent on various factors outside of the control of this project such as Scottish tourist numbers, marketing and availability of accommodation. The improvement in access to transport to and from the island may also bring long term positive social benefits to the area.

The operation of this project is not likely to have significant negative impacts to human health as a result of air quality (Section 4.4.1), noise (Section 10.4), water quality (Section 13.4), visual amenities (Section 7.4) or accidents and disasters (Section 14).

9.5 Proposed Environmental Impact Assessment

It is proposed that population and human health is scoped out of the EIA process due to the lack of significant potential construction and operational impacts (Section 9.3 and 9.4) associate with the Tarbert development. Relevant mitigation measures for air quality (dust) and noise will be included in the EIA process under the relevant sections.

10 Noise and Vibration

10.1 Policy and Guidance

The standards applicable with regard to in-air noise and vibration are:

- BS5228-1:2009(as amended): Code of practice for noise and vibration control on construction and open sites [British Standards Institute, 2014b];
- BS 4142: 2014 Methods for rating and assessing industrial and commercial sound [British Standards Institute, 2014c]

- BS7455-1: 2003 Description and Measurement of Environmental Noise [British Standard Institute, 2003];
- Technical Advice Note Assessment of Noise [Scottish Government, 2011c]; and
- PAN 1/2011 Planning and Noise [Scottish Government, 2011a].

The Scottish Government has released general policies as part of the Scotland's National Marine Plan in favour of sustainable development and use of the marine environment which include:

- ***GEN 13 Noise:*** *Development and use of the marine environment should avoid significant adverse effects of man-made noise and vibration, especially on species sensitive to such effects* [Scottish Government, 2015a].

The Scottish government has released a series of good environmental status descriptors within Scotland's National Marine Plan. These include:

- ***GES 11:*** *Introduction of energy, including underwater noise, is at levels that do not adversely affect the marine environment.* [Scottish Government, 2015c].

10.2 Baseline

10.2.1 Terrestrial

Initial baseline noise results show daytime noise levels in the vicinity of the existing harbour area to be between 47.6-50.5$L_{Aeq(5min)}$dB; the noise levels are expected to be generally low with traffic being the main noise source, and peak during periods of ferry loading and unloading. The main noise source from the ferry itself and the vehicles and people congregating in the area to use the ferry services.

The nearest property to the site is the Hotel Hebrides which is situated 10m immediately to the north of the substation (20m from the harbour development). There are community facilities to the north and west including; the Bank of Scotland, Tourist Information, Community Centre and Main Street which has a collection of businesses at the east end. These are all within 150 m of the site.

There are a small collection of residential properties within a 100m on Main Street to the north-east of the development. There are two residential properties to the south east on the south side of East Loch Tarbert that overlook the existing quay. These are 200 m and 250 m away, respectively.

There are various residential properties around the site, Table 10.1 outlines the human noise sensitive receptors around the site and the distance between it and the site.

Table 10.1: Noise Receptors

Noise Receptor	Approx. distance from site	Description
Hotel Hebrides	10m – substation 20m - harbour	Hotel directly north of the property along Pier Road.
Tarbert Stores	50m	The general tool store north of the property along Pier Road.

Visitor centre	70m	Visit Scotland Tarbert icentre north of the development along the Pier Road.
Community Centre	20m	The back of the community centre is across the road from the marshalling area extension.
Main Street Residential Properties	10m-200m	Various houses along the main street are within the vicinity of the marshalling area extension.
Church of Scotland Manse	30m	Manse on Manse Road, the back of the property is adjacent the pier extension.
Manse Road Residential Properties	50m	Residential properties not east of the development along Manse Road.
Church of Scotland	90m	A church to the east of the development.

10.2.2 Marine

No data is available for marine baseline noise levels within the Tarbert Harbour. The current source of in water noise would be limited to vessel traffic; the arrival and departure of the ferry using the terminal and any other vessels entering the area. Noise will also result from any maintenance works being completed however these are undertaken within short timeframes. In addition, acoustic deterrent devices may be utilised by the adjacent fish farms (~4km away) to deter seals from the fish stocks, and these will contribute to the baseline underwater noise levels.

10.3 Potential Construction Impacts

10.3.1 Terrestrial

During the construction of the Tarbert Terminal Upgrade noise is likely to result from the construction of various parts of infrastructure, in particular during piling. Noise may cause disturbance to the local population as they are extremely close to the site. This may have knock on health impacts. Noise may also disturb fauna by impacting on normal behaviour patterns. The majority of construction works will be carried out between 7am and 7pm hence impacts on local residents' sleep should be minimal.

Vibration is not expected to be an issue during the construction of the Tarbert terminal upgrade. No blasting is anticipated during this development.

Noise associated with traffic may also occur during construction with the increase in traffic as discussed in Section 12.

10.3.2 Marine

During construction, there is the potential for underwater noise to be generated, and increase marine noise can affect marine mammals and fish. During the construction and installation of the Tarbert Harbour Terminal piling, dredging, fill levelling, and vessel movements have the potential to result in underwater noise. To a lesser extent it has the potential to result in vibration however this is not considered significant and assessment and management of this impact will follow the same parameters as underwater noise. Noise has the potential to disturb and possibly injure marine mammals, thus could result in negative individual and population

level effects. Different species have different hearing abilities and hence any given sound will be perceived differently by each species.

No underwater blasting is expected to occur during this development.

10.4 Potential Operational Impacts

As discussed in Section 7, the new vessel has a 38% greater vehicle carrying capacity that the current ferry. Therefore, there could be a corresponding increase in the number of vehicles that could potential access the Tarbert during operation. This has the potential to increase noise within the harbour and along the access area. The vessel noise is not anticipated to change significantly from the current levels. No additional changes to noise and vibration are anticipated to occur during the operation of this upgraded harbour.

There is the potential to reduce overnight noise emissions through the electrical power upgrade works which will reduce the need for the vessel to run its engines to generate electricity while berthed overnight.

10.5 Proposed Environmental Impact Assessment

Due to the close proximity of the receptors to the construction area and the potential impacts laid out in Sections 10.3; it is proposed that construction noise both terrestrial and marine, is scoped into the EIA process. Additionally, it is proposed that operational terrestrial noise associated with traffic is scoped into the EIA process.

Operational terrestrial and marine noise is proposed to be scoped out of the EIA process due to the minimal impacts outlines in Section 10.4.

10.5.1 Terrestrial

Noise monitoring will be undertaken in line with the methodology outlined in BS 4142: 2014, in accordance with guidance outlined in BS 7445-1:2003, taking precautions outlined in BS 4142:2014 to avoid interference from wind, heavy rain and electrical interference. It is proposed that monitoring is carried out at or near to the locations detailed in Table 10.2, assuming access can be granted.

Table 10.2: Proposed Noise Monitoring Locations

Monitoring Locations	Grid Reference	Reason
In front of Hotel Hebrides, behind harbour office.	NG 1581 9985	Close proximity of the development. Representative of the general store, Hotel Hebrides and visitors centre.
Main street holiday apartment.	NG 1565 9992	Close proximity of the development. Representative of the Main Street residential properties.
Residential property, adjacent side of the Loch	NG 1558 9968	Close proximity of the development. Representative of the residential properties on the adjacent side of the Loch.

An assessment of construction and operational (traffic only) noise will be carried out in line with BS 5228-1:2009(as amended) and appropriate mitigation measures identified, this is likely

to include implementation of construction best practice, and limiting working hours for the noisier construction activities.

Separate applications under Section 61 of Control of Pollution Act 1974 (as amended) for an agreement on limits and mitigation methods for noise during construction will be made as required.

10.5.2 Marine

An underwater noise model will be developed, in order to predict the noise emission levels and frequencies at difference ranges from the site, resulting from the different phases of the development. The phases considered will include:

- Vibro piling;
- Impact piling;
- Dredging; and
- Drilling into the seabed.

The underwater noise model will inform the marine ecological risk assessment as outlined in Section 6.6.2.1. Noise will be minimised at source where practicable, if required noise mitigation techniques may be considered.

11 Natural Resource Usage and Waste

11.1 Policy and Guidance

Relevant policy and guidance includes:

- The Waste (Scotland) Regulations 2012 [Scottish Minister, 2012];
- The Management of Extractive Waste (Scotland) Regulations 2010 [Scottish Minister, 2010]
- Zero Waste Plan [Scottish Government, 2010]; and
- Waste Hierarchy.

The Scottish Government has released general policies as part of the Scotland's National Marine Plan in favour of sustainable development and use of the marine environment which include:

- ***GEN 11 Marine Litter:*** *Developers, users and those accessing the marine environment must take measures to address marine litter where appropriate. Reduction of litter must take into account by decision makers* [Scottish Government, 2015a].

The Scottish government has released a series of good environmental status descriptors within Scotland's National Marine Plan. These include:

- ***GES 11:*** *Properties and quantities of marine litter do not cause harm to the coastal and marine environment* [Scottish Government, 2015c].

There are currently no regulations on, or pertaining to, sustainable resourcing in Scotland, outwith the public sector. However, in 2010 the Scottish Government published Scotland's Zero Waste Plan [Scottish Government, 2010], which sets out the government's vision for a sustainable and resource efficient future. While the sustainable resourcing aspect of the vision is still to be brought into the legislation, two components of the vision include:

> *'Individuals, the public and business sectors - appreciate the environmental, social and economic value of resources, and how they can play their part in using resources efficiently.'*

And;

> *'Reduce Scotland's impact on the environment, both locally and globally, by minimising the unnecessary use of primary materials, reusing resources where possible, and recycling and recovering value from materials when they reach the end of their life.'*

11.2 Baseline

The current site is already utilised as a harbour and currently accommodates the associated ferry. The operation of this site has minimal ongoing natural resource use and waste. This includes the resources used to run the terminal facilities, including electricity and water.

The majority of waste is likely to be associated with the passengers' activities and will include sewage, food and associated packaging waste.

11.3 Potential Construction Impacts

During construction and installation of the Tarbert Harbour, materials will be required to increase the marshalling area, extend the pier, upgrade the substation and produce and install the fendering.

Table 11.1: Construction Resources

Material	Use	Source
Rock Armour	Armouring of the marshalling area	Local Producer
Rock Infill	Foundations / Infill	Local Producer
Infill (Granular Seabed)	Marshalling Area Infill	Dredge Arisings – Tarbert
Infill (Granular Seabed)	Marshalling Area Infill	Dredge Arisings – Lochmaddy
Concrete (Insitu)	Structural	Local Producer
Concrete (Precast)	Structural	Mainland UK
Bituminous Material	Surfacing	Local Producer
Steelwork (Reinforcement)	Concrete Structures	Mainland UK
Steelwork (Piling)	Structures	Mainland UK
Steelwork (Structural)	Structures	Mainland UK
Fendering	Fendering System	Mainland UK / Europe
Miscellaneous	Works	Mainland UK
Building materials (ie roofing, walls)	Terminal Building	Mainland UK

Infill material will be required to extend the marshalling area; likely to be sourced from dredge material from both Tarbert and Lochmaddy Harbour developments as appropriate and infill material. In addition, rock armouring will be used to protect and stabilise the structure. The extended marshalling area and extra lanes will be tarmacked and the associated materials to achieve this used.

During construction and operation water will be sourced from mains water. As the amount of terrestrial construction is limited, it is not anticipated to have significant impacts on the water supply or to the surrounding environment.

During the construction phase of the Tarbert Terminal the existing pier and fendering, pier structure and terminal building will be demolished to facilitate the proposed works. Waste will also be generated from the packaging of infrastructure and onsite welfare facilities. All waste not able to be reused will be appropriately segregated to facilitate recycling. Waste removed from site will be disposed of by a licensed waste contractor in line with the waste hierarchy and The Waste (Scotland) Regulations 2012 [Scottish Minister, 2012].

The potential impacts to soil quality (Section 8.3), water quality (Section 13.3), biodiversity (Section 6.4) and associated with fuel usage (Section 4.3.2) resulting from the construction of the Tarbert Ferry Terminal are discussed within the relevant sections.

11.4 Potential Operational Impacts

During operation, there may be a slight increase from current operations in the amount of materials required for maintenance of the harbour as well as the additional water used and waste produced by the passengers however this is not anticipated to be significant.

11.5 Mitigation Measures

Mitigation proposed to minimise effects on natural resources and waste during construction are outlined in Table 11.2.

Table 11.2:Proposed Mitigation for Natural Resources and Waste

Phase	Risk/Effect	Cause	Mitigation
Construction	Material and water usage	Inefficient use of resources	• Reuse of dredge material, where practicable. • Waste hierarchy employed. • Existing built infrastructure will be re-used or upgraded wherever possible.
Construction	Waste	Incorrect waste disposal	• Limited number of construction employees on site. • Segregated bins provided. • Waste appropriately segregated. • Hazardous waste and contaminated water will be disposed of correctly.

11.6 Proposed Environmental Impact Assessment

It is proposed that natural resource usage and waste is scoped out of the EIA process due to the lack of significant potential impacts associate with the Tarbert Harbour development (Section 11.3 and 11.4) and the mitigation measures proposed to further reduce the impacts (Section 11.5). The mitigation measures outlined in Table 11.2 will be included in the CEMP to ensure they are implemented.

12 Traffic, Access and Navigation

12.1 Policy and Guidance

Relevant policy and guidance includes:

- PAN 75: Planning for Transport [Scottish Government, 2005];
- Transport Assessment Guidance [Transport Scotland, 2012]; and
- Guidelines for the Environmental Assessment of Road Traffic [Institute of Environmental Assessment (IEA), 1993].

12.2 Baseline

There are no traffic counters on the Outer Hebrides so baseline data is limited. The Lewis and Harris Isles has a population of ~20,500 people with 12,000 of these residing in the main town of Stornoway. This small population means the assumed baseline traffic of residents is relatively small. Traffic will however be augmented by tourists especially in the summer months.

Access to the marshalling area utilises the A868, situated off the A859 which acts as the main road North to South through Harris and Lewis. The marshalling area access road avoids the centre of the town, however it leads to a one way street which can cause confusion when entering the marshalling area. The current access arrangements into the marshalling area can lead to back up onto the road network during busy periods. At these times there can be a significant amount of traffic on this access road, sometimes preventing access to the local facilities on Main Road and Pier Road to the North of the terminal. The significantly larger marshalling area and proposed provision of a roundabout to enable turning aims to alleviate this issue.

An increase in the traffic is currently happening as a result of Road Equivalent Tariff (RET). RET is a distance based fares structure, which underpins the Scottish Government commitment to providing one single overarching fares policy across Scotland's entire ferry network (Caledonian MacBrayne, 2017). The vessel and associated harbour upgrades will not in themselves be the primary driver for increase in traffic but they will help accommodate the current trends going forward.

One accident has occurred in the vicinity of the project site in the last five years. A slight accident happened on the 21st of November 2016 to the north west of the project site on the road leading into the town (57.898, -6.805) involving two vehicles and two casualties [CrashMap, 2017].

The harbour area is currently used by recreational vessels that have a series of temporary moorings to the south of the existing terminal. There is currently a development under way to install permanent pontoons to the south-west of the site.

12.3 Potential Construction Impacts

Vehicle movements along the access roads during the construction phase will be limited to those required to deliver materials and personnel transport. This is estimated to be a daily average of 35 vehicles in total, 5 heavy goods vehicles (HGV)s and 30 light vehicles. This is a conservative estimate based on the workforce driving in individual vehicles (which will be discouraged). This will peak to 60 vehicles per day, 20 HGVs and 40 light vehicles. As there is only one road in and out of the ferry terminal this may add to the current congestion problem if deliveries and personnel shifts are at similar times to ferry loading and unloading.

Due to the only one accident occurring in the past five years, and slow road speeds in the vicinity of the works it is unlikely that at additional construction vehicles will increase the chance of accidents.

Air emissions (Section 4.3), noise (Section 10.2.2) and visual (Section 7.3) impacts resulting from vehicle movement during operations are discussed in the relevant sections.

12.1 Potential Operational Impacts

The upgraded ferry has the potential to transport 135 vehicles on and off the island. This is a 38% (37 additional vehicles) increase in the current baseline (Capacity of the MV Hebrides). The upgrade to the marshalling area allows for the entire ferry capacity plus an additional ~62 vehicles, to be parked up in lanes. As discussed in Section 12.2, the ferry and harbour works themselves won't necessarily lead to an increase in traffic, an increase is anticipated as a consequence of existing and expected future trends. These upgrades will assist in accommodating for this increase and as such should take some of the pressure off the current and future congestion issue along the access road and into the village.

Due to the small number of accidents that have occurred over the past five years it is unlikely that an additional 37 vehicles will increase the chance of accidents.

Air emissions (Section 4.4), noise (Section 10.4) and visual (Section 7.4) impacts resulting from vehicle movement during operations are discussed in the relevant sections.

The ferry will follow the existing timetable as such there will be no change to navigational impacts associated with the ferry.

Within the existing harbour area there is no clear responsibility for marine safety within the inner harbour as it is a non-Statutory Harbour Area. The update to the HRO will ensure the implementation of a Safety Management System. This will reduce the potential navigational issues by:

- providing a conservancy environment with clear, simple and safe navigation;
- reducing navigation skills to as low as reasonably practical;
- providing effective management and response to marine incidents;
- providing effective governance;
- having a single harbour point of contact, providing a seamless interface for users; and

- Achieve full compliance with the Port Marine Safety Code

12.2 Proposed Environmental Impact Assessment

It is proposed that construction and operational traffic and access is scoped into the EIA. During this, predictions of transport and marshalling requirements will be made to gain more insight into the traffic conditions that may result from the increase in vehicles able to access the area and the additional marshalling area. This will allow the impact of increased road movements to be assessed in line with IEA Guidelines (1993); it is expected that the impacts will not be significant in EIA terms.

13 Water Quality and Coastal Processes

13.1 Policy and Guidance

Relevant policy and guidance includes:

- European Water Framework Directive [European Parliament, 2000];
- Water Environment and Water Services (Scotland) Act 2003 [Scottish Parliament, 2003];
- PAN 79: Water and Drainage [Scottish Government, 2006];
- Guidance for Pollution Prevention (GPP) 5: Works and Maintenance in or Near Water [Environment and Heritage Service, SEPA & Environment Agency, 2017];
- Pre-Disposal Sampling Guidelines [Marine Scotland, 2017];
- Pollution Prevention Guideline Note (PPG) 6: Work at Construction and Demolition Sites [Environmental Agency, Northern Island Environmental Agency & SEPA 2012]; and
- The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended): A Practical Guide [SEPA, 2017]

The Scottish Government has released general policies as part of the Scotland's National Marine Plan in favour of sustainable development and use of the marine environment which include:

- ***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 impacts on coastal processes or contribute to coastal flooding; and*
- ***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* [Scottish Government, 2015a].

The Scottish government has released a series of good environmental status descriptors within Scotland's National Marine Plan. These include:

- ***GES 5:*** *Human-induced eutrophication is minimised, especially adverse effects thereof, such as losses in biodiversity, ecosystem degradation, harmful algal blooms and oxygen deficiency in bottom waters.*

- ***GES 7:*** *Permanent alteration of hydrographical conditions does not adversely affect marine ecosystems* [Scottish Government, 2015c].
- ***GES 8:*** *Concentrations of contaminants are at a levels not giving rise to pollution effects* [Scottish Government, 2015c].

13.2 Baseline

The coastal water surrounding the site is classified as the Loch Tarbert (200164) which is 30.10km^2 coastal water body. In 2008 this was classified as having good overall and ecological status, with a pass chemical status. The coastal water to the west of the site is classified as Loch a Siar (200169) which is a 46.37km^2 water body. In 2008 this was also classified as having good overall and ecological status, with a pass chemical status. [SEPA, 2011].

The groundwater body in the area is the Lewis and Harris (150030) which covers a total of 2151.22km^2. This groundwater body is classified as good overall status and is a drinking water protected area [SEPA, 2011].

Small areas of high likelihood flooding are present within the Tarbert area. These are mostly within the low-lying area between Loch Tarbert and Loch a Siar. A small potential flood area is present on the development site in front of the terminal building. The coastal water around Tarbert has a high possibility of flooding as discussed in the Major Accidents and Disasters Section (Section 14) [SEPA, 2015]. However, as this proposal is to upgrade an existing terminal these facilities are already water compatible, and have to be located within the functional floodplain for operational reasons.

13.3 Potential Construction Impacts

13.3.1 Terrestrial

There is unlikely to be any effect on surface and ground water as a result of the construction of the Tarbert Harbour Terminal. No significant terrestrial water bodies are within the vicinity of the site therefore impacts to these are unlikely. Water will be sourced from mains water and this will be used for general construction activities including dust suppression.

There is the potential for unplanned emissions to occur from the storage of material, equipment and plant use, cement washings, silt water runoff and waste materials across the site. These will be minimised through standard good practice such as regular maintenance, spill prevention and response procedures. Additionally, if required remedial practices undertaken prior to it accessing the ground water.

13.3.2 Marine

Sedimentation issues may arise from the dredging activates and use of this dredge spoil to infill the marshalling area. Reduction in water quality due to solids in the water column can have negative effects on marine ecology including the potential to smother the benthic ecology, effects will be localised.

Any historic contamination in the seabed could be released during dredging and piling works, planned ground investigation studies will identify whether contamination is present. If it is

then an appropriate mitigation plan will be developed including ground investigation works to include sampling and analysis for contamination and an appropriate mitigation plan to be developed.

In addition to the terrestrial risk, there is a potential marine impact resulting from loss of containment of materials if they reach the water. There is the potential for chemical, concrete and hydrocarbon unplanned releases into the marine environment from works in or near the marine waters. These will be minimised through standard good practice such as regular maintenance and spill response procedures.

Marine contamination may also result from the surface water run off entering the marine environment.

13.4 Potential Operational Impacts

As this development is to upgrade the existing harbour no significant changes are anticipated from the current water quality condition. A new drainage system will be constructed and this will include the installation of an oil/silt water separator to improve the quality of the surface water run off that is currently discharging to the marine environment, however this is not likely to be considered significant.

The increase in marshalling area is ~13,000m^2 and will be protected with rock armouring. The extension of the marshalling area through the installation of land reclamation has the potential to alter wave direction and local geomorphological characteristics such as increasing erosion. However, as the area is protected by the surround land masses this is unlikely and not considered significant.

13.5 Mitigation Measures

Mitigation proposed to minimise effects on the terrestrial water quality during construction are outlined in .

Table 13.1.

Table 13.1: Terrestrial water quality mitigation measures

Phase	Risk	Cause	Mitigation
Construction	Water quality	Poor management practices	Mitigation in alignment with PPG6 [Environmental Agency, NIEA & SEPA 2012]. including: • Correct disposal of hazardous waste and contaminated water • Storage of chemicals and hydrocarbons in secondary containment, where applicable. • Adequate spill response equipment on site • Installation of adequate surface water management facilities, including silt traps and an oily water separator as necessary. • Regular maintenance will be undertaken on equipment

			• Designated wash down areas for concrete contaminated equipment and tools.

13.6 Proposed Environmental Impact Assessment

Due to the distance between the site and any major waterways, potential impacts outlined in Sections 13.3.1 and 13.5 and the mitigation measures (Section 13.5) it is proposed that terrestrial water quality is scoped out of the EIA process. The mitigation measures outlined in Section 13.5 will be included in the CEMP to ensure they are successfully implemented.

Water quality aspects during construction within the marine environment are proposed to be scoped into the EIA process. This will follow the inclusion of those proposed by Land Use Planning System SEPA Guidance Note 17 (SEPA, 2014), where relevant and use a risk assessment process to evaluate significance. This will include the identification of all existing discharges within the vicinity of the construction site, for example the welfare facilities on the pier. Following identification details of how each will be accommodated will be included in the EIA.

Additionally, seabed sampling will be undertaken in line with the Pre-Disposal Sampling Guidelines [Marine Scotland, 2017]. This will include at least three sample locations within the proposed dredge site at depths between -6.0mCD and 1.5m depth. This information will be used to assess any potential impacts of mobilising historic contamination in the seabed.

In line with Section 13.3.1, it is proposed that operational impacts are scoped out of the EIA process.

14 Impacts from Major Accidents and Disasters

An initial list of major accidents/disasters was developed. These were then considered in terms of how the site location and the proposed land use may affect the risk of each disaster. Table 14.1 outlines the major accidents and disasters, the potential risk associated with location and site use and additional comments.

Table 14.1: Potential Major Accidents and Disasters

Major Accident or Disaster	Location Risk	Proposed Use Risk	Comments
Biological Hazards	N	N	Screened Out
Earthquakes	N	N	Screened Out The Outer Hebrides has a low hazard of seismic activity, peak ground acceleration of 0.005 -0.02g [BGS, 2017c]
Mass Movements	N	N	Screened Out
Severe Storms	Y	N	**Further Consideration Required** No additional risk as a result of this project. During construction, work would stop and the site made safe. During operation, ferries do not run.
Severe Drought	N	N	Screened Out

Severe Temperatures	N	N	Screened Out
Displaced Population	N	N	Screened Out
Fire	N	N	Screened Out The development does not introduce any additional fire sources. Buildings and existing tanks will continue to be managed via standard practices.
Flood/ Tidal Surges	Y	N	**Further Consideration Required** Discussed in Water Quality and Coastal Processes (Section 13.4)
Terror Attack	N	N	Screened Out
Transport accidents	N	Y	**Further Consideration Required** Increasing the HRO boundary will reduce potential navigational issues (Section 12.1). Navigation issues at Tarbert are limited by seabed depths at the berth and the close proximity of rocky foreshore to the North of the pier which limits operational sea room when berthing during strong Northerlies and Southerlies.

14.1 Proposed Environmental Impact Assessment

It is proposed that major accidents and disasters are scoped out of the EIA. It is not anticipating that the proposed development will increase the likelihood and/or consequences of a major accident occurring. CMAL have an Operational and Safety Management System that will be utilised throughout the construction and operation of the Tarbert Harbour development to manage incidents and risk.

15 Cumulative Impacts

The planning permissions within the vicinity of the proposed site are outlined in Table 15.1. This considered the planning applications within Tarbert since August 2015. During this time, there have been 15 granted and 3 pending decisions. Due to the scale and location of these projects they are not unlikely to have cumulative impacts with the Tarbert development.

No marine licence applications are within a 50km radius of the development and as such cumulative impacts are unlikely.

Table 15.1: Planning approvals within Tarbert post August 2015 [CnES, 2017]

Title	Address	Reference No.	Date Received	Status
Minor external alterations, signage and extension to existing building	Isle Of Harris Inn Tarbert Isle Of Harris HS3 3DD	17/00363/PPD	20 Jul 2017	Pending Consideration
Demolish former police station buildings; erect two storey flatted development comprising eight apartments and associated infrastructure and landscaping	Police Station West Tarbert Isle Of Harris HS3 3BG	17/00331/PPD	30 Jun 2017	Pending Consideration
Erect house with integrated garage, air source heat pump associated parking and vehicular access	2A Tarbert Isle Of Harris	17/00314/PPD	19 Jun 2017	Pending Consideration
Installation of forecourt drainage including installation of class 2 full retention forecourt separator	Harris Garage Company Limited Filling Station Scott Road Tarbert Isle Of Harris HS3 3DL	17/00187/PPD	31 Mar 2017	Decided
Erection of 4 dwellings at gap site, Main Street, Tarbert, with associated access and car parking.	Housing Development Main Street Tarbert Isle Of Harris	17/00166/PPD	22 Mar 2017	Decided
Removal of 4 No existing amni antennas and the installation of 2 No replacement panel antennas and 1 No 0.3m transmission dish onto the existing 25m high lattice mast located at the existing transmitting station.	Cnoc Carn Nan Gobhar Mast Scott Road Tarbert Isle Of Harris	16/00604/TEL	01 Sep 2016	Decided
Install electricity generator, plinth and cabling to upgrade existing telecommunications installation	Cnoc Carn Nan Gobhar Mast Scott Road Tarbert Isle Of Harris	16/00364/TEL	02 Aug 2016	Decided
Erect 6.5m pole and attach 2x 0.6m superfast broadband communications dishes and install cabinet.	Monopole East Tarbert Isle Of Harris	16/00325/FULTEL	01 Jul 2016	Decided
Erect 1.8m Tall Chain Link Fence	Isle Of Harris Distillers Ltd Distillery Tarbert Isle Of Harris HS3 3DJ	16/00322/PPD	29 Jul 2016	Decided

Affix 2.0m x 0.4m "welcome" sign on church wall adjacent to entrance, blue backdrop with white lettering	Church Of Scotland East Tarbert Isle Of Harris HS3 3DB	16/00302/LBC	20 Jun 2016	Decided
Signboard	Church Of Scotland East Tarbert Isle Of Harris HS3 3DB	16/00303/ADV	20 Jun 2016	Decided
Install DSLAM (Digital Subscriber Line Access Multiplexer) cabinet	Broadband Cabinet East Tarbert Isle Of Harris	16/00282/FULTEL	09 Jun 2016	Decided
Change of use from public bar and restaurant to place of worship	Isle Of Harris Inn Tarbert Isle Of Harris HS3 3DD	16/00238/PPD	16 May 2016	Decided
Installation of 1no. DSLAM cabinet measuring 1300mm x 450mm x 1430mm	Broadband Cabinet West Tarbert Isle Of Harris	16/00159/FULTEL	08 Apr 2016	Decided
Install four dormer windows and four air source heat pumps	Kirklea Terrace Manse Road Tarbert Isle Of Harris HS3 3DF	16/00066/PPD	18 Feb 2016	Decided
Install a 5kW Air Source Heat Pump	Kinnoull Cottage Scott Road Tarbert Isle Of Harris	16/00056/PPD	15 Feb 2016	Decided
Erect house & construct vehicular access	12 Tarbert Isle Of Harris	15/00487/PPD	25 Nov 2015	Decided
Erect loom shed & change use of agricultural land to residential curtilage	Hill House 11 West Tarbert Isle Of Harris HS3 3BG	15/00438/PPD	22 Oct 2015	Decided

16 Conclusion

A full range of environmental aspects relating to the development of the Tarbert Ferry Terminal development have been considered. Table 16.1 summarises the environmental aspects which are proposed to be scoped in and out of the EIA assessment process.

A scoping response is requested under Regulation 14 of the Marine Works (EIA) Regulations 2017. Additionally, this information has been provided to assist with the HRO from Transport Scotland for the update to the 1984 Act. Table 16.1 summarises the proposed scope of the EIA process for the proposed Tarbert Ferry Terminal Development, by the CMAL. This approach has been taken in line with the 2017 regulations; to ensure the EIA focuses on the significant environmental risks and that the EIA Report is proportionate to the risk of the project.

CMAL and Affric Limited welcome a scoping opinion to allow the project to tailor the EIA to meet the Marine Scotland, Transport Scotland and their statutory consultees' requirements.

Table 16.1: Proposed Scoping for the EIA assessment

Topic	***Construction and Site Preparation***	***Operation***
Air Quality		
Climate Change		
Archaeology and Cultural Heritage		
Biodiversity and Nature Conservation – Terrestrial and Ornithology		
Biodiversity and Nature Conservation – Marine		
Landscape and Visual		
Land and Soil Quality – Terrestrial		
Land and Soil Quality – Marine	Elements covered in Water Quality - Marine	
Population, Socio-economics and Human Health		
Noise and Vibration – Both		Terrestrial Only – Associated with Traffic
Resource Usage and Waste		
Traffic and Access		
Water Quality – Terrestrial		
Water Quality - Marine		

Key

	No Effect/Not Applicable – Scoped Out
	Negligible Effect – Scoped Out
	Potential Effect –Scoped out as they can be easily mitigated by measures proposed
	Potential Effect – Scoped In

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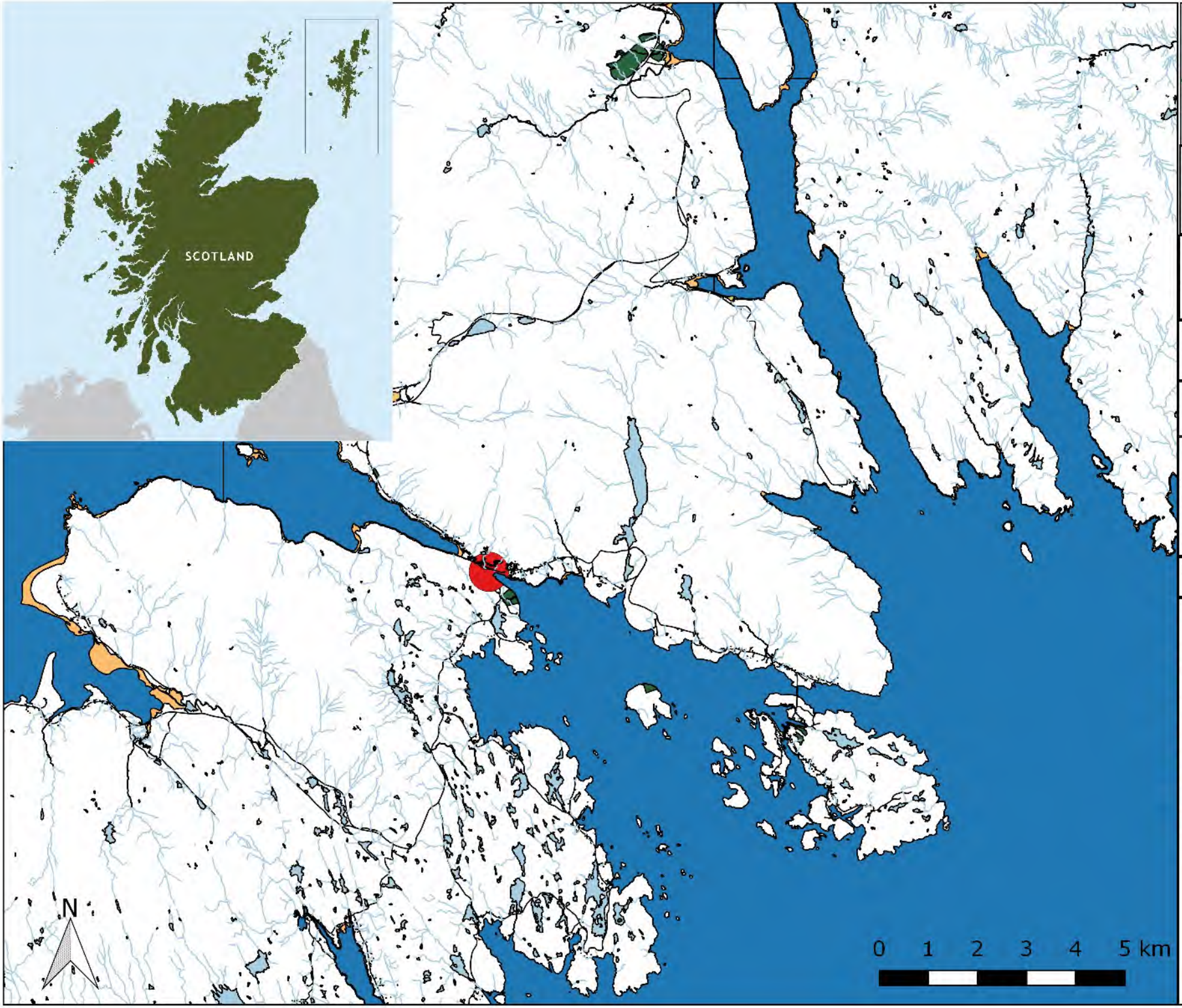
18 Acronyms

AA	Appropriate Assessment
BEIS	Department of Business, Energy and Industrial Strategy
BGS	British Geological Survey
CEMP	Construction Environmental Management Plan
CIEEM	Chartered Institute of Ecology and Environmental Management
CMAL	Caledonian Marine Assets Ltd
CnES	Comhairle nan Eilean Siar
CO_2	carbon dioxide
EIA	Environmental Impact Assessment
EIA Regulations	Marine Works (Environmental Impact Assessment (EIA)) Regulations 2017
EPS	European Protected Species
GEN	General Policy
GES	Good Environmental Status Descriptors
GHG	Greenhouse Gas
GPP	Guidance for Pollution Prevention
HGV	Heavy goods vehicle
HRA	Habitats Regulations Appraisal
HRO	Harbour Revision Order
IAQM	Institute of Air Quality Management
IEA	Institute of Environmental Assessment
IEMA	Institute of Environment Management and Assessment
JNCC	Joint Nature Conservation Committee
LNG	Liquified Natural Gas
MHWS	mean high-water springs
MLWS	mean low water springs
NBN	National Biodiversity Network
NIEA	Northern Ireland Environmental Agency
NO_2	Nitrogen Dioxide
NSA	National Scenic Areas
PAC	Pre-application Consultation
PANs	Planning Advice Notes
PPG	Pollution Prevention Guideline Note
PM	particulate matter
RET	Road Equivalent Tariff
pSAC	proposed Special Areas of Conservation
SAC	Special Areas of Conservation
SNH	Scottish Natural Heritage
SoM	Schedule of Mitigation
SPA	Special Protected Areas
SSSI	Sites of Special Scientific Interest
SEPA	Scottish Environmental Protection Agency

UK	United Kingdom
1984 Act	Lochmaddy and East Loch Tarbert (Improvement of Piers &c.) Confirmation Act 1984

19 Figures



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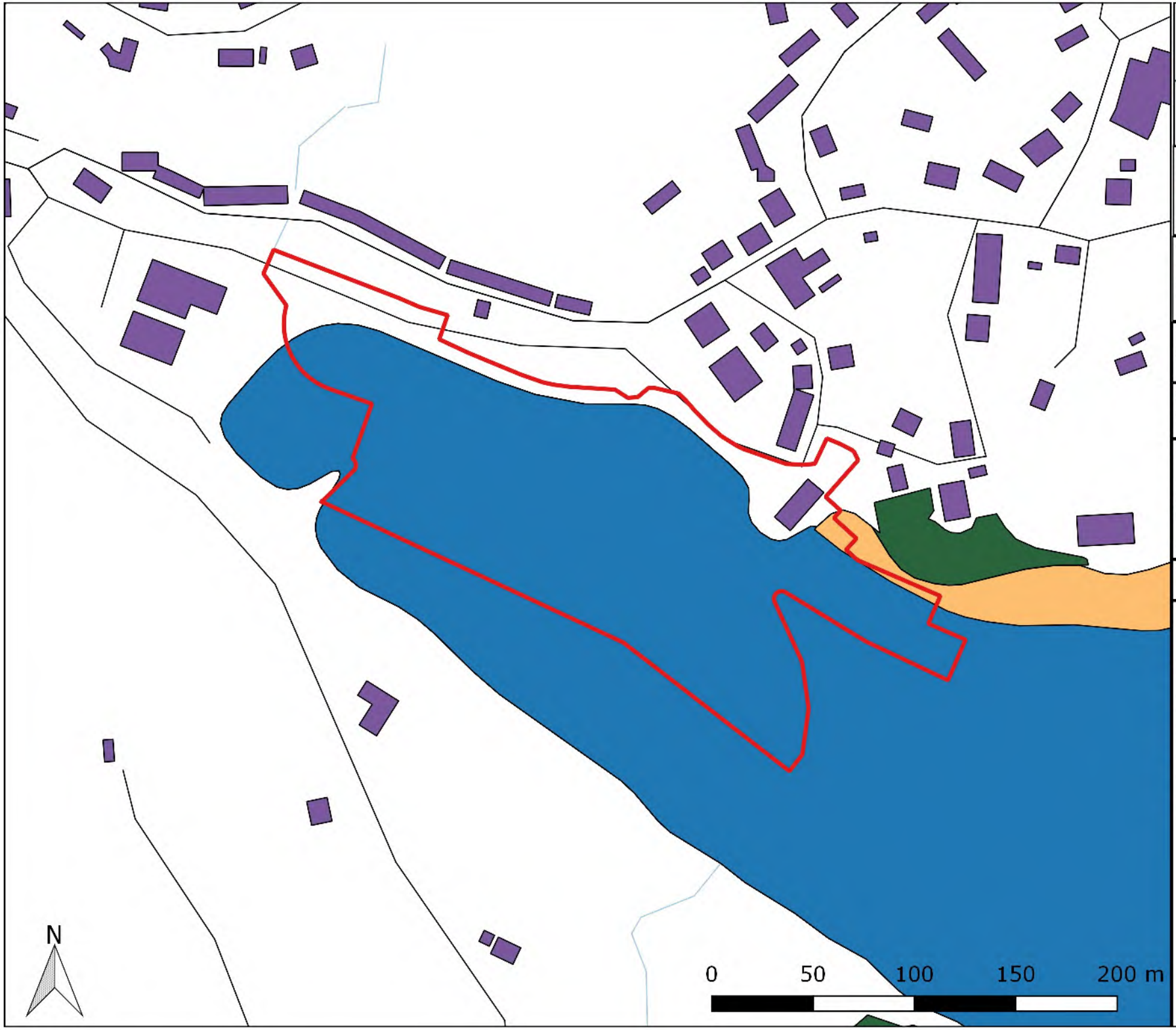
Title: 39.03 Tarbert Location

Projection: OSGB 1936/British National Grid EPSG: 27700

Page 1	Rev No: 1	Drawing Date: 14/06/2017

Legend

- Inland Water
- Foreshore
- Tarbet
- Buildings
- Tidal Water
- Woodland
- Roads



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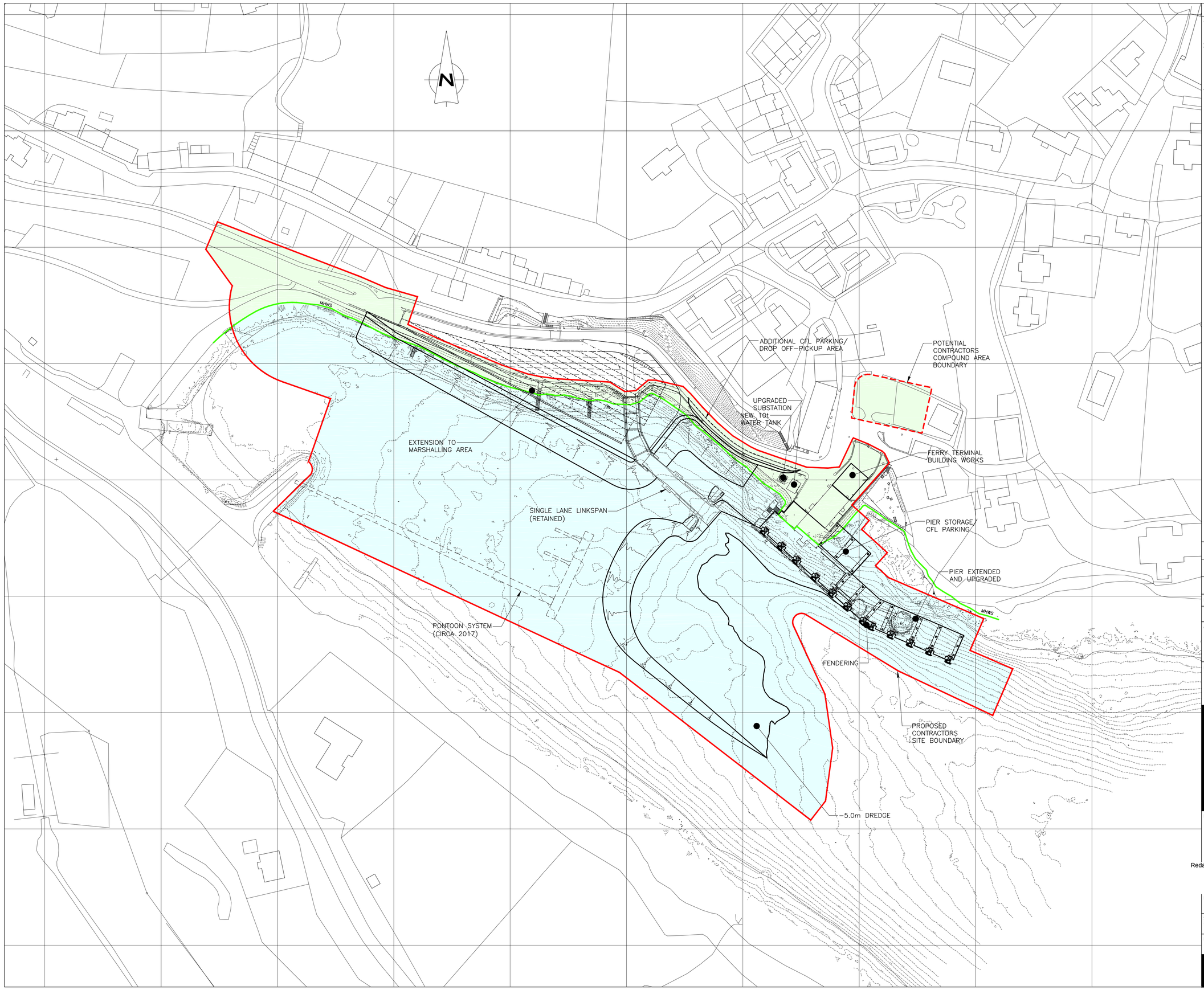
Title: 39.02 Tarbert Redline Boundary

Projection: OSGB 1936/British National Grid EPSG: 27700

Page 1	Rev No: 1	Drawing Date: 02/10/2017

Legend

- Red Line Boundary
- Buildings
- Foreshore
- TidalWater
- Roads
- Woodland



GENERAL NOTES

1. ALL LEVELS ARE IN METRES AND RELATE TO CHART DATUM UNLESS NOTED OTHERWISE.
2. TIDE LEVELS ARE AS FOLLOWS:
   HAT = +5.9mCD
   MHWS = +5.0mCD
   MLWS = +0.8mCD
   LAT = +0.1mCD
4. CHART DATUM IS 2.74m BELOW ORDNANCE DATUM.

LEGEND

- MHWS
- SITE BOUNDARY
- SITE COMPOUND
- WORKS ABOVE MHWS
- WORKS BELOW MHWS

REV	DATE	DETAILS	DRAWN	CHK'D	APP'D
C	02.10.17	HRO AND LIMIT OF DEVIATION REMOVED. BOUNDARY REVISED	JA	BP	BP
B	04.07.17	HRO AND LIMIT OF DEVIATION ADDED	JA	BP	BP
A	12.06.17	MINOR AMENDMENTS	JA	BP	TR

AMENDMENTS

CLIENT

CMAL
Caledonian Maritime Assets S.L.L
(Ni Iosmaidh Cuan Ltd)

PROJECT

TARBERT FERRY TERMINAL
UPGRADE WORKS

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DRAWING TITLE

PROPOSED
SITE BOUNDARY

Redacted

DATE	DATE	DATE
JUNE '17	JUNE '17	JUNE '17

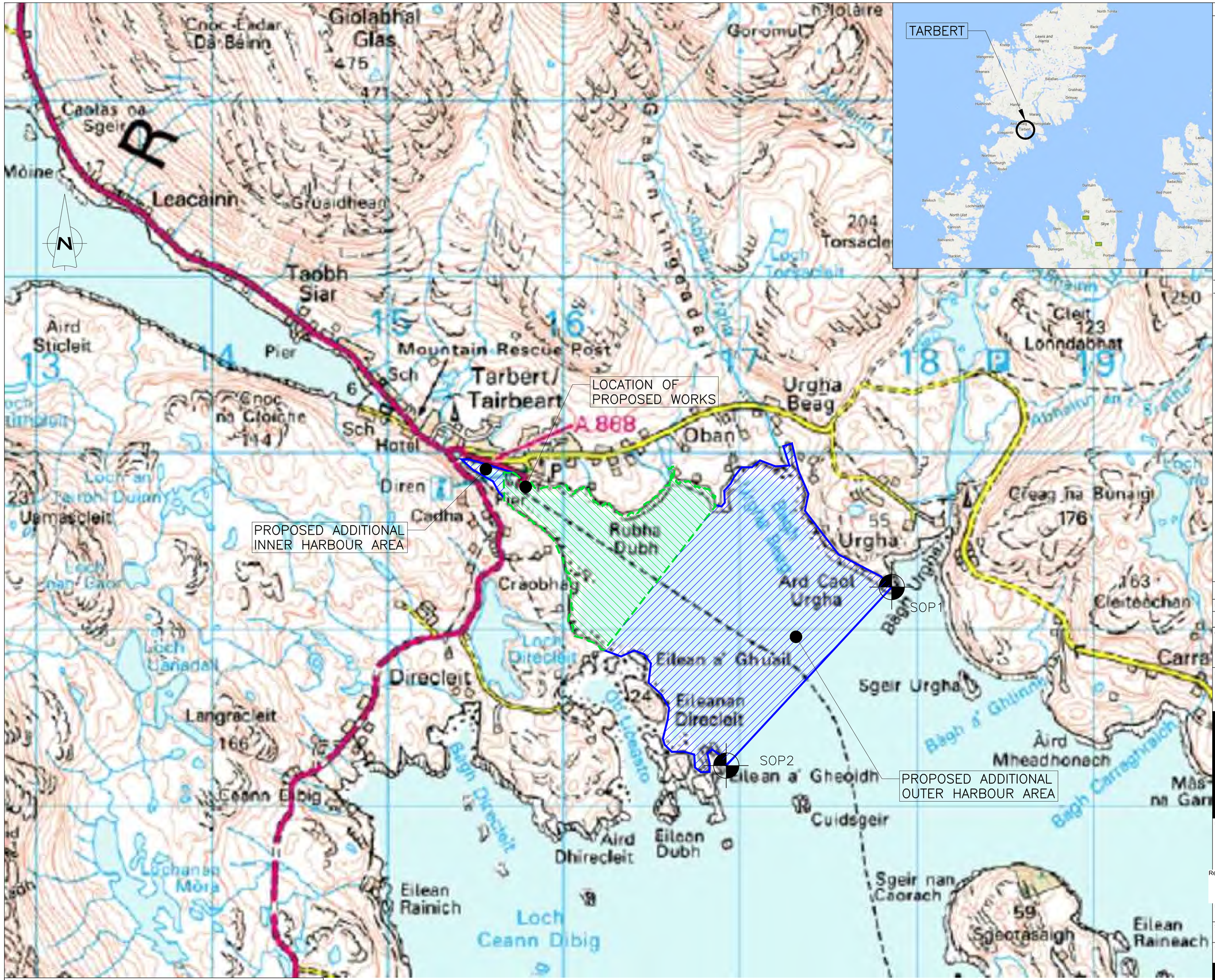
SCALE (A1) 1:750

STAGE PRELIMINARY

REVISION A B C

PROJECT No. 1973

DRAWING No. 906



GENERAL NOTES

1. FOR DETAILS OF INNER HARBOUR AREA REFER TO DRAWING 1973/996.

SOP NO.	BRITISH NATIONAL GRID EASTING	BRITISH NATIONAL GRID NORTHING	WGS84 LATITUDE	WGS84 LONGITUDE
1	117855	899213	57° 53.568'N	6° 45.779'W
2	116898	898231	57° 53.004'N	6° 46.675'W

LEGEND

EXISTING HARBOUR AREA

PROPOSED ADDITIONAL HARBOUR AREA

REV	DATE	DETAILS	DRAWN	CHK'D	APP'D
A	19.10.17	MINOR AMENDMENTS	JA	BP	TR

AMENDMENTS

CLIENT

CMAL

PROJECT

TARBERT FERRY TERMINAL

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DRAWING TITLE

HARBOUR AREAS

Redacted

DATE	DATE	DATE
19.10.17	19.10.17	19.10.17

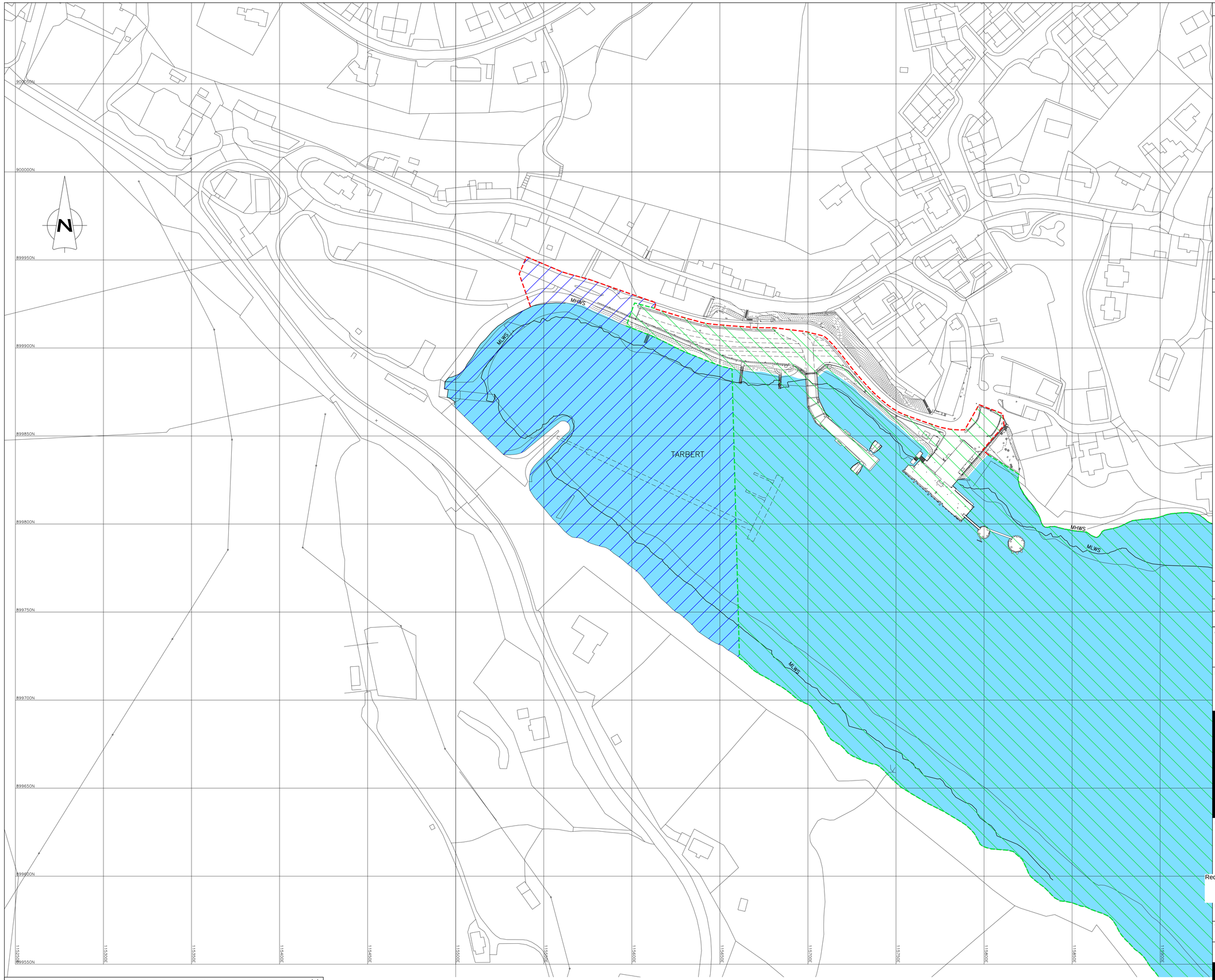
SCALE (A1) 1:10,000

STAGE EIA SCOPING

REVISION A

PROJECT No. 1973

DRAWING No. 995



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GENERAL NOTES

1. FOR FULL HARBOUR AREAS REFER TO DRAWING 1973/995.

LEGEND

- EXISTING HARBOUR AREA
- PROPOSED ADDITIONAL INNER HARBOUR AREA
- EXISTING AREA BELOW MHWS
- PROPOSED LIMIT OF DEVIATION (LANDSIDE WORKS)

REV	DATE	DETAILS	DRAWN	CHK'D	APP'D
A	19.10.17	MINOR AMENDMENTS	JA	BP	TR

AMENDMENTS

CLIENT

CMAL
Caledonian Maritime Assets Ltd
Ceòlaidonian Mhuir Ì Bhraonaidh Ltd
Stòras Ceòlas nan Eilean Siar

PROJECT

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DRAWING TITLE

HARBOUR AND LANDSIDE AREAS (INNER EAST LOCH TARBERT)

Redacted

DATE	DATE	DATE
19.10.17	19.10.17	19.10.17

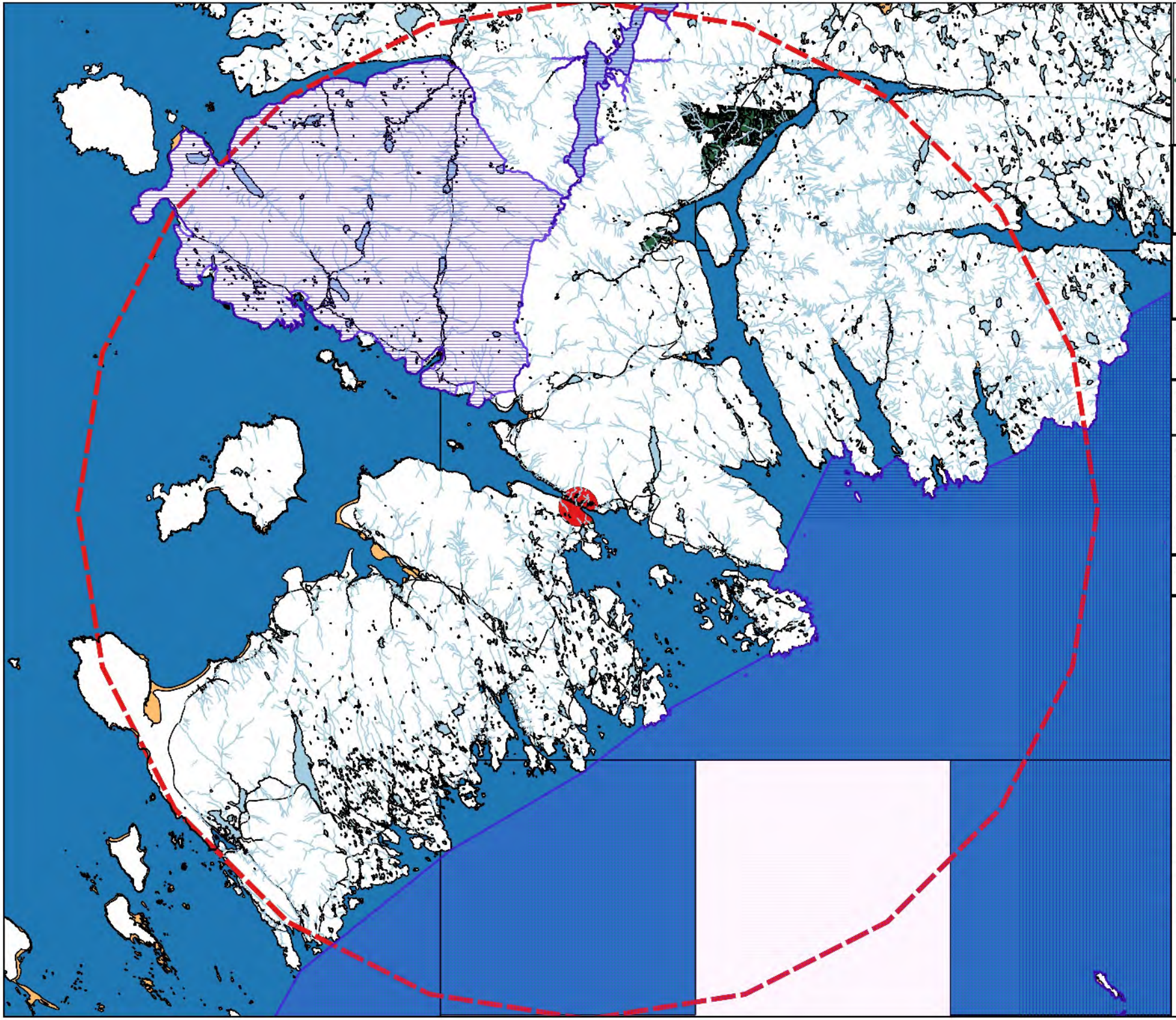
SCALE (A1) 1:1000

STAGE EIA SCOPING

REVISION A

PROJECT No. 1973

DRAWING No. 996



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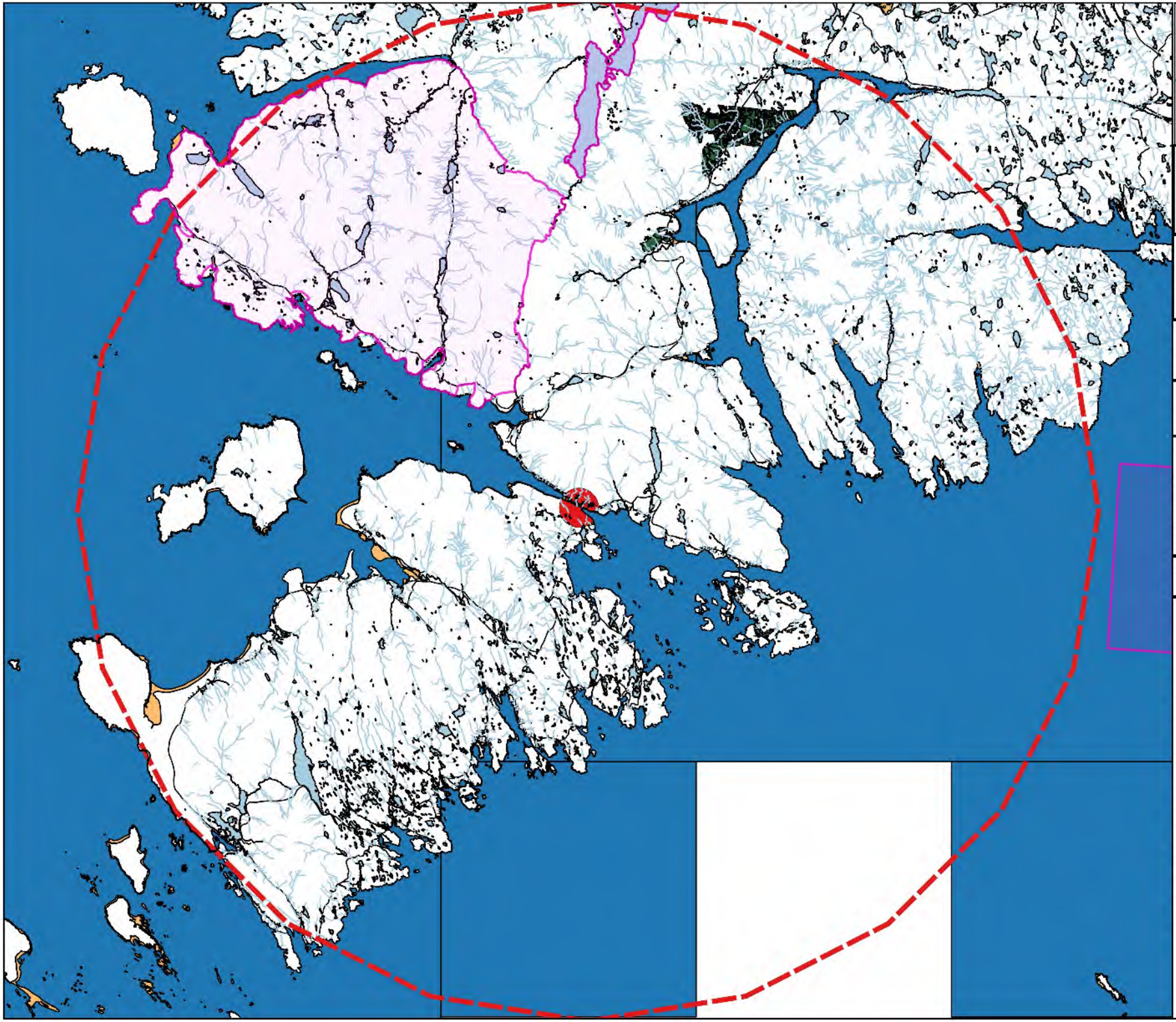
Title: 39.03.01 Tarbert Designated Sites SAC

Projection: OSGB 1936/British National Grid EPSG: 27700

Page 1	Rev No: 1	Drawing Date: 15/06/2017

Legend

- SAC
- Inland Water
- Foreshore
- Tarbet
- Buildings
- Tidal Water
- Woodland
- Roads
- Tarbert 20Km Buffer



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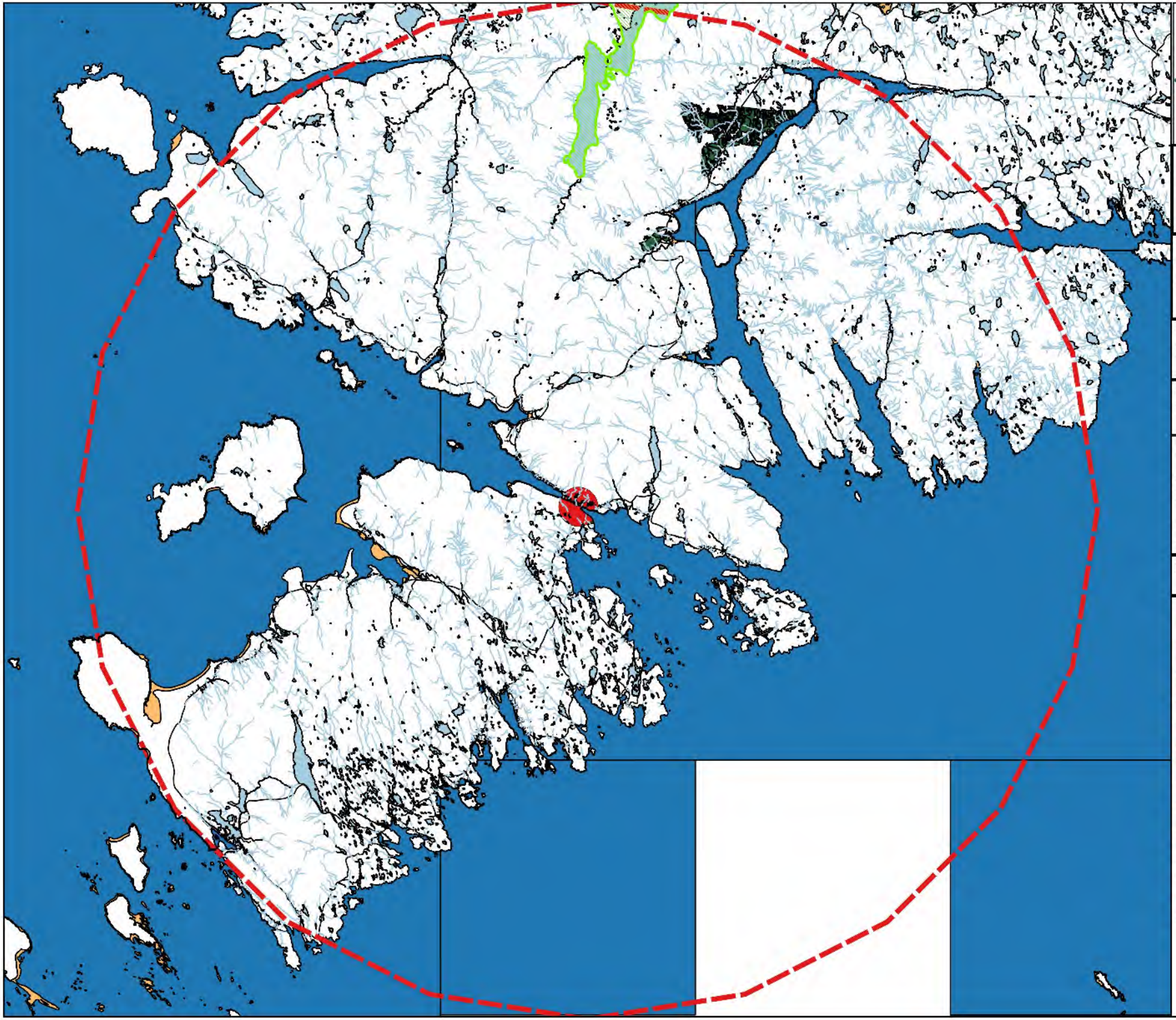
Title: 39.03.02 Tarbert Designated Sites SPA

Projection: OSGB 1936/British National Grid EPSG: 27700

Page 1	Rev No: 1	Drawing Date: 15/06/2017

Legend

- SPA
- Inland Water
- Foreshore
- Tarbet
- Buildings
- Tidal Water
- Woodland
- Roads
- Tarbert 20Km Buffer



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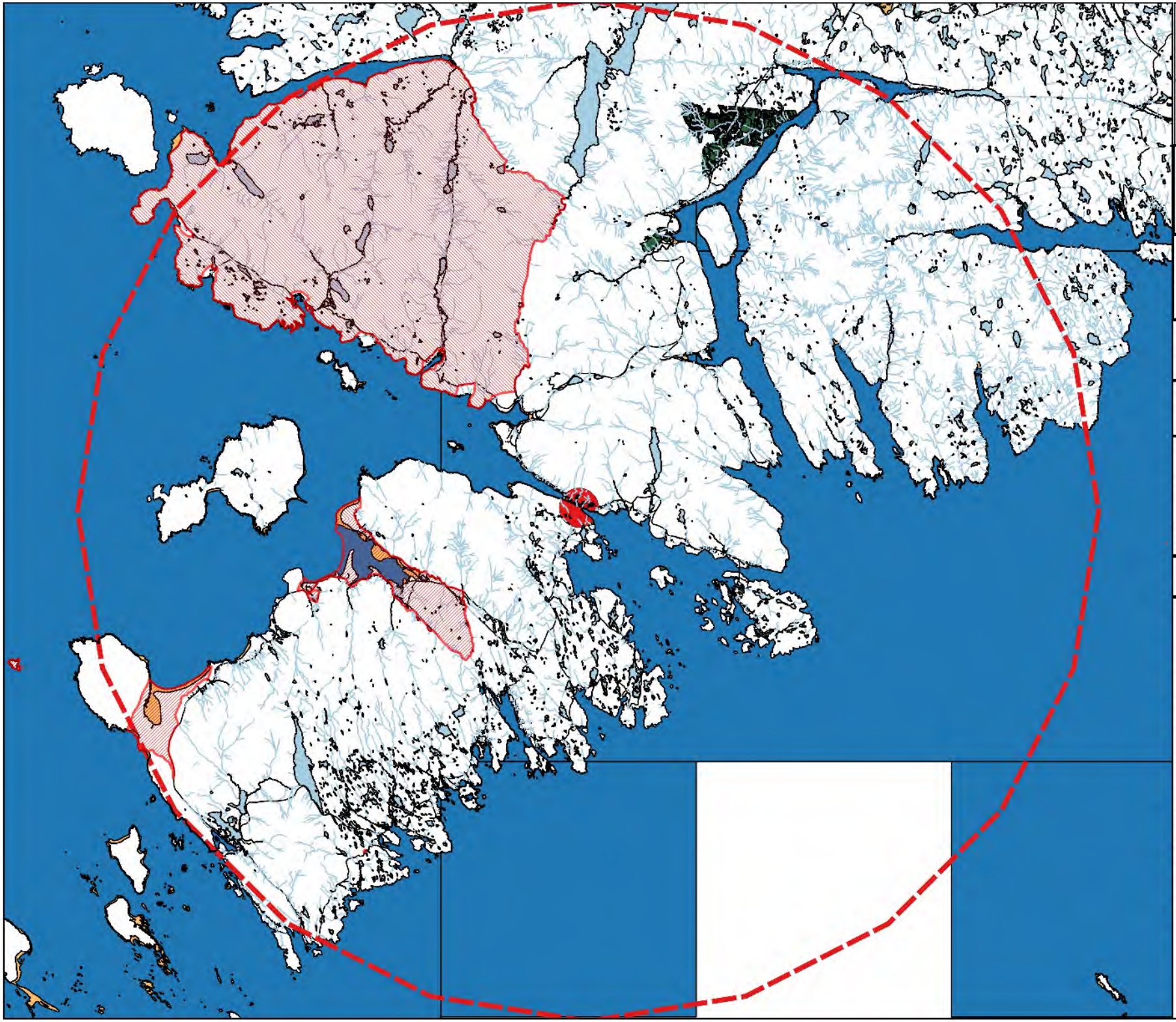
Title: 39.03.03 Tarbert Designated Sites Ramsar

Projection: OSGB 1936/British National Grid EPSG: 27700

Page 1	Rev No: 1	Drawing Date: 15/06/2017

Legend

- Ramsar
- Inland Water
- Foreshore
- Tarbet
- Buildings
- Tidal Water
- Woodland
- Roads
- Tarbert 20Km Buffer



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Title: 39.03.04 Tarbert Designated Sites SSSI

Projection: OSGB 1936/British National Grid EPSG: 27700

Page 1	Rev No: 1	Drawing Date: 15/06/2017

Legend

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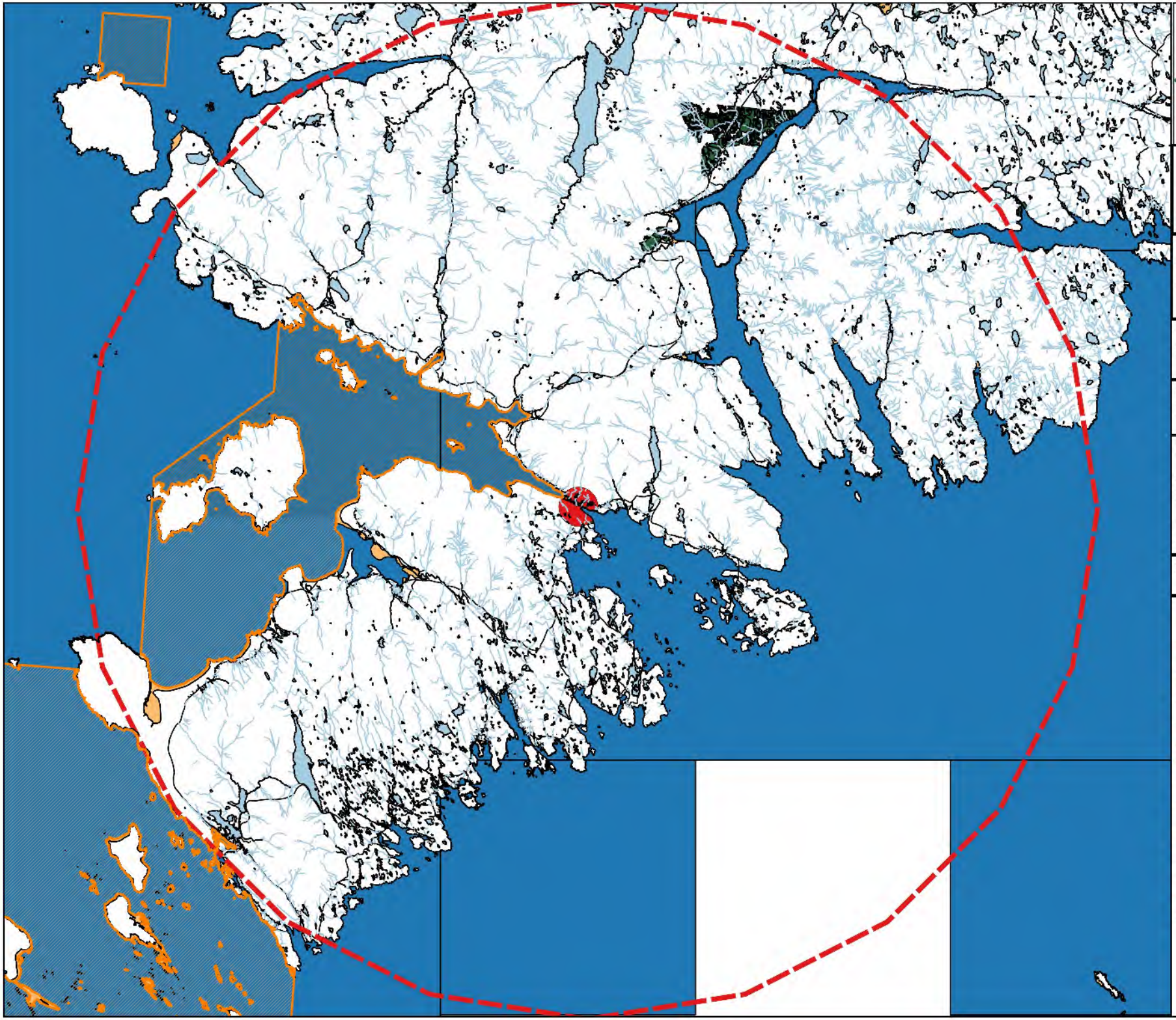
- Inland Water
- Foreshore
- Tarbet
- Buildings
- Tidal Water
- Woodland
- Roads
- Tarbert 20Km Buffer



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Title: 39.03.05 Tarbert Designated Sites pSPA

Projection: OSGB 1936/British National Grid EPSG: 27700

Page 1	Rev No: 1	Drawing Date: 15/06/2017

Legend

- pSPA
- Inland Water
- Foreshore
- Tarbet
- Buildings
- Tidal Water
- Woodland
- Roads
- Tarbert 20Km Buffer

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Title: 39.03.06 Tarbert Benthic Habitat Transects

Projection: OSGB 1936/British National Grid EPSG: 27700

Page 1	Rev No: 1	Drawing Date: 02/10/2017

Legend

- Red Line Boundary
- Tarbert Benthic

Appendix 1

Tarbert Ferry Terminal
Phase 1 Habitats and Otter Survey

June 2017

Redacted

Summary

A Phase 1 Habitat and otter survey was carried out in the area of the proposed works at the Tarbert Ferry Terminal, Isle of Harris, in May 2017. No habitats of major conservation importance were identified. Much of the habitat in the immediate vicinity of the ferry terminal was garden and introduced shrub. There were signs of use by otters within 250m of the ferry terminal but no holts identified.

1 Introduction

1.1 Site Description

The area of the survey was the ferry terminal at Tarbert, Isle of Harris and all habitat within 250m of the terminal.

1.2 Aims of Survey

A standard Phase 1 habitats and otter survey was carried out to identify the main habitat types present and to establish if there is evidence that otters use the site.

2 Methodology

Habitats

The phase 1 habitat survey was carried out following the methodology described in JNCC (2010) Handbook for Phase 1 habitat survey – a technique for environmental audit, JNCC, Peterborough.

As it was a relatively small site, and much of the area was built-up, a 1:2500 map was used.

A standard walkover survey of the site, including a 250m buffer zone, was carried out by Redacted 23 May 2017. The survey was undertaken between 0900 and 1600 GMT in good weather conditions.

Otters

The survey was undertaken b Redacted an experienced otter surveyor with an SNH otter disturbance licence, number 13297. All shoreline and watercourses were checked for signs of otter (spraints, prints and digging), including evidence of runs, holts, lay-ups or couches. The rock armour along the shore was checked for otter lie-ups/holts. The walkover survey for otter was carried out and recorded according to the guidelines set out in Chanin P (2003) Monitoring the Otter' (*Lutra lutra*) Conserving Natural 2000 Rivers Monitoring Series No. 10, English Nature, Peterborough.

All signs of otters were photographed and a grid reference recorded using a handheld GPS. Otter spraints were identified by sight and smell. All spraints found were categorized according to the guidelines set out in Chanin 2003.

3 Results

Summary of Habitat Types

(See Appendix 1 for map of habitat types)

A2 Scrub
Much of the scrub was *Ulex europeus,* and there was some overlap with the introduced shrub. *Cotoneaster* and *rhododendron* were present in on the periphery of the *Ulex* habitat. There were small (<5%) areas of *Pteridium aquilinum*.

Photograph 1

Ulex europeaus shrub above rocky shore east of ferry terminal

J1.4 Introduced shrub
Above the sea wall to the east of the ferry terminal was introduced shrub, mainly *Rhododendron* and *Rosa rugosa*, with some *Cotoneaster*.

Photographs 2 and 3 Introduced shrub, with peripheral *Ulex europeaus* shrub

J5 Gardens
North and east of the ferry terminal were gardens with extensive shrubs and mature trees.

Photograph 4

Gardens to east of ferry terminal above sea wall

H1 Intertidal

Ascophylum nodosum, Fucus vesculosis, Pelvetia canaliculata, Enteromorphia spp and *Fuscus spiralis* were identified in the intertidal area exposed at low tide.

Photograph 5

Brown algal intertidal area

D1 Dry dwarf shrub heath
On the south shore of East Loch Tarbert the steep slopes down to the shore were Calluna dry dwarf heath, with the occasional broadleaved tree and small sections of ledge vegetation.

Target Notes

1 NG 15922 99810

Rocky shore with extensive *Ulex europeus* and patches of grassland, with *Urtica dioica, Rumex obtusifolius*

2 NG 15854 99807

Introduced shrub comprising mainly rhododendron, with some Rosa rugosa, and some single specimens of broadleaved trees – *Sorbus aucuparia, Sambucus nigra*.

3 NG 15858 99827

Gardens with extensive shrubs and mature broadleaved and coniferous trees

4 NG 15818 99839
Ulex europeus scrub interspersed with introduced shrubs, mainly *Cotoneaster.*

5 NG 15665 99702
Calluna vulgaris dry dwarf shrub heath on steep slopes to shore, with occasional individual broadleaved trees (*Sorbus aucuparia)* and ledge vegetation.

Otters

No signs of use by otters were found on the north shore of East Loch Tarbert in the vicinity of the ferry terminal. The rock armour had few suitable holes for use by otters in the immediate vicinity of the terminal. The older sea wall further to the east had more potential for otters.

Photographs 6 and 7 Rock armour and seawall to east of ferry terminal

The rock armour to the west of the terminal, particularly at the head of East Loch Tarbert, also had more potential for use by otters

Photograph 8
Rock armour at head of East Loch Tarbert

The steep bank leading down to the shore east of the ferry terminal, that might otherwise have provided suitable ground for lie-ups, had a concrete reinforcement along several sections making it unsuitable for use by otters. There were some holes under boulders but no recent signs of otters.

Photographs 9 and 10
Sea wall to the east of the ferry termimal

Recent spraints were found on the south shore of East Loch Tarbert, opposite the ferry terminal (see Appendix 2), near a freshwater stream. There was potential for lie-ups further along this shore (more than 250m from the ferry terminal) where there were steep peat banks and hollows under boulders, but no active holts were found.

Photograph 11

Freshwater stream on south side of East Loch Tarbert, opposite ferry terminal, with fresh spraint site.

4 Assessment

Habitats

The habitat types recorded in the survey are typical of the north of Harris, although gardens with mature trees are mainly confined to Tarbert. The intertidal area was also typical of that found in the east coast sea lochs of Lewis and Harris. No species of particular note were found, and there were no groundwater dependent ecosystems identified.

Otters

Otters are numerous around the sealochs of the east coast of Harris, and are frequently observed in east Loch Tarbert. No holts or lie-ups were identified during the survey, and there were no signs of them using the rock armour around the ferry terminal. Recent spraints on the south shore of the loch confirm that they are present in the area, and there is potential for holt and lie-ups in the peaty ground near the shore further east along the south coast.

On the north shore, in the immediate vicinity of the ferry terminal, the shore is mainly exposed bed rock with a concrete sea wall, which has little potential for otter resting places. The rock armour has few spaces in between the boulders that are big enough for an otter to use.

5 Recommendations

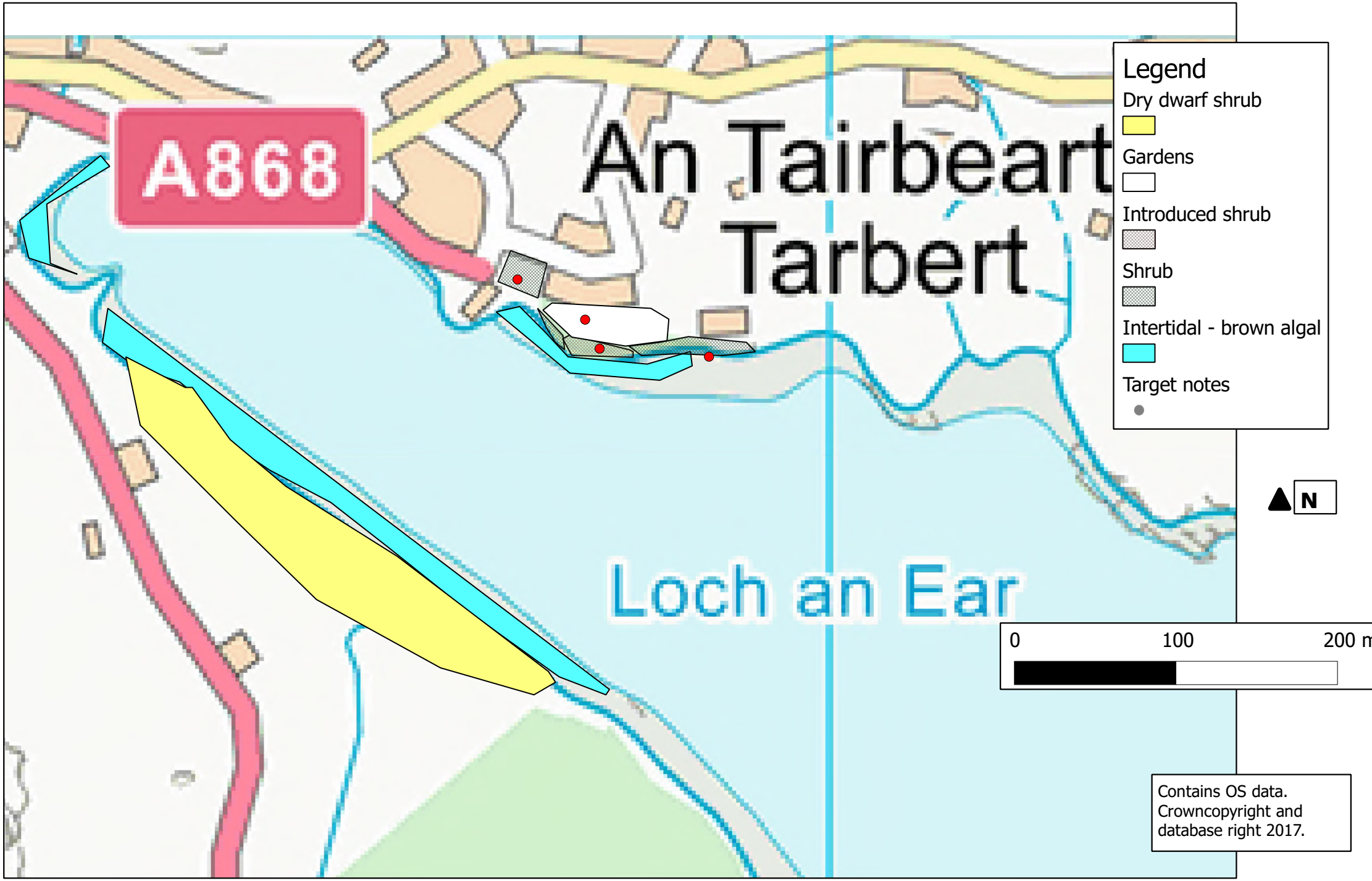
Habitats

There is no requirement for an NVC survey.

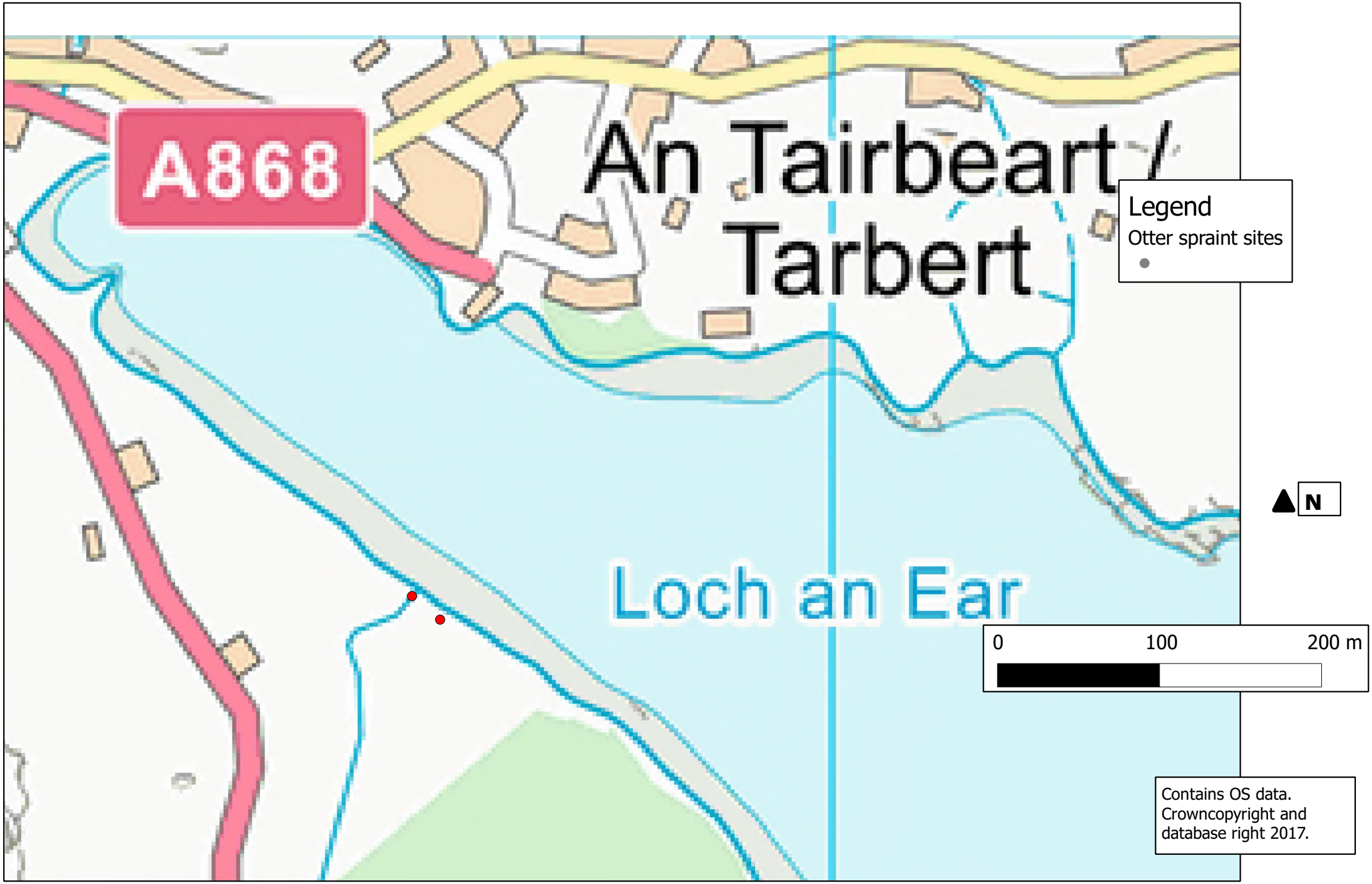
Otters

A pre-construction survey is recommended, to ensure that otters have not moved into the rock armour within 250m of the ferry terminal, and would therefore be subject to disturbance by the development.

Appendix 1 Tarbert Ferry Terminal Phase 1 Habitats



Appendix 2 Tarbert Ferry Terminal Otter Survey



Appendix 2

Tarbert Ferry Terminal
Ornithological Survey

June 2017

Redacted

Summary

A desktop study was carried out to identify ornithological designated sites that could be affected by the development works and potential breeding and wintering bird species that may utilise the site.

A breeding birds survey was carried out of the area of Tarbert Ferry Terminal, Isle of Harris, in May 2017. Very few breeding birds were found in the vicinity of the ferry terminal, and no breeding Schedule 1 birds were found.

1 Introduction

1.1 Site Description

The area of the survey was the ferry terminal at Tarbert, Isle of Harris, and all suitable breeding bird habitat within 250m of the terminal.

1.2 Aims of Survey

A desktop study was carried out to identify potential breeding and wintering bird species that may utilise the site, and this information was used to direct the breeding bird survey.

A field survey aimed to locate all breeding birds within the survey area and asses the requirement for further breeding bird survey visits to the area.

2 Methodology

Desktop Survey

The following were consulted for data on breeding and wintering birds in the vicinity of Tarbert ferry terminal:

- BTO Wetland Bird Survey (WeBS)
- BTO Breeding bird atlas
- JNCC's Seabirds at Sea and European Seabirds at Sea database
- Data collated for the Shiant Isles Seabird Recovery Project
- Surveys carried out for the Inner Hebrides and the Minches candidate Special Area of Conservation

Field Survey

A standard walkover survey of the site, including a 250m buffer zone, was carried out by Alison Tyler on 23 May 2017. The survey was undertaken in good weather conditions. The area was surveyed between 0900 and 1800.

The survey was undertaken by Redacted an experienced ornithologist.

3 Results

Desktop Survey

The North Harris Mountains Special Protection Area is within 20km of the survey site at the Tarbert Ferry Terminal. Golden Eagle is a qualifying species for this SPA (7 pairs during the breeding season representing at 1.8% of the breeding population in Great Britain). The proposed works at the ferry terminal will not affect this species.

Two sites for taxa other than birds are within 20km of the survey site – Luskentyre Banks and Saltings SSSI and the candidate SAC Inner Hebrides and the Minches.

Very little information on breeding and wintering birds of the Tarbert area was available. An unpublished NCC survey from 1988/89 of the sealochs of the east of Lewis and Harris has records for eider, red-throated diver, black-throated diver and great northern diver for East Loch Tarbert. None of the wintering wildfowl species were present in nationally important numbers.

There are no recent WeBS counts. The only WeBS data available are several counts from 1975/76. No data on the seabirds of East Loch Tarbert was available from either the surveys carried out for the Shiant Isles Seabirds Recovery Project or the Inner Hebrides and the Minches candidate SAC. East Loch Tarbert was not included on the Areas of Search for inshore aggregations of waterbirds outside the breeding season by the JNCC Seabirds at Sea team surveys.

Field Survey

Species found breeding in the survey area

Collared Dove *Streptopelia decaocto*

One pair in the gardens to the north east of the ferry terminal

Blackbird *Turdus merula*

Singing male in shrubs in garden to the north east of the ferry terminal

House sparrow *Passer Domesticus*
At least one pair nesting under eaves of house within 250m of ferry terminal

Other birds recorded during the survey

Wren *Troglodytes troglodytes*

Recorded on the south shore opposite the ferry terminal. Possibly breeding.

Pied Wagtail *Motacilla alba*

Seen feeding near the terminal building

Herring Gull *Larus argentatus*

Total of 4 birds recorded in the vicinity of the ferry terminal

4 Assessment

The North Harris Mountains SPA is more than 5km from the proposed works and will therefore not be affected.

The breeding birds recorded were in the gardens of houses close to the ferry terminal and are not likely to be affected by the works.

The desktop study did not identify any recent published data on seabirds in the vicinity of the ferry terminal. Unpublished data from 1988 did not identify any importance as a wintering bird site.

5 Further Survey Recommendations

As the breeding birds in the vicinity of the ferry terminal are relatively common in Harris, and there were no Schedule 1 breeding birds, there is no requirement for further breeding bird survey work.

East Loch Tarbert has not been identified as of special importance for wintering seabirds, and therefore a winter bird survey is not required.

Appendix 1 Tarbert Ferry Terminal Breeding Bird Survey

Legend

House sparrow

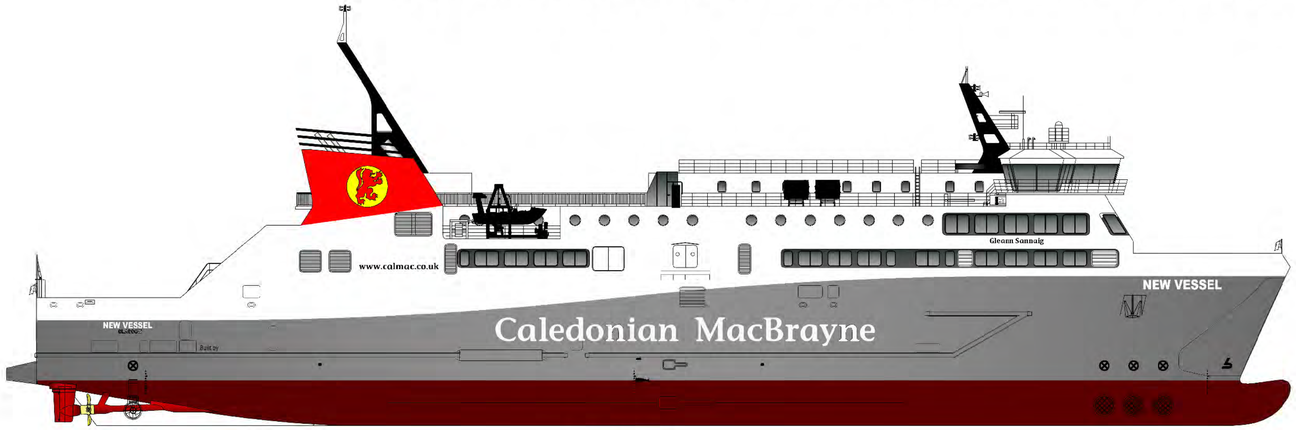
Collared dove

Blackbird

N

Appendix 3

INTRODUCTION - NEW VESSEL AND NEED FOR HARBOUR IMPROVEMENTS



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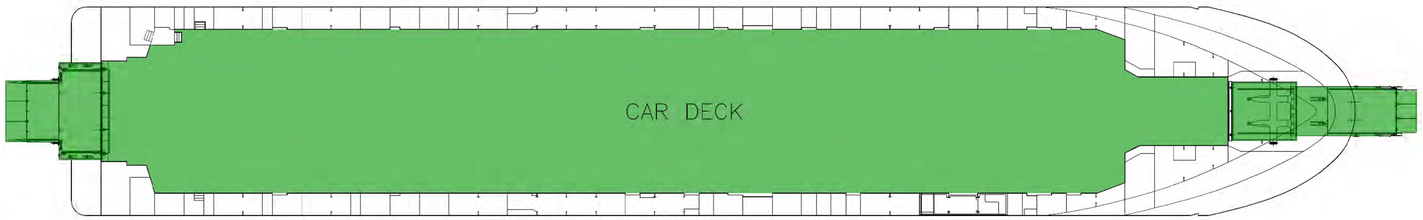
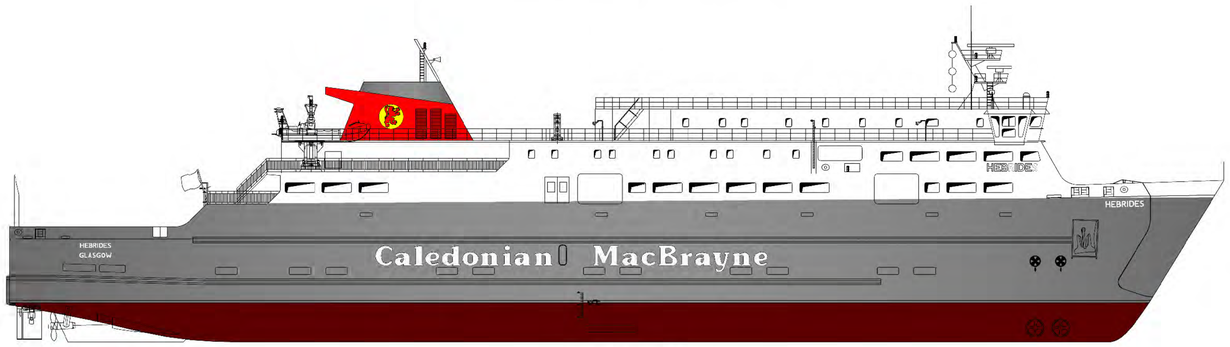


PLAN

PROPOSED NEW VESSEL



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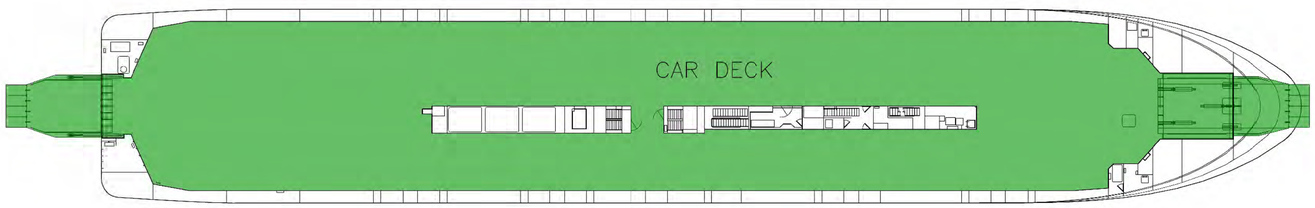

PLAN

MV HEBRIDES

	PROPOSED NEW VESSEL	MV HEBRIDES EXISTING VESSEL
LENGTH (m)	102.4	99.4
BREADTH (m)	17.0	15.8
DESIGN DRAUGHT	3.7	3.2
DISPLACEMENT (t)	4700	3500