



# Fair Isle Harbour Improvement Works

## Environmental Impact Assessment Scoping Report

On behalf of **Shetland Islands Council**



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## Contents

<b>1</b>	<b>Introduction.....</b>	<b>1</b>
1.1	Overview.....	1
1.2	Purpose of this Report.....	1
1.3	Report Structure .....	2
<b>2</b>	<b>Site Description .....</b>	<b>3</b>
2.1	Introduction .....	3
2.2	Site Location and Description.....	3
2.3	Existing Ferry and Passenger Accessibility to the Island.....	4
2.4	The Surrounding Area .....	4
<b>3</b>	<b>Proposed Development .....</b>	<b>6</b>
3.1	Introduction .....	6
3.2	Description of the Proposed Development.....	6
3.3	Construction Process .....	7
3.4	Operation.....	8
3.5	Mitigation .....	8
<b>4</b>	<b>The EIA Process .....</b>	<b>10</b>
4.1	EIA Regulations.....	10
4.2	Marine EIA Regulations and associated Marine Licenses .....	10
4.3	EIA Reports .....	10
4.4	Consultation.....	10
4.5	Assessment .....	11
4.6	Mitigation .....	11
4.7	Monitoring.....	11
4.8	EIA Team.....	12
<b>5</b>	<b>Proposed Scope of the EIA .....</b>	<b>13</b>
5.1	Technical Scope .....	13
5.2	Temporal Scope .....	14
5.3	Spatial Scope .....	14
5.4	Assessment of Effects .....	15
5.5	Limitations, Uncertainty and Difficulties Undertaking the Assessment .....	17
<b>6</b>	<b>Regulatory and Policy Background.....</b>	<b>18</b>
6.1	Introduction .....	18
6.2	National Planning Policy, Strategy and Guidance.....	18
6.3	Local Planning Policy and Strategy .....	18
<b>7</b>	<b>Topics to be Included within the EIAR Scope .....</b>	<b>21</b>
7.1	Archaeology and Heritage.....	21
7.2	Climate Change.....	31
7.3	Landscape & Visual.....	36
7.4	Marine Geomorphology .....	42

7.5	Ecology .....	47
7.6	Socio-economics .....	59
<b>8</b>	<b>Topics Not Included in the EIAR Scope .....</b>	<b>67</b>
8.1	Introduction .....	67
8.2	Risk of Major Accidents and/or Disaster .....	67
<b>8.3</b>	<b>Ground Conditions and Contaminated Land .....</b>	<b>67</b>
8.4	Noise and Vibration .....	69
8.5	Waste 70	
<b>8.6</b>	<b>Traffic and Transport .....</b>	<b>71</b>
8.7	Air Quality .....	72
8.8	Water Quality and Flooding .....	73
8.9	Human Health.....	75
<b>9</b>	<b>Summary and Next Steps .....</b>	<b>78</b>
9.1	Summary .....	78
9.2	The Environmental Impact Assessment Report .....	78
9.3	Next Steps .....	78

## Tables and Inserts

Insert 1: Existing Noust at Fair Isle.....	3
Insert 2: Proposed Development .....	7
Table 5.1 Summary of Proposed Environmental Topics Scoped In and Scoped Out of the EIA .....	13
Table 5.2 Generic EIA Significance criteria.....	16
Table 7.1: Criteria for Grading the Value of Heritage Assets .....	28
Table 7.2: Magnitude of Impact and Typical Descriptors .....	29
Table 7.3: Significance of Effect Matrix .....	30
Table 7.4 Summary of Archaeology and Heritage .....	31
Table 7.5: 50th Percentile Climate Projections in 2062 for 25 km grid square 437500 1137500 using baseline 1981-2000 scenario RCP8.5.....	33
Table 7.6 Summary of Climate Change .....	36
Table 7.7: Landscape / Townscape Designations .....	37
Table 7.8: Level of Significance of Landscape and Visual Effects .....	42
Table 7.9: Level of Significance of Landscape and Visual Effects .....	42
Table 7.10: Standard tidal levels for Fair Isle .....	43
Insert 3 Regional peak spring current speeds and mean spring tidal ellipses around Fair Isle .....	44
Insert 4 Regional wind and wave roses across the Approaches to Fair Isle.....	45
Table 7.11 Summary of marine geomorphology assessment elements .....	47
Insert 5: Fair Isle Special Area of Conservation (SAC)– source <a href="https://sitelink.nature.scot/site/8253">https://sitelink.nature.scot/site/8253</a> ..	49
Insert 6: Fair Isle SPA and MPA boundaries - source <a href="https://sitelink.nature.scot/site/10499">https://sitelink.nature.scot/site/10499</a> .....	51
Table 7.12: Exposure to change, combining magnitude and probability of change .....	57
Table 7.13: Estimation of vulnerability based on sensitivity and exposure to change .....	57
Table 7.14: Estimation of significance based on vulnerability and importance.....	58
Table 7.15: Elements scoped in/out of the ecology assessment. Unless indicated in brackets, all elements relate to the construction phase.....	58
Table 7.16 Labour Market sensitivity criteria.....	64
Table 7.17 Magnitude of Change Criteria .....	65
Table 7.18 Significance Matrix of Socio-Economic Effects .....	66
Table 7.19: Summary of Scoping Exercise .....	66

## Appendices

Appendix A	Location Plan
Appendix B	Application Site Boundary
Appendix C	Appendix C.1 Designated Assets
	Appendix C.2 Non Designated Assets

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# 1 Introduction

## 1.1 Overview

- 1.1.1 This Environmental Impact Assessment (EIA) Scoping Report has been prepared by Stantec UK Ltd (Stantec) on behalf of Shetland Islands Council (SIC) in relation to a full planning application and associated marine consents (MS-LOT) for the improvements to the existing ferry port at North Haven, Fair Isle to facilitate a new ferry (hereafter referred to as the Site, which is defined on the Site Location Plan included in **Appendix A**).
- 1.1.2 Fair Isle is the UK's most remote community and is facing serious challenges in terms of economic and social sustainability. The current ferry is estimated to reach the end of its serviceable life by 2026 and must be replaced as a matter of growing urgency. The ferry link is the single most important feature in supporting a sustainable future for the island.
- 1.1.3 The Proposed Development will provide an improved ferry terminal on Fair Isle (hereafter referred to as the Proposed Development). Further information about the Proposed Development can be found in **Chapter 3**. The Site is located within the administrative boundary of SIC.

## 1.2 Purpose of this Report

- 1.2.1 The process of EIA is governed by the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017 as amended ("the EIA Regulations") for works on land and to the mean low water springs mark, and The Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (as amended), for the Marine Scotland Act 2010 (Marine Licenses) to be consented by Marine Scotland for the deposit or removal of a substance or object below the mean high water springs mark. The EIA will consider the likely significant environmental effects resulting from the Proposed Development, as well as the cumulative effects from the wider area and other approved developments in the local area. This approach is intended to provide comprehensive and robust environmental information on the likely significant effects of the Proposed Development.
- 1.2.2 The EIA will be documented in an Environmental Impact Assessment Report (EIAR) for the Proposed Development with due regard to the EIA Regulations (Scotland) and Marine EIA Regulations (Scotland). The EIAR will be submitted as part of the planning application.
- 1.2.3 The purpose of this EIA Scoping Report is to document the scoping exercise that has been undertaken to identify the nature and extent of the likely significant environmental effects of the Proposed Development. Accordingly, this report details how the environmental issues are being examined and how it is proposed that they will be progressed as part of the EIAR for the Proposed Development or alternatively, and if applicable, as standalone reports where it can be determined that impacts are not likely to be significant. The aim is to ensure that the Proposed Development has due regard for the environment, minimises adverse environmental effects and takes advantage of opportunities for environmental enhancement, and supports a proportionate EIAR that focuses on key environmental issues for decision makers.
- 1.2.4 This Report provides information to key consultees regarding the Proposed Development pursuant to the EIA Regulations (Scotland) and Marine EIA Regulations (Scotland) and sets out the intended scope of the EIA Scoping Report and content of the EIAR. In accordance with the EIA Regulations (Scotland) and Marine Works (EIA) Scotland Regulations 2017, this EIA Scoping Report comprises the following:
- a description of the location of the development, including a plan sufficient to identify the land; (**Appendix A**);
  - a brief description of the nature and purpose of the development and of its likely significant effects on the environment; (**Chapter 2, Chapter 3, Chapter 7 and Chapter 8**) and;
  - such other information or representations as the developer may wish to provide or make.
- 1.2.5 On the basis of this report and in accordance with Regulation 17 of the EIA Regulations (Scotland), the Applicant therefore requests SIC's Authority's Scoping Opinion within period of

35 days beginning with the date of receipt of a request. In addition, Regulation 14 (part 4) of the Marine Works (Scotland), the Applicant also requests MS-LOT's Scoping Opinion within period of 35 days beginning with the date of receipt of a request.

1.2.6 In addition, a marine licence has been applied for under the Marine (Scotland) Act 2010 (Marine Licences) for Ground Investigations which is to be consented by Marine Scotland. This licence is for the deposit or removal of a substance or object below the mean high water springs mark.

1.2.7 In addition to the marine licence for ground investigations, another Marine Licence will be applied for under the Marine (Scotland) Act 2010 (Marine Licences) for the construction works associated with the Proposed Development.

### **1.3 Report Structure**

1.3.1 This Scoping Report continues as follows:

- Chapter 2 Site and the Surrounding Area
- Chapter 3 Proposed Development
- Chapter 4 The EIA Process
- Chapter 5 Proposed Scope of the EIAR
- Chapter 6 Regulatory and Policy Background
- Chapter 7 Topics Included in the EIAR Scope
- Chapter 8 Topics Not Included in the EIAR Scope
- Chapter 9 Summary and Next Steps
- Appendices



## 2 Site Description

### 2.1 Introduction

- 2.1.1 This chapter outlines the key environmental characteristics of the Site of the Proposed Development and the surrounding area. This chapter is supported by a redline boundary presented in **Appendix A**.

### 2.2 Site Location and Description

- 2.2.1 The Fair Isle ferry berth is located within the harbour at North Haven<sup>1</sup>, on the north-east of the island. The nearest post code is ZE2 9JU and the central grid reference is HZ 22498 72527.
- 2.2.2 The existing pier is approximately 40m in length, to allow the ferry to moor alongside. The pier is connected to hardstanding and a berth to the north which is approximately 60m in length.
- 2.2.3 The harbour is sheltered from the east and west by high rocky cliffs, and notionally sheltered from the south by an isthmus (narrow strip of land between North Haven and Bu Ness), and to the north by a rock armoured breakwater approximately 80m in length and 25m in width, made up of Norwegian rock. However, northerly conditions cause significant wave motion at the berth and therefore a noust (Insert 1) is used to house the vessel overnight.
- 2.2.4 The noust consists of a cutting in the rock cliff, at the top of the existing slipway to provide shelter to the ferry when it is slipped. A winch is used to raise and the lower the ferry (on its cradle) up and down the slipway. There are two rails that extend alongside the pier which are connected to the winch which then pulls the existing ferry into the noust. Currently the noust is approximately 30m x 10m. The existing noust can be seen in **Insert 1**.

Insert 1: Existing Noust at Fair Isle



- 2.2.5 There are seven buildings within 250m of the Site which are all uninhabited and used for storage. Existing harbour facilities comprise of the following:
- 60m long berthage with 3.60m water depth (at Mean Low Water Springs MLWS);
  - 14m wide general cargo apron and storage building behind;

<sup>1</sup> Grid reference 59 32' N 01 36' W and Admiralty Chart 3299

- single track access road with limited space for parking;
  - finger pier aligning structure, slipway (1:10 nominal slope), cradle, noust and winch-house; and
  - toilets, fresh water and waste disposal at facilities behind the pier.
- 2.2.6 The habitats present within the Site comprise of vegetated sea cliffs, dry heath, marine and arable land. There is limited vegetation within the Site, there are no trees present and the majority of the ground condition are made of hardstanding of the existing pier.
- 2.2.7 The Site is however located within environmental designations including Special Protection Areas (SPA) and a Special Area of Conservation (SAC) (North Haven, Fair Isle) and Site of Special Scientific Interest (SSSI).
- 2.2.8 There is one scheduled monument within the Site boundary which is the North Haven Crane (SM6589). The monument consists of a small hand-operated crane of iron construction. The monument is considered of national importance as a rare survival of a once-ubiquitous type of pre-mechanisation harbour furniture. As such, a notional circle of 5m acting as 'buffer zone' to protect the asset has been applied.

## 2.3 Existing Ferry and Passenger Accessibility to the Island

- 2.3.1 The Site is within the SIC administrative area and is connected to mainland Shetland by two lifeline transport links: air service by means of an eight seat Britten-Norman BN-2 Islander aircraft; and the existing ferry service operated by the MV Good Shepherd IV which provides the critically important supply chain and freight link as well as capacity for 12 passengers per sailing.
- 2.3.2 The existing ferry, the MV Good Shepherd IV is:
- over 35-years old, having entered service on the Fair Isle run in 1986;
  - an 18-metre vessel broadly similar to that of a traditional fishing vessel;
  - passenger numbers are limited to 12; and
  - delivers cargo using a vessel mounted crane; it can carry cargo in a below deck hold and on the weather deck.
- 2.3.3 Whilst the primary mode of travel to / from Fair Isle for both visitors and residents is the air service via Fair Isle Airport, the ferry predominantly fulfils the supply-chain needs of the island. Nonetheless, the ferry is used by passengers when: (i) the air service is fully booked or disrupted; or (ii) there is a requirement to take equipment / goods which cannot be carried on the air service.
- 2.3.4 Between 2010 and 2018 1,703 sailings were completed, with the median number of yearly sailings being 184.<sup>2</sup>

## 2.4 The Surrounding Area

- 2.4.1 Fair Isle is the most geographically remote inhabited island in the United Kingdom. It lies 24 miles from the Shetland Mainland and 27 miles from North Ronaldsay, the most northerly of the Orkney islands. It is administratively part of Shetland.
- 2.4.2 There is a permanent population of around 60 people, who mostly live at the south end of the island. There are no dwellings present within the Site, the nearest is located approximately 1.5km southwest.
- 2.4.3 There are no Public Rights of Way (PRoW) within the Site or Surrounding Area. However, as the Site is within Scotland, it comes under the Land Reform (Scotland) Act 2003 which is an Act of the Scottish Parliament to establish statutory public rights of access to land for recreational and other purposes.

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<sup>2</sup> Shetland Inter-Island Transport Study – Fair Isle Outline Business Case 2018

- 2.4.4 The Fair Isle Airport is located approximately 1.15 km west of the Site. Fair Isle Airport serves the island with flights to Tingwall Airport near Lerwick.
- 2.4.5 There are limited roads surrounding the site, only the Fair Isle to Sumburgh Airport Road leading to the Fair Isle Airport to the west and also one connecting the pier to the Fair Isle North Lighthouse.
- 2.4.6 There is one Category C Listed Building approximately 150m west of the Site which is a Shetland böd, a building used to house fishermen and their gear during the fishing season but is currently uninhabited. This is further detailed in paragraph 7.1.8.
- 2.4.7 Approximately 330m to the southwest of the Site is the Fair Isle Bird Observatory (FIBO). Fair Isle Bird Observatory is run by an independent charity, FIBO Trust (Registered Charity No. SCO 11160), which owns the building and a small area of land. The FIBO burnt down in March 2019 however prior to this, it was the main provider of accommodation on the island and also a significant source of income and employment. In October 2021 the FIBO charity won a bid for investment to re-build the observatory. The newly built facility is due for completion and re-opening in Spring 2023.
- 2.4.8 The majority of Fair Isle is owned by the National Trust for Scotland who acquired the land in 1954.
- 2.4.9 In 2016, the seas around Fair Isle were designated as a Marine Protected Area (MPA). As of 2019 it is the only MPA in Scotland to be designated specifically as a "Demonstration and Research" MPA. The aims of this MPA designation are defined as, to demonstrate and research the use of an ecosystem approach, which includes the following:
- a) The environmental monitoring of seabirds and of other mobile marine species;
  - b) The environmental monitoring of the factors which influence the populations of seabirds and of other mobile species;
  - c) The development and implementation of a local sustainable shellfish fishery;
  - d) The development of a research programme into local fisheries which includes research on species composition, size, distribution and temporal and spatial changes in fish stocks; and
  - e) Based upon the research undertaken under sub-paragraph (d), the development of a sustainable-use management programme for local fisheries.

## 3 Proposed Development

### 3.1 Introduction

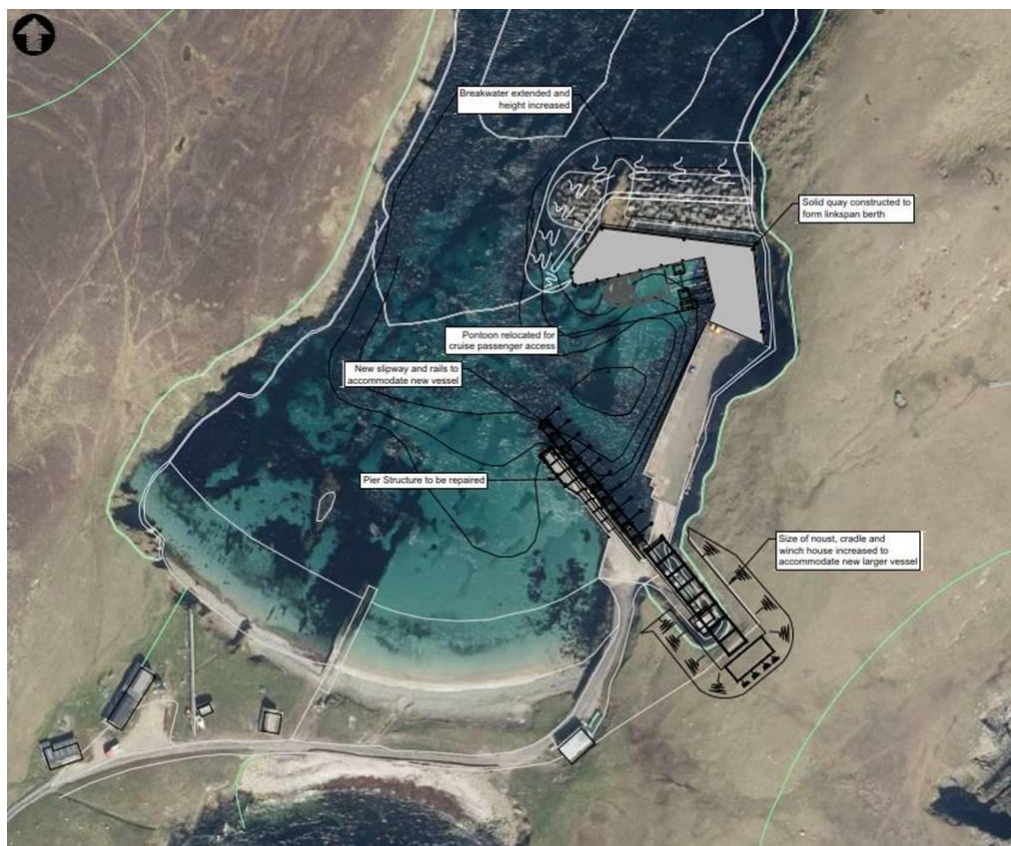
- 3.1.1 This chapter provides an overview of the design strategy and the key characteristics of the Proposed Development.

### 3.2 Description of the Proposed Development

- 3.2.1 SIC is progressing the Fair Isle Ferry Replacement Project to replace the existing vessel, which is approaching the end of its life and does not meet modern standards. The berthing site at Fair Isle will be upgraded to facilitate this new ferry.
- 3.2.2 SIC intends to submit a full planning application and associated marine license applications seeking approval to enhance the existing ferry port at Fair Isle by:
- A new quay structure be formed between the northern end of the existing quay and the existing breakwater;
  - A new linkspan to facilitate the new roll on – roll off (Ro-Ro) vessel;
  - The existing breakwater is to be increased in size and height to provide greater shelter to the new quay structure and linkspan berth;
  - Dredging to provide a sufficient water depth for new vessel around the proposed pier extension and linkspan;
  - Repairs and re-fendering of the existing finger pier aligning structure to accommodate the new vessel; and
  - Replacement of the existing cradle, noust, slipway and winch to accommodate the increased size of the new vessel.
  - New lighting will extend along the rear of the extended quay to the north of the existing quay.
- 3.2.3 Initial plans for the design of the Proposed Development are presented in **Insert 2** below.



Insert 2: Proposed Development



### 3.3 Construction Process

- 3.3.1 A Marine License is currently being requested to undertake a programme of 8 boreholes (6 marine and 2 terrestrial) as a maximum, and 6 vibrocores alongside the marine boreholes. This will provide details of the seabed materials which will inform the detailed design and planning of construction works for replacement ferry terminal infrastructure (piers, slipways, dredging, etc), which will be subject to separate consenting processes and submitted to Marine Scotland and SIC in March 2022.
- 3.3.2 The construction process is expected to take place over two summer seasons due to the weather restrictions during winter months:
- North Haven Construction Phase 1 (Noust slipway, cradle and pier)– February to September 2024 (approximately 8 months); and
  - North Haven Construction Phase 2 (Breakwater and Linkspan) – March to September 2025 (approximately 7 months).
- 3.3.3 Construction is expected to take place Monday – Friday 7am-7pm and Saturday 7am - 1pm. Some construction activities may need to be undertaken outside these hours, for which agreement would be sought from SIC/MS-Lot.
- 3.3.4 Key construction activities (not in chronological order) will include the following:
- Noust expansion;
  - Cradle and winch house upgrade;
  - New rails installed;
  - Pier structure repaired and extended;
  - Breakwater extended and height increased; and
  - Solid quay constructed to form new linkspan berth.

3.3.5 Additional details in relation to the construction of the key features listed above:

- The linkspan will be a 'Type A' linkspan, the same as that used at various other ferry terminals operated by Shetland Islands Council. A Type A linkspan is typically 14m in length and 5.5m wide at the nose.
- The cradle will be dimensioned to suit the chosen vessel (vessel max. 24m in length and approximately 11m in width).
- The slipway length will be confirmed based on results of the bathymetry survey. It is anticipated that the existing slipway will be widened to allow use by the larger vessel, noting the general location of the noust will be unchanged.
- In order to upgrade the cradle and slipway, the existing cradle and associated mechanical equipment will be replaced. The extension to the slipway will be a reinforced concrete structure on top of the existing ground level to minimise excavation. The cradle will be a steel structure and will operate on steel rails that will be positioned on the slipway - this is in line with the existing arrangement
- The linkspan deck is a new structure and will be fabricated off-site. The linkspan deck will be towed to site and installed on the newly constructed linkspan support structures alongside the breakwater once the new quay extension has been constructed.
- The dredging method will be determined from the results of the Ground Investigation and the materials that are encountered. Where sands / silts are to be dredged, an excavator will likely be used to dredge the seabed material to the required depth. If rock is to be dredged, the quality of the rock will determine whether an excavator can be used to 'rip' the rock from the seabed or if an alternative method will be used.

3.3.6 During the construction phase, an area of the Site would be required for a temporary construction compound ("the laydown area") for the potential storage of materials, plants and equipment as well as providing site welfare. Temporary work accommodation will also be present at Fair Isle so the work force will not have to vacate the island each day.

3.3.7 There is not anticipated to be demolition works as the majority of the existing pier is expected to be retained.

### 3.4 Operation

3.4.1 The Proposed Development will be designed to provide a reliable and lasting transport connection to Shetland. Implementation of a linkspan service would also improve the operational safety of the infrastructure provided at Fair Isle and Grutness. Improved turnaround times associated with a Ro-Ro service along with continuation of current practice through responding to weather windows and a faster vessel will provide the potential for operation of an increased number of sailings.

### 3.5 Mitigation

3.5.1 Details of construction phasing and proposed construction methods will be developed during the detailed design stage. It is envisaged that a draft Construction Environmental Management Plan (CEMP) will be prepared during the course of the assessment work and submitted as part of the planning application. The draft CEMP will set out the principles, controls and management measures which would be implemented during construction to manage potential significant impacts. The principles set out in the draft CEMP will be taken into account as part of the EIAR.

3.5.2 Standard environmental mitigation measures could include:

- Soft start for piling / underwater works;
- Use of Marine Mammal Observer (MMO) with agreed timings for last sighting before works can commence;
- Use of biodegradable fuel / oil for plant and equipment;
- Use of silt curtains;

- Provision of spill kits and training on how to use;
- Limits on working hours;
- Dampening down any stockpiled materials;
- Refuelling over bunded areas;
- Wheel washing;
- Hooded lighting;
- Well maintained and serviced plant and equipment;
- Designated waste management procedures / segregation of waste; and
- Adherence with relevant SEPA GPPs (guidance for pollution prevention) [Guidance for Pollution Prevention \(GPPs\) - Full list | NetRegs | Environmental guidance for your business in Northern Ireland & Scotland.](#)

## 4 The EIA Process

### 4.1 EIA Regulations

- 4.1.1 The Proposed Development falls within Schedule 2 Part 10 of the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017, *(g) Construction of harbours and port installations including fishing harbours (unless included in Schedule 1)*. Given the location, scale and nature of the Proposed Development, notwithstanding the selection criteria within Schedule 3 of the EIA Regulations (Scotland), it is considered that the Proposed Development may have the potential to give rise to significant effects on the environment and therefore we have prepared this Scoping Report.

### 4.2 Marine EIA Regulations and associated Marine Licenses

- 4.2.1 The Proposed Development also falls within Schedule 2 Part 10 of The Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (as amended), *(g) Construction of harbours and port installations including fishing harbours (unless included in Schedule 1)*. Given the location, scale and nature of the Proposed Development, notwithstanding the selection criteria within Schedule 3 of the EIA Regulations (Scotland), it is considered that the Proposed Development may have the potential to give rise to significant effects on the environment and therefore we have prepared this Scoping Report.
- 4.2.2 Marine licences under the Marine (Scotland) Act 2010 will be required and sought for several activities including the dredging activities (including the disposal of dredged materials) and the construction of the new pier. These activities are strictly regulated through marine licence conditions.

### 4.3 EIA Reports

#### Scoping

- 4.3.1 The purpose of EIA Scoping is to identify the nature and extent of the likely significant environmental effects of the Proposed Development. It also allows for the issues identified to be subject to the appropriate level of assessment. Scoping also gives relevant stakeholders an opportunity to express their views on the scope of the EIA. This Scoping Report is provided in accordance with Regulation 17 of the EIA Regulations (Scotland) and Marine Works (EIA) Scotland Regulations 2017.

#### EIA Report

- 4.3.2 Full details of the EIA being undertaken for the Proposed Development will be reported within an EIAR which will form part of the relevant consenting application.
- 4.3.3 Regulation 12(5) of the EIA Regulations prescribes the information which must be included within an EIAR and requires any of the additional information listed in Schedule 4 of the Regulations to be included in an EIAR where relevant. The EIAR for the Proposed Development will be based on the terms of an EIA Scoping Opinion to be adopted by the SIC and Marine Scotland in response to this EIA Scoping Report and will include appropriate and proportionate consideration of all relevant information requirements prescribed within the EIA Regulations. The proposed approach to undertaking the EIA and providing all of the required information is set out below.

### 4.4 Consultation

- 4.4.1 The Proposed Development is being progressed through an iterative process of design, assessment and review. It is therefore the intention that the proposals submitted for planning permission and associated marine licenses will incorporate measures to mitigate potential adverse environmental effects, and to enhance environmental benefits, wherever possible through its design.
- 4.4.2 Consultation with statutory and non-statutory consultees, along with the local community, will inform both the EIA and the design of the Proposed Development.



## 4.5 Assessment

4.5.1 In general terms the main stages in the EIA are as follows:

- Data Review – draw together and review available data;
- Scoping – identify significant issues, determine scope of EIA;
- Baseline Surveys – undertake baseline surveys and monitoring;
- Assessment and Iteration – assess likely significant effects of development, evaluate alternatives, provide feedback to design team on adverse effects, incorporate any necessary mitigation, assess effects of mitigated development; and
- Preparation of the EIAR.

4.5.2 The proposed scope of the EIA and approach to the assessment of likely significant effects is set out in **Chapter 5**.

## 4.6 Mitigation

4.6.1 One of the most important functions of the EIA process is to identify ways to mitigate identified adverse environmental effects and identify opportunities that a proposed development may have for environmental improvements. The EIA Regulations (Scotland) and Marine Works (EIA) Scotland Regulations 2017 require an EIAR to contain: “A description of the measures envisaged to prevent, reduce and where possible offset any significant adverse effects on the environment”.

4.6.2 A hierarchy of methods for mitigating significant adverse effects will be followed, which are, in order of preference:

- Avoidance – designing the Proposed Development in such a way that avoids effects on the environment (e.g. locating sensitive infrastructure above flood levels);
- Reduction – design the development or employ construction methodologies such that significant effects identified are reduced (e.g. employment of sustainable drainage to mitigate effects of development in flood prone areas);
- Compensation – providing offsite enhancement in order to compensate for where onsite mitigation has not been possible (e.g. financial contributions towards local infrastructure); and
- Enhancement - opportunities that the Proposed Development may provide to enhance the local and wider environment (e.g. ecological enhancement or provision of jobs).

4.6.3 Environmental effects remaining after mitigation measures have been incorporated are termed residual effects and these will be fully described in the EIAR (Environmental Impact Assessment Report).

## 4.7 Monitoring

4.7.1 It is important to note that the EIA Regulations (Scotland) and Marine Works (EIA) Scotland Regulations 2017 only require the monitoring of significant adverse effects. The EIAR will therefore ensure that it is clear to the reader which, if any, effects are both adverse and significant and may therefore require monitoring.

4.7.2 It is important to note that Regulation 30 of the EIA Regulations (Scotland) and Regulation 24 Marine EIA Regulations (Scotland) state that the planning authority should:

*“(1) Where an EIA application is determined by a planning authority or the Scottish Ministers and the decision is to grant planning permission, the planning authority or the Scottish Ministers, as the case may be, must consider whether it is appropriate to require monitoring measures to be carried out.”*

*“(2) When considering whether to require monitoring measures to be carried out, and the nature of any such monitoring measures, the planning authority or the Scottish Ministers, as the case may be, must consider—*

*(a) whether monitoring measures are proportionate to the nature, location and size of the proposed development and the significance of its effects on the environment having regard in particular to the type of parameters to be monitored and the duration of the monitoring;*

*(b) in order to avoid duplication of monitoring, whether monitoring arrangements required under Union legislation (other than legislation implementing the requirements of the Directive) or other legislation applicable in Scotland are more appropriate; and*

*(c) if monitoring measures are to be required, whether provision should be made to require appropriate remedial action. Consideration of Reasonable Alternatives.”*

4.7.3 Regulation 5(2)(d) of the EIA Regulations (Scotland) requires EIARs to include:

*“A description of the reasonable alternatives (for example in terms of development design, technology, location, size and scale) studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects”*

4.7.4 The EIA Regulations (Scotland) do not expressly require that an applicant considers alternatives. It is a matter for the applicant to decide whether and which alternatives it intends to consider.

4.7.5 The EIAR will fulfil the requirements of the EIA Regulations (Scotland) through identifying the reasonable alternatives considered by the applicant and explain the main reasons for the choices made and provide a comparison of environmental effects.

## **4.8 EIA Team**

4.8.1 Regulation 14 of the EIA Regulations (Scotland) requires that: “(5) *In order to ensure the completeness and quality of the EIA report—*

*(a) the developer must ensure that the EIA report is prepared by competent experts; and*

*(b) the EIA report must be accompanied by a statement from the developer outlining the relevant expertise or qualifications of such experts.”*

4.8.2 In accordance with Regulation 5(a)(b), the EIAR will be accompanied by a statement from the developer/applicant outlining the relevant expertise or qualifications of such experts.

## 5 Proposed Scope of the EIA

### 5.1 Technical Scope

- 5.1.1 This technical scope describes the environmental topics that should be addressed by an EIAR, in line with the requirements of the EIA Regulations (Scotland) and Marine EIA Regulations (Scotland). Schedule 4 of the EIA Regulations (Scotland) sets out that the EIAR must include a description of the aspects of the environment which are likely to be significantly affected by the Proposed Development.
- 5.1.2 This requirement and the broad categories set out in Schedule 4, along with others which are considered to have the potential to lead to significant environmental effects, have been interpreted and applied in the context of the Proposed Development. **Table 5.1** therefore sets out those topics that it is proposed to scope into or out of the EIA. Note that in some instances particular aspects of a given topic are able to be excluded from the scope of the assessment, and where this is the case, it has been detailed within the separate topic sections set out in **Chapter 7**.
- 5.1.3 References are provided to demonstrate where these categories have been included within the EIA scope. **Chapter 7** of this Scoping Report provides a detailed analysis of the proposed technical scope of the EIA, while **Chapter 8** identifies the topic which is proposed to be scoped out of the EIA as it has been considered that significant environmental effects are unlikely to occur based on professional judgement and consideration of the nature of the scheme and the receiving environment and the inclusion of standard mitigation eg the CEMP and best practice.

Table 5.1 Summary of Proposed Environmental Topics Scoped In and Scoped Out of the EIA

EIA Regulations Topic	Scoped In /Scoped Out	Explanation within this Scoping Report
Air Quality	Scoped Out	Section 8.7
Archaeology and Heritage	Scoped In	Section 7.1
Climate	Scoped In	Section 7.2
Ecology	Scoped In	Section 7.5
Ground Conditions	Scoped Out	Section 8.3
Human Health	Scoped Out	Section 8.9
Landscape and Visual	Scoped In	Section 7.3
Marine Geomorphology	Scoped In	Section 7.4
Noise and Vibration	Scoped Out	Section 8.4
Risk of Major Accidents and/or Disasters	Scoped Out	Section 8.2
Socio-economic	Scoped In	Section 7.6
The inter-relationship between the above factors	Scoped in where required	Within the relevant Sections
Traffic and Transport	Scoped Out	Section 8.6
Waste	Scoped Out	Section 8.5
Water Quality	Scoped Out	Section 8.8

- 5.1.4 The following paragraphs set out the principles for the temporal and spatial scope, and the approach to the assessment of effects, that will be applied to the EIA of the topics identified in **Chapter 7**.

## 5.2 Temporal Scope

### Environmental Baseline

- 5.2.1 As a general principle, environmental effects will be assessed by comparing the predicted state of the environment without the Proposed Development, in relation to the state of the environment with the Proposed Development for a particular year. This will include an outline of the likely evolution of the Site without implementation of the Proposed Development as far as changes from the baseline scenario can be predicted.
- 5.2.2 The EIA will take into account approved developments that are likely to come forward during the construction of the Proposed Development and, where appropriate, these will be factored into the definition of the baseline or identified as receptors at a relevant point in time. Further details on the approach to approved developments are provided in Chapter 5.4.

### Duration of Effects

- 5.2.3 Environmental effects will be classified as either permanent or temporary, as appropriate. Permanent changes are those which are irreversible (e.g. permanent land take) or will last for the foreseeable future (e.g. emissions from generated road traffic).
- 5.2.4 The duration of temporary environmental effects will be defined as short, medium or long term based on the likely durations of the construction and operational phases of the development. These definitions will be considered within the assessment of the likely significant effects and will be set out in the EIAR.
- 5.2.5 Where environmental effects will be infrequent or intermittent (such as effects related to activities that will not be continuous during construction) this will be noted in the EIAR and the frequency of these activities will be considered in the assessment.

### Phases of the Scheme

- 5.2.6 There are two discrete phases of the Proposed Development which will be considered in relation to the likely significant effects: the construction phase; and the operation phase. The Proposed Development is considered to be permanent and therefore the assessment of effects associated with decommissioning have been scoped out of the EIAR.

### Construction

- 5.2.7 Certain environmental effects will only occur during construction of the Proposed Development and will cease once these activities have been completed. These will typically be the temporary effects of the Proposed Development and will be described as “short-term” or “medium-term”, as appropriate, using the definitions determined to be appropriate and set out in the EIAR. Examples include, but are not limited to:
- Creation of dust;
  - Risk of pollution during construction; and
  - Noise from construction activities.

### Operation

- 5.2.8 Environmental effects that occur during the operation of the Proposed Development will typically be permanent or “long-term”. Examples of permanent effects which might occur during the operation of the Proposed Development include, but are not limited to:
- Changes to key views; and
  - Changes to the setting of heritage assets.

## 5.3 Spatial Scope

- 5.3.1 The spatial extent of each of the technical assessments will vary from one to another in accordance with the relevant policy and guidance for the assessment of that topic; in some instances, the environmental effects will extend no further than the Site and in other cases the assessment will extend to a buffer beyond the Site. The study area for each technical

assessment will be identified and described as appropriate in each of the topic chapters of the EIAR.

- 5.3.2 Chapters of the EIAR will assess sites and receptors of local, regional and national importance as appropriate, and in accordance with topic specific legislation and guidance.

## 5.4 Assessment of Effects

### Types of Effects

- 5.4.1 In assessing the significance of effects identified during the EIA, account will be taken as appropriate as to whether effects are:
- Direct Effects – effects that are caused by activities which are an integral part of the Proposed Development (e.g. land take);
  - Indirect Effects – effects arising indirectly from the construction or use of a development (e.g. supply chain effects in construction stage);
  - Secondary Effects – are 'knock-on'/once-removed effects arising in consequence of indirect effects;
  - Cumulative Effects – the cumulative effects of the Proposed Development and other approved local developments;
  - In-combination Effects (impact interactions) - many effects that singly may not be significant, but when assessed together may be significant;
  - Short-Term and Medium-Term – Environmental effects that occur during the construction of the Proposed Development will typically be Short or Medium Term;
  - Long-Term – Environmental effects that occur during the operation of the Proposed Development will typically be Long Term;
  - Temporary Effects – Environmental effects that occur during the construction and decommissioning of the Proposed Development will typically be temporary;
  - Permanent Effects – Environmental effects that occur during the operation of the Proposed Development will typically be permanent;
  - Beneficial Effects – effects that have a positive influence on the environment; and
  - Adverse Effects – effects that have a negative influence on the environment.
- 5.4.2 For clarity within the assessment, 'impact' will be used in relation to the outcome of the Proposed Development (e.g. the removal of habitat or the generation of emissions to air), while the 'effect' will be the consequent implication in environmental terms (continuing the above example, e.g. the loss of a potential bird breeding site or the reduction in local air quality).
- ### Residual Effects
- 5.4.3 The incorporation of mitigation measures, primarily as part of the Proposed Development design and construction phase, will be reported where appropriate and likely significant residual effects that remain will be described and assessed according to the significance criteria set out in **Table 5.2** below.
- 5.4.4 As noted above, the EIA Regulations (Scotland) and Marine EIA Regulations (Scotland) require that the EIAR describes likely significant effects of the Proposed Development. However, there is no applicable definition of significance and interpretations differ.
- 5.4.5 The significance of an effect is typically the product of two factors, the value of the environmental resource affected and the magnitude of the impact, while consideration may also need to be given to the likelihood of an effect occurring. A significant effect may arise as a result of a slight impact on a resource of national value or a severe impact on a resource of local value. In addition, the accumulation of many non-significant effects on similar local resources geographically spread throughout the Proposed Development may give rise to an overall significant effect. An example of this might be the loss of ecological habitat of low value at many locations.

5.4.6 This approach to assessing and assigning significance to an environmental effect will rely upon such factors as legislative requirements, guidelines, standards and codes of practice, consideration of the EIA Regulations (Scotland), the advice and views of statutory consultees and other interested parties and expert judgement. The following questions are relevant in evaluating the significance of likely environmental effects:

- Which risk groups are affected and in what way?
- Is the effect reversible or irreversible?
- Does the effect occur over the short, medium or long term?
- Is the effect permanent or temporary?
- Does the effect increase or decrease with time?
- Is the effect of local, regional, national or international importance?
- Is it a beneficial, neutral or adverse effect?
- Are health standards or environmental objectives threatened?
- Are mitigating measures available and is it reasonable to require these?

5.4.7 Specific significance criteria will be prepared as appropriate for each specialist topic, based on the above and the generic criteria set out in **Table 5.2** below.

Table 5.2 Generic EIA Significance criteria

	Significance Level	Criteria
Significant	Substantial	These effects are assigned this level of significance as they represent key factors in the decision-making process. These effects are generally, but not exclusively, associated with sites and features of national or regional importance. A change at a district scale site or feature may also enter this category.
	Major	These effects are likely to be important considerations at a local or district scale and may become key factors in the decision-making process.
	Moderate	These effects, while important at a local scale, are not likely to be key decision-making issues.
Not significant	Minor	These effects may be raised as local issues but are unlikely to be of importance in the decision-making process. Nevertheless they are of relevance in enhancing the subsequent design of the project and consideration of mitigation or compensation measures.
	Negligible	Either no effect or an effect which is beneath the level of perception, within normal bounds of variation or within the margin of forecasting error. Such effects should not be considered by the decision-maker.

5.4.8 Effects that are described as 'substantial', 'major' or 'moderate' are determined to be *significant*; and effects that are described as 'minor' or 'negligible' are determined to be *not significant* in the context of the EIA Regulations (Scotland) and Marine EIA Regulations (Scotland).

#### Cumulative Effects and Impact Interactions

5.4.9 The EIA Regulations (Scotland) and Marine EIA Regulations (Scotland) require the consideration of the potential impact of inter-relationships and cumulative effects of "*existing and/or approved development*" with the development.

5.4.10 The EIAR will consider as appropriate:

- The likely significant cumulative effects of the Proposed Development and other major local existing and/or approved developments; and
- The potential for impact interactions leading to an aggregated environmental effect on a receptor being greater than each of the individual effects that have been identified

(e.g. local people being affected by noise, dust and increased traffic levels during the construction of the development, where those impacts are greater combined than individually).

- 5.4.11 The assessment of likely significant cumulative effects of the Proposed Development and other local committed developments will be included within each of the topic chapters of the EIAR. The list of committed developments to be considered will be agreed in consultation with SIC.
- 5.4.12 Potential impact interactions will be assessed within a dedicated chapter of the EIAR, as it will need to draw together the outcomes of individual discipline assessments.

## **5.5 Limitations, Uncertainty and Difficulties Undertaking the Assessment**

- 5.5.1 The prediction of future effects inevitably involves a degree of uncertainty. Where necessary, the EIAR will describe the principal factors giving rise to uncertainty in the prediction of environmental effects and the degree of the uncertainty.
- 5.5.2 Confidence in predictions will be engendered by employing accepted assessment methodologies, e.g. Guidance for Ecological Impact Assessment by the Institute of Ecology and Environmental Management. Uncertainty inherent within the prediction will be described.
- 5.5.3 Uncertainty also applies to the success or otherwise of measures to mitigate adverse environmental effects. Where the success of a mitigation measure is uncertain, the extent of the uncertainty will be identified in the EIAR.
- 5.5.4 The EIAR will identify, in accordance with Schedule 4 of the EIA Regulations (Scotland), any difficulties that have been encountered in undertaking the assessment.



## 6 Regulatory and Policy Background

### 6.1 Introduction

- 6.1.1 The Proposed Development will be progressed taking account of policies and guidance at the national and local levels, as set out in this chapter. The relevant planning policies applicable to the Proposed Development set out in the documents identified below will be explained in the planning application / marine licenses applications alongside commentary as to how the Proposed Development complies with those policies.

### 6.2 National Planning Policy, Strategy and Guidance

- 6.2.1 The Scottish Planning Policy (SPP) was published in June 2014, the most recent 2020 update was removed due to a legal challenge in August 2021. The purpose of the SPP is to set out national planning policies which reflect Scottish Ministers' priorities for operation of the planning system and for the development and use of land. The SPP promotes consistency in the application of policy across Scotland whilst allowing sufficient flexibility to reflect local circumstances. It directly relates to:
- the preparation of development plans;
  - the design of development, from initial concept through to delivery; and
  - the determination of planning applications and appeals.
- 6.2.2 Scotland's Third National Planning Framework (NPF3) was launched on 23<sup>rd</sup> June 2014, it is the spatial expression of the Government Economic Strategy and sets out plans for infrastructure investment.
- 6.2.3 The National Planning Framework 4 (NPF4) Position Statement (November 2020) sets out the Scottish Government's current thinking on the issues that will need to be addressed when Scotland's fourth National Planning Framework is being prepared. The Position Statement will be used to inform further discussions on the content of the draft revised framework for consultation.
- 6.2.4 The NPF4 will be a long-term plan looking to 2045 that will guide spatial development, set out national planning policies, designate national developments and highlight regional spatial priorities. Consultation for NPF4 began in April 2020 and on 10<sup>th</sup> November 2021 the Draft NPF4 was laid before Scottish Parliament. Consultation for the draft closes on 31<sup>st</sup> March 2022 with full approval being sought in 2022.

### 6.3 Local Planning Policy and Strategy

- 6.3.1 SIC is the statutory Planning Authority for the area of Fair Isle.
- 6.3.2 The local development plan in Fair Isle comprises the Local Plan (2014-2034), which was adopted in September 2014. This Local Plan replaces the existing Shetland Islands Structure Plan and Local Plan.
- 6.3.3 Within the Shetland Local Development Plan (2014-2034) land use planning can assist in achieving the Shetland Resolution by;
- Enhancing existing communities throughout Shetland by encouraging sustainable economic development to create strong, healthy, vibrant communities where diversity is recognised and celebrated, ensuring they are attractive and inclusive places to live.
  - Supporting new and existing sustainable economic opportunities, including employment, housing, transport, communications and community facilities.
  - Promoting the efficient and sustainable use of natural resources and material assets such as land, water, soil, buildings and infrastructure whilst minimising waste.
  - Conserving and promoting Shetland's historic environment and cultural traditions, recognising their contribution to Shetland's sustainable economic growth, and the quality of life of its people.



- Furthering the conservation of biodiversity and geodiversity throughout Shetland, including landscapes and seascapes.
- Encouraging new development of good quality that is environmentally sensitive, accessible to all, utilises sustainable design techniques and low carbon or renewable energy technologies.
- Protecting and enhancing areas for recreation.
- Supporting better access across the Islands, in particular supporting sustainable and active transport solutions, such as by foot, cycle and public transport, and enabling people to access services, employment and other opportunities.
- Ensuring policies reflect the Council's commitment to the Climate Change (Scotland) Act 2009 through encouraging measures to maintain good air quality, reduce carbon emissions and mitigate against or anticipate the effects of global climate change.

6.3.4 The Local Plan contains:

- three general policies,
- nine natural heritage policies,
- six historic environment policies,
- one coastal development,
- eight housing policies,
- three economic development policies,
- three transport policies,
- one renewable energy policy,
- one minerals policy,
- five waste policies,
- three water and drainage policies, and;
- two community facilities policies.

6.3.5 Policy CST1 Coastal Development: Proposals for developments and infrastructure in the coastal zone (above Mean Low Water Mark of Ordinary Spring Tides) will only be permitted where the proposal can demonstrate that:

- It will not have a significant impact, either individually or cumulatively, on the natural, built environment and cultural heritage resources either in the sea or on land;
- The location, scale and design are such that it will not have a significant adverse impact.
- It does not result in any deterioration in ecological status or potential for any water body or prevent it from achieving good ecological status in the future;
- There is no significant adverse impact on other users of marine resources, and/ or neighbouring land.

**International Sites and Protected Species**

6.3.6 Proposals that have a likely significant effect on European sites (comprising Special Areas of Conservation, Special Protection Areas and Ramsar sites) will be subject to an appropriate assessment in accordance with the Habitats Regulations. Where the assessment indicates that it is not possible to ascertain that the proposal, either on its own or in combination with other plans or projects, would have no adverse effect on the integrity of the site, development will only be permitted in exceptional circumstances where there are no alternative solutions, there is an imperative over-riding public interest and compensation measures are secured. This protection will be extended to proposed or potential European sites and significant weight will be given to this policy in areas where the presence of internationally important features is recognised but no formal designation process has begun. Species protected under international legislation will also receive this highest level of protection.

### **National Sites and Protected Species**

- 6.3.7 Proposals that would adversely affect the notified special interest features of an existing or proposed Site of Special Scientific Interest, National Nature Reserve or nationally protected species will only be permitted where it has been demonstrated that all opportunities to reduce harm have been included within scheme design. Any residual harm must be mitigated through an appropriate strategy. Where mitigation is not possible, compensation may be acceptable in exceptional circumstances.

### **Regional and Local Sites and other valuable habitats and species:**

- 6.3.8 Proposals that would adversely affect any existing or proposed locally designated site such as a Local Nature Reserve, Local Wildlife Site, Regionally Important Geological or Geomorphological Site or other valuable habitat or species will only be permitted where the benefits of the development clearly outweigh the impact on the protected interest.
- 6.3.9 Where a proposed development would attract a significant number of additional visitors to an area or facility, it should be demonstrated how any potential impact upon the area or feature of biodiversity interest will be managed as part of the new development.

### **Historic Environment**

- 6.3.10 SIC is in favour of the protection, conservation and enhancement of all elements of Shetland's historic environment, which includes ancient monuments, archaeological sites and landscapes, historic buildings, townscapes, gardens and designed landscapes and marine heritage.

### **Listed Buildings**

- 6.3.11 SIC have special regard to the desirability of preserving listed buildings, or its setting, or any features of special architectural or historic interest that it possesses, and therefore is against demolition or other works that adversely affect the special interest of a listed building or its setting.

### **Conservation Area**

- 6.3.12 SIC have special regard to the desirability of preserving or enhancing the character and appearance of these areas. Where an existing building contributes positively to the character of the conservation area, proposals for total or substantial demolition should only be supported where it can clearly be demonstrated that every effort has been made to retain it.
- 6.3.13 Proposals that an adverse effect on scheduled monuments and designated wrecks or the integrity of their settings should not be permitted unless there are exceptional circumstances. All other significant archaeological resources should be preserved in situ wherever feasible. Where preservation in situ is not possible the planning authority should ensure that developers undertake appropriate archaeological excavation, recording, analysis, publication and archiving in advance of and/ or during development.

## 7 Topics to be Included within the EIAR Scope

### 7.1 Archaeology and Heritage

#### Introduction

- 7.1.1 Cultural heritage covers all aspects of the historic environment, including all surviving physical remains of past human activity and the changes that humans have had on the environment. The Proposed Development has the potential to have a physical (direct) effect upon finds or features within the footprint of construction works as well as indirect effects through changes to how heritage assets are experienced in the historic landscape.
- 7.1.2 For the purposes of this Scoping Report, cultural heritage comprises three sub-topics which are defined as:
- Built heritage: architectural, designed or other structures with a significant historical value.
  - Archaeological remains: the material remains of human activity from the earliest periods of human evolution to the present.
  - Historic landscapes: the current landscape, whose character is the consequence of the action and interaction of natural and/ or human factor.

#### Baseline Conditions

##### Study Area

- 7.1.3 A 1km Study Area around the Site has been used to inform this report. This is based upon industry standards for desk-based assessments (Chartered Institute for Archaeologists (CIfA) 'Standards and Guidance for Historic Environment Desk-Based Assessment' (as revised 2017) and is considered sufficient to encompass all non-designated cultural heritage assets that have the potential to receive effects from the Proposed Development.

#### Baseline Sources

- 7.1.4 The following sources have been consulted to inform this report:
- National Record of the Historic Environment (NRHE - Canmore) as maintained by Historic Environment Scotland for all designated and undesignated heritage assets<sup>3</sup>
  - Historic Environment Record (HER) data maintained by Shetland Amenity Trust
  - Historic Environment Scotland online *Search for a Scheduled Monument* tool<sup>4</sup>
  - Marine Scotland Historic Marine Protected Areas (HMPAs)<sup>5</sup>
  - National Library of Scotland First and Second Edition Ordnance Survey maps<sup>6</sup>; and
  - Other freely available online repositories including Archaeological Data Service, Britain from Above, LiDAR finder, Google Earth and Heritage Gateway.
- 7.1.5 Designated heritage assets are referred to in the text by their HES list entry number, and non-designated assets by their HER entry and/or NRHE number. **Appendix C.1** shows a plot of designated and undesignated heritage assets located within the 1km Study Area, which are listed in **Appendix C.2**.
- 7.1.6 A historic environment desk-based assessment (HEDBA) will be prepared to inform the Cultural Heritage baseline for the EIAR if required and used for consultation with relevant stakeholders to discuss further evaluative works, if required, and agree an outline mitigation

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[https://canmore.org.uk/site/search/result?SITECOUNTRY=1&LOCAT\\_XY\\_RADIUS\\_M=1000&LOCAT\\_X\\_COORD=422500&LOCAT\\_Y\\_COORD=1072500&LOCAT\\_ENTTYPE=RADIUS](https://canmore.org.uk/site/search/result?SITECOUNTRY=1&LOCAT_XY_RADIUS_M=1000&LOCAT_X_COORD=422500&LOCAT_Y_COORD=1072500&LOCAT_ENTTYPE=RADIUS) accessed 15/11/2021

4 <https://hesportal.maps.arcgis.com/apps/Viewer/index.html?appid=18d2608ac1284066ba3927312710d16d> accessed 17/11/2021

5 <http://marine.gov.scot/maps/1469> accessed 18/11/2021

6 <https://maps.nls.uk/geo/find/#zoom=12&lat=59.53265&lon=-1.62790&layers=102&b=1&z=0&point=59.52502,-1.59311&i=228780928> accessed 16/11/2021

strategy. This will consult a wider/full range of sources in accordance with industry standards for desk-based assessments (CIfA 2014, revised 2020).

### **Built Heritage**

#### **Designated**

- 7.1.7 Listed buildings in Scotland vary from those in the rest of mainland UK<sup>7</sup> and are graded as follows:
- Category A: buildings of special architectural or historical interest which are outstanding examples of a particular period, style or building type.
  - Category B: buildings of special architectural or historic interest which are major examples of a particular period, style or building type.
  - Category C: buildings of special architectural or historic interest which are representative examples of a period, style or building type.
- 7.1.8 There is one Category C Listed Building (LB44541, HER 7897, NRHE 232125) approximately 150m west of the development boundary. The building is a Shetland böd, a building used to house fishermen and their gear during the fishing season and is a rare survivor of this traditional Shetland building practice. The building comprises a gabled flagstone rubble storehouse, rectangular in plan. The Site will form part of the building's setting, and consideration will need to be given in the EIAR as to how the Proposed Development affects its significance during construction and operation phases. As a listed building the designated asset here is of high (national) significance.
- 7.1.9 There are no other designated built heritage assets within the 1km study area.

#### **Non-Designated**

- 7.1.10 The harbour infrastructure is included in the NRHE listings, including the pier (NRHE 96475), and at least two cranes, one of which is undesignated (NRHE 127407). The other crane is a Scheduled Monument (and discussed further below as a designated archaeological asset). No details are provided for the pier in the listing, the pier is presumed to be that shown on the Second Edition Ordnance Survey mapping surveyed in 1900 and published in 1903<sup>8</sup>, so is of at least late 19th century date. The pier would be directly affected by the Proposed Development during construction and operation phases, as it lies to the south of the existing pier, close to the scheduled crane.
- 7.1.11 There are few details regarding the undesignated crane, it appears to be located towards the southern side of the harbour and may no longer be extant (this will be established on site for the EIAR). The undesignated crane will not be directly affected by the Proposed Development as it lies outside the development boundary.
- 7.1.12 The undesignated assets are of low (local) or medium (regional) significance.

### **Archaeological Remains**

#### **Designated**

- 7.1.13 There are nationally designated archaeological remains (a Scheduled Monument) located directly within the Site, comprising a small hand-operated crane of iron construction (SM6589, HER 1957, NRHE 122228, possibly also NRHE 96474). The mechanism is currently not in working order, the hoist cable has been removed. The crane stands on and is set into the edge of the old pier, formerly used by the Fair Isle ferry, and now replaced by a new pier and slip to the NE (see NRHE 96475 above). The crane is probably of late 19th-century date and may have come second-hand from elsewhere in the north, possibly from a lighthouse station. The crane would be directly affected by the Proposed Development during construction and operation phases, as it lies in the centre of the area of development, and consideration will need to be given as to how the Proposed Development affects its significance during

<sup>7</sup> [https://www.historicenvironment.scot/advice-and-support/listing-scheduling-and-designations/listed-buildings/what-is-listing/#categories-of-listing\\_tab](https://www.historicenvironment.scot/advice-and-support/listing-scheduling-and-designations/listed-buildings/what-is-listing/#categories-of-listing_tab) accessed 16/11/2021.

<sup>8</sup> <https://maps.nls.uk/geo/find/#zoom=12&lat=59.53265&lon=-1.62790&layers=102&b=1&z=0&point=59.52502,-1.59311&i=228780928> accessed 16/11/2021

- construction and operation phases, however it is currently in a state of disrepair, which may reduce the significance.
- 7.1.14 There are a further three designated archaeological remains (Scheduled Monuments) outside the Site but within the 1km Study Area:
- Landberg fort, South Haven (SM2082)
  - Burn of Furse to Homis Dale, settlement and burnt mounds (SM6588) - part
  - Burn of Gilsetter, burnt mound and mills (SM6590) – part
- 7.1.15 Landberg fort (SM2082, HER 1740, NRHE 3815) is a small promontory fort 250m south-east of the development boundary, excavated between 1996 and 1997. The fort is defined by ramparts with medial ditches cut off the base of an elongated triangle, the other two sides being defined by the edges of cliffs.
- 7.1.16 Access to the interior was by means of a narrow causeway leading through to the interior of the fort. East of the causeway, the defences comprise three ramparts and two ditches, whilst to the west the defences only comprise two ramparts and one ditch. None of the ramparts exceed 1m in height, nor the ditches 1m in depth, as presently surviving. Indefinite foundations survive within the fort and are probably of later date than the ramparts. Artefacts discovered on the site suggest a middle to late Iron Age date (c. 100 BC to c. 500 AD) for use of the interior. The Site will be clearly visible from the northern ramparts of the fort, and the harbour forms part of the fort's setting; as such, consideration will need to be given in the EIAR as to how the Proposed Development affects its significance during construction and operation phases.
- 7.1.17 Burn of Furse to Homis Dale, settlement and burnt mounds (SM6588) comprises the remains of a settlement of prehistoric date, probably Bronze Age, together with several burnt mounds and many later agricultural enclosures. The listing includes 33 HER and NRHE sites within the study area, which comprise elements within the monument, and are listed in **Table 7.6**. The listed area measures 630m NE-SW by 470m NW-SE, but may extend further, where it is thought further evidence relating to the construction and use of the settlements may survive.
- 7.1.18 The best-preserved settlement remains lie in the gently sloping valley around the head of the Burn of Furse. On the north side of the burn are the remains of two stone-built oval houses, while to the south of the burn lie two burnt mounds. Both houses have a sub-circular main compartment about 8m across with a subsidiary apartment, or annexe, about 6m across on the east side. A small platform to the south-east of these houses may represent the site of a third but has been disturbed by later construction. The more easterly of the two burnt mounds is almost circular, about 8m across with a hollow centre. The more westerly, which has been quarried into, is 14m across and stands up to 1.5m high. There are traces of field walls and clearance heaps, but the detail is obscured by peat and heather. Across a low saddle to the south-west this area of settlement runs into another, which occupies the upper valley of the Burn of Vatstrass, also called Homis Dale. In addition, there is a sizeable burnt mound on the south-west side of the valley, beside a spring which creates a boggy area.
- 7.1.19 In addition to these late prehistoric remains, the listing also includes sites of relatively recent date, consisting of many upstanding and ruined crubs or planticrubs (small enclosures for the growing of vegetable plants), but the soil under and around these has produced quantities of prehistoric pottery, suggesting that some of these small enclosures occupy ancient sites.
- 7.1.20 The Scheduled Monument lies 600m west of the Site, screened from view by a low rise in the topography at Eas Brecks and therefore no impact on its setting and significance is predicted.
- 7.1.21 Burn of Gilsetter, burnt mound and mills (SM6590) comprises a series of small horizontal watermills, of typical "*Norse mill*" or "*Click mill*" type, and their water-supply systems, together with a prehistoric burnt mound. The scheduled area is in two parts, the larger eastern area measuring 660m by 160m, and the smaller western area 160m by 70m.
- 7.1.22 There are at least four mills, of which two have been partly restored. One of the mills within the study area is recorded as an HER entry (HER 1743, NRHE 127410). The mills drew water from the same stream by means of small channels and sluices, and the area which fed the



mills is still rather marshy. Several of the discarded millstones lie within the area, near to the mill sites.

- 7.1.23 In earlier times this same marshy area later occupied by the mills, provided water for use at a burnt mound, a prehistoric cooking place, and this mound is also included in the scheduling.
- 7.1.24 The Scheduled Monument lies 800m south-west of the site and is screened from view by the topography. No impact on its setting and significance is therefore predicted.
- 7.1.25 All the nationally designated (scheduled) assets listed are of high (national) significance.

#### **Undesignated**

- 7.1.26 Findspots dated to the Mesolithic suggest the possibility of earlier occupation on the island, but the evidence is ephemeral and sometimes contested. A possible Mesolithic flint core axe (HER 3568 NRHE 3871) was found in June 1945 at North Haven, and a further flint core found close by (HER 1358), recorded under the same entry.
- 7.1.27 Whilst some of the recorded archaeological evidence, particularly the large turf and stone dykes which partitioned the landscape, may have its origins in the Neolithic period, most of the known settlement evidence dates to the Bronze Age, and comprises oval-shaped stone houses, as exemplified at the Burn of Furse (see 7.1.17) but visible across the whole area.
- 7.1.28 Burnt mounds seen at the Burn of Furse and Burn of Gilsetter (see 7.1.21) are also of this date, and comprise mounds of heat-shattered stone, often crescentic in shape, surrounding a central trough or pit which may have been lined with clay, wood or stone. A further example is recorded at Burn of Vatstrass (HER 1667, NRHE 3869), 700m south-west of the site. Their exact function is unknown, but they were believed to be used for bathing or cooking, or for industrial processes such as tanning or preparing cloth.
- 7.1.29 Standing stones and stone alignments (HERs 1292, 1293, 1346, 1353 1725, 1727), though recorded as undated, are all likely to be of Late Neolithic and Early Bronze Age date. These may have functioned as mapped representations of routes, but the variability in date, size and form means that it is unlikely that they all shared the same function. Burial monuments in the vicinity include kerbed cairns, comprising a low mound or stone cairn ringed by a prominent kerb of stones, which is usually taller than the mound or cairn itself, and an example is located 50m east of the development boundary at Grey Stane (HER 1732, NRHE 330299). Other undated cairns (HERs 1294, 1340, 1679, 1735) may represent areas of clearance or markers within the landscape and could be of prehistoric date. From the Iron Age, settlement gradually became more nucleated, with houses clustered together near the shore, and the fort at Landberg is a typical example of this (see above).
- 7.1.30 Most of the undesignated sites within the HER stem from survey work undertaken by JR Hunter between 1984 and 1989 and published in 1996<sup>9</sup>. Hunter recorded 750 sites on the island, including field-dykes and fields, with evidence of rig cultivation within several the fields. Most of the recorded earthworks are classified in the HER as undated but are thought to be of medieval (pre- and post-Norse) and post-medieval date; however, little archaeological excavation has been carried out on the island to confirm the dating. Large scale migrations to Shetland from the Norwegian west coast between the 9th and 13th centuries probably accounts for the most significant change to the landscape after the prehistoric period. Initial seasonal raiding in the 9th and 10th centuries, caused by a collapse of the farming system due to poor harvests and a worsening climate, led to more progressive settlement by the 11th century. Fair Isle was an important staging post in the early medieval period, part of the great Viking 'sea road' stretching from Norway to Ireland and beyond. The Norse settlers named Fair Isle *Fridarey*, and the *Orkneyinga Saga* records that Fair Isle was chosen as a place to site a beacon, presumably on Ward Hill (217m) on the west side of the island.
- 7.1.31 Fair Isle also played an important role in the First and Second World Wars, with troops from both navy and army stationed there. In the First World War the islands were a staging post for North Sea convoys and played a vital role in the blockade of Germany. During the Second World War, the Royal Air Force built a radar station on top of Ward Hill during the Battle of the Atlantic. Military installations are recorded around Bu Ness (HER 1733, NRHE 330297) and

<sup>9</sup> Hunter, JR (1996) Fair Isle: The Archaeology of an Island Community. National Trust for Scotland.

North Haven (HER 1680, HER 1681, HER 1682), most now little more than earthworks. There was a military camp just south of the harbour (NRHE 174319) at the west end of the narrow isthmus between Bu Ness and the rest of Fair Isle, recorded on RAF aerial photographs from 1945. The camp consisted of at least 16 huts and was presumably built to accommodate military personnel based at Ward Hill. None of these sites lie within the development boundary and are likely to be affected by the development, though the camp lies close to the south-western edge of the boundary and its exact extent is not known. The location of the camp will need to be ascertained during further assessment to inform the EIAR.

- 7.1.32 The island was subject to several air raids, and the island's north and south lighthouses both came under attack several times. Bomb craters are recorded at Gilsetter (HER 1290), Homis Dale (HER 1317, NRHE 316152), and Ruskillie (NRHE 316116) reflecting this activity.
- 7.1.33 Upwards of 1500 ships and boats have been recorded as lost in territorial waters around Shetland and Fair Isle, almost 9% of the Scottish total, and remains of more than 180 wrecks are known to survive on the seabed<sup>10</sup>. The survey area includes the locations of 20 shipwrecks dated between the 10th century (NRHE 288848, the historical account of the wrecking of a ship belonging to Sivard or Sigurd just of Siwards Geo, which takes its name from the event) and the 20th century (HER 6938 NRHE 242503, Good Shepherd, a British Mail Boat driven from its mooring in a gale and wrecked on the 31st of January 1937). These shipwrecks are often poorly located and given the nearest available topographic feature as the location they went down (e.g., Fair Isle Harbour). None of the shipwrecks are classed as Historic Marine Protected Areas under Section 67 of the Marine Scotland Act 2010<sup>11</sup>, but any dredging within the harbour around the proposed pier extension and linkspan, or marine boreholes and vibrocores, could impact on undesignated historic shipwreck sites and their locations, and these will need to be ascertained as much as possible during further assessment.
- 7.1.34 The undesignated assets are of medium (regional) significance.

#### **Historic Landscapes**

- 7.1.35 There are no Gardens and Designed Landscapes, Conservation Areas or World Heritage Sites within the Site or within the 1km study area.

#### **Potential Significant Effects**

##### **Built Heritage**

- 7.1.36 One designated built heritage asset (Category C listed building) was identified within the 1km Study Area and located 150m west of the development boundary. The building, a Shetland böd, is a rare survivor of this traditional Shetland building practice. The Site will form part of the building's setting, and consideration will need to be given as to how the Proposed Development affects its significance during construction and operation phases.
- 7.1.37 Several non-designated built heritage assets have also been identified within the Site. Non-designated built heritage assets include the pier, which dates to the 19th century, and cranes, plus one of the cranes is a Scheduled Monument (nationally designated, see section below).

#### **Construction**

- 7.1.38 The designated built heritage asset (Shetland böd) has the potential to receive indirect effects resulting from the construction phase of the Proposed Development. Potential indirect impacts that could arise include:
- The introduction of construction activities and infrastructure in key views from/towards the building; and
  - An increase in activities, light, pollution and movement within the setting of the building from construction.

<sup>10</sup> <http://www.archaeologists.net/sites/default/files/ta79.pdf> page 14, accessed 18/11/2021

<sup>11</sup> <https://marinescotland.atkinsgeospatial.com/nmpi/default.aspx?layers=1469> accessed 18/11/2021

- 7.1.39 The undesignated assets have the potential to be directly affected (demolished or damaged) by the construction phase of the Proposed Development.

#### Operation

- 7.1.40 The designated built heritage asset (Shetland böd) has the potential to receive direct effects resulting from the operation phase of the Proposed Development. Potential impacts that could arise include:

- Movement and vibrations from increased traffic affecting the material integrity and setting of the heritage asset.

- 7.1.41 Any of the potential non-designated built heritage assets, not already impacted during the construction phase have the potential to be directly affected (demolished or damaged) by the operation phase of the Proposed Development.

#### Archaeological Remains

- 7.1.42 There are designated archaeological remains (Scheduled Monuments) within the Site, a small hand-operated crane of iron construction (SM6589, HER 1957, NRHE 122228, possibly also NRHE 96474), which will be directly affected by the Proposed Development. The setting of further archaeological remains (Scheduled Monuments) at Landberg fort (SM2082, HER 1740, NRHE 3815), a small promontory fort 250m south-east of the development boundary, could be affected by the development and consideration will need to be given as to how the Proposed Development affects its significance during construction and operation phases.

- 7.1.43 Several non-designated archaeological remains are recorded within the vicinity of the Site, and there is also a potential for parts of the Site to contain, as yet unknown, below-ground archaeological deposits. These archaeological remains could date from the prehistoric to modern periods. Within close proximity to the site is a prehistoric kerbed cairn (HER 1732, NRHE 330299) and a WWII camp (NRHE 174319); the extent of the latter is unknown, and it may encroach on the development boundary. Several undesignated shipwrecks are also located close to the harbour, albeit poorly located, and could be affected by dredging within the harbour around the proposed pier extension and linkspan, or marine boreholes and vibrocores.

#### Construction

- 7.1.44 Potential impacts on the designated assets that could arise include:

- Direct – the designated crane could be demolished or damaged by the construction phase of the Proposed Development. The setting of the crane could also be directly affected, damaging its significance.
- Indirect – the setting of the promontory fort could be affected by changes caused by the construction phase of the Proposed Development.

- 7.1.45 Potential impacts on the undesignated assets that could arise include:

- Direct - groundworks associated with the construction phase of the Proposed Development, including for any temporary infrastructure, will remove any archaeological remains/deposits present within their footprint, resulting in a permanent direct adverse effect upon the archaeological resource.

#### Operation

- 7.1.46 Potential impacts on the designated assets that could arise include:

- Direct – the designated crane could be affected by increased vibration and pollution (dust, fumes) during the operational phase of the Proposed Development. The setting of the crane could also be directly affected, damaging its significance.
- Indirect – the setting of the promontory fort could be affected by the operational phase of the Proposed Development.

- 7.1.47 There are unlikely to be residual effects upon any undesignated archaeological remains affected (removed following mitigation) during the construction phase.



### Not Significant Effects

- 7.1.48 The Proposed Development will not result in any direct impacts to the other identified designated archaeological remains (Scheduled Monuments), Burn of Furse to Homis Dale, settlement and burnt mounds (SM6588) and Burn of Gilsetter, burnt mound and mills (SM6590) as both are located some distance from the Site and are screened by the topography.
- 7.1.49 No Gardens and Designed Landscapes, Conservation Areas or World Heritage Sites are located within the Site or within the 1km study area.

### Assessment Methodology

#### Legislation, Policy and Guidance

- 7.1.50 Legislation, planning policy and guidance of relevance to the Proposed Development include:
- Historic Buildings and Ancient Monuments Act (1953);
  - Ancient Monuments and Archaeological Areas Act (1979);
  - Planning (Listed Buildings and Conservation Areas) (Scotland) Act (1997);
  - Town and Country Planning (Scotland) Act (1997)
  - Marine (Scotland) Act (2010)
  - Historic Environment (Amendment) (Scotland) Act (2011)
  - The Town and Country Planning (Development Management Procedure) (Scotland) Regulations (2013)
  - Historic Environment (Scotland) Act (2014)
  - Historic Environment Policy for Scotland (HEPS) (2019);
  - Scottish Planning Policy (SPP) (2020): Valuing the Historic Environment Paragraphs 135-151; and
  - Shetland Islands Council Local Development Plan (adopted 2014): Historic Environment (HE1 to HE6)
- 7.1.51 The assessment will also be carried out in accordance with all relevant standards and guidance including:
- Design Manual for Roads and Bridges (DMRB) 'LA 106 - Cultural Heritage Assessment' (2020)
  - ClfA's 'Standards and Guidance for Historic Environment Desk-based Assessment (as revised 2020);
  - Historic Environment Scotland 'Managing Change in the Historic Environment: Asset Management' (2019);
  - Historic Environment Scotland 'Managing Change in the Historic Environment: Setting' (2020); and
  - Historic Environment Scotland 'Managing Change in the Historic Environment: Works on Scheduled Monuments' (2020).

### Value (sensitivity) of resource

- 7.1.52 An assessment of the value of cultural heritage assets within the proposed study areas is required. This will be undertaken on a five-point scale (Very High, High, Medium, Low, Negligible) within the EIAR. In some cases, the value may be unknown and further assessment to gauge the value will be undertaken. Assessment of value will be based mainly upon existing designations but will allow for professional judgement where features are found which do not have any formal national or local designation. The assessment of the setting of cultural heritage assets, including contribution to their historic legibility and capacity for change, will be undertaken based on the guidance contained in Historic Environment Scotland 'Managing Change in the Historic Environment: Setting' (2020). The criteria used to assess

the value of cultural heritage assets is presented in **Table 7.1**. This is derived from **Table 3.2N** in DMRB (LA 104) and incorporates more detailed descriptions used in the previous version of DMRB (HA 208/07) (Highways Agency 2007) specific to cultural heritage. Whilst this was created specifically for road schemes, the criteria provide the means to gauge and assign value to cultural heritage assets affected by any type of development in a consistent way. Whilst the revised version of DMRB (2020) supersedes the previous version, the criteria tables used in the former version (2007) provide a greater level of detail specific to cultural heritage and have therefore been adopted in this assessment.

Table 7.1: Criteria for Grading the Value of Heritage Assets

Value (sensitivity) of receptor/resource	Archaeological remains	Built heritage	Historic landscapes
Very High (international)	<ul style="list-style-type: none"> <li>World heritage sites</li> <li>Archaeological sites of acknowledged internal importance</li> <li>Assets that can contribute significantly to acknowledged international research objectives</li> </ul>	<ul style="list-style-type: none"> <li>Structures inscribed as being of universal importance as world heritage sites</li> <li>Other buildings recognised as internationally important</li> </ul>	<ul style="list-style-type: none"> <li>World heritage sites inscribed for their historic landscape qualities</li> <li>Historic landscapes of international value, whether designated or not</li> <li>Extremely well-preserved historic landscapes with exceptional coherence, time depth or other critical factor(s)</li> </ul>
High (national)	<ul style="list-style-type: none"> <li>Scheduled monuments (including proposed sites)</li> <li>Undesignated archaeological remains of schedulable quality and importance</li> <li>Assets that can contribute significantly to acknowledge national research objectives</li> </ul>	<ul style="list-style-type: none"> <li>Scheduled monuments with standing remains</li> <li>Grade A and B listed buildings</li> <li>Other listed buildings that can be shown to have exceptional qualities in their fabric or historical associations not adequately reflected in the listing grade</li> <li>Conservation areas containing very important buildings</li> </ul>	<ul style="list-style-type: none"> <li>Designated historic landscapes of outstanding interest</li> <li>Undesignated landscapes of outstanding interest</li> <li>Undesignated landscapes of high quality and importance and of demonstrable national value.</li> <li>Well preserved historic landscapes exhibiting considerable coherence, time-depth or other critical factors</li> </ul>
Medium (national/regional)	<ul style="list-style-type: none"> <li>Archaeological remains that contribute towards regional research objectives</li> </ul>	<ul style="list-style-type: none"> <li>Grade C listed buildings</li> <li>Historic unlisted buildings that can be shown to have exceptional qualities in their fabric or historical associations</li> <li>Conservation areas containing buildings that contribute significantly to the historic character</li> <li>Historic townscape or built-up areas with important historic integrity in their buildings or built settings (e.g. including street furniture and other structures)</li> </ul>	<ul style="list-style-type: none"> <li>Designated special historic landscapes</li> <li>Undesignated historic landscapes that would justify special historic landscape designation, landscapes of regional value</li> <li>Averagely well-preserved historic landscapes with reasonable coherence, time-depth or other critical factors</li> </ul>
Low (regional/local)	<ul style="list-style-type: none"> <li>Archaeological remains of local importance.</li> <li>Archaeological remains compromised by poor preservation and/or</li> </ul>	<ul style="list-style-type: none"> <li>'Locally listed' buildings</li> <li>Historic unlisted buildings of modest quality in their fabric or historical association</li> <li>Historic townscape or built-up areas of limited</li> </ul>	<ul style="list-style-type: none"> <li>Robust undesignated historic landscapes</li> <li>Historic landscapes with importance to local interest groups</li> <li>Historic landscapes whose value is limited by poor</li> </ul>

Value (sensitivity) of receptor/ resource	Archaeological remains	Built heritage	Historic landscapes
	poor survival of contextual associations. ▪ Archaeological remains of limited value, but with potential to contribute to local research objectives	historic integrity in their buildings or built settings (e.g. including street furniture and other structures)	preservation and/or poor survival of contextual associations
Negligible (local)	▪ Assets with very little or no surviving archaeological interest	▪ Buildings of no architectural or historical note; buildings of an intrusive character	▪ Landscapes with little or no significant archaeological interest

### Magnitude of Impact

7.1.53 Magnitude of impact is the degree of change that would be experienced by a cultural heritage asset and its setting during the construction and operation of the Proposed Development, as compared with a 'do nothing' scenario. Magnitude of impact is assessed without reference to the value of the cultural heritage asset and could include physical impacts upon the cultural heritage asset or impacts on its setting. Effects may be temporary or permanent, direct or indirect and may be adverse, beneficial or may result in no change.

7.1.54 The magnitude of impact will be assessed in the EIAR using a five-point scale (Major, Moderate, Minor, Negligible and No Change). The assessment has been based on professional judgement and follows criteria provided in DMRB (LA 104). Factors in the assessment of the magnitude of impact for all cultural heritage assets are presented in **Table 7.2**.

Table 7.2: Magnitude of Impact and Typical Descriptors

Magnitude of impact (change)		Typical description
Major	Adverse	<ul style="list-style-type: none"> <li>▪ Change to most or all key historic landscape elements, parcels or components; extreme visual effects; gross change of noise or change to sound quality; fundamental changes to use or access; resulting in total change to historic landscape character unit</li> <li>▪ Change to most or all key archaeological materials, such that the resource is totally altered. Comprehensive changes to setting</li> <li>▪ Change to key historic building elements, such that the resource is totally altered. Comprehensive changes to the setting</li> </ul>
	Beneficial	<ul style="list-style-type: none"> <li>▪ Large scale or major improvement of resource quality; extensive restoration; major improvement of attribute quality</li> </ul>
Moderate	Adverse	<ul style="list-style-type: none"> <li>▪ Changes to many key historic landscape elements, parcels or components, visual change to many key aspects of the historic landscape, noticeable differences in noise or sound quality, considerable changes to use or access; resulting in moderate changes to historic landscape character</li> <li>▪ Changes to many key archaeological materials, such that the resource is clearly modified. Considerable changes to setting that affect the character of the asset</li> <li>▪ Change to many key historic building elements, such that the resource is significantly modified. Changes to the setting of an historic building, such that it is significantly modified</li> </ul>
	Beneficial	<ul style="list-style-type: none"> <li>▪ Benefit to, or addition of, key characteristics, features or elements; improvement of attribute quality</li> </ul>

Magnitude of impact (change)		Typical description
Minor	Adverse	<ul style="list-style-type: none"> <li>Changes to few key historic landscape elements, parcels or components, slight visual changes to few key aspects of historic landscape, limited changes to noise levels or sound quality; slight changes to use or access: resulting in limited changes to historic landscape character</li> <li>Changes to key archaeological materials, such that the asset is slightly altered. Slight changes to setting</li> <li>Change to key historic building elements, such that the asset is slightly different. Change to setting of an historic building, such that it is noticeably changed</li> </ul>
	Beneficial	<ul style="list-style-type: none"> <li>Minor benefit to, or addition of, one (maybe more) key characteristics, features or elements; some beneficial impact on attribute or a reduced risk of negative impact occurring</li> </ul>
Negligible	Adverse	<ul style="list-style-type: none"> <li>Very minor changes to key historic landscape elements, parcels or components, virtually unchanged visual effects, very slight changes in noise levels or sound quality; very slight changes to use or access; resulting in a very small change to historic landscape character</li> <li>Very minor changes to archaeological materials or setting</li> <li>Slight changes to historic buildings elements or setting that hardly affect it</li> </ul>
	Beneficial	<ul style="list-style-type: none"> <li>Very minor benefit to or positive addition of one or more characteristics, features or elements</li> </ul>
No change		<ul style="list-style-type: none"> <li>No loss or alteration of characteristics, features or elements; no observable impact in either direction</li> </ul>

### Significance of Effect

The significance of effect for all cultural heritage assets will be determined as a combination of the assessment of the value of the cultural heritage asset and the magnitude of impact. This is achieved using professional judgement informed by the matrix illustrated below in **Table 7.3**. Five levels of significance (Substantial, Major, Moderate, Minor or Negligible) are defined which apply equally to adverse and beneficial impacts. Where two significances of impacts are given in the table (for example neutral or slight) professional judgement will be used and fully explained within the EIAR to suggest the most likely significance of impact in addition to the worst-case scenario. A significance of effect of Moderate or above is taken to be significant in the context of EIA Regulations.

Table 7.3: Significance of Effect Matrix

		Magnitude of Impact (degree of change)				
		No change	Negligible	Minor	Moderate	Major
Environmental value (sensitivity)	Very High	Negligible	Minor	Moderate or Major	Major or Substantial	Substantial
	High	Negligible	Minor	Minor or Moderate	Moderate or Major	Major or Substantial
	Medium	Negligible	Negligible or Minor	Minor	Moderate	Moderate or Major
	Low	Negligible	Negligible or Minor	Negligible or Minor	Minor	Minor or Moderate
	Negligible	Negligible	Negligible	Negligible or Minor	Negligible or Minor	Minor

## Summary

7.1.55 **Table 7.4** represents a summary of recommended scoped in and out elements for archaeology and heritage.

Table 7.4 Summary of Archaeology and Heritage

Discipline	Scoped In Elements	Scoped Out Elements
Archaeology and Heritage	<p>Archaeological Remains:</p> <ul style="list-style-type: none"> <li>Designated assets (direct and indirect effects on 2 Scheduled Monuments: a small hand-operated crane of iron construction within the Site (SM6589, HER 1957, NRHE 122228, possibly also NRHE 96474), the setting at Landberg fort at 250m south-east (SM2082, HER 1740, NRHE 3815))</li> <li>Undesignated assets (direct impacts on unknown buried archaeological resource: a prehistoric kerbed cairn (HER 1732, NRHE 330299), a WWII camp (NRHE 174319) and shipwreck locations)</li> </ul> <p>Built Heritage:</p> <ul style="list-style-type: none"> <li>Designated assets (indirect impacts on 1 Listed Building: a Shetland böd (Category C Listed Building) at 150m west)</li> <li>Undesignated assets (direct impacts to pier infrastructure)</li> </ul>	<p>Archaeological Remains:</p> <ul style="list-style-type: none"> <li>Designated assets (no direct or indirect effects on 2 Scheduled Monuments: Burn of Furse to Homis Dale, settlement and burnt mounds (SM6588) and Burn of Gilsetter, burnt mound and mills (SM6590) (both located some distance from the Site and screened by the topography)</li> </ul> <p>Historic Landscapes</p> <ul style="list-style-type: none"> <li>Gardens and Designed Landscapes, Conservation Areas and World Heritage Sites (none present within 1km)</li> </ul>

## References

Chartered Institute for Archaeologists (CIfA). 2014 *Standards and Guidance for Historic Environment Desk-based Assessment* (revised 2020).

Design Manual for Roads and Bridges (DMRB). 2020 *LA 106 Cultural Heritage Assessment*. Standards for Highways.

Design Manual for Roads and Bridges (DMRB). 2020 *LA 104 Environmental Assessment, and Monitoring*. Standards for Highways.

Design Manual for Roads and Bridges (DMRB). 2007 *HA 208/07 Cultural Heritage*, Volume 11, Section 3. Highways Agency.

Hunter, JR (1996) *Fair Isle: The Archaeology of an Island Community*. National Trust for Scotland.

## 7.2 Climate Change

### Introduction

7.2.1 Regulation 4(2)(c) of the 2017 EIA Regulations and Regulation 5(3)(c) of the Marine EIA Regulations 2017 requires significant effects on climate to be considered, as appropriate, within the EIA process. In addition, Schedule 4 to the 2017 EIA Regulations and Schedule 3 of Marine EIA Regulations requires likely significant effects resulting from “*the impact of the project on climate...and the vulnerability of the project to climate change*” to be addressed within an ES.

7.2.2 The climate change assessment is comprised of two elements which are both presented within this scoping chapter:

- Greenhouse gas (GHG) Emissions Assessment (the impact of the Proposed Development on climate change); and
- Climate Risk and Resilience Assessment (CCRA) (the impact of climate change on the Proposed Development).

7.2.3 Legislation and planning policies that are relevant to the Proposed Development and climate change include:

- The Paris Agreement, 2015
- The Climate Change (Scotland) Act (CCA) 2009 and Climate Change (Emissions Reduction Targets) (Scotland) Act 2019
- Climate Change Plan 2018-2032 (2021) (Scotland)
- The Glasgow Climate Pact 2021
- COP26 Climate Pact 2021
- Shetland Local Development Plan 2014: Policy GP1 Sustainable Development, GP2 General Requirements for All Development

Other relevant publications include:

- Environmental Impact Assessment (EIA) Guidance on assessing greenhouse gas emission and significance (IEMA, 2017).
- Publicly Available Standard (PAS) 2080:2016 Carbon management in Infrastructure (British Standards Institute (BSI), 2016).
- World Business Council for Sustainable Development (WBCSD) and World Resources Institute (WRI) Greenhouse Gas Protocol guidance (WBCSD and WRI, 2004).

### Baseline Conditions

#### Study Area

- 7.2.4 The climate study area comprises the land, infrastructure and activities that occur within the site boundary and extends to include activities that occur beyond the site boundary, such as the ferry route between Fair Isle and mainland Shetland, the generation of electricity off site and transport of construction materials. It is not possible at this stage to define the exact location for some sources of GHG emissions that will occur outside the site boundary, such as materials production.
- 7.2.1 The CCRA will utilise the UK Climate Projections (UKCP18) data. Land probabilistic data cover 25km grid cells. UKCP18 data does not provide data for Fair Isle so the closest grid square to the site has been used to set out the future climatic baseline (437500 1137500, southern Shetland mainland).

### Baseline Sources

- 7.2.2 The following data sources were reviewed to establish the baseline conditions for the site:
- Met Office historic climate data (Met Office, undated) – to identify the historic trends of relevant climatic factors for the geographic area of the Scheme.
  - UK Climate Projections (UKCP18) (Met Office, 2018) – to identify the climate projections for the geographic area and appropriate temporal scope of the Scheme.

### Baseline Description

#### GHG Baseline

- 7.2.3 Current GHG emission sources relate to the fuel burnt by the running of the existing ferry service, as well as from the operation of the noust (which is either via electricity or a diesel generator as back up). There are also a small number of lights and welfare facilities on site that require electricity from either a generator or purchased electricity when in use. There are no other existing uses within the site boundary.

#### CCRA Baseline

- 7.2.4 Historic climate averages during the period 1981-2010 for the closest climate station to the site (Fair Isle), obtained from the Met Office website (Met office, undated), indicates the following:



- Average annual maximum temperature was 9.7°C;
  - Warmest month on average was August (mean maximum temperatures of 14.1°C);
  - Coldest month on average was February (mean minimum temperature of 2.6°C);
  - Average total annual rainfall was 946.7 mm;
  - Wettest month on average was October (average monthly rainfall of 116 mm); and
  - Driest month on average was May (average monthly rainfall of 41.7 mm).
- 7.2.5 The SEPA Flood Map shows the site being in an area of high likelihood (10% annual chance) of coastal flooding. The site benefits from an existing breakwater to the north.
- 7.2.6 UKCP18 projections show the potential change in climate for future years up to 2099. A summary of the projections is provided below in **Table 7.5**. The projections show the potential change in temperature or precipitation above or below the observed temperature/precipitation for 1981-2000.

Table 7.5: 50th Percentile Climate Projections in 2062 for 25 km grid square 437500 1137500 using baseline 1981-2000 scenario RCP8.5

Date	Mean air temperature anomaly at 1.5 m (°C)	Annual Precipitation rate anomaly (%)	Maximum Summer air temperature anomaly at 1.5 m (°C)	Average Summer Precipitation rate anomaly (%)	Minimum Winter air temperature anomaly at 1.5 m (°C)	Average Winter Precipitation rate anomaly (%)
	1.5	9.14	1.25	-2.01	1.98	20.39

- 7.2.7 The projections show that the site is likely to experience an increase in annual average temperature and annual rainfall. By 2062, the site is expected to experience warmer, drier summers and milder, wetter winters. Extreme weather events are also expected to change in frequency and intensity in the coming decades. These extremes, such as heatwaves, heavy rainfall and storms, will be considered within the EIAR.

### Consultation

- 7.2.8 No consultation in relation to climate change has been undertaken at the time of writing this chapter.

### Potential Significant Effects

#### Construction

##### GHG Assessment

- 7.2.9 During construction, direct GHG emissions will be emitted from activities such as the combustion of fuels for vehicles, plant or equipment used for construction. There will also be emissions from generators or purchased electricity needed for plant and welfare facilities, as well as indirect emissions from the production of purchased materials and the transportation of these materials to site

##### CCRA

- 7.2.10 Effects of climate change on the Proposed Development during construction are considered to be not significant, see **section 7.2.16** below.

#### Operation

##### GHG Assessment

- 7.2.11 No significant effects as result of GHG emissions during the operational phase are anticipated, see **section 7.2.17** below.

## **CCRA**

- 7.2.12 The Proposed Development may be vulnerable to varying future climate conditions relating to high temperatures and heat waves, extreme precipitation events, water shortage in drought conditions and other extreme weather events which could result in adverse effects during the operation of the Proposed Development.
- 7.2.13 Sensitive receptors that have the potential to be affected by climate change and that will be assessed within the EIAR include:
- Future users of the site; and
  - Infrastructure including the pier and breakwater.
- 7.2.14 There is also the potential for climate change, and in particular changes to seasonal patterns, to exacerbate the effects on environmental receptors to an extent that a new or previously identified effect in other topic chapters becomes significant. These are referred to as in-combination climate change impacts.

## **Not Significant Effects**

- 7.2.15 The construction will be temporary and short term with an anticipated programme over two summer seasons as detailed in Section 3.3.2. Therefore, it is considered unlikely that there will be significant changes to the climate during this period. It is anticipated that the risk of climate hazards, for example from extremes in temperatures or periods of heavy precipitation are expected to be managed through standard construction and health and safety practices, such as securing material/equipment and not undertaking works during periods of extreme rainfall or high winds. Significant effects from climate change during construction of the Proposed Development are therefore not expected and will be scoped out of the EIAR.
- 7.2.16 GHG emissions from the Proposed Development during operation are anticipated to be emitted as a result of burning fossil fuels to run the ferry service and from any electricity required for lighting and the noust and winch house. These emissions are not anticipated to increase substantially from the existing baseline emissions of the current ferry service. The use of the new larger ferry will likely increase GHG emissions although also it is anticipated that the new vessel will be more efficient than the existing vessel. Therefore, no significant effects as result of GHG emissions during the operational phase are anticipated.

## **Assessment Methodology**

### **GHG Assessment**

- 7.2.17 There is no nationally adopted method for assessing climate change within EIA and therefore the assessment approach draws upon IEMA guidance (IEMA, 2017). IEMA guidance emphasises that a proportionate and appropriate assessment should be undertaken to inform decision making and recognises that qualitative assessments are acceptable where mitigation has been agreed early on in the design phase with design and engineering teams.
- 7.2.18 The following design mitigation measures have been considered
- Pre-cast blocks will be used and be backfilled on site. This will reduce the amount of material required to be transported to site.
  - Material excavated from hollowing the existing noust is anticipated to be re-used within the Proposed Development. This will reduce the volume of new materials required for construction and will also reduce waste stored on site and exported off island.
  - Consideration has been given to the selection of materials required to build out the Proposed Development. Norwegian stone is considered the most appropriate material due to the material of the existing breakwater as we understand existing rock came from there. However, this will be confirmed following completion of the wave modelling as this will inform the size and density of rock required. It is the understanding that it might be limited from what is available in UK quarries and some Norwegian quarries are closer.
  - All imported material will be transported to site via shipping rather than aviation.



- A Construction Environmental Management Plan (CEMP) will include management measures that will reduce GHG emissions during construction, for example, no unnecessary idling of engines, maintenance of plant equipment to check they are operating optimally and efficient use of materials to reduce waste.
- 7.2.19 Given the above mitigation measures, it is considered that a qualitative GHG assessment is appropriate and proportionate in the context of the EIA Regulations.
- 7.2.20 The following methodology for assessment is proposed:
- Review of policy context for the assessment with reference to National and Local policy;
  - Qualitative review of potential GHG emission sources during construction of the Proposed Development, as outlined above. The qualitative assessment will adopt emission boundaries (i.e. scope of the emissions) that align with Greenhouse Gas Protocol (WBCSD and WRI, 2019) and PAS 2070 methodology (BSI, 2013); and
  - Identification of embedded and further mitigation measures to reduce the GHG emissions associated with the Proposed Development.
- 7.2.21 There is an absence of significance criteria or defined threshold for determining the significance of effects resulting from GHG emissions in EIA. Significance of effect is therefore determined using professional judgement, and consideration of the following elements:
- Appraisal of the Proposed Development's emissions in the context of national, regional and local emissions.
  - IEMA EIA Guide to Assessing Greenhouse Gas Emissions and Evaluating their Significance (IEMA, 2017).
  - How the Proposed Development has embedded design features to reduce GHG emissions and identified opportunities for further mitigation in the Proposed Development's design and delivery.
- 7.2.22 GHG emissions have a global effect rather than directly affecting specific local receptors to which levels of sensitivity can be assigned. The global climate has therefore been treated as a single receptor. Given the global scale and severe consequences of climate change and limited recoverability, the receptor sensitivity is considered to be high.

#### **CCRA**

- 7.2.23 The future climate conditions for the site have been informed by UK Climate Projections 2018 (UKCP18) produced by the UK Met Office (Met Office, 2018). UKCP18 builds upon the previous projections to provide information on how the climate of the UK may change over the rest of this century. This information will be considered to identify the likely changes to climate to describe the future, emerging baseline and to qualitatively assess the likely significant effects of climate change on the Proposed Development.
- 7.2.24 UKCP18 uses Representative Concentration Pathways (RCPs) to develop projections and consider factors such as economic activity, population growth and land use change, which will result in a different range of global mean temperature increases until 2099. RCP8.5 represents the highest emissions scenario, including extreme climate change scenarios. This is considered the most appropriate scenario for assessing the impact of climate change on the Proposed Development, to provide a suitable conservative approach.
- 7.2.25 The assessment will therefore utilise the probabilistic projections for the assessment year of 2022 (opening year) and look at 25 year intervals up to the year 2099. The scenario RCP8.5 will be used for the 25 km grid cell that is closest to the site (437500, 1137500). A review of the following data from this data set will be undertaken:
- Average Summer Precipitation (% change);
  - Average Winter Precipitation (% change);
  - Average Annual Precipitation (% change);
  - Maximum Average Summer Temperature;

- Minimum Average Winter Temperature; and
  - Annual Mean Temperature.
- 7.2.26 The climate projections described above will be considered alongside the design information available and embedded mitigation to identify the vulnerability and resilience of the Proposed Development to climate change. The inverse of climate resilience, vulnerability to climate change refers to an aspect of infrastructure, operations or a project which is susceptible to impacts arising from climate change, e.g. a building may be vulnerable to overheating due to future increase in temperatures if it has not been designed with consideration of higher temperatures.
- 7.2.27 Likely significant effects will be identified through the approach set out in the methodology section above. There is no nationally adopted method for assessing and determining significance of climate change impacts within EIA. The assessment approach will therefore draw upon guidance from IEMA (IEMA, 2020). This includes the consideration of whether the effect is temporary or permanent.
- 7.2.28 Effects that are described as 'minor' or 'negligible' are determined to be 'Not Significant', and effects that are described as 'moderate', 'major' or 'substantial' are determined to be 'Significant'.
- 7.2.29 Flood risk will be assessed within the Flood Risk and Drainage EIAR chapter, the methodology for which is set out in Chapter 8.8 of this scoping report. The assessment will take SEPA climate change allowances for sea level rise into account.

#### Limitations and Assumptions

- 7.2.30 Due to the uncertainties that exist around the subject of climate, there are limitations associated with predicting the impacts of climate change into the future, which could result in this assessment either over or under estimating the impacts of climate change on the Proposed Development. These limitations include:
  - Uncertainty around future climate change projections.
  - Limited methodological guidance on how a climate change assessment should be carried out.
- 7.2.31 RCP8.5, the highest emission scenario, is considered most appropriate for this assessment to provide a conservative projection. The assessment will also be based on professional judgement.

#### Summary

- 7.2.32 **Table 7.6** represents a summary of recommended scoped in and out elements for Climate Change.

Table 7.6 Summary of Climate Change

Discipline	Scoped In Elements	Scoped Out Elements
Climate Change	Construction – GHG emissions Operation – Climate Risk and Resilience	Construction – Climate Risk and Resilience Operation – GHG emissions Primary mitigation identified in a Construction Environmental Management Plan

## 7.3 Landscape & Visual

### Introduction

- 7.3.1 This section sets out the proposed approach and methodology for undertaking a Landscape and Visual Impact Assessment (LVIA) for the Proposed Development.
- 7.3.2 An overview of the landscape (including seascape but referred to as landscape hereafter) and visual baseline data that will be used within the LVIA is provided. An overview of the

landscape and visual baseline data that will be used within the LVIA is provided. Landscape designations and published landscape character assessments, which are relevant to the Site and its surroundings are identified. The scope of the LVIA is outlined, and potential likely significant effects identified.

### Baseline Conditions

#### Study Area

- 7.3.3 From the initial context review, and consideration of the nature of the Proposed Development a study area extending up to 2 km from the Site is proposed for the LVIA. It is not considered that any significant landscape or visual impacts would occur beyond 2 km.

#### Landscape Designations

- 7.3.4 Landscapes and seascapes may be valued at community, local, national or international levels. Existing landscape designations will be taken as the starting point for the LVIA, and the value of undesignated landscapes will also be considered where appropriate.
- 7.3.5 Relevant designations for the Site and study area are set out in **Table 7.7**.

Table 7.7: Landscape / Townscape Designations

Typical Designation and Importance (Value)	Description	Actual Designation Applicable to the Site and Surrounding Area
<b>World Heritage Site: International (Very High)</b>	Unique sites, features or areas of international importance with settings of very high quality.	None within 2km of the Site.
<b>National Parks, Areas of Outstanding Natural Beauty (AONB), Conservation Areas, curtilage of Categories A, B and C Listed Buildings. Registered Parks and Gardens of Special Historic Interest, Scheduled Monuments. National (High).</b>	Sites, features or areas of national importance with settings of high quality.	<p><b><u>National Parks</u></b> None within the 2km study area.</p> <p><b><u>National Scenic Areas</u></b> Fair Isle and its surrounding waters form part of the Shetland National Scenic Area</p> <p><b><u>Conservation Areas</u></b> The Site is not within a Conservation Area and there are no conservation areas on the Fair Isle</p> <p><b><u>Register of Parks and Gardens of Special Historic Interest</u></b> None within the 2km study area.</p> <p><b><u>Listed Buildings within 1km of the Site</u></b> Shetland böd (C)</p> <p><b><u>Scheduled Monuments within 1km of the Site</u></b></p> <ul style="list-style-type: none"> <li>• Landberg Fort</li> <li>• Burn Of Furse To Homis Dale, Settlement and Burnt Mounds</li> <li>• Burn Of Gilsetter, Burnt Mound and Mills,</li> </ul>
<b>Long distance paths and National Cycle Routes Regional (High/ Medium)</b>	Sites, features or areas of regional importance with intact character.	None

Typical Designation and Importance (Value)	Description	Actual Designation Applicable to the Site and Surrounding Area
<b>Designated Public Open Space</b> <b>Local (Medium) or</b> <b>Regional (High or Medium)</b>	Public open spaces, parks, recreational spaces; Country Parks	None
<b>Tree Preservation Orders (TPOs)</b>	Protected trees within the Site	None

### Baseline Description

#### Landscape Character

- 7.3.6 The Site lies within the following character areas:
- National Landscape Character Assessment, Landscape Character Type 355: Coastal Edge (NatureScot, 2019); and
  - The Landscape Assessment of the Shetland Isles: G – Coastal Edge (Gillespies, 1998).
- 7.3.7 The Fair Isles are not included in NatureScots National Coastal Character Assessment, or within Marine Scotland Regional Coastal Character Analysis for the Shetland Isles.
- 7.3.8 Other character areas within the study area include:
- National Landscape Character Assessment, Landscape Character Type 349: Major Uplands (NatureScot, 2019);
  - The Landscape Assessment of the Shetland Isles: A – Major Uplands (Gillespies, 1998);
  - National Landscape Character Assessment, Landscape Character Type 353: Farmed and Settled Lowlands and Coast (NatureScot, 2019); and
  - The Landscape Assessment of the Shetland Isles: E – Farmed and Settled Lowlands and Coast (Gillespies, 1998).
- 7.3.9 The Site lies within the Shetland National Scenic Area (NSA) which is a national designation given for landscapes with exceptional scenic qualities. Special Qualities of the Shetland NSA include;
- The stunning variety of the extensive coastline: Fair Isle, remote from the Shetland mainland, has a great diversity of cliffs, geos, stacks, skerries, natural arches, isthmuses and small bayhead beaches. Sheep Rock, with its smooth, sloping top and vertical cliffs, is a notable feature, as is The Kirn of Scroo in the north, an 80m subterranean passage which terminates in a gloop.
  - Coastal views both close and distant: Such a variety of coastal scenery allows for a magnificent range of coastal views. In places distant islands lie low on the horizon, in others there is a near view to an inshore island, or to a neighbouring shore of this articulated coast. Fair Isle is less prominent as a visual feature than Foula except when travelling by sea to or from Shetland when the ferry can pass close by.
  - Coastal settlement and fertility within a large hinterland of unsettled moorland and coast.
  - The hidden coasts.
  - The effects and co-existence of wind and shelter.
  - A sense of remoteness, solitude and tranquillity: Being among the remotest inhabited islands in the British Isles, Fair Isle and its coastline has a strong sense of solitude and tranquillity. Most of the coastline is undeveloped and natural, and long-stretches can be traversed without seeing anyone or any human influence.
  - The notable and memorable coastal stacks, promontories and cliffs: Bu Ness (Old Norse Home Headland) is defined as a notable part of the NSA's coast, joined to the island by a

narrow isthmus dividing two sheltered bays, North and South Haven. The Site is located in North Haven.

- The distinctive cultural landmarks
- Northern lights

#### **People's Views and Visual Amenity**

- 7.3.10 Potential visual receptors are people who are visiting, living or working within the study area, including people living in, working in, or visiting the Fair Isles. However, visual receptors are limited. The Isle had no transport connections for 221 days in 2017 and has a population of around 60 people.

#### **Consultation**

- 7.3.11 No consultation has been undertaken to support the preparation of the scope for the LVIA.

#### **Potential Landscape and Visual Effects**

- 7.3.12 Potential landscape and visual effects arising from the Proposed Development during both the construction and operational phases are those upon:
- Landscape features of the Site.
  - Landscape character.
  - People's views and visual amenity.

#### **Construction**

- 7.3.13 The Proposed Development would comprise the installation of a new quay structure and linkspan, extension to the existing breakwater, dredging, and repairs to the existing pier plus replacement of the existing cradle, noust and slipway. This would include a temporary construction compound. Potential landscape and visual effects associated with the Proposed Development include changes to landscape character and features and views from visual receptors in close proximity of the Site from temporary and reversible construction activities, and partially reversible changes the loss of vegetation, modification to landform.

#### **Operation**

- 7.3.14 Potential for impacts during the operation phase would be associated with permanent above ground features of the Proposed Development (new quay structure and linkspan, larger breakwater, and new cradle, noust and slipway). Potential landscape and visual effects associated with the Proposed Development include permanent changes to landscape character and features and views from visual receptors in close proximity of the Site.

#### **Likely Significant Effects**

- 7.3.15 The Proposed Development is located within the Shetland NSA. Whilst construction activity is limited in duration and small in scale, it is considered that there is potential for significant landscape / seascape and visual effects during construction. This is concluded due to the increased perception of activity and impacts upon the Special Qualities of the Shetland NSA which includes coastal views.

#### **Not Significant Effects**

- 7.3.16 It is anticipated that the Proposed Development would not result in any significant landscape / seascape or visual effects during operation and consequently it is proposed that this issue would be scoped out of the EIA. This conclusion is reached due to the context of the existing landscape and Site and the nature of the Proposed Development, this being small scale and of limited geographical extent. Whilst the Proposed Development is considered to be permanent this is located within a working ferry terminal in which the elements comprising the Proposed Development are present.

### Assessment Methodology

- 7.3.17 The proposed methodology for the landscape and visual impact assessment has been devised to address the specific effects likely to result from the Proposed Development. The methodology draws upon the following established best practice guidance:
- Guidelines for Landscape and Visual Impact Assessment, Third Edition. (Landscape Institute and Institute of Environmental Management and Assessment, 2013), referred to as GLVIA3 in this assessment.
  - GVLIA3 Statement of Clarification 1/13 (Landscape Institute, 2013).
  - Guidance Note Coastal Character Assessment (Scottish Natural Heritage, 2018).
  - Landscape Institute Technical Information Note 08/2015 'Landscape Character Assessment'.
  - Landscape Institute Technical Guidance Note 02/2021 Assessing landscape value outside national designations.
  - An Approach to Landscape Character Assessment (Natural England, 2014); and
  - Landscape Institute Technical Guidance Note 06/19: Visual Representation of Development Proposals (Landscape Institute, 2019).
- 7.3.18 The LVIA will consider the effects on landscape (including landscape / seascape character and landscape / seascape components) and on people's views (visual amenity); these will be presented as separate elements of the assessment. The LVIA will be undertaken with an emphasis on the identification of likely significant landscape and visual effects as a result of the Proposed Development, using an approach which is in proportion to the project and nature of likely effects.
- 7.3.19 The planning context with respect to landscape / seascape character and visual amenity will also be considered, taking into account relevant international, national, regional, and local planning policies. The baseline study will form the basis of the assessment of the predicted landscape and visual effects of the Proposed Development.
- 7.3.20 The assessment of landscape and visual effects would make comparison with the baseline year and will include assessment during the construction period only.
- 7.3.21 View locations will be identified through the Zone of Theoretical Visibility (ZTV) analysis and agreed with the Planning Authority. View location photography prepared to support the LVIA, would be in accordance with Type 1 Annotated Viewpoint Photography as detailed in TGN 06/19 Visual Representation of development proposals, which is considered appropriate to support EIA development and be proportionate to this development.
- 7.3.22 The selection of view locations will be made on the basis of the following types of publicly accessible views (No private views would be assessed in the LVIA):
- representative views (for example, representing views of users of a particular footpath).
  - specific views (for example, a key view from a specific visitor attraction).
  - illustrative views (chosen to demonstrate a particular effect/specific issue).
  - any important sequential views (for example, along key transport routes).
- 7.3.23 A ZTV figure will be produced utilising the 3D design model considering bare ground Digital Terrain Model (DTM) and Digital Surface Model (DSM) data as appropriate.
- 7.3.24 No visualisations will be prepared as part of the LVIA as this is not considered appropriate due to the nature of the assessment; construction phase only being assessed.
- 7.3.25 A three-stage assessment process will be adopted for the LVIA, in accordance with GLVIA3. Firstly, the nature of receptors (sensitivity) will be assessed. Secondly the nature of effects (magnitude) likely to result from the Proposed Development will be assessed. Lastly, the significance of the identified landscape and visual effects on receptors will be assessed, as required by the EIA (Scotland) Regulations (2017).



### **Assessment of Landscape Effects**

- 7.3.26 This will assess how the Proposed Development will affect the components of the environment and the key characteristics which contribute to its character. A methodical consideration of each effect upon each identified landscape receptor will be undertaken, in order to determine the significance of effects, as a combination of the sensitivity of the landscape receptors and the magnitude of the effect.
- 7.3.27 The assessment of landscape receptors' sensitivity will combine judgements on the 'value' attributed to the landscape receptor and the 'susceptibility to change' of that receptor to the specific type of development proposed.
- 7.3.28 The value of potentially affected landscape receptors will be determined, including character and the individual elements or features which contribute to that landscape character. Susceptibility of landscape receptors to change arising from the Proposed Development is a judgement of the ability for the Proposed Development to be accommodated without undue consequences for the maintenance of the baseline landscape and/or the achievement of regeneration planning policies and strategies.
- 7.3.29 The magnitude of a landscape effect will be assessed in terms of its size or scale, the geographical extent of the area influenced and its duration and degree of reversibility.

### **Assessment of Effects on People's Views and Visual Amenity**

- 7.3.30 This will assess how the Proposed Development will affect the views available to people and their visual amenity. A methodical consideration of visual effects upon each identified visual receptor will be undertaken in order to determine the significance of effects, as a combination of sensitivity of the visual receptor, or viewer and magnitude of the visual effect.
- 7.3.31 The assessment of visual receptor sensitivity will combine judgements on the value attributed to the visual receptor and the 'susceptibility to change' of the receptor to the specific type of development proposed. The value assigned to views will have regard to a number of factors, including recognition through planning or heritage assets and/or the popularity of the view location, its appearance in guidebooks, literature or art, on tourist maps, and the facilities provided to enable enjoyment of the view. Susceptibility of people to changes in views is a function of the occupation or activity of the view at a given location and the extent to which a person's attention or interest may therefore be focused on a particular view, and the visual amenity experienced.
- 7.3.32 The magnitude of a visual effect will be assessed in terms of its size or scale, the geographical extent of the area influenced and its duration and degree of reversibility. The assessment will consider the Proposed Development's contribution to the view composition, its enhancement, or contrast to the view, and whether it is a positive or negative variation to the scale and form, and the creation of, or contrast in, visual identity.

### **Landscape and Visual Mitigation Measures**

- 7.3.33 Embedded mitigation measures and standard construction and operational management practices, proposed for preventing/avoiding, reducing or, where possible, offsetting or compensating for significant adverse landscape or visual effects, will be described in the LVIA and project description in the EIAR.
- 7.3.34 Secondary (further) landscape and visual mitigation measures, if required, would also be described in the LVIA.

### **Assessment of Significance of Landscape and Visual Effects**

- 7.3.35 Significance of landscape and visual effects vary with the location, context and type of Proposed Development.
- 7.3.36 The significance of landscape and visual effects will be determined from a combination of the receptor sensitivity and the magnitude of effects, as set out in **Table 7.8**. Minor and negligible levels of significance are identified as 'not significant'.

Table 7.8: Level of Significance of Landscape and Visual Effects

		Magnitude of Effect				
		Major Effect	Moderate Effect	Slight Effect	Negligible Effect	Neutral Effect
Sensitivity	Exceptional / Very High Sensitivity	Substantial	Substantial or Major to Substantial	Major	Moderate	Minor
	High Sensitivity	Substantial or Major to Substantial	Major	Moderate	Minor	Negligible
	Medium Sensitivity	Major	Moderate	Minor	Negligible	Negligible
	Low Sensitivity	Moderate	Minor	Minor	Negligible	Negligible

7.3.37 A substantial or major level of significance is assigned where a landscape or visual effect represents a key factor in the decision-making process. These effects are generally, but not exclusively, associated with altering the integrity of sites and features of national or regional importance. A change at a district scale site or feature may also enter this category, though this is subject to professional judgement and will be proportional to the type and extent of development that is being assessed. Where two significances of impacts are given in the table (for example neutral or slight) professional judgement will be used and fully explained within the EIAR to suggest the most likely significance of impact in addition to the worst-case scenario.

7.3.38 **Table 7.8** has regard to guidance in the Guidelines for Landscape and Visual Impact Assessment, (3rd Edition, 2013), at paragraph 5.56, page 92 (significance of landscape effects) and paragraph 6.44, page 116 (significance of visual effects).

### Summary

7.3.39 **Table 7.9** provides a summary of the scoping exercise and those landscape and visual receptors scoped in and out.

Table 7.9: Level of Significance of Landscape and Visual Effects

Discipline	Scoped In Elements	Scoped Out Elements
Landscape & Visual	Landscape features of the Site (C).	Landscape features of the Site (O)
	Landscape character (C)	Landscape character (O)
	People's views and visual amenity (C)	People's views and visual amenity (O)

\*C – Construction O – Operation

## 7.4 Marine Geomorphology

### Introduction

7.4.1 This chapter details the EIAR Scoping for the Marine Geomorphology topic, providing a baseline description and an initial consideration of potential impacts arising from the proposed development.

7.4.2 The Marine Geomorphology topic covers the hydrodynamic (water levels, flows and waves) and sediment transport regimes of the study area.

## Baseline Conditions

### Study Area

- 7.4.3 The proposed study area for the Marine Geomorphology topic covers the embayment at North Haven, Fair Isle and the immediate approaches from the 'Roost'. The outer extent of the study area will be defined using the local tidal excursion distance within the approaches.

### Baseline Sources

- 7.4.4 Sources of baseline data will include existing, third-party data and bespoke surveys conducted for the Fair Isle Ferry Replacement Project. These data sources will be further defined during the latter stages of the EIAR studies, but are considered likely to include the following:

- Appendix A Project survey data (including geophysical and geotechnical surveys);
- Appendix B Oceanographic data (including local tidal, current flow and wave information), provided by survey campaign and/or numerical modelling tools; and
- Appendix C Sedimentary data providing particle size distribution across the primary study area, including the proposed dredge area.

### Baseline Description

- 7.4.5 The following sections describe the baseline (existing) environment within the study area.

### Hydrodynamics

- 7.4.6 The tidal signal at the site of the existing ferry terminal is semi-diurnal (with high water and low water occurring twice daily), with a mean spring range of 1.6 m (classed as 'microtidal'). The standard tidal levels for Fair Isle are provided in 7.10.

Table 7.10: Standard tidal levels for Fair Isle

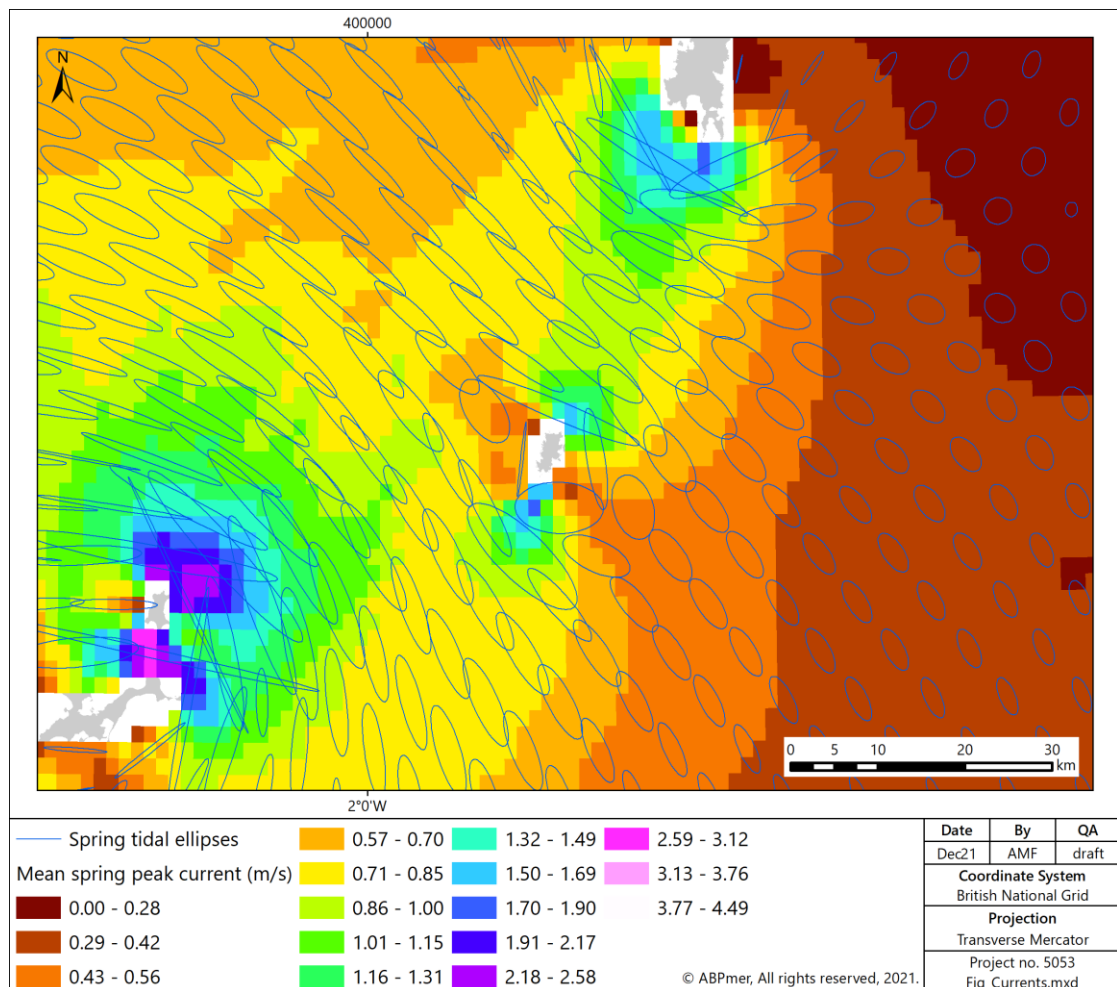
Tidal level	Elevation (mCD)
Highest Astronomical Tide (HAT)	2.7
Mean High Water Spring (MHWS)	2.2
Mean High Water Neap (MHWN)	1.7
Mean Sea Level (MSL)	1.37
Mean Low Water Neap (MLWN)	1.0
Mean Low Water Spring (MLWS)	0.6
Lowest Astronomic Tide (LAT)	0.1
Astronomic tidal range	2.6
Mean Spring tidal range (MSR)	1.6
Mean Neap tidal range (MNR)	0.7

Source: UKHO Admiralty Tide Tables, 2021

- 7.4.7 Offshore, in the Approaches to Fair Isle (within the stretch of water known locally as 'The Roost'), peak spring flow speeds are typically above 1 m/s. Closer to the northern extent of Fair Isle, the regional peak spring current speeds reach approximately 1.5 m/s (**Insert 3**). Peak flows on a mean neap tide are typically around half of those on the spring.

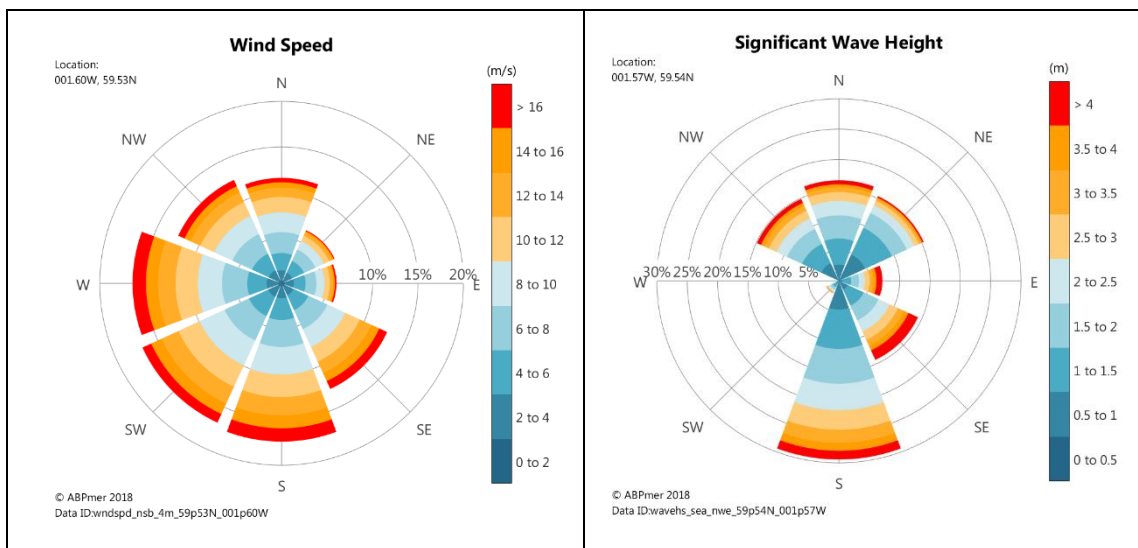
- 7.4.8 Regional tidal ellipses are also shown in **Insert 3**, which indicate a general rectilinear north-south flow along the eastern and western sides of the island, and slightly more rotational, east-west flow pathways to the north and south.

Insert 3 Regional peak spring current speeds and mean spring tidal ellipses around Fair Isle



- 7.4.9 Within the bay, where the existing ferry terminal is situated, flows are significantly reduced as a result of the shelter offered by the local headland around the entrance.
- 7.4.10 Regional wave and wind conditions within The Roost (across the approaches to Fair Isle), are shown in the rose plots in **Insert 4**, based on 40-years of model hindcast data. These show typical wind conditions predominantly approaching from southerly and southwesterly directions and with peak wind speeds above 16 m/s. Associated regional wave conditions around the approaches are predominantly from the south, although the primary area of interest within the bay will be sheltered from waves approaching from this direction. Waves from the north still make up a significant proportion of the wave climate, with peak significant wave heights above 4 m approaching from northwest through to northeast directions.

Insert 4 Regional wind and wave roses across the Approaches to Fair Isle



- 7.4.11 Within the bay at North Haven, where the ferry terminal is located, wave exposure is limited to a relatively narrow approach direction (approximately between north and north-northeast) by the width of entrance to the bay and the orientation of the local coastline. Anecdotal information indicates that, despite the existing breakwater, the exposed situation means that the ferry has to be hauled out of the water on a cradle between trips, except in very fair weather<sup>12</sup>. The study area is considered to be generally sheltered from waves approaching from other directions.

### Geology and Sediment Transport

- 7.4.12 The local coastline around the bay is understood to be predominantly characterised by sea cliffs, containing a number of caves (of varying dimensions). A relatively narrow (<20 m wide from upper to lower) beach foreshore is observed at the southern limit of the North Haven bay.
- 7.4.13 Local bathymetry within the bay, from available Admiralty charts, indicates local depths of around 12 to 15 m BCD within the deep channel at the entrance to the bay. Off the tip of the existing breakwater, depths are between 6 and 8 m BCD, shallowing landward towards the southern end of the bay.
- 7.4.14 Limited data is available detailing the sediment composition within the bay. Anecdotal information indicates the bed material is generally coarse sand and gravel, with rocky outcrops and a negligible component of fines. The beach along the southern extent of the bay is comprised of sandy material towards the lower intertidal, with pebbles and cobbles present along the high-water mark. Local background suspended sediment concentrations are considered to be very low.
- 7.4.15 Given the nature of the bed material, the local sediment transport regime is considered to be generally limited with little movement of material within (and around) the bay under normal forcing conditions. Large storm events from the north have the potential to cause localised erosion of the bed, although it is likely that the local currents would be insufficient to move suspended material any notable distance before the particles settle back to the bed. It is understood that the existing ferry berth does not require regular maintenance dredging to remove built-up material and ensure safe vessel access.

### Consultation

- 7.4.16 Consultation will be undertaken throughout the wider EIAR study phase.

<sup>12</sup> <http://www.ports.org.uk/port.asp?id=625>

## Potential Significant Effects

### Construction

- 7.4.17 During construction, it is anticipated that pre-cast interlocking concrete blocks will be installed to form the new quay. In addition, dredging in the vicinity of the quay extension and linkspan is proposed to deepen the berth pocket to a sufficient depth (along with very limited dredging in the vicinity of the existing slipway). The potential for reuse of the dredged material within the fill for the scheme (or, alternatively, for marine disposal of dredge arisings) is also being considered.

### Operation

- 7.4.18 During operation (once the scheme has been constructed), local impacts on hydrodynamics will likely be smaller than those observed during construction. There is a potential for impacts on the wave regime as a result of the solid quay structure proposed behind the existing breakwater (which is understood to have no core, effectively making it a permeable structure). Some of the incident wave energy (particularly for longer-period waves) has the potential to pass through the breakwater structure and be reflected back towards the bay entrance by the newly constructed quay. Given the nature of the local coastline (primarily cliffs), it is unlikely that such an impact to the wave regime will significantly impact local coastal erosion or flood risk but does have the potential to effect local habitats (such as sea caves).

## Not Significant Effects

- 7.4.19 Outside of the potential impacts identified above, it is considered (based on the assumed generally benign tidal conditions within the bay, and the likely composition of the seabed) that the impacts from the construction and operation phases on local sediment transport pathways will be negligible.

## Assessment Methodology

- 7.4.20 During the assessment phase a data collation exercise will be undertaken to obtain available data to inform the wider studies. These data will be described further as the data collation exercise progresses, but will look to include:
- Local hydrodynamics within the North Haven bay (water levels, flow speed, direction and wave characteristics); and
  - Bathymetric and sedimentary characteristics, including suspended sediment concentrations and particle size distribution of the bed material.
- 7.4.21 The datasets obtained (either through existing third-party data or through a project-specific survey campaign) will be used to define a conceptual understanding of the coastal processes across the bay. This baseline understanding will be used to provide context to any subsequent assessment of potential impacts of the proposed scheme.
- 7.4.22 The identification of potential impacts will be undertaken through a combination of desk-study and implementation of numerical modelling tools.
- 7.4.23 The assessment will follow the 'Source > Pathway > Receptor' approach. As is generally the case, the coastal processes topic is often concerned with pathways, with receptors often being defined within other EIAR topics (such as benthic ecology, birds, navigation etc.). This is because whilst the proposed development has the potential to cause changes to hydrodynamic and sedimentary processes, these are not, in themselves, generally recognised as environmental features/receptors and, therefore, do not equate to 'impacts'. The impacts will instead be the consequence of these changes on other environmental features or receptors. For example, 'changes' in the transport and deposition of sediment may 'impact' on the structure and function of marine habitats and their associated species.
- 7.4.24 Therefore, the assessment will apply a standard impact assessment methodology (as applied within other topic chapters) to assess the potential 'exposure to change' resulting from the identified impact pathways, but not the significance of any effects. The consequent



significance of effects resulting from physical processes changes on other environmental features/receptors will be assessed in other topic-specific assessments.

### Summary

- 7.4.25 **Table 7.11** provides a short summary of scoped in and out elements of the marine geomorphology topic.

Table 7.11 Summary of marine geomorphology assessment elements

Discipline	Scoped In Elements	Scoped Out Elements
Marine geomorphology	<p>Construction – local changes to SSC and sedimentation as a result of dredge (and disposal) operations and ground preparation.</p> <p>Operation – local changes to the hydrodynamics and the wave regime approaching the bay</p>	Construction / operation – local changes to sediment transport pathways

## 7.5 Ecology

### Introduction

- 7.5.1 This section identifies the proposed scope of the Environmental Impact Assessment Report (EIAR) to assess potential effects from the proposal on marine ecology receptors. Specifically, this includes consideration of potential effects on benthic and maritime habitats and species, fish and marine mammals. In addition, consideration is given to bird features with the potential for overlapping habitat used for breeding, roosting or foraging.
- 7.5.2 All of Fair Isle is a Special Protected Area (SPA) and a significant proportion of Fair Isle is a Special Area of Conservation (SAC). There is also a nationally designated Site of Special Scientific Interest (SSSI). These sites are also considered within this scoping document.
- 7.5.3 Given the differences in impact pathways which can affect these ecological features and that some of these features are highly mobile species, their consideration is broken down into sub-topics:
- Designated sites;
  - Maritime habitats (cliffs around the bay and foreshore);
  - Benthic communities (intertidal and subtidal within bay);
  - Fish and shellfish;
  - Marine mammals; and
  - Birds (includes waders, waterbirds and seabirds present in the bay).

### Baseline Conditions

#### Study Area

- 7.5.4 The scope of the study area to be considered will be defined on the basis of the preferred design for the proposal. It will also take into account the spatial and temporal extent (zone of influence) of the likely significant effects and their importance in a geographical context that could arise from the proposal and the sensitivities of the relevant receptors on an individual basis. Areas outside the range of any potential impacts are representative of the wider natural environment and form part of the *wider* study area.
- 7.5.5 The focus areas for Ecology vary depending on the nature of the receptor:
- Maritime area including the cliffs around the bay;
  - All intertidal areas within the bay;

- Subtidal areas within the bay for consideration of benthic features and mobile species (fish and marine mammals);
- Subtidal areas extending just beyond the mouth of the bay are also considered for mobile species that may be present in the general area (marine mammals and fish).

### Baseline Sources

7.5.6 Baseline sources of data for Fair Isle include:

- Marine Scotland NMPI database;
- Marine Recorder snapshots;
- GeMS datasets – Scottish Priority Marine Features (PMFs);
- Fair Isle Marine Environment and Tourism Initiative (FIMETI);
- Fair Isle Bird Observatory – sightings;
- British Trust for Ornithology (BTO) website;
- NatureScot – Fair Isle SSSI Site Citation;
- JNCC – Fair Isle SAC site details;
- JNCC - Fair Isle SPA citation;
- National Biodiversity Network (NBN) records;
- Natura 2000 standard data forms or information sheets for each designation;
- Cefas spawning and nursery ground data;
- Sea watch foundation marine mammals sightings data;
- SCANS III cetaceans data;
- Marine Scotland pre-disposal sampling guidance (2017);
- Relevant NatureScot reports such as the 2021 Fair Isle sea cave survey.

7.5.7 The FIMETI is a good source of qualitative species sightings and hosts a marine database for the island (<https://www.fimeti.org.uk/marinedatabase.asp>). Research within the Fair Isle Demonstration and Research (DR) Marine Protected Area (MPA) includes preliminary investigations into sea caves; preparatory work for shellfisheries research; establishment of a Whale and Dolphin Conservation Shore Watch site; and an MSc project relating to breeding habits of storm petrels and predation risk (Fauna and Flora International, 2020).

### Baseline Description

7.5.8 Fair Isle is an Old Red Sandstone island, the most southerly of the Shetland group, lying halfway between Mainland and Orkney. It has a rocky, cliff coastline with adjacent coastal waters, heather moorland, acidic grassland, maritime grassland and crofting in-bye.

7.5.9 North Haven Bay is a relatively exposed bay floored by coarse sands and gravels. It is divided by a breakwater, with the northern section of the bay reaching a depth of ~12 m Below Cart Datum (BCD). The southern section of the bay is shallow with depths of 6 – 8 m BCD in the deepest areas.

### Designated Sites

7.5.10 The northern portion of Fair Isle, together with the southern coastal areas of the island were designated as a SAC in March 2005. General site characteristics are:

- Shingle, Sea cliffs, Islets (24%);
- Inland water bodies (Standing water, Running water) (1%);
- Bogs, Marshes, Water fringed vegetation, Fens (5%);

- Heath, Scrub, Maquis and Garrigue, *Phygrana* (55%);
- Humid grassland, Mesophile grassland (14%); and
- Other land (including Towns, Villages, Roads, Waste places, Mines, Industrial sites) (1%).

7.5.11 Fair Isle SAC is designated for the presence of the qualifying features 'European dry heaths' and 'vegetated sea cliffs of the Atlantic and Baltic coasts'.

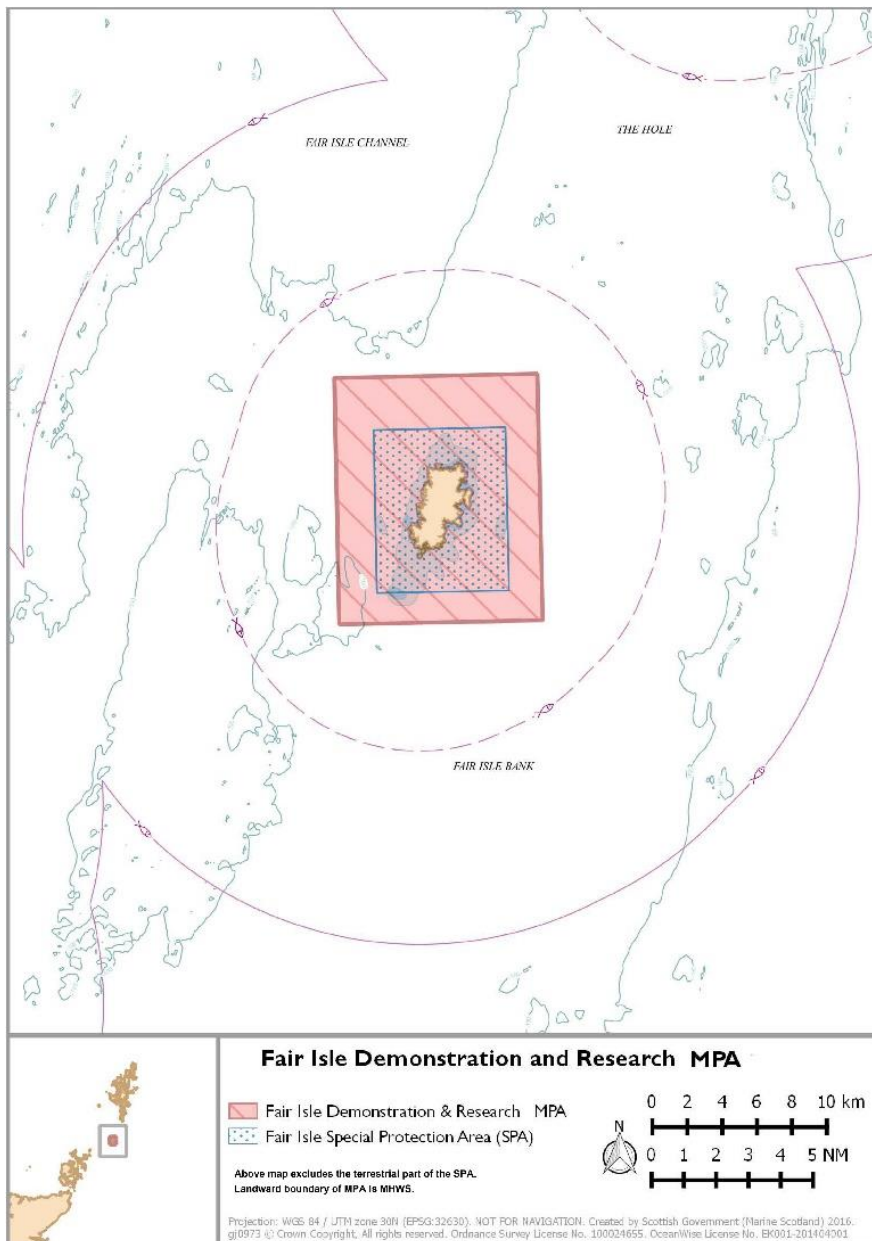
7.5.12 The sea cliff vegetation of Fair Isle is principally oceanic and varies from spray-influenced maritime grassland swards to sub-maritime heather *Calluna vulgaris* moorland. Prostrate juniper *Juniperus communis* ssp. *nana*, now rare throughout the rest of Shetland, remains common over extensive areas of the moorland (JNCC, 2021). The SAC encompasses all coastal areas bordering North Haven and thus areas adjacent to the proposed works for the pier upgrade (**Insert 5**). The vegetated sea cliff feature is assumed present along all the cliffs to the east and west of the bay.

Insert 5: Fair Isle Special Area of Conservation (SAC)– source <https://sitelink.nature.scot/site/8253>



- 7.5.13 Fair Isle SPA was classified with a marine extension in September 2009. The boundary of Fair Isle SPA is coincident with Fair Isle SSSI. The seaward extension extends approximately 2 km into the marine environment to include the seabed, water column and surface (See **Insert 6**). Qualifying features of the SPA are:
- Arctic skua (*Stercorarius parasiticus*);
  - Arctic tern (*Sterna paradisaea*);
  - Fair Isle wren (*Troglodytes troglodytes fridariensis*);
  - Fulmar (*Fulmarus glacialis*);
  - Gannet (*Morus bassanus*);
  - Great skua (*Stercorarius skua*);
  - Guillemot (*Uria aalge*);
  - Kittiwake (*Rissa tridactyla*);
  - Puffin (*Fratercula arctica*);
  - Razorbill (*Alca torda*);
  - Shag (*Phalacrocorax aristotelis*); and
  - Seabird assemblage.
- 7.5.14 Consultation with NatureScot (Rachel Cartwright, 09/04/21) has confirmed that breeding Fulmar and Arctic Tern are present in North Haven bay. These birds breed between 1 May – 1 August (Arctic Tern) and 15 April and 1 August (Fulmar). These seabirds are essentially absent from Fair Isle outside these key breeding periods either moving offshore or, in the case of Arctic Tern, migrating south. While other seabird species may occasionally breed at the stack of North Haven, Fulmar and Arctic Tern are most likely to be present within the bay.
- 7.5.15 The numbers of breeding pairs (Fulmar, Arctic Tern and other seabirds) that could be present on the stack, and adjacent cliff habitat, are minimal compared to those found within the wider area of the Fair Isle SPA. Further afield, beyond the bay, around the cliffs to the north east and north west are large breeding colonies of seabirds including Fulmar, Gannet and Guillemot.
- 7.5.16 Fair Isle SSSI comprises the whole of the northern three-quarters of the island, plus the rest of the coastline, including offshore stacks. It is notified for its plant fossils, moorland juniper, and colonies of breeding seabirds.
- 7.5.17 Fair Isle was designated a DR MPA in November 2016 prompted by decades of declining natural resources, primarily seabird and inshore fish populations (Fauna and Flora International, 2020). This designation sets out an ecosystem approach which includes: monitoring of seabirds and other mobile species; development and implementation of a local sustainable shellfish fishery; and development of a research programme into local fisheries including species composition, size, distribution and temporal/spatial changes in fish stocks. The Fair Isle DR MPA is a rectangular region surrounding the island at a distance of 2-3 nautical miles, within which lies the smaller rectangular Fair Isle SPA (Insert 6).

Insert 6: Fair Isle SPA and MPA boundaries - source <https://sitelink.nature.scot/site/10499>



### Benthic Habitats and Species

- 7.5.18 Around Fair Isle, subtidal sediments are relatively sparse, other than coarse shell-gravels. Closer to the coast in sheltered regions, the finer sediments are characterised by species such as the lugworm *Arenicola marina* and the sandmason *Janice conchilega* (Wilding *et al.* 2005). North Haven Bay is predominantly shallow with no PMFs recorded within the bay. The PMF *Laminaria hyperborea* and foliose red seaweeds on moderately exposed infralittoral rock is recorded outside the bay and kelp is dominant around much of the infralittoral rocky coastline of the island.
- 7.5.19 The intertidal beach at the south end of the bay is moderately exposed to wave and swells. As such the substrata consists of relatively impoverished coarse sands. There are rock pools present in the bay with a number of invertebrate species present, including sea stars, sea urchins, sea hares, small shore crabs and a variety of gastropods.
- 7.5.20 Fair Isle is fissured Old Red Sandstone and is known for its numerous partially and submerged caves around the island. These Annex I features vary in size and representation,



with many which are exposed to the strong wave action prone to significant scouring. Within the bay are several caves with by far the best example being located on the eastern side of the bay, about 50 m north of the breakwater. However, like many of the caves in shallower waters floored by coarse sands, this is prone to scouring.

- 7.5.21 The exposed nature of the bay does not lend itself to colonisation by a number of marine Invasive Non-Native Species (INNS) such as those commonly found in marinas. While the bay does receive some recreational boat traffic in the summer it is very low in volume. However, the red alga *Bonnemaisonia hamifera* has been recorded at Fair Isle. The green alga *Codium fragile* has been recorded at Grutness bay, thus a potential pathway exists for transmission to North Haven via the passenger ferry.

### **Fish and Shellfish**

- 7.5.22 Species present around the island are likely to include the PMFs Atlantic salmon, whiting, cod, skate, halibut, mackerel, scabbard and ling. Deep water fish such as black scabbard and halibut would be absent from shallow inshore areas. While the sandy substrata could support sandeels, given the degree of wave exposure and swells which the bay experiences, it is unlikely that any significant number would exist in the shallow waters.
- 7.5.23 Shellfish composition is not known for North Haven Bay, but being a shallow inshore location with a sandy seabed it is likely comprised mainly of infaunal species rather than larger megafauna such as lobster and edible crab. However, the breakwater may provide some suitable habitat for these species.

### **Marine Mammals**

- 7.5.24 A number of migratory marine mammals occur in offshore Scottish waters and may pass near Fair Isle. These include harbour seals, atlantic white-sided dolphin, bottlenose dolphin, short-beaked common dolphin, long-finned pilot whale, killer whale, minke whale, fin whale, humpback whale, and sperm whale. They are most likely to be present between May and October as a number of species move into coastal waters as food supplies increase.
- 7.5.25 Harbour seals are frequently recorded in the shallow bay and are seen hauled out on intertidal rock in the southwest corner of the bay. The shallow but exposed nature of the bay is unlikely to attract other marine mammals; however, Orca whales have recently been recorded in the outer portion of the bay, just north of the breakwater, suggesting hunting for seals.

### **Seabirds**

- 7.5.26 Fair Isle is an important area for seabirds, both nesting migratory species and those that are resident year round. The Fair Isle Bird Observatory and Guesthouse is close to the port upgrade site and conducts year round surveys of bird populations on the island. Species of interest in the area include Puffin, Arctic Tern, Black Guillemot, Storm Petrel, Gannet, Fulmar, Shag, Kittiwake and Razorbill. Within the bay, a small number of waders are likely to forage on the shore, from early spring until late autumn.
- 7.5.27 Seabirds present in the bay are predominantly a mix of Arctic Tern and Fulmar (see Section 7.5.13).

### **Maritime**

- 7.5.28 The bay is a surprisingly dynamic system with large swells reported at various times of the year, which has led to the foreshore being made up of coarse, sandy substrate throughout. The eastern and western sides of the bay are composed of the vegetated sea cliff feature (Section 7.5.12). The cliffs reduce in height on either side towards the southern end of the bay resulting in a narrow beach. which are joined together at the southern end by a relatively narrow beach.



### Consultation

- 7.5.29 In relation to preliminary investigative works (Geotechnical Investigations) to inform the ferry replacement proposal, specifically a Report to Inform Appropriate Assessment, consultation was carried out with NatureScot (Rachel Cartwright, 09/04/21). The consultation confirmed the presence of breeding Arctic Tern and Fulmar within the bay, on the stack. It also confirmed that the vegetated sea cliff feature was present along the adjacent cliffs.
- 7.5.30 A key outcome from the consultation which also has a bearing on the EIAR is the understanding that these bird features will be present and breeding in the bay between 1 May – 1 August (Arctic Tern) and between 15 April and 1 August (Fulmar).

### Potential Significant Effects

#### Construction

- 7.5.31 The effect of direct loss of benthic habitat is considered within the operation phase (see below) i.e. when construction activities have been completed.
- 7.5.32 Changes to benthic habitats and species during construction: Dredging causes the direct physical removal of marine sediments from the dredge footprint, resulting in the modification of existing marine habitats. The fauna associated with the dredged material is damaged, killed or if a disposal site is required, potentially relocated. Capital dredging of the berth, dredged material disposal (if required) and some construction methods (such as piling and the use of spud legs) also have the potential to result in localised physical disturbance and smothering of seabed habitats and species (where the sediment settles out of suspension back onto the seabed). This potential impact is, therefore, scoped into the EIAR.
- 7.5.33 Changes in water quality and sediment quality during construction: Changes in water quality during capital dredging, dredged material disposal and construction activities (such as ground preparation of the seabed prior to installation of pre-cast concrete blocks) could potentially impact benthic habitats and fish species, by increasing SSCs and releasing any sediment bound contaminants. This potential impact is, therefore, scoped into the EIAR. Should it be decided that dredged material will be disposed away from the site then this will be done at a licensed disposal site.
- 7.5.34 Underwater noise and vibration disturbance: Construction activities have the potential to result in underwater noise disturbance to fish and marine mammals. Currently it is not considered that piling will be required. However, preparation of the seabed, prior to installation of concrete blocks, will generate underwater noise and vibration. Underwater noise can cause injury effects in fish and marine mammal species at close range and behavioural reactions at greater distances. Other underwater noise sources during construction include dredging activity and vessel movements, which may result in behavioural effects. This potential impact is, therefore, scoped into the EIAR for further consideration.
- 7.5.35 Introduction and spread of non-native species: Non-native species have the potential to be transported as a result of construction activity. In addition, the extension of the pier would introduce a new surface in the marine environment which has the potential to facilitate the spread of invasive non-native species. This will require further assessment and has therefore been scoped into the EIAR.
- 7.5.36 Airborne noise and visual disturbance: Construction activities have the potential to result in noise and visual disturbance to seabirds, waterbirds and seals (hauled out). This potential impact is, therefore, scoped into the EIAR for further consideration.
- 7.5.37 Indirect changes on sensitive maritime habitats from pollution and dust emissions during construction: The scale of the proposal, nature of the activities and highly temporary duration of the works will generate additional emissions, albeit minimal, beyond baseline. This potential impact is, therefore, scoped into the EIAR for further consideration.

#### Operation

- 7.5.38 Direct loss of benthic habitat: While direct loss of seabed habitat is anticipated to be minimal, some loss of intertidal and subtidal habitat will occur through the footprint of the pier extension

and the addition of rock armouring. The most recent maintenance dredging within the inner bay was in 2014. It is anticipated that maintenance dredging in the operation phase, if required at all, would be minimal in frequency and magnitude. Direct loss of benthic habitat is scoped into the EIAR for further consideration.

- 7.5.39 Indirect changes to benthic habitat as a result of changes to wave reflection: The proposed upgrade to the existing breakwater may result in additional wave reflection back out to the mouth of the bay. This may cause changes to sea cave habitats, specifically the cave closest to the breakwater on the eastern side of the bay. This potential impact is, therefore, scoped into the EIAR for further consideration

#### **Not Significant Effects**

- 7.5.40 Indirect changes to benthic habitats and species during operation: The highly localised changes to hydrodynamics and sediment transport (see Geomorphology section) as a result of the proposal are unlikely to be discernible against background natural processes and would not lead to any meaningful changes in erosion or accretion. Therefore, this pathway has been scoped out of the EIAR.
- 7.5.41 Changes in habitat for fish and marine mammals: The pier extension and dredge footprint is considered unlikely to provide important nursery or spawning functions for fish species as a result of the disturbed and exposed nature of this habitat. The current rock armouring does not contain a supporting core and regularly experiences waves/swells which pass through the existing rock armour. Thus, the rock armour is unlikely to provide important nursery or spawning functions for fish species. In addition, the proposed pier extension and associated dredging footprint constitutes a minimal area of the known ranges of local fish and marine mammal populations. These species will easily be able to move away from the affected area and return following the cessation of dredging activity. On this basis, this pathway has been scoped out of the EIAR.
- 7.5.42 Direct loss of sensitive maritime habitat: The construction and operation activities will occur within the marine environment (subtidal and intertidal), along the existing pier and breakwater infrastructure, with access maintained by the existing road or by sea. Access will not be required over the vegetated sea cliff habitat. Therefore, this impact pathway has been scoped out of the EIAR.
- 7.5.43 Indirect changes on maritime habitats during operation: Operation of the pier and ferry will not change significantly from the baseline and therefore will not result in significant effects on sensitive maritime habitats, therefore this impact pathway has been scoped out.
- 7.5.44 Changes to levels of contaminants in water from accidental spillages during construction and operation: The proposed works will not directly introduce contaminants to the marine environment and good practice measures will be used to minimise and mitigate the potential for accidental spillages during dredging and disposal, if required. The potential risk of spillages will be minimised and mitigated through the application of environmental best practice management measures. This impact pathway has, therefore, been scoped out of further assessment.
- 7.5.45 Changes in bird foraging habitat during construction: During the dredging activity and construction of the pier extension, birds will be prevented from foraging from a highly localised area of water within the inner bay (south of the breakwater). The relatively exposed nature of the bay to wave action and the coarse sediments are unlikely to support significant prey (fish). Disturbance of coarse sediments will be highly temporary with rapid settling occurring. The dredging campaign will be very short term in nature and considering the extensive area of more suitable foraging areas available to seabirds would not result in a significant adverse effect on these birds. Similarly, there will not be a significant effect from construction activities on birds that forage on the small intertidal area to the south of the bay. Any suspension of sediment will be very limited in duration due to the predominantly coarse substrata.

- 7.5.46 Changes in water quality and sediment quality during operation: The highly localised changes to hydrodynamic processes (see Geomorphology section) will not result in significant changes to water or sediment quality, therefore this impact pathway has been scoped out.
- 7.5.47 Collision risk to marine mammals during construction: The scale of the works and requirements for vessels (including dredgers and barges) will be minimal and highly localised to the area around the existing pier. Considering the negligible increase in vessel traffic during construction, this impact pathway has been scoped out.
- 7.5.48 Collision risk to marine mammals during operation: Ferry operation will not vary significantly from baseline operation. Hence, this impact pathway has been scoped out.
- 7.5.49 Potential effects as a result of vessel operations: The proposal is an extension of the jetty and replacement of the ferry. It is not anticipated that the scale of ferry operations will change to a level that would have a significant bearing on marine ecology features as compared with baseline operations. Therefore, potential impacts on marine ecology as a result of vessel movements (such as collision risk, underwater noise, seabed disturbance, visual disturbance, airborne noise, pollution effects and the introduction of non-native species) is predicted to be the same as baseline. On this basis, this pathway has been scoped out of the EIAR.

#### **Cumulative Effects**

- 7.5.50 The only project/plan in the area is the proposal to rebuild the bird observatory which is planned to take place during summer and autumn 2022. It would, therefore, not overlap with the proposal construction activities for the ferry replacement and upgrade which would not begin until end of Spring 2023. Furthermore, operation of the observatory and ferry upgrade would not vary significantly from baseline operations.
- 7.5.51 However, a review of proposed or ongoing plans and projects will be carried out at time of the EIAR to understand if there is a spatial and temporal overlap.

#### **Assessment Methodology**

- 7.5.52 To facilitate the marine ecology impact assessment process a standard analysis methodology will be applied. This methodology has been developed from a range of sources, including the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017, The Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017, the EIAR Directive (2014/52/EU), statutory guidance, consultations and marine EIAR project experience.
- 7.5.53 The assessment will also be undertaken following the principles of the Chartered Institute of Ecology and Environmental Management's (CIEEM) latest guidelines for ecological impact assessment (EcIA) in the UK and Ireland (which consolidates advice for terrestrial, freshwater and coastal environments) (CIEEM, 2018).

#### **Baseline Data Collection**

- 7.5.54 A desk-based study will be undertaken to inform the baseline characterisation on which the impact assessment will be based. In addition, it is proposed that benthic invertebrate samples and sediment samples are collected in the immediate vicinity of the proposal.
- 7.5.55 Subtidal benthic invertebrate samples will be collected from within the pier and dredge footprint and adjacent area for baseline characterisation purposes. These samples will be collected concurrently with samples for PSA. It is proposed that benthic samples are collected from four stations for macrofaunal analysis (faunal composition, abundance and biomass).
- 7.5.56 In line with Marine Scotland pre-disposal sampling guidance (2017), acknowledging a maximum dredged volume of 8000 m<sup>3</sup>, sediment sampling (cores) will be carried out from three stations within the dredge footprint for baseline characterisation purposes. Results will be assessed against Revised Action Levels (ALs) (Marine Scotland, 2017). The pre-disposal sampling will be agreed with Marine Scotland before commencement.

### Method

- 7.5.57 It is proposed that the EIAR assessment methodology will follow the standard source-pathway-receptor approach to impact quantification in accordance with best practice guidance. The impact assessment will determine the importance of marine ecology receptors and their sensitivity to the magnitude of the changes brought about by project activities to determine the potential significance of impacts.
- 7.5.58 As part of the marine ecology impact assessment, a specialist underwater noise assessment will be undertaken. This will include a logarithmic spreading model to predict the propagation of sound pressure with range from underwater noise activities such as rock peckering (breaking) used to prepare the seabed. This model is represented by a logarithmic equation and will incorporate factors for noise attenuation and absorption losses based on empirical data from coastal environments. This model has been advocated by the UK regulators in a number of EIAs for recent coastal developments. The application of this model is therefore considered appropriate for this study. A range of available published criteria will be used to assess the potential physiological and behavioural effects of underwater noise on marine mammals, fish and shellfish (namely Southall et al., 2007; Hawkins et al., 2014; Popper et al. 2014; National Oceanic and Atmospheric Administration (NOAA), 2018; Southall et al., 2019).
- 7.5.59 Given the overlap with the Fair Isle SPA and proximity to the Fair Isle SAC, a Habitats Regulations Assessment (HRA) will be required. Information will be provided to enable the competent authority to undertake an Appropriate Assessment, assessing the effects of the proposal on the features for which the sites are designated. This will be provided as a technical appendix to the marine ecology chapter of the EIAR.
- 7.5.60 The assessment criteria for sediment quality will be based upon standard guidelines for EIAR. A desk-based assessment of potential impacts will be undertaken drawing on an understanding of project design and construction and existing baseline evidence. In particular, the assessment will take account of existing levels of sediment contamination and the potential for resuspension and redistribution of any contaminated material during construction. Contaminant concentrations in sediment samples will be compared to Marine Scotland guideline revised ALs to determine their suitability for disposal at sea. Contaminant concentrations in sediments will also inform the assessment of potential changes to dissolved concentrations in the water column and predicted redistribution of contaminants as a result of the proposal.

### Assessment Significance

- 7.5.61 The determination of significance will ultimately be based on expert judgement to determine importance / sensitivity of the feature (international, national, regional and local level importance), the magnitude of the impact, the duration of the impact; permanence of the effect and recoverability of the receptor.
- 7.5.62 The magnitude of the impact pathway and the probability of it occurring is evaluated to understand the exposure to change, and this is assessed against the sensitivity of a receptor to understand its vulnerability. Finally, this will be compared against the importance of a receptor to generate a level of significance for effects resulting from each impact pathway.
- 7.5.63 The key significance levels for either beneficial or adverse impacts are described as follows:
- Negligible: Change not having a discernible effect;
  - Minor: Change is discernible but tolerable and not significant;
  - Moderate: Change is significant and if adverse, is likely to require mitigation; and
  - Major: Change is highest in magnitude, and the receptor has a high vulnerability and value. Change is significant and if adverse, will require mitigation.

- 7.5.64 Mitigation and monitoring requirements will be agreed throughout the assessment and consultation process. Residual effects following the application of appropriate measures to avoid, minimise or reduce impacts will also be determined as appropriate.
- 7.5.65 The matrices in **Table 7.12** to **7.14** will be used to help assess significance (see below).
- 7.5.66 **Table 7.12** will be used as a means of generating an estimate of exposure to change for each impact pathway. Magnitude of change needs to be considered in spatial and temporal terms (including duration, frequency and seasonality), and against the background environmental conditions in a study area. Once a magnitude has been assessed, this should be combined with the probability of occurrence to arrive at an exposure score which can then be used for the next step of the assessment, which is detailed in **Table 7.13**. For example, an impact pathway with a medium magnitude of change and a high probability of occurrence would result in a medium exposure to change.

Table 7.12: Exposure to change, combining magnitude and probability of change

Probability of Occurrence	Magnitude of Change			
	Large	Medium	Small	Negligible
High	High	Medium	Low	Negligible
Medium	Medium	Medium/Low	Low /Negligible	Negligible
Low	Low	Low /Negligible	Negligible	Negligible
Negligible	Negligible	Negligible	Negligible	Negligible

- 7.5.67 Table 7.13 will then be used to score the vulnerability of the features/receptors of interest based on the sensitivity of those features and their exposure to a given change. Where the exposure and sensitivity characteristics overlap then vulnerability exists, and an adverse effect may occur. For example, if the impact pathway previously assessed with a medium exposure to change acted on a receptor which had a high sensitivity, this would result in an assessment of high vulnerability.
- 7.5.68 Sensitivity can be described as the intolerance of a habitat, community or individual of a species to an environmental change and essentially considers the response characteristic of the feature. Thus, if a single or combination of environmental changes is likely to elicit a response then the feature under assessment can be considered to be sensitive. Where an exposure or change occurs for which the receptor is not sensitive, then no vulnerability can occur. Similarly, vulnerability will always be 'none' no matter how sensitive the feature is, if the exposure to change had been assessed as 'negligible'.

Table 7.13: Estimation of vulnerability based on sensitivity and exposure to change

Sensitivity of Feature	Exposure to Change			
	High	Medium	Low	Negligible
High	High	High	Moderate	None
Moderate	High	Moderate	Low	None
Low	Moderate	Low	Low	None
None	None	None	None	None

- 7.5.69 The vulnerability will then be combined with the importance of the feature of interest using Table 7.14 to generate an initial level of significance. The importance of a feature is based on its value and rarity (e.g. to either ecosystem or economy), such as the levels of protection, whilst recognising that importance should be determined having regard to geographic context (i.e. international/European, national, regional, and local). For an example of estimating significance, if a high vulnerability was previously given to a feature of low importance, an initial level of significance of minor would be given.

Table 7.14: Estimation of significance based on vulnerability and importance

Importance of Feature	Vulnerability of Feature to Impact			
	High	Moderate	Low	None
High	Major	Moderate	Minor	Insignificant
Moderate	Moderate	Moderate/Minor	Minor/Insignificant	Insignificant
Low	Minor	Minor/Insignificant	Insignificant	Insignificant
None	Insignificant	Insignificant	Insignificant	Insignificant

- 7.5.70 Effects that are ultimately described as ‘minor’ or ‘negligible’ are determined as not significant in the context of the EIA Regulations (Scotland) (see Section 4)

### Summary

- 7.5.71 **Table 7.15** provides a summary of elements scoped in/out of the ecology topic.

Table 7.15: Elements scoped in/out of the ecology assessment. Unless indicated in brackets, all elements relate to the construction phase

Discipline	Scoped In Elements	Scoped Out Elements
Ecology	<p>Changes to benthic habitats and species during construction</p> <p>Changes in water quality and sediment quality during construction</p> <p>Underwater noise and vibration disturbance during construction</p> <p>Introduction and spread of non-native species during construction</p> <p>Airborne noise and visual disturbance during construction</p> <p>Indirect changes on sensitive maritime habitats from pollution and dust emissions during construction</p> <p>Direct loss of benthic habitat (operation)</p> <p>Indirect changes to benthic habitat as a result of changes to wave reflection (operation)</p>	<p>Indirect changes to benthic habitats and species during operation</p> <p>Changes in habitat for fish and marine mammals (operation)</p> <p>Direct loss of sensitive maritime habitat (operation)</p> <p>Indirect changes on maritime habitats during operation</p> <p>Changes to levels of contaminants in water from accidental spillages during construction and operation</p> <p>Changes in bird foraging habitat during construction</p> <p>Changes in water quality and sediment quality during operation</p> <p>Collision risk to marine mammals during construction</p> <p>Collision risk to marine mammals during operation</p> <p>Potential effects as a result of vessel operations</p>



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## 7.6 Socio-economics

### Introduction

- 7.6.1 This section identifies the proposed scope of the EIA to assess likely significant Socio-economic, Tourism and Recreation effects from the Proposed Development.
- 7.6.2 The Proposed Development has potential to generate Socio-Economic, Tourism and Recreation effects and therefore a proportionate assessment of likely significant primary and secondary effects is therefore necessary.
- 7.6.3 The assessment will be carried out based on the methodology proposed within this Scoping Report and subsequent Scoping Opinion to be issued by SIC. In doing so, the assessment scope and methodology will take account of the relevant baseline conditions and policy issues, including those identified within the Shetland Local Development Plan (LDP) 2014.

## Baseline Conditions

### Study Area

The following two Study Areas are proposed for the socio-economic assessment:

- **Labour Market Study Area:** Shetland Island Council.
- **Tourism and Recreation Study Area (including Public Access):** Fair Isle

### Baseline Sources

- 7.6.4 A detailed socio-economic baseline of the relevant Study Areas will be collated to establish the sensitivity of identified receptors (labour market, housing market, key business sectors, etc). The following key data sources will be reviewed:
- Office for National Statistics (ONS) datasets, including: Business Register and Employment Surveys; Annual Survey of Hours and Earnings; Mid-year Population Estimates; Annual Business Statistics; and UK business; activity, size and location statistical bulletins;
  - The local development plan in Fair Isle comprises the Local Plan (2014-2034), which was adopted in September 2014. This Local Plan replaces the existing Shetland Islands Structure Plan and Local Plan.
- 7.6.5 There could be circumstances where information required to undertake the assessment as stated in this EIA Scoping Report is not available or the quality of information is poor. In such circumstances, the latest publicly available information will be used in the assessment and any gaps in the data will be clearly identified and noted.
- 7.6.6 Consultation with relevant stakeholders including the Council will also be undertaken as relevant to explore the local and regional socio-economic impacts of the Proposed Development.

## Baseline Description

### The Site

- 7.6.7 The application Site can be seen in the redline boundary in Appendix A. The nearest postcode is ZE2 9JU and the central grid reference is HZ 22498 72527.
- 7.6.8 The Site is located within environmental designations including Special Protection Areas (SPA) and a Special Area of Conservation (North Haven, Fair Isle) and SSSI.
- 7.6.9 There is a permanent population of around 60 people, who mostly live at the south end of the island. The closest accommodation is the Fair Isle Bird Observatory is approximately 300m away, the warden and visitors will stay within the property.
- 7.6.10 The habitats present within the Application Site are vegetated sea cliffs, dry heath, marine and arable land.

### The Surrounding Area

- 7.6.11 Shetland is an archipelago of over 100 islands lying over 200 miles from Aberdeen. According to the 2009 population estimates, Shetland has a population of 22,210 people dispersed across 16 inhabited islands. Over 31% of the population live in the town of Lerwick and 50% of the total population live in Lerwick or within a 10 mile radius.
- 7.6.12 A detailed desk study covering the above Study Areas will be collated to establish the key socio-economic baseline conditions and receptors which should be taken account of in the assessment. Initial analysis of the socio-economic baseline undertaken to date indicates the following:

- **Population:** The population on Fair Isle in 2020 is approximately 60. The 2020 resident population for SIC is 22,900 of which 65% comprised the working age population (16-64years)<sup>13</sup>. The Scottish population is 5,466,000 of which 75.9% are of a working age meaning the SIC average is slightly lower than the countries average.
- **Labour Market:** The 2020 labour market of SIC is 65% of the overall population which constitute approximately 7,100 people.
- **Key Business Sectors:** Employee jobs by industry from the Business Register and Employment Survey (2019) indicates that Human Health and Social Work Activities (Section Q) employed some 2,250 people equating to some 16.1% of employment within Shetland. After this Wholesale and Retail Trade; Repair Of Motor Vehicles And Motorcycles employed 1750 people equating to 12.5% of the labour market. Construction employs some 1,250 people which makes up 8.9% of employment within Shetland.
- **Tourism and Recreation:**
  - Fair Isle has a network of public footpaths and coastal paths which accommodate walking tours with a ranger in summer.
  - The George Waterston Memorial Centre and Museum is open on Monday, Wednesday and Friday in the summer, and at other times by arrangement. The museum contains a large array of artefacts, telling the story of the island's past.
  - Tours of the lighthouse can be arranged with the Fair Isle Lighthouse Society.
  - There is an established knitting community on Fair Isle which is known for its knitwear. There are several knitting workshops offered on the island and there are opportunities entire knitting holidays provided on the island.
  - Accommodation is provided in through guesthouses. Previously the Fair Isle Bird Observatory offered several rooms, and activities for tourism, but due to the fire in 2019, it will remain closed until renovation has finished in 2023. Alternative tourist accommodation is provided at the South Lighthouse, The Auld Haa and Upper Leogh.
- **Public Access:**
  - There are five public rights of way (PROW) across Fair Isle, the majority are in the north of the island and remain fairly central, avoiding the cliff edges.
  - The main (and only) road on Fair Isle is the Fair-Isle – Sumburgh Airport road which is also a permissive footpath and bridleway meaning it is not a right of way but the land owner has given permission to cross the land via this route.
- **Regeneration Priorities:** The Proposed Development is necessary for the facilitation of the new ferry proposed for Fair Isle. The current vessel is over 35-years old, having entered service on the Fair Isle run in 1986, it has less than five-years of service remaining.
- Whilst the existing ferry has served Fair Isle well over the years, the vessel is now approaching life expiry and in need of immediate replacement. As well as being slow, uncomfortable, and capacity constrained in terms of cargo carrying capability, it falls well short of modern design standards.
- The vessel not being suitable has led the island to have many non- connection days, in 2017 there were 221 days with no connections to the Shetland mainland. As of 2018 it was determined that:
  - 22% of sailings operated to timetable;
  - 37% of sailings operated on the scheduled day but not at the scheduled times;
  - 41% of sailings were cancelled on the scheduled day – these sailings then took place on alternative days; and

<sup>13</sup> [Labour Market Profile - Nomis - Official Labour Market Statistics \(nomisweb.co.uk\)](https://www.nomisweb.co.uk/)

- There were 170 completed sailings against a scheduled 194 across the year.
- A key issue is passenger accessibility. For those with a mobility impairment, the vessel is boarded / alighted through the passenger being placed in an open-top crate and craned onto the vessel.
- Within the SIC Local Plan Policy TRANS2 Inter-Island Links explains:
  - The Council is committed to supporting and safeguarding Shetland's air services, ferry services and associated infrastructure. Development proposals that prejudice the present or future operation of transport routes including fixed link approach routes and services will not be permitted.

### Consultation

- 7.6.13 Consultation with the appropriate council members will be undertaken to agree the proposed approach to the socioeconomic assessment.

### Potential Significant Effects

- 7.6.14 All new developments have the potential to generate socio-economic effects at the local, regional and/or national level, principally in relation to changes (direct, indirect or induced) in economic development, employment, area regeneration and public access to recreational assets. However, the range of likely significant socio-economic effects generated by a development proposal depends upon the characteristics of the individual development combined with both the baseline socio-economic conditions (e.g. labour markets) which the development would be introduced to and identified committed developments which the development proposal would interact with.
- 7.6.15 Having regard to the Proposed Development and the characteristics of the Site at this early stage it is considered that the following socio-economic effects are likely to be significant and therefore require further consideration through the EIA process:

### Construction

- 7.6.16 There are potential labour market effects resulting from direct and indirect employment generated by temporary construction activity; and
- 7.6.17 There are potential direct and indirect effects on recreation and public access through restrictions on public access and ferry access in and around the Site.

### Operation

- 7.6.18 There are potential labour market effects resulting from direct and indirect employment generated by the harbour works, although they are likely to be minimal as the operation of the harbour and the ferry will be largely unchanged.
- 7.6.19 There are potential economic development effects resulting from investment decisions by the Council, including effects on the performance of relevant key business sectors and on area regeneration.
- 7.6.20 There are potential effects on tourism and recreational activities due to improved transport links between the islands.
- 7.6.21 The assessment will be focused on the temporal and spatial scales at which there is the potential for likely significant effects to occur from the Proposed Development. Appropriate Study Areas corresponding to local authority administrative boundaries, census geography, health geography, built up areas and built-up area sub-divisions maintained by the UK Government will be adopted to ensure accurate use of data.
- 7.6.22 The assessment will draw upon relevant conclusions from other technical assessment chapters of the EIAR, in particular regarding likely 'primary' environmental or physical effects arising from changes in traffic and public access which may lead to secondary socio-economic effects.

- 7.6.23 To avoid duplication and maintain assessment proportionality, amenity related environmental effects on local residents are proposed to be scoped out of the socio-economic assessment as any likely significant visual, traffic, air quality or noise effects will be assessed elsewhere in the EIAR where relevant.

### Not Significant Effects

- 7.6.24 Having regard to the Proposed Development and the characteristics of the Site and the surrounding area, it is considered that the limited scale of the Proposed Development itself would not be likely to generate direct socio-economic effects (e.g. direct construction employment or direct operational employment) at a level which would be significant in the context of the EIA Regulations. Therefore, for the purpose of this assessment, labour market effects have been scoped out of the assessment.
- 7.6.25 As the predominant industry for SIC is Human Health and Social Work Activities, it is unlikely the Proposed Development will cause direct effects to this market. Furthermore, Human Health has been scoped out of the EIAR due to the limited effects caused by the Proposed Development. Therefore, for the purpose of this assessment, direct and indirect effects on relevant business sectors have been scoped out of the assessment.

### Assessment Methodology

#### Overview of Approach

- 7.6.26 An assessment of the likely significant socio-economic effects associated with the Proposed Development will be undertaken in accordance with the UK Government Green Book (2020) for appraisal and evaluation of projects and programmes, as well as with other relevant legislation discussed in further detail within **Chapter 4**.
- 7.6.27 The following activities will be undertaken to complete the socio-economic assessment:
- Reviewing relevant legislation and planning policies;
  - Establishing baseline conditions within the relevant Study Areas to identify potential receptors and receptor groupings for consideration in the assessment;
  - Defining receptor sensitivity to likely changes (e.g. in employment or business sector performance) resulting from the Proposed Development;
  - Examining likely socio-economic changes from the proposed development on identified receptors and receptor groupings, with consideration given to the phasing, magnitude, duration (e.g. short/long term, temporary/permanent) and nature (i.e. adverse/beneficial) of the change;
  - Considering likely cumulative socio-economic changes from the proposed development in combination with other identified approved developments;
  - Determining the likely level of socio-economic effects (including cumulative effects) from the proposed development, having regard to both receptor sensitivity and the characteristics of predicted changes;
  - Identifying the significance of likely socio-economic effects in the context of the assessment criteria;
  - Identifying mitigation and enhancement measures to address any likely significant adverse socio-economic effects, and to enhance the socio-economic performance of the Proposed Development. Given the regeneration objectives of the Proposed Development this will include identifying options for economic regeneration; and
  - Identifying likely residual socio-economic effects from the proposed development taking account of all mitigation and enhancement measures.
- 7.6.28 Relevant socio-economic data will be input into a bespoke economic model to predict the gross and net socio-economic effects. This model will incorporate economic multipliers and additionality assumptions.

### Approach to Assessment

- 7.6.29 There are no specific methodological guidelines or requirements for socio-economic assessments within the context of EIA. However, the proposed assessment methodology outlined below has been informed by the principles outlined in The Green Book: Appraisal and Evaluation in Central Government (HM Treasury, 2020).
- 7.6.30 The level and significance of likely socio-economic effects from the Proposed Development will be judged with reference to the following factors:
- Sensitivity of affected receptor; and
  - Predicted magnitude of change.
- 7.6.31 Definitions of receptor sensitivity will be confirmed in the methodology section of the Socio-economics chapter of the ES. In overall terms, the sensitivity of the labour market will be defined in relation to:
- The availability of skilled labour relative to national averages;
  - The proportion of employment in relevant sectors (e.g. construction); and
  - The availability of labour (including the unemployed).
- 7.6.32 Plentiful labour and/or skills capacity results in a low sensitivity, whilst limited labour and/or skills capacity results in a high sensitivity. Sensitivity criteria which will be applied to the labour market considered in this assessment are detailed in **Table 7.16**.

Table 7.16 Labour Market sensitivity criteria

Sensitivity	Example
High	There is a shortfall of appropriate labour and skills. The proposed development would therefore lead to labour market pressure and distortions (i.e. skills and capacity shortages, import of labour, wage inflation).
Medium	There is a low/limited supply of appropriate labour and skills. The proposed development may therefore lead to labour market pressure or distortions.
Low	There is a readily available supply of appropriate labour and skills. The proposed development is therefore unlikely to lead to labour market pressure or distortions.

- 7.6.33 For wider socio-economic effects, including changes in recreation, tourism and public access receptor sensitivity, will be determined with reference to the importance and susceptibility of the relevant receptor, i.e. the extent to which any change could affect socio-economic performance. In economic terms this will measure the elasticity of each receptor to external changes which could result in socio-economic effects.
- 7.6.34 Consistent definitions of magnitude of change across different types of socio-economic effects (access are provided in **Table 7.17**.



Table 7.17 Magnitude of Change Criteria

Magnitude of Change	Type of Change	Criteria
High	Adverse	<b>Employment changes:</b> the number of jobs lost in the Study Area would be 250 or greater (based upon the EU definition of small and medium enterprises (European Commission, 2003)). <b>Other socio-economic changes:</b> adverse changes to identified receptors would be observed on an international, national or regional scale. Changes are likely to be experienced over the long term (i.e. 5+ years).
	Beneficial	<b>Employment changes:</b> the number of jobs created in the Study Area would be 250 or greater. <b>Other socio-economic changes:</b> beneficial changes to identified receptors would be observed on an international, national or regional scale. Changes are likely to be experienced over the long term (i.e. 5+ years).
Medium	Adverse	<b>Employment changes:</b> the number of jobs lost in the Study Area would be 50 or greater, but fewer than 250. <b>Other socio-economic changes:</b> Noticeable adverse changes, judged to be important at a local scale, to identified receptors. Changes are likely to be experienced over the medium term (i.e. 3-5 years).
	Beneficial	<b>Employment changes:</b> the number of jobs created in the Study Area would be 50 or greater, but fewer than 250. <b>Other socio-economic changes:</b> Noticeable beneficial changes, judged to be important at a local scale, to identified receptors. Changes are likely to be experienced over the medium term (i.e. 3-5 years).
Low	Adverse	<b>Employment changes:</b> the number of jobs lost in the Study Area would be greater than 10, but fewer than 50. <b>Other socio-economic changes:</b> Small scale adverse changes to identified receptors at the local level only. Changes are likely to be experienced over the short term (i.e. 1-2 years).
	Beneficial	<b>Employment changes:</b> the number of jobs created in the Study Area would be greater than 10, but fewer than 50. <b>Other socio-economic changes:</b> Small scale beneficial changes to identified receptors at the local level only. Changes are likely to be experienced over the short term (i.e. 1-2 years).
Negligible	Adverse	<b>Employment changes:</b> the number of jobs lost in the Study Area would be less than 10. <b>Other socio-economic changes:</b> very small scale adverse changes to identified receptors at the local level only. Changes are likely to be experienced over the short term (i.e. less than 6 months).
	Beneficial	<b>Employment changes:</b> the number of jobs gained in the Study Area would be less than 10. <b>Other socio-economic changes:</b> very small scale beneficial changes to identified receptors at the local level only. Changes are likely to be experienced over the short term (i.e. less than 6 months).
No Change		No change would be perceptible, either beneficial or adverse.

7.6.35 In line with standard EIA practice, a matrix-based approach has been adopted to consider the sensitivity of identified receptors in tandem with the likely magnitude of change from the proposed development. This method allows the level and significance in EIA terms of all predicted socio-economic effects to be determined. The EIA significance matrix adopted in this assessment is detailed in **Table 7.18**.

7.6.36 Where appropriate, magnitude of change levels have been fixed to relevant quantitative thresholds. In particular, net employment change which will be calculated based on the gross

employment potential of the Proposed Development (demolition/construction and operation) and taking account of additional factors:

- Deadweight – what would happen in the absence of the Proposed Development;
- Leakage – the proportion of new employment opportunities accessed by people living outside the Study Area;
- Displacement – the proportion of the new employment created as a result of reduced employment elsewhere in the Study Area; and
- Multipliers – indirect and induced employment generated by the effects of the direct employment on the supply chain and income.

Table 7.18 Significance Matrix of Socio-Economic Effects

Sensitivity	Magnitude of change			
	High	Medium	Low	Negligible
High	Major	Major	Moderate	Minor
Medium	Major	Moderate	Minor	Negligible
Low	Moderate	Minor	Minor/Negligible	Negligible

7.6.37 **Table 7.18** will apply both for socio-economic effects from the Proposed Development and for any likely significant cumulative socio-economic effects from the Proposed Development in combination with relevant approved developments. Effects predicted to occur at levels of moderate or major will be considered significant in the context of the EIA Regulations.

7.6.38 Following the identification of likely socio-economic effects, the need for any further mitigation or enhance measures to address predicted adverse effects or to enhance the socio-economic performance of the Proposed Development will be considered. Given the regeneration objectives of the Proposed Development and the central role of the Council in progressing the Proposed Development, this will include identifying appropriate options for the provision of economic regeneration.

7.6.39 The assessment will conclude by reporting the level and significance of likely residual socio-economic effects from the Proposed Development, taking account of all proposed mitigation and enhancement measures.

## Summary

Table 7.19: Summary of Scoping Exercise

Potential Effect	Proposed Development Phase*	Scoped In / Out
Direct and indirect effects on relevant business sectors	C / O	Out
Direct and indirect effects on tourism	C / O	In
Direct and indirect effects on recreation and public access	C / O	In
Indirect effects resulting from 'secondary' changes in social or economic activities (e.g. changes in visitor attractiveness)	C / O	In
Labour market effect	C / O	Out

\*C – Construction O – Operation

## 8 Topics Not Included in the EIAR Scope

### 8.1 Introduction

- 8.1.1 The EIAR should be focused, documenting only the assessment of likely significant environmental effects, both adverse and beneficial. Therefore, those effects which are not likely to be significant should not be included in the EIAR, i.e. they should be scoped out of the EIAR, as clearly set out in the PPG<sup>14</sup> (Paragraph: 035 Reference ID: 4-035-20140306). The following section sets out those topics that have been determined not to be significant and therefore are not included in the EIA, as well as those that will be addressed independently in separate assessments. The rationale for scoping these topics out of the EIAR is also provided.

### 8.2 Risk of Major Accidents and/or Disaster

- 8.2.1 The EIA Regulations (Scotland), under Schedule 4, part 8 and Marine EIA Works Regulations (Scotland) Schedule 4, part 5 require the EIAR to provide:
- 'A description of the expected significant adverse effects of the development on the environment deriving from the vulnerability of the development to risks of major accidents and/or disasters which are relevant to the project concerned'.*
- 8.2.2 Where appropriate, this should include measures envisaged to prevent or mitigate the significant adverse effects of such events on the environment and details of the preparedness for and proposed response to such emergencies.
- 8.2.3 Key environmental risks will be described within the EIAR and will provide sufficient information upon which the assessment of such issues can take place. Topic chapters within the EIAR will consider foreseeable risks during the construction period, from accidents such as fuel spillages and identify how the risk of such events will be minimised, and identified within the CEMP.
- 8.2.4 For these reasons, it is considered that sufficient controls would be in place to ensure any effects to the environment resulting from accidents or disasters would be reduced to a level that is not significant. It is therefore considered that this can be scoped out of the EIAR.

### 8.3 Ground Conditions and Contaminated Land

- 8.3.1 According to the BGS GeolIndex interactive maps (onshore and offshore), there are no superficial deposits beneath the onshore portion of the Site. Onshore, the Site is recorded to be underlain by the Bu Ness Sandstone Formation described as "*grey to buff red-stained arkosic sandstone, pebbly grit and conglomerate, siltstone and mudstone*". Offshore and beneath the sediments, Devonian Rocks are recorded described as "*undifferentiated mudstone and undifferentiated siltstone*".
- 8.3.2 With regards land use, the Site is currently being utilised as a ferry terminal and comprises a breakwater, pier and slipway for the existing vessel. There are no residential properties within 500m of the Site. There are four small buildings offsite – these are used for agricultural/fishery storage or are likely to be associated with the ferry terminal – to the south west of the Site (~170m at the closest point). One of the buildings – now a store – was previously used as a tank room. None of the buildings are known to be inhabited. At the time of writing, historical mapping is not available for review. Current and historical land use and sources of potential contamination (SOPC) will be reviewed via a desk-based Ground Conditions Assessment. The above land uses are not considered to be significant SOPC.
- 8.3.3 The SEPA Water Classification Hub indicates that the Fair Isle coastal waterbody (SEPA ID 200245) as having an overall status of Good in 2019 (the most recently data available). The Site is underlain by the Fair Isle bedrock groundwater body (SEPA ID 150424) is recorded to have an overall condition of Good in 2019 (the most recently data available). No superficial groundwater is shown to be present beneath the site.

<sup>14</sup> PPG (2019) Paragraph: 035 Reference ID: 4-035-20140306

8.3.4 The Site is located within environmental designations including a SPA, a SAC and a SSSI for biology and sea cliff/dry heath land habitats.

8.3.5 It is anticipated that the following primary mitigation will be implemented during the construction phase and the operational phase of the proposed development:

#### **Construction Phase**

- Marine licences under the Marine (Scotland) Act 2010 will be required and sought for several activities during the project including the ground investigation, dredging activities (including the disposal of dredged materials) and the construction of the new pier. The expansion of the existing slipway may also require a marine licence and construction licence. These activities are strictly regulated through marine licence conditions.
- The project scope should be reviewed against the Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended) also known as CAR which govern construction projects in the vicinity of the water environment. The activities may require compliance with General Binding Rules (GBR) or may require a CAR licence.
- The Construction Environment Management Plan (CEMP) to be approved by the local planning authority and Marine Scotland and is likely to include the following relevant procedures:
  - Waste Management;
  - Ballast Water Management Plan;
  - Discharges to Water;
  - Environmental Action Plan;
  - Environmental management system including the identification and assessment of environmental risks and environmental legislation;
  - Pollution Prevention; and
  - Re-fuelling.
- Mitigation against contamination entering the soil, surface water and groundwater through the implementation of SEPA's Guidance for Pollution Prevention (GPPs), and where necessary, the older Pollution Prevention Guidelines (PPGs) including GPP 2: Above ground oil storage tanks, GPP 5: Works and maintenance in or near water, PPG 6: Working at construction and demolition sites, GPP 8: Safe storage and disposal of used oils, GPP 13 Vehicle washing and cleaning, PPG 18: Managing fire water and major spillages, GPP 21: Pollution incident response planning, GPP 22: Dealing with spills and GPP 26 Safe storage - drums and intermediate bulk containers and through compliance with CAR.
- Any land stability issues will be addressed through a desk based Ground Conditions Assessment (previously called a Phase 1) and a detailed ground investigation (GI). The GI will be controlled via a range of mitigation measures including SEPA's GPPs and PPGs (if applicable), a ballast water management plan. The GI will be cognisant of NatureScot's guidance for the prevention of the introduction of native species (INNS).
- With regards construction and maintenance workers (human health receptors), contractors will be informed of conditions on Site and will develop appropriate Risk Assessment Method Statements (RAMS) accordingly. The correct PPE and safety equipment will be utilised for working in marine adjacent conditions.

#### **Operational Phase**

- Standard onshore and offshore procedures to deal with pollution incidents, should one occur, such as spills and leaks procedure.
- 8.3.6 Based on the absence of SOPC, sensitive human health receptors, and with the implementation of the primary mitigation set out above to protect the water environment, it is considered that there will be no potentially significant effects from ground conditions, including

instability, and contamination. Ground conditions and contamination are not required to be included within the scope of this EIA.

## 8.4 Noise and Vibration

### Introduction

- 8.4.1 This section of the scoping report provides a technical review of the potential noise and vibration impacts of the proposed development.
- 8.4.2 A noise and vibration assessment is proposed to be scoped out of the EIA on the basis that there are unlikely to be significant residual impacts associated with the construction and operational phases of the development on nearby receptors.

### Potential Significant Effects

- 8.4.3 Noise and vibration from construction and operation can result in significant effects. Aspects of a development which could result in significant noise or vibration effects include:
- Construction Noise - Noise generated during construction from construction related activities.
  - Construction Vibration - Vibration generated during construction from construction related activities.
  - Construction Traffic Noise - Noise generated from construction traffic during construction.
  - Operational Noise - Noise generated through use of the Proposed Scheme.

### Construction

- 8.4.4 In terms of human receptors, the nearest inhabited building will be the Fair Isle Bird Observatory Lodge, which is expected to be operational while the proposed development is under construction. The lodge is approximately 300 m to the south-west of the proposed development. No other inhabited building appears to be within 300 m of the Proposed Scheme.
- 8.4.5 Design Manual for Roads and Bridges (DMRB) LA 111 Noise and Vibration (Transport Scotland ) is considered to be the regulatory standard for the design of a new road or improvements to an existing road. In particular, LA 111 provides guidance on the assessment and the reporting of noise and vibration impacts relating to roads (including the change in traffic flows and construction).
- 8.4.6 Although the proposals are not road works, the anticipated construction works are anticipated to be comparable in nature and scale to construction activities which occur during road construction projects. DMRB LA 111 offers guidance on study areas which has been used to assess the likely significant effects from noise and vibration.

### Construction Noise

- 8.4.7 In relation to construction noise impacts, DMRB LA 111 Revision 2 advises in paragraph 3.5 Note 1 that:
- 8.4.8 *"A study area of 300m from the closest construction activity is normally sufficient to encompass noise sensitive receptors."*
- 8.4.9 Based on the nearest habitable building being approximately 300 m to the south-west of the Proposed Scheme, it is considered that the assessment of construction activity noise can be scoped out of the EIA as it is unlikely to result in significant effects.

### Construction Vibration

- 8.4.10 In relation to construction vibration impacts, DMRB LA 111 Revision 2 advises in paragraph 3.29 Note 1 that:
- 8.4.11 *"A study area of 100m from the closest construction activity with the potential to generate vibration is normally sufficient to encompass vibration sensitive receptors."*

- 8.4.12 Based on the nearest habitable building being approximately 300 m to the west of the Proposed Scheme, it is considered that the assessment of construction vibration can be scoped out of the EIA as it is unlikely to result in significant effects.

#### **Construction Traffic**

- 8.4.13 In relation to construction traffic noise impacts, DMRB LA 111 Revision 2 advises in paragraph 3.8 that:

*“A construction traffic study area shall be defined to include a 50m width from the kerb line of public roads with the potential for an increase in baseline noise level (BNL) of 1 dB(A) or more as a result of the addition of construction traffic to existing traffic levels.”*

- 8.4.14 Based on the above, any roads with noise sensitive receptors within 50 m from the kerb line which show a potential for increase in baseline noise level (BNL) of 1 dBA or more as a result of construction traffic would be scoped into the EIA. If no noise sensitive properties are within 50 m of roads anticipated to experience an increase of 1 dBA or more then the assessment of construction traffic noise would be scoped out of the EIA as it is unlikely to result in significant effects.
- 8.4.15 It should be noted that the method of calculating road noise as described in the Calculation of Road Traffic Noise (1988), states that calculations of noise levels for traffic flows below 50 vehicles per hour or 1000 vehicles per 18-hour day are unreliable and measurements should be taken when evaluating such cases.
- 8.4.16 Therefore, construction phase impacts are not considered to be significant and are scoped out of the EIAR.

#### **Operation**

##### **Operational Noise**

- 8.4.17 Although significant changes are being made to the structures at the development site, there are no significant changes anticipated to the use of the area during the operational phase, except for the increased size of the new ferry. The distance to the nearest receptors is also not anticipated to change.
- 8.4.18 As a result of this, no new significant noise effects are anticipated during the operational phase.

##### **Other Potential Noise and Vibration Effects**

- 8.4.19 There are no other habitable buildings which are anticipated to be subject to significant noise and vibration effects during construction or operation of the Proposed Scheme. However, it is understood that there are nesting Arctic Terns and Fulmar near to the Proposed Scheme, which could be impacted by noise and vibration. Noise and Vibration is proposed to be scoped out of the Environmental Impact Assessment, although where required, noise and vibration impacts on biodiversity will be considered and reported within the Biodiversity chapter of the EIAR.

## **8.5 Waste**

- 8.5.1 SIC is progressing the Fair Isle Ferry Replacement Project to replace the existing vessel, which is approaching the end of its life and does not meet modern standards. The berthing Site at Fair Isle will be upgraded to facilitate this new ferry.
- 8.5.2 During the construction phase, a small area would be required for a temporary construction compound (“the laydown area”) for the potential storage of materials, plant and equipment as well as providing site welfare, however exact location will be agreed at a later date.
- 8.5.3 The current site uses are likely to be producing very low levels of operational waste.
- 8.5.4 SIC is the waste collection and disposal authority, responsible for waste collection and safe disposal. SIC provides a collection service for commercial premises across the isles, including recyclable materials and non-recyclable waste.



### Construction

- 8.5.5 Waste generation during the construction phase is likely to result from excavation of existing structures and the construction of new infrastructure. Concrete, hardstanding and other made ground materials are expected to be excavated to enable the development of foundations..
- 8.5.6 There is not anticipated to be significant demolition works as the majority of the existing pier is to be retained, however there may be some elements of the existing that may be removed / partially removed to allow the new to tie into it.
- 8.5.7 The construction of the proposed development is likely to use energy intensive resources including fossil fuels to power mechanical excavators and other machinery. The construction phase will also utilise land and construction materials (potentially including pre made concrete blocks, cement, concrete, timber, etc.).
- 8.5.8 Construction waste expected to be generated by the proposed development includes non-hazardous construction materials such as off-cuts of timber, bricks, wire, fibreglass, cleaning cloths, paper, materials packaging and similar materials.
- 8.5.9 During construction, materials recovered from any of the works may be suitable for reuse on site, reducing the costs of transportation and procurement of virgin materials. Any waste that is generated will be managed in accordance with national and local policy, looking to reduce, reuse and recycle whenever possible. Such measures will ensure that the volume of waste likely to be generated by the Proposed Development during construction will be limited and will not significantly affect the capacity of local waste infrastructure.
- 8.5.10 The Local Development Plan 2014 **Policy W5 'Waste Management Plans and facilities in all new developments'** states that 'developers must submit an appropriate Site Waste Management Plan (SWMP), which demonstrates how the waste generated by the development during the construction phase will be dealt with, including how the materials will be reused, recycled and how any remaining waste will be disposed of, in accordance with the waste hierarchy. Adequate space must be provided for storage and collection of all waste and appropriate recycling facilities within the completed development.'
- 8.5.11 A SWMP is an important way to help achieve sustainable waste management during the construction of developments. It is crucial to the delivery of the Scotland Zero Waste Plan (adopted June 2010). The Zero Waste Plan is a national plan that proposes to increase resource efficiency and waste prevention in order to reduce the amount of municipal and commercial waste. This proposes long term targets of recycling 70% of all Scotland's waste by 2025, and only 5% of remaining waste ending up in landfill by 2025.
- 8.5.12 A SWMP will be developed for the Proposed Development and submitted as part of the Application. This SWMP will help to ensure that the waste management principles set are followed appropriately. The SWMP will not consider operational waste as arisings once the construction stage is complete is likely to be extremely minimal.
- 8.5.13 The SWMP will incorporate consultation with SIC (as the Waste Collection Authority) to understand any policy or plans which should be considered as part of this Application.

## 8.6 Traffic and Transport

- 8.6.1 This section of the EIA Scoping Report sets out the technical details of the traffic and transport impacts of the Proposed Development.
- 8.6.2 It is not anticipated that the construction of the pier, noust, quay and modification of the rock armour or the operation of the ferry will significantly increase the minimal traffic movements to, from or within Fair Isle, although workforce movements are considered further within the construction section 8.6.7 below.

### Baseline Conditions

- 8.6.3 The current Fair Isle vessel, MV Good Shepherd IV can carry 54 tonnes of cargo. The vessel can accommodate two small vehicles in fair weather conditions and one vehicle in poor weather conditions, when a car is not permitted to be carried on the open-deck. Any vehicles carried are craned onto and off of the vessel, using the vessel mounted crane which has a lifting capacity of 1.5 tonnes.

- 8.6.4 As the vessel only makes three return crossings per week during the summer season timetable and only one return crossing per week during the winter season timetable (and often fewer given weather conditions – there were only 174 sailings in 2018), vehicular traffic on the Fair Isle route is negligible. Indeed, for the most recent year for which data are available (2018), only 58 cars were carried on the ferry across the full year.
- 8.6.5 Passengers board at the level of the wheelhouse and either have to: (i) descend an external ladder to the weatherdeck and then access the lounge over a sill; or (ii) descend by ladder through a narrow internal hatch to the passenger lounge. Passengers with a mobility impairment are placed in an open-top crate and craned onto the vessel.
- 8.6.6 The air service is the main mode of transport for Fair Isle, with the ferry largely fulfilling a supply-chain role. To this end, only 702 passengers were carried on the ferry in 2018.

### Potential Environmental Effects

#### Construction

- 8.6.7 Given the limitations of the current vessel, little to no material for the Fair Isle construction project will be shipped on the ferry. All materials are likely to be consolidated at an appropriate port or ports (which will be determined by the mobilisation plan of the winning bidder) and shipped to Fair Isle on purpose-built vessels. There will be a small workforce that will be moving backwards and forwards to accommodation at the start and end of their shifts. Road traffic impacts associated with construction will therefore be negligible. During the period of works, construction staff will likely travel home for long weekends on a Friday, returning to Fair Isle on a Monday morning. This will increase the pressure on aircraft seat capacity. Whilst there may be an opportunity to operate some additional off-timetable flights, the Fair Isle air service is highly constrained and thus the scope for service expansion is very limited. There are likewise significant constraints to any scaling-up of the ferry service.

#### Operation

- 8.6.8 The precise specification of the new vessel in terms of vehicle carrying capacity will be determined through the tendering process. However, a stipulation in the tender documents will be that the vessel requires to be classified as workboat, which will limit its length overall (LOA) to 24m. To this end, the new vessel is unlikely to carry more than four cars. Given the maximum three crossings per week to / from Fair Isle and assuming the vessel carries four cars, this would cap single leg car carryings to 12 per week in each direction (24 overall).
- 8.6.9 Whilst converting the route to linkspan operation will in theory make it easier to take a car to Fair Isle, any increase in practice is likely to be minimal. Even with a new vessel, the service will remain subject to significant disruption and residents only tend to take a car when they have to as there is a risk of it being stranded on the wrong side of the crossing. Similarly, visitors (typically to the Bird Observatory before it burned down) will tend to fly to the island and walk or be given a lift to their destination. Carryings on the route will therefore remain very low.
- 8.6.10 Passenger access will be improved by level boarding across the linkspan.

### Summary

- 8.6.11 In summary, the traffic and transport impacts associated with the construction and operation of a new Fair Isle ferry and associated infrastructure are negligible. On this basis, it is proposed to scope out traffic and transport from the EIAR.

## 8.7 Air Quality

- 8.7.1 This section of the EIA Scoping Report sets out the technical details of the air quality impacts of the Proposed Development.
- 8.7.2 It is not anticipated that the construction of the pier, noust, quay and modification of the rock armour or the operation of the ferry will significantly increase traffic movements to a level that exceeds objectives defined within the IAQM/EPUK Guidance on land-use planning and development control. An increase in the number of Heavy Goods Vehicles (HGVs) using the road and neighbouring roads is not expected during the operation of the ferry port therefore there are no impacts anticipated.

### Baseline Conditions

- 8.7.3 The Site is located within the SIC administrative boundary. SIC has investigated air quality within its administrative boundary as part of its responsibilities under the Local Air Quality Management (LAQM) regime. SIC has not declared any Air Quality Management Areas (AQMA) and air quality monitoring across the county shows concentrations are well below the objectives (SIC 2020).
- 8.7.4 The closest monitoring location to the Site is approximately 73km away; thus the automatic monitoring sites and diffusion tube data from the SIC 2020 Air Quality Annual Status Report (ASR) is not representative of the baseline air quality at the Site. Given the distance from the Site to the main road network, pollutant concentrations are expected to also be well below the objectives.
- 8.7.5 In terms of human receptors, the nearest inhabited building will be the Fair Isle Bird Observatory Lodge, which is expected to be operational while the proposed development is under construction. The lodge is approximately 300 m to the south-west of the proposed development. The next closest residential property is a dwelling located to the southwest of the site, approximately 1.7km away.
- 8.7.6 The Site is located within the Fair Isle Special Areas of Conservation (SAC), Special Protection Areas (SPA) and Site of Specific Scientific Interest (SSSI).

### Potential Environmental Effects

#### Construction

- 8.7.7 During construction, dust from on-Site activities and off-Site trackout by construction vehicles has the potential to impact on sensitive human and ecological receptors within the study area; the main potential impacts are loss of amenity (as a result of dust soiling) and deterioration of human health (as a result of concentrations of PM<sub>10</sub>), however with appropriate dust mitigation measures in place and the fact that there are no receptors in close proximity to the site, the effects of construction dust will not be significant (IAQM 2014).
- 8.7.8 There is also the potential for impacts on air quality as a result of emissions of NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> from construction traffic associated with the Proposed Development, however the increase in Heavy Goods Vehicles (HGVs) movements on the road network will be below the threshold of 100 movements per day outside an Air Quality Management Area (AQMA) for an assessment to be necessary according to IAQM/EPUK guidance. The construction vehicle movements impacts are considered to be temporary and not significant and have therefore been scoped out of this assessment.

#### Operation

- 8.7.9 There is little potential for impacts on air quality from traffic associated with the Proposed Development itself during operation. The purpose of this development is to ensure the connectivity between the Fair Isle and Mainland Shetland is continued and therefore no change in operational traffic is expected. The new ferry provides 12 passenger spaces and room for vehicles. The impacts of the development, with regards to road traffic, will not be significant and have therefore been scoped out of this assessment.
- 8.7.10 Based on the nature of the development, an assessment of the suitability of the Site for the proposed land-use is also scoped out of the EIA.

### Summary

- 8.7.11 In summary, there will be a slight increase in traffic during the temporary construction period, however this will not continue into the operation of the Proposed Development. It is therefore considered that there will not be any significant impact on air quality as a result of the proposals. On this basis, it is proposed to scope out air quality from the EIAR.

## 8.8 Water Quality and Flooding

### Introduction

- 8.8.1 This chapter will consider the potential for pollution to water bodies and any flood risk caused by the proposed development.

### Baseline Conditions

#### Study Area

- 8.8.2 The study area looks at the location of the proposed development and the surroundings that may be affected by the proposed development, which will include coastal waters. Given the location is coastal, the prospects of increasing flood risk are limited only to the immediate land based surroundings, but this will still be considered.

#### Baseline Sources

- 8.8.3 SEPA's flood risk maps (SEPA 2021), Scotland's Water Environment Hub (SEPA Water 2021) and Marine Scotland (Marine Scotland 2021) are all sources of online information used in this assessment. They offer good information about Fair Isle but do not show absolute detail.
- 8.8.4 For example, SEPA comment that their maps should be used for indicative information only. Their flood risk maps show areas of concern that should not be taken as exact. For the purposes of this assessment however, we consider the information useful and suitable for purpose.
- 8.8.5 No previous relevant studies in relation to water quality and flood risk have been found other than what was used to generate the above maps and therefore no further examination beyond the above sources have been used for assessing water quality and flood risk.

#### Baseline Description

- 8.8.6 Fair Isle is a coastal water body (ID: 200245), in the Scotland River Basin District. It is 180.3 square kilometres in area and includes coastal waters. It is unclear if watercourses on the island have been monitored as these details are not provided but given that there are no watercourses in the proposed development area, it is concluded that baseline water quality is "good", with no present ambition to improve upon this. Other factors that can influence the water quality condition are the physical condition and freedom from invasive species. Both these factors are noted as "High", one step better than good, but the overall condition uses the lowest of all factors used, that is "Good".
- 8.8.7 Flood risk in the area is only driven by coastal water with high tides being able to cause flooding in the area. Other factors that may influence flood risk are fluvial (watercourse) flooding, pluvial (surface water) flooding and groundwater flooding. None of these are considered capable of affecting flood risk, with only a couple of minor spots of surface water identified on the SEPA surface water flood map. Essentially these amount to puddles and of limited concern.
- 8.8.8 Tidal inundation, therefore, is the clear source of flood risk presently.

### Potential Significant Effects

#### Construction

- 8.8.9 The most sensitive receptor from a water quality point is the sea, as other watercourses have not been identified and any surface runoff routes are expected to drain directly to the sea.
- 8.8.10 The use of large plant and machinery at the proposed development area introduces its own risk of pollution through re-fuelling and spillage of fuel and other liquids, e.g. engine and transmission oil and hydraulic fluids.
- 8.8.11 In addition, the expansion of the noust will inevitably create some dust and waste materials if, for example, broken rock is not being reused. Other waste material generated from unwanted and unserviceable machinery including the existing cradle has the potential to harm, if not managed and suitably disposed of or reused/recycled.
- 8.8.12 The greater potential for significant effects upon water quality is during the construction stage where concrete may be poured, and other material and activities will be introduced to the site.
- 8.8.13 In addition, storage of materials can be a source of contamination when rainfall lands on materials such as cement and muddy access routes and storage areas. Runoff generated by rainfall can "flush" contaminated runoff into water bodies which is another potential source of pollution.

## Operation

- 8.8.14 During the operational phase of the development and given that the proposal is for an upgrade of existing facilities, there is no additional increase in the potential for pollution anticipated. Indeed, there is good opportunity for improvement if handling and transfer of cargo and vehicles (ferry to quay and quay to ferry) can be made better. It is understood that most cargo is brought in by pallet or container, with limited potential for spillage.
- 8.8.15 We do not anticipate that vessel refuelling will happen on Fair Isle and therefore this is not required to be considered further within this assessment.

## No Significant Effects

- 8.8.16 With coastal waters being the only receptor of concern from a water quality perspective, no significant effects are anticipated during the operational phase. No worsening of the current situation is anticipated, and improvements can be made where any risks are identified. For example, if surface runoff is causing a problem due to poor dispersal of discharge, re-routing surface runoff to a separate discharge location may be considered.
- 8.8.17 Flood risk is not considered to be affected by the proposed development as the noted receptor is the sea with no watercourses noted. Existing flood risk from tidal effects will be unchanged after the development.
- 8.8.18 It is therefore considered that water quality and flood risk can be scoped out of the assessment.

## 8.9 Human Health

### Introduction

- 8.9.1 The established definition of health from the World Health Organisation (WHO) is that *“health is a state of complete physical, social and mental wellbeing and not simply the absence of disease or infirmity”*. The definition of health reflects the understanding that an individual's inherited traits interact with lifestyle, community, environmental, social and economic factors as well as a much wider range of issues to determine their health outcomes. Many of these ‘determinants’ can be influenced by the quality of people's living and working environments and are therefore relevant to the design and location of development. This section assesses the potential effects of the project on human health and sets out the rationale for scoping health out of the EIA.

### Existing Characteristics

- 8.9.2 Fair Isle is the UK's most remote community, lying 24 miles off the southern tip of the Shetland Islands and the island is separated from Shetland mainland by a body of water known as the ‘Roost’. This means that the island is not just geographically remote, but is also remote from a connectivity perspective.
- 8.9.3 Currently, the main passenger link is through an air service by means of an eight seat Britten-Norman BN-2 Islander aircraft and the existing ferry service provides the critically important supply chain and freight link as well as capacity for 12 passengers per sailing.
- 8.9.4 Acknowledgement of Fair Isle's remote location the importance of transport services to the mainland is a key consideration in relation to the Proposed Scheme and residents' health and wellbeing. ScotPHO (Public Health Information for Scotland) profiles for Shetland Islands supports this perspective, as, in 2014, the percentage of people living in the 15% most ‘access deprived’ areas in the Shetland Isles there are 69%, which was significantly higher than the Scottish level of 15%.<sup>1</sup> When considering the relevance of access deprivation and human health outcomes in Fair Isle, there is evidence that links access deprivation to negative health outcomes. In a 2015 report published by Public Health England (PHE), it was stated that periods of prolonged social isolation across developmental periods ranging from childhood to



young adulthood, can have cumulative effects, leading to a worsening in health outcomes<sup>15</sup>. PHE suggest that social isolation in childhood is associated with isolation in adolescence and adulthood, and social isolation in adulthood is in turn associated with cardiovascular risk factors (such as overweight and elevated blood pressure) at the age of 26. PHE suggest, that, when social isolation is reduced, positive effects are seen on health outcomes, such as lower levels of physical and cognitive limitations at older ages. These benefits are thought to result from high and increasing levels of social engagement present over the life course<sup>1</sup>. Such statistics highlight the importance of reducing social isolation for Fair Isle's residents and maintaining social accessibility through means such as transport.

- 8.9.5 In terms of ill-health and injury, the Shetland Isles are very much aligned with Scottish benchmarks; according to ScotPHO profiles for Shetland Islands, the islands either scored below or in line with Scottish averages between the years of 2011-2013.<sup>16</sup> This included: rates of cancer registration, patients hospitalised due to asthma, emergency hospitalizations, patients hospitalised for chronic obstructive pulmonary disease (COPD), rates of coronary heart disease, road traffic accidents and those adults aged 65 years and over with multiple hospital admissions<sup>1</sup>.
- 8.9.6 In terms of mortality, ScotPHO profiles for Shetland Islands show that Shetland Isles rates have been similar to or slightly below Scottish averages. Life expectancy in 2011 was 77.4 years for males and 81.3 years for females. These rates were similar to the Scottish average of 76.6 years for males and the Scottish female average of 80.8 years.<sup>1</sup>
- 8.9.7 The Shetland Isles generally score similar when compared to the benchmarks for Scotland for most health indicators including for life expectancy and deprivation. However, in terms of social isolation, evidently, Fair Isle is at a much higher risk of detrimental effects occurring to human health populations if the existing transport links are not adequately maintained.

#### **Potential Impacts**

- 8.9.8 The Proposed Development has the opportunity to affect determinants of human health through impacts including noise, air quality and ground conditions (e.g. through the introduction of pollutant pathways). However, it is noted that as there are no residential receptors nearby to the Site and in the wider area, and therefore there is therefore limited potential for human health impacts to arise directly as a result of the Proposed Development either during construction or operation.
- 8.9.9 Noise, air quality and ground conditions are considered in the relevant sections of this scoping report as appropriate. No likely significant effects are anticipated in relation Noise, Air Quality, Ground Conditions and these topics have therefore been scoped out of the EIA.
- 8.9.10 Socio-Economics will be assessed as part of the EIAR. Where significant adverse effects are identified, appropriate mitigation measures will be proposed. In addition, relevant community consultation will be undertaken.
- 8.9.11 As social isolation is considered a wider determinant of health, successful completion of the scheme could mean that associated long-term effects of isolation are reduced. Enhancement to the passenger ferry service may allow easier accessibility to and from the island, which is likely to help mitigate aspects of social isolation on local residents. It is anticipated that the new ferry service will improve accessibility, as it will have a larger capacity to carry more passengers than the existing service and will therefore allow higher trip frequency for people to travel between Fair Isle and the mainland.

<sup>15</sup> Public Health England (2015). Accessed online 25.11.21. Available from: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/461120/3a\\_Social\\_isolation-Full-revised.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/461120/3a_Social_isolation-Full-revised.pdf)

<sup>16</sup> ScotPHO profiles for Shetland Islands. Available online: [Shetland Islands Health and Wellbeing Profiles – key indicators and overview \(scotpho.org.uk\)](https://scotpho.org.uk) Last accessed 19/11/21.



### **Conclusion**

- 8.9.12 Any anticipated effects to human health from the Proposed Development will be addressed through the relevant chapters of the EIAR. No potential likely significant effects have been identified in relation to human health, and a separate health assessment is not deemed to be required within the EIA. Based on these considerations, human health is therefore proposed to be scoped out of the EIA.

## **9 Summary and Next Steps**

### **9.1 Summary**

- 9.1.1 This Scoping Report has been prepared to provide an overview of the likely significant environmental effects and sets out the intended EIA scope and methodologies for the assessment of likely significant environmental effects, and outlines the content of the EIAR.
- 9.1.2 The aim is to ensure that the Proposed Development has due regard for the environment, mitigates adverse environmental effects where possible, and takes advantage of opportunities for environmental enhancement.

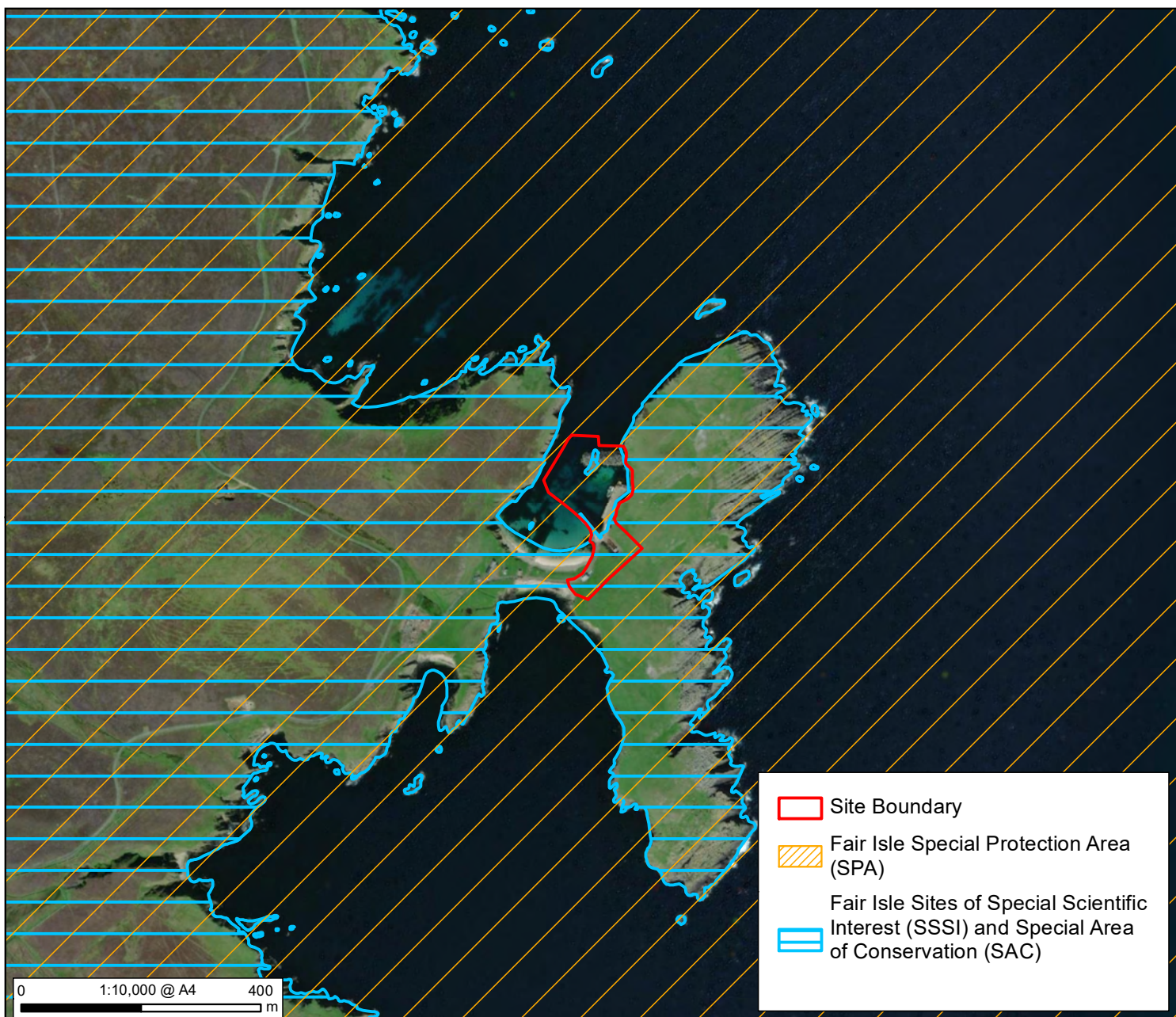
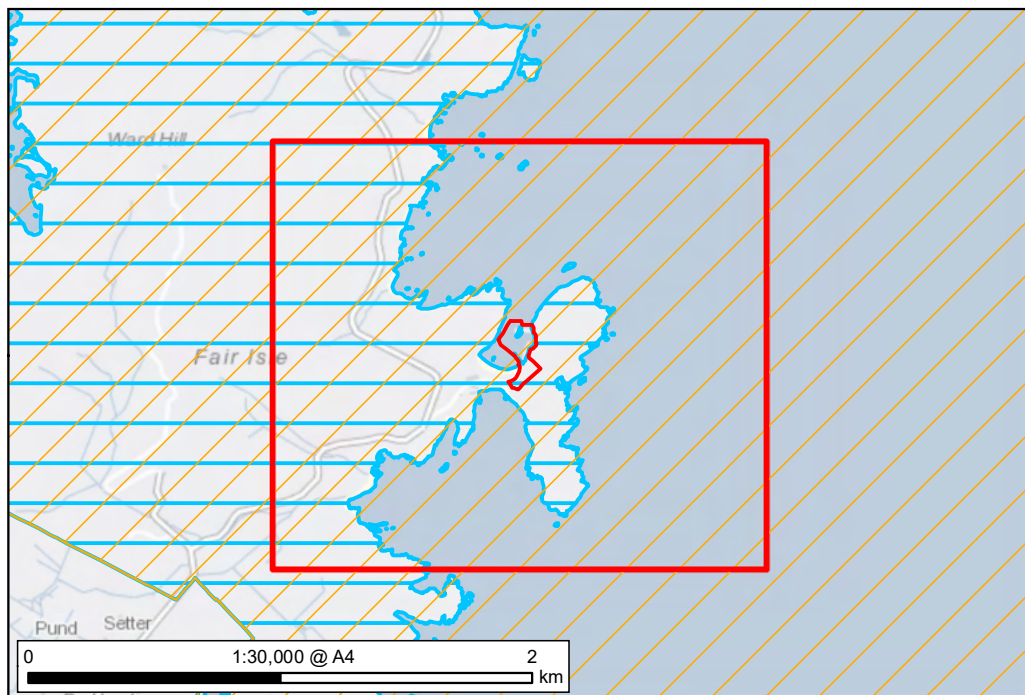
### **9.2 The Environmental Impact Assessment Report**

- 9.2.1 The outcome of the EIA process is the production of an EIAR to accompany the planning application. An EIAR will be prepared in compliance with the EIA Regulations (Scotland), that:
- Describes the Proposed Development;
  - Outlines the reasonable alternatives considered;
  - Describes the baseline environment;
  - Describes the likely significant effects and the methods used to identify significant effects;
  - Describes the measures to mitigate adverse effects;
  - Describes any monitoring arrangements; and
  - Includes a non-technical summary.

### **9.3 Next Steps**

- 9.3.1 The next steps in the EIA process are as follows:
- Receipt of formal Scoping Opinion (Spring 2022).
  - Submission of EIAR with the outline planning application (Winter 2022).

## **Appendix A    Location Plan**



- Site Boundary
- Fair Isle Special Protection Area (SPA)
- Fair Isle Sites of Special Scientific Interest (SSSI) and Special Area of Conservation (SAC)



Client  
**Scotland  
Island  
Council**

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community  
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Scale: See Frames

07/04/2022

Drawn: LW

Checked: JB

## Fair Isle Site Location Plan with Designations



---

## **Appendix B      Application Site Boundary**





- Notes
1. All levels are in metres above Ordinance Datum (mAOD).
  2. All dimensions are in metres unless otherwise noted.

Key to symbols

New Pier and Linkspan Structures

Red Line Boundary

Approximate Dredge Area

Reference drawings

P01	04/11/21	RK	For Information	MC	MR
Rev	Date	Drawn	Description	Ch'k'd	App'd

M

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Client

Shetland Islands Council  
8 North Ness Business Park  
Lerwick  
Shetland  
ZE1 0LZ

Title

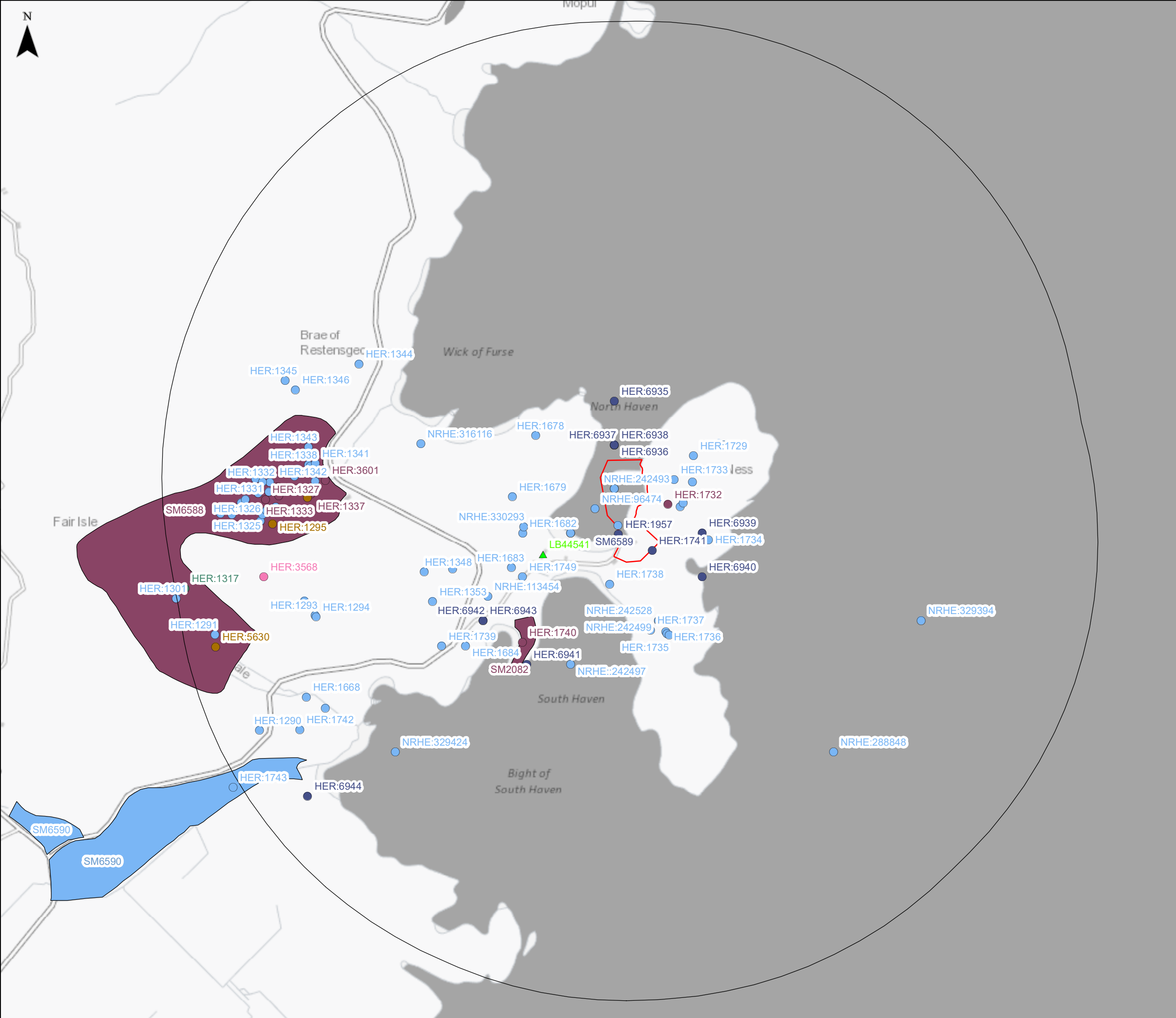
Shetland Inter Island  
Transport BC Support  
Fair Isle Ferry Terminal  
Red Line Boundary

Designed	B Radcliffe	BR	Eng check	C Ohi	CO
Drawn	R Kilgour	RK	Coordination	C Ohi	CO
Dwg check	M Cairns	MC	Approved	M Ross	MR
Scale at A1	Status		Rev		Security
As Shown	PRE		P01		STD
Drawing Number					
418429-MMD-FI-FI-SK-C-XXXX					



## **Appendix C**

### **C.1 Designated Assets**



Legend

- 1km Study Area
- Red Line Boundary

Designated Heritage Assets

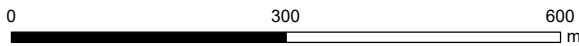
- Listed Building

Non Designated Heritage Assets

- Mesolithic
- Bronze Age
- Prehistoric
- Post Medieval
- Modern
- Undated
- Prehistoric
- Undated

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Contains data sourced from the Historic England Scotland obtained.

Fair Isle  
Designated and Non Designated  
Heritage Assets



1:8,250 @ A3	Date: 17/11/2021
Drawn: EC	Checked: MT
Figure 01	Rev A

## **C.2 Non Designated Assets**

## Appendix C.2 Heritage Sites Table

HER No	NRHE No	DESIGNATION No.		SITE NAME	SITE TYPE	SITE DATE	EASTING	NORTHING
1290				Gilsetter	Bomb crater	Undated	421690	1072050
1291	316117	SM	SM6588	Homis Dale	Bank	Undated	421589	1072268
1292	316118			Eas Brecks	Stone Alignment	Undated	421793	1072345
1293	316120			Eas Brecks	Stone Alignment	Undated	421817	1072312
1294	316121			Eas Brecks	Cairn	Undated	421819	1072308
1295	3882	SM	SM6588	Burn Of Furse	Burnt Mound	Bronze Age	421720	1072520
1296	3862	SM	SM6588	Fair Isle	Burnt Mound	Bronze Age	421800	1072580
1301	316125	SM	SM6588	Burn Of Vatstrass	Planticrub	Undated	421500	1072350
1317	316152	SM	SM6588	Homis Dale	Bomb Crater	Modern	421520	1072373
1318	316153	SM	SM6588	Eas Brecks	Enclosure	Undated	421601	1072544
1319	316154	SM	SM6588	Eas Brecks	Enclosure	Undated	421627	1072542
1320	316155	SM	SM6588	Eas Brecks	Mound	Undated	421648	1072568
1321	316156	SM	SM6588	Eas Brecks	Linear Earthwork	Undated	421658	1072576
1322	316157	SM	SM6588	Eas Brecks	Linear Earthwork	Undated	421686	1072557
1323	316158	SM	SM6588	Eas Brecks	Enclosure	Undated	421692	1072527
1324	316159	SM	SM6588	Eas Brecks	Enclosure	Undated	421697	1072542
1325	316160	SM	SM6588	Eas Brecks	Mound	Undated	421706	1072551
1326	316161	SM	SM6588	Eas Brecks	Bank	Undated	421687	1072590
1327	316162	SM	SM6588	Eas Brecks	Mound	?Prehistoric	421704	1072576
1328	316163	SM	SM6588	Eas Brecks	Linear Earthwork	Undated	421727	1072559
1329	316164	SM	SM6588	Eas Brecks	Building	Undated	421681	1072623
1330	316165	SM	SM6588	Eas Brecks	Linear Earthwork	Undated	421712	1072593
1331	316166	SM	SM6588	Eas Brecks	Linear Earthwork	Undated	421714	1072615
1332	316167	SM	SM6588	Eas Brecks	Linear Earthwork	Undated	421697	1072616
1333	316168	SM	SM6588	Eas Brecks	Roundhouse	?Prehistoric	421734	1072585
1334	316169	SM	SM6588	Eas Brecks	Linear Earthwork	Undated	421820	1072602

HER No	NRHE No	DESIGNATION No.		SITE NAME	SITE TYPE	SITE DATE	EASTING	NORTHING
1335	316170	SM	SM6588	Eas Brecks	Linear Feature	Undated	421770	1072629
1336	330585	SM	SM6588	Burn Of Furse	Linear Earthwork	Undated	421776	1072644
1337	330586	SM	SM6588	Burn Of Furse	Burnt Mound	?Prehistoric	421808	1072589
1338	316172	SM	SM6588	Eas Brecks	Round Cairn	Undated	421802	1072655
1339	316173	SM	SM6588	Eas Brecks	Round Cairn	Undated	421806	1072652
1340	316174			Eas Brecks	Round Cairn	Undated	421815	1072654
1341	316175	SM	SM6588	Eas Brecks	Mound	Undated	421818	1072658
1342	316176	SM	SM6588	Eas Brecks	Enclosure	Undated	421817	1072617
1343	316177	SM	SM6588	Eas Brecks	Mound	Undated	421802	1072695
1344	316178			Brae Of Restensgeo	Enclosure	Undated	421917	1072885
1345	316179			Brae Of Restensgeo	Enclosure	Undated	421749	1072847
1346	316180			Brae Of Restensgeo	Standing Stone	Undated	421772	1072826
1347	316181			Bird Observatory	Round Cairn	Undated	422131	1072418
1348	316182			Eas Brecks	Mound	Undated	422066	1072411
1353	316186			Eas Brecks	Stone Row	Undated	422085	1072343
1354	316187	SM	SM6588	Eas Brecks	Stone Row	?Prehistoric	421732	1072605
1358				Eas Brecks	Findspot	Undated	421700	107240
1667	3869			Burn Of Vatstrass	Burnt Mound	Undated	421840	1072100
1668	330308			Burn Of Vatstrass	Linear Earthwork	Undated	421797	1072125
1678	330288			Ruskilie	Linear Earthwork	Undated	422320	1072722
1679	330289			Hoi-lee	Cairn	Undated	422267	1072582
1680				North Haven	Military Installation	Undated	422290	107251
1681				North Haven	Military Installation	Undated	422280	107249
1682	330292			North Haven	Military Installation	Undated	422291	1072499
1683	330290			South Haven	Quarry	Undated	422265	1072421
1684	330306			Mavers Geo	Quarry	Undated	422160	1072242
1725	330294			Gavel	Stone Setting	Undated	422749	1072700

HER No	NRHE No	DESIGNATION No.		SITE NAME	SITE TYPE	SITE DATE	EASTING	NORTHING
1726				Bu Ness	Mound	Undated	422740	107270
1727				Bu Ness	Stone	Undated	422730	107270
1728				Bu Ness	Lithic Scatter	Undated	422720	107270
1729	188635			Bu Ness	Enclosure	Undated	422680	1072676
1730				Bu Ness	Enclosure	Undated	422680	107261
1731				Bu Ness	Building	Undated	422650	1072560
1732	330299			Grey Stane	Kerb Cairn	?Prehistoric	422622	1072565
1733	330297			Bu Ness	Military Installation	Undated	422636	1072621
1734	330300			Skervalie	Building	Undated	422714	1072484
1735	330303			Bu Ness	Cairn	Undated	422617	1072274
1736				Bu Ness	Building	Undated	422620	1072270
1737	330302			Bu Ness	Linear Earthwork	Undated	422582	1072278
1738	330305			South Haven	Enclosure	Undated	422489	1072383
1739	330307			Eas Brecks	Enclosure	Undated	422106	1072242
1740	3915	SM	SM2082	Landberg	Promontory Fort	?Prehistoric	422290	1072250
1741	330301			Bu Ness	Cist	Post-medieval	422586	1072460
1742	330309			Funniquey	Field System	Undated	421782	1072051
1743	127410	SM	SM6590	Gilsetter	Mill	Undated	421630	1071920
1749	3851			North Harbour stone cup	Findspot	Undated	422290	1072400
1957	122228	SM	SM6589	North Haven, Lighthouse Pier, Crane	Crane	Post-medieval	422509	1072497
3568	3871			North Haven	Findspot	Mesolithic	421700	1072400
3601		SM	SM6588	Burn of Furse	House	Prehistoric	421840	1072620
5630		SM	SM6588	Burn of Furse	Burnt Mound	Bronze Age	421590	1072240
6935	238433			Joanna En Pietrenella, North Haven, Fair Isle	Wreck	Post-medieval	422500	1072800



HER No	NRHE No	DESIGNATION No.		SITE NAME	SITE TYPE	SITE DATE	EASTING	NORTHING
6936	242489			Star of the West, Yess Ness, North Haven, Fair Isle	Wreck	Post-medieval	422500	1072700
6937	242482			Hebe, North Haven, Fair Isle	Wreck	Post-medieval	422500	1072700
6938	242503			Good Shepherd, North Haven, Fair Isle	Wreck	Post-medieval	422500	1072700
6939	242440			Willem Hoogart, Sloggar, Fair Isle	Wreck	Post-medieval	422700	1072500
6940	242465			Adolph Wilhelm, Slogar, Fair Isle	Wreck	Post-medieval	422700	1072400
6941	242476			Vandrandande Man, Head of Landberg, Fair Isle	Wreck	Post-medieval	422300	1072200
6942	242448			De Noordbeek, Maversgeo, Fair Isle	Wreck	Post-medieval	422200	1072300
6943	242479			Blessed Endeavor, Maversgeo, Fair Isle	Wreck	Post-medieval	422200	1072300
6944				Finnequoy, Fair Isle	Wreck	Post-medieval	421800	1071900
7897	232125	LB (C)	LB44541	North Haven, Storehouse	Storehouse	Post-medieval	422337	1072451
	96474			North Haven Harbour	Crane, Harbour	Post-medieval	422456	1072555
	96475			1726	Pier	Post-medieval	422508	1072517
	113454			Eas Brecks, Bird Observatory And Hostel	Hostel, Observatory	Post-medieval	422211	1072355
	115532			Hsl 117: South Beach, North Haven	Wreck	Post-medieval	422400	1072500
	127407			North Haven, Lighthouse Pier, Crane	Crane	Post-medieval	422400	1072500
	174319			North Haven, Military Camp	Military Camp	Post-medieval	422350	1072420
	242487			Monchgut: Cubbie Skerry	Wreck	Post-medieval	422500	1072600
	242493			Stork: North Haven	Wreck	Post-medieval	422500	1072600
	242497			Sunbeam: Listet	Wreck	Post-medieval	422400	1072200
	242499			Star Of The North: South Haven	Wreck	Post-medieval	422600	1072300

HER No	NRHE No	DESIGNATION No.		SITE NAME	SITE TYPE	SITE DATE	EASTING	NORTHING
	242528			Unknown: South Haven	Wreck	Post-medieval	422600	1072300
	288848			Unknown: Siwars Geo, Fair Isle	Wreck	Post-medieval	423000	1072000
	316116			Ruskillie	Bomb Crater	Post-medieval	422058	1072703
	316171			Eas Brecks	Linear Feature	Undated	422179	1072266
	316190			Eas Brecks	Core	?Prehistoric	421700	1072400
	329394			Unknown 1798	Wreck	Post-medieval	423200	1072300
	329424			Unknown 1817	Wreck	Post-medieval	422000	1072000
	330293			North Haven	Structure	Post-medieval	422293	1072514
	330295			Gavel	Mound	Undated	422738	1072704
	330296			Bu Ness	Structure (Possible)	Undated	422678	1072616
	330298			Grey Stane	Wall	Undated	422657	1072568
	330304			Bu Ness	Linear Feature	Undated	422625	1072267