Item: 10

Development and Infrastructure Committee: 8 September 2020.

Orkney Harbours Masterplan Phase 1 – Planning Policy Advice.

Report by Executive Director of Development and Infrastructure.

1. Purpose of Report

To consider adopting the Orkney Harbours Masterplan Phase 1 as Planning Policy Advice.

2. Recommendations

The Committee is invited to note:

2.1.

That, in April 2019, the Council agreed that public consultation be undertaken on the draft Orkney Harbours Masterplan – Phase 1.

2.2.

That public consultation, including with stakeholders and industry, has been undertaken in respect of the draft Orkney Harbours Masterplan Phase 1.

2.3.

The Consultation Report, attached as Appendix 1 to this report, which records the steps taken to ensure full and proper consultation was undertaken, the comments raised by members of the public and stakeholders and the response by the Executive Director of Development and Infrastructure to those comments.

2.4.

That, on 16 April 2020, the Council approved the Orkney Harbours Masterplan – Phase 1, attached as Appendix 2 to this report.

2.5.

That, once approved as Planning Policy Advice, the Masterplan, referred to at paragraph 2.4 above, will have status as a significant material consideration in planning and works licence decision making.

It is recommended:

2.6.

That the Orkney Harbours Masterplan Phase 1, attached as Appendix 2 to this report, be approved as Planning Policy Advice.

3. Background

3.1.

At its meeting held on 14 November 2017, when considering undertaking an aquaculture capacity study for Scapa Flow, the Development and Infrastructure Committee recommended inter alia that an assessment of the impact of future fish farm development on harbour infrastructure and operations be progressed as part of the Orkney Harbours Masterplan.

3.2.

On 19 March 2019, the Harbour Authority Sub-committee considered a draft Orkney Harbours Masterplan and recommended that the draft Masterplan be approved for consultation purposes.

3.3.

The outcome of the consultation and the final version of the Orkney Harbours Masterplan – Phase 1 were submitted to, and considered by, the Harbour Authority Sub-committee on 17 March 2020. The Masterplan was subsequently approved by Council on 16 April 2020.

3.4.

This report deals solely with the matter of the Orkney Harbours Masterplan – Phase 1, being adopted as Planning Policy Advice. The purpose of this report, therefore, is not to consider the merits, or otherwise, of the proposed projects contained within the Masterplan.

4. Public Consultation

4.1.

Public consultation in respect of the draft Orkney Harbours Masterplan Phase 1 was undertaken from 10 June to 22 July 2019. The consultation was preceded by a number of face-to-face and telephone discussions to hear initial views on issues and constraints from harbours users and stakeholders. Council services and public bodies were included in the early engagement and consultation. Sixty stakeholder discussions were conducted, driving the early stages of the masterplan development.

4.2.

Three workshops were held, together with a presentation. Two workshop sessions were arranged for feedback on “views and constraints” and “views on ideas and proposals contained within the masterplan”.

4.3.

In addition, during June 2019, community consultation events were held in Stromness and Kirkwall, with 65 attendees in total. These events consisted of a presentation and drop-in sessions in the afternoons and evenings at both locations.

4.4.

A full record of comments received, and the Council's response to these, is recorded in the Consultation Report, attached as Appendix 1 to this report.

4.5.

The revised Orkney Harbours Masterplan – Phase 1, attached as Appendix 2 to this report, was subsequently approved by Council on 16 April 2020.

5. Planning Policy Advice

5.1.

It is proposed that the Orkney Harbours Masterplan Phase 1 be adopted as Planning Policy Advice providing status for the Masterplan as a significant material consideration in the determination of relevant planning and works licence applications. The consultation referred to at section 4.1 above included the potential for adopting the Masterplan as Planning Policy Advice.

5.2.

As an adopted Council strategy, the Masterplan will inform future development of plans and policies, particularly the Orkney Local Development Plan, Supplementary Guidance: Aquaculture and the future Orkney Islands Regional Marine Plan. These plans and guidance will be subject to formal public consultation in their own right.

5.3.

It is important to note that the Masterplan Proposals, detailed in Section 3 of the Masterplan, are indicative and will be subject to change and iteration as they progress through business case appraisal, feasibility, design and further environment assessment. The aspirations of the Masterplan will be taken forward in accordance with adopted planning policy with due regard to known constraints.

5.4.

In accordance with decision detailed at section 3.1 above, an assessment of future fish farm development, and other potential future fixed installations, on harbour infrastructure and operations was undertaken as part of the Orkney Harbours Masterplan. In accordance with this assessment, the Proposed Development Policy Principles within the Masterplan have been prepared.

5.5.

The Proposed Development Policy Principles, to safeguard harbour operations in Scapa Flow, are detailed on page 18 and in Appendix B of the Masterplan. These policy principles aim to support the management of development, requiring planning permission or a works licence, that could have a significant adverse impact on Harbour Area operations and navigational safety. Furthermore, the policy principles aim to safeguard the viability of future strategically important harbour infrastructure allowing for safe navigation and vessel manoeuvrability. Whilst not limited to aquaculture development, these policy principles provide a proposed planning policy mechanism to manage fish farm development and potential adverse impacts on Scapa Flow Harbour Area operations.

5.6.

It should be noted that Supplementary Guidance: Aquaculture includes a spatial strategy that identifies spatial sensitivities and constraints of relevance to harbour operations. In advance of any future revision of the Supplementary Guidance, the policy principles should be considered alongside the Supplementary Guidance when assessing planning applications.

6. Further Planning Considerations

6.1.

The Scottish Government has commenced early work on preparing National Planning Framework 4 (NPF4) including a “Call for Ideas” which closed on 31 March 2020. Stakeholder workshops were held in Orkney to inform the “Call for Ideas” in early March. An officer response to the “Call for Ideas” was submitted to the Scottish Government by the 31 March deadline. Following this early engagement and taking account of the impact of the coronavirus pandemic on timescales, it is now anticipated that a draft NPF4 will be published for public consultation in Autumn 2021. Taking account of representations made to the Scottish Government, the draft will be revised and presented to the Scottish Parliament for approval which is anticipated in 2022.

6.2.

Orkney features prominently in the current National Planning Framework 3 (NPF3) as follows:

- Orkney and Pentland Firth identified as an area of co-ordinated action in respect of marine renewable energy development.
- Recognition made of plans for a transhipment container hub in Scapa Flow which could benefit the opening up of northern trade routes.
- The role of key coastal and islands hubs such as Kirkwall and the identification of Scapa Flow as a key port.
- The need to capitalise on world-class environments such as the World Heritage Site.

- The Orkney-Scottish Mainland electricity grid connection identified as a “national development”.

6.3.

It is important to ensure that Orkney and any future strategic projects in the county feature in the emerging NPF4, including priority projects that have not yet been delivered under NPF3. To support delivery of the Orkney Harbours Masterplan Phase 1, the officer response to the NPF4 “Call for Ideas” included identification of Scapa Flow as a nationally significant harbour asset and sought recognition of the Scapa Deep Water Quay and Hatston Masterplan Proposals as nationally significant developments.

6.4.

The Planning (Scotland) Act 2019, establishes a duty on the planning authority to prepare and adopt a Regional Spatial Strategy. Regional Spatial Strategies (RSS) are long-term spatial strategies which identify:

- The need for strategic development.
- The outcomes to which strategic development will contribute.
- Priorities for the delivery of strategic development.
- Proposed locations, shown in the form of a map or diagram.

6.5.

The Scottish Government has advised that indicative Regional Spatial Strategies should be prepared and submitted to them by 18 September 2020 to inform preparation of the draft NPF4. An indicative Orkney Regional Spatial Strategy is being prepared by the Planning Authority to establish a spatial strategy for Orkney and the surrounding marine area. A number of the developments in the Orkney Harbours Masterplan Phase 1, including Scapa Deep Water Quay, Hatston Pier and Kirkwall Harbour, have been incorporated as “strategic developments” and will feature prominently in the indicative Orkney Regional Spatial Strategy submitted to the Scottish Government. Following adoption of NPF4 in 2022, the draft Regional Spatial Strategy will be submitted to this Committee for consideration prior to public consultation.

7. Equalities Impact

An Equality Impact Assessment has been undertaken and is attached as Appendix 3 to this report.

8. Environmental Implications

8.1.

A Strategic Environmental Assessment (SEA) of the Orkney Harbours Masterplan Phase 1 has been undertaken. The Strategic Environmental Assessment has undergone public consultation along with the Orkney Harbours Masterplan Phase 1, and the responses received have been taken into account in a Post-Adoption Statement.

8.2.

A Habitats Regulations Appraisal (HRA) and, as a result, an Appropriate Assessment (AA) have been successfully completed, with agreement that any adverse effects on site integrity have been deferred to project level HRA and it is acknowledged that individual projects will only go ahead if there is no adverse effect on site integrity.

9. Corporate Governance

9.1.

This report relates to governance and procedural issues and therefore does not directly support and contribute to improved outcomes for communities as outlined in the Council Plan and the Local Outcomes Improvement Plan.

9.2.

However, the Orkney Harbours Masterplan will inform future development of the Orkney Local Development Plan, which, together with its associated key documents, have the potential for delivering many of the Council Plan and Local Outcomes Improvement Plan priorities.

10. Financial Implications

There are no financial implications in developing the Orkney Harbours Masterplan Phase 1 as Planning Policy Advice. The associated staff time resources have been contained within the existing Planning Service revenue budget.

11. Legal Aspects

11.1.

Planning Policy Advice is regarded as a material consideration when determining planning applications. Approved as Planning Policy Advice, the Orkney Harbour Masterplan would have status as a material consideration of significant weight in planning decision making. It is also recommended that the masterplan should have status as a material consideration of significant weight in works licence decision making.

11.2.

Planning control for marine fish farming extends from mean high water springs to 12 nautical miles (the limit of territorial waters) as set out in section 26(6) of the Town and Country Planning Act 1997 (as amended).

11.3.

The Orkney County Council Act 1974, as amended, provides powers to Orkney Islands Council to issue licences for works within the Orkney Harbour Area. A works licence is required to construct, place, maintain, alter, renew or extend any works on, under or over tidal waters or tidal lands below mean high water springs. A licence is also required under the Act to dredge any part of the Harbour Area. Fish farming developments do not require a works licence.

12. Contact Officers

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13. Appendices

Appendix 1: Consultation Report.

Appendix 2: Orkney Harbours Masterplan Phase 1.

Appendix 3: Equality Impact Assessment.

ORKNEY HARBOURS MASTERPLAN PHASE 1 CONSULTATION REPORT

FEBRUARY 2020

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CONTENTS

1. INTRODUCTION

Importance of stakeholder engagement

Stakeholder engagement and participation has played a key role in the development of the Orkney Harbours Masterplan Phase 1.

The views and comments of stakeholders have and will continue to inform core elements during the process of developing and finalising the masterplan:

- Real understanding of the issues, constraints and threats facing Orkney's harbours, their users and the wider community.
- Potential opportunities for Orkney Harbours in the future, which in turn informed the development of initial proposals for consideration.
- Setting of objectives, outline requirements and the appraisal framework.
- Finalisation of the masterplan.
- Future development of the proposals through feasibility and implementation.

Structure of this report

This Report provides an overview of the stakeholder engagement and participation activities carried out during the development of the masterplan. It covers the following:

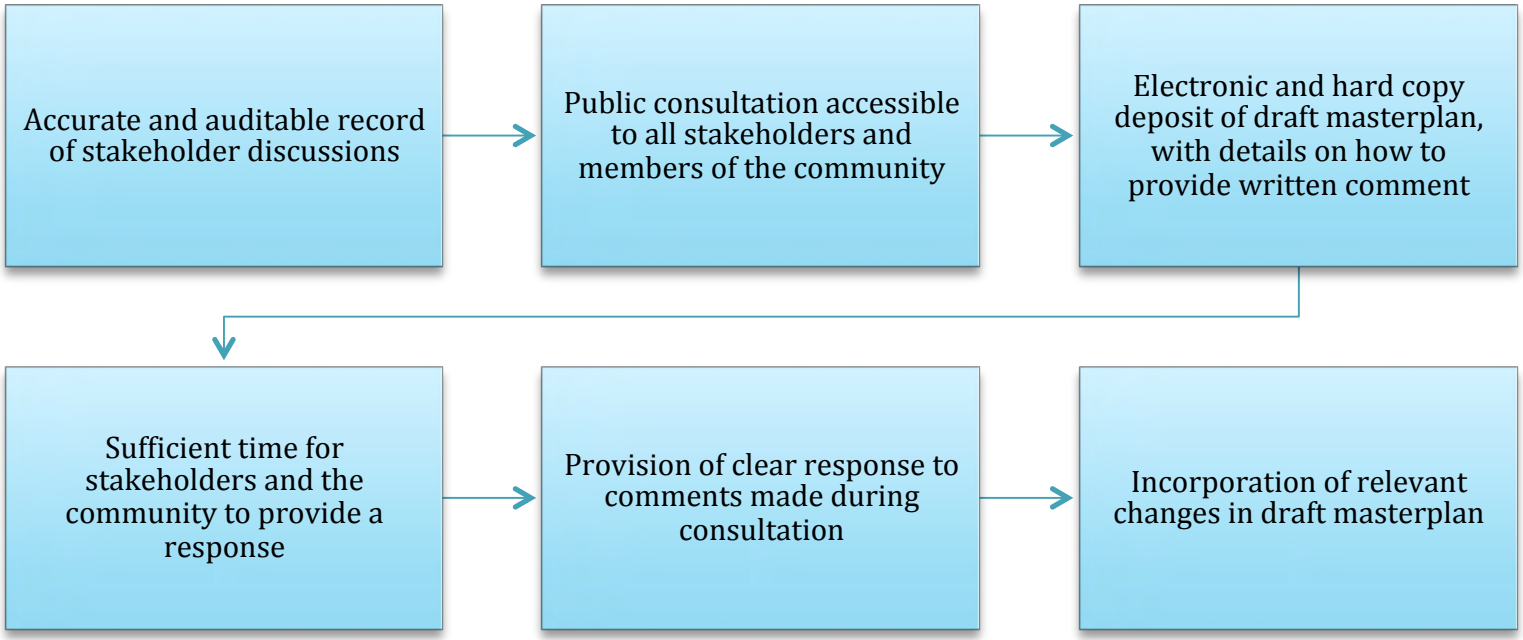
- Consultation strategy.
- Stakeholder engagement – summary.
- Addressing community consultation comments.

2. CONSULTATION STRATEGY

Consultation strategy

At the start of the project a detailed plan for stakeholder engagement activities was defined and agreed – see below.

A key aim of Orkney Harbour Authority was to have the masterplan aligned with the Local Development Plan.



3. STAKEHOLDER ENGAGEMENT – SUMMARY

Introduction

This section provides an overview of stakeholder engagement activities undertaken throughout the development of the masterplan.

Opposite a summary of stakeholder activities is presented, followed by more detailed summaries overleaf.

In addition to consultation with external stakeholders several brainstorming sessions were held with internal stakeholders, namely Orkney Harbours and Orkney Island Council (OIC) officials.

Consultation activities

One-to-one stakeholder discussions

- Face-to-face and telephone discussions with key stakeholders, primarily harbour users, to obtain views on issues, constraints and opportunities.
- Ongoing dialogue with officials from OIC, other public sector organisations and industry bodies.

Harbour user workshops

- Discussion and verification of issues and constraints, as well as consideration of potential opportunities for Orkney Harbours, from the harbour user perspective.

Community Consultation

- Public meetings to present the draft masterplan and drop-in sessions to enable members of the public to view the draft masterplan and accompanying Strategic Environmental Assessment (SEA) Report, ask questions and make comment.
- Draft masterplan and SEA Report were also available online and in hard copy for a period of six weeks.

Overview

Throughout the development of the masterplan many discussions were held with stakeholders across a range of sectors.

At the start of the process a number of face-to-face and telephone discussions were held with stakeholders to inform them of the masterplan process and hear their initial views on issues and constraints.

As the masterplan developed discussions with various departments within OIC and other public sector bodies were undertaken. Two seminars were organised to which numerous Council officials were invited.

Sixty stakeholder discussions were conducted in total.

Stakeholder discussions

Sector	No. discussions
OIC/Orkney Harbours	15
Transport (ferries/haulage)	6
Fishing, aquaculture & seafood processing	8
Tourism	2
Energy (oil & gas/renewables)	8
Engineering/supply chain	5
Marine leisure	6
Education	2
Public sector agencies	8
Total	60

Overview

At an early point in the development of the masterplan three workshops were held, two in Kirkwall and one in Stromness.

The purpose of these workshops was to inform harbour users about the masterplanning process and to illicit their views on issues, constraints and opportunities for Orkney Harbours.

A list of harbour users was developed with input from OIC Marine Services. This list included businesses involved in marine engineering, renewables, provision of ferry services, fishing, aquaculture, logistics, marine leisure, seafood processing, boat building and repair, fuel and transportation, as well as individual boat owners.

Most stakeholders were contacted directly either by email or telephone, and sector associations forwarded the invite to members.

More than 150 stakeholders were invited to attend the workshops. More than 60 stakeholders confirmed that they would attend one of the workshops. On the day a number were not able to attend due to work commitments: in total 41 stakeholders attended. See opposite a summary of attendees by sector.

Workshop agenda and attendees

A presentation provided an overview of the masterplan (see Appendix A), which was followed by two workshop sessions where stakeholders discussed particular topics and fed back to the group:

- Views on issues and constraints.
- Views on ideas and possible proposals to be considered in the masterplan. Stakeholders were provided with harbour plans and asked to physically draw their ideas on these.

Sector	Attendees
Ferries	3
Marine leisure	9
Fishing	7
Renewables	4
Logistics	3
Boat repair	2
Aquaculture	4
Engineering/supply chain	5
RNLI	2
Other	2
Total	41

A summary of workshop outcomes is presented overleaf, categorised by harbour or pier location.

General perceptions

- Kirkwall Pier is well used by a range of businesses and different types of vessel; there can be congestion and competition for berthing space.
- Pier space can be limited with regard to operational activity – e.g. when cruise liners are in, boats are on pier for maintenance, etc.
- Water depth could be a constraint in the future.
- Marina is constrained in that it cannot accommodate larger yachts. There is also demand for more commercial marina berths.
- Desire for more landside facilities for visiting boats – e.g. shiplift, hardstanding area for maintenance, storage.
- Conflict between operational activity (e.g. forklifts, loading/ unloading boats) and tourists/pedestrians.
- Issues around access and facilities for fishermen at Kirkwall Pier need to be addressed.
- Concern of cross-contamination, e.g. with cattle trucks on pier alongside fish products.

Ideas and proposals

- Reclamation of area adjacent to marina. Various uses suggested – parking, boat repair area, shops, etc.
- Create new pier infrastructure at the north end of the pier. This could create a new area for berthing the inter-isle ferries, freeing up space in the main area of the harbour.
- Separate ferries from workboats/fishing boats – possibly relocate ferries to Hatston.
- New breakwater.
- Improve roadway around quayside.
- Increase RoRo marshalling area with better traffic management.
- Second linkspan for Orkney Ferries to give more flexibility to ferry timetable.
- Could North Isles cargo operations go to Hatston? E.g. if there was a separate LoLo freight boat.
- Relocate North Isles waiting room.
- Facility for inshore fishing – although is this the best place?

General perceptions

- General perception that Hatston is at capacity, with many different users competing for berthing space, operational areas on the quayside and ashore.
- Lack of space for laydown, freight and trailers.
- Perceived lack of land available for expansion around Hatston.
- Management of traffic could be improved: there is conflict between different users/uses, e.g. pedestrians (tourists/cruise line passengers) mixing with operational areas (e.g. work on piers, trucks, etc.).

Ideas and proposals

- Additional pier infrastructure (several configurations suggested) to create more berthing space and additional quayside area.
- Separate new quay infrastructure for renewables; incorporate slipway, further west. Needs to be able to handle 100 tonnes.
- Reclamation of land on either west or east side of existing pier infrastructure.
- Several suggestions for use of reclaimed land/additional areas – salmon processing factory/area for aquaculture, base for inter-isle ferries, additional space for trailers/logistics/freight, create new area for bus parking on the quayside, move the car marshalling area closer to the terminal.
- Wider access road to pier to improve traffic system particularly for lorries, with a one-way system.
- Additional linkspan so that passenger ship and freight ship can call simultaneously – linkspan could also be used by aquaculture sector.
- Boat maintenance facility.
- Separate road connecting lairage and Orkney Mart.
- Infrastructure for hydrogen storage (which could be coupled with inter-isle ferry terminal).
- Segregate area for logistics/freight handling associated with ferry. This will remove conflicts.

General perceptions

- Congestion and limited space on South Pier.
- Lack of berths in the marina.
- Smaller boats have issues using Copland's Dock, particularly the spacing between fenders and the height of the pier.
- Limited laydown area, storage space and marshalling space.
- Need to consider Stromness and its built environment when planning for the future – waterfront ambience and amenity, smells, noise, etc.

Ideas and proposals

- Consider options to improve berthing and landing for smaller boats at Copland's dock (e.g. removal of fenders, additional fenders, crane).
- Consider whether any piers can be extended to provide more shelter/additional berths.
- More quayside/landside space is required at Copland's Dock.
- Develop industrial base landside at Copland's Dock. This could include storage, warehousing, laydown area.
- Expand marina facility.
- New access road to pier avoiding residential areas.
- Boat repair and maintenance facility adjacent to Copland's Dock, with ship lift and common user workshop facility.
- Install weighbridge at Copland's Dock.
- Improve access to South Pier – relocate OFS building to Copland's Dock and possibly other buildings to create better lorry access on to the pier.
- Create bridge between old and 'new' Stromness.
- Wider slip at Point of Ness as it is too narrow.
- Do not jeopardise Northlink ferry services calling at Stromness – would result in huge economic loss for Stromness.

General perceptions

Hatston Slip

- Slip could be better maintained, plus creels in water can block navigational channel for rowers and sailors.

Tingwall

- Space is very limited and there is a lot of activity – ferries arriving and departing and associated vehicular traffic, fishing boats, aquaculture boats, lorries delivering feed for aquaculture, lorries picking up fish landed.
- Wave climate issues – lack of wave protection.
- Pier is very narrow – a lorry can't go down the pier and turn, it must reverse down.

Lyness

- Designed for container hub/decommissioning/renewables, which hasn't happened so far.
- Not suitable for small boats/lack of facilities for marine leisure.
- Difficult alongside in certain weathers.

Houton

- Waiting room at Houton is a good example of what can be done – it includes interesting local history elements.
- Limited berthing space.

Burwick

- Linkspan is in wrong place for efficient berthing.
- Marshalling area undeveloped/too small.

Burray

- Lack of water depth/limited capacity for current users.
- Opportunity to encourage marine leisure development.
- Opportunity to open up the boatyard facility.

Westray/Papa Westray

- Limited berthing space at Pierowall.
- Wave climate issues in Papa Westray.

Stronsay

- Wave climate issues affect berthing.
- Depth around Fish Pier and access channel cited as issue.
- Fish Pier in poor condition.

Ideas and proposals

Hatston Slip

- Develop Hatston Slip as a location for a variety of activities (e.g. boat repair, aquaculture, etc.); create breakwater on north side; new surface/top; reclaim land to the north and south for boat storage; power and water supply.

Tingwall

- New pier with dog leg and additional hardstanding.
- Widen existing quay.
- Breakwater to provide protection.
- Develop land for operational use/reclamation.

Scapa Pier

- Upgrade Scapa Pier, knocking down walls, levelling the quay.

Scapa Flow

- Floating dry dock.
- Floating transhipment container terminal.

Lyness

- Future hub for liquefied natural gas (LNG).
- Create facilities for small boats/marine leisure (e.g. visitor moorings, reinstate slip or develop West Pier).
- Bridge between Stromness, Graemsay and to Hoy + upgrade the road.
- Create new ferry terminal on Hoy for Scotland-Orkney crossings.

Burwick

- Move the linkspan and turn around and so face NW: this will enable boats to access/egress more easily.
- Local dredging to fill in marshalling area.

Burray

- Dredge to give more depth of water; build necessary infrastructure to host a boat lift.

Shapinsay

- Pier extension and dredging.
- Additional car parking.

Westray

- Improve berthing; construct breakwater.
- Improved amenities (e.g. toilet and showers).
- Reduce gradient of slip.

Papa Westray

- Extend marina plus reclamation.

General

- Create new leisure facilities throughout the North and South Isles – develop strategic plan for pontoons/enhancing piers.
- Single point of contact in Council regarding harbours.

Aims of the community consultation

The main aims of the community consultation were:

- To inform the local community and wider public about the Draft Orkney Harbours Masterplan Phase 1 and accompanying SEA Report.
- To invite the local community to read and make comment on the draft masterplan. The event also provided an opportunity for all stakeholders previously consulted to read and make comment on the draft masterplan.
- To inform the finalisation of the masterplan.

Publication of the draft masterplan

The draft masterplan was made available online and in hard copy between Monday 10th June and Monday 22nd July 2019.

It was published on the Orkney Harbours website inviting stakeholders to read and provide comment, with details on how to submit views directly or to complete a short questionnaire online. Details of the public consultation events were also provided.

A hard copy of the draft masterplan was deposited at the customer desk at OIC offices and at libraries in Stromness and Kirkwall, as well as being made available on the mobile library service.

Two adverts were placed in local media providing details of the community consultation: in The Orcadian on 6th and 13th June 2019.

All stakeholders who had been previously contacted during the development of the masterplan were emailed and informed about the community consultation.

An online and hard copy questionnaire was made available during the consultation period.

Community consultation overview

Community consultation events were held in Stromness and Kirkwall on the 12th and 13th June 2019 respectively.

A presentation of the draft masterplan was given at 1pm and 6pm and drop-in sessions were held between 1.30pm and 4pm and between 6.30pm and 8pm in both locations.

The consultation event in Stromness was held in the John Rae Room at Stromness Library, whilst the event in Kirkwall was held in the Supper Room at Kirkwall Town Hall.

Plans of the draft masterplan along with details of how the masterplan was developed were displayed on information boards.

Copies of the masterplan were available for people to take away, along with a short questionnaire seeking their views on the prioritisation of proposals within the masterplan.

Members of the masterplan team and Orkney Harbours staff were available during events for 1-2-1 discussions.

A total of 65 people attended one of the events – see opposite.

Comments received at the community consultation events are presented overleaf.

Attendees

Events	Attendees
Stromness Presentation 1pm	17
Stromness Drop-in 1pm – 4pm	3
Stromness Presentation 6pm	5
Stromness Drop-in 6.30pm – 8pm	1
Kirkwall Presentation 1pm	30
Kirkwall Drop-in 1pm – 4pm	3
Kirkwall Presentation 6pm	5
Kirkwall Drop-in 6.30pm – 8pm	1
Total	**65**

Comments arising during community consultation events	
Topic	**Comments/views**
Kirkwall	*How much dredging will be required to reach a depth of 6.5m at Kirkwall?*
	Will the new infrastructure at Kirkwall enable large cruise liners to come alongside here?
	Seating around the waterfront development area is needed.
	In the future the RNLI would like to see their vessel moved from its current location potentially into the East Basin. At present there can be issues getting the lifeboat in and out when there are cruise tenders coming in.
Hatston	*With additional vessel calls expected are there proposals to deal with additional waste disposal requirements?*
	Are there any proposals to provide shore power to vessels?
	Is the provision of hydrogen going to be considered – e.g. if the Northlink Ferries start using hydrogen?
	Can tourists and industrial activities be separated/segregated? One key concern is lorries reversing whilst cruise passengers are exiting the terminal.
	Will fuel bunkering opportunities be explored at Hatston?
	Where will aggregates come from to construct Hatston and how will it impact on the road network?
	What will the boatyard facility look like?
Scapa Pier	*Additional land at Scapa Pier would benefit Kayak Club as there are current issues with car parking/access.*
Lyness	*Is it not possible to extend the quay at Lyness and dredge, rather than create a new deep water quay?*
	Lyness was highlighted as a key port for decommissioning – have these plans disappeared? Has a study been done to understand why certain industries have not come to Lyness?
Flotta	*Question about to why Flotta is not mentioned in the masterplan. Would LNG be brought in by tanker and then put in storage tanks at Flotta?*

Comments arising during community consultation events	
Topic	**Comments/views**
Stromness	*How are you going to deal with sea-level rises particularly in Stromness? Could some harbour infrastructure become unusable?*
	There is no regular pontoon for cruise liner tendering and there are security issues with using the existing marina facilities – is it possible to identify a location for a pontoon which could also be used by other users such as marine/diving tours? Diving boats are having issues with access for disabled customers.
	There is no inclusion of additional marina pontoons or facilities in the masterplan – funding wasn't obtained for the marina so it would be good if it could be included.
	Is it possible to have a slipway and boat lift out facility at Copland's Dock or Polestar Pier? All that is required is a track and dolphins.
	Harbour master does not have a clear view of the harbour area. Could a new harbour master's office be considered in the masterplan?
	Rather than reclamation at Copland's Dock could the existing land not be cut into to create more shoreside area?
	Why is marine tourism considered at Scapa Pier and not at Stromness?

Comments arising during community consultation events

Topic	Comments/views
Decarbonisation/ renewable energy	*Given the recent announcement of a Climate Emergency how is this being addressed in the masterplan – perhaps there should not be a focus on building infrastructure to support the oil and gas sector?*
	The Government now has targets for decarbonisation – there should be a focus on renewables and fuels such as hydrogen in the masterplan.
	Has the harbour authority considered becoming a bunker port: particularly looking at new fuels within a decarbonisation strategy?
	Has provision of future fuelling options and shore power by renewable energy for cruise liners and other vessels been considered?
	Could Orkney consider similar measures to Norway with regard to banning cruise ships that are using less environmentally friendly fuels?
	The masterplan should be cognisant of Orkney's energy plan and Community Low Carbon Plan and embody a 'green port' strategy.
	At Stromness there are heat pumps under the surface – this approach could be used for new infrastructure developments.
Future opportunities	*There is no consideration in the masterplan of developing a hub for containers/harnessing potential opportunities from the opening up of northern maritime corridor. There may be alternative infrastructure solutions that could be considered such as floating terminals, bunkering, etc.*
Hatston Slip	*There can be a lot of activity at Hatston Slip when various marine leisure activities are taking place. Kayak Club sorts its equipment in the Sailing Club. A breakwater here would be ideal and possibly the development of the land next to the slip to create a hub for water sports/marine leisure.*
Holm Pier	*There are issues at Holm Pier with insufficient depth of water and pressure on berths: small boat owners and aquaculture companies want to use this pier.*

Questionnaire

Using the software programme Survey Monkey a questionnaire was developed and made available online and at community consultation events.

Stakeholders were asked to state how strongly they agreed with the masterplan proposals and what level of priority should be attached to each of them:

- How strongly do you agree with the masterplan proposals?
- Which of the proposals would you regard as the highest priority, thinking about the potential impact and benefit to Orkney as a whole?
- In your view, what level of priority should be attached to each of the masterplan proposals?
- Do you have any comments on the Draft Orkney Harbours Masterplan Phase 1?

A total of 37 responses were received. A summary of responses to the survey questions is presented opposite followed by several graphs; comments and views included in completed questionnaires are presented thereafter.

Summary of questionnaire responses

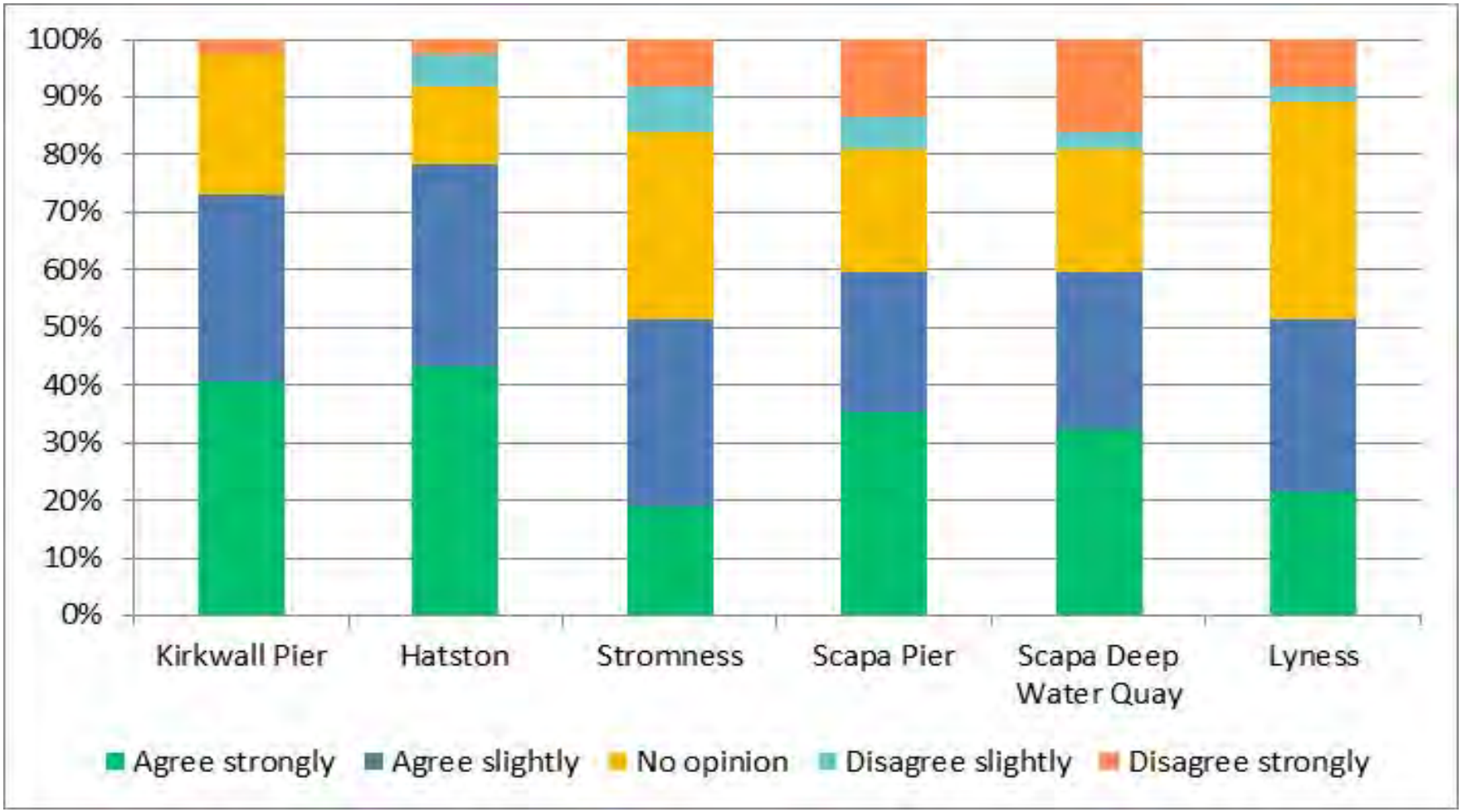
Low levels of disagreement with proposals: given that the questionnaire was widely made available, very few stakeholders disagreed very strongly with proposals, particularly those for Hatston and Kirkwall (only one respondent disagreed very strongly with each proposal).

Hatston and Kirkwall proposals most favoured: respondents agreed very strongly with proposals for Hatston (43% and 16 respondents), closely followed by Kirkwall, Scapa Pier and Scapa Deep Water Quay. Considering responses 'strongly agree' and 'slightly agree' together, respondents mostly support Hatston proposals (78% and 29 respondents), again closely followed by Kirkwall (73%), Scapa Pier (60%) and Scapa Deep Water Quay (60%).

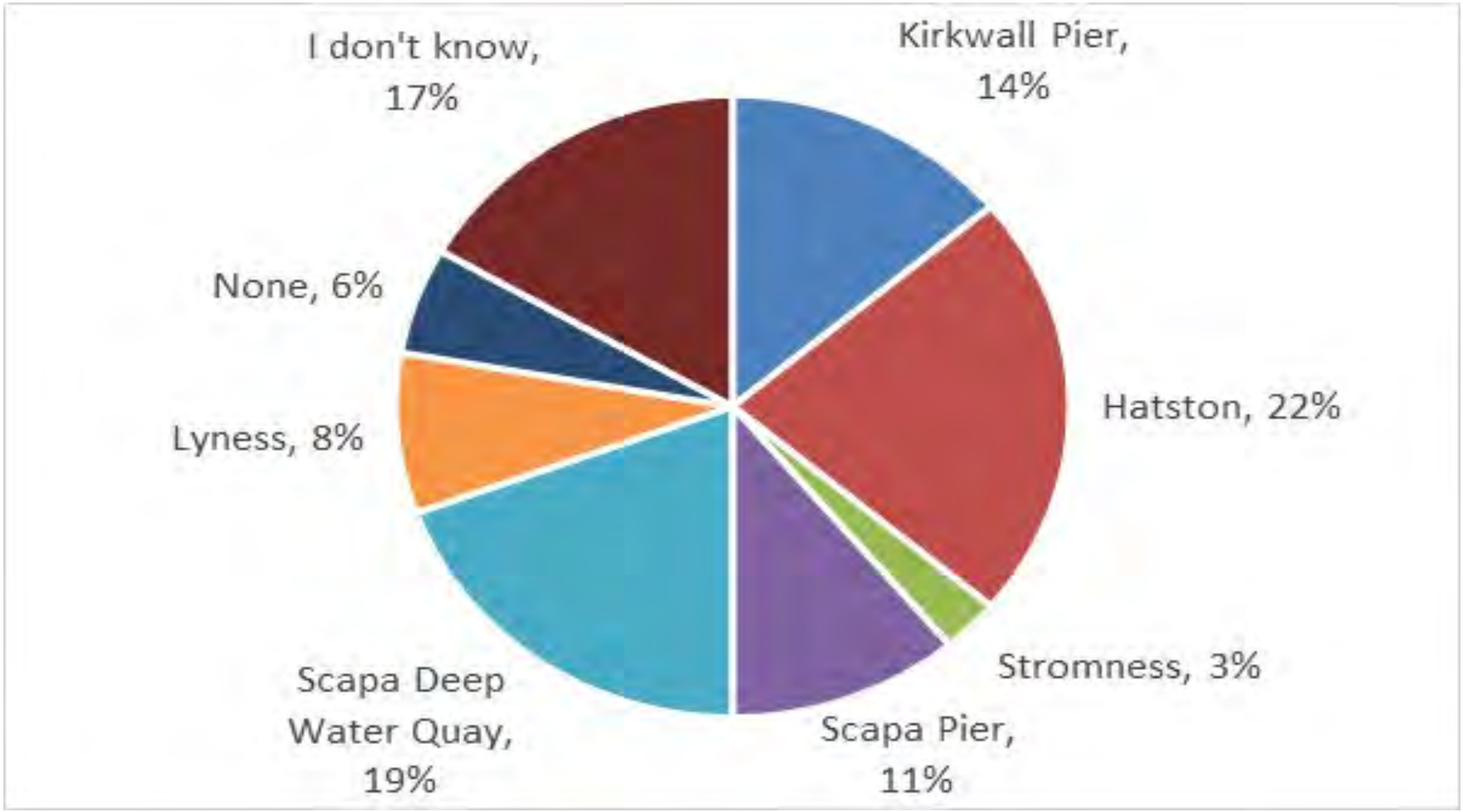
Hatston and Scapa Deep Water Quay regarded by stakeholders as highest priority: when asked what proposal should have the highest priority, 22% (8 respondents) felt that proposals for Hatston were of the highest priority, closely followed by Scapa Deep Water Quay (19% and 7 respondents).

When asked to rank proposals in terms of priority, Scapa Deep Water Quay and Hatston were considered as the highest priority by 26% of respondents respectively, closely followed by Kirkwall (23% of respondents).

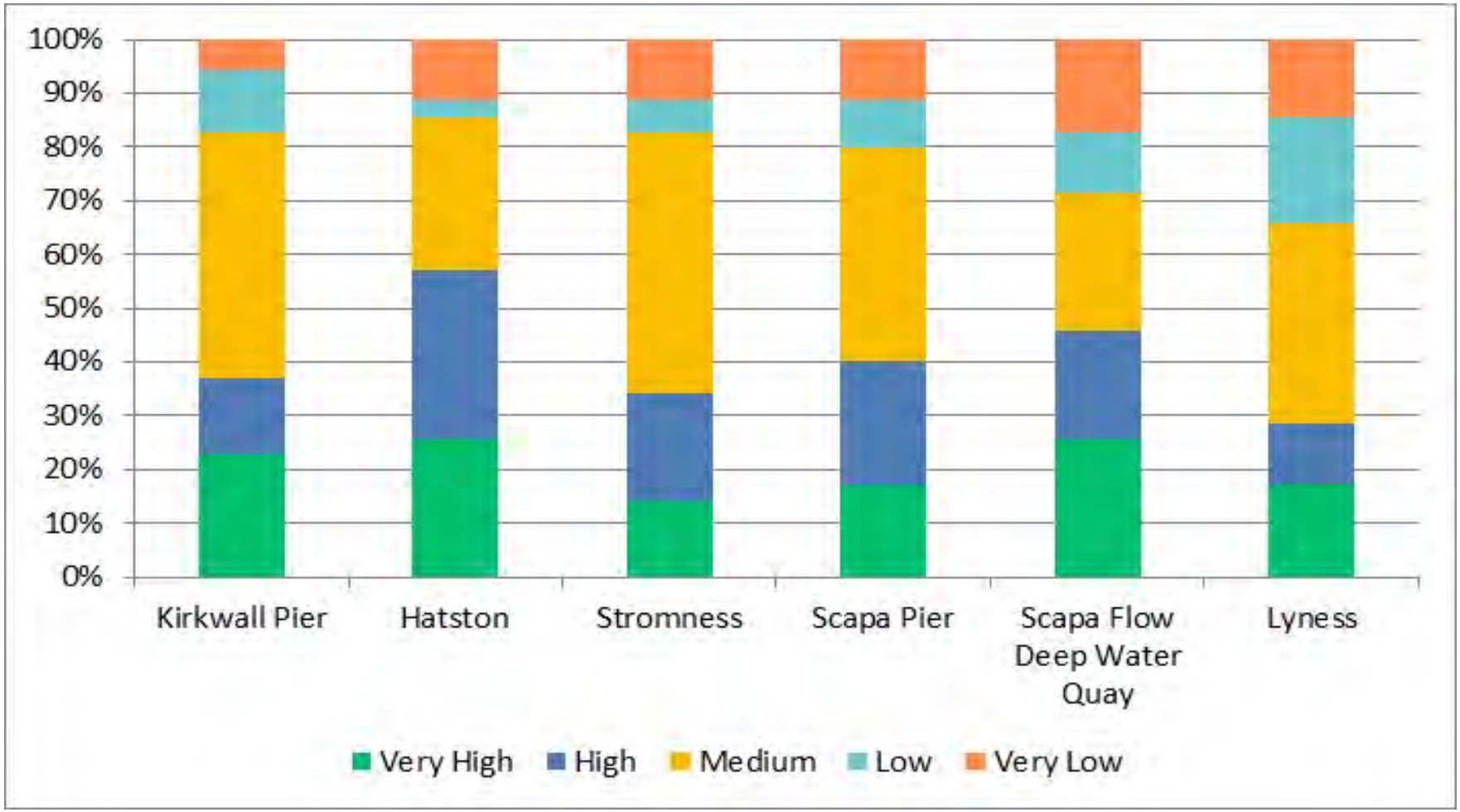
How strongly do you agree with the masterplan proposals?



Which of the proposals would you regard as the highest priority?



What level of priority should be attached to each of the masterplan proposals?



Comments and views included in survey questionnaire responses	
Topic	**Comments/views**
Renewable energy/ decarbonisation/ sustainability/ environmental impact	*Renewables do not feature enough. A new Law is just about to be passed today to be carbon neutral by 2050 nothing in this plan touches on that.*
	Add infrastructure for renewables e.g. shore power, space for hydrogen fuel cell; hydrogen bunkering. Be pioneering.
	All vessels using harbour should have access to shore power and be obliged to turn off diesel engines when connected, this will be an example of best practice globally. The development of a hydrogen economy for marine use is also something to include in the plan. Berthing fees should have a sliding scale based on IMO's GHG rating for carbon efficiency to discourage more polluting vessels.
	Government and OIC have declared a climate emergency. Notable by its absence and unreasonably deferred is any plan to mitigate the operational hazards of increase in Harbours use let alone reduce them.
	Each cruise ship is on average producing the equivalent sulphur and nitrogen pollution to 1 million cars, large ones burning 150 tonnes of fuel a day, emitting 450kg of ultra fine particles a day; sulphur is well recognised as a cause of respiratory disease and emissions are a likely carcinogen. Globally shipping is responsible for 3.5-4% of climate change emissions principally carbon dioxide.
	Increase in marine noise pollution which has a long range, has a destructive effect on the social and hunting behaviour of marine mammals, many of which occur around Orkney and are threatened species. Ballast water discharge which will be commensurate with increased traffic carries the hazard of invasive species. Sewage can be discharged 3 miles offshore which also may be an issue.
	Orkney Islands Council drivers of financial gain rather than considering the interests of Orkney residents health, wellbeing, and indeed global health and wellbeing. From a practical standpoint it is also dangerous to predicate investment on what is a dying fossil fuel industry which major players are divesting from, such as Norway. There is also importantly a moral issue that we should consider the future of our children. Practically also Orkney is at the forefront of a sustainable energy economy, if it hopes to build on this kudos, attracting business and tourism it needs to be careful of its image and walk the walk as well as talk the talk of clean and green.

Comments and views included in survey questionnaire responses

Topic	Comments/views
Kirkwall	*The Kirkwall Pier development in our opinion would have a wide economic benefit to many businesses, boat owners plus developing the smaller cruise liner. The smaller cruise liners from experience from the early 2000s were more affluent and spent more in our shop in Bridge Street than some in recent years. So we feel this is the priority. I think this would keep Orkney ahead of the curve as a world class cruise destination offering a good gateway for those smaller ships to the harbour front and being more accessible in being able to walk up the street.*
	I would suggest that when considering the revamp of Kirkwall pier, that the existing Orkney Ferries office be relocated down to a new building alongside the existing ramp, this may involve removing existing buildings and replacing a number of them with one large building which could house Orkney Ferries/Marine Services/North isles store/passenger waiting area and left luggage facility along the Marina's temporary buildings. This change would modernise and make the Kirkwall pier fit for 21st century use, rather than the chaotic jumble of misplaced buildings which are all sadly outdated and long since outlived their use. I agree with the proposal to build another basin/extend the Kirkwall pier and expand the Marina - I would hope that if this was to be done it would not just be bland concrete! I would like to see flower beds created or street planters along with shrubs to improve the look of the head of the pier (these would need to be planted with appropriate plants suitable for the harsh environment-not just any old random plant) Thinking of Hatston 2 things come to mind; 1. build the new pier closer to Kirkwall to get away from the motion that plagues Hatston! 2. Fit different fendering to the ramp berth so that it could be used as a back-up ramp for the North isles should Kirkwall ever breakdown.
	RNLI may support long term plans to re-locate across to the marina area, where the ALB might be more accessible, a bigger crew room and shop area could be developed should space be made available. Leaving the West Pier area open for innovative/ alternative development?
Marinas/ Kirkwall	*The marina requires expansion to cope with existing and projected demand, so plans are fully supported. Anchors and chains should be replaced with piles. However swell intrusion will require to be addressed before piles will be successful.*

Comments and views included in survey questionnaire responses	
Topic	**Comments/views**
Marinas/ Kirkwall	*Phase 1 appears to show a lack of understanding of marine tourism and particularly the investments required to meet the full potential of visiting yachts as the rest of Scotland make major investments. A network of connected marinas is required not an even bigger facility at Kirkwall.*
	Expansion of Kirkwall marina: why have an expansion? We have the outer islands of Orkney crying out for tourism and an injection of monies. Stronsay could benefit greatly from an area that yachts could tie up safely, nothing too complicated, something as Westray to start off with. The most important thing it is a relatively sheltered area. Rousay, same as Westray simple but efficient means of a marina. Eday also relatively sheltered. Come on think outside the box, lets get marinas outside the main areas of Kirkwall and Stromness and extend the marina areas in Orkney; it is common sense not to have all eggs in one basket.
Marinas	*Inclusion of a slipway for marina users that removes the need to use the ferry slips for launching and retrieving boats.*
Marinas/ Stromness	*Stromness marina... the proposed extension hasn't been included in the plans? There seems to have been an assumption that this was a done deal.. it wasn't . It is very disappointing that the project has ground to a halt and requires to be resurrected asap.*
Stromness	*Stromness - dock extension/addition of platoon.*
	A ship lift and a slipway at Copland's Dock would be beneficial in my opinion.
Boat repair facility	*There is no proper lift-out facility north of Inverness; a basic repair lift slipway and hard standing needs to be incorporated (enabling private sector lift out and repair facilities to develop).*
Hatston	*Hatston - needs replanned as the current arrangement for pickups and bus as well as people walking feels very much unsafe with potential near misses. Very challenging for folk with walking aids and wheelchairs.*
Scapa Pier	*The investment to extend Scapa pier fails to take account of the need for Orkney to reduce is carbon footprint by reducing oil consumption.*
	Scapa is not a place visiting boats would be attracted to.

Comments and views included in survey questionnaire responses

Topic	Comments/views
Scapa Deep Water Quay	*The capabilities proposed for Deepdale could be developed at Lyness providing a much better facility at a very much reduced cost.*
	The Scapa deep water development, this is only suitable for the proposed uses and not for further development where heavy lift may be required. you will have a large lay down area shore side for light structures, wind turbines etc but not suitable for heavy lifts like 1200t tops sides etc for decommissioning. The T piece of the quayside is not robust enough for heavy lifts either and needs to be wider than 30m to allow the topsides etc to be moved on a crawler system to a laydown area. Lyness option is good but to allow deeper draft vessel to use the facility then the jetty front would need to be extended in to deeper water and extended further North to allow for dual usage.
Other	*I would suggest that a number of binding commitments are included in the development plan in addition to those made under the environmental section. These should include a biennial consultation and review of the plan to be amended in the light of new evidence and requirements.*
	I would ask the OIC to make its decisions using health and wellbeing of the population as the primary overriding consideration rather than potential for economic gain.
	The Isles have been completely left out, its ORKNEY harbours not Kirkwall harbours. Investment in Island without any harbour at all has been overlooked.
	A big lack of innovation in the plan, really all your doing is making piers bigger and water a bit deeper.
	It makes no attempt to integrate with land based infrastructure in Orkney. I am unclear whether the community want or need more tourists. Present numbers mean that the visitor experience in Orkney is flawed. Until land based infrastructure for tourism has been enhanced any attempt to increase cruise ship numbers would be irresponsible. Overall the document tells me much in terms of what it will do for Orkney Harbours, in terms of increased revenue etc, but nothing about the wider picture: what will it do for the community who live here. So far my reading is that harbours wish to increase tourist numbers, turn Orkney into an industrial processing yard for the oil industry, and destroy an untouched stretch of the coastline for a new deep water terminal. How does that improve life for local residents?

Comments and views included in survey questionnaire responses	
Topic	**Comments/views**
Other	*I am somewhat concerned about the expansion of marine aquaculture. Such expansion tends to take up available anchoring spaces used by fishing boats and marine leisure users. Visitors are attracted to Orkney by both the range of anchorages available as well as harbour facilities.*
	Likewise the increase in aquaculture which is unsustainable , contributes to depletion of coastal environments, to pollution with antifoul, antibiotics, and eutrophication of the marine environment. It also has a damaging effect on wild fish populations through escapes, parasites, and now disturbing ecosystems by unregulated wrasse fishing to use in aquaculture. It is recognised that fish farms in Scotland produce more nutrient pollution than the entire human population. Toxic algal blooms killing fish, fish larvae, marine mammals and closing shellfish fisheries are a potential result, and a particular hazard in enclosed bays and harbours such as Scapa.
	Any proposals that make Orkney an increasingly viable business location can only be good for the community as a whole, I welcome the developments.
	Clearly thought through and presented logically.

Submissions received during consultation period

A total of 31 submissions were received by post or email during the consultation period from a range of stakeholders – see opposite. This includes responses from the statutory authorities of Scottish Environmental Protection Agency (SEPA), Scottish Natural Heritage (SNH) and Historic Environment Scotland (HES).

The content of these submissions is presented at Appendix C.

The following section presents a summary of key points raised.

Stakeholder submissions

Stakeholder	Responses
Residents	• 8 (anonymised)
Community/ other groups	• Burray Community Association • Extinction Rebellion • Orkney Historic Boat Society • Rousay Sailing Club
Business/ industry associations	• Destination Orkney • Offshore Wind Developer • Royal Yachting Association • Scottish Sea Farms • Sheila Fleet • Tritone Marine
Environment agencies/ organisations	• EMEC • 0rkney Renewable Energy Forum • RSPB • Scottish Water
National agencies/local authority	• Marine Scotland • OIC
Community Councils	• Sanday Community Council • Orphir Community Council • Eday Community Council • Holm Community Council
Statutory Authorities	• HES • SEPA • SNH

Climate change and decarbonisation

A considerable number of comments were made regarding climate change, decarbonisation and environmental aspects. In summary comments embodied the following points:

- The plan should embrace the recent Climate Emergency announcement and targets for decarbonisation, with consideration of appropriate measures within the masterplan.
- There should be a focus on renewables in particular on the provision of fuel, power and other services internally and externally to the marine sector.
- Should Orkney be investing in infrastructure to support oil and gas when there are clear targets for decarbonisation.
- Is there an opportunity to impose environmental restrictions on cruise liners visiting Orkney.
- Aspects such as rising sea levels should be taken into consideration.

Environmental aspects

SNH, SEPA and HES provided comment on the Strategic Environment Assessment (SEA) Report and on the masterplan. Comments on the masterplan are incorporated into this report, whilst comments on the SEA will be addressed as part of a Post Adoption Statement. Comments on the masterplan were also received from Marine Scotland, RSPB and Scottish Water.

These responses were mainly focussed on highlighting requirements with regard to assessing the environmental impacts and identifying suitable mitigation measures, as and when proposals move forward to feasibility stage.

There was also a focus on early engagement once the masterplan has been approved for implementation.

Marinas and marine leisure

A range of comments were made with regard to marinas and marine leisure:

- Generally positive views on proposed expansion of Kirkwall Marina though some stakeholders felt that investment in berths and pontoons around Orkney would also benefit the sector (at locations throughout the Mainland and across the isles).
- The masterplan should include proposals for marina expansion and a pontoon for cruise tenders in Stromness.
- Need for appropriate repair and maintenance facilities/slip/ lift out/wintering/storage.

Specific comments about infrastructure

Whilst there are many more comments within the consultation submissions, some key points raised are as follows:

- The exclusion of Lyness as a potential deep water location.
- General requirement to assess and understand impacts of proposals fully (e.g. on environment, traffic, communities and adjacent industries).
- North Isles infrastructure should be included within the masterplan.
- Need to consider land based infrastructure as well as marine infrastructure, particularly if there will be more cruise passengers.
- Need to safeguard land at Hatston for future renewables activity.
- Need to consider infrastructure proposals in the context of the emerging decarbonisation agenda.
- Mixed views on the need for marine leisure berths at Scapa Pier.

Appendix C presents all submission comments and views

4. ADDRESSING COMMUNITY CONSULTATION COMMENTS

Introduction

An important aspect of any plan or project that is subject to a community consultation is ensuring that comments and views are understood and acted upon where relevant.

This section sets out:

- Responses to comments made during the community consultation events.
- Responses to submissions received during the consultation period, including those from Statutory Authorities.

The tables overleaf present responses to comments and views made by stakeholders who attended the community consultation events.

This is followed by a summary of responses to key comments and views expressed in the submissions received during the community consultation period. Detailed responses to all submission comments are presented in Appendix C.

Where the masterplan has been updated in response to a comment, the relevant update is referenced.

Responses to consultation event comments/views

Comments/views	Response
How much dredging will be required to reach a depth of 6.5m at Kirkwall?	280,000m3/£6.55m of dredging is required to create -6.5m Chart Datum (CD) at Kirkwall Pier.
Will the new infrastructure at Kirkwall enable large cruise liners to come alongside here?	No, only smaller cruise liners will be able to come alongside at Kirkwall.
Seating around the waterfront development area (Kirkwall).	Seating has already been suggested as a possible development within the Waterfront Development Area.
In the future the RNLI would like to see their vessel moved from its current location potentially into the East Basin. There can be issues getting the lifeboat in and out when there are cruise tenders coming in (Kirkwall).	Noted. This is entirely possible and has been referenced in the masterplan. See Page 36.
With additional vessel calls expected (at Hatston) are there proposals to deal with additional waste disposal requirements?	Waste disposal requirements are considered at the feasibility stage for each proposal, as part of the Environmental Impact Assessment.
Are there any proposals to provide shore power to vessels (Hatston)?	The masterplan has been updated to reflect the recent Climate Emergency declaration and revised carbon reduction targets for Scotland, along with a more detailed description of measures to support this policy. See Pages 11 – 17.
Is the provision of hydrogen going to be considered – e.g. if the Northlink Ferries start using hydrogen (Hatston)?	
Can tourists and industrial activities be separated/segregated? One key concern is lorries reversing whilst cruise passengers are existing the terminal (Hatston).	Segregation will be much easier to achieve with the additional reclaimed land to the east of the cruise terminal at Hatston.

Responses to consultation event comments/views

Comments/views	Response
Will fuel bunkering opportunities be explored at Hatston?	Yes; an ex-pipe fuelling system and storage area is considered in the proposal; this will be revisited at feasibility stage with a view to better understanding the market for fuels now and in the future.
Where will aggregates come from to construct Hatston and how will it impact on the road network?	This is not yet known and will be explored during feasibility stage. Construction impacts will be considered as part of the detailed Environmental Impact Assessment at this time.
What will the boatyard facility (at Hatston) look like?	The nature of the proposed boat repair facility at Hatston is not yet defined – this will be defined in greater detail at feasibility stage, following a more in-depth analysis of market potential and identification of interested parties that might operate it.
Additional land at Scapa Pier would benefit Kayak Club as there are current issues with car parking/access.	Noted.
Is it not possible to extend the quay at Lyness and dredge, rather than create a new deep water quay?	Lyness has been considered in the past as a potential location for decommissioning, though this never materialised. There are a number of factors which may have influenced the lack of activity at Lyness to date and why no further major enhancements are proposed for Lyness at this time. See Page 53.
Lyness was highlighted as a key port for decommissioning – have these plans disappeared? Has a study been done to understand why certain industries have not come to Lyness?	
Question about to why Flotta is not mentioned in the masterplan. Would LNG be brought in by tanker and then put in storage tanks at Flotta?	Flotta was originally not mentioned given its pier infrastructure is not in OIC ownership. The masterplan has since been updated to include reference to Flotta and to reflect the recent Climate Emergency declaration and revised carbon reduction targets for Scotland. See Pages 11 – 17.
There is no inclusion of additional marina pontoons or facilities in the masterplan – funding wasn't obtained for the marina so it would be good if it could be included.	Expansion of Stromness Marina has been included in the masterplan. See Page 46.

Responses to consultation event comments/views

Comments/views	Response
There is no regular pontoon for cruise liner tendering and there are security issues with using the existing marina facilities – is it possible to identify a location for a pontoon which could also be used by other users such as marine/diving tours. Diving boats are having issues with access for disabled customers.	A pontoon for cruise liner tendering has been incorporated into the masterplan. See Page 47.
How are you going to deal with sea-level rises particularly in Stromness. Could some harbour infrastructure become unusable?	The masterplan has been updated to reflect the recent Climate Emergency declaration and revised carbon reduction targets for Scotland, along with a more detailed description of measures to support this policy. See Pages 11 – 17.
Is it possible to have a slipway and boat lift out facility at Copland's Dock or Polestar Pier? All that is required is a track and dolphins.	Stakeholders have expressed the desire for additional boat repair/ maintenance facilities in Orkney. At present a site is identified at Hatston, though the nature of this facility has not been defined in detail – it could serve the marine leisure market or it could be more focussed on fishing boats, or larger, commercial vessels – any such facility would need to attract a private sector operator.
Harbour master does not have a clear view of the harbour area. Could a new harbour master's office be considered in the masterplan?	There could be an opportunity to relocate the harbour master's office to South Pier, depending on future requirements and developments at this location.
Rather than reclamation at Copland's Dock could the existing land not be cut into to create more shoreside area?	Initial cost estimates indicate that this would be significantly more expensive, given that the area of new land needs to be adjacent to the water. However, it could be considered further at feasibility stage. The masterplan has been updated accordingly. See Page 46.
Why is marine tourism considered at Scapa Pier and not at Stromness?	The cruise liner pontoon proposed for Stromness could also act as a suitable access for marine tour boats. The masterplan has been updated. See Page 47.

Responses to consultation event comments/views

Comments/views	Response
Given the recent announcement of a Climate Emergency how is this being addressed in the masterplan – perhaps there should not be a focus on building infrastructure to support the oil and gas sector?	The various comments regarding climate change and decarbonisation have been taken on board, with the masterplan updated in several ways: • Consideration of the climate change agenda and emerging policies on decarbonisation. • Identification of measures that can be implemented with this policy in mind, which can be incorporated into the development of all proposals. See Pages 11 – 17.
The Government now has targets for decarbonisation – there should be a focus on renewables and fuels such as hydrogen in the masterplan.	
Has the harbour authority considered becoming a bunker port - particularly looking at new fuels within a decarbonisation strategy?	
Has provision of future fuelling options and shore power by renewable energy for cruise liners and other vessels been considered?	
Could Orkney consider similar measures to Norway with regard to banning cruise ships that are using less environmentally friendly fuels?	
The masterplan should be cognisant of Orkney's energy plan and Community Low Carbon Plan and embody a 'green port' strategy.	
At Stromness there are heat pumps under the surface – this approach could be used for new infrastructure developments.	

Responses to consultation event comments/views

Comments/views	Response
There is no consideration in the masterplan of developing a hub for containers/harnessing potential opportunities from the opening up of northern maritime corridor. There may be alternative infrastructure solutions that could be considered such as floating terminals, bunkering, etc.	The masterplan has been updated to reflect the recent Climate Emergency declaration and revised carbon reduction targets for Scotland, along with a more detailed description of measures to support this policy. Within this section there is reference to the fact that there could be future opportunities arising from the opening up of the northern maritime corridor. See Pages 11 – 17. The engineer assessment concluded that a floating facility is not a suitable alternative. For offshore wind and other activities laydown area of at least 5 hectares is required, with straightforward access to and from the quayside. We will discuss your comments further with our engineers and should any alternative options deliver the same benefits and outcomes as the proposals currently within the masterplan they will be given consideration during feasibility stage.
There can be a lot of activity at Hatston Slip when various marine leisure activities are taking place. Kayak Club sorts its equipment in the Sailing Club. A breakwater here would be ideal and possibly the development of the land next to the slip to create a hub for water sports/marine leisure.	There could be some opportunity for the development of marine leisure facilities at Kirkwall Pier as part of the Waterfront Development Area. There could be an opportunity to develop the area adjacent to the existing Sailing Club facility; this is however outwith the remit of Orkney Harbour Authority.
There are issues at Holm Pier with insufficient depth of water and pressure on berths: small boat owners and aquaculture companies want to use this pier.	Masterplan Phase 2 will commence in 2020: Holm Pier will be considered within this phase.

Summary of key responses to submissions during consultation period

This section provides a summary of key responses to submissions received throughout the consultation period: see Appendix C for detailed responses to each comment/view.

Climate change, decarbonisation and environmental aspects are not adequately addressed in the masterplan

The masterplan has been updated to reflect the recent Climate Emergency declaration and revised carbon reduction targets for Scotland. A further explanation around particular infrastructure investments is also presented, as well as highlighting potential measures. See Pages 11 – 17.

Section 5 Environmental Considerations has been revised and now includes reference to comments from the Statutory Authorities. See Pages (63 – 68).

Concern over impacts arising from construction and operation of major proposals such as Scapa Deep Water Quay

There will be a very detailed Environmental Impact Assessment at feasibility stage which will look at impacts on the environment, other industries and businesses and at construction impacts in particular.

Close engagement with the Statutory Authorities and other key stakeholders will be required up to and during feasibility stage to ensure that impacts are properly assessed and that appropriate and agreeable mitigation measures are identified. A detailed implementation plan will be defined shortly, with input from key stakeholders to build a timeline of actions and milestones.

Need for better integration with other modes, connectivity and sustainability

Proposals at Hatston, Kirkwall Pier and Stromness will go some way to improving access and connectivity through review and reconfiguration of traffic management and pedestrian routes. At feasibility stage consideration will be given to integration with existing transport networks and services so as to ensure that any new harbour infrastructures are accessible and incorporate sustainable transport options. This links in with measures associated with cognisance of decarbonisation targets and developments can link in with other initiatives such as the provision of electric charging points and bicycles at ferry and cruise piers. See Pages 11 – 17.

Many smaller piers and communities have not been included in Phase 1

Phase 2 will commence in 2020 and this will take into consideration the North, South and Inner Isles, as well as the smaller piers around Orkney Mainland.

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Summary of key responses to submissions during consultation period

Potential for proposals to lead to increased cruise vessels and lack of investment in land-based infrastructure to support this

The masterplan does not support or promote a major increase in the number of cruise calls and passengers – rather the focus is on reducing the conflicts between cruise and other harbour-related activity. Enhancements at Kirkwall Pier could enable more smaller cruise ships to call alongside though it is envisaged that there would only be a marginal overall increase in passenger numbers.

Why is Lyness not being developed?

Lyness has been considered as a possible location for creating a deep-water quayside to service similar markets and indeed this location has been considered for decommissioning and other harbour-related activities in the past. There are a number of key reasons why Lyness is not suitable and reference has been made to this in the masterplan. See Page 53.

The proposals for developing marine leisure are too focussed on Kirkwall and Stromness – there are many opportunities to develop facilities in other locations around Orkney

With regard to marine leisure and the 'sailing offer' in Orkney, the initial focus within Phase 1 of the masterplan is on Kirkwall and Stromness, given that these are the primary marinas in Orkney and are both operating at capacity – all yachts visiting Orkney stay at one or other of these marinas during their trip. It is accepted that a wider strategy is required encompassing the whole of Orkney to create a network of yacht moorings, landing places and pontoons, as well as developing the services to support what is a growing sector. This strategy will be developed during Phase 2 and will build on that which is proposed in Phase 1. See Page 35.

APPENDIX A HARBOUR USER WORKSHOP PRESENTATION

Aims of this workshop

To provide an update on development of the Orkney Harbours Masterplan

To hear your views on key issues and constraints

To hear your views on ideas to be considered in the Masterplan

Principles of harbour masterplanning

- Avoid building today that you need to move tomorrow
- Consider phasing of investment
- Consider zoning of similar activities and avoiding conflicts between users
- Explain marine and land requirements to meet defined needs over the period
- Ensure adequate landside access
- Encourage efficient use of resources

Vision and objectives of the masterplan

Commercial

- Establish a strategic framework and vision that will guide future infrastructure investment decisions towards a coordinated and sustainable future.

Financial

- To safeguard and enhance the financial sustainability of the harbour business within the context of a competitive business environment.

Socio-economic

- To support and enhance the socio-economic prosperity and well-being of local communities.

Environment

- To safeguard and support the long term productivity of the coastal and marine environment through best practice and strong environmental stewardship.

What we will do....

Foundation

- Analysis of problems & constraints
- Talking to harbour users
- Market assessment
- Identification of possible opportunities

Identify & assess options

- Objectives & outline requirements
- Identification of potential options
- Appraisal & assessment
- Preferred scenario

Masterplan

- Draft Masterplan
- Public consultation
- Final Masterplan

Discussion time

Discussion Topic 1

- What are the key constraints/issues associated with harbour infrastructure?

Discussion time

Discussion Topic 2

- What proposals could address the issues/constraints?
- What are the priorities for Orkney Harbours (5yr, 10yr, 15yr+)?

APPENDIX B SURVEY QUESTIONNAIRE

Questionnaire

Q1 How strongly do you agree with the masterplan proposals to enhance harbour infrastructure at the following locations?

	Agree strongly	Agree slightly	No opinion	Disagree slightly	Disagree strongly
Kirkwall Pier	☐	☐	☐	☐	☐
Hatston	☐	☐	☐	☐	☐
Stromness & Copland's Dock	☐	☐	☐	☐	☐
Scapa Pier	☐	☐	☐	☐	☐
New Scapa Deep Water Quay	☐	☐	☐	☐	☐
Lyness	☐	☐	☐	☐	☐

Q2 Which of the proposals would you regarded as the highest priority, thinking about the potential impact and benefit to Orkney as a whole?

	Proposal with highest priority
Kirkwall Pier	☐
Hatston	☐
Stromness & Copland's Dock	☐
Scapa Pier	☐
New Scapa Deep Water Quay	☐
Lyness	☐

Q3 Why do you think this proposal is of highest priority?

Q4 In your view, what level of priority should be attached to each of the masterplan proposals?

	Very High priority	High priority	Medium priority	Low priority	Very Low priority
Kirkwall Pier	☐	☐	☐	☐	☐
Hatston	☐	☐	☐	☐	☐
Stromness & Copland's Dock	☐	☐	☐	☐	☐
Scapa Pier	☐	☐	☐	☐	☐
New Scapa Deep Water Quay	☐	☐	☐	☐	☐
Lyness	☐	☐	☐	☐	☐

Q5 Do you have any specific comments relating to masterplan proposals or other elements of the Draft Orkney Harbours Masterplan Phase 1?

If you would like feedback on the development of the Final Masterplan please provide your contact details:

Name:.....Company/Organisation:.....

Email/Telephone:.....

APPENDIX C CONSULTATION SUBMISSIONS AND RESPONSES

Individuals/Orkney residents: comments and responses

Ref	Comments	Response
1	*The harbours' plan must be considered in the context of the Climate Emergency called recently by Orkney Islands Council. Other strategic priorities are referenced in the document but the climate emergency is the highest of priorities.* *This is an opportunity to tackle the issue of the environmental impact of cruise liners visiting Orkney. Minimum environmental standards should be placed on liners which are allowed to visit Orkney. This could be applied to individual ships or to companies.* *It seems unfortunate, in the light of the Climate Emergency that some of the proposals focus on increasing capacity for the oil and gas industry. Surely this is an opportunity to promote, encourage and enable the development of renewable energy projects, such as the current work on providing clean shore power for some of the island ferries at Kirkwall and the use of battery power for the Hamnavoe at Stromness. Orkney is already a leading hub for research and development in renewable energy and this would further promote the Islands' profile in this area of work too.*	The masterplan has been updated to reflect the recent Climate Emergency declaration and revised carbon reduction targets for Scotland, along with a more detailed description of measures to support this policy. See Pages 11 – 17.
2	*I was very disappointed to see that the draft proposal is so unambitious in terms of making swift change away from fossil fuels. Orkney is so well placed to be in the lead in this respect, and yet there is very little mention of renewable energy initiatives and means for reducing carbon emissions. In particular, there would need to be plans for the hydrogen ferry system, and clean shore power for visiting cruise ships and the Hamnavoe. I strongly feel that we have a responsibility to lead here. Why aren't we planning to do exactly that?*	

Individuals/Orkney residents: comments and responses

Ref	Comments	Response
3	*As part of the Draft Harbours Master Plan consultation I am writing to express my disappointment at the lack of measures to achieve the cuts in carbon emissions that the Orkney Islands Council has committed to in declaring a Climate Emergency, in line with the Scottish Government. This is the first opportunity since declaring the Climate Emergency for the OIC to put words into actions and to demonstrate their commitment to a reduction in carbon emissions.* *Harbour activities are a major generator of carbon emissions, and the cruise ship industry in particular is associated with a massive carbon footprint. Orkney should be leading the way, given our reputation for innovation in marine renewable technologies, in reducing the impact of these activities, and this should be the central strategy of any Harbours Master Plan which is fit for purpose for the future. Measures need to be put in place to provide the infrastructure to make power from renewable energy available at all harbours, and action should also be taken to ensure minimum emissions standards for all visiting cruise ships.* *The OIC should be congratulated at declaring a Climate Emergency, but this now needs to be followed through and translated into direct actions if it is not to be a hollow gesture.*	The masterplan has been updated to reflect the recent Climate Emergency declaration and revised carbon reduction targets for Scotland, along with a more detailed description of measures to support this policy. See Pages 11 – 17.
4	*I am writing in the first place to thank Orkney Island Council for the stance it has taken on climate change. However, I and others feel that it is vital for Orkney Harbours to invest now in developing a low emissions fuel infrastructure, so that visiting cruise liners can adhere to minimum emissions standards. If new fuel bunkering is to be built, it would be totally counter-productive to the Council's commitment to be carbon neutral by 2025 if they invest in a fossil fuel facility. Orkney must, as a county abundant in renewable energy, lead the way, and be seen to be doing so by the rest of the world. We need to enable visiting cruise liners to use our low emissions fuels, and although this will present challenges we should consider nothing less.*	

Individuals/Orkney residents: comments and responses

Ref	Comments	Response
5	*I was so pleased to hear OIC had declared a Climate Emergency, but I am very disappointed and concerned that their Draft Harbours Master Plan does not address the issues at the heart of the Climate Emergency. What a missed opportunity! Reducing carbons needs to be the core of the Harbours Master Plan.*	The masterplan has been updated to reflect the recent Climate Emergency declaration and revised carbon reduction targets for Scotland, along with a more detailed description of measures to support this policy. See Pages 11 – 17.
5	*Orkney's position at the cutting edge of research into reducing emissions from the marine sector gives us a unique and important responsibility in implementing ways to do this. Projects like using hydrogen to power the inter-isle ferries and using batteries to provide clean shore power to the Hamnavoe should be a key part of the Master Plan. Furthermore, Orkney Harbours could set a brilliant lead in requiring visiting cruise ships to meet minimum emissions standards and oblige them to use our abundant renewable energy as shore power. New fuel bunkering should only be considered within the aim of enabling and encouraging use of low emissions fuel infrastructure.*	
5	*Within the context of the climate emergency and the forthcoming UK and Scottish laws on emissions reduction targets, the Draft Harbour Master Plan is, sadly, hugely irrelevant.*	

Individuals/Orkney residents: comments and responses

Ref	Comments	Response
6	*I have just had a read through of the current Harbours Master Plan for Orkney. It is an impressive document, but as a local resident I am surprised that it makes no attempt to integrate with land-based infrastructure in Orkney. The community deserves more and I am shocked that OIC and its constituent parts do not seem able to take a lead in providing an overall view. For example, to date I am unclear whether the community want or need more tourists. Present numbers mean that the visitor experience in Orkney is flawed and local restless. Until the land-based infrastructure for tourism has been enhanced any attempt to increase cruise ship numbers would be irresponsible.*	The masterplan does not support or promote a major increase in the number of cruise calls and passengers – rather the focus is on reducing the conflicts between cruise and other harbour-related activity. Enhancements at Kirkwall Pier could enable more smaller cruise ships to call alongside though it is envisaged that there would only be a marginal overall increase in passenger numbers. There is currently a joined approach to addressing these issues through joint working between the Destination Orkney Strategic Partnership, Orkney Harbours and wider Council departments.
6	*I'm not an expert in the oil industry so I can't comment on predictions of increase, but the thought of disturbing a pristine length of coast to create a site for the decommissioning of rigs is not a good thought. Why not use Lyness, if it has to be done in Orkney at all?*	Scapa Deep Water Quay is not intended for decommissioning, rather servicing the offshore wind sector and repair and maintenance of rigs and platforms alongside. The offshore wind opportunity is related to forthcoming plans for an offshore wind farm to the west of Orkney which would be operated and maintained from this location. Lyness has been considered as a possible location for creating a deep-water quayside to serve similar markets and indeed this location has been considered for decommissioning in the past. There are a number of key reasons why Lyness is not suitable and reference has been made to this in the masterplan. See Page 53.

Individuals/Orkney residents: comments and responses

Ref	Comments	Response
6	*Overall the document tells me much in terms of what it will do for Orkney Harbours, in terms of increased revenue etc, but nothing about the wider picture: what will it do for the community who live here. So far my reading is that harbours wish to increase tourist numbers, turn Orkney into an industrial processing yard for the oil industry, and destroy an untouched stretch of the coastline for a new deep water terminal. How does that improve life for local residents?*	The masterplan does not support or promote a major increase in the number of cruise calls and passengers – rather the focus is on reducing the conflicts between cruise and other harbour-related activity. Investment in harbour infrastructure will enable Orkney to harness considerable benefit in terms of economic activity, jobs, population retention and upskilling not only in oil and gas, but other key sectors such as offshore wind. The masterplan demonstrates significant socio-economic and community benefit. The Masterplan Proposals are being taking forward through a process of sound environmental stewardship and through a robust environmental assessment process to mitigate significant adverse effects on environmental receptors. The masterplan has been updated with some context around port operations and the rationale for investment. Please also note Appendix D, which includes a qualitative summary of the potential benefits arising from each proposal.

Individuals/Orkney residents: comments and responses

Ref	Comments	Response
7	*Flotta terminal is winding down, given both national and international commitments to phase out fossil fuels progressively to totally over the next 2-3 decades and major players such as the Rockerfellers and Norway Sovereign Wealth Fund divesting from oil and gas it raises a question of significant risk to the investment of substantial public funds in a project whose main profits are predicated on a rapidly declining industry. It is notable that issues of risk are not addressed in the plan which focuses exclusively on some opportunities. This would seem to be a major shortcoming.*	The masterplan has been updated to reflect the recent Climate Emergency declaration and revised carbon reduction targets for Scotland, along with a more detailed description of measures to support this policy. Work is underway to explore possible options for the repurposing of Flotta Terminal: the masterplan has been updated to reflect this also. See Pages 11 – 17.
7	*Because of the way that Orkney Harbours Income is ring fenced, and it being a public body, it would seem reasonable that it undertook to mitigate the environmental impacts it was responsible for directly contributing to, and it already has the health and safety of its employees to consider. Given the significant expansion in cruise ships visiting, their associated pollution and consequent issues for respiratory health of staff and public one priority might be to mitigate this. As a fundamental part of expansion in berthing, mandatory use of shore power and contribution to provide for charging for electric bus and car transport for passengers round the island would seem good for the health and image of all concerned. This would also help redress the potential for a developing financial inequity, as the share of Harbours income to OIC strategic reserve from the oil port dwindles yet its costs supporting the cruise ship tourist infrastructure expand.*	
7	*Since the report was commissioned a climate emergency has been recognised locally, nationally and internationally with commitments to the Paris climate accord. There would seem good reasons to consider addressing immediate local needs, e.g. Scapa pier and fuel supplies for Orkney, and optimum management of cruise ship needs, infrastructure and pollution primarily. This could be addressed with existing funds.*	

Individuals/Orkney residents: comments and responses

Ref	Comments	Response
7	*Regarding the justifications for doubling the size of Kirkwall Marina. Largely this is predicated on the increase in visiting yachts. I would suggest that yachts visiting the Orkney Archipelago are largely not just on passage and wish to cruise the area. Likewise to encourage the tourist economy, and the viability of other island communities, solely spending the development resources on Kirkwall would seem both inequitable and counter-productive. Stromness marina funding was not mentioned, and opportunities to develop pontoon facilities at sites such as Lyness, Longhope, Stronsay, other of the Northern Isles, or expansion of visitor moorings was not mentioned. This seems a significant missed opportunity necessary to optimum benefit from any marina development.*	With regard to marine leisure and the 'sailing offer' in Orkney, the initial focus within Phase 1 of the masterplan is on Kirkwall and Stromness, given that these are the primary marinas in Orkney and are both operating at capacity – all yachts visiting Orkney stay at one or other of these marinas during their trip. It is accepted that a wider strategy is required encompassing the whole of Orkney to create a network of yacht moorings, landing places and pontoons, as well as developing the services to support what is a growing sector. This strategy will be developed during Phase 2 and will build on that which is proposed in Phase 1. See reference on Page 35.
7	*My own belief is that Harbours as a public body should have a conservative approach to risk in investment, and ethical, health and environmental issues should be balanced with economic ones. In these respects the Masterplan is deficient, being more in the style of a corporate sector promotional vision than a balanced consideration of deploying public assets to best effect.*	A clearer explanation of how Orkney Harbours operates is provided in the masterplan, along with cognisance of environmental aspects. It should also be noted that a detailed Environmental Impact Assessment would be undertaken for each project, which would consider some of the aspects you refer to, particularly the risks around the environmental impact. See Pages 11 – 17 and 63 – 68.
7	*Regarding aquaculture, there are a number of unknowns as to the future of the industry. It is vulnerable to market forces. Returns may prove land-based systems meet environmental regulation and resource costs more effectively. Also locally they may become vulnerable to catastrophic failure contributed to by climate change and eutrophication causing algal blooms. The expansion in jobs growth seems fanciful in the face of the remote control and robotic technologies being deployed. These risks are not considered, again solely opportunities.*	There are risks associated with opportunities and developments in each sector. The Outline Business Case considers three scenarios for the assessment of economic benefits, which takes into account such risks: Base, Optimistic and Pessimistic Cases are presented for economic and financial benefits. A more detailed risk assessment will be included for each proposal also.

Individuals/Orkney residents: comments and responses

Ref	Comments	Response
8	*Detailed Paper on Sailing Tourism in Scotland and Orkney.*	Many thanks for this informative paper, which, if acceptable to the stakeholder, provides important information and data that can be utilised during the development of Phase 2 and the development of a wider strategy for sailing in Orkney.
8	*I am in strong agreement with what has been put forward as regards the heading of Kirkwall Pier.*	Noted.
8	*Scapa Pier: to avoid substantial damage to the ecosystem which includes dredging other alternatives need to be considered in deeper water such as loading buoys, single point mooring or dolphins with a central platform. The former pair may produce difficulties as regards handling multiple grades. The dolphins with a central platform would not have this problem but may need to connect to the pier using a catwalk.*	The Scapa Pier project is not of a scale that would involve the type of vessels that would use loading buoys or dolphins. Furthermore, buoys require the provision of undersea pipelines.
8	*Scapa Pier: projected plan does show small craft berthed on the outer side of the projected pier and thus exposed to the long fetch across Scapa Flow.*	Noted. All vessels will berth where appropriate depending on weather conditions. The Scapa Pier proposals increase options for sheltered berthing compared with the current situation.
8	*Scapa Pier: the plan does not indicate the need for reclaimed land and due to its distance from Kirkwall and various facilities, although there is a toilet, there is no apparent need for regular berthing of tourist craft and possibly fishing boats. Yacht skippers often prefer to anchor where a beach or other attraction may be reached by dinghy as this is all part of the holiday.*	There is a requirement for some laydown area and parking at Scapa Pier, hence reclamation is included in this proposal. There is a lack of suitable berths for boats providing marine tours – the berths provided here are intended for that purpose though could be used by other small craft. The text has been amended to make this clearer. See Page 43.
8	*Do the tugs and pilot boat have to be stationed at Scapa? Wouldn't being stationed in Flotta cut down on the fuel bill or would this increase crew costs?*	Given the current manning rota having vessels stationed in Flotta would not be viable on account of fuel and crew costs. It is also the case that serving Flotta is only a proportion of the work carried out by tugs and pilot boats.

Individuals/Orkney residents: comments and responses

Ref	Comments	Response
8	*Scapa Deep Water Quay: possibly an ecological disaster. What is the return on capital? As this is a 20-year plan would all the costs be recovered in this time? There are already other places offering deep water berths such as in Norway and the Cromarty Firth would you be able to undercut them and still make a profit? Is the intension to offer the facility to an outside firm and charge them for it? (The Scottish Government are intending to nationalise Fergusons does this mean that the State or Local Government if it comes to that have the ability to run things better than a private company). Can you get intentions to use prior to committing to build (SSEN are very good at that)? Is there a resale possibility?* *Scapa Deep Water Quay: has any intention been considered for a floating facility? A barge or vessel with heavy lift facility could be berthed in water of the required depth. A reversal of what would normally be carried out with deep draught vessels or rigs being brought to it rather than the other way around. The facility would be serviced by small craft which in the case of heavy supplies would also happen on a shore based jetty. By using this type of facility should employment not be regular it could always be leased out and hence produce some income. The big attraction of using a barge or vessel is that it can always be moved, owned, leased in or out and if owned have a sale value. It should also have the ability to run on shore power.*	Scapa Deep Water Quay will enable Orkney to capitalise on offshore wind farm activity in close proximity, thus promoting renewable energy developments and benefiting businesses and residents within Orkney. This infrastructure also gives Scotland a competitive edge against Norway and other countries, given the proposed depth of water alongside which is substantially greater, even compared with Cromarty Firth. An Outline Business Case is underway which will ascertain the economic and financial benefits associated with this proposal. As part of the feasibility stage a detailed Environmental Impact Assessment will be undertaken which will determine the extent of environmental impact. The nature of how this infrastructure will be managed and operated will be considered in the Outline Business Case. Discussions are underway with companies across a range of sectors that are interested in utilising this infrastructure. The engineer assessment concluded that a floating facility is not a suitable alternative. For offshore wind and other activities laydown area of at least 5 hectares is required, with straightforward access to and from the quayside. We will discuss your comments further with our engineers and should any alternative options deliver the same benefits and outcomes as the proposals currently within the masterplan they will be given consideration during feasibility stage.

Individuals/Orkney residents: comments and responses

Ref	Comments	Response
8	*The draft plan states that "There is a lack in appropriate infrastructure and facilities to accommodate existing and future operational activity" and "The plan for Stromness is focussed on improving the flexibility and usability of existing infrastructure, as well as creating capacity and facilities to enable growth in all sectors for the future." To correct the above problems a higher footfall is required in the historic core. This cannot be done to any great extent by the current inhabitants but must come from a large increase in the number of visitors. To do this the Pole Star pier needs to be adapted for use by the explorer type cruise ships. The ex-Northern Lighthouse Board building also needs to be upgraded to possibly a multifunction museum something on the lines of the one in Lerwick but covering just Stromness and boat museum.*	The creation of a museum is an excellent idea; however this does not fall within the remit of Orkney Harbours. With regard to the development of Pole Star Quay as a landing berth for small cruise liners the main issue is access to and from this location for busses. Smaller cruise liners can already berth at North Pier thus in our view there is no requirement for an additional berth. It should be noted that a cruise tender pontoon is now included in the masterplan, which will provide a more attractive opportunity for cruise liners at anchor.
8	*Draft Plan also states "Whilst the construction of Copland's Dock has enabled some operations to be moved out of the town centre, there remains issues of capacity, conflict of use and traffic and the flexibility of Copland's Dock to cater for different types of vessel, particularly small boats. If Copland's Dock could do this, there would be significant opportunity to remove heavy traffic from the historic town centre.*	Noted.
8	*There also needs to be a slip with haul out capacity for work, dive and fishing boats. Marine Engineering companies should be encouraged to set up haul out facilities and repair shops.*	Throughout the development of the masterplan stakeholders have expressed the desire for additional boat repair/maintenance facilities in Orkney. At present a site is identified at Hatston, though the nature of this facility has not been defined in detail – it could serve the marine leisure market or it could be more focussed on fishing boats, or larger, commercial vessels – any such facility would need to attract a private sector operator.

Individuals/Orkney residents: comments and responses

Ref	Comments	Response
8	*Lyness: for any ship to be dry docked or have any considerable work done they need to be gas freed, tank cleaned, decontaminated and proved to be in a fit state to have the necessary work done. Lyness due to its position as regards the North Sea and the Atlantic oil fields is in an ideal place for the above operations. The Golden Wharf would need to be extended out to the 15m contour along its length. Onshore a holding tank for the effluent would be required whose contents would be pumped over to Flotta into the de-ballast treatment system. In time general engineering works could be set up to cover all work other than the under water hull plus there would be work associated with renewables.* *The establishment could be powered from the proposed SSEN sub station at Rinnigill. If the floating deep water barge was to be stationed to the North of Switha this could also be powered from the same sub station.*	Lyness was considered in the development of proposals; due to a number of factors it was not considered as the optimal location to create a deep-water quayside. See Page 53.
8	*With a programme that is looking 20 to 30 years ahead I am surprised that there is no mention of an increase in sea water levels. I would have expected to see some mention of how the considerable amount of assets would be protected or have some form of mitigation.* *I realise that this is mainly a question for OIC as a whole but isn't Harbours the marine side of OIC? Kirkwall town has already seen protection installed but the harbour, itself, has been left to stand on its own. Protection of Stromness harbour would automatically protect the town and this is probably one of the simplest to do.*	The Flood Risk Management Strategy for Orkney is produced by SEPA and sets out the vision for how flooding should be managed. It identifies the main flood hazards and impacts, together with the setting of objectives to manage these impacts and a series of prioritised selected actions that aim to achieve these objectives. The Local Flood Risk Management Plan for Orkney, produced by the Council as lead authority, takes forward the actions set out in the Strategy and identifies what works or actions are to be undertaken locally during the period 2016-2022 and how these are to be funded. Reference is made to sea levels and flood risk in the masterplan. See Pages 11 – 17 and 63 – 68.

Individuals/Orkney residents: comments and responses

Ref	Comments	Response
8	*Undercover and outside storage, the abilities to repair and maintain hulls, engines, equipment and rigging plus sail making and repairs are essential facilities. Initially it does not have to be a large capital investment as minimal facilities already exist and this type of work has been carried out over the years. The satisfactory completion of this could achieve business opportunities and extra employment.*	With regard to marine leisure and the 'sailing offer' in Orkney, the initial focus within Phase 1 of the masterplan is on Kirkwall and Stromness, given that these are the primary marinas in Orkney and are both operating at capacity – all yachts visiting Orkney stay at one or other of these marinas during their trip. It is accepted that a wider strategy is required encompassing the whole of Orkney to create a network of yacht moorings, landing places and pontoons, as well as developing the services to support what is a growing sector. This strategy will be developed during Phase 2 and will build on that which is proposed in Phase 1. See reference on Page 35.
8	*In all the islands surveys should be conducted to ascertain the amount of berths required whether alongside, at pontoons or visitors moorings. The questionnaire would also try to establish how having these facilities would their general wellbeing and businesses be helped.*	
8	*Orkney needs to build up its capabilities to meet future demand as a marine tourist hub. Due to the perspicacity and effort of Orkney sailors a good start has been made with Orkney Islands Council financing the building of three marinas. Orkney Marinas Ltd as the management body have done an excellent job in advertising at various events resulting in a huge increase in visiting yachts. We now need to keep some of these visiting craft here through the winter months and improve "sail to and Sail through" by providing winter storage and improving our various attractions and methods of access especially in the individual islands.*	
8	*The Orkney Harbours draft Plan generally meets up with future requirements as regards development in Kirkwall. However I do not see a case for a development at Scapa as regards marine tourism as it would tend to detract from Kirkwall and has no benefits other than as an anchorage. It is more important that development for marine tourism should be as mentioned in 3.2.*	There is a lack of suitable berths for boats providing marine tours – the berths at Scapa Pier are intended for this purpose though could also be used by other small craft. The masterplan has been updated to make this clearer. See Page 43.

Individuals/Orkney residents: comments and responses

Ref	Comments	Response
8	*At present Orkney is almost at the end of the physical trail for marine tourism in Scotland. We need to be more in the middle to establish the 'Sail Through' and get the 'Sail To' but with the possibility of carrying on in other directions of the compass. We need to show that we can supply a service and hence get owners to leave their beloved craft here through the winter months knowing that they will be cared for.*	With regard to marine leisure and the 'sailing offer' in Orkney, the initial focus within Phase 1 of the masterplan is on Kirkwall and Stromness, given that these are the primary marinas in Orkney and are both operating at capacity – all yachts visiting Orkney stay at one or other of these marinas during their trip. It is accepted that a wider strategy is required encompassing the whole of Orkney to create a network of yacht moorings, landing places and pontoons, as well as developing the services to support what is a growing sector. This strategy will be developed during Phase 2 and will build on that which is proposed in Phase 1. See reference on Page 35.
8	*With all the piers and berths that have been created over the last few years are we able to accept the Tall Ships? If not enough berths what is the possibilities of anchoring either in Kirkwall Bay or at Scapa? There should also be Tall Ships allocated to the various islands that are able to accept them with local communities providing a programme.*	The Tall Ships can be accommodated in and around Orkney.
8	*With time Scapa Flow wrecks may become too dangerous for recreational diving. As this is a very important part of marine tourism here in Orkney some decisions will have to be made concerning the future. Should certain parts be removed and put on display at Lyness? Should other ships be sunk to replace them?*	The Scapa Flow wrecks, and other associated historic assets, have been identified by Historic Environment Scotland/ Marine Scotland as part of a proposed Scapa Flow Historic Marine Protected Area. It is proposed that a management plan be prepared to address the future management of these deteriorating assets and guidance regarding any potential removal of artefacts in accordance with the appropriate legal, policy and licensing requirements.

Burray Community Association

Comments	Response
We note the economic and social objectives of HIE and the Orkney Council Plan referred to in the Harbours Masterplan. We are also aware of the increasing demand in Orkney for marina style berthing for leisure craft visiting from UK, Scandinavia and from local boat owners.	With regard to marine leisure and the 'sailing offer' in Orkney, the initial focus within Phase 1 of the masterplan is on Kirkwall and Stromness, given that these are the primary marinas in Orkney and are both operating at capacity – all yachts visiting Orkney stay at one or other of these marinas during their trip. It is accepted that a wider strategy is required encompassing the whole of Orkney to create a network of yacht moorings, landing places and pontoons, as well as developing the services to support what is a growing sector. This strategy will be developed during Phase 2 and will build on that which is proposed in Phase 1. See reference on Page 35.
It is the view of the BCA that a leisure pontoon marina facility would be of considerable benefit to the community. Furthermore, having additional marina berths located at Burray village would, we anticipate, improve the attractiveness and accessibility of Scapa Flow and the South Isles as a leisure destination. Burray Village is on the main bus route, has a shop, a restaurant and pub, nearby tourist attractions, a sheltered anchorage and an established boatyard. These points make the village an excellent location for a marina. We would welcome the opportunity to explore how this idea could be incorporated in the Harbours Masterplan to the benefit of all concerned.	

Orkney Historical Boat Society

Comments	Response
OHBS have appointed Reiach and Hall, Edinburgh to design a boat haven to be built at Coplands' Dock, Stromness. This is the site of a 19th Century boatyard and is the plot surrounded by the old stone walls, immediately North of the new Copland's Dock pier and West of the harbour operational area. We have already consulted the OIC Planners who have agreed to this development in principal. We have advised OIC of the architects appointment and have a meeting scheduled next month with Gavin Barr, head of Infrastructure and Development, to agree the best strategy going forward. We are at the stage of needing to come to an agreement with OIC on how much land from the field immediately to the N of Copland's Dock will be available for a pubic car park so as to separate visitors parking/access from the access of boats to the haven via an approach closer to the new Copland's Pier.	Noted. We look forward to working with OHBS to deliver this project.

Rousay Sailing Club

Comments	Response
The RSC is pleased to see marine developments foregrounded in this way as they are clearly key to social and economic developments on the islands. We would however note that Harbours in the North Isles including Rousay have been excluded from consideration in the current exercise. *The focus of these plans appears to be improving and developing existing mainland facilities. It appears to lack boldness and vision for innovation and a future Orkney including all the small communities which make this archipelago so attractive to the many visitors on which our economy increasingly depends.*	Thank you for your detailed response and your plans for developing a marina on Rousay. All comments and proposals will be taken on board as we soon progress onto Phase 2 of the masterplan. With regard to marine leisure and the 'sailing offer' in Orkney, the initial focus within Phase 1 of the masterplan is on Kirkwall and Stromness, given that these are the primary marinas in Orkney and are both operating at capacity – all yachts visiting Orkney stay at one or other of these marinas during their trip. It is accepted that a wider strategy is required encompassing the whole of Orkney to create a network of yacht moorings, landing places and pontoons, as well as developing the services to support what is a growing sector. This strategy will be developed during Phase 2 and will build on that which is proposed in Phase 1. See reference on Page 35.
Awakening the Giant Marine Tourism Strategy lays out ambitious plans to capitalise on the potential of marine leisure in the whole of Scotland. The extent and scope of development in the current Orkney Harbours Master Plan seems to fall short of the vision given in the Scottish Marine Tourism Strategy.	
It is in the nature of Harbours to thrive as part of a network of activities connecting with other harbours. It is suggested that an additional marina will make Orkney overall a more interesting destination for visiting yachts. A provision in Rousay would develop a node in the network of marinas connecting North and West, a particular support to both Stromness and Kirkwall.	
The north isles risk being increasingly disadvantaged both socially and economically. Including a more comprehensive response to the Scottish Tourism Strategy in the Orkney Harbours strategy would seem an effective way to mitigate deprivation of the smaller communities like Rousay. It appears that the current phasing of the Master Plan works against current OIC policies in further delaying any mitigation of the current situation, it further misses a huge opportunity to be part of an existing national strategy with considerable government backing. *The historic lack of intent by Orkney Harbours to invest in small island communities as given in strategic case Section 2 – is particularly prominent in Rousay, where no Harbours investment has been made since the building of the ferry ramps and breakwater more than 30 years ago.*	

Rousay Sailing Club

Comments	Response
We agree that some harbours are struggling to efficiently accommodate multiple users, but the situation in Rousay is critical as there is effectively no harbour, simply a potentially hazardous landing place for our ageing ferry.	Noted.
The development of 'Enhancing Scapa Pier for Marine Tourism' is unlikely to attract any marine tourism, and as a tourism investment risks complete failure since it is at least 3 to 4 sailing hours off any network route. It appears to be a purely industrial development.	The development at Scapa Pier is mostly industrial; however the berths for small craft have been included at this location as a possible berthing point for marine tour providers, rather than for sailing craft.
The proposal to spend 65+ million GBP for a second Scapa Pier rather than a more modest investment in e.g. enhance further existing suitable harbours such as Lyness, would be taking an unnecessary substantial financial risk that by the time (2030) the facilities create a profitable return their reason for being will be substantially cut back by strategies to reduce carbon emissions. Hatston would seem to be more than adequate. However, strategies to capitalise on or support renewables should be developed instead thus reducing island dependence on hydrocarbon fuels.	Lyness was considered in the development of options; for many reasons it is not possible to develop Lyness (see Page 53). There are several reasons why Scapa Deep Water Quay is the preferred option with regard to harnessing O&M activity for offshore wind and servicing specific markets within oil and gas until such time that we have transitioned to a zero carbon economy. Scapa Deep Water Quay will meet the requirements of offshore wind sector and enable Orkney to develop as a hub in this sector. Please see Pages 11 – 17 for more detail on measures to address climate change.
Workshops and discussions with harbour users and other stakeholders - to date, we have not been consulted. *We appreciated that 'tailored stakeholder engagement' was/is/shall be undertaken in the creation of this plan and although not previously consulted, we hope that our response will be received positively, and further opportunities for engagement with our island communities, pursued.*	It is envisaged that Phase 2 will commence in 2020 and there will be planned visits to each island community. We look forward to engaging with you very soon and appreciate all information submitted as part of your response.

Destination Orkney

Comments	Response
Page 3: Orkney Inter Isles Transport Study, and the associated Outline Business Case: would be good to know the timescale and recommendations from this study.	The OIITS OBC is due to be completed by December 2019.
Page 12: visual amenity, poor accessibility and poor information for visitors travelling on ferries at Kirkwall: how will this be addressed?	As part of the reconfiguration of the quayside there will be better signage, improved traffic management and relocation of facilities to improve access to and from the ferries.
Page 14: through enhancing port infrastructure and developing the wider visitor experience whilst lessening the potential negative impacts locally: what is planned on developing the wider visitor experience?	There will be less requirement for vessels to anchor in the Bay which in turn improves the visitor experience for cruise passengers. There will also be less conflict between cruise and other harbour-related activities at Kirkwall and Hatston which will make the disembarkation and journey away from the pier more enjoyable.
P14: More opportunity to come alongside at Kirkwall will be attractive to cruise lines – additional infrastructure will reduce conflict between cruise and other operations and lower carbon fuelling opportunities could become an opportunity: Additional visitor management resource will be required here along with better sign-posting, however this would provide additional footfall through the street, which would also in turn require additional visitor management resource.	Signage and walkways from the vessel to the town would be incorporated into the reconfiguration of Kirkwall Pier. At the time of feasibility there would be liaison with Destination Orkney Strategic Partnership and relevant Council departments regarding additional visitor management resource.
P14: Significant uncertainty regarding external and internal ferry services in terms of vessels and service configuration: Concerns on standard of current fleet, capacity and accessibility issues, as well as the online booking facilities all of which need to be addressed in the near future, in order to encourage and support tourism growth in the islands.	The aspects mentioned here are being taken forward as part of the OIITS OBC.

Destination Orkney

Comments	Response
Page 14: Should the Road Equivalent Tariff (RET) be implemented there could be a significant impact in terms of traffic carried. How will this be managed through current harbour resource?	As and when RET is implemented it will be managed through harbour resources.
Page 14: Number of marine tours around Orkney is growing; at present there is no dedicated berth for such tours: better pier facilities would enhance the attractiveness of this tourism product. Yes, this would be welcomed.	Noted. The development of options considered that Scapa Pier could be a suitable location for a marine tour berth, given its proximity to Kirkwall and ability to serve Scapa Flow. With the addition of a cruise tender pontoon in Stromness now included in the masterplan, there may be opportunities for this in Stromness also.
Page 17: should also include Orkney Tourism Strategy 2019 – 2025 and Destination Management Plan 2019 – 2025.	Noted. See Page 93.
Page 17: Would also suggest that reference is made to the Destination Management Plan within the masterplan, as cruise liner activity, transportation, visitor management and marine activity will form part of this document.	Noted. See Page 93.
Page 23: fully support outline requirements G, H, M, O, P, Q, R	Noted.
Page 26: Kirkwall Pier – core proposals comprise new quayside infrastructure, a waterfront development area and marina expansion, as well as improvements to traffic management and facilities on the quayside: this is welcomed.	Noted.
Page 31L Hatston – in the future there may be a need to refurbish and/or extend the existing facility that caters for both ferry and cruise passengers: yes there is a need for this and this development would be welcomed.	Noted. We would welcome discussion with Destination Orkney regarding how this project might be taken forward and funded.

Destination Orkney

Comments	Response
Page 26: Part of the area could be incorporated into the reconfiguration of the marshalling area or relocation of the travel centre....What travel centre does this relate to - the one at West Castle Street - or Orkney Ferries building?	The masterplan text provides a number of examples of what could be developed at Kirkwall Pier – the text has been amended so as not to suggest that there is a definitive plan to amalgamate travel centres (e.g. the Orkney Ferries building with the existing travel centre on West Castle Street) – rather it was illustrative in that it could be something that was taken forward. The actual layout of facilities and buildings on Kirkwall Pier will be determined at feasibility stage, guided by in-depth engagement with relevant stakeholders. See Page 36.
Page 34: Additional shoreside area and marine leisure berths: agree, this would create additional berths for visiting yachts and has the potential to develop marine tours.	Noted. The development of options considered that Scapa Pier could be a suitable location for a marine tour berth, given its proximity to Kirkwall. With the addition of a cruise tender pontoon in Stromness now included in the masterplan, there may be opportunities for this in Stromness also.
Page 37: Stromness and Copland's Dock – reconfiguration of the marshalling area, relocation of marina facilities, waiting room facilities and signage: would this take business away from the town?	There is a masterplan proposal which aims to improve the shoreside area in Stromness; this should on the contrary enhance the town by making the marina facilities and pier area more attractive, as well as improving traffic management.
Page 45: Lyness – could the increased area also include marina area for visiting yachts?	With regard to marine leisure and the 'sailing offer' in Orkney, the initial focus within Phase 1 of the masterplan is on Kirkwall and Stromness, given that these are the primary marinas in Orkney and are both operating at capacity – all yachts visiting Orkney stay at one or other of these marinas during their trip. It is accepted that a wider strategy is required encompassing the whole of Orkney to create a network of yacht moorings, landing places and pontoons, as well as developing the services to support what is a growing sector. This strategy will be developed during Phase 2 and will build on that which is proposed in Phase 1. See reference on Page 35.

Offshore wind developer (confidential)

Comments	Response
Offshore wind construction vessels are large; during construction these vessels would travel to and from a deep-water port, requiring a minimum draft of around 14m at the quayside. The likelihood is that large, slow moving construction vessels would not transit through the Pentland Firth against the tide, in restricted visibility or adverse weather but transit around the North of Orkney. Clearly a deep-water staging port on Orkney would significantly reduce transit times and maximise the weather window for construction.	Noted. We understand that Orkney has an opportunity here to be active in the development of offshore wind.
Lyness Pier was initially considered; however the steep seabed slope at the quayside prohibits the use of jack-up vessels and the 5m – 8m draft is too shallow. We understand that Lyness Pier is listed which would complicate any efforts to make this site fit-for-purpose. A new, purpose built deep-water quay in the natural shelter of Scapa Flow would service the growing offshore wind market in the North of Scotland and in doing so become a great asset to Orkney's economy.	We concur with your views on Lyness Pier and the issues surrounding its potential development. An Outline Business Case is currently being developed which will assess the financial and economic benefits associated with all proposed developments including opportunities to provide harbour infrastructure for the offshore wind sector.
5 hectares of laydown area is considered an absolute minimum (Scapa Deep Water Quay). The larger the laydown area the greater the flexibility.	Noted. We will consider whether or not it is possible to create additional laydown area (phased) at feasibility stage.
Scapa Deep Water Quay layout: a simpler square/rectangular shape with reinforced quaysides would be preferable for offshore wind.	Noted. We would seek to engage with potential users prior to feasibility, with a view to designing the infrastructure appropriately.

Royal Yachting Association Scotland

Comments	Response
Page 4 bullet point 3: the paragraph is correct and fine as a summary. However, the figure for boat numbers does not include any vessel that anchors. Skippers may anchor for a number of reasons and not just to save money. For example, marina berths might be full or the anchorage may be a better setting off point for, for example, Fair Isle. The economic impact also depends on the number of nights spent in Orkney whether for reasons of adverse weather, crew changeover or tourism.	There is limited availability of data regarding boats at anchor. With regard to quantifying the economic impacts, this will be done as part of an Outline Business Case which will be completed in Autumn 2019. With regard to marine leisure and the 'sailing offer' in Orkney, the initial focus within Phase 1 of the masterplan is on Kirkwall and Stromness, given that these are the primary marinas in Orkney and are both operating at capacity – all yachts visiting Orkney stay at one or other of these marinas during their trip. It is accepted that a wider strategy is required encompassing the whole of Orkney to create a network of yacht moorings, landing places and pontoons, as well as developing the services to support what is a growing sector. This strategy will be developed during Phase 2 and will build on that which is proposed in Phase 1. See reference on Page 35.
Page 14 Boat repair/maintenance facility. Recreational boats can be added to the list of potential users of such a facility. There may be scope for developing the boat repair and maintenance, construction and training sector although this may better be considered as part of the Regional Marine Plan. British Marine Scotland and Orkney Historic Boat Society may be able to contribute to developing a strategy. There may be demand for additional lift-out space for local recreational boats for winter storage, as well as for continental boats wishing to spread a cruise to the Northern Isles over two years.	Noted. There could be opportunities for winter storage and lift out facilities at Hatston and Kirkwall. A site for boat repair is identified at Hatston, though the nature of this facility has not been defined in detail – it could serve the marine leisure market or it could be more focussed on fishing boats, or larger, commercial vessels. As part of Phase 2 further consideration will be given to marine leisure requirements with regard to facilities and services that might be required in the future. Boat repair facilities required to support recreational users can also be considered as part of the regional marine planning process.

Royal Yachting Association Scotland

Comments	Response
Page 14 Marine Leisure. It may be helpful to use an AIS website such as marine Traffic to look at the sizes of yachts berthed at Victoria Pier and Albert Dock in Lerwick. The longest today was 17m long and that probably does not include the bowsprit. It will be worthwhile subdividing the commercial category as dive boats, which are particularly important at Stromness, are likely to have different requirements from tour boats.	Noted.
Page 15 Short term marine leisure. A berth at Scapa Pier might be particularly popular with dive boat operators and also marine tourism operators servicing cruise liners berthed at Kirkwall. Appropriate facilities might also be attractive for local boats and for visiting skippers wishing to leave their boat for an extended period of time or to facilitate a crew change. However, the demand for this would need to be assessed.	Noted.
Page 26 last sentence. It is very important to ensure that there is dedicated space for visiting yachts.	Noted. See Page 33.
Page 34 column1, last sentence. Note should be taken of the implications of the Climate Change Bill which has completed stage two. It is unclear what implications will be for recreational boating but with electricity produced from wind and tidal power orkney would be well placed if there was a move towards electrical propulsion based on fuel cells. This comment applies to all facilities.	The masterplan has been updated to reflect the recent Climate Emergency declaration and revised carbon reduction targets for Scotland, along with a more detailed description of measures to support this policy. See Pages 11 – 17.
Page 34 last sentence. Consideration should be given to providing space for future expansion of marina berth numbers. Access to the slipway by small recreational craft on trailers should be considered.	The berths at Scapa Pier are intended for marine leisure use, and it is unlikely that the number proposed here would expand in the future, given the commercial nature of the pier. See Page 43.

Royal Yachting Association Scotland

Comments	Response
Page 37 Stromness. Stromness Marina is an excellent facility, particularly for vessels on passage to Pierowall, Shetland or mainland Scotland. The toilet and shower facilities shared with the ferry are very good, there is easy access to a supermarket and other shops and the town is a joy to walk through. From a navigational point of view, timing the exit by Hoy Sound is easy due to its proximity. However, space is at a premium and manoeuvring space at the south end can be constrained by commercial vessels moored to the pier. There may be scope for relocating some commercial activities, or even local boats, to Copland's dock or Scapa Pier if these could be made attractive options. however, one of the attractions of Stromness Marina is the mix of boats encountered, particularly the local yoles. A minor point is that there is not a clearly marked route from the marina entrance to the ferry terminal and the recycling facilities are in the ferry car lines.	The improvements on Copland's Dock should make it more attractive to commercial vessels. There is a proposal to improve the shoreside area in Stromness, which will consider parking, pedestrian routes, traffic management and facilities – your points regarding access and recycling facilities will be taken into consideration as part of this proposal.
Page 53 SEA. This section focusses overmuch on negative impacts. Good planning should lead to positive impacts.	Noted. The purpose of the SEA is essentially to identify negative impacts and illustrate potential mitigation measures at plan level.
Page 53 Climatic factors: to reach Scottish Government targets, the carbon footprint will need to decline during the operational phase. Development provides an opportunity to invest in energy efficient technologies.	The masterplan has been updated to reflect the recent Climate Emergency declaration and revised carbon reduction targets for Scotland, along with a more detailed description of measures to support this policy. See Pages 11 – 17.
Page 53 Cultural heritage. There are potential positive benefits if the developments encourage boat building and repair of historic classes of boat as well as them being sailed.	Noted and agreed.

Royal Yachting Association Scotland

Comments	Response
Page 53 Population and human health. The risk of marine accidents could be reduced by separating different types of activities as proposed. The Statutory Harbour Authority has powers to make regulations to ensure safety of navigation and increased traffic does not necessarily lead to an increased risk of accidents.	Noted. The SEA has focussed on the likely negative impacts on population and human health and how these effects can be appropriately mitigated.
Page 54 first bullet point. Surveys have shown that marine biodiversity is very much appreciated by recreational sailors. Scottish Hydro Electric Transmission plc has been investigating the adoption of Biodiversity Net Gain and consideration should be given to applying these principles here.	We understand that Biodiversity Net Gain is something that is being introduced into the planning regime; by the time any of these proposals are at feasibility stage it is envisaged that this will indeed be part of the process. The masterplan does include assessing opportunities to enhance the environment with measures such as habitat reinstatement and the use of green infrastructure. See Page 16.
Page 57 Integration with the planning and policy framework. It is surprising that no mention has been made of the Orkney Islands Marine Region Plan which will supersede the PFOW Spatial Plan. A Ministerial Direction is expected to be issued shortly to allow the establishment of the Orkney Islands Marine Planning Partnership.	Noted. Reference has now been made. See Page 92.
Page 80 Proposed development policy principle 2. As this proposal applies to all vessels it should be noted that recreational craft may keep in shallower water outside the main navigational channel. Any tidal devices installed in the channels leading to Scapa Flow should be well below keel depth.	The text in Proposed Development Policy Principle 2 has been amended to clarify that no marine or coastal development and/or activities should have a significant adverse impact on safe passage through any sound (e.g. West Weddel Sound, Switha Sound, Gutter Sound). The Policy Principles will be applied to developments and fixed installation proposals as opposed to recreational craft.

Scottish Sea Farms (SSF)

Comments	Response
Aquaculture – lack of welfare facilities for staff at Tingwall and Houton piers.	Noted. Proposals for Tingwall and Houton will be considered in Phase 2.
Aquaculture – lack of facilities for carrying out repairs and maintenance on barges and larger vessels.	There are proposals for a boat repair facility at Hatston, which could provide such services for the aquaculture industry.
Lack of facilities for the construction and repair of fish farm pens.	We would welcome discussion with Scottish Sea Farms to identify a suitable location.
Berthing space at Kirkwall is an issue and enhancements here are welcomed.	Noted.
Lack of maintenance of the Eday pier has been an ongoing concern, the fendering needs improved and the ladders replaced.	This issue will be addressed in Phase 2, which is due to commence early in 2020 if not before.
Kirkwall Pier is very important to SFF. We have an office plus storage yard and a feed store. There is mention of demolishing some existing buildings but no detail on what will replace them. SSF will always require feed storage and office facilities at this location.	The reconfiguration of Kirkwall Pier, including the possible demolition and/or relocation of facilities will only be done in consultation with existing users. There may be an opportunity for SSF to have improved facilities in the future, or it may be that your existing facilities remain where they are.
Scapa Pier: SSF would welcome any extension to this pier, and as such access and a berth for our site vessels would be required.	Noted.

Scottish Sea Farms (SSF)

Comments/views	Response
Whilst SSF are not averse to the idea of a new deep-water facility in Scapa Flow we do have significant concerns over the construction and operation of deep-water quay proposal at Scapa. The location proposed is just 1.5km north of our existing Westerbister farm which would be very sensitive to potential changes in water quality and noise levels during construction. Given the scale of quay and land reclamation required these effects could be significant and may be difficult to manage. In terms of risk during the operation of the proposed quay we have concerns over potential pollution, noise levels from maintenance of rigs, and the potential introduction of invasive non-native marine species.	There will be a detailed Environmental Impact Assessment at project level, given the very nature and location of the proposal and this will certainly consider in detail potential impacts on SSF business activity in close proximity. It is envisaged that there will be close consultation and communication with SSF during this process. With regard to construction, your comments regarding potential impacts and whether these can be mitigated or not will be taken on board and we will work with you to develop an agreeable construction method and plan that will mitigate impacts as far as possible.
While impact on water quality from construction and invasive species from operation were listed in the SEA we feel that they require greater consideration in relation to effects on other industries and should be listed as 'potential impacts' for relevant proposals in Appendix B.	
Based on recent experience of construction and operational issues, we feel that actions which improved or would have improved potential consideration and management of potential risks include: early discussion on construction methods, timing and mitigation proposals, sharing of method statements and risk assessments, undertaking of the relevant environmental studies, and all of these aspects being agreed under a specific Management agreement between ourselves and operators/construction company.	
Following a recent meeting, SSF understand that these principles do not apply to ongoing operations but would apply to any changes or expansion of sites. SSF request that this is made explicitly clear in Appendix C.	Noted. It should be noted that these Policy Principles are not intended to affect any existing operations, such as aquaculture sites already present in Scapa Flow; they will however apply to any such new sites or extensions to existing sites. See Page 18.

Scottish Sea Farms (SSF)

Comments	Response
SSF are concerned that the principles will remove any potential to expand Hunda or Westerbister in the future. We would wish to see any such proposal considered on its own merits, with the economic benefits considered alongside any potential for impacts on harbour interests when determining whether the proposal meets planning policy.	Fish farm development proposals in Orkney, including the expansion of existing sites, will be assessed against Orkney Local Development Plan Policy 12 - Coastal Development: Aquaculture and Supplementary Guidance: Aquaculture, Development Criteria 1-10. OLDP Policy 12 states that proposals for finfish and shellfish farming developments (including the expansion of existing sites) should maximise opportunities to deliver social and economic benefits for local communities, and that significant consideration will be given to the assessment of social and economic impacts associated with a development proposal. The Development Criteria 8: Other Marine Users states that proposals for new aquaculture development and extensions to existing aquaculture development should have due regard to other marine users including Port and Harbour Area operations (including ship to ship operations). The supporting policy guidance states that development that would have a significant adverse impact on Harbour Area operations and/or navigational safety will not be supported by the planning authority. In light of the strategically important harbour infrastructure proposals within the Draft Orkney Harbour Master Plan (Phase 1), the Proposed Development Policy Principles have been prepared to provide greater clarity to other users of Scapa Flow when the planning authority assesses the impact of development proposals on Harbour Area operations and/or navigational safety.
Policy Principle 3 seeks to safeguard strategic navigational channels for all vessels entering and exiting Scapa Flow. SSF feel that the use of the word 'impede' is not appropriate as it could be interpreted as both a complete obstruction of navigation or hindering navigation, the latter not necessarily equating to a significant adverse effect.	Noted. See Page 83.

Sheila Fleet

Comments	Response
For our business in Kirkwall on Bridge Street, in recent years since the change of the drop off point of passengers to the new travel centre there has been a drop in sales. This is recovering, but the ability to attract small to medium size cruise liners is good as they are more affluent and in many cases spend more. It's a misconception that all cruise liners spend money on the street. I can see our new development here at the Kirk Gallery and Café being able to accommodate smaller private tours from these smaller ships as part of a new excursion, maybe based around retail or shopping but this is something to discuss with the Shore Ex operators if this was to come to fruition.	Noted. As and when the proposals for Kirkwall Pier enhancements move forward we would envisage working closely with key stakeholders such as Destination Orkney and Council departments.
With the extension of the Kirkwall Pier and developments, I see this as a positive investment and can see benefits. Would passengers be bussed to the travel centre from here or would they walk down Bridge Street? I know there are many questions, but in principal we would support this development and wish to be kept involved with the process as it is debated in the council by members.	The whole management of cruise passengers on shore is something that would be considered during the feasibility and environmental assessment stages. We aim to keep stakeholders up to date with how proposals develop over the next few years.

Triton Marine

Comments	Response
The Scapa deep water development, this is only suitable for the proposed uses and not for further development where heavy lift may be required, there is a large lay down area shore side for light structures, wind turbines etc but not suitable for heavy lifts like 1200t tops sides etc for decommissioning. The T piece of the quayside is not robust enough for heavy lifts either and needs to be wider than 30m to allow the topsides etc to be moved on a crawler system to a laydown area.	The design of the Deep Water Quay is at present conceptual and high level, based on the requirements of particular markets (e.g. offshore wind and rig maintenance alongside). The design could change if and when the proposals move to feasibility stage at which point the level of the decommissioning opportunity in Orkney will be better understood. In which case, the design could incorporate heavy lift areas, as well as a wider central area for moving equipment from the quayside to the laydown area.
Lyness option is good but to allow deeper draft vessel to use the facility then the jetty front would need to be extended into deeper water and extended further North to allow for dual usage.	Lyness was considered in the development of proposals; due to a number of factors it was not considered as the optimal location to create a deep-water quayside. See Page 53.
I believe there is also ongoing discussions with the MOD regarding the oil contamination at Lyness and who has responsibility for the clean-up. Has a cost been indicated for this?	An indicative cost to remediate is available and that will be part of the ongoing discussion with the Ministry of Defence.
I have had previous dialog with Orkney Harbours regarding the potential for Decommissioning in Scapa flow and I will be having further meetings in the near future.	Orkney Harbour Authority would be very keen to attract decommissioning activity to Orkney, and have had discussions previously with players in the market. The recent study conducted by EY suggested that decommissioning would not be a real market opportunity for Orkney until the West of Shetland assets were at the end of their life; however, should a company operating in the market bring forward a concrete opportunity, then Orkney Harbour Authority would be interested in discussing infrastructure requirements.

EMEC

Comments	Response
Shoreside power should now be a standard offering. Whether from electrical connections or through hydrogen to electricity. They should not be retrofitted but provided as standard. This may require large batteries or other storage mechanisms so they should be factored into plans as the energy potential of the units may require the area to be classified for its explosive/fire risk.	The masterplan has been updated to reflect the recent Climate Emergency declaration and revised carbon reduction targets for Scotland, along with a more detailed description of measures to support this policy. See Pages 11 – 17.
Climate change will bite during the period of the planning horizon. If it does then it would make sense to be ready for it through the consideration of how this will affect harbours and specifically any works planned. Personally I feel we may need to abandon the existing harbour area in Stromness and build a dyke across from Copland's to the Ness and move the ferry berthing to the sea-ward side if sea-level rises are more than a metre or so. The alternative is that much of old Stromness will become uninhabitable. So whilst radical, I feel you ought to at least understand how sea-level rise of several metres will affect your assets and enable or obstruct other activity.	
Opening up of the Northern Maritime Route. We will see ships coming in from a different direction and acting as Willie indicated happens at Falmouth. i.e. last chance to stock up before the journey. That will require bunkering capacity here for whichever is the fuel of choice. The fact that ships on that route will be newer will probably mean newer fuels. We need to be ready for both fossil LNG, but also H2 and its derivatives. The market will decide which will win out, but we should not just pin our hopes on LNG due to its polluting nature in a net zero carbon world.	
The omission of Flotta from the plan leaves too many questions and should be corrected/clarified. Flotta represents Orkney's marine future beyond dirty fossil fuels and Orkney should express its interest in maximising that in the light of its self-declared Climate Emergency.	

Extinction Rebellion

Comments	Response
XR Orkney is concerned that the Harbours Draft Master plan does not include any measures to achieve the cuts is greenhouse gas emissions that have been committed to by the Scottish and UK Governments. Without a clear strategy to reduce emissions from Harbours activities the plan is not fit for purpose.	The masterplan has been updated to reflect the recent Climate Emergency declaration and revised carbon reduction targets for Scotland, along with a more detailed description of measures to support this policy. See Pages 11 – 17.
The Climate Change (Emission Reduction Targets) (Scotland) Bill, that is currently at committee stage in the Scottish Parliament, is set to legally commit Scotland to reduce its greenhouse gas emissions to net zero by 2045. This is five years earlier than the legally binding commitment by the UK Government to achieve net zero by 2050. Reflecting the short timescales on which emissions must be dramatically cut at all levels of society, Orkney Islands Council itself recently declared a Climate Emergency. However, the Harbours Draft Master Plan does not present any strategy or master plan to reduce the emissions associated with Harbours activities. This represents a missed opportunity to build on Orkney's reputation for innovation in this area and for Harbours to provide leadership on this issue. It also means that once the new emissions reduction targets are incorporated into Scottish law, the obligations that will follow on councils to reduce emissions across all areas of their responsibility will render the Draft Master Plan out of date.	
The central aim of the Draft Master Plan is to ensure that Harbours has the infrastructure to maximise revenue from future oil and gas activities. While it is recognised that such activities play an important role in the Orkney economy, in the context of the ambitious legally binding emission reduction targets set by the Scottish and UK Governments, any strategic plan produced by the council must have the rapid reduction of greenhouse gas emissions at its core. Not recognising this risks investing in stranded assets which will not generate the expected revenue in the net zero greenhouse gas emissions economy of 2045.	

Extinction Rebellion

Comments	Response
Reducing greenhouse gas emissions is something that Orkney is good at. Orkney is currently at the cutting edge of research into the use of hydrogen to power inter-isles ferries and to use battery power to provide clean shore power to larger vessels. This builds upon Orkney's strong capabilities in marine renewable energy. XR Orkney believes that it is projects like these that should form the core of the Draft Master Plan. For example, a strategic aim should be to build the infrastructure to make clean shore power available at all harbour facilities, and if fuel bunkering is to be proposed it should be to encourage and enable the use of low emissions fuels.	The masterplan has been updated to reflect the recent Climate Emergency declaration and revised carbon reduction targets for Scotland, along with a more detailed description of measures to support this policy. See Pages 11 – 17.
The cruise line industry is another area where Orkney can build on its reputation for innovation and take a leadership role in reducing emissions. Orkney should impose minimum emissions standards on the cruise ships visiting our waters. When cruise ships dock at our shores they should be obliged to use our clean and abundant renewable energy to power their vessels. XR Orkney recognises that building a low emissions fuel infrastructure involves engineering challenges, but that is exactly why it needs to be considered in the Draft Master Plan.	
OIC should be applauded for their recognition of the Climate Emergency and their pledge to act to tackle it. The Draft Harbours Master Plan is the first major opportunity for the OIC to demonstrate that they intend to act on this pledge. Without a clear strategy to dramatically reduce emissions from harbours activities, and to ensure that future sources of revenue are aligned with a net zero emissions economy of 2045, the Draft Harbours Master Plan is not fit for purpose.	

Orkney Renewable Energy Forum

Comments	Response
All vessels when in port need to be connected to shore supplied renewable energy, or to be burning carbon free hydrogen or synthetic liquid fuels. In terms of efficiency shore connections are by far the most efficient, with hydrogen in the middle and synthetic liquid fuels being the worst and only expected to be used for vessels either already constructed or which will be constructed over the next two years at the most.	The masterplan has been updated to reflect the recent Climate Emergency declaration and revised carbon reduction targets for Scotland, along with a more detailed description of measures to support this policy. See Pages 11 – 17.
All vessels which require refuelling need to be supplied with either electricity to charge batteries, hydrogen or with synthetic liquid fuels. Orkney is well placed to supply the first two directly and may need to source the third from other sources in limited quantities. We do not see liquified natural gas as a long-term solution but welcome the plan to include ship based bunkering facilities for LNG for those ships currently under construction and which might be constructed over the next 5 to 10 years before hydrogen takes over as the fuel of choice for large ships.	
The master plan covers major port infrastructure, but it also ought to consider operations, including those vessels used directly or under contract to manage the harbours. Both pilot boats and tugs will over time need to be replaced and the master plan ought to include a commitment that these will be powered by batteries, or hydrogen, or a hybrid between the two sources of energy as appropriate for the duties the particular vessels need to carry out. This could most effectively be expressed as a commitment to not purchase any diesel-powered vessel in the future.	
In terms of physical extensions to the piers suggested in the master plan, OREF is happy that each of them could potentially provide a sound basis for investment by Orkney Harbours, provided that the plans are modified to include the relevant electricity connections and hydrogen supply equipment required to fuel all vessels expected in a net negative greenhouse gas emissions future. From discussions at the public meetings it was clear that the need to build infrastructure to cope with increased sea levels was understood. However its not clear that the plans are integrated with flood defence planning for future sea level rises, particularly at Kirkwall and Stromness where access to current infrastructure could be cut off by future flood prevention schemes.	

Orkney Renewable Energy Forum

Comments	Response
We support the plans to provide over the near to medium term liquefied natural gas bunkering facilities where they make commercial sense to refuel the currently under construction fleet of LNG cruise ships as this will significantly reduce the particulate emissions from these important elements of Orkney Harbours operations. However, LNG does not provide a significant improvement in terms of greenhouse gas emissions, we believe that a target should be set to offer equivalent hydrogen fuelling options to encourage future cruise ships to operate with hydrogen rather than LNG at Hatston. This date should be no later than 2030 with fuelling for smaller vessels being available at a much earlier date at Hatston or Kirkwall, Stromness, Scapa and if constructed at the deep-water port on the east side of Scapa Flow.	The masterplan has been updated to reflect the recent Climate Emergency declaration and revised carbon reduction targets for Scotland, along with a more detailed description of measures to support this policy. See Pages 11 – 17.
Additional space at Hatston is needed in order to ensure enough space is available for future developments in renewables in and around the north of Orkney. Making the additional space available for these developments at Hatston, along with other uses could be considered as worthwhile and OREF would support this development on a more speculative basis than other developments, to enable and encourage the future development of marine energy in and around Orkneys northern isles. There is likely to be a surge in demand for space for marine renewables at the time the Orkney Grid reinforcement project comes to fruition. This is expected to be around 2024 and at least some of the additional space proposed at Hatston ought to be available by 2024 in order to allow these marine developments to go ahead.	Noted. The proposal for Hatston indicates that space could easily be earmarked for future renewable energy developments. As and when this proposal moves forward further consideration will be given to this and other potential markets as they develop. It will be important to engage with organisations such as yours in order to monitor the development of renewable energy projects and the various requirements that come with this with regard to accommodating and handling devices, maintenance, etc.

Orkney Renewable Energy Forum

Comments	Response
If a request is made to extend Scapa Pier to allow larger tankers to off load fuel this should be discouraged as liquid fuel use is expected to decline considerably as Orkney moves to a lower carbon future and the need for a larger pier for this purpose would soon disappear. The master plan at present suggests that this would be a non-optional decision based on a need to continue to supply liquid fuels by tanker. Synthetic liquid fuels for the use of older boats is potentially already catered for at Hatston and this could become a central hub for synthetic liquid fuel distribution to other locations both for marine use and for agriculture and road transport.	The masterplan has been updated to reflect the recent Climate Emergency declaration and revised carbon reduction targets for Scotland, along with a more detailed description of measures to support this policy. Orkney Harbours is focussed on supporting transition to a zero-carbon environment. In the short to medium term Orkney is going to remain reliant on the delivery of fuels such as petrol, diesel and kerosene, though it is recognised that volumes of these fuels will decrease thereafter as new lower carbon fuels come on stream. Thus at present and for much of the lifetime of the masterplan there is a concrete need for the delivery of fuels and vessels supplying these fuels continue to grow in size. See Pages 11 – 17. It is also worth noting that piers and quays will still be required for the transhipment and bunkering of zero carbon fuels in the future and it is inevitable that tankers carrying lower carbon fuels such as LNG or even hydrogen are likely to be larger than the current tankers transport fuels today. The development at Scapa Pier is not intended just to support the delivery of fuel: it is the primary infrastructure that services Scapa Flow generally and is at capacity with regard to this.

RSPB Scotland

Comments	Response
RSPB Scotland understands the need to future-proof income for Orkney Islands Council (OIC) following the expected decommissioning of the Flotta Oil Terminal in coming decades. However, we feel the proposals conflict with climate change ambitions as they seem to predominantly focus on and prioritise provisioning the oil and gas industry in the short to long term by developing shoreside facilities to support and grow this sector. In light of the First Minister and OIC declaring a 'climate emergency' it must be clearly demonstrated how any proposals that come forward are compatible with Scotland's carbon reduction targets - including the commitment to achieve net zero greenhouse gas emissions by 2045.	The masterplan has been updated to reflect the recent Climate Emergency declaration and revised carbon reduction targets for Scotland, along with a more detailed description of measures to support this policy. See Pages 11 – 17. .
The harbour limits include two proposed pSPAs – Scapa Flow and North Orkney. These both support internationally important populations of wintering waterfowl. Whilst we agree with the content of Section 5, the potential impacts on these pSPAs and need for thorough assessment through an Appropriate Assessment should be highlighted.	Noted. An HRA Screening has been undertaken which highlights the requirement for an Appropriate Assessment. Detailed EIAs will be undertaken for each proposal which will allow for more detailed assessment of these aspects at project level. Section 5 Environmental Considerations has been revised. Se Pages 63 – 68.
Assessment of impacts on other sites with international and national importance e.g. SPAs, SACs, ncMPAs and SSSIs should also be included and their importance recognised within the Masterplan. For example, encouraging more oil and gas tankers within Scapa Flow would increase shipping traffic and potentially cause disturbance to species within the Scapa Flow pSPA. RSPB Scotland continues to have concerns regarding STS within Scapa Flow. 2018 has seen the highest number of transfers and volumes recorded since operations began - 66 operations involving the transfer of 4.8 million tonnes of oil. The Masterplan states that this is expected to continue and will encourage more.	

RSPB Scotland

Comments	Response
We understand the benefit of providing harbour improvements to encourage more cruise ships to Orkney. However, before more cruise ships arrive, OIC will need to ensure that onshore infrastructure is sufficient and that the impacts of increased footfall at the most popular tourist sites (which include natural heritage sites) are mitigated.	The masterplan does not support or promote a major increase in the number of cruise calls and passengers – rather the focus is on reducing the conflicts between cruise and other harbour-related activity. Enhancements at Kirkwall Pier could enable more smaller cruise ships to call alongside though it is envisaged that there would only be a marginal overall increase in passenger numbers. There is currently a joined approach to addressing these issues through joint working between the Destination Orkney Strategic Partnership, Orkney Harbours and wider Council departments.
We noted that there was very little mention of biosecurity plans and non-native species prevention within the Masterplan. Since the Masterplan's focus is encouraging more use of Orkney waters and harbours, we would like to see more information provided about how ballast water exchange will be dealt with. We would like to see OIC's Ballast Water Management Policy updated and strengthened alongside the Masterplan.	Noted. These aspects will be addressed at feasibility stage/through the completion of a detailed Environmental Impact Assessment for each proposal. The OIC Ballast Water Management Policy is compliant and exceeds the requires of the IMO Convention and therefore is currently fit for purpose.
Invasive non-native mammalian predators such as rates and stoats pose a severe threat to Orkney's native wildlife. The ongoing Orkney Native Wildlife Project is the largest stoat eradication of its kind in the world. Ensuring that mammalian predators do not arrive on islands where they are not currently present in the archipelago is a top priority. Given the aspiration for increased vessel traffic we would like to see more information on how effective biosecurity measures will be introduced to ensure non-native species are not inadvertently transported between islands.	Noted. These aspects will be addressed at feasibility stage/through the completion of a detailed Environmental Impact Assessment for each proposal.

Scottish Water

Comments	Response
In addition to associated domestic water and drainage requirements, several of the business opportunities identified in the Masterplan, such as water bunkering, hydrogen production, certain aquaculture activities etc. can be very water intensive. Furthermore, some activities, like fish processing, will also have a trade effluent discharge. In the locations identified, these demands may well be in excess of what is currently available.	Noted.
Should there be insufficient capacity at one of our works to accommodate the process element of a non-domestic development/new businesses, the developer would be required to provide the necessary funding to offer a solution which permits their development to be connected.	Noted and agreed. We would seek to engage with Scottish Water at pre-feasibility stage and these aspects would be considered during feasibility/EIA processes.
Given the importance of having this infrastructure in place to support future economic development of the harbour, we would recommend that Scottish Water be added to the list of Key Stakeholders.	Noted. As and when proposals are taken forward we would seek to engage more frequently with Scottish Water.
It may be necessary for the Developer to carry out further investigations on the network to ensure it can support the proposed development/new business without causing detriment to existing customers. Should mitigation be identified it will be the developer's responsibility to carry out these works. Again, this may be eligible for a financial contribution from Scottish Water under reasonable cost contributions rules.	Noted and agreed. We would seek to engage with Scottish Water at pre-feasibility stage and these aspects would be considered during feasibility/EIA processes.
Early engagement with Scottish Water is always encouraged, so the developer fully understands what capacity is available in the network or at our works, what studies or mitigation will be required, if there are any asset conflicts which need to resolved, and whether any of these aspects will impact on their proposed timescales. A Pre-Development Enquiry Form can be submitted at any time to assess if we are able to provide your development with water and/or drainage services.	Noted and agreed. We would seek to engage with Scottish Water at pre-feasibility stage.

Marine Scotland

Comments	Response
There are a number of projects which have works below Mean High Water Springs that will require a marine licence. Applicants should contact MS-LOT to discuss the marine licensing requirements of specific projects which may also require screening under the Marine Works (Environmental Impact Assessment) (SCOTLAND) Regulations 2017.	Noted. As and when the proposals are taken forward we would seek to engage with Marine Scotland on a regular basis.

Orkney Islands Council (Education, Leisure and Housing)

Comments	Response
The element of the plan which would impact the Museums and Heritage Service most significantly are the plans for Lyness as the proposed storage area is close by the Museum. Our feeling, from looking at the plans, is that this would improve the area and would not have a negative impact on the Museum at all.	Noted.

Community Councils

Area	Comments	Response
Eday	*Eday Community Council would like to express disappointment that Eday and other isle communities around Orkney have not been included in Phase 1 masterplan. Whilst we understand that there will be a Phase 2 taking place in coming months, it is nonetheless disappointing that yet again the isle communities are considered last.*	Phase 2 will commence in early 2020 (if not before) and there will be planned visits to each island community; all issues identified will be taken on board and dealt with during Phase 2.
Eday	*Eday in particular, has pier infrastructure that is in very poor condition, as reported by the engineer from PBA who came to survey the infrastructure earlier this year. He expressed significant concern about the state of the fenders. The aquaculture company who utilises the infrastructure is almost at the point of refusing to use the pier on Eday given the safety implications that it brings. Should the aquaculture company move away from Eday this could be detrimental to what is a very fragile economy. It is practically impossible for any vessels including yachts to lie alongside given the lack of wave protection and issues with depth of water at the steps. The condition of the store, waiting room and toilets is incredibly poor.*	
Eday	*Whilst there is some understanding that the revenue generating projects need to be in place first, so that there is money available to spend on those piers and harbours that do not generate money, there is a need for the Council as a whole to support the funding of these piers and harbours not as a marine asset but as a social, economic and community asset that is hugely important for the sustainability and viability of our island communities – and perhaps this should be a focus from Economic Development as well as Harbours.*	
Eday	*Eday Community Council would like to have some assurance that Phase 2 will happen and that piers and harbours around our smaller island communities are considered in earnest not just as harbour infrastructure but as the key economic and social assets that they are.*	

Community Councils

Area	Comments	Response
Holm	*Scapa Deep Water Quay: we do have a concern with the road access to the Scapa deep water port which is currently shown as a tee junction on a quite fast part of the main road to Holm, which does not have good visibility. Given the potential nature of traffic to the site, perhaps 50 car movements at shift changes during large maintenance operations, cranes and lorry's needed for delivery and removal of smaller items etc we think that the current junction shown is unacceptable and we would object to it if presented as a planned project.*	Noted. No detailed plans for junctions and access roads have been developed so far – only a very high-level illustration of the optimal shoreside location. If and when the proposal is taken forward, concrete options would be considered by the engineers and these would be subject to a detailed feasibility study, EIA and associated traffic impact assessment, and public consultation – this would all take place before any proposal could be delivered.
Holm	*Scapa Deep Water Quay: when a financial case is made for the project I would assume that the project will need to be pursued as quickly as possible and one of the first elements will be construction of the road access. As such we would like much more detailed consideration of this to be undertaken in advance of any decision to advertise the possibility of construction of a Scapa Deep water port project to potential customers. In this way construction would be able to commence almost as soon as any deal was completed to provide the port facilities.*	
Holm	*Holm Community council met on Wednesday evening last week. We didn't have any particular comments to make on the general aspects of the master plan. Provided that the individual investments make economic sense then going ahead with them seams sensible for the economic wellbeing of Orkney.*	Noted.

Community Councils

Area	Comments	Response
Sanday	*Kirkwall Pier Signage: members would like signage on buildings in Kirkwall as there is nothing telling tourists there where the North Isles ferry terminal is.*	The reconfiguration of Kirkwall Pier will include a review of signage, along with buildings, layout and traffic management.
Sanday	*Kettletoft Pier: the ladders are restricting pier users where the ladders are offset rather than inset and boats cannot berth properly between them.*	Phase 2 will commence in early 2020 (if not before) and there will be planned visits to each island community; all issues identified will be taken on board and dealt with during Phase 2.
Sanday	*Kettletoft Pier: the large pier store door has been off for a while even though this has been reported.*	
Sanday	*It has been noticed over the past month that visiting yachts are having problems berthing at the mooring buoy at Kettletoft.*	
Orphir	*Specifically in Orphir though, it would be great to have a wee marina at Houton.*	With regard to marine leisure and the 'sailing offer' in Orkney, the initial focus within Phase 1 of the masterplan is on Kirkwall and Stromness, given that these are the primary marinas in Orkney and are both operating at capacity – all yachts visiting Orkney stay at one or other of these marinas during their trip. It is accepted that a wider strategy is required encompassing the whole of Orkney to create a network of yacht moorings, landing places and pontoons, as well as developing the services to support what is a growing sector. This strategy will be developed during Phase 2 and will build on that which is proposed in Phase 1. See Page 35.
Orphir	*Initial thoughts are that this concentrates on development in the larger ports. No problem with that. However, as Marinas are mentioned I think it would have been good to see some ambition regarding marina developments in the small ports. For example small marinas in Houton, Tingwall, Birsay, Sanday, Stronsay, Shapinsay, Eday, Flotta, Hoy and others. These would spread visitors to the islands rather than concentrating them in the larger ports. This would also ease congestion, spread income around Orkney and provide some fantastic visitor experiences. Possibly something that development trusts would like to be involved with.*	

SEPA – comments on Orkney Harbours Draft Masterplan Phase 1

Comments	Response
*1.1 We would like to see **consideration** in the masterplan of the need for potential adaptation to mitigate possible climate change effects on the proposed infrastructure at all the sites it covers. Although climate change is referenced in the Strategic Environmental Assessment (SEA) the only mention of climate change in the plan is in relation to possible changes in Orkney's future fuel supply. Consideration also needs to be given to minimising greenhouse gas emissions and the Harbour Authority's carbon footprint as referenced in the SEA.*	The masterplan has been updated to reflect the recent Climate Emergency declaration and revised carbon reduction targets for Scotland, along with a more detailed description of measures to support this policy. See Pages 11 – 17.
1.2 We would welcome reference in the plan to the Scottish Climate Change Adaptation Programme, which sets out Ministers objectives, policies and proposals to tackle the climate change impacts identified for Scotland. In addition the plan could also usefully reference work from the Marine Climate Change Impacts Partnership in relation to adaptation or climate smart working. *1.3 Reference to the programme could be added to the Key Policies and plans listed on page 17. The key consequences of climate change that are applicable to this plan identified and need to develop appropriate adaptation strategies. An outline requirement could be for example: adaptation to mitigate possible climate change effects on the proposed infrastructure.*	Noted. Reference has been made to the Scottish Climate Change Adaptation Programme, as well as cognisance of the UKMCC, as it could offer some excellent best practice examples in the field of harbour operations and infrastructure development. See Pages 11 – 17 and 88. The outline requirements were developed at an early stage in the masterplanning process to guide the appraisal and selection of preferred options for development. In our view it is not possible to revise these outline requirement post-appraisal. However, we feel that the amended section which covers climate change addresses comments adequately. Bearing in mind that the masterplan is a 'blueprint' there will be detailed EIAs undertaken for each proposal as they proceed and it is assumed that climate change impact will be a key element within this, along with the identification of potential mitigation measures.

SEPA – comments on Orkney Harbours Draft Masterplan Phase 1

Comments	Response
1.4 We welcome the Mitigation and enhancement measures in the bulleted list on page 54 and example the requirement for a Flood Risk Assessment at the planning phase. There are other issues such as biosecurity that will also require to be addressed. As such we have also provided below and in attached Appendix 1 generic advice on marine related developments such as those covered in the masterplan to consider as the proposals progress through the Environmental Impact Assessment (EIA)/planning process. Biosecurity for example is covered in Section 3.3 of Appendix 1. It would be useful to add other assessments to this section of the plan that will be required in support of the proposals or individual aspects as per the example below (see also comments in section 4.5 below).	Noted. Please see revised section on Environmental Considerations (Pages 63 – 68). We would wish to engage with SEPA prior to commencement of feasibility, to ensure that all relevant aspects and issues are addressed and developed appropriately. Following the completion of the masterplan an implementation plan as part of the Outline Business Case will be developed. We would seek input from SEPA with regard to identifying actions and timescales in relation to points raised.
1.5 The proposals for Scapa Deep Water Quay include "Area excavated from steep hillside immediately behind new quay position. Rockfill created used to in infill quay and reclamation area, to provide cut/fill balance. Exact route of road from public road to site to be determined by local topography, consents and gradients required for vehicles movements" and a 5+ha laydown area. *1.6 The GIS layer Landcover Scotland 2015 shows heather and bog as well as grasslands within the area proposed for this development; there is the possibility for Groundwater Dependent Terrestrial Ecosystems to be present. This area will need to be surveyed according to our guidance LUPS-GU31.* *1.7 In order to assess the potential risk to GWDTE a Phase 1 habitat survey should be provided both within and outwith the site boundary, within the following distances of development as a minimum: a) within 100m radius of all excavations less than 1m in depth; b) within 250m of all excavations deeper than 1m.* *1.8 However, if it is suspected that there may be relevant habitats on site, a National Vegetation Classification (NVC) survey can be provided and/or if SNH have requested a NVC survey for all or part o the site then we would accept this information.*	

SEPA – comments on Orkney Harbours Draft Masterplan Phase 1

Comments	Response
2.1 We have no site-specific flood risk advice on the draft plan other than to welcome the commitment in the plan for each development to be subject to a detailed Flood Risk Assessment. However we would take this opportunity to provide advice to assist as the proposals in the plan progress through planning.	Noted. Please see revised section on Environmental Considerations (Pages 63 – 68). We would wish to engage with SEPA prior to commencement of feasibility, to ensure that all relevant aspects and issues are addressed and developed appropriately. Following the completion of the masterplan an implementation plan as part of the Outline Business Case will be developed. We would seek input from SEPA with regard to identifying actions and timescales in relation to points raised. .
2.4 For information the expected sea level rise for Orkney Islands is 0.93m by 2100 based on the latest UK climate change predictions reported in 2018. We would recommend that this allowance is taken into consideration to ensure that any development of the site is sustainable and to account for uncertainties and the effects of wave action.	
2.5 With regards to leisure development such as cafes, we would recommend a minimum freeboard of 600mm above the flood level is applied to finished floor levels.	
2.6 It should be noted that, without further flood risk information, we would object to any proposals for overnight accommodation, or any development which falls within the 'Highly Vulnerable Uses' category or our Land Use Vulnerability Guidance.	
3.1 The diversification into other industrial sectors through the ability to handle larger vessels brings with it the possibility that environmental permitting or licensing of associated infrastructure may be required e.g. silos for offshore Cement supply, new Fish effluent discharges, the boatyard repair, lift out and maintenance facility etc. There may also be an increase in the throughput capacity of existing units due to handling larger vessel, these may also require licensing if thresholds are met.	
3.2 It is recognised that at Hatston part of the proposal includes the construction and operation of a fuelling depot comprising 2 x 3,000 tonne bunded tanks. Such a facility would fall within COMAH as a Lower Tier establishment. Prior to construction and operation the Harbour Board / operator will need to contact the COMAH Competent Authority (CA) to discuss their needs. Similarly, any LNG/LPG bunkering hub/storage facility (e.g. that proposed for Flotta) is likely to be captured under the COMAH Regulations and require the production of a Pre-Construction Safety Report.	

SEPA – comments on Orkney Harbours Draft Masterplan Phase 1

Comments	Response
3.3 The report recognises that the development at Lyness will be on a brown field site. There have been previous discussions regarding the need for soil contamination investigation and remediation at this site that will need to be revisited as part of any development here.	Noted.
3.4 We welcome the commitment to produce a Construction Environmental Management Plan detailing how impacts on biodiversity, flora and fauna will be avoided/mitigated, and the mitigation and enhancement measures detailed on page 54. As previously noted the proposals include for example at Scapa Deep Water Quay a 5+ hectare laydown area. Please be advised that a Controlled Activities Regulations (CAR) construction site licence will be required for management of surface water run-off from a construction site, including access tracks, which: is more than 4 hectares; is in excess of 5km; or includes an area of more than 1 hectare or length of more than 500m on ground with a slope in excess of 25˚.	Noted. Please see revised section on Environmental Considerations (Pages 63 – 68). We would wish to engage with SEPA prior to commencement of feasibility, to ensure that all relevant aspects and issues are addressed and developed appropriately. Following the completion of the masterplan an implementation plan as part of the Outline Business Case will be developed. We would seek input from SEPA with regard to identifying actions and timescales in relation to points raised.
3.5 Land reclamation: as the proposals progress we would like details (quantity, type, source) of appropriate infill material to demonstrate no waste material will be used for such proposals.	
4.1 We welcome the consideration of placemaking in the masterplan, for example to provide better facilities and reference to "After construction landscaping, re-vegetation and habitat enhancement should be undertaken in line with appropriate guidelines" and for waterfront development in Kirkwall to "Improve experience in terms of visual amenity/ sense of place".	

SEPA – comments on Orkney Harbours Draft Masterplan Phase 1

Comments/views	Response
4.2 We would welcome proposals to connect the harbours to the wider environment. Onshore transport could be considered further, i.e. connecting the proposed expanded harbours to the settlements and beyond. This could include vehicle transport, including sustainable transport options and other connection options such as cycle routes and walking paths for use by local residents and the cruise market.	The masterplan has been updated to reflect the recent Climate Emergency declaration and revised carbon reduction targets for Scotland, along with a more detailed description of measures to support this policy. See Pages 11 – 17. This context includes the potential future provision of sustainable transport options and connectivity with existing and future walk and cycle networks.
4.3 The plan references 52,000 cars travelled on the two Northlink services, delivery of fuel supply and lower carbon fuelling opportunities. Consideration should be given to travel modes in the future. For example installing electric charging points/hydrogen refuelling stations at the harbours.	The masterplan has been updated to consider climate change and decarbonisation. As part of this cognisance is given to the fact that the type of fuel currently used in the shipping industry is going to decarbonise over time; the masterplan proposals must therefore be futureproofed so that they can accommodate different types of fuelling systems in the medium to long term. See Pages 11 – 17.
4.4 Any opportunities to link the harbours to the wider environment through the creation/enhancement of green/blue infrastructure would be welcomed.	The following text has been added to the context regarding climate change: many of the masterplan proposals will have a positive impact on visual amenity, through improvements to layouts, traffic flows and removing conflict between different operational activities. There will be other opportunities to enhance the environment, particularly through the creation of green infrastructure; this might be plants or shrubs positioned to aid vehicular or pedestrian traffic management; or using plants to make particular spaces more attractive.

SEPA – comments on Orkney Harbours Draft Masterplan Phase 1

Comments/views	Response
4.5 We welcome the reference in the SEA to "Undertake Water Framework Directive (WFD) Assessment for all developments". Although this requirement does not appear to be detailed in the plan. We recommend that the plan is cross referenced with the SEA (Table 5-1) and all such assessment and mitigation are detailed in Section 5 Environmental Considerations of the Plan. This could be done by amending the existing Mitigation and enhancement measures section by splitting the information detailed in this into two sections. Firstly required assessments/surveys such as FRA etc which are required pre commencement of works/to inform the proposals. The second section mitigation and enhancement measures to offset impact.	Noted. Please see revised section on Environmental Considerations (Pages 63 – 68). We would wish to engage with SEPA prior to commencement of feasibility, to ensure that all relevant aspects and issues are addressed and developed appropriately. Following the completion of the masterplan an implementation plan as part of the Outline Business Case will be developed. We would seek input from SEPA with regard to identifying actions and timescales in relation to points raised.
4.6 With regard to the River Basin Management Plan and example the Kirkwall coastal water body (ID: 200234), this water body is already classified as "Good". However there are various proposals outlined in the plan including land reclamation that will have an impact of the morphological classification of the relevant waterbody. This should be given consideration at the EIA stage to ensure there is sufficient capacity in the receiving environment to prevent a deterioration. We can provide further waterbody specific advice as the proposals progress to assist.	

HES – comments on Orkney Harbours Draft Masterplan Phase 1

Comment	Response
Part 1. There is potential for some of the proposals to have impacts on the historic environment and we therefore recommend early consultation and engagement to identify potential impacts and relevant mitigation at the earliest stage.	Once the masterplan has been finalised and approved it is envisaged that there will be some prioritisation and identification of timescales for moving proposals forward. Once this has been achieved we would seek engagement with HES, if possible prior to the commencement of feasibility so that we can indeed identify potential impacts and relevant mitigation at the earliest stage.
2.6 Outline requirements and objectives *It might perhaps be more aspirational to consider safeguarding and supporting the coastal and marine environment as a whole rather than just productivity (in reference to the environmental objective).* *We consider that the historic environment can help to support sustainable places and activities and can be reflected in both the socio-economic and environment objectives of the Masterplan. It is widely recognised that the sense of place and strong cultural identity provided by the historic environment plays a crucial part in the sustainability of communities, as well as benefitting the economy and tourism. The outline requirements could more clearly demonstrate the environmental objectives of the Masterplan.*	The masterplan objectives and outline requirements were defined at an early stage in the masterplanning process to guide the appraisal and selection of preferred options in terms of infrastructure proposals. Unfortunately it is not possible to revise these or retrofit them, as the appraisal process has already been undertaken and the preferred options selected. As and when the projects are taken forward we understand that the EIA will address the impact on the historic environment, as well as identify the opportunities associated with the historic environment and the role that it plays.
3 – masterplan proposals *Comment: we consider that some of the proposals may have the potential to have impacts on unknown or undesignated marine historic environment assets and therefore mitigation may be required. We would therefore recommend that early consultation is undertaken on individual proposals to allow for adequate survey and design options to be put in place to mitigate any impacts.*	Noted and agreed. As and when the proposals proceed we would envisaged consultation with HES to further develop the approaches and surveys outlined in the comments. We would envisage early engagement with HES, prior to the commencement of feasibility. An implementation plan will shortly be developed for each of the proposals as part of the Outline Business Case and we would seek to discuss this in detail with HES over the coming weeks to determine what further survey and analyses activities are required prior to and during feasibility and the timescales for these.

HES – comments on Orkney Harbours Draft Masterplan Phase 1

Comment	Response
Kirkwall – the harbour at Kirkwall is category B listed and the improvements to the fish landing area in the basin may therefore require listed building consent; we recommend consultation with the planning department regarding this issue. *We note that dredging is proposed to allow berthing of larger vessels to the additional multi-purpose quay infrastructure. Dredging has the potential to damage or destroy marine historic environment assets such as wrecks and a survey of this area and the areas proposed for reclamation may be required along with further mitigation if assets are identified.* *In addition the proposed changes to the quayside will alter the setting of the B listed harbour and C listed harbour light as well as the conservation area and consultation with the Council conservation advisor should be undertaken. We note that some elements of the harbour fall within the conservation area so any potential demolition of buildings within this area may require conservation area consent.*	Noted and agreed. As and when the proposals proceed we would envisage consultation with HES to further develop the approaches and surveys outlined in the comments. We would envisage early engagement with HES, prior to the commencement of feasibility.
Hatston pier and terminal – as with Kirkwall there is the potential for reclamation works to damage or destroy unknown or undesignated marine historic environment assets. A survey to identify potential assets may be required and further mitigation if assets are identified.	
Scapa Pier – as above, the dredging and reclamation in this area has the potential to damage or destroy any unknown or undesignated marine historic environment assets in the area. Survey of this area may be required and further mitigation if assets are identified.	
Stromness and Copland's Dock – we note that the area identified for the traffic management review and review of infrastructure is located within the conservation area and consultation with the Council conservation advisor is recommended. As above, the reclamation in this area has the potential to damage or destroy any unknown or undesignated marine historic environment assets in the area. Survey of this area may be required and further mitigation if assets are identified.	

HES – comments on Orkney Harbours Draft Masterplan Phase 1

Comment	Response
Scapa Deep Water Quay – the current plan does not appear to indicate that dredging will be required, however the limited area for reclamation may require further survey at project stage as noted above.	Noted and agreed. As and when the proposals proceed we would envisaged consultation with HES to further develop the approaches and surveys outlined in the comments. We would envisage early engagement with HES, prior to the commencement of feasibility.
Lyness – we note that the areas of hardstanding are proposed in the vicinity of category A listed structures, however we are content that the proposals are unlikely to have significant effects on the setting of these assets.	
Section 5 – Environmental considerations *We welcome that an SEA objective for cultural heritage has been included, however as noted in our scoping response we consider that a more positive objective could have been used. We have provided more detailed comments on the SEA in annex 2, however we note that only potential negative effects have been identified by the masterplan*	Noted. At plan level the negative effects have been identified so as to identify suitable mitigation measures. At project level we will consider inclusion of positive objectives and how positive impacts could be achieved.
Section 6 – Management and commercial considerations *We welcome that we have been identified as a key stakeholder in the process going forward and that ongoing engagement with stakeholders is proposed. As noted above we recommend that further consultation on individual proposals is undertaken at an early stage to ensure appropriate mitigation for the historic environment is achieved.*	Noted.
Appendix C – Proposed development policy principles *We note that this Masterplan only covers up to 2040 and that there is a the potential that there may be longer term requirements for more harbour structure around Scapa Flow including around Flotta. We would like to note that there is the potential for a Historic Marine Protected Area (HMPA) to be designated within Scapa Flow and that this should be taken into consideration when identifying future potential proposals.*	Noted.

SNH – comments on the Orkney Harbours Draft Masterplan Phase 1

Comment	Response
We appreciate that the specific details of the various proposals described in the Masterplan will become apparent later on in the process. However, at this stage it is clear that the scale, location and nature of the developments may result in disturbance to important species and habitats in the area and also may have significant landscape implications. Therefore, we recommend early consultation on the individual projects to identify potential issues and mitigation as early as possible.	Noted and agreed. An implementation plan will shortly be developed for each of the proposals as part of the Outline Business Case and we would seek to discuss this in detail with HES over the coming weeks to determine what further survey and analyses activities are required prior to and during feasibility and the timescales for these.
2.5.2 Fit with Key Policies and Plans: The plan has been developed in cognisance of key national, regional and local plans and policies. However, the context provided for the National Marine Plan at Appendix A is at a high level and only a subset of the NMP guiding principles are included in the consideration of fit with the draft Masterplan. It may be useful to take account of all General Policies in making a comparison of fit with the draft masterplan.	A more detailed summary has been provided at Appendix C. In our view it is not beneficial to create an additional table showing how each of the proposals fit with each of the 20 or so planning policy principles, as this does not tell us anything more than what is already presented. Specific areas where there is significant fit or clearly not with such policies will be made clear during the planning and feasibility processes at project level.
2.6 Outline requirements and Objectives: The Environment objective within the draft Masterplan is to 'safeguard and support the long-term productivity of the coastal and marine environment though best practice and strong environmental stewardship'. This objective could be more aspirational, for example through reflecting the principals of enhancement of the health of the marina area and net environmental gain. *The plan could also be bolder in relation to climate change, particularly in light of the climate emergency which is now widely acknowledged. We recommend that the plan considers ways to mitigate for and adapt to climate change, which could include consideration of specific policies / approaches for opportunities for protection of ecosystem services, and ensuring contingency within the plan for adaption to the effects of climate change.*	The masterplan has been updated to reflect the emerging policies on climate change. As part of this there are thematic measures now included which focus on harnessing lower emission transport and fuel options in the future; further amendment has been made with regard to identifying opportunities for environmental enhancement. In terms of ensuring contingency within the plan for adaptation to the effects of climate change, the masterplan is a live document so to speak, so when it is reviewed and updated (which will likely be on a three-year basis) any emerging factors can be incorporated. See amendments on pages 11 – 17.

SNH – comments on the Orkney Harbour Draft Masterplan Phase 1

Comment	Response
2.6 Outline requirements and Objectives: A series of outline requirements to help enable delivery of the plan objectives is included in this section of the plan. However, environmental themes are not very clearly carried through to the list.	The outline requirements were originally defined as part of the masterplanning process to guide the appraisal and selection of preferred options. It is not possible to change these now unfortunately; however, there are new sections regarding climate change including a range of thematic measures that will be applied to proposals as and when they are developed and delivered.
Masterplan Proposals: We appreciate that the specific details of the various proposals described in the Masterplan will become apparent later on in the process. However, at this stage it is clear that the scale, location and nature of the developments may result in disturbance to important species and habitats in the area and also may have significant landscape implications. Although we have highlighted some of these our response to the Environmental Report, detailed in Annex 1, we would recommend early consultation on the individual projects to identify potential issues and appropriate mitigation as early as possible.	Noted. It is envisaged that we will engage with SNH shortly, particularly to develop the implementation plan and requirements for each proposal with respect to environmental assessment and considerations.
Appendix C Proposed Development Policy Principles: A series of proposed development policy principles to safeguard particular geographic areas from other types of development/activities are outlined in Appendix C. The Orkney Islands Regional Marine Planning process should be a useful and transparent mechanism to discuss and develop these polices. Therefore, it would be good for these proposals to remain as draft until the Regional Marine Planning process has concluded.	Noted.

ORKNEY ISLANDS COUNCIL: ORKNEY HARBOUR AUTHORITY

ORKNEY HARBOURS MASTERPLAN PHASE 1

MARCH 2020

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CONTENTS

1. INTRODUCTION

Introduction

Orkney Islands Council (OIC) Harbour Authority appointed Fisher Associates to develop a Harbours Masterplan for Orkney Harbours.

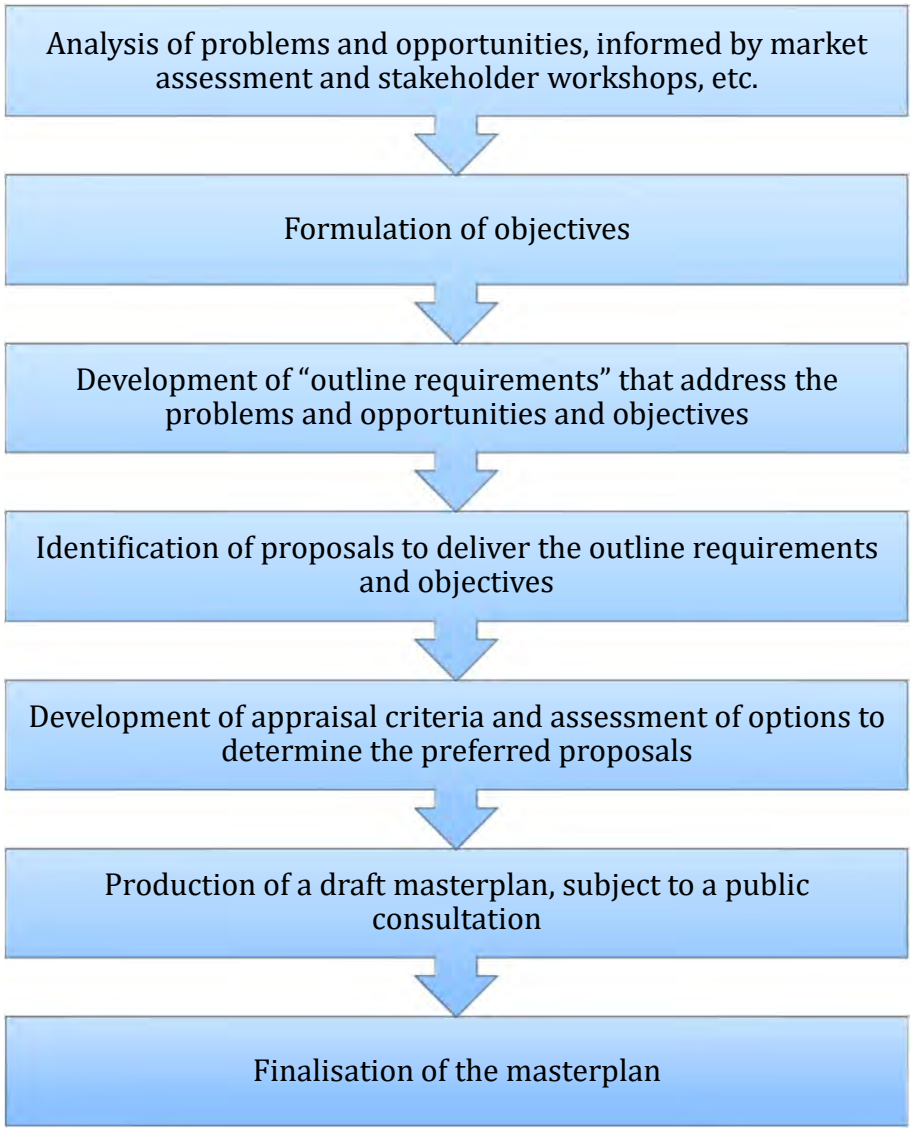
Presented here is the Masterplan Phase 1. There will be a Phase 2, which will cover proposals relating to other piers and harbours on Orkney Mainland and Isles, some of which will be dependent on the outcome of the ongoing Orkney Inter Isles Transport Study (OIITS), and its associated Outline Business Case (OBC). The OIITS will determine the specification for new ferries, which will in turn demand certain requirements from the harbour infrastructure, to be considered when known.

The fundamental purpose of the masterplan is to provide a **structured framework for the physical development and transformation of Orkney's harbours over a 20 year period**. It will enable the Harbour Authority to make informed decisions to meet changing markets, grow new markets, and safeguard Orkney's harbours as essential economic drivers and community assets for future generations. Further diversification and growth in harbour activities will not only safeguard existing jobs at sea and ashore, but create many more and in doing so strengthen the viability and sustainability of the local community for the longer term, making Orkney an attractive place to live, work and do business.

The development of the masterplan has incorporated the following elements:

- **Tailored stakeholder engagement** to explore and validate issues, constraints and potential options.
- Development of a **multi-criteria assessment** framework to consider proposals at a high level.
- **Alignment with Treasury's Greenbook** guidance on the development of Strategic Outline Cases (SOCs) – the content of this masterplan aligns closely with this.

Masterplanning process



Structure of masterplan

Introduction
- Overview of the masterplan process and structure

Strategic Case
- Strategic context (Orkney Harbours / climate change / planning)
- Issues, constraints and opportunities
- Masterplan priorities
- Key drivers and business needs
- Fit with policies and plans
- Outline requirements and masterplan objectives

Masterplan Proposals
- Description of the masterplan proposals and high level costs

Economic Case
- Economic analysis and impacts

Environmental Considerations
- Key findings from the companion Strategic Environmental Assessment (SEA) Report

Management and Commercial Considerations
- Timing and phasing of proposals
- Project dependencies
- Integration with policy and planning framework
- Stakeholder relationships
- Funding and implementation

Appendices
- Appendix A – harbour areas, port premises and permitted development (Phase 1)
- Appendix B – proposed Development Policy Principles
- Appendix C – policy context
- Appendix D – summary of economic benefits
- Appendix E – environmental mitigation and enhancement

Acknowledgements

This masterplan was prepared during 2018 and 2019.

The Harbour Authority and various OIC departments have been central to its preparation, making regular reviews and participating in progress discussions.

We gratefully acknowledge the support of OIC and all stakeholders who have contributed to this work.

FISHER

2. STRATEGIC CASE

Orkney Harbours – an overview

Orkney Islands Council (OIC) is the Statutory Harbour Authority responsible for the safe and efficient operation of the 29 piers and harbours located throughout the Orkney Islands.

The range of ports and harbours is diverse, in terms of structure, size and nature of operational activity.

The major port facilities of Hatston, Kirkwall and Stromness accommodate a range of operational activity across many sectors – aquaculture, cargo, cruise, ferries, fishing, marine leisure and renewables.

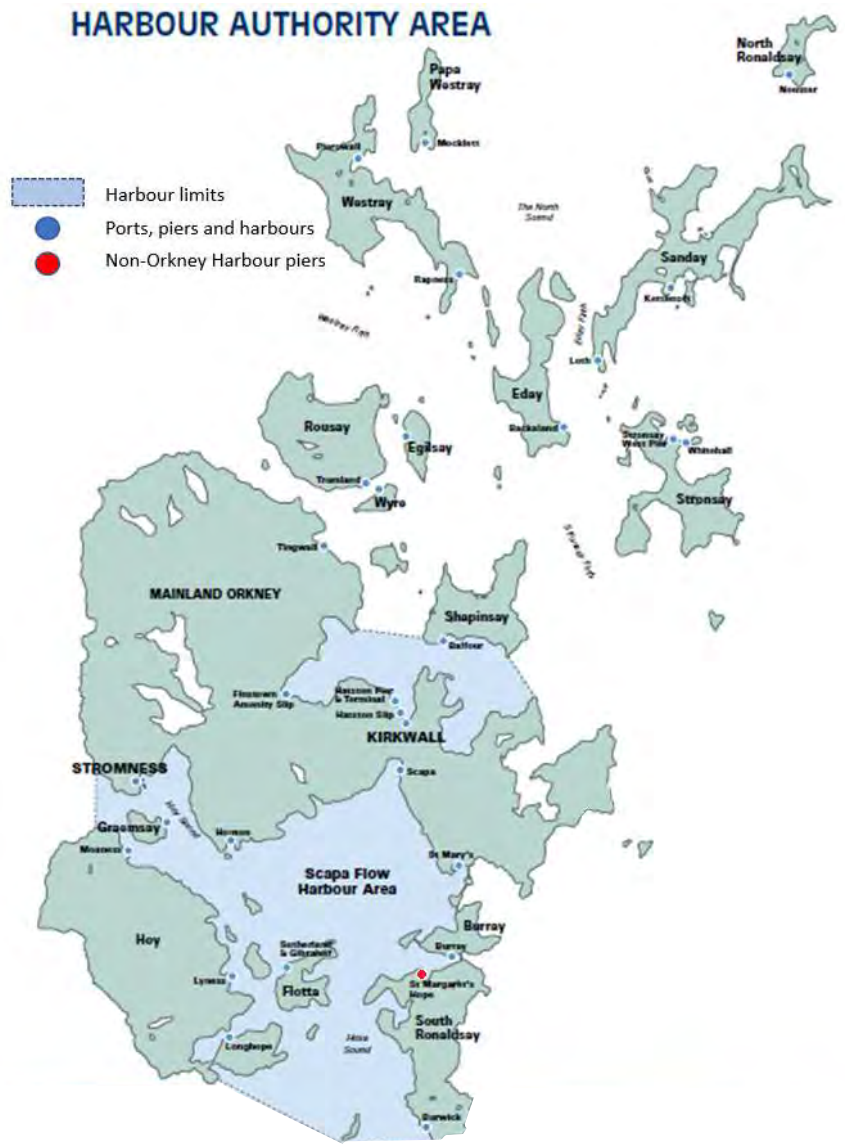
The strategically located Oil Port of Scapa Flow with its unique deep water sheltered anchorage hosts multiple ship to ship (STS) transfer operations of crude oil, liquefied natural gas (LNG) and liquefied petroleum gas (LPG) as well as serving the Flotta Oil Terminal and its connections to oil fields including Claymore, Golden Eagle and Piper. It now also accommodates semi-submersible rigs and accommodation platforms at anchor for maintenance and stand-down.

There are many smaller piers and harbours throughout the North and South Isles as well as across the Orkney Mainland: many of these accommodate life line island ferry services, aquaculture, fishing and marine leisure activities. Many of these piers are critical in ensuring the future viability of island or remote communities.

Recent enhancements to infrastructure include an extension to the Hatston Pier, making it Scotland's longest deep-water commercial berth with 385m of quayside; enhancements to Lyness on Hoy and the construction of a new pier in Stromness, Copland's Dock.

Orkney Harbours has a diverse business base and plays a fundamental role in supporting many key sectors in the Orkney economy and across island communities.

Map of harbours and pier infrastructure in Orkney



Source: Orkney Harbour Authority.

Orkney Harbours – Scapa Oil Port

Scapa Flow has an area of just over 125 square miles and one billion cubic metres of sea water making it the second largest natural harbour in the world.

The Flotta Terminal operation is at the centre of the Scapa Oil Port and has been a key source of revenue for the Harbour Authority. Flotta was identified as the landfall site in 1974 for bringing crude oil ashore by pipeline from nearby oil fields. The Terminal is operated by Repsol Sinopec Resources UK Limited.

The deep sheltered water makes Scapa Flow the perfect location for STS operations at anchor with depths of around 35 metres, as well as providing a suitable location for the positioning of semi-submersible rigs and accommodation platforms during downtimes or for undertaking maintenance activities.

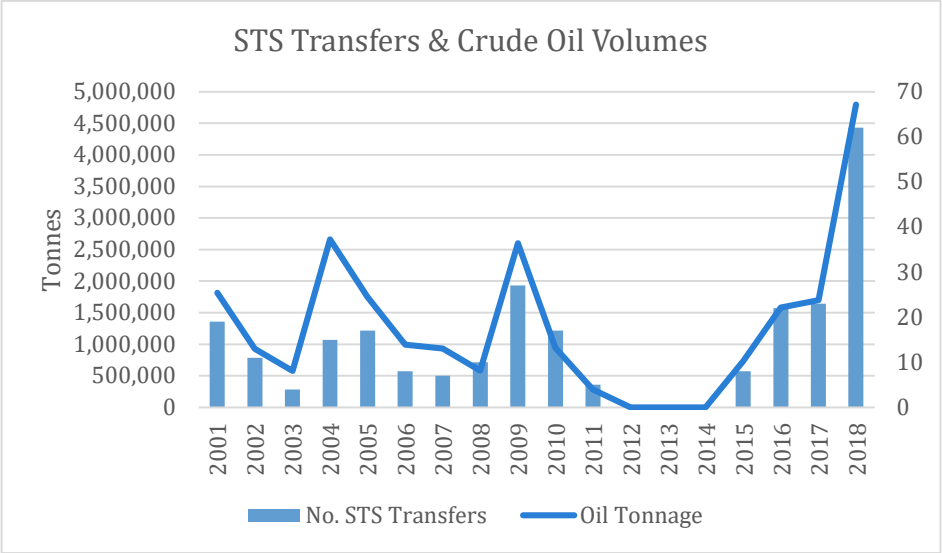
Scapa Flow is currently the pre-eminent location for STS operations in the UK; this plus the handling of offshore platforms and the Flotta Oil Terminal operation requires a broad range of support, logistics, pilotage and towage activity.

STS transfers

The volume of STS operations and the volume of crude oil transferred has fluctuated over the last two decades; there was continuous trade between 2001 and 2011, with noticeable peaks in 2004 and 2009 when 2.6 million tonnes of crude oil was transferred.

Following a lack of trade between 2012 and 2014 there has been constant growth over the last few years: 2018 has seen a substantial number of transfers recorded since operations began involving the transfer of 4.8 million tonnes of oil.

Whilst future volumes and cargo types (crude, LNG, LPG) are difficult to predict there is clearly an increasing trend, suggesting that Scapa Flow will continue to be the preferred location in the UK for this kind of operation.



Source: Orkney Harbour Authority.

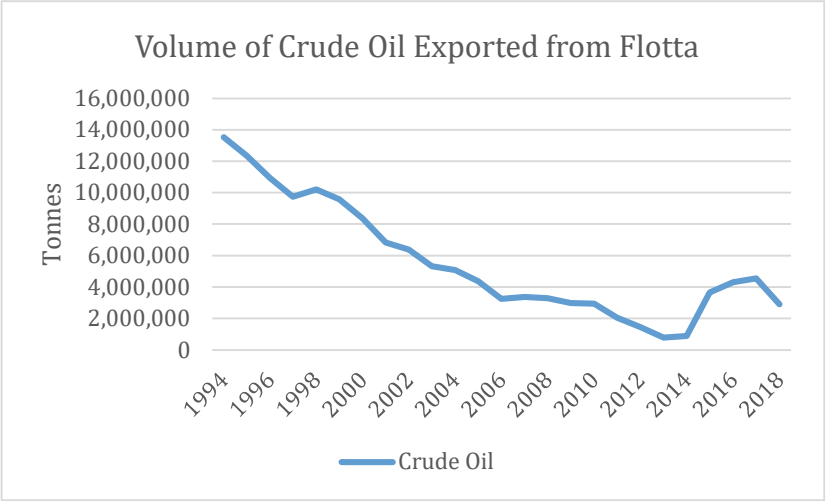
Flotta Terminal operations

Looking at historical trends, there has been a long-standing decline in the volume of crude oil exported from the Flotta Terminal up until 2013.

From then onwards there has been a marked increase in volumes, with a significant rise in 2015 followed by constant growth up until 2017, when 4.6m tonnes of crude oil was exported – figures for 2018 suggest a slight decline, with only 3.1m tonnes exported.

Despite the recent positive trend, growth is not expected over the coming years, as operations at the Flotta Terminal are envisaged to wind down and cease at some point during the next 20 years.

Diversification and extending the longevity of Flotta are therefore important aspirations.



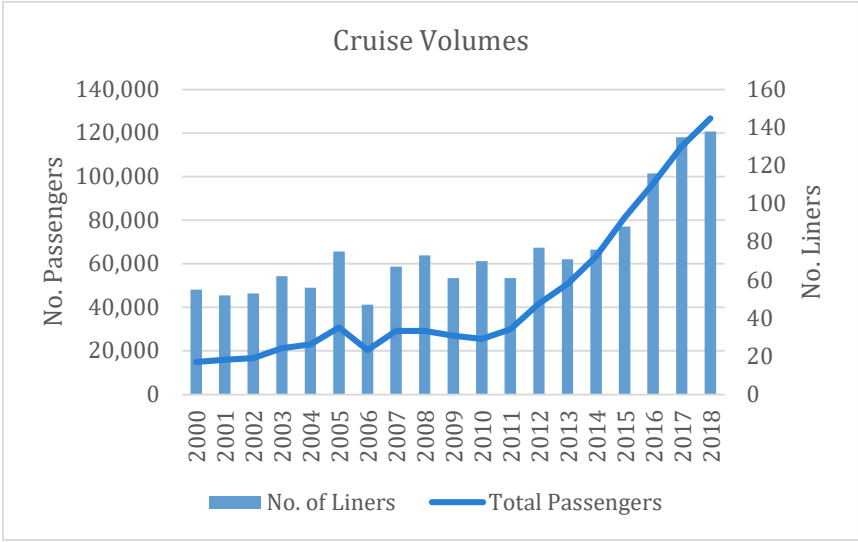
Source: Orkney Harbour Authority.

Cruise

Orkney's cruise market has grown considerably since 2010. This reflects strength of visitor product, marketing to cruise lines, the quality of marine and shoreside service and the extension of the Hatston berth in 2012.

There were 138 calls in 2018 compared to 70 calls in 2010, and just under 127,000 passengers – more than four times those in 2010. Most of the growth has been since 2014, with vessel calls rising from 76 to 138.

At the time of writing there were 175 vessel calls booked for 2019 which could bring up to 160,000 passengers.



Source: Orkney Harbour Authority.

Other harbour activities

- Orkney relies on lifeline passenger and freight ferry services with the Scottish mainland. In 2018 34,973 passengers and 5,060 cars travelled on the Aberdeen – Kirkwall Northlink ferry service, compared with 153,312 passengers and 43,222 cars on the Stromness – Scrabster route. A smaller number of passengers (18,770) and vehicles (3,136) travelled between Kirkwall and Lerwick also.
- Total ferry carryings to/from Orkney will be greater than this as they will include the Pentland Ferries vehicle service and the John O' Groats passenger service. The 2017 Orkney Visitor Survey shows an equal number of visitors use the Northlink and Pentland Ferries service across the Firth. Aberdeen is currently the dominant route for freight due largely to its connectivity south and access to the oil and gas supply chain and livestock markets.
- There is a fleet of inter-isle ferries connecting isles to the north and south with the Orkney Mainland. Around 338,900 passengers travelled on these services during 2018.
- Orkney is a hub for inshore fisheries. Commercial fishing for prawn, crab, lobster and scallop and the development of large scale salmon farms contributes a significant commercial value to the local economy in Orkney.
- There are three marinas in Orkney (Stromness, Kirkwall and Westray) which are operated by Orkney Marinas Ltd (a public interest charitable company). Orkney is an attractive destination for visiting boats, with 653 coming in 2018 and numbers increasing over the last few years.
- Orkney has been at the forefront of marine renewable energy research and development for the last decade driven by the European Marine Energy Centre (EMEC). There are many harbour facilities around Orkney which support wave and tidal energy development, particularly the handling and servicing of renewable energy devices and, most recently, the production and usage of hydrogen.
- Petroleum products for the county's transport and heating requirements are piped ashore from vessels berthed at Scapa Pier. Petrol, kerosene and diesel are stored in tanks built into the hillside to the east of the pier.

Renewable device handling at Hatston Pier

How Orkney Harbours are financed

The piers and harbours around Orkney (apart from Flotta oil jetty, single point moorings and St Margaret's Hope) are operated by OIC, the Statutory Harbour Authority. Marine Services is the entity within OIC that manages port operations – operating almost as a stand-alone business, in that Orkney Harbours competes with other commercial ports and harbours around Scotland across a range of key sectors; enhancements and improvements to harbour infrastructure are solely funded from revenue accrued from harbour dues. To this end Orkney Harbours has its own financial accounts and there are two:

Scapa Flow Oil Port Account: any surpluses (e.g. profit) arising from harbour dues and other fees associated with servicing Flotta Oil Terminal and STS are transferred to the Council's Strategic Reserve Fund – around £4m per annum over the last three years.

Miscellaneous Piers and Harbours Account: income from harbour dues and other fees associated with any other harbour business is spent on repairs, maintenance and improvements across the 29 piers and harbours around Orkney – this has been in the region of £6m per annum over the last three years. Any surpluses arising are transferred to a Miscellaneous Piers and Harbours Reserve Fund.

Compared with other ports in Scotland, Orkney has invested very little of its own surpluses in enhancing its core infrastructure over the last 15 years, in the region of just £12 million – less than the Harbour Authority's annual turnover.

Balance between commercial and community needs

Many stakeholders comment that there has for a long time been insufficient investment in the smaller piers around Orkney. Many of these piers, whilst important social assets for the communities that they serve, generate little or no revenue and have perhaps in the past been de-prioritised or excluded because of this; there is generally limited funding available to execute the optimal enhancements at each of Orkney's 29 piers and harbours.

At the same time the Flotta Oil Terminal, services for which provide a substantial part of the Harbour Authority's income, is nearing the end of its current life – and this may have implications for the future financial viability of the Harbour Authority and Council.

Thus the Harbour Authority must look to the future and invest in the facilities and infrastructure that will both safeguard and enable growth in existing markets and enable diversification into new markets and revenue streams – achieving this will create the financial capability to invest in and improve all of Orkney Island Council's harbours and piers.

Climate emergency and decarbonisation

In April 2019 the First Minister of Scotland declared a climate emergency. In May 2019 the Scottish Government stated that it is committed to achieving net-zero emissions by 2045, based on a report by the UK Committee on Climate Change. The Climate Change (Scotland) Bill has been amended to reflect this as well as raising the target levels for 2030 and 2040 to 70% and 90% emissions reductions respectively. In doing so Scotland will have some of the world's most ambitious targets in law and climate change will be at the core of future Programmes for Government and Spending Reviews.

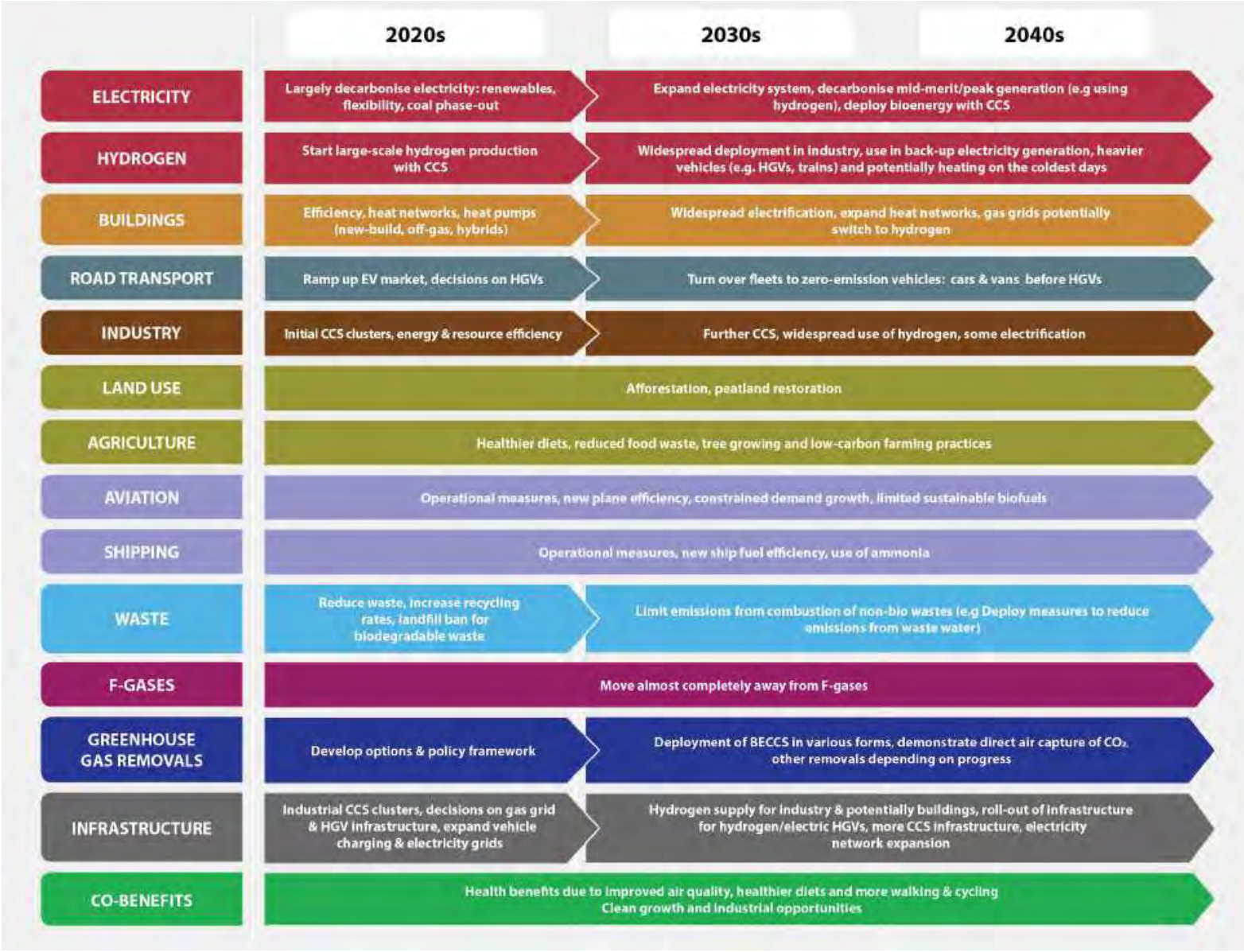
OIC has also declared a climate emergency with a declaration made at a Special General Meeting in May 2019. Thus Orkney is committed to reducing its carbon footprint, starting from a strong baseline of pioneering renewable energy development.

The masterplan proposals were already at a well-developed stage when the climate emergency was announced by Government and OIC. Nonetheless it is important to be cognisant of what is a very ambitious plan for decarbonisation in Scotland and to align masterplan proposals as far as possible with the emerging policy and legislation.

The diagram overleaf indicates the required action to achieve net-zero emissions by 2050 as proposed by the Committee on Climate Change in May 2019.

Orkney Harbour Authority is committed to making every effort towards realising net-zero emissions – hydrogen and locally produced electricity are already being used to power ferries in Orkney.

Proposed transition to net-zero emissions



Source: Committee on Climate Change, NetZero The UK's Contribution to stopping global warming (Figure 6.1).

Infrastructure and decarbonisation

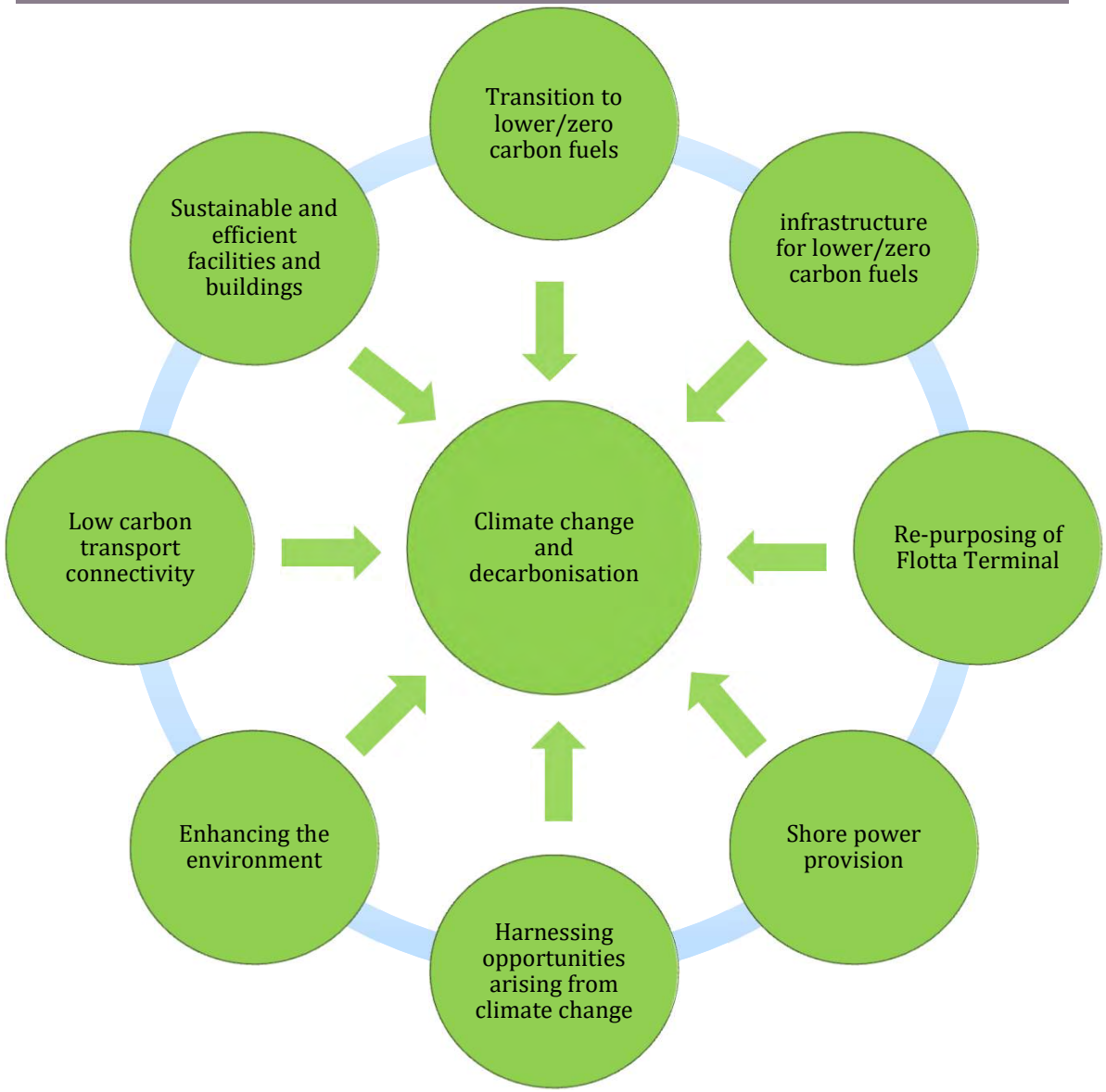
There are now many organisations and individuals who are of the view that there should be no investment to support activities in the oil and gas sector. We know and acknowledge that activity in this sector will diminish over time; however, at this point in time and for the foreseeable future, the efficient transport and delivery of oil and gas products continues to be essential to support the industrial sector and society in general. There is considerable opportunity for port operations, jobs and economic activity that will benefit businesses and residents living in Orkney. Indeed, Orkney's wealth as demonstrated by the Strategic Reserve Fund is predicated on the successful Scapa Oil Port business over the last 40 years.

Orkney Harbours must remain competitive with other ports if it is to enhance its revenue potential and part of this means targeting and attracting some business from the oil and gas sector, particularly given Orkney's proximity to the West of Shetland oil reserves.

Orkney Harbour Authority is nonetheless committed to supporting the transition from fossil fuels to lower carbon and eventually carbon-free alternatives – this is a strategic priority.

The aspects highlighted opposite will be embedded in the further development and refinement of all proposals.

Measures focussed on decarbonisation



Transition to less polluting fuels in shipping

Maritime transport emits around 940 million tonnes of CO_2 annually and is responsible for about 2.5% of global greenhouse gas emissions globally (International Maritime Organization (IMO) 3rd Greenhouse Gas Study). The IMO, through MARPOL (International Convention for the Prevention of Pollution from ships), is responsible for enforcing emission standards to limit the main air pollutants contained in ship exhaust gas, particularly sulphur oxides (SO_x) and nitrous oxides (NO_x).

MARPOL enabled the introduction of emission control areas (ECAs) to reduce emissions in designated sea areas – Orkney is located in one of these: the North Sea. Within the ECAs the limit for SO_x was reduced to 0.10% from January 2015. Outside ECAs the limit will be reduced from 3.5% to 0.5% effective from 1st January 2020.

A number of 'special areas' have been identified where a higher level of protection is defined. The North Sea is one and more stringent limits for NO_x will enter into force on 1st January 2021 in accordance with the IMOs Tier III control standards.

The UK Government has just published its 'Clean Maritime Plan', an action plan to take UK maritime sector towards the vision for zero emission shipping set out in Maritime 2050, its strategic vision for the future of the maritime sector in the UK.

By 2035:

- The UK has built a number of clean maritime clusters and low or zero emission marine fuel bunkering options are readily available across the UK.
- The UK is home to a world-leading zero emissions maritime sector.

Futureproofing infrastructure for low/zero carbon fuels

There is already a move towards LNG within the shipping industry, and there is now significant research and development into zero-emission technologies and fuels.

Orkney is at the forefront of this innovation, with the first hydrogen-powered ferry currently under development.

- There is an opportunity for Orkney to be a leading player in the development of clean maritime clusters and to inform the development of the Clean Maritime Plan.
- Whilst marine gas oil bunkering is incorporated into the masterplan proposals all infrastructures will be futureproofed so that alternative fuelling systems can be accommodated in the future, whether this is LNG, hydrogen, ammonia, methanol or biofuel.
- A pricing policy may be developed in the future to incentivise the use of lower carbon or zero carbon fuels and technologies.
- It is envisaged that OIC will develop an internal decarbonisation strategy which would include harbour operations.

Re-purposing of Flotta Terminal

As previously stated, diversification and extending the longevity of the Flotta Terminal are important aspirations. Whilst the re-purposing of Flotta Terminal is not a masterplan proposal (on account of harbour infrastructure on Flotta not being within the ownership of Orkney Islands Council), it is of significant importance.

The COMAH site at the Flotta Oil Terminal could be repurposed towards lower carbon energy use so as to avoid the closure, decay and loss of employment of a world class facility, which would happen if the facility was to remain an oil terminal. This collective repurposing initiative is a significant and innovative alternative to decommissioning and a very different way of managing the transition from oil to a lower carbon future.

Shore power

Shore-side power comprises powering a vessel's auxiliary systems at the berth and can significantly reduce emissions.

The provision of shore-side power to the MV Hamnavoe (ferry vessel) in Stromness is planned to be available from early 2020, with the power coming through Orkney's renewable energy resources. This power supply system, known as 'cold ironing', will cut the current overnight carbon footprint from the vessel's diesel generators and engines, lowering fuel consumption by at least 500 tonnes a year and resulting in a significant reduction in carbon dioxide (CO2). It will also make a contribution towards further reducing nitrogen oxides (NOx), sulphur oxides (SOx) and noise. This will also reduce operating costs for the ferry operator.

Shore-side power is already provided to vessels operated by Marine Services (e.g. tugs, pilot boats, inter-isle ferries). Whilst not available at all port facilities, the vision is to identify where this could be provided and to offer the facility to more vessels in the future. Any new infrastructure would be futureproofed to accommodate the provision of shore-power where possible.

Harnessing opportunities from climate change

Scapa Flow is already identified as a strategic asset for the UK, being Europe's largest natural harbour with very deep water anchorages. This location will become an increasingly valuable strategic asset as shipping traffic volumes between the Far East/Russia and Europe and North America through the arctic waters increase due to the impact of global warming on polar sea ice coverage.

This is aligned with Scotland's focus on developing stronger links with communities in the Arctic region; an Arctic Strategy is being prepared which considers climate change, the geopolitical relationship between Scotland and the region, academic and research collaboration, economic opportunities and community links.

The UK Government reported in research (Future of the Sea: Implications from Opening Arctic Sea Routes, 2017) that there are specific opportunities for the UK as and when the arctic shipping routes open up: namely cruise tourism, trans-shipment port infrastructure and services and the supply of specialist marine services.

For Orkney and in the marine space there could be significant opportunity to develop new trade links and provide infrastructure and services to capitalise on increasing shipping traffic in the region. This further strengthens the current and future role of Scapa Flow as a strategic asset for Scotland and the UK.

Enhancing the environment

Many of the masterplan proposals have potential to have a positive impact on the local environment, townscape and visual amenity, through sensitive design, improvements to layouts, traffic flows and removing conflict between different operational activities.

There will be other opportunities to enhance the environment, particularly through the creation of green infrastructure; this might include landscaped features positioned to aid vehicular or pedestrian traffic management; or planting to make particular spaces more attractive.

Following construction there will be opportunities for landscaping, re-vegetation and habitat enhancement which would be undertaken in line with appropriate guidance to maximise benefit for biodiversity.

Futureproofing infrastructure, buildings and facilities

Any new infrastructures, buildings or facilities will be designed to incorporate sustainable and efficient systems, utilising renewable energy where possible.

This may tie in with outcomes from the ReFLEX project which concerns the storage of electricity when output of renewable energy systems are highest and utilising this efficiently.

SEPA report that the expected sea level rise for the Orkney Islands is 0.93m by 2100 based on the latest UK climate change predictions reported in 2018. SEPA recommend that this allowance is taken into consideration to ensure that any new developments are sustainable – this is common practice when developing new marine infrastructures.

With such a rise in sea level predicted there could be significant threat to existing settlements around Orkney and this in turn could impact on existing marine services and infrastructures. It is not possible to say at this time what measures could be implemented; future iterations of the masterplan will take cognisance of potential eventualities and give consideration to potential mitigation measures.

Consideration will be given to best practice examples elsewhere, drawing upon the work being undertaken by organisations such as the United Kingdom Marine Climate Change Impacts Partnership (MCCIP) which brings together scientists, government, its agencies and NGOs to provide co-ordinated advice on climate change impacts and adaptation around the coast and seas.

Low carbon transport connectivity

Transport connections to and from quayside infrastructure and accessibility are important factors.

The Stromness Multi-Modal Low Carbon Transport and Active Travel Hub comprises key components that will be considered at feasibility stage for other infrastructure proposals, particularly where people need to be transported.

- Installation of electric vehicle charging points at Kirkwall and Hatston Piers for ferry users and other Electric Vehicle (EV) owners.
- Provision of electric bicycles at ferry and cruise terminals.
- Pool of electric vehicles available for residents and visitors at ferry terminals.
- Linking harbour facilities to existing and future walking and cycling networks to encourage active travel.

Planning status

It is proposed that the final Orkney Harbours Masterplan (Phase 1) be adopted as Planning Policy Advice providing status for the masterplan, including the masterplan proposals and Proposed Development Policy Principles (see opposite) in planning decisions.

The masterplan proposals are indicative and will be subject to change and iteration as they progress through business case appraisal, feasibility, design and further environment assessment. The aspirations of the masterplan will be taken forward in accordance with adopted planning policy with due regard to known constraints.

As an adopted Council strategy and Planning Policy Advice, the masterplan will inform the future development of policies and plans, particularly the Orkney Local Development Plan, the Orkney Aquaculture Supplementary Guidance and the Orkney Islands Regional Marine Plan – all of these will also be subject to formal public consultation.

Appendix A provides legal context to the definition of harbour areas, port premises and permitted development, with an overview of land owned and operated by the Orkney Harbour Authority.

Proposed Development Planning Policy Principles

As part of the masterplanning process a number of policy principles to safeguard harbour operations in Scapa Flow have been developed. The Proposed Development Policy Principles are particularly relevant to planning authority responsibilities for consenting aquaculture and guiding aquaculture development proposals.

It is paramount, both from a Harbour Authority point of view and from a wider community perspective that existing and future harbour operations in Scapa Flow are safeguarded as far as possible in terms of safe navigation, manoeuvring, anchorages and provision of necessary harbour infrastructure.

Scapa Flow is an important EU location for STS operations for the transfer of crude fuel oils and LNG. At present there are 15 designated anchor berths in Scapa Flow including four STS berths. There has been significant growth in the volume of STS coupled with new operations involving the supply and maintenance of oil platforms at anchor.

Looking to the future there is significant potential for growth, encapsulated in the masterplan proposals for Scapa Flow.

Whilst this masterplan only covers the period up to 2040 there may be well be longer term requirements for more harbour infrastructure around Scapa Flow. At the same time, Flotta may offer a unique industrial opportunity in the longer term, with its current facilities transforming to meet future market needs.

It should be noted that these Policy Principles are not intended to affect existing operations, such as aquaculture sites already consented in Scapa Flow; they will however apply to any new developments or extensions to existing sites.

Three Development Policy Principles are presented in Appendix B.

Issues and constraints

Actual and perceived issues and constraints underpin the development of outline requirements and masterplan proposals. Issues and constraints have been identified through the following means:

- Consultant review and analysis of data relating to current harbour operations and activities.
- Internal discussions with the Harbour Authority.
- Workshops and discussions with harbour users and other stakeholders.

Some harbours are struggling to efficiently accommodate multiple users and activities; such conflicts impede efficiency and economic activity

- At Hatston there can at times be insufficient quay length and quayside space to efficiently accommodate operational activity. This is particularly the case when cruise liners are alongside during the summer months – whilst cruise is a key component of Orkney Harbour's business base it is also a barrier to other sectoral activity and growth.
- At Kirkwall there are many different types of vessel competing for berthing/landing space, plus there is limited space on the quayside for operational activity and transportation.
- The marina at Kirkwall cannot meet demand for resident berths or larger visiting yachts; there is also some demand from commercial boat owners for pontoon berths.
- Efficient servicing of ships and platforms at anchor is constrained by lack of berthing space, laydown area and water depth at Scapa Pier. This also renders the pier unsuitable for aquaculture support.

There is a lack of appropriate infrastructure and facilities to accommodate existing and future operational activity

- According to recent analysis there are opportunities for Orkney in oil and gas which are only achievable with the right infrastructure in place – e.g. very deep water to attract rigs and platforms alongside.
- Orkney cannot become a successful oil and gas supply base without adequate harbour infrastructure in terms of water depth, available berthing space all year round, lay down/storage and other essential services and supplies.
- There are other growth sectors which will require support facilities and harbour infrastructure in the medium to long term – particularly fisheries, aquaculture and renewables. There may also be a potential opportunity with regard to the development of boat repair, lift out and maintenance facilities in the future.

Ability of harbour infrastructure to ensure future resilience of Orkney's fuel supply

- It is possible that the next generation of tankers which deliver Orkney's fuel supply will have a Length Overall (LOA) that cannot be accommodated at Scapa Pier. The only fuel tanks/offload facilities in Orkney are located at/in close proximity to Scapa Pier and are not likely to be at the end of their usable life for a considerable time.

Issues and constraints

The nature of some infrastructures is such that they are inflexible in what kind of activity or vessels they can accommodate

- Smaller boats struggle to utilise some of the main piers such as Copland's Dock and Kirkwall Pier – this is because the quayside is either high or there are insufficient bollards or fenders that are suitable for small boats.

Layout, buildings and traffic management in operational harbours areas can be inefficient, which raises safety issues

- At Kirkwall the condition and use of all buildings requires review and assessment – some may be in the wrong location; others are not fully or efficiently utilised. The waiting room for the inter-isle ferry service, for example, is too far from the linkspan.
- Traffic management and marshalling is constrained at Kirkwall due to lack of space.
- There is uncontrolled parking at many piers including Stromness and Kirkwall.
- There are many areas where there are conflicts between pedestrian and vehicle movements/operations – at Hatston and Kirkwall.
- Overall there is poor visual amenity, poor accessibility and poor information for visitors travelling on ferries at Kirkwall.

Opportunities

A market assessment was undertaken, which considered the opportunities in existing and potential markets. This was based on a review of relevant sectors in terms of:

- Current situation.
- Market drivers.
- Opportunities.

A summary of findings is presented overleaf, followed by an indication of masterplan priorities.

With regard to opportunities in the oil and gas sector, EY (formally Ernst & Young) undertook a separate market assessment – these findings are also incorporated overleaf.

Opportunities (continued)

Market	Key findings and opportunities
Oil and gas – supply base	• Orkney is ideally located to service oil and gas vessels supporting activities West of Shetland in particular. • **Orkney cannot attract this market at present as does not have sufficient infrastructure, guaranteed berth availability and services.**
Oil and gas STS/ crude transport	• Scapa Flow is already a preferred location for STS. **Improvements to Scapa Pier will improve the service offering and attractiveness of this location**.
Oil and gas – rigs at anchor	• Scapa Flow is already an ideal location for setting drilling and accommodation rigs at anchor during temporary downtimes in particular. **Improvements to Scapa Pier will make this activity more efficient**.
Oil and gas – rigs alongside	• Rig operators are looking for alternative sites to carry out large scale maintenance and modification programmes. • **Opportunity for Orkney to target this market through creating a new deep water facility in Scapa Flow.**
Oil and gas – decommissioning	• EY concluded that other ports are better placed for large-scale decommissioning work in the Central and Northern North Sea – and will generally be in closer proximity. • Decommissioning of West of Shetland installations will not come on stream in the short term, rather post 2045: thus **the main opportunity for Orkney will be longer term and related to West of Shetland assets.**
LNG storage and bunkering	• Orkney has the potential to act as a LNG bunkering hub or storage facility, which could be recognised as a National Strategic Asset. • **There are proposals underway to build a blueprint for such infrastructure.**
Renewables	• Renewables industry in Orkney continues to develop, particularly in the testing of new technologies in **wave and tidal energies**. Whilst there are some barriers to growth in this particular area (e.g. grid connection), there is potential for growth which will then rely on the adequacy of **harbour infrastructure for deployment, testing and maintenance of devices**. • There will be opportunities for Orkney to harness activity from the construction and operation of **offshore wind farms** as and when they come on stream. There are several identified sites in close proximity to Orkney, which will be leased in 2019, with a projected construction date of 2027. There will be specific requirements relating to harbour infrastructure, particularly in terms of **sufficient water depth and laydown area**. • There is also an opportunity to support renewable energy technological developments through **identifying suitable locations for specific activities (e.g. production/storage of hydrogen, LNG, synthetic fuels, etc.).**

Opportunities (continued)

Market	Key findings
Cruise	• Underlying demand is increasing across all vessel sizes – the challenge will be accommodating this growing demand through enhancing port infrastructure and developing the wider visitor experience whilst lessening the potential negative impacts locally. • **More opportunity to come alongside at Kirkwall will be attractive to cruise lines – additional infrastructure will reduce conflict between cruise and other operations and lower carbon fuelling opportunities could become an opportunity.**
Ferries	• **Significant uncertainty regarding external and internal ferry services in terms of vessels and service configuration**. • Finalisation of the next Northern Isles ferry services contract (for ferry services between Scotland and mainland Orkney) could result in different infrastructure requirements (e.g. different timetables, service provision, etc.). At the time of writing this contract was due to be awarded in early 2020. • Should the Road Equivalent Tariff (RET) be implemented there could be a significant impact in terms of traffic carried. • Work is ongoing to determine how the future inter-isle ferry fleet will look in terms of type of vessel, number of vessels and configuration of services. • **There may be impacts on harbour infrastructure requirements at multiple locations.**
Aquaculture	• The industry is well developed in Orkney and plays a key role in the economy. • Strong growth is expected in salmon farming with new sites currently being developed. • In the medium to longer term there may be a requirement for **new processing/harvesting facilities**. • At an operational level companies report **issues with significant lack of berth space and provision of facilities.**
Fisheries	• Orkney has a strong and diverse inshore fisheries and seafood processing sector. • Opportunity to improve efficiency of these sectors through **provision of better facilities for fishing and processing**. • The impact of the UK leaving the EU is unclear, but it could be beneficial with the **potential for local control over stocks.**
Marine leisure	• **Demand for resident berths and for larger visiting yachts** in particular – at key locations such as Kirkwall/Stromness. • There is also demand from commercial operators (e.g. dive boats, other tour boats and creel boats) for pontoon berths. • Number of marine tours around Orkney is growing; at present there is no dedicated berth for such tours: **better pier facilities would enhance the attractiveness of this tourism product.**
Boat repair/ maintenance facility	• There is potentially an opportunity to **develop a boatyard repair, lift out and maintenance facility in Orkney** – this view came across strongly during stakeholder discussions. Such a facility could cater for marine leisure craft, fishing, aquaculture boats and other work boats operating around Orkney, potentially even small ferries and oil supply boats in the future.

Priorities for the masterplan

Short (0 – 5 years)	Medium (5 – 10 years)	Long (10+ years)
• **Oil and gas**: build infrastructure so that Orkney becomes a thriving and attractive oil and gas supply base for West of Shetland assets.	• **Internal ferries:** create dedicated lay-by area in Kirkwall and reconfigure marshalling area and buildings.	• **Renewables**: ensure appropriate infrastructure is there to handle and maintain renewable energy devices in the future (tidal/wave).
• **Oil and gas**: optimise efficient operation of anchorages and STS operations through enhancing Scapa Pier.	• **Fisheries:** enhance harbour infrastructure to support fisheries – e.g. expansion of Tingwall or new dedicated fishing port (to be investigated in Phase 2).	• **Oil and gas**: potential decommissioning associated with West of Shetland assets.
• **Fuel supply**: futureproof Orkney's fuel supply delivery for the long-term by enhancing Scapa Pier.	• **Boat repair and maintenance facility**: earmark area for construction of shiplift and undercover facility.	
• **Transition to zero-carbon society**: future proof harbour infrastructure design as transition progresses.	• **Transition to zero-carbon society**: Scapa Deep Water Quay is a suitable location for LNG storage/hub facility.	
• **Aquaculture**: earmark shoreside area for development of new facilities to support this growth sector (e.g. processing/harvesting plant).	• **Cruise**: more smaller cruise liners will come alongside at Kirkwall Pier and at anchor in Stromness, reducing conflict between cruise/other activities.	
• **Fisheries**: improve and increase facilities for fishing boats in Orkney.	• **Marine leisure:** reconfiguration and expansion of Kirkwall and Stromness marinas.	
• **External ferries and freight:** improve freight handling and logistics.	• **Oil and gas**: create very deep water quayside to handle structures and large vessels alongside.	
• **Marine leisure**: create dedicated marine tourism berth at Scapa Pier.	• **Offshore wind**: create harbour infrastructure with sufficient depth of water and laydown area to support construction and operations and maintenance (O&M).	

Key drivers and business needs

Based on the issues and constraints and market assessment there are several factors which make up the case for change:

Key driver 1: if and when operational activity at the Flotta Oil Terminal ceases, there will be a significant drop in harbour income

- One key driver for change is **financial** and is centred around the uncertainty over future income generated through Orkney Harbours, particularly if and when operational activity at the Flotta Oil Terminal ceases.
- If there is no investment in infrastructure/services in the short term, it will be difficult not only to maintain current income levels but also to generate new income from growth in existing markets or from new markets. This in turn will impact on the ability to maintain and invest in any harbour infrastructure around Orkney, including the many small piers and harbours that do not generate substantial revenue.

Key driver 2: lack of appropriate infrastructure is constraining operational and economic activity

- Another key driver is **efficiency**, in terms of how infrastructure is used, conflicts between users, availability of infrastructure and layout and available land area for development and/or operational activity. In terms of **economic development** there are opportunities at Kirkwall to create economic activity and deliver community benefit through a waterfront development and marina expansion in particular.

Key driver 3: without investment in harbour infrastructure Orkney will not attract substantial new business from across a number of key sectors

- Orkney has the potential to develop a successful oil and gas supply base, to support the West of Shetland assets coming on stream. It cannot do this at present with its current infrastructure and service provision.
- Hatston is the preferred location given its proximity to the West of Shetland, alongside the potential area available for laydown and operations and proximity to the supply chain.
- The construction of new quayside infrastructure here would provide the oil and gas sector with unconstrained berthing, as well as an ex-pipe fuelling system, sufficient depth of water and, potentially lower carbon fuel solutions in due course.
- Without investment in new infrastructure this opportunity will be missed, with supply boats operating out of other Scottish ports.
- There is a much larger opportunity, should Orkney decide to deliver a deep water port in Scapa Flow capable of handling structures and vessels alongside. Such investment could give Orkney a real competitive edge in oil and gas and offshore wind.

Key driver 4: futureproofing Orkney's supply of fuel

- It is regarded as paramount that the delivery of Orkney's entire fuel supply is secured for the long term. As the current fuel tanks are not at the end of their life, the only solution for this is to ensure that Scapa Pier can continue to accommodate the tankers that deliver fuels now and in the future.

Importance of policy context

This masterplan has been developed in cognisance of key national, regional and local policies and plans (see opposite). A detailed summary of these is presented in Appendix C.

The level of fit with policy aims and objectives at all levels is pertinent in that this can influence the availability of funding and deliverability.

Subsequent tables show how masterplan proposals fit with some of the key policies.

Key policies and plans

National	• Scotland's Economic Strategy • National Planning Framework 3 (4) • Infrastructure Investment Plan • National Transport Strategy • Scotland's National Marine Plan • Scottish Government Ferries Plan • Marine Tourism Strategy • National Islands Plan • Scottish Climate Change Adaptation Programme • Climate Change (Scotland) Bill 2009 amendments
Regional	• HIE Operating Plan • HITRANS Regional Transport Strategy • Pentland Firth and Orkney Waters Spatial Plan
Local	• Orkney Council Plan 2018 – 2023 • Orkney Community Plan 2017 – 2020 • Orkney Local Development Plan 2017 • Orkney Islands Regional Marine Plan • Kirkwall Urban Design Framework • Orkney Tourism Strategy 2019 – 2025 • Orkney Sustainable Energy Strategy • Orkney Hydrogen Strategy

Fit with Scotland's Economic Strategy

	Investment In people and infrastructure in a sustainable way	Innovation Foster culture of innovation and R&D	Inclusive growth Create opps through fair & inclusive jobs market/regional cohesion	Internationalism Promote Scotland on international stage to boost trade/investment, etc
Kirkwall				
New multi-use quays and berths	✓	✓	✓	✓
Marina expansion and waterfront development	✓	✓	✓	✓
Hatston				
Multi-use quays/berths for oil and gas, etc	✓	✓	✓	✓
Land and facilities available for development	✓	✓	✓	✓
Better management of traffic and access routes	✓			
New ferry/cruise passenger reception facility	✓			✓
New aquaculture processing/harvesting facility	✓		✓	✓
Stromness				
Copland's Dock quay and land improvements	✓			
Marina expansion and cruise tender pontoon	✓		✓	✓
Scapa Pier				
Longer quay, deeper water	✓	✓	✓	
Marine leisure pontoons	✓	✓	✓	
Scapa Deep Water Quay				
Deep water quay and laydown area	✓	✓	✓	✓
Lyness				
Hard standing terminal area	✓	✓	✓	✓

Fit with Scotland's National Marine Plan and Marine Tourism Strategy

	National Marine Plan		Marine Tourism Strategy
	Achieve a sustainable marine economy	Strong, healthy and just society	Marine Tourism Destination of Choice
Kirkwall			
New multi-use quays and berths	✓	✓	✓
Marina expansion and waterfront development	✓	✓	✓
Hatston			
Multi-use quays/berths for oil and gas, etc	✓	✓	✓
Land and facilities available for development	✓	✓	✓
Better management of traffic and access routes	✓	✓	✓
New ferry/cruise passenger reception facility	✓	✓	✓
New aquaculture processing/harvesting facility	✓	✓	
Stromness			
Copland's Dock quay and land improvements	✓	✓	
Marina expansion and cruise tender pontoon	✓	✓	✓
Scapa Pier			
Longer quay, deeper water	✓	✓	
Marine leisure pontoons	✓	✓	✓
Scapa Deep Water Quay			
Deep water quay and laydown area	✓	✓	
Lyness			
Hard standing terminal area	✓	✓	

Fit with HIE's Operating Plan

	Accelerating Business Growth: investment, innovation and internationalisation	Strengthening Communities: growth in social enterprise and place-based development	Supporting Growth Sectors: sectoral development & regional opportunities	Developing Regional Attractiveness: making H&I a globally attractive region
Kirkwall				
New multi-use quays and berths	✓	✓	✓	✓
Marina expansion and waterfront development	✓	✓	✓	✓
Hatston				
Multi-use quays/berths for oil and gas, etc	✓	✓	✓	✓
Land and facilities available for development	✓	✓	✓	✓
Better management of traffic and access routes		✓		✓
New ferry/cruise passenger reception facility	✓	✓		✓
New aquaculture processing/harvesting facility	✓	✓	✓	✓
Stromness				
Copland's Dock quay and land improvements	✓	✓	✓	✓
Marina expansion and cruise tender pontoon	✓	✓	✓	✓
Scapa Pier				
Longer quay, deeper water	✓	✓		✓
Marine leisure pontoons	✓	✓	✓	✓
Scapa Deep Water Quay				
Deep water quay and laydown area	✓	✓	✓	✓
Lyness				
Hard standing terminal area	✓	✓	✓	✓

Fit with Orkney's Council Plan

	Invest in marine infrastructure & business development	Continue to develop strategic projects, to capitalise on renewable sector	Progress Islands Deal to deliver innovative, enterprising & transformational projects	Continue to encourage & support economic opportunities which maximise islands' opportunity & influence
Kirkwall				
New multi-use quays and berths	✓		✓	✓
Marina expansion and waterfront development	✓		✓	✓
Hatston				
Multi-use quays/berths for oil and gas, etc	✓	✓	✓	✓
Land and facilities available for development	✓	✓	✓	✓
Better management of traffic and access routes				✓
New ferry/cruise passenger reception facility	✓			✓
New aquaculture processing/harvesting facility	✓		✓	✓
Stromness				
Copland's Dock quay and land improvements	✓			✓
Marina expansion and cruise tender pontoon	✓		✓	✓
Scapa Pier				
Longer quay, deeper water	✓		✓	✓
Marine leisure pontoons	✓		✓	✓
Scapa Deep Water Quay				
Deep water quay and laydown area	✓	✓	✓	✓
Lyness				
Hard standing terminal area	✓			✓

Outline requirements

A series of outline requirements have been defined, which represent what the masterplan should deliver against (see overleaf).

Delivering these outline requirements will enable the masterplan objectives to be achieved (opposite).

Masterplan objectives

Commercial

- To establish a strategic framework and vision that will guide future infrastructure investment decisions towards a coordinated and sustainable future.

Financial

- To safeguard and enhance the financial sustainability of the harbour business within the context of a competitive business environment.

Socio-economic

- To support and enhance the socio-economic prosperity and social well-being of local communities.

Environment

- To safeguard and support the long-term productivity of the coastal and marine environment through best practice and strong environmental stewardship.

Outline requirements

- A. Address wave climate and weather issues where relevant
- B. Enable Orkney to become a preferred supply base location for offshore oil and gas
- C. Enable Orkney to attract more rigs/platforms for repair, supplies and crew changes
- D. Improve usability of pier infrastructure for smaller boats
- E. Provide necessary infrastructure to enhance resilience of Orkney's fuel supply now and potential diversification in the future
- F. Provide necessary infrastructure to safeguard and attract renewable energy activity and technologies
- G. Enable sustainable growth in cruise
- H. Enhance marine leisure and tourism in Orkney
- I. Facilitate potential growth in fishing
- J. Encourage new developments in boat repair sector
- K. Safeguard and grow aquaculture activity and supply chain development in a manner that is compatible with harbour operations
- L. Facilitate growth in freight traffic and increase efficiency of freight handling
- M. Remove conflicts between pedestrians and operational activity
- N. Improve safety for all harbour users
- O. Improve local character and visual amenity for residents/visitors
- P. Improve integration with transport networks
- Q. Address accessibility issues
- R. Meet future requirements of external and internal ferry services and their users

3. MASTERPLAN PROPOSALS

Masterplan proposals

The Orkney Harbours Masterplan Phase 1 comprises proposals at six harbour locations – see right / overleaf.

The selection of these follows an assessment of proposals against the outline requirements and objectives.

This section covers the following aspects:

- A description of proposals, accompanied by a plan.
- A high level cost estimate for each proposal, where possible.

Kirkwall Pier

- New multi-purpose quayside infrastructure.
- Waterfront development and marina expansion.
- Improvements to quayside area and traffic management.
- Improvements to fish landing areas.

Hatston

- New multi-purpose deep water quayside infrastructure.
- Reclamation and land available for development
- Reconfiguration of marshalling areas, parking and access.
- New passenger reception facility.

Scapa Pier

- Pier extension and deepening.
- Additional shoreside area and marine leisure berths.

Stromness & Copland's Dock

- Improvements to Copland's Dock quay.
- Reclamation to create additional quayside area.
- Marina expansion and cruise tender pontoon.
- Improvements to shoreside area and traffic management.

Scapa Deep Water Quay

- New deep water quayside infrastructure.
- 5+ hectares of laydown area.

Lyness

- Extension of hard standing yard/storage areas.

Hatston Pier

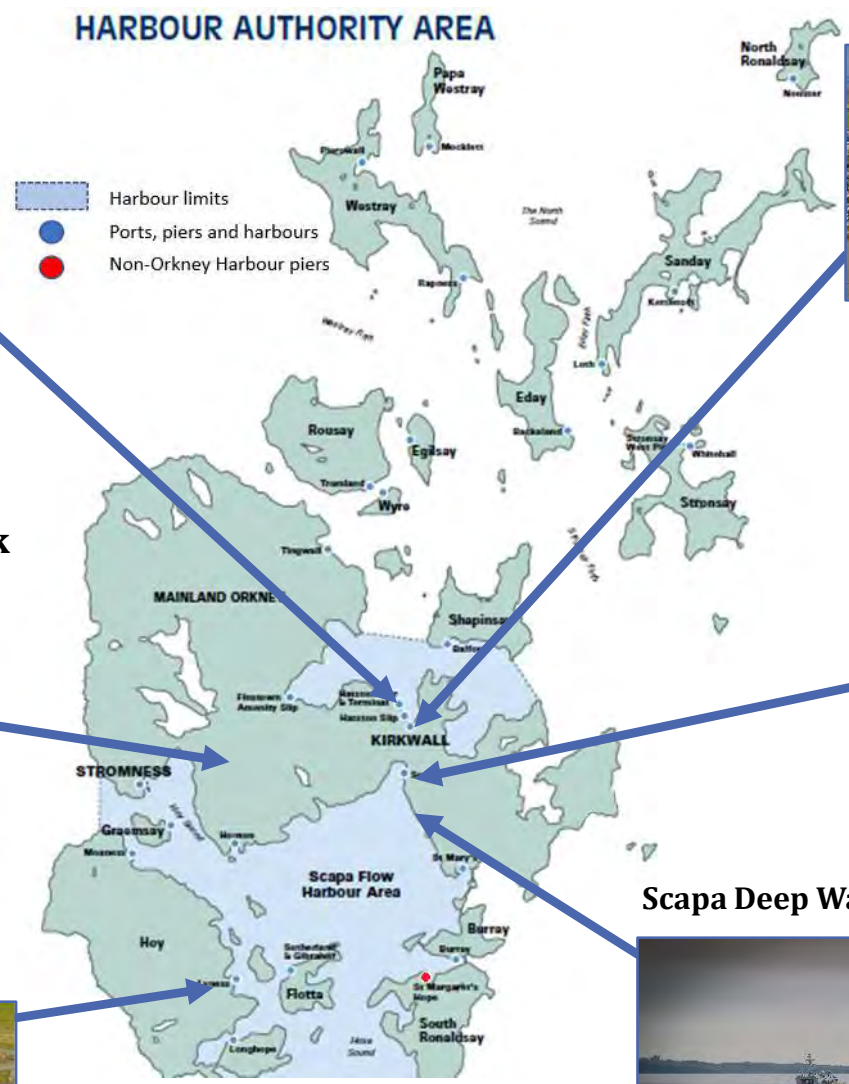
Kirkwall Pier

Stromness & Copland's Dock

Scapa Pier

Lyness

Scapa Deep Water Quay



Kirkwall Pier

Kirkwall Pier sits within the heart of Orkney's largest settlement, offering a picturesque waterfront looking out to sea and accommodating a diverse range of users and activities.

It is the hub for inter-isle ferry routes to the Outer North Isles and Shapinsay and home to the largest marina in Orkney; it is a key port for the inshore fishing fleet, the aquaculture sector and the marine supply chain in general, with many commercial boats operating out of Kirkwall.

Smaller cruise liners sit alongside at Kirkwall whilst larger ones tender in passengers to a pontoon in the Basin; the pier is frequently used for small boat repair on the quayside.

The plan for Kirkwall Pier is focussed on improving usability and efficiency of berths and quayside infrastructure, improving visual amenity, improving safety and better management of traffic and pedestrian movements.

Core proposals comprise new quayside infrastructure, a waterfront development area and marina expansion, as well as improvements to traffic management and facilities on the quayside.

With regard to developing marine tourism the initial focus is on Kirkwall and Stromness, given that these are the primary marinas in Orkney and are both operating at capacity – all yachts and leisure craft visiting Orkney visit one or other of these marinas during their trip. It is accepted that a wider strategy is required encompassing the whole of Orkney to create a network of yacht moorings, landing places and pontoons, as well as developing the services to support what is a growing sector. This strategy will be developed during Phase 2 and will build on what is proposed in Phase 1.

New multi-purpose quayside infrastructure

Aligns with the following outline requirements:

- Meet future requirements of external and internal ferry services and their users
- Improve usability of pier infrastructure for smaller boats
- Enhance marine leisure and tourism in Orkney
- Enhance sustainable growth in cruise
- Facilitate potential growth in fishing

200m of new multi-purpose quayside will be constructed to the north of the existing pier, with water depth of -6.5m Chart Datum (CD). The main purpose is to create lay-by berths for the inter-isle ferry fleet; it could also be utilised for fishing, cargo or slightly larger cruise ships than can currently be accommodated at this location (e.g. up to 130m LOA).

Waterfront development and marina expansion

Aligns with the following outline requirements:

- Enhance marine leisure and tourism in Orkney
- Improve local character and visual amenity for residents/visitors

A waterfront development area (circa 2.75 hectares) will be created through reclamation shoreside of the marina, for a range of uses/facilities: this could be marina facilities, marine leisure club facilities, boat storage, repair/chandlery provision, tourist/travel information, seating, retail, café or parking. The marina can be doubled in size, with 95 additional berths. Some could be dedicated for residents, visiting yachts (and particular sizes thereof) or commercial boats.

Improvements to quayside area and traffic management

Aligns with the following outline requirements:
- Remove conflicts between pedestrians and operational activity
- Improve safety for all harbour users
- Improve local character and visual amenity for residents/visitors

The entire layout of Kirkwall Pier, in terms of buildings, facilities and traffic management will be reviewed and remodelled. It is anticipated that some buildings will be demolished or moved, or that there may be new buildings or facilities constructed. The marshalling and parking areas, and designated routes for vehicles and pedestrians will be reviewed and re-designed, cognisant of changes in harbour infrastructure and potential new configuration of ferry vessels and services. This should also include a strategy for improved signage.

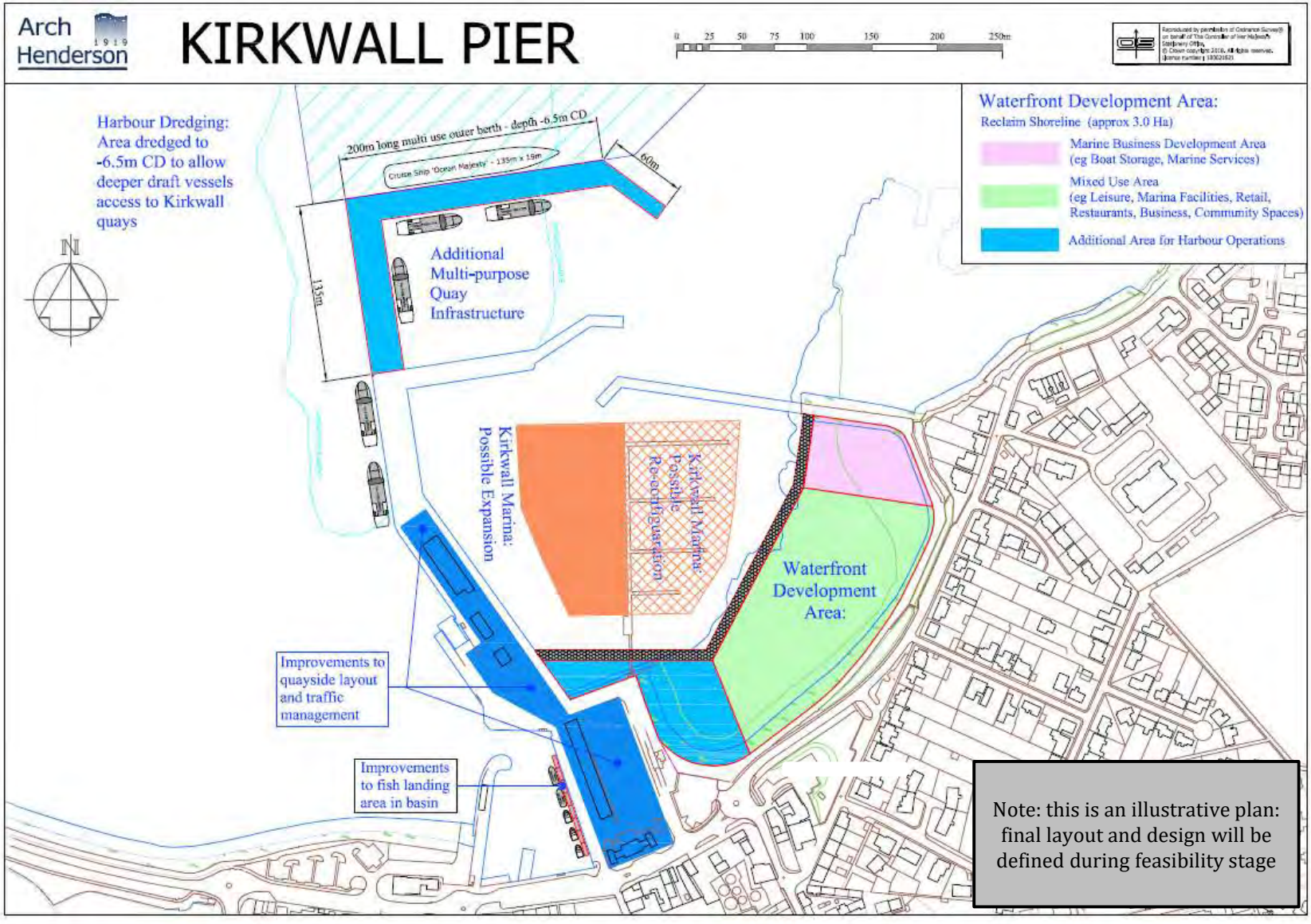
Improvements to fish landing areas

Aligns with the following outline requirements:
- Remove conflicts between pedestrians and operational activity
- Facilitate potential growth in fishing
- Improve safety for all harbour users

Working with key stakeholders in the fishing industry, improvements are planned for the fish landing area at Kirkwall. One option is to relocate the pilot boats and/or RNLI vessels away from this area, freeing up additional quayside for landing, as well as consideration of possible options opposite the crane shed, e.g. removal of railings, changes in traffic management and possible installation of pontoons. The RNLI vessel could sit at the east side of the main pier, for example.

Kirkwall Pier

Masterplan proposals at Kirkwall Pier



FISHER

Masterplan proposals at Kirkwall Pier – high level cost estimate (£m)

Project component	Cost[1]	Contingency[2]	Fees[3]	Total (£m)
New multi-purpose quayside infrastructure	24.930	2.493	1.842	29.265
Waterfront development (reclamation costs only)	3.344	0.334	0.255	3.933
Marina expansion (430m pontoon length allowed)	0.775	0.078	0.067	0.920
Total (projects costed so far)	**29.048**	**2.905**	**2.164**	**34.118**
Reconfiguration of buildings, waiting room, marshalling and traffic management system on Kirkwall Pier	*Cost unknown at present. Could assume construction of at least two new buildings.*			
Improvements to fish landing area in Basin (installation of pontoons, moving railings and relocation of pilot boats)	*Cost unknown at present. Could assume cost of original installation of railings and cost of pontoons and ramp for the east pier in the Basin.*			

- 1. Costs, as developed by Arch Henderson, are based on actual costs incurred on similar projects elsewhere. They are high level estimates and assume that each project is stand alone – should projects be grouped together then there may be savings through shared mobilisation and general item costs. Where a proposal is unlikely to be delivered by the Harbour Authority no cost estimate has been provided.
- 2. Contingency is assumed to be 10% construction risk and does not included Optimism Bias, which will still need to be assessed based on procurement routes finally chosen coupled with client knowledge of potential development constraints.
- 3. Consultant fees associated with design, feasibility and construction including third party Site Investigation cost estimates; excludes costs relating to HRO, legal aspects, EIA and VAT.

Hatston Pier and Terminal

Hatston Pier and Terminal is Orkney's primary commercial terminal and link south to Aberdeen and north to Shetland.

This multi-purpose infrastructure has been hugely successful in accommodating a range of operational activities including the largest cruise ships, renewable energy, ferries, oil and gas and cargo/livestock.

The plan for Hatston is focussed on reducing conflicts between users and operational activity and enabling growth across a range of economic sectors. Seasonal lack of availability of berths due to cruise with a resultant year round constraint on other vessel use would be resolved and the plan also considers how freight and traffic can be handled more efficiently and effectively.

Core proposals comprise a significant extension to the existing pier and expansion of landside area through reclamation to futureproof availability of sufficient land for harbour operations.

Multi-purpose deep water quayside infrastructure

Aligns with the following outline requirements:

- Enable Orkney to become a preferred supply base location for offshore oil and gas
- Provide necessary infrastructure to safeguard and attract renewable energy developments and technologies
- Encourage new developments in boat repair market supply chain
- Safeguard and grow aquaculture activity and supply chain
- Facilitate growth in freight traffic and increase efficiency of freight handling

The existing outer quay would be extended by 300m (with water depth of -10m CD) and there would be a 125m inner berth. There will be substantially more quayside available both for the existing pier and the extension.

Circa 7.5 hectares of additional land would be made available for harbour-related operations through reclamation.

There will also be an ex-pipe fuel supply and fuel storage facility in close proximity to the pier.

This new infrastructure will be able to accommodate a range of activities across several sectors (see overleaf).

As noted earlier, the design of new infrastructure here will be futureproofed so as to accommodate future provision and storage of alternative (less polluting/carbon-free) fuels and provision of shore power to smaller vessels where viable.

Multi-purpose deep water quayside infrastructure (cont.)

With the additional quay length and laydown area, and an ex-pipe fuel supply and storage facility, Hatston would be able to accommodate oil and gas supply operations.

There is scope to create new aquaculture facilities such as a harvesting/processing plant with quayside access, as well as other supply chain activities.

A boatyard with an undercover facility could be developed: this could be a small scale facility handling the smaller leisure, fishing and aquaculture boats (e.g. up to 100 tonnes) or a larger commercial facility incorporating a boatlift adjacent to the new pier infrastructure capable of handling vessels up to 800 tonnes

A facility in close proximity to the quay could be developed for handling renewable energy devices as well as sufficient laydown area.

Sites could be earmarked for the development of a logistics park/common user freight hub.

With regard to the storage of alternative fuels in the future careful consideration will be required regarding the location of such storage and any potential negative impacts on harbour-related operations and activity, particularly the lifeline ferry services which operate out of Hatston.

Reconfiguration of marshalling areas, parking and access

Aligns with the following outline requirements:
- Remove conflicts between pedestrians and operational activity
- Improve safety for all harbour users

This will reduce conflicts between different users and uses. Areas for car and freight marshalling will be reconfigured and there will be better defined pedestrian routes to and from the quayside*:* for example to the long stay car park and the main road. There is also potential for the reconfigured pedestrian access within the harbour area to connect to the proposed coastal path identified within the Kirkwall Urban Design Framework (KUDF).

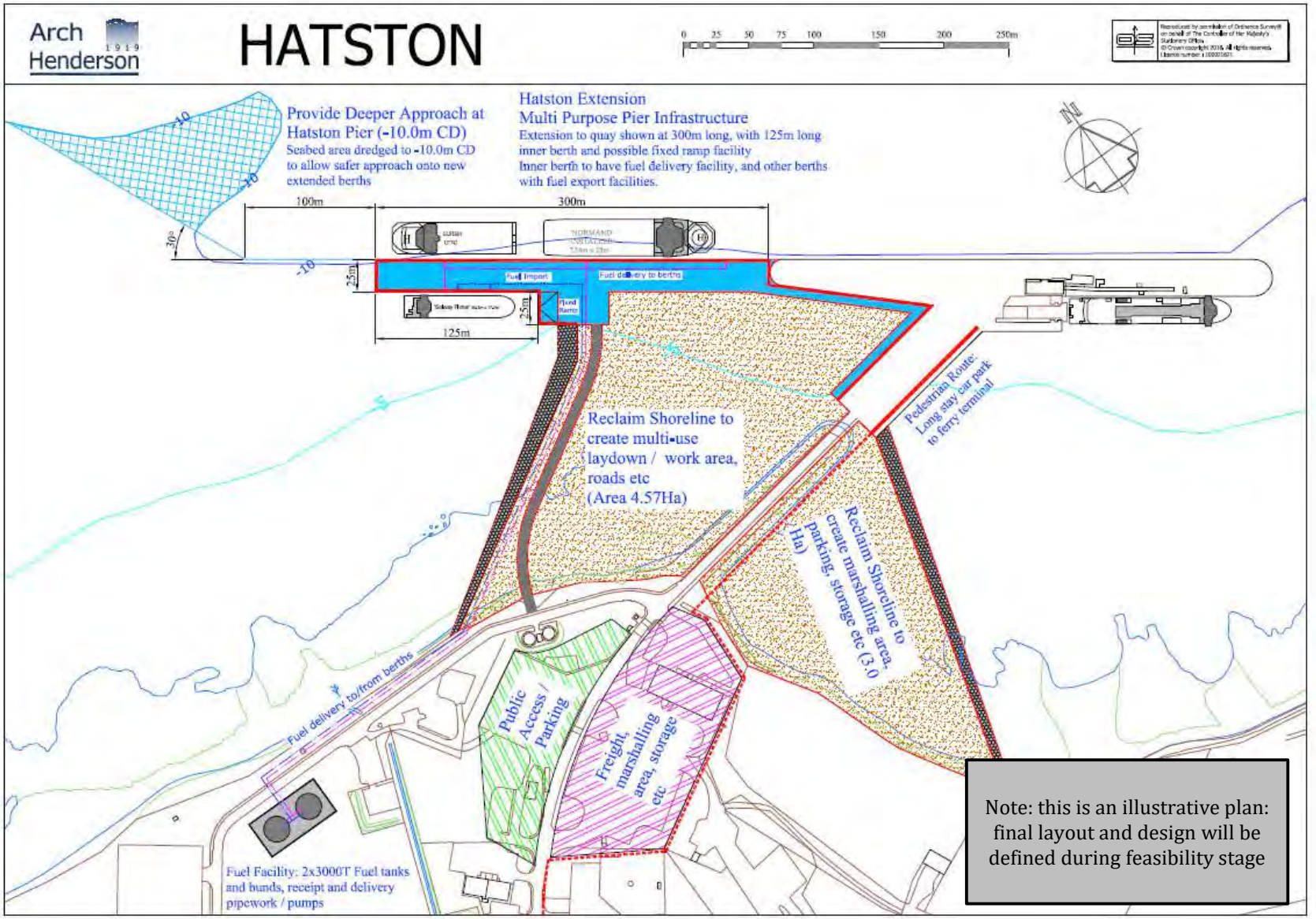
Options to promote sustainable transport will be explored at feasibility stage, such as the provision of electric vehicle charging points, electric bicycles, electric vehicles as part of car pooling schemes and linkages with existing and future walking and cycling networks.

New passenger reception facility

Aligns with the following outline requirements:
- Meet future requirements of external and internal ferry services and their users
- Enhance marine leisure and tourism in Orkney

In the future there may be a need to refurbish and/or extend the existing facility that caters for both ferry and cruise passengers on the quayside.

Masterplan proposals at Hatston



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Masterplan proposals at Hatston – high level cost estimate (£m)

Project component	Cost[1]	Contingency[2]	Fees[3]	Total (£m)
New deep water pier infrastructure (additional 300m quayside and water depth of -10m CD) including 4.75 hectares of reclamation	33.850	3.385	2.465	39.701
Additional reclamation of 3.0 hectares	2.934	0.293	0.074	3.301
Ex-pipe fuel supply and storage	1.900	0.190	0.000	2.090
Reconfiguration of freight marshalling, parking, pedestrian routes and public access	-	-	-	-
Total (projects costed so far)	**38.684**	**3.868**	**2.539**	**45.092**
Boatyard infrastructure (shiplift and facility)	*Cost will depend on what ground works are required and specification of shiplift and adjacent facility. Likely to be in region of £5m - £7m but cannot be estimated until a more detailed specification is provided.*			

- 1. Costs, as developed by Arch Henderson, are based on actual costs incurred on similar projects elsewhere. They are high level estimates and assume that each project is stand alone – should projects be grouped together then there may be savings through shared mobilisation and general item costs. Where a proposal is unlikely to be delivered by the Harbour Authority no cost estimate has been provided.
- 2. Contingency is assumed to be 10% construction risk and does not included Optimism Bias, which will still need to be assessed based on procurement routes finally chosen coupled with client knowledge of potential development constraints.
- 3. Consultant fees associated with design, feasibility and construction including third party Site Investigation cost estimates; excludes costs relating to HRO, legal aspects, EIA and VAT.

Scapa Pier

Scapa Pier is a key component of Orkney's critical infrastructure. As well as supporting Flotta Oil Terminal activities, STS and semi-submersible rig maintenance; it is the single point of entry for Orkney's entire supply of domestic and commercial hydrocarbon fuels.

Three tugs and one pilot boat are based at Scapa Pier, as well as commercial boats – all service vessels and platforms at anchor in Scapa Flow, as well as the provision of marine services for Flotta (this encompasses towage, pilotage, counter pollution, conservancy, port security, etc.). At present there is only just enough depth of water for tugs – in inclement weather they have to use other port facilities. There is limited availability of berthing and quayside space, impacting on operational safety and efficiency.

Fuels are discharged here using dedicated pipelines running from the pier directly into a tank farm located underground in close proximity to the pier, owned by Highland Fuels. One of the main concerns at present is that tankers are increasing in size: new vessels coming into the James Fisher fleet within the next five to ten years cannot be accommodated at Scapa Pier. At the same time it is unlikely that Highland Fuels would wish to relocate the tank farm until such time that it reaches the end of its usable life.

Another concern is that over time the nature of Orkney's fuel supply may change, particularly as climate change targets focus on reducing carbon footprint: in 20 years time we may be looking at a fuel supply comprising not only petrol, kerosene and diesel, but other fuels, such as LNG, hydrogen or even synthetically produced fuels.

Scapa Pier extension and deepening

Aligns with the following outline requirements:

- Provide necessary infrastructure to enhance resilience of Orkney's fuel supply
- Enable Orkney to attract more (semi-submersible) rigs/platforms for repair, supplies and crew changes
- Improve safety for all harbour users

The existing Scapa Pier would be lengthened by circa 100m, and dredging would provide deeper water (from -5m CD to -7.5m CD). The extension is angled with a wider quay. This would enable larger vessels to come alongside and increase berthing space. The quayside would be improved by making it the same level and removing any obstacles, as well as creating some additional laydown area shoreside.

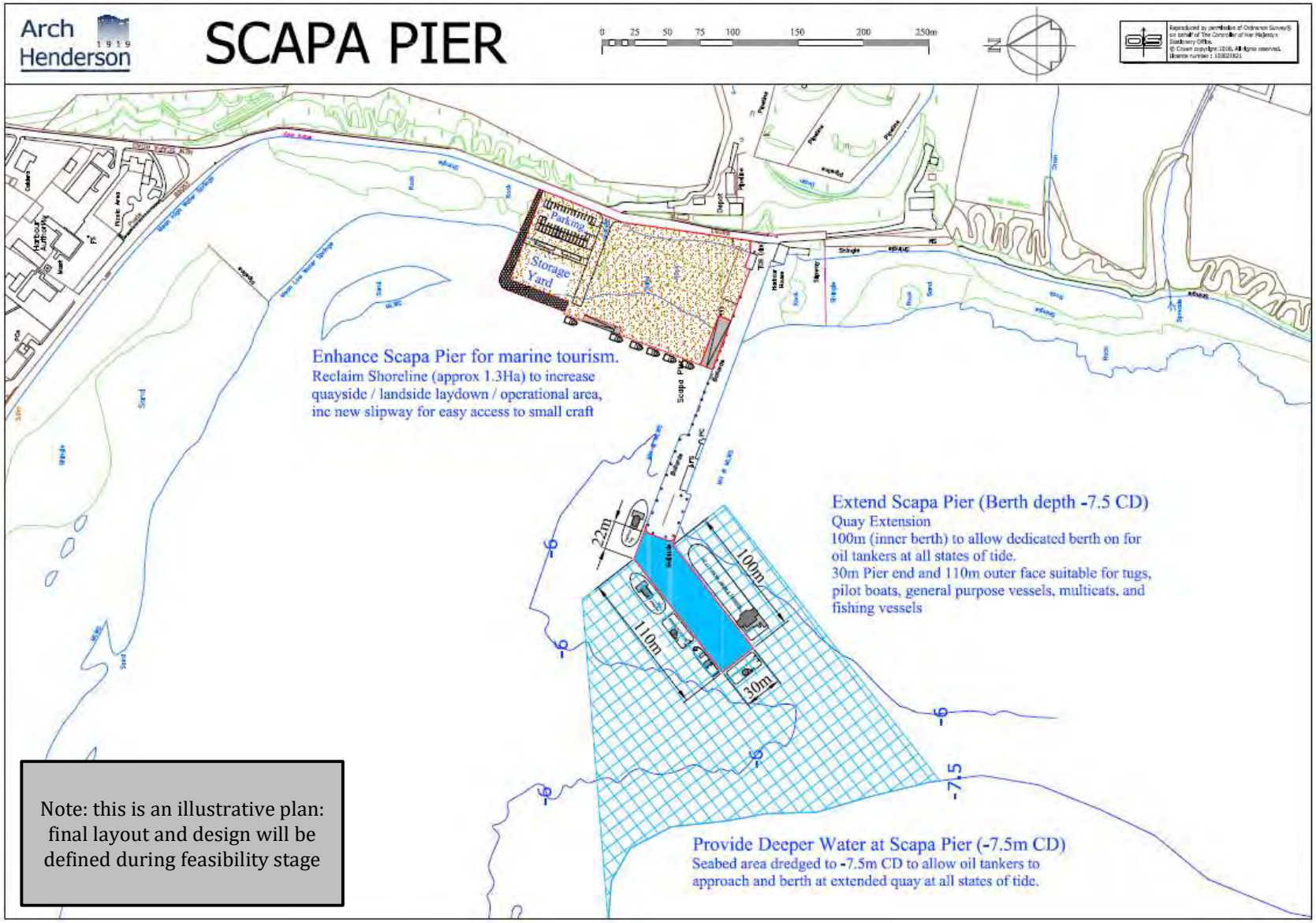
Additional shoreside area and marine leisure berths

Aligns with the following outline requirements:

- Enhance marine leisure and tourism in Orkney
- Enable Orkney to attract more (semi-submersible) rigs/platforms for repair, supplies and crew changes

Through reclamation an area adjacent to the shore would be made available for operational use, storage and/or parking. Several berths for marine leisure, and a small slip to service these would be incorporated – this could be a suitable location for vessels offering marine tours in Scapa Flow, or smaller commercial boats, for example. It is not envisaged that this would be a key location for visiting yachts.

Masterplan proposals at Scapa Pier



Masterplan proposals at Scapa Pier – high level cost estimate (£m)

Project component	Cost[1]	Contingency[2]	Fees[3]	Total (£m)
Scapa Pier angled extension (100m) (pier construction and dredging)	8.692	0.869	0.694	10.256
Increase laydown/operational area/slipway and marine leisure berths	2.302	0.230	0.200	2.732
Total	**10.994**	**1.099**	**0.894**	**12.988**

- 1. Costs, as developed by Arch Henderson, are based on actual costs incurred on similar projects elsewhere. They are high level estimates and assume that each project is stand alone – should projects be grouped together then there may be savings through shared mobilisation and general item costs. Where a proposal is unlikely to be delivered by the Harbour Authority no cost estimate has been provided.
- 2. Contingency is assumed to be 10% construction risk and does not included Optimism Bias, which will still need to be assessed based on procurement routes finally chosen coupled with client knowledge of potential development constraints.
- 3. Consultant fees associated with design, feasibility and construction including third party Site Investigation cost estimates; excludes costs relating to HRO, legal aspects, EIA and VAT.

Stromness and Copland's Dock

The harbour in Stromness is at the heart of this historic town which is located within the Hoy and West Mainland National Scenic Area (NSA). This vibrant harbour is a hub for ferry services, inshore fisheries, marine leisure, cruise and renewables. There are issues with access to the main pier in Stromness and there is competition for berthing space here too. Whilst the construction of Copland's Dock has enabled some operations to be moved out of the town centre, there remains issues of capacity, conflict of use and traffic and the flexibility of Copland's Dock to cater for different types of vessel, particularly small boats. If Copland's Dock could do this, there would be significant opportunity to remove heavy traffic from the historic town centre.

The plan for Stromness is focussed on improving the flexibility and usability of existing infrastructure, as well as creating capacity and facilities to enable growth in all sectors for the future.

Increasing flexibility and usability of Copland's Dock

Aligns with the following outline requirements:
- Facilitate potential growth in fishing
- Improve usability of pier infrastructure for smaller boats
- Improve local character and visual amenity for residents/visitors

This proposals involves increasing the number of fenders at Copland's Dock, which will enable smaller boats to use this infrastructure more easily, as per original design.

An additional area is proposed for reclamation, which will create a development opportunity for shore-based business – this is potentially an ideal location for the relocation of the Orkney Fishermen's Society (OFS) facility. Access to the Inner and Outer Holms will be preserved through this area. Whilst reclamation is considered here, it might also be possible to cut into the existing land behind the area, as an alternative to reclamation. The need to protect and conserve the Special Qualities of the NSA will be an important consideration in any future development of this area.

Expansion of Stromness marina

Aligns with the following outline requirements:
- Enhance marine leisure and tourism in Orkney

The marina in Stromness will be expanded with an additional 12 berths which could be earmarked for resident, visitor or commercial use.

Cruise tender pontoon

Aligns with the following outline requirements:
- Enable sustainable growth in cruise
- Enhance marine leisure and tourism in Orkney
- Remove conflicts between pedestrians and operational activity
- Improve local character and visual amenity for residents/visitors

A modest number of cruise liners call at Stromness each year both alongside and at anchor. Those at anchor tender in passengers generally to a pontoon within the marina. This can cause congestion and security issues with a mix of cruise passengers and marina users entering and exiting the marina facility at the same time.

From discussions with stakeholders during the community consultation period it has emerged that there is a need for some form of direct pontoon access for the cruise liners. It is envisaged that such a pontoon would be built to cope with Orkney weather and that it could be removed during the winter months.

The pontoon could also be used by vessels operating marine tours.

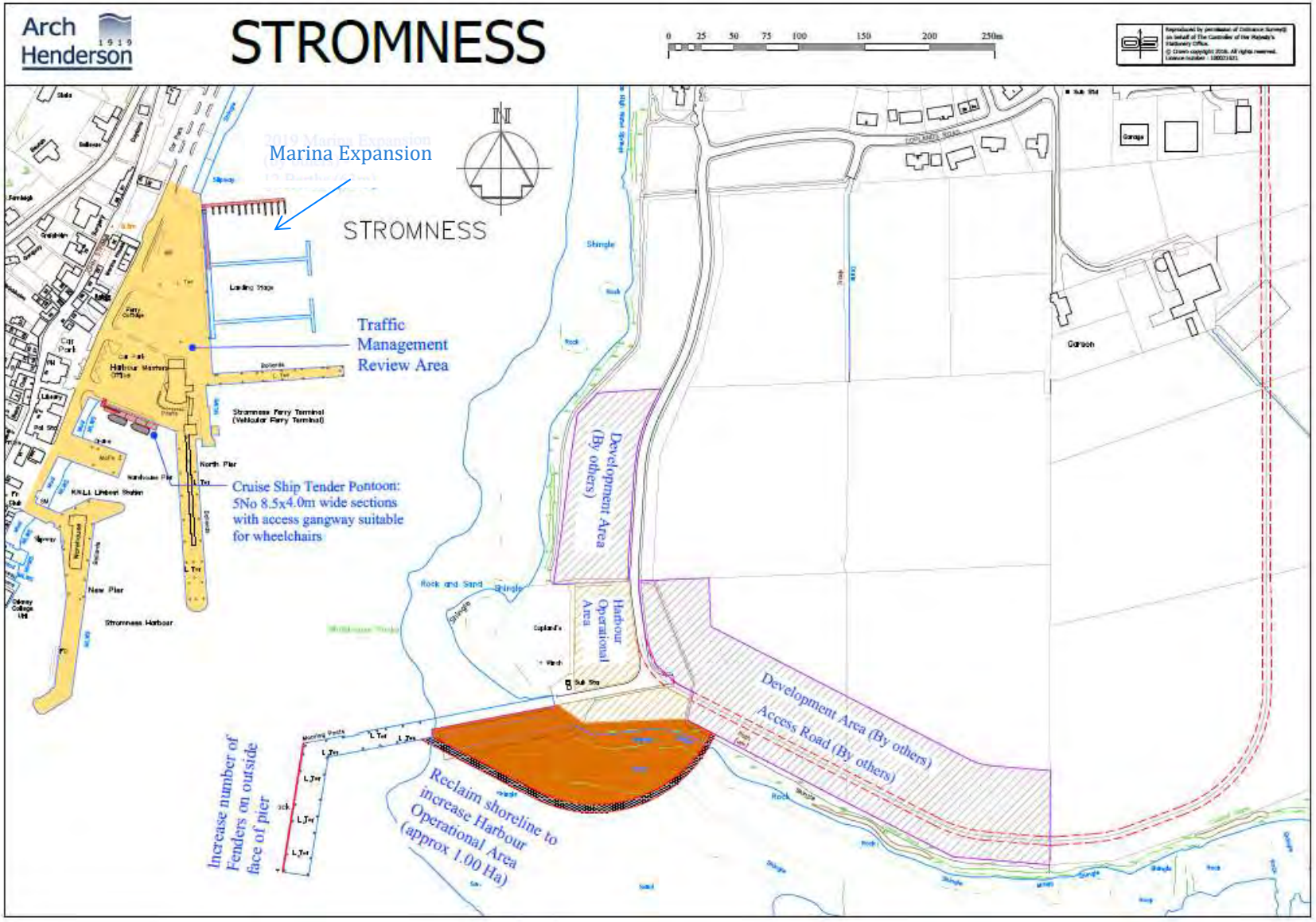
The quay adjacent to North Pier is considered a suitable location given there is sufficient water depth here.

Improvements to shoreside area and traffic management

Aligns with the following outline requirements:
- Remove conflicts between pedestrians and operational activity
- Improve safety for all harbour users
- Improve local character and visual amenity for residents/visitors

A review of current parking, pedestrian routes and traffic management and controls, as well as an evaluation of the location, condition and purpose of buildings and facilities on or close to the quayside in Stromness will be undertaken, which will determine what kind of improvements could be made: this might, for example, look at alternative parking arrangements and controls, reconfiguration of the marshalling area, relocation of marina facilities, waiting room facilities and signage. This should be done in alignment with the Stromness Multi-Modal Low Carbon Transport and Active Travel Hub project which is currently being taken forward.

Masterplan proposals at Stromness and Copland's Dock



Masterplan proposals at Stromness and Copland's Dock – high level cost estimate (£m)

Project component	Cost[1]	Contingency[2]	Fees[3]	Total (£m)
Infill fenders to Copland's Dock	0.200	0.020	0.010	0.230
Reclamation of land at Copland's Dock	1.549	0.155	0.055	1.759
Expansion of Stromness Marina	0.250	0.030	0.010	0.290
Cruise tender pontoon	0.195	0.015	0.005	0.215
Improving shoreside layout and traffic management	*Cost unknown at present.*			
Total (projects costed so far)	**2.194**	**0.22**	**0.08**	**2.494**

- 1. Costs, as developed by Arch Henderson, are based on actual costs incurred on similar projects elsewhere. They are high level estimates and assume that each project is stand alone – should projects be grouped together then there may be savings through shared mobilisation and general item costs. Where a proposal is unlikely to be delivered by the Harbour Authority no cost estimate has been provided.
- 2. Contingency is assumed to be 10% construction risk and does not included Optimism Bias, which will still need to be assessed based on procurement routes finally chosen coupled with client knowledge of potential development constraints.
- 3. Consultant fees associated with design, feasibility and construction including third party Site Investigation cost estimates; excludes costs relating to HRO, legal aspects, EIA and VAT.

Scapa Deep Water Quay

There is no deep water pier infrastructure in Scapa Flow located on the Orkney mainland coast. As part of option development consideration was given to possible locations for deep water quayside infrastructure in proximity to the existing Scapa Pier, with a suitable site potentially identified to the south of Scapa Pier.

Aligns with the following outline requirements:

- Enable Orkney to become a preferred supply base location for offshore oil and gas
- Enable Orkney to attract more rigs/platforms for repair, supplies and crew changes
- Provide necessary infrastructure to safeguard and attract renewable energy activity and technologies

This proposal comprises 300m of quayside with water depth of -20m CD, and a 75m wide approach quay with 5+ hectares of landside area – options for an extended pier or inclusion of dolphins could be considered during feasibility stage, depending on market opportunities at the time.

The main purpose of this facility would be to undertake any/multiple industry activity that requires both deep-water berthing and large laydown area. There are specific market opportunities in the offshore wind and oil and gas sectors. This is also a potential location for the development of a LNG storage and supply hub.

With regard to offshore wind, there are several lease areas earmarked for development around Orkney, with Orkney the preferred location as a hub for construction and O&M – Scapa Deep Water Quay is the optimal site for this activity.

In the oil and gas sector large structures and vessels could come alongside for repairs and maintenance.

Scapa Flow is already identified as a national strategic asset and this development will further enhance its role as such.

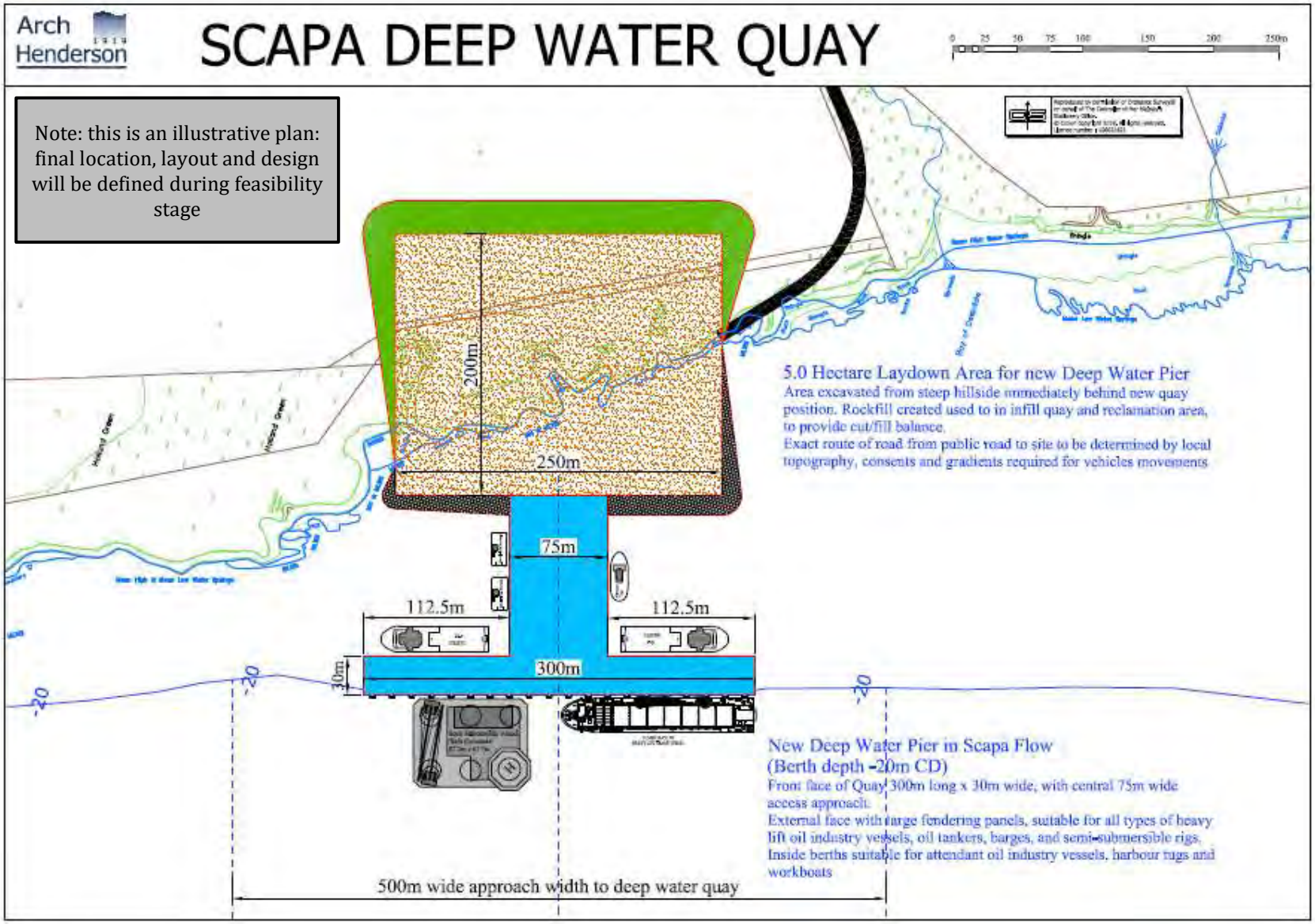
Scapa Flow

There is an opportunity for Scapa Deep Water Quay to be the optimal location for the development of a LNG storage and distribution hub for the supply of lower carbon LNG locally in Orkney and to create a large scale LNG supply and bunkering service for shipping. The facility could potentially take on a variety of other roles and operations as industry develops new technologies and fuels in light of the new decarbonisation targets.

'It is essential that purpose-built staging port facilities, such as the Scapa Deep Water Quay, are available to maximise the weather window for offshore construction. A new, purpose-built deep-water quay in the natural shelter of Scapa Flow would service the growing offshore wind market in the North of Scotland and, in doing so, become a great asset to Orkney's economy.'

Source: offshore windfarm developer

Scapa Deep Water Quay – masterplan proposals



Masterplan proposals at Scapa Deep Water quay – high level cost estimate (£m)

Project component	Cost[1]	Contingency[2]	Fees[3]	Total (£m)
Deep water facility in Scapa Flow (300m quayside and -20m CD water depth, 75m wide approach quay and 5+ hectares of land reclamation	**65.660**	**4.050**	**6.566**	**76.276**

- 1. Costs, as developed by Arch Henderson, are based on actual costs incurred on similar projects elsewhere. They are high level estimates and assume that each project is stand alone – should projects be grouped together then there may be savings through shared mobilisation and general item costs. Where a proposal is unlikely to be delivered by the Harbour Authority no cost estimate has been provided.
- 2. Contingency is assumed to be 10% construction risk and does not included Optimism Bias, which will still need to be assessed based on procurement routes finally chosen coupled with client knowledge of potential development constraints.
- 3. Consultant fees associated with design, feasibility and construction including third party Site Investigation cost estimates; excludes costs relating to HRO, legal aspects, EIA and VAT.

Lyness

Lyness has in the past been earmarked for a variety of operational activities – particularly the development of a container hub, as a potential base for oil and gas and renewable sector operations. In the short-term it could be used as a support base for Scapa Flow, as a laydown and storage area. It could also serve as a suitable site for aquaculture operations such as the building and maintenance of salmon cages. For these operations no additional infrastructure improvements are required. There are longer term opportunities particularly in the oil and gas and renewable sectors; a potential location for decommissioning of smaller scale items in the longer term; a service base for some offshore wind activities around Orkney or handling of renewable devices as and when tidal/wave energy projects come on stream. These activities would be dependent on the size and draft of vessels requiring access to the pier, as well as clear intentions from the market.

Underlying issues at Lyness are summarised below.

Creation of hard standing areas

Aligns with the following outline requirements:
Provide necessary infrastructure to safeguard and attract renewable energy activity and technologies

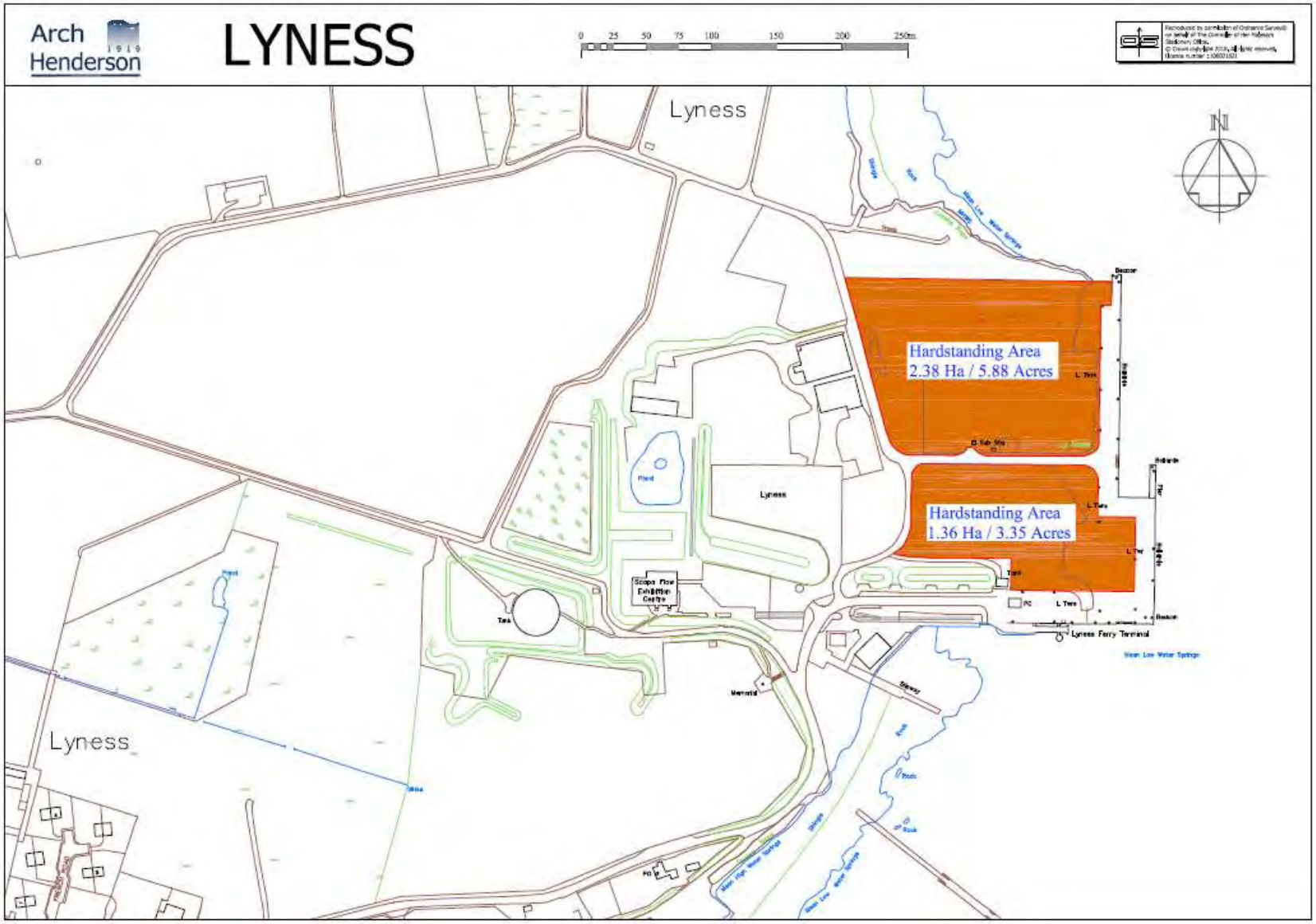
How the brownfield land would be developed and to what extent will depend on the nature of future activity and requirements thereof.

An initial step might be to create hard standing across the two areas closest to the quay edge – 5.88 acres and 3.35 acres respectively (just under 40,000 square metres), providing a suitable storage or yard area.

Costs are based on 40mm Bitmac and 250mm thick reinforced concrete slab plus some elements of drainage.

- Limited water depth: there is only -8m CD at one section of the quay, decreasing to -5m CD along the remaining quay. The access channel has greater depth but significantly less than the -20m CD as planned for Scapa Deep Water Quay.
- There are issues with developing the infrastructure as the existing pier is a listed historic structure.
- To reach a depth of -15m CD or more would require a considerable volume of dredging both in the channel and at a new quayside built out from the existing infrastructure. It is not possible to dredge at the existing pier without undermining the toe of the quay.
- In certain conditions a swell affects Lyness; there are no swell issues on the east side of Scapa Flow.
- For any commercial activity whilst it would be extremely beneficial for the island community in terms of economic activity, Lyness could be less attractive to the market given its location is on an island and the need for double handling of supplies and equipment.

Lyness – masterplan proposals



Masterplan proposals at Lyness – high level cost estimate (£m)

Project component	Cost[1]	Contingency[2]	Fees[3]	Total (£m)
Area 1 hard standing (5.88 acres)	5.718	0.570	0.250	6.538
Area 2 hard standing (3.35 acres)	1.735	0.175	0.110	2.020
Total	**7.453**	**0.745**	**0.360**	**8.558**

- 1.Costs, as developed by Arch Henderson, are based on actual costs incurred on similar projects elsewhere. They are high level estimates and assume that each project is stand alone – should projects be grouped together then there may be savings through shared mobilisation and general item costs. Where a proposal is unlikely to be delivered by the Harbour Authority no cost estimate has been provided.
- 2. Contingency is assumed to be 10% construction risk and does not included Optimism Bias, which will still need to be assessed based on procurement routes finally chosen coupled with client knowledge of potential development constraints.
- 3. Consultant fees associated with design, feasibility and construction including third party Site Investigation cost estimates; excludes costs relating to HRO, legal aspects, EIA and VAT.

Capital expenditure – summary

The table below presents a summary of capital expenditure:

- High level capital costs include consultant fees associated with design, feasibility and construction.
- Costs exclude those relating to HRO, legal aspects, EIA and VAT.
- A contingency of 10% has been applied to all the costs except the engineering fees and the site investigations and consents. This is construction risk and does not include Optimism Bias, which is modelled as a sensitivity test.
- Costs assume that each project is stand alone – should projects be grouped together then there may be savings through shared mobilisation and general item costs.

Proposal location (£m0)	Cost	Contingency	Fees	Total
Kirkwall Pier	29.048	2.905	2.164	34.118
Hatston	38.684	3.868	2.539	45.092
Scapa Pier	10.994	1.099	0.894	12.988
Scapa Deep Water Quay	65.660	4.050	6.566	76.276
Stromness	2.194	0.22	0.08	2.494
Lyness	7.453	0.745	0.360	8.558
Total	**154.03**	**12.887**	**12.603**	**179.53**

4. ECONOMIC CASE

Introduction

The masterplan comprises a range of proposals that will **significantly enhance the operability and attractiveness of Orkney's harbour infrastructure** through the construction of new deep water quayside infrastructures, as well as extensions and enhancements to existing harbours, marina expansion, the creation of additional land for development and improvements to quayside areas and traffic management.

These proposals will create efficiencies within existing operations as well as enable Orkney Harbours to attract more business and generate more revenue thus ensuring financial sustainability for the longer term and ultimately safeguarding and creating employment opportunities in Orkney.

To better understand the benefits associated with each of the masterplan proposals an economic and financial analysis has been conducted, as part of a detailed Outline Business Case (OBC). This analysis looks at the costs and benefits of each proposal, both the financial return to Orkney Harbours, and the wider economic benefit to Orkney as a whole.

High level results from this analysis are presented here along with a qualitative description of how the proposals will be beneficial (see Appendix D).

The quantitative economic and financial analysis has been done for all proposals except several elements at Stromness & Copland's Dock and Lyness – for these there is a qualitative summary of beneficiaries and impacts also at Appendix D.

Core aspects of the financial and economic analysis

The analysis considers the impact of the masterplan proposals (the 'With project' case) against what would have happened without the proposals (the 'Reference case' or 'Do nothing').

In the 'With project' case three potential scenarios have been defined: High case, Base case and Low case which are based on realistic assumptions about what could happen in each of the markets.

The masterplan proposals considered in the economic and financial analysis together return a very positive economic Net Present Value (NPV) in the Base case, which indicates that from an economic viewpoint, they are worthwhile.

Projects expected to generate **£464m** of monetarised benefits (to 2050)

These projects will have a transformational impact on Orkney's economy and society.

Not all benefits have been quantified; thus the quantitative results presented will be higher in reality.

NPV (to 2050)
High case: £194.5m
Base case: £92.8m
Low case: -£30.9m

Base case (2050):
119 jobs
£13.7m GVA

Summary results by proposal

There are considerable uncertainties regarding the capital costs, particularly for Scapa Deep Water Quay. As the projects progress and more information from surveys and design work becomes available, these risks will be reduced as costs are refined. On the advice of the engineers, we have included optimism bias on the capital costs as shown below.

Even allowing for substantial escalation in capital costs, the **projects still return a positive NPV overall in the Base case**:

Project	Capital cost Base case	Optimism Bias	Capital cost (with Optimism Bias)	NPV Base case	NPV (with Optimism Bias)
Kirkwall Pier	34,118	30%	39,927	-£1.3m	-£5.7m
Hatston	45,092	30%	52,828	£59.9m	£53.2m
Scapa Pier	12,988	30%	15,187	-£0.1m	-£2.0m
Stromness	750	30%	884	£4.6m	£4.5m
Scapa Deep Water Quay	76,276	70%	115,673	£29.7m	-£6.2m
All projects	169,224		224,498	**£92.8m**	**£43.9m**

Note: the optimism bias has been calculated by replacing the 10% contingency on the main works (no contingency was included for fees and licences) with the percentages shown above. The outcome will therefore not be equal to the original cost plus the optimism bias; it will be lower.

It should also be noted that Lyness and reclamation at Copland's Dock have been excluded from the economic analysis.

Summary results: Base case

All projects	2020	2021	2022	2023	2024	2025	2026	2030	2040	2050
Costs										
Capital expenditure	£2,838	£6,149	£2,925	£45,320	£45,195	£34,130	£247	£0	£0	£0
Operating costs	£0	£0	£10	£10	£63	£63	£739	£808	£808	£808
Total costs	**£2,838**	**£6,149**	**£2,935**	**£45,331**	**£45,258**	**£34,193**	**£985**	**£808**	**£808**	**£808**
Benefits										
Total direct benefit	**£0**	**£0**	**£98**	**£98**	**£750**	**£763**	**£7,382**	**£14,615**	**£14,472**	**£14,472**
Total indirect and induced	£0	£0	£26	£26	£181	£185	£2,066	£4,700	£4,692	£4,692
Total benefits	**£0**	**£0**	**£124**	**£124**	**£932**	**£948**	**£9,448**	**£19,316**	**£19,164**	**£19,164**
Net benefits	**-£2,838**	**-£6,149**	**-£2,812**	**-£45,207**	**-£44,327**	**-£33,245**	**£8,463**	**£18,508**	**£18,356**	**£18,356**
NPV at 3.5% (£m)	**£92.8m**									
Financial										
Costs	£2,838	£6,149	£2,935	£45,331	£45,258	£34,193	£985	£808	£808	£808
Harbour income	£0	£0	£0	£0	£530	£530	£2,384	£3,986	£3,757	£3,757
Net revenue	**-£2,838**	**-£6,149**	**-£2,935**	**-£45,331**	**-£44,728**	**-£33,663**	**£1,398**	**£3,178**	**£2,949**	**£2,949**
Financial IRR	**-5.7%**									

The masterplan projects return a very positive Net Present Value in the Base case, which indicates that from an economic viewpoint, the projects are worthwhile. On an individual basis, Hatston, Scapa Deep Water Quay and Stromness all generate positive NPVs. Scapa Pier and Kirkwall Pier have slightly negative NPVs, however, it is important to recognise that the role of these investments is not purely commercial. For Scapa Pier, the main objective is to increase resilience of Orkney's fuel supplies and facilitate the development of activities at other locations through the support provided by harbour vessels. Some of the benefits of the other three projects could be attributed to security of fuel supplies as without it businesses would face risks.

Summary of GVA impacts (Base case)

Base case (£000s)	2020	2021	2022	2023	2024	2025	2026	2030	2040	2050
GVA										
Total direct GVA	£0	£0	£62	£62	£303	£312	£2,984	£9,796	£8,917	£8,917
Total indirect and induced	£0	£0	£16	£16	£75	£77	£1,298	£5,017	£4,743	£4,743
Total GVA	**£0**	**£0**	**£77**	**£77**	**£378**	**£390**	**£4,282**	**£14,814**	**£13,660**	**£13,660**

The GVA safeguarded or created in the Base case reaches £14.8m by 2030 (it tails off by 2040 because of the assumptions regarding windfarm installation). The multipliers used are those for the Scottish economy, adjusted for Orkney. This approach should give a reasonable estimate of the impacts within Orkney, and because they are based on Scottish level multipliers, they relate only to impacts that would be fully retained in Scotland.

Summary of employment impacts (Base case)

Base case	2020	2021	2022	2023	2024	2025	2026	2030	2040	2050
Direct employment	35	35	38	38	39	40	53	103	95	95
Indirect and induced employment	14	14	14	14	15	15	18	28	25	25
Total employment	**49**	**49**	**52**	**52**	**54**	**54**	**71**	**131**	**119**	**119**

The number of jobs (FTE) safeguarded or created in the Base case rises to 119 by the end of the period. These include indirect and induced employment. The multipliers used are those for the Scottish economy, adjusted for Orkney. This approach should give a reasonable estimate of the impacts within Orkney, and because they are based on Scottish level multipliers, they relate only to impacts that would be fully retained in Scotland.

5. ENVIRONMENTAL CONSIDERATIONS

Introduction

A Strategic Environmental Assessment (SEA) of the Draft Orkney Harbours Masterplan Phase 1 and a Habitats Regulations Appraisal (HRA), including Appropriate Assessment, have been undertaken by environmental consultants.

- The aim of the SEA is to fulfil the requirement of EU Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment (the SEA Directive), as transposed into Scottish Law by the Environmental Assessment (Scotland) Act 2005.
- A Habitats Regulations Appraisal (HRA) is required for all plans deemed likely to have an adverse effect on a protected 'Natura 2000' site. Natura 2000 is the Europe-wide network of protected sites developed under the European Commission's Habitats Directive (Directive 92/43/EEC) and Birds Directive (79/409/EEC). Appropriate Assessment (AA) is the second stage of the HRA process, whereby the first stage (or screening process) has either determined the plan or project, alone or in combination with other plans or projects, is likely to have a significant effect on a Natura 2000 site.

This section presents:

1. A high-level summary of the SEA Environmental Report, potential impacts and mitigation measures.
2. HRA and AA findings.
3. Comments from SNH on the AA.
4. Comments from the Scottish Environment Protection Agency (SEPA) made during the Orkney Harbours Masterplan consultation process relating to flood risk and key regulations.

Summary of SEA findings

The Environmental Report identifies, describes and evaluates the likely significant effects of the masterplan proposals: the assessment of effects is based around a set of SEA objectives and concludes that there is the potential for negative effects on air, biodiversity, flora and fauna, climatic factors, cultural heritage, landscape, material assets, population and human health, soil and water from implementation.

Good planning and selection of mitigation measures and implementation of them may mitigate many of these potential negative effects. Potential environmental effects on the SEA topics and examples of potential mitigation measures are presented overleaf and in Appendix E.

SEA: potential environmental effects arising from the masterplan proposals

SEA topic	Potential effects
Air	• May include increased emissions and dust (during construction); change to local air quality; and additional traffic (sea and road) could lead to higher future emissions during the operation phase. This could be mitigated as shipping and freight sectors move to lower carbon fuel options.
Biodiversity, flora and fauna	• Direct habitat loss and disturbance, both on land and the sea; may include underwater noise and visual impacts resulting in disturbance of birds and marine mammals; effects on designated sites, e.g. disturbance to birds, resulting in displacement from traditional foraging areas (either through vessel movements or disturbance or loss of habitats and species during construction and operation); and the potential introduction and spread of invasive non-native species.
Climatic factors	• May include increase in Green House Gas (GHG) and carbon footprint during construction and operation.
Cultural heritage	• May include disturbance of archaeology during construction; impacts on conservation areas and listed buildings; and long-term effects due to change in the cultural setting.
Landscape	• May include changes to landscape character; effects on the special qualities of the Hoy and West Mainland National Scenic Area; and general deterioration of visual amenity/seascape.
Material assets	• Impacts could arise due to an increase in waste due to dredging and additional vessels visiting harbours and piers. Increased wear on certain roads due to increased traffic.
Population and human health	• May include effects on the safety of harbour users as introduction of new structures present physical barriers affecting navigation; this as well as increased vessel movements could lead to an increase in accidents and incidents. There could also be health effects from increased dust and emissions and disturbance and nuisance impacts from construction and increased shipping traffic. Benefits include sustainable use of material assets through the enhancement of existing port facilities. The development and enhancement of facilities could lead to employment opportunities (both during construction and operation).
Soils	• Negative effects on soils include introduction of new sources of pollution; erosion of coastline due to changes in wave climate; and effects on soil function and land use changes.
Water	• Negative effects on water include degradation of water quality due to short term mobilisation of contaminated sediments and turbidity impacts; hydrodynamic changes due to changes to the shoreline and dredging; and follow on morphological changes, though these are expected to be minor. In addition, potential for degradation of water quality through accidental release of fuel or vessel containment.

Mitigation and enhancement measures

Mitigation measures have been identified through the SEA and HRA processes at plan level and will be further developed during the Environmental Impact Assessment (EIA) at project level and through detailed planning and design – when the specifics of the developments can be optimised through detailed feasibility studies and design in order to limit the potential impacts on sensitive receptors.

The table opposite highlights examples of key mitigation measures proposed in the SEA, split by those required prior to construction to inform proposals and those during construction and operation intended to offset impact. The full table is presented at Appendix E.

The timing of construction works should be planned to avoid the potential for negative cumulative impacts or inter-relationships with other schemes, plans or projects, as well as seeking to minimise and avoid sensitive time periods for designated species.

All works and planning of works should be undertaken with respect to all relevant legislation, licencing and consent requirements and recommended best practice and adherence to NetRegs environmental guidance for businesses.

Examples of mitigation and enhancement measures	
During design optimisation/ EIA	• Surveys to determine European Protected Species and basking shark presence. • Ecological and environmental surveys. • Habitat surveys. • Bird surveys. • Archaeological surveys. • Landscape and visual assessments. • Navigational risk assessments. • Water Framework Directive assessments. • Detailed Flood Risk Assessments. • Hydrodynamic modelling and surveys. • Agree a dredging mitigation strategy, including identification of an appropriate disposal site. • Development of a Construction Environmental Management Plan.
During construction and operation	• Appointment of Ecological Clerk of Works. • Implementation of Construction Environmental Management Plan. • Adherence to best practice sector-specific methodologies as provided in NetRegs. • Timing, e.g. undertake certain types of construction work during less sensitive periods to avoid disturbance to birds. • Presence of marine mammal observer where works may generate loud underwater noise. • Supervision by qualified archaeologist where required. • Re-use of dredged materials where possible. • Implement dredging mitigation strategy. • Post-construction landscaping, re-vegetation and habitat enhancement to benefit biodiversity and visual appearance.

Summary of HRA screening process

The assessment of likely significant effect (LSE) during the HRA screening process concluded that the following sites and pressures should be subject to an AA:

Pressure	Site
Visual disturbance	Hoy Special Protected Area (SPA) Orkney Mainland Moors SPA North Orkney Proposed SPA (pSPA) Orkney Inshore Waters Draft SPA Scapa Flow pSPA
Introduction of light	North Orkney pSPA Orkney Inshore Waters Draft SPA Scapa Flow pSPA
Changes to prey availability	North Orkney pSPA Orkney Inshore Waters Draft SPA Scapa Flow pSPA
Underwater noise changes	Faray and Holm of Fara Special Areas of Conservation (SACs) Sanday SAC
Introduction or spread or non-indigenous species	Loch of Stenness SAC

Summary of Appropriate Assessment findings

The AA concluded that the implementation of the Orkney Harbours Masterplan will not have any adverse effects on the integrity of SACs SPAs, pSPAs and draft SPAS in the area during site investigation and operation phases – there may however be adverse effects during construction.

Given uncertainties around the final project details in the plan level assessment, the conclusion of any adverse effect on site integrity has been deferred to project level HRA. At the project stage detailed mitigation will be proposed, if necessary, to avoid or minimise adverse effects.

The in-combination assessment concluded that the implementation of the Masterplan in combination with several renewable energy development sites (e.g. Brims Tidal Development, Lashy Sound Tidal Array, Billia Croo and Falls of Warness test sites) has the potential to cause adverse effects through visual disturbance and underwater noise changes, on the European sites located within Orkney.

The AA made four key recommendations:

- To review and update HRA at project level and ensure that the development of other relevant plans and projects are considered in the in-combination assessment.
- As masterplan proposals progress further targeted bird surveys are undertaken to inform project-level EIAs.
- Further investigation will be required to determine foraging potential for black-throated diver and goldeneye within Scapa Flow.
- Moult periods should be confirmed for bird species that are qualifying features of the Scapa Flow, North Orkney pSPAs and the Orkney Inshore Waters draft SPA.

SNH comments on the AA

Comments received from SNH on the AA comprise the following:

- Agreement that following project level mitigation it may be possible to conclude no adverse effects on site integrity for harbour and grey seals at Sanday SAC and Faray and Holm SAC.
- Agreement that the Masterplan will not lead to adverse effects on Loch of Stenness SAC.
- Agreement that based on information provided it is unlikely that there will be adverse effects of loss of prey supporting habitat on site integrity for bird species associated with the pSPAs.
- There could be potential disturbance to birds during the site investigation at Kirkwall, Hatston, Scapa Pier and Scapa Deep Water Quay. This will be assessed at the project-level HRA.
- SNH believe that further assessment is required of vessel movements to assess visual disturbance on the qualifying interests of the pSPAs.
- Hen harrier and short eared owl features of Orkney Mainland Moors SPA and peregrine falcon and arctic skua of Hoy SPA can be screened out of further assessment.
- The in-combination effects assessment should screen in fish farm sites for consideration as some had LSE with respect to several qualifying interests of the Scapa Flow pSPA.

In response to the overall conclusion of the AA – that any conclusions of any adverse effect on site integrity has been deferred to project level HRA – SNH advise that, for the masterplan to be adopted there needs to be acknowledgement that individual projects will only go ahead if there is no adverse effect on site integrity.

For each masterplan proposal an HRA will be undertaken at project stage which will build upon the information provided within the AA and include detailed mitigation if necessary to avoid or minimise adverse effects to ensure no adverse effect on site integrity.

Comments from SEPA on flood risk

The Scottish Environment Protection Agency (SEPA) stated that they have no site-specific flood risk advice on the draft plan other than to welcome the commitment for each development to be subject to a detailed Flood Risk assessment.

SEPA went on to provide the following key comments:

- *If consulted at the detailed plan stage, SEPA will be able to provide an approximate 1 in 200 year coastal flood level for each area based on the most up-to-date extreme still water level calculations using the Coastal Flood Boundary Method.*
- *The expected sea level rise for the Orkney Islands is 0.93m by 2100 based on the latest UK climate change predictions reported in 2018. SEPA recommend that this allowance is taken into consideration to ensure that any development is sustainable and to account for uncertainties and the effects of wave action.*
- *With regards to leisure development such as cafés, SEPA recommend a minimum freeboard of 600mm above the flood level is applied to finished floor levels.*
- *It should be noted that, without further flood risk information, we would object to any proposals for overnight accommodation, or any development which falls within the 'Highly Vulnerable Uses' category or our Land Use Vulnerability Guidance.*

Comments from SEPA on regulatory requirements

SEPA provided comment on regulatory requirements:

- *The diversification into other industrial sectors through the ability to handle larger vessels brings with it the possibility that environmental permitting or licensing of associated infrastructure may be required.*
- *Proposals for a fuel storage facility at Hatston would be subject to COMAH regulations. Similarly, any LNG/LPG bunkering hub/storage facility is likely to be captured under the COMAH Regulations and require the production of a Pre-Construction Safety Report.*
- *Development at Lyness will be on a brown field site. There have been previous discussions regarding the need for soil contamination investigation and remediation at this site that will need to be revisited as part of any development here.*
- *A Controlled Activities Regulations (CAR) construction site licence is required for management of surface water run-off from a construction site, including access tracks, which is more than four hectares, is in excess of 5km, or includes an area of more than one hectare or length of more than 500m on ground with a slope in excess of 25° (e.g. Scapa Deep Water Quay). Site design may be affected by pollution prevention requirements and SEPA strongly encourages the applicant to engage in pre-CAR application discussions.*
- *For land reclamation the EIA will be important in determining any potential significant effects and to identify any required mitigation. As the proposals progress SEPA would like details (e.g. quantity, type, source) of appropriate infill material to demonstrate no waste material will be used.*

6. MANAGEMENT AND COMMERCIAL CONSIDERATIONS

Introduction

The masterplan sets out a vision for Orkney Harbours. It is a live document and should be reviewed regularly so that it remains relevant.

This section considers aspects that are key to the implementation of masterplan proposals:

- Potential phasing of proposals.
- Project dependencies.
- Planning policy framework.
- Partnerships and engagement.
- Funding.
- Implementation.

Potential phasing of proposals

The phasing of proposals ultimately depends on a number of key factors:

- Are any proposals critical in terms of maintaining operational activity, safety, etc?
- Are there dependencies between proposals which might influence when they are delivered?
- Is there any merit in delivering some proposals in a phased approach – e.g. cost savings?
- What are the key priorities, are there 'quick wins' that can be delivered easily and quickly but which also offer clear value for money?
- What is the appetite among stakeholders regarding significant investment in infrastructure with a view to securing long-term benefit for Orkney?

A clear understanding of the financial and economic impacts will make it easier to determine which proposals should be prioritised on a value for money basis.

Finally, the level of Council support and commitment will play a pivotal role in prioritising proposals, phasing and funding.

Project dependencies

Project dependencies arise where the delivery of masterplan proposals is affected in some way by other projects or factors:

- Ability to attract funding is a key dependency in that it will govern which proposals can proceed and when. Similarly commitment of key stakeholders politically and operationally, as well as financially, will influence when some proposals might be delivered.
- Outcome of the OIITS Study and the future provision and requirements of internal ferry vessels will have a key influence on masterplan proposals relating to ferry infrastructure.
- Proposals at Hatston may be influenced by the terms of the new Northern Isles ferry services contract – there may be a new operator in place and there could be changes to timetables for external ferries.
- The expansion of the marina at Kirkwall Pier is dependent on being able to remove ferry vessels from the east basin – thus it is dependent on the construction of new quayside to the north.
- Developments and projects within specific sectors may influence some proposals in how and when they are developed – particularly oil and gas, aquaculture, fishing, renewables and boat repair and maintenance.

Integration with the planning and policy framework

From a policy perspective it is envisaged that the Harbour Authority will work closer with Government bodies to ensure that the masterplan is aligned with planning and policy developments, which might lead to funding opportunities through the Scottish Government.

Partnerships and engagement

Ongoing dialogue and engagement with stakeholders is fundamental in ensuring that the masterplan proposals are fit for purpose and meet the needs of existing and future users.

The purpose of engaging with stakeholders is:

- To ensure that they are aware of what is happening in terms of development and the potential impacts.
- To maintain buy-in for masterplan proposals – as these can be developed over a long period of time.
- To obtain information and views on particular projects which can be used to refine proposals and processes.

There has already been substantial engagement with harbour users and local stakeholders throughout the development of the masterplan.

A stakeholder engagement plan will be developed, setting out which stakeholders need to be engaged at what point in the process of delivering each of the masterplan proposals.

A summary of key stakeholders is presented opposite.

Key stakeholders

- Orkney Islands Council.
- OIC Marine Services.
- All harbour users, including aquaculture companies, ferry operators, cargo/shipping/haulage companies, fishing boats, cruise, marina operators and users, renewable energy developers, marine leisure users, users of the existing fish/shellfish facilities, businesses based in the Harbour Estate or using facilities there.
- Potential new users/customers.
- Industry associations and representative bodies.
- Local community through Community Councils and other key local groups.
- HIE.
- Scottish Government.
- UK Government (Department for Transport, Maritime & Coastguard Agency).
- Crown Estate.
- Marine Scotland.
- Transport Scotland.
- Environmental authorities (e.g. SNH, HES, SEPA, Scottish Water).

Funding

There will likely be a range of possible funding sources that will need to be explored:

- Harbour Authority own funds and ability to borrow money.
- Orkney Islands Council through various departments and possible contribution from the Strategic Reserve (formerly the Harbours Fund) in particular.
- HIE.
- Scottish Government.
- Private sector entities.
- Developer contributions.
- If funding is sourced from outside of Orkney, there may be some merit in considering mechanisms developed by the Scottish Futures Trust (SFT).

Implementation

Following publication of the final masterplan, the Harbour Authority will progress implementation of the masterplan proposals. This may comprise the following steps:

- Completion of an Outline Business Case which clearly sets out the financial and economic impacts associated with each proposal, as well as what the funding gaps might be.
- Development of a detailed implementation plan and governance strategy, outlining what the project management arrangements will be for the planning and delivery of proposals. A key element of this will be the succession strategy with regard to Harbour Authority management.
- Preparation of feasibility studies.
- Dialogue with potential funders.
- Ongoing engagement with key stakeholders.

APPENDIX A – HARBOUR AREAS, PORT PREMISES & PERMITTED DEVELOPMENT

Definition of harbour area and port premises

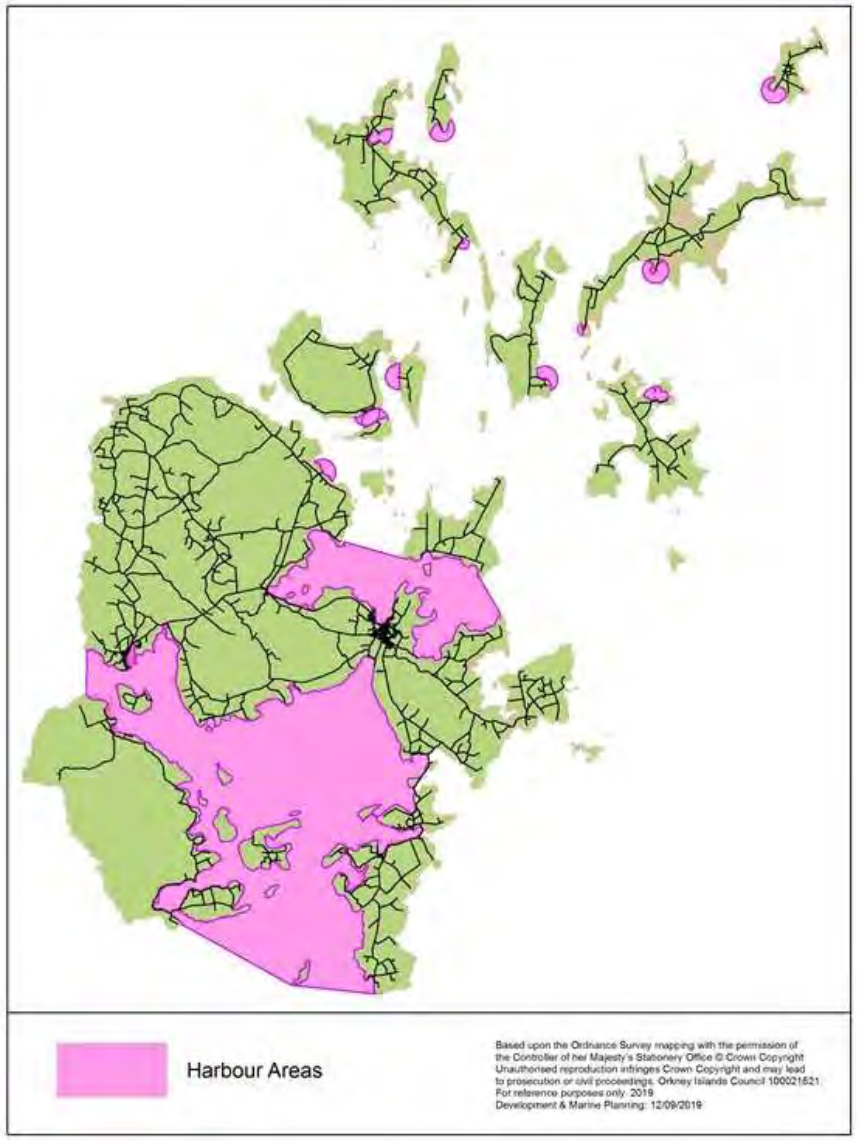
The Orkney County Council Act 1974 section 7 confers powers on the Council to construct harbour related works in harbour areas. The expression "harbour area" is defined in section 3 of the 1974 Act (as amended by section 3(1) of the 1978 Act) and that amended definition provides as follows:

""harbour area" means the areas the respective limits of which are described in the Schedule to this Act and includes port premises adjacent to any of those areas;".

The harbour areas are listed in the Schedule to the 1974 Act as amended by the addition of the further harbour areas referred to in section 3(2) of the 1978 Act and article 2 of the 1989 Harbour Revision Order. These harbour areas include Scapa Flow, Wide Firth, Shapinsay Sound and areas in proximity to North Isles piers as detailed on the map opposite.

Subsequent maps in this section delineate the extent of land owned or operated by the Orkney Harbour Authority at the time of publishing this masterplan in 2019. These maps identify the extent of adjacent port premises at Hatston Terminal, Kirkwall Pier, Scapa Pier, New Pier (Stromness), North Pier (Stromness) and Copland's Dock. These adjacent port premises form part of the harbour area as defined in the 1974 Act (as amended).

Map of harbour areas



Permitted development and operational land

The Council has the benefit of the planning permissions granted by paragraph (1)(a) of Town and Country Planning (General Permitted Development) (Scotland) Order 1992 Class 29 for each of the harbour areas and can carry out any of the harbour related works specified in section 7 of the 1974 Act (i.e. "*such works as are required for or in connection with the exercise by the Council of their functions under this Act").* Under the condition set out in paragraph (2) of Class 29, development is not permitted for the buildings and road accesses specified in that paragraph unless the prior approval of the Council, as planning authority, in respect of the relevant detailed plans and specifications is first obtained. It should be noted that a Class 29 development does not require an Environmental Impact Assessment.

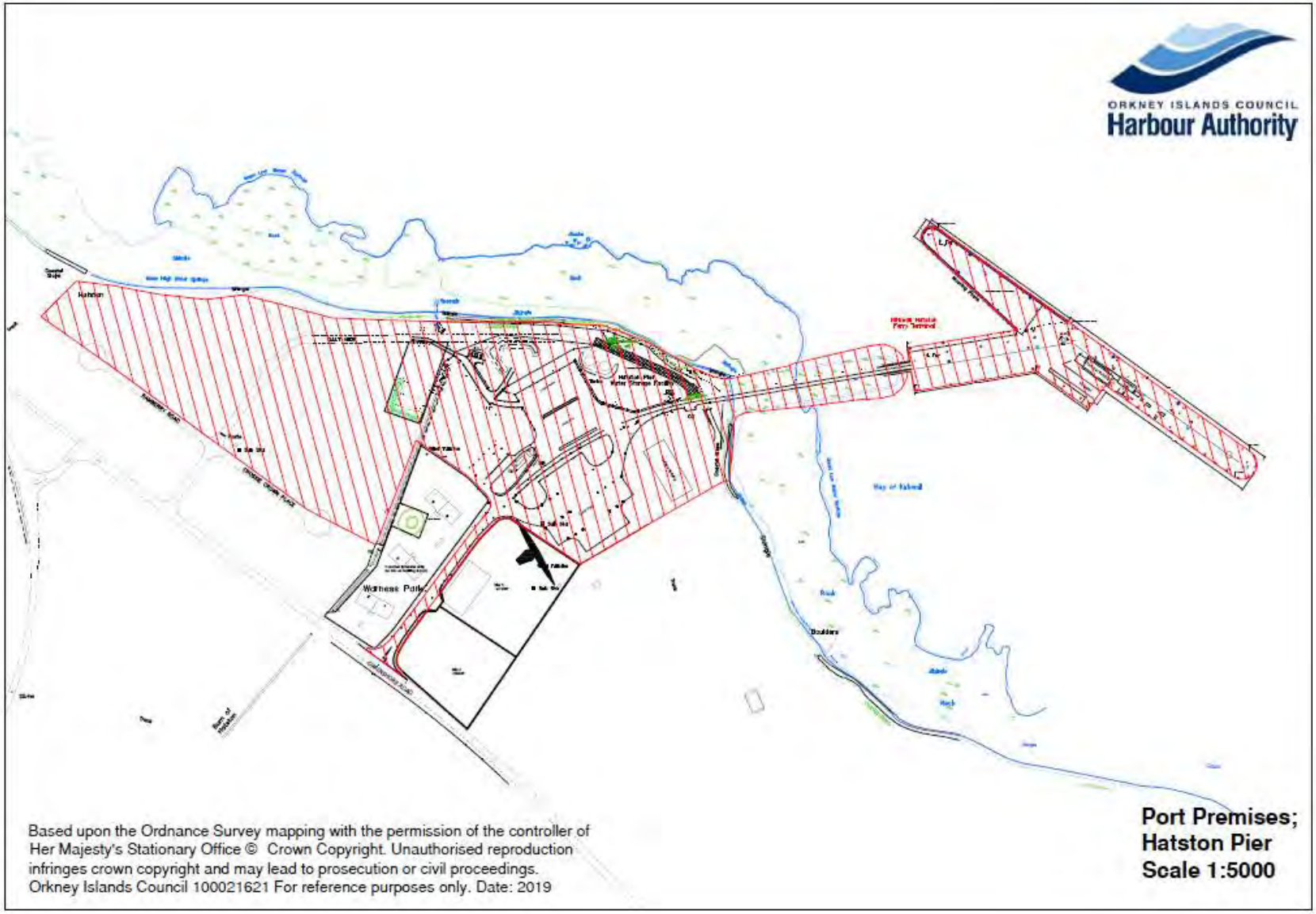
For the purposes of planning permissions granted by Class 29 paragraph (1)(a), the harbour areas include the respective limits described in the Schedule of the 1974 Act (as amended) and the port premises adjacent to those areas.

The Council or their lessees have the benefit of the planning permissions granted by paragraph (1) of Town and Country Planning (General Permitted Development) (Scotland) Order 1992 Class 35 for the developments specified in that paragraph but only on operational land as defined in sections 215 and 216 of the Town and Country Planning (Scotland) Act 1997; and as further defined by the second limb of paragraph (3) of Class 35. Developments referred to in paragraph (1) of Class 35 are restricted by paragraphs (2) and (3) of Class 35. It should be noted that a planning permission is not available under Class 35 where an Environmental Impact Assessment is required.

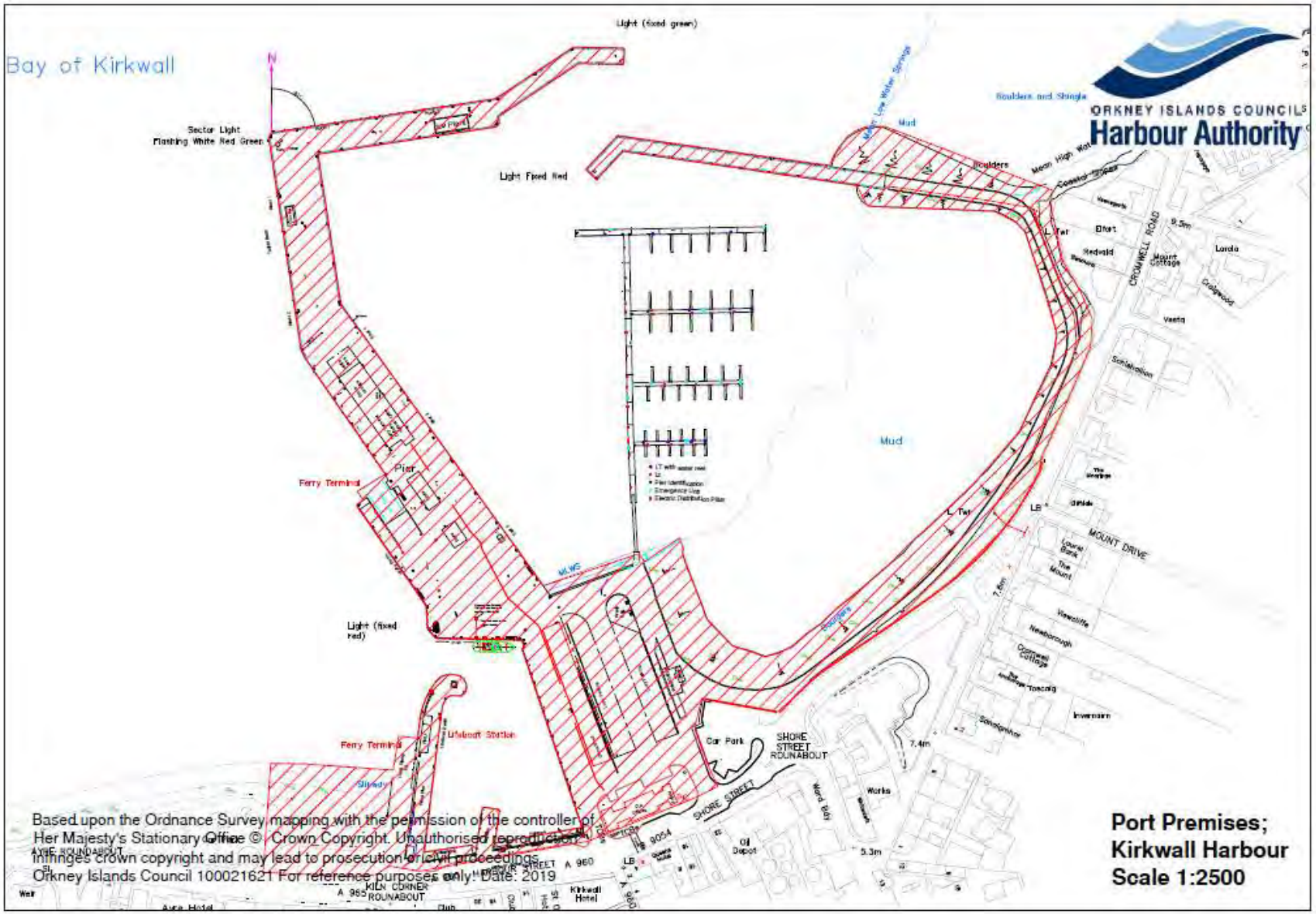
Port premises relating to the harbours specified in the Schedule to the 1974 Act and Schedule 1 to the 1978 Act which was harbour land owned by the Council's statutory predecessors before 8 December 1969 had and has continuing status "operational land" under section 216(1) of the 1997 Act. Furthermore, reference to "Specific planning permission" under section 216(3) of the 1997 Act includes permission granted by Part 11, Class 29 of the GPDO by virtue of section 216(5)(b) and (6)(b)(i).

The extent of operational land will be identified as part of the masterplan Outline Business Case and associated Implementation Plan to clarify the future consenting requirements for the masterplan proposals.

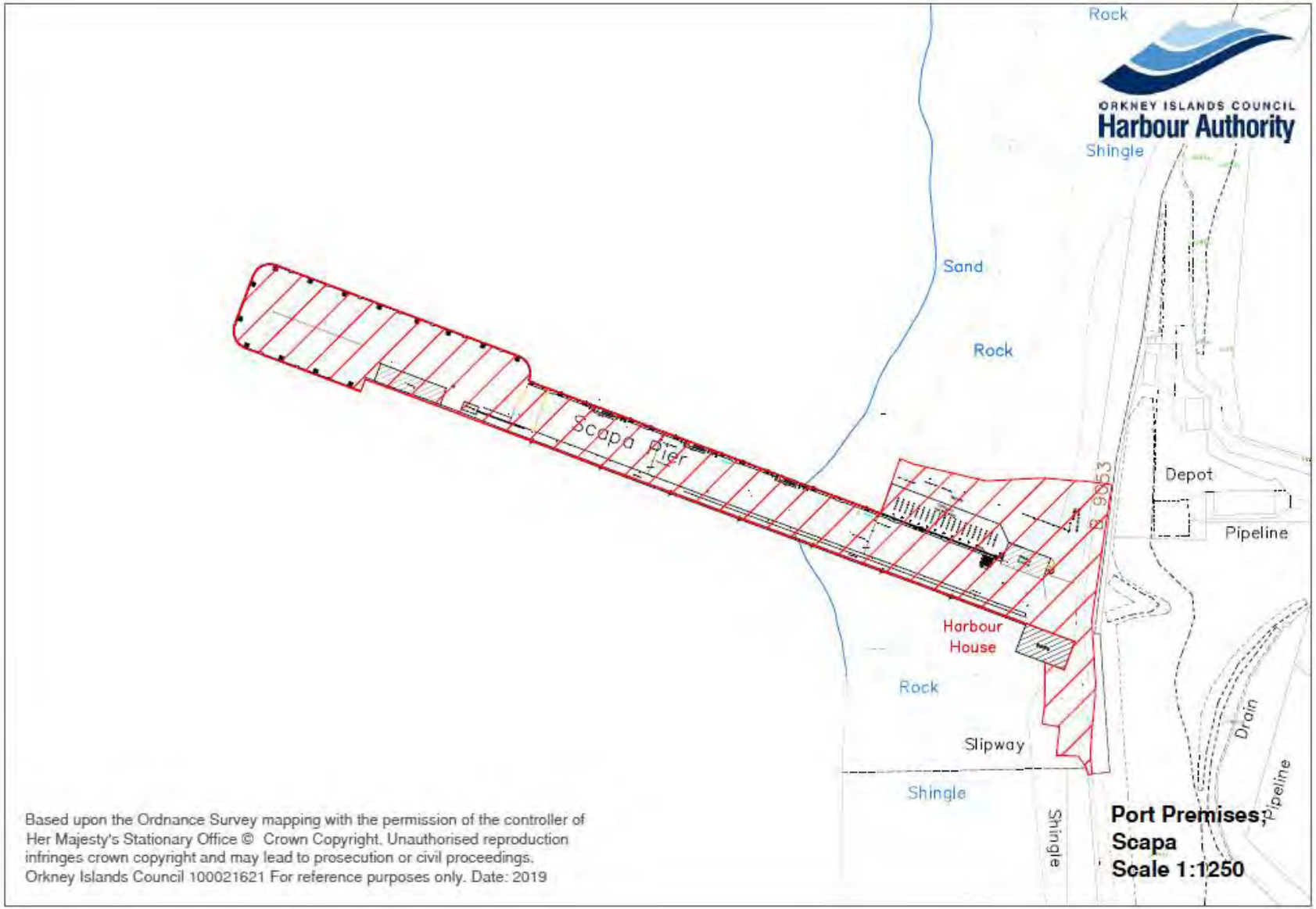
Port premises at Hatston Pier and Terminal



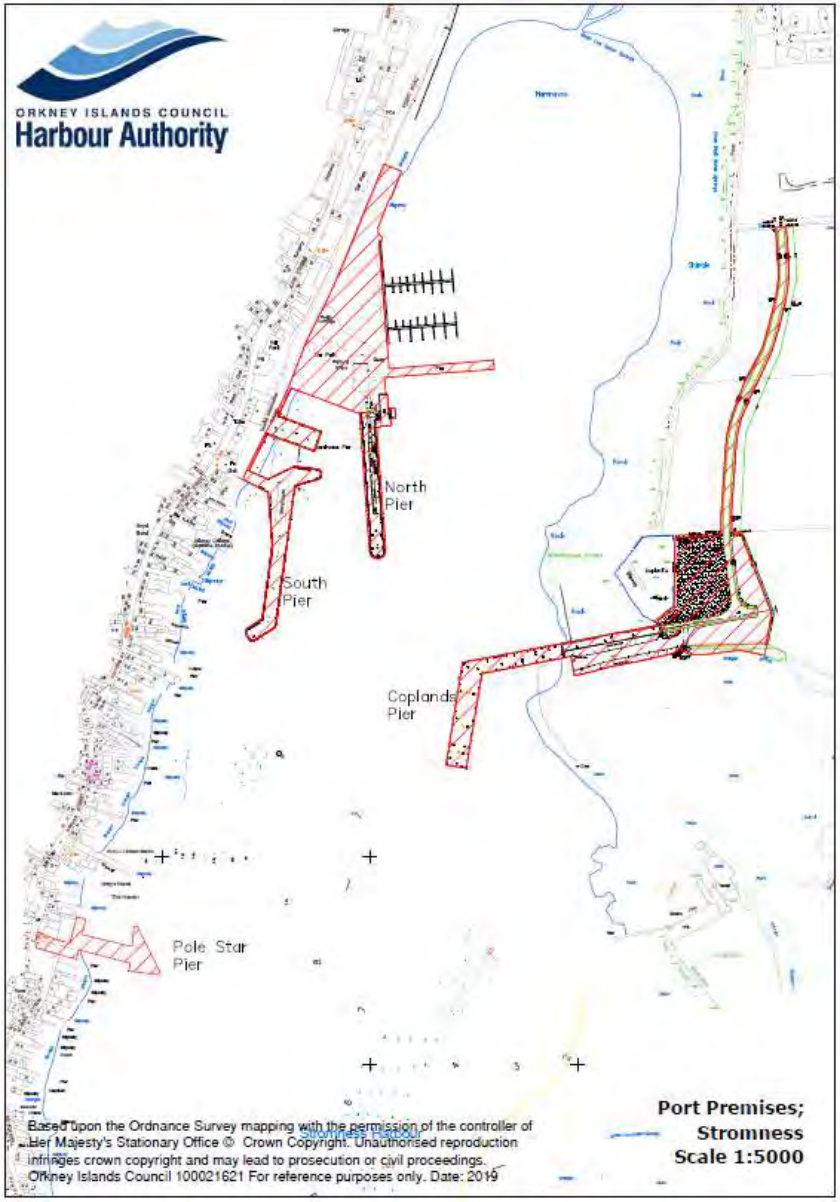
Port premises at Kirkwall Pier



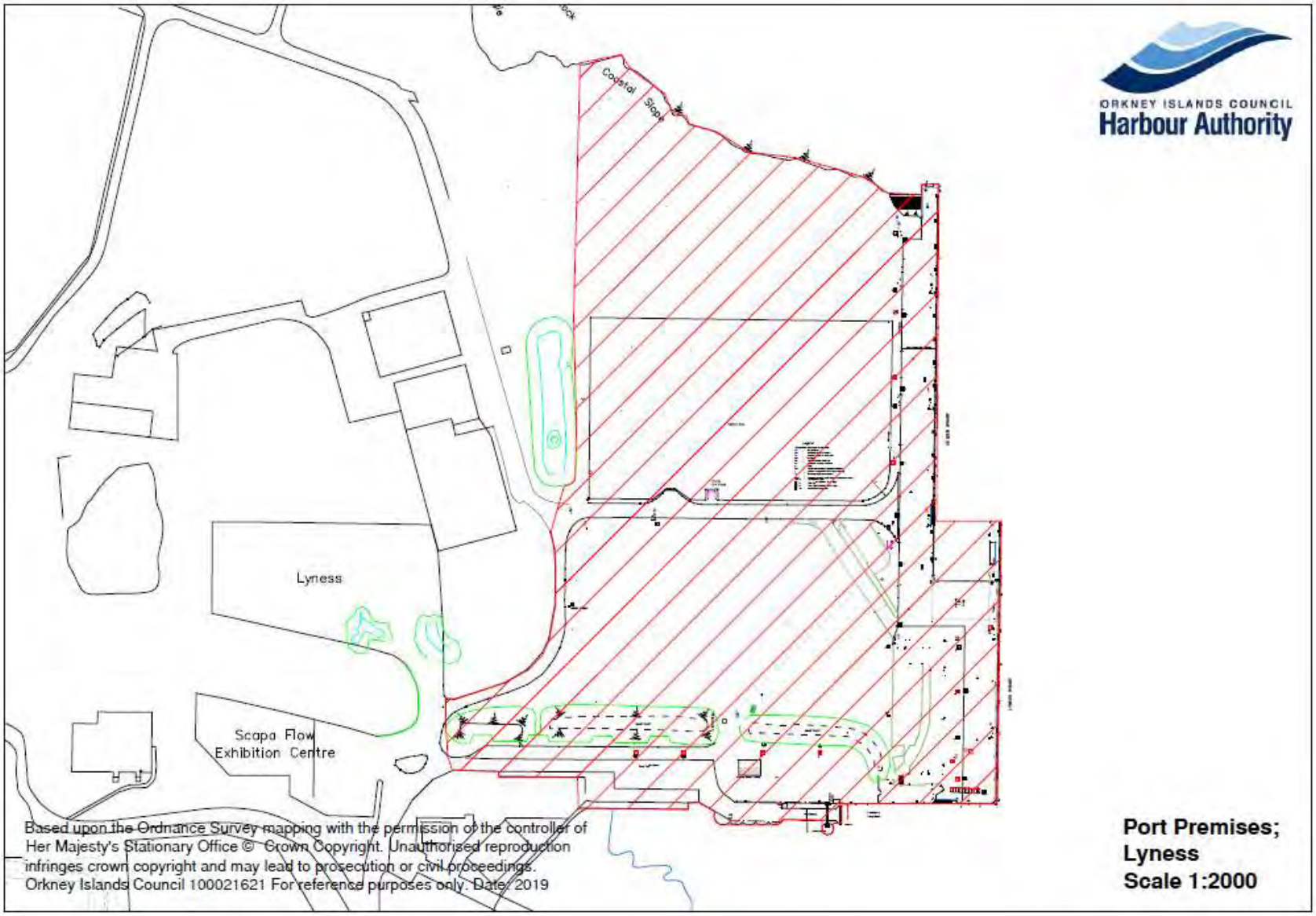
Port premises at Scapa Pier



Port premises at Stromness and Copland's Dock



Port premises at Lyness



APPENDIX B – PROPOSED DEVELOPMENT POLICY PRINCIPLES

Proposed Development Policy Principles: Safeguarding harbour operations in Scapa Flow

Proposed Development Policy Principle 1: Safeguarding strategic importance of Scapa Flow coastal areas

- No marine or coastal development and/or activities should have a significant adverse impact on Harbour Area operations and/or navigational safety on the east coast of Scapa Flow from Scapa Beach to St Mary's within a buffer zone of 1,500m from the shore. The purpose of this is to safeguard any future proposals to build deep water harbour infrastructure, or any other strategically important harbour infrastructure, along this coastline and allow for safe navigation and manoeuvrability.
- The north coast of Scapa Flow stretching from Scapa Beach to Stromness is regarded as a strategically important area for potential future harbour development and could be subject to new harbour infrastructure in the longer term.

Proposed Development Policy Principle 2: Safeguarding strategic navigational channels for all vessels entering and exiting Scapa Flow

No marine or coastal development and/or activities should have a significant adverse impact on the following recognised navigation channels:

- All ferry navigational routes in Scapa Flow.
- Navigational routes for tankers and other large vessels.
- Channels/approaches associated with Flotta and Lyness.

Similarly no marine or coastal development and/or activities should have a significant adverse impact on safe passage through any sound (e.g. West Weddel Sound, Switha Sound, Gutter Sound), including Widewall Bay which acts as a safe escape route for large tankers.

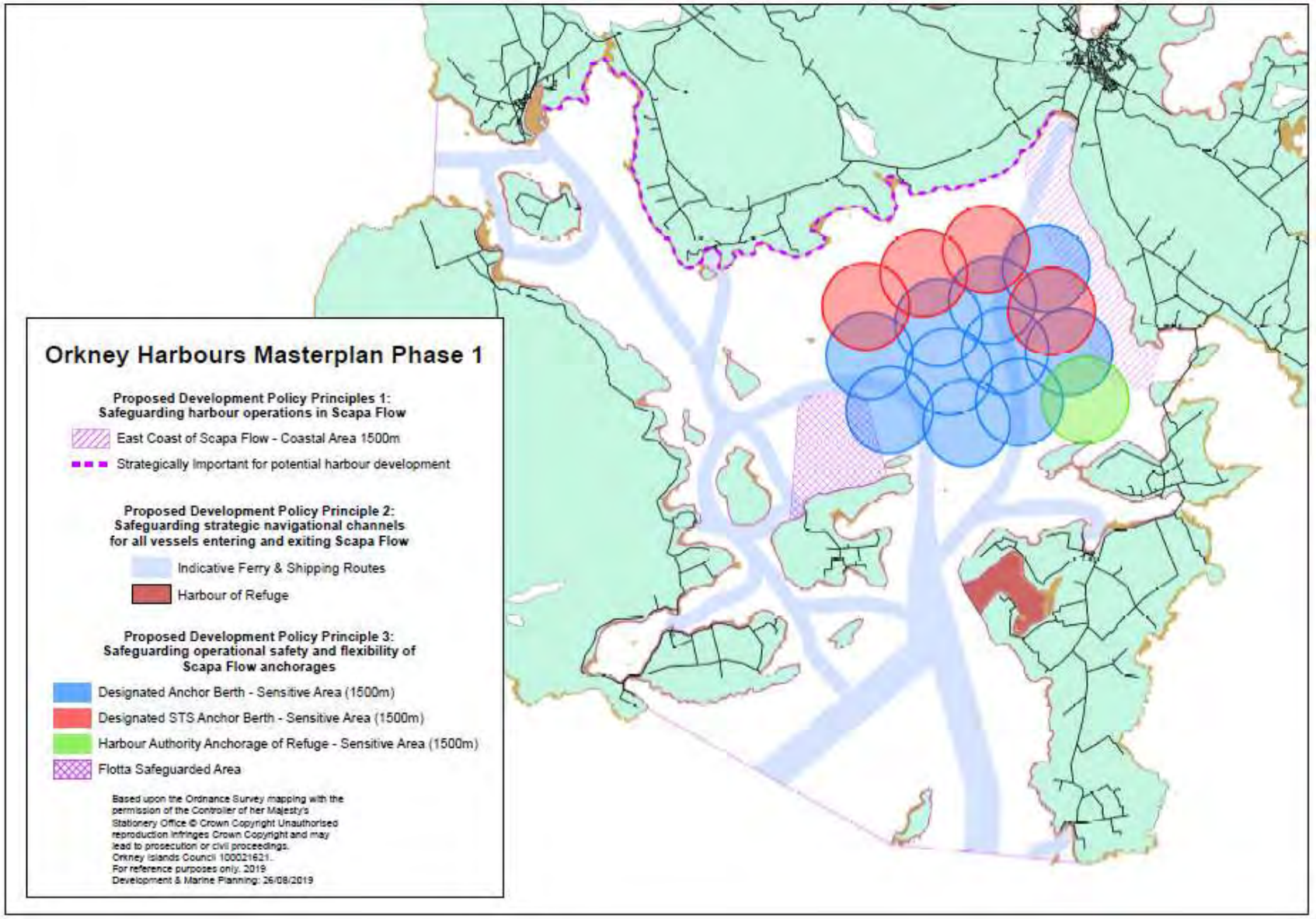
Proposed Development Policy Principle 3: Safeguarding operational safety and flexibility of Scapa Flow anchorages

Based on operational evidence, it is the view of the Harbour Authority that the Aquaculture Supplementary Guidance 1,000m area of sensitivity associated with STS berths and the other designated anchor berths in Scapa Flow is insufficient, for the following reasons:

- If weather changes once a vessel is in position (at for example STS 4), then it can be the case that the vessel is within only 400m of potential fish farm cages located at the 1,000m point.
- Anchor dragging.

A 1,500m area of sensitivity associated with STS berths and the other designated anchor berths is therefore proposed by the Harbour Authority. The operational area to the north of Flotta Oil Terminal should be safeguarded for harbour operations.

Proposed Development Policy Principles: Safeguarding harbour operations in Scapa Flow



APPENDIX C – POLICY CONTEXT

Scotland's Economic Strategy

The Scottish Government's purpose is to create a more successful country, with opportunities for all of Scotland to flourish, through increasing sustainable economic growth. The Strategy focusses on two pillars to achieve this objective: increasing competitiveness and tackling inequality.

This is underpinned by four priorities for sustainable growth: **investment, innovation, inclusive growth and internationalisation.**

Infrastructure Investment Plan 2015

The Infrastructure Investment Plan sets out priorities for investment and a long-term strategy for the development of public infrastructure in Scotland.

The Plan states that "action is being taken across Government programmes to empower our island communities and, recognising the important role infrastructure plays in realising our islands potential, we will prioritise relevant transport, energy and digital investment."

There is scope for the masterplan outputs to inform the next version of the Plan.

National Planning Framework 3 (4)

This framework sets out a long-term vision for development and investment across Scotland for the next 20 to 30 years.

Hatston and Lyness are identified as 'enterprise areas' and as additional National Renewables Infrastructure Plan (NRIP) sites, whilst Kirkwall is recognised as an 'island hub for investment'.

Pentland Firth and Orkney Waters are earmarked as one of four 'energy hubs' in Scotland.

Scapa Flow is highlighted as one of five key ports in Scotland, on the basis that there could be opportunities arising from the opening up of new shipping routes across the Arctic.

There is scope for the masterplan outputs to inform the next version of the Framework (National Planning Framework 4), in particular to secure a major infrastructure project of national significance.

National Transport Strategy (NTS)

The NTS provides the framework for enhancing Scotland's transport system, in response to the main transport challenges that Scotland faces, which in turn contributes to improvement in its economic, environmental and social performance. There are three key strategic outcomes: tackling congestion and lack of integration; reducing emissions and improving the quality, accessibility and affordability of public transport.

The NTS is due to be refreshed in 2019 – there is scope for the masterplan outputs to inform the next version of the NTS.

Scotland's National Marine Plan

This plan sets out strategic policies for the sustainable development of Scotland's marine resources out to 200 nautical miles.

The key aim of this plan is:

"Achieving a sustainable economy, promoting good governance and using sound science responsibly are essential to the creation and maintenance of a strong, healthy and just society capable of living within environmental limits."

There are 21 General Policies (see opposite) which are considered necessary to achieve sustainable development and use. Through the appropriate consenting processes the masterplan proposals will pay due regard to these General Policies of the National Marine Plan.

National Marine Plan – General Policies

GEN 1 General planning principle
GEN 2 Economic benefit
GEN 3 Social benefit
GEN 4 Co-existence
GEN 5 Climate change
GEN 6 Historic environment
GEN 7 Landscape/seascape
GEN 8 Coastal processes and flooding
GEN 9 Natural heritage
GEN 10 Invasive non-native species
GEN 11 Marine litter
GEN 12 Water quality and resource
GEN 13 Noise
GEN 14 Air quality
GEN 15 Planning alignment A: (sea/shore access)
GEN 16 Planning alignment B: (inshore water only)
GEN 17 Fairness
GEN 18 Engagement
GEN 19 Sound evidence
GEN 20 Adaptive management
GEN 21 Cumulative impacts

Ferries Plan (2013 – 2022) and related studies

The Ferries Plan aims to maximise the economic and social potential of Scotland's remote rural and island communities. Its intention is provide a clear view of the way forward for lifeline ferry services in Scotland, addressing issues of funding, fares, accessibility, responsibility and the environment. With reference to the internal ferry services in Orkney and Shetland, the Plan states that there would be discussions with the relevant local authorities to determine the future running of such ferry services. Negotiations with Transport Scotland are currently underway, which may result in the inter-isle ferry services being operated in-house by the Scottish Government.

Following an Appraisal of Options for the Specification of the Northern Isles Ferry Services (NIFS) in 2017 the tender process is now underway to select an operator for these external ferry services. The contract covers ferry services between the Scottish mainland and the Northern Isles of Orkney and Shetland to transport passengers, vehicles and freight.

The full specification for these services will be made available to bidders during the tendering process. The contract is due to commence in October 2019 and run for a maximum of eight years.

A revised Ferries Plan is due to be published in 2022.

Scottish Climate Change Adaption Programme

A five-year Climate Change Adaptation Programme for Scotland (2019 – 2024) is in the process of being developed. This new Adaptation Programme will build on progress made under the 2009 Adaptation Framework and will take account of more recent Climate Change Risk Assessments.

The Programme must set out progress on the previous Programme, Scottish Ministers' objectives on adaptation, proposals and policies and their timescales, and arrangements for wider engagement.

The Programme comprises seven high level outcomes:

- Our communities are inclusive, empowered, resilient and safe in response to the changing climate.
- The people in Scotland who are most vulnerable to climate change are able to adapt and climate justice is embedded in climate change adaptation policy.
- Our inclusive and sustainable economy is flexible, adaptable and responsive to the changing climate.
- Our society's supporting systems are resilient to climate change.
- Our natural environment is valued, enjoyed, protected and enhanced and has increased resilience to climate change.
- Our coastal and marine environment is valued, enjoyed, protected and enhanced and has increased resilience to climate change.
- Our international networks are adaptable to climate change.

Climate Change (Scotland) Bill 2009 amendments

A new Climate Change Bill was introduced to Parliament on 23 May 2018, amending the Climate Change (Scotland) Act 2009.

In line with advice from the Committee on Climate Change (CCC) on 2 May 2019, amendments to the Bill were lodged, to set a target date of 2045 for reaching net-zero emissions. The amendments to the Bill also raised the ambition of the 2030 and 2040 targets to 70% and 90% emissions reductions respectively. The Scottish Parliament's Environment Committee voted in favour of these targets at Stage 2 on 18 June 2019.

'Net-zero' is when emissions of greenhouse gases to the atmosphere are balanced by removals of those gases (such as carbon being absorbed by forests). This is equivalent to a 100% reduction in net emissions from baseline levels.

Scotland's headline targets are based on reducing emissions across all the greenhouse gases covered by the Kyoto Protocol. This means carbon dioxide, but also methane and other gases.

(Source: www.climate.scot)

Marine Tourism Strategy

The vision of Scotland's Marine Tourism sector strategic framework, "Awakening the Giant" is: "By 2020 we want Scotland to be "a marine tourism destination of first choice for high quality, value for money and memorable customer experience delivered by skilled and passionate people."

The strategy seeks to increase visitor expenditure from sailing tourism from £101m in 2010 to £145m by 2020 and to increase the overall economic value of the sector to over £450m by 2020.

National Islands Plan

The proposed Plan, published in October 2019, provides a framework for action intended to improve outcomes for island communities. It includes proposals relating to a set of 13 strategic objectives and has been informed by legislation and talking to stakeholders across the islands. Of particular relevance are Strategic Objectives 2 and 3 concerning economic development and transport:

To improve and promote sustainable economic development	• Promote a thriving business environment that allows individuals to pursue a wide range of economic opportunities on islands. • Build on Scotland's National Marine Plan to ensure that fishing and other economic activities stemming from the sea provide increased opportunities for island communities. • Work in partnership with UHI, HIE and others to support strategic projects which deliver sustainable economic growth in the islands.
To improve transport services	• Ensure that existing and future transport-related policies, strategies and services are fully island proofed so that they truly meet the needs of island communities. • Produce a long-term plan and investment programme for new ferries and development at ports to improve resilience, reliability, capacity and reduce emissions.

HIE Operating Plan

HIE's Operating Plan (2018-2019) sets out HIE's purpose, vision and priorities and the actions required to build the region's future.

- Accelerating Business Growth: supporting businesses to grow through investment, innovation and internationalisation.
- Strengthening Communities: enabling communities, particularly in remote and rural areas, to make a significant contribution to place-based development.
- Supporting Growth Sectors: sectoral development with a focus on sub-sectors and supply chains offering distinctive regional opportunities.
- Developing Regional Attractiveness: making the Highlands and Islands a globally-attractive region in which to live, work, study and invest.

HITRANS Regional Transport Strategy (RTS)

The RTS vision is to deliver connectivity across the region which enables sustainable economic growth and helps communities to actively participate in economic and social activities. To achieve these high level objectives, there are four transport objectives:

- Reduce journey times and improve reliability and resilience.
- Improve safety of transport and travel.
- Tackle capacity constraints.
- Improve quality, accessibility and integration of travel.

Pentland Firth and Orkney Waters Spatial Plan

The Plan sets out an integrated planning policy framework to guide marine development, activities and management decisions, whilst ensuring the quality of the marine environment is protected. The vision is as follows:

"Pentland Firth and Orkney Waters will be a clean, healthy, safe, attractive and productive marine and coastal environment that is rich in biodiversity and managed sustainably to support thriving and resilient local communities."

Orkney Council Plan (2018 – 2023)

The Council Plan sets out the key priorities of Orkney Islands Council and details the projects and activities through which these priorities are to be implemented, within agreed budget.

The Plan's mission is focused on 'working together for a better Orkney'. There are five strategic priorities and a number of key priorities and aspirations which the masterplan proposals could potentially deliver against (see opposite).

Orkney Community Plan (2017 – 2020)

The Orkney Community Plan incorporates Orkney's Local Outcomes Improvement Plan (LOIP) and describes what the Orkney Partnership (this is a partnership between OIC and other stakeholder organisations) aims to achieve, setting out its strategic priorities for action. There are three strategic priorities:

- Positive ageing – independent living; positive and valued participation in the community; long-term health and wellbeing.
- A vibrant economic environment – opportunities for young people; Orkney innovation zone; community-based enterprise and employment.
- Healthy and sustainable communities – healthy lifestyles; inclusiveness and equality; access; a sustainable health and care workforce.

Relevant priorities and aspirations (Council Plan)

Strategic Priority	Priorities/aspirations of relevance
Connected Communities	• Invest in marine infrastructure and business development.
Caring Communities	• Address workforce development to make sure we have the right people in the right place at the right time.
Thriving Communities	• The Orkney Community is able to access work, learning and leisure through a modern, robust infrastructure which supports all our communities and meets the requirements of 21st century life.
Enterprising Communities	• Continue to develop strategic projects, particularly to capitalise on the renewables sector. • Progress the Islands Deal to deliver innovative, enterprising and transformational projects. • Continue to encourage and support economic opportunities which maximise islands' opportunity and influence.
Quality of Life	• Orkney has a flourishing population with people of all ages choosing to stay, return or relocate here for a better quality of life.

Orkney's Local Development Plan (LDP) 2017

OIC adopted a new Local Development Plan (LDP) for Orkney in April 2017. It sets out a vision and spatial strategy for the development of land in Orkney over the next 10 to 20 years.

The plan sets out 15 policies for each type of development. All of the policies in the Plan are afforded equal weight in the determination of planning applications; if a proposal is contrary to any single policy then it does not accord with the Plan.

There are several supplementary guidance documents for specific planning issues and sectors.

The Plan's vision incorporates the following:

- To ensure that effective planning policies are in place to strengthen and support Orkney's communities by enabling those developments which will have a positive and sustainable socio-economic impact, and utilise locally-available resources, whilst striving to preserve and enhance the rich natural and cultural heritage assets upon which Orkney's economy and society depends.
- Orkney's settlements will act as a focus for growth in order to support existing facilities and services such as shops, schools and public transport links. Facilitating active travel will be an integral part of development planning across the county with a commitment to include well-integrated footpaths and cycleways within new developments and to connect any fragmented sections of the existing network to encourage active and healthy living.
- The Plan supports Orkney's strong maritime links and guides relevant developments to key land around ports and harbours.

Orkney Regional Marine Plan

The Marine (Scotland) Act 2010 introduced a provision for local stakeholders to prepare statutory regional marine plans at the local level. A regional marine plan is the marine equivalent of a local development plan, containing statutory local policies and spatial plans to guide marine consenting and management decisions.

Regional marine plans are prepared by Marine Planning Partnerships (MPPs) representing the economic, community, environmental and recreational interests within a local marine region. MPPs are established to enable local ownership of policy development and decision making taking account of local circumstances.

OIC is currently leading the development of the Orkney Islands Marine Planning Partnership with the aim of establishing the partnership in 2020.

Kirkwall Urban Design Framework

The Urban Design Framework (UDF) sets out land use planning policy and development land allocations for Kirkwall.

A number of planning and design principles are focussed on enhancing Kirkwall's sense of place, improving connectivity within the town, visual amenity and public realm aspects. There is also a principle to create a robust landscape framework for the future development of Hatston industrial area, a coastal pathway linking the town centre to Hatston, a proposed Harbour Re-purposing Zone at Kirkwall Marina and developments in other areas around Kirkwall.

Draft Orkney Tourism Strategy 2019 – 2025

A draft Orkney Tourism Strategy is being developed by the Destination Orkney Strategic Partnership; its vision for 2025 is:

Orkney will be the natural choice for discerning visitors seeking a world class experience on this unique archipelago which offers rare archaeological discoveries in a pristine, tranquil and welcoming setting.'

Marine tourism is one of four identified authentic experiences: this broad theme includes leisure sailing, windsurfing and other uses of the marine environment. It also includes cruise ship travel, with Orkney now being one of the most successful cruise ports in the UK and Europe. The strategy highlights the impact of cruise on local services and the conflict between day and staying visitors – these aspects are considered within a Destination Management Plan which is being developed.

Orkney Sustainable Energy Strategy

In 2009 the community in Orkney published the Sustainable Orkney Energy Strategy which sought to define three overarching aims to bring a strategic direction to its energy ambitions. These three aims sought to:

- Ensure Orkney uses energy as efficiently as possible and has a secure and affordable energy supply to meet its future needs.
- Add value to Orkney's renewable energy resources, for the benefit of the local economy and local communities, whilst minimising damage to the environment.
- Reduce Orkney's carbon footprint.

In 2017, this was superseded by the Orkney Sustainable Energy Strategy. The vision statement of this strategy was:

'Orkney: a secure, sustainable low carbon island economy driven uniquely by innovation and collaboration, enabling the community to achieve ambitious carbon reduction targets, address fuel poverty and provide energy systems solutions to the world.'

This vision was supported by the following thematic pillars:

1. Maximising local value and efficiency (from local resources).
2. Smart, Low Carbon Transport and Heat.
3. A secure transition to renewable and carbon energy systems.
4. Smart, Supportive Infrastructure Investment.
5. Influencing and developing policy and access to energy markets.

Orkney Hydrogen Strategy

The Orkney Hydrogen Strategy: The Hydrogen Islands seeks to identify how hydrogen can best be applied to Orkney in developing local energy systems to maintain the early mover advantage, fulfil wider strategic goals set by the governments in Scotland and UK and how solutions developed in Orkney can be applied to other communities facing energy challenges of their own as we transition to a low carbon society.

This strategy seeks to encourage a wide range of hydrogen end-users to aid development of the associated economy and create conditions conducive to adopting hydrogen technologies while investment opportunities are available. There are five hydrogen development themes within the strategy.

Hydrogen is fast becoming a key energy resource in the world transition to a low carbon future. The Orkney Hydrogen Strategy seeks to aid development towards an Orkney appropriate sustainable hydrogen economy to provide economic benefits such as: local jobs; establishing a local supply chain; and an increased resilience in the local energy system. Orkney will maintain its leading edge on the development of local energy systems that make use of a range of renewable technologies, develop local hydrogen economies and increase the efficacy of local grid infrastructure to better meet the needs of the local population. This strategy should seek to attract further inward investment to build on hydrogen technology deployments where appropriate.

APPENDIX D – SUMMARY OF ECONOMIC BENEFITS

Kirkwall Pier proposals – who will benefit and potential impacts

New multi-purpose quayside infrastructure	**Ferry operator and users** Benefit from having dedicated, sheltered overnight berths. Provision of additional berths will safeguard future provision of lifeline internal ferry services.	• Increase efficiency and safety for ferry operator. • Increase number of larger vessels using new infrastructure. • Increase volume of smaller vessels using east basin. • Increase number of cruise passengers and spend. • Increase efficiency and safety for vessel owners, potentially leading to higher productivity, cost savings, etc. • Increase number of resident marina berths taken/visiting yachts and associated spend on goods and services. • Safeguard/create employment in marine leisure supply chain. • Increase financial sustainability of Harbour Authority through additional income. • Increase efficiency of Kirkwall Pier.
	Other vessel owners (cruise, aquaculture, cargo, fishing) Vessels with larger drafts able to use Kirkwall Pier. Larger cruise liners can come alongside rather than tender in, as some slots at Hatston will be freed up by more small vessels using Kirkwall. Improved experience for cruise passengers at Kirkwall. More space in the east basin for smaller boats alongside. Less operational conflict on quayside as more quayside available. More pier and berth space for aquaculture vessels.	
	Marina users Marina can only be expanded if ferries are relocated away from east basin.	
Marina expansion	**Resident and visiting marina users** Additional berthing capacity for local people who wish to take up a resident berth and visiting boats, including larger yachts.	• Increase take up of resident and visitor berths. • Increase spend on local goods, services and marine supply chain – this leads to an increase in supply chain capabilities and provision, turnover and employment. • Make Orkney more attractive as a marine leisure destination/over wintering location. • Increase financial sustainability of Orkney Marinas through additional income.
	Local businesses Increase in customer base (e.g. marina users) which may lead to expansion within marine supply chain or other sectors (e.g. retail, food, etc.).	
	Tourism sector in Orkney Enhance overall marine leisure market in Orkney.	
	Orkney Marinas Increase utilisation of berths.	

Kirkwall Pier proposals – who will benefit and potential impacts

Waterfront development	**Local businesses** Stimulate business development, enabling local businesses to create new business units (e.g. retail, café, chandlery).	• Increase business turnover and employment, plus potential increase in the number of businesses. • Improve visual amenity and improve quality of life for local community, supporting population retention and growth. • Increase visitor spend and encourage return visits. • Increase well-being and health. • Increase financial sustainability of Harbour Authority through additional income (e.g. lease/sale of land/business units). • Increase efficiency of Kirkwall Pier.
	Residents Improve experience in terms of visual amenity/sense of place. More choice of where to spend money. More employment opportunities for residents.	
	Visitors Marina visitors will benefit from improved services/facilities. Area will be more attractive for visitors. More choice of where to spend money.	
	Local groups (e.g. sailing, etc.) Improve facilities, making groups more sustainable and attractive.	
Improvements to fish landing areas	**Fishing boat owners/operators** Additional berths and improved access arrangement available to land fish and transport it from the Pier.	• Increase efficiency and safety for fishing vessel owners.
Improving quayside layout and traffic management	**Harbour users, pedestrians, ferry passengers and freight** All will benefit from improved buildings and facilities located in more appropriate locations, a safer and less congested quayside, improved marshalling areas. Incorporate development opportunities as part of facility enhancements.	• Increase efficiency and safety for all. • Improve connectivity and accessibility for ferry users. • Potentially increase economic activity if opportunities arise through improvements to facilities/buildings.

Kirkwall Pier – key assumptions

Marina expansion

- Marina will double in size with an additional 95 berths.
- 65 berths will be for residents and 30 for visitors.
- Flexibility for visitors to use unoccupied resident berths for short stays, though this is not included in the analysis.

Cruise

- The additional depth and quayside at Kirkwall will enable greater flexibility in terms of meeting unmet demand in the cruise market.
- In particular, if Kirkwall can accommodate small cruise ships that currently go to Hatston (on the 'first come first served' policy), then Hatston could accommodate some of the medium/larger cruise ships that decide not to visit because they do not want to/cannot tender passengers in from anchor.
- Modest increase in the number of smaller cruise ship calls, though potential upside not included in analysis.

Waterfront development area

- Area of 2.75 hectares will be created through reclamation.
- Could be for wide range of uses – marina facilities, more general marine leisure facilities, retail, tourism, transport, etc.

Kirkwall Pier – high level results

Project cost	£34.118m
NPV	-£1.3m
Financial IRR	-£8.6m
Employment (direct + indirect & induced) in 2050	46
GVA in 2050	£1.2m

Hatston proposals – who will benefit and potential impacts

New multi-purpose quayside infrastructure and available land	**Oil and gas operators/vessel owners** Sufficient availability of berths, laydown area and ex-pipe fuelling to attract oil and gas supply vessels servicing West of Shetland assets – offers the sector more choice in terms of supply base locations. **Local businesses and residents** Increase business opportunities for existing/new businesses in supply chain (e.g. to enter new markets/diversity, etc.). Employment, training and upskilling opportunities.	• Cost savings for oil and gas companies. • Increase turnover in supply chain, alongside potential business creation and increase in skills base. • Increase employment, population and skill levels/qualification take up. • Increase financial sustainability of Harbour Authority through additional income.
Site for boatyard repair and maintenance facility	**Existing boatyard operator/new boatyard operator** Either expansion or new business opportunity for boat repair and maintenance operator. **Local businesses** Increase in demand for supply chain to support boatyard operation. **Boat owners** Fishing, aquaculture and other work boats will be able to have their vessels handled in Orkney, rather than steaming to North East Scotland. **Local residents** Employment, training and upskilling opportunities.	• Increase in turnover for existing/new boatyard operator and supply chain, leading to safeguarding/creating employment in sector. • Increase in boat repair skills base. • Increase in efficiency for local boat owners through convenience and cost savings from having local repair facility. • Increase employment, population and skills levels/qualification take up. • Increase financial sustainability of Harbour Authority through additional income.
Site for new aquaculture facilities	**Aquaculture companies/supply chain** Opportunity to develop facilities (e.g. harvesting/processing plant with quayside access). **Local businesses and residents** Increase business opportunities for existing/new businesses in supply chain. Employment, training and upskilling opportunities.	• Increase in productivity/turnover for aquaculture companies and supply chain, leading to safeguarding/creating employment. • Increase in aquaculture skills base. • Increase employment, population and skills levels/qualification take up. • Increase financial sustainability of Harbour Authority through additional income.

Hatston – key assumptions

Oil and gas supply base

- Additional berthing and quayside space, along with ex-pipe fuelling will enable Orkney to better serve the oil & gas sector as an operations/supply base, served by platform supply vessels (PSVs) and subsea support vessels (SSVs) and other offshore vessels.
- Orkney is in close proximity to the West of Shetland oil assets.
- Assumptions are based on Orkney handling between 2% and 5% of 2017 traffic at Aberdeen.

Aquaculture

- Potential requirement in short to medium term for a processing/harvesting facility with quayside access.
- One existing processing plant is near capacity and relies on all salmon transported by road tanker.
- This development would enable greater efficiencies and growth in the volume of farmed salmon in Orkney.

Other potential outcomes (unquantified)

- There are many other possible developments and benefits arising from enhancements to harbour infrastructure at Hatston: e.g. potential for the establishment of a boatyard repair facility, facilities for handling renewables, facilities to support other aquaculture activities, the development of a logistics hub, improving efficiencies around ferry and cruise operations, for example.
- These opportunities have not been quantified at present, given lack of clarity with regard to market requirements at this time.

Hatston – high level results

Project cost	£45.092m
NPV	£59.9m
Financial IRR	-£8.5m
Employment (direct + indirect & induced) in 2050	52
GVA (direct + indirect & induced) in 2050	£9.7m

Scapa Pier proposals – who will benefit and potential impacts

Pier extension and provision of deeper water	**Fuel operators and suppliers** Certainty that Orkney's internal fuel supplies can continue to be delivered to the existing tank farm at Scapa. **Oil and gas operators and businesses** Increased safety and efficiency will make Orkney Harbours more attractive as a service provider in this sector and enable much better support to vessels/platforms utilising the deep sheltered anchorage. **Local businesses** Continuity of supply of oils and fuels required by local businesses. Maintain and increase role of supply chain in servicing activity in Scapa Flow. **Residents** Continuity of supply of oils and fuels required by residents.	• Resilience of fuel supply for Orkney safeguards businesses and employment across all sectors. • Fuel operator can continue to operate fuel tank farm at Scapa, rather than construct a new farm elsewhere. • More efficient 'at anchor' operations, which will safeguard and potentially enable this sector of business to grow, which in turn leads to higher spend on supply chain activities. • Certainty of domestic and vehicular fuel supply enhances population retention.
Reclamation and marine leisure berths/slipway	**Local business – marine leisure sector** Provision of berths for marine leisure may act as catalyst for marine tour operators to grow their business or start new businesses. **Visitors** Provision of a dedicated berth for marine tour operators may enhance the visitor experience.	• Increase in marine leisure sector business activity. • Increase in marine tours offered in Scapa Flow, leading to increased visitors and spend.

Scapa Pier – key assumptions

Orkney's fuel supply

- Scapa Pier is the single point of entry for Orkney's entire supply of domestic and commercial fuels.
- Should the pier be out of action for any reason, then fuel would need to be shipped by road tankers across the Pentland Firth, then by road to the storage depot.
- Vessels bringing in fuel are getting bigger and some struggle to come alongside already.
- The project will reduce the probability of this being required, and hence deliver a potential cost saving over the current situation.
- Some vessels delivering fuel already struggle to come alongside, and this problem will continue to get worse as vessels get larger.

Vessel displacement and efficiency

- Lack of berthing and quayside space impedes efficient and safe handling of rigs and vessels at anchor – on occasion harbour vessels have to divert to Stromness which costs time and money.
- Should STS volumes continue to grow, there will be considerably more pressure on this infrastructure; with growth potentially impeded.

Marine tourism

- Assumed that a berth would be made available for marine tourism and a possible tour provider, given the lack of suitable berths for this elsewhere.
- At the same time berths could be used by small boat users, both leisure and commercial (not quantified).

Scapa Pier – high level results

Project cost	£12.988m
NPV	-£0.1m
Financial IRR	-£0.1m
Employment (direct + indirect & induced) in 2050	1
GVA (direct + indirect & induced) in 2050	£0.3m

Scapa Deep Water Quay proposals – who will benefit and potential impacts

New deep water quayside and yard terminal

Offshore wind farm developers
An option to manage offshore wind farms (construction and O&M) in Orkney rather than ports located further away – a new choice of port.

Oil and gas operators
A new choice of port for taking rigs and platforms alongside for much more efficient support and maintenance.

Local businesses
Increase business opportunities for existing/new businesses in supply chain.

Local companies may need to diversify/upskill/employ more people.

Residents
Employment, training and upskilling opportunities.

- Cost savings for oil and gas companies and offshore wind farm developers.
- Increase turnover in supply chain, alongside potential business creation and increase in skills base.
- Increase employment, population and skill levels/qualification take up.
- Increase financial sustainability of Harbour Authority through additional income.

Scapa Deep Water Quay – key assumptions

Oil and gas – handling rigs and platforms

- There are few facilities in Scotland and the UK that offer 20m depth of water that enables 6th generation rigs and platforms to be brought alongside for maintenance. Most of these rigs are serviced alongside in Norway.
- A rig generally comes alongside for 40 to 50 days and undergoes all maintenance requirements, which contributes significantly to the local economy: based on what happens now with rigs at anchor in the region of £400K per visit.
- It is envisaged that circa seven rigs could be serviced per year initially.
- There is already market interest in this facility.

Offshore wind

- Several sites for offshore wind farms are located in close proximity to Orkney, making Orkney the ideal port location for construction and O&M. Each site could host between 80 and 100 turbines.
- These sites are due to be leased in 2019, which could mean consent in 2024 and start of construction in 2027.
- In the base case, we have modelled sites going ahead from 2027 each with 80 turbines, which amounts to 20 turbines a year from 2027 to 2049.

Passing trade and vessel calls

- With this facility in place there is a likelihood that larger vessels, such as tankers, may choose to come alongside for maintenance.

Scapa Deep Water Quay – high level results

Project cost	£76.276m
Economic NPV	£29.7m
Financial IRR	-£3.4m
Employment (direct + indirect & induced) in 2050	16
GVA (direct + indirect & induced) in 2050	£2.4m

Stromness proposals – who will benefit and potential impacts

Marina expansion	**Visiting marina users** Additional berthing capacity for visiting boats **Local businesses** Increase in customer base (e.g. marina users) which may lead to expansion within marine supply chain or other sectors (e.g. retail, food, etc.) **Tourism sector in Orkney** Enhances the overall marine leisure market in Orkney **Orkney Marinas** Increased utilisation of berths	• Increase visitor nights • Increase spend on local goods, services and marine supply chain – this leads to an increase in supply chain capabilities and provision, turnover and employment • Make Orkney more attractive as a marine leisure destination • Increase financial sustainability of Orkney Marinas through additional income
Cruise pontoon	**Cruise ship owners/operators** Safer and easier tendering in of passengers safeguards port of call. **Cruise passengers** Improved access to shore excursions	• Increase number of cruise passengers coming ashore and spend on local goods and services .
Improving shoreside layout and traffic management	**Harbour users, pedestrians, ferry passengers and freight** All will benefit from improved buildings and facilities located in more appropriate locations, a safer and less congested quayside, improved marshalling areas. Incorporate development opportunities as part of facility enhancements.	• Increase efficiency and safety for all • Potentially increase economic activity if opportunities arise through improvements to facilities/buildings
Improvements to Copland's Dock and reclamation nearby	**Local businesses – fishing sector** Copland's Dock will be more efficient and easier to use for fishing boats Additional area of land for development close to the pier and water could be developed by fisheries-related businesses.	• Increase in efficiencies and safety for fishing boat owners • Increase in turnover for fisheries-related businesses

Stromness – key assumptions

Marina expansion

- The marina will be expanded with 12 new berths and there will be increased activity arising from this.

Cruise

- With a cruise pontoon located in Stromness, tendering will be safer and easier, thus safeguarding the current number of visiting cruise liners and encouraging more.

Marine leisure tours

- The presence of a cruise pontoon may be attractive to providers of marine tours and dive boats, providing safe access and egress for boat passengers.

Stromness – high level results

Project cost (of that considered in OBC)	£0.750m
Economic NPV	£4.6m
Financial IRR	-£5.1m
Employment (direct + indirect & induced) in 2050	5
GVA (direct + indirect & induced) in 2050	£0.1m

Lyness proposals – who will benefit and potential impacts

Creation of hard standing yard/storage area	**Scapa Flow activities/companies operating in oil & gas sector** Port site in close proximity to Scapa Flow activity, as well as West of Shetland sites for later decommissioning.	• Increase turnover in supply chain, alongside potential business creation and increase in skills base. • Increase employment, population and skill levels/qualification take up. • Increase sustainability of Hoy as fragile island community, retain/increase population, etc.
	Local businesses Increase business opportunities for existing/new businesses in supply chain. Local companies may need to diversify/upskill/employ more people.	
	Residents Employment, training and upskilling opportunities.	

APPENDIX E – ENVIRONMENTAL MITIGATION AND ENHANCEMENT MEASURES

Examples of mitigation and enhancement measures

SEA topic	Issue/impact identified	Mitigation measure	Proposed timescale
Air	Localised short-term effects of dust due to construction work.	Construction sites will be damped down in periods of dry weather; all equipment subject to regular audits plus good operating practices and maintenance programmes.	Construction
Biodiversity, Flora and Fauna	Works involving excavation and soil disturbance cause physical damage to and loss of habitats and, if active remediation is not carried out, these habitats may not return to former condition.	Design/implementation of schemes should minimise disturbance to biodiversity as well as wildlife protection measures. Undertake a peat survey and prepare a Peatland Management Plan, in accordance with Orkney Local Development Plan Policy 9E Peat and Soils. This will enable the project to be designed to minimise loss of, or disturbance to, peat. Identify appropriate areas for both the storage of surplus peat and overlying vegetation, and the relocation of these materials.	Design/EIA
Biodiversity, Flora and Fauna	Construction of Scapa Deep Water Quay would lead to damage and to loss of habitat in Gaitnip Hill Local Nature Conservation.	Development of a Construction Environmental Management Plan detailing how impacts on biodiversity, flora and fauna should be avoided/mitigated; appointment of Ecological Clerk of Works (ECoW). This should include preparation of a Peatland Management Plan as described above.	Construction
Biodiversity, Flora and Fauna	Impacts to European Protected Species through underwater sound changes during construction and operations.	Surveys to determine EPS and basking shark presence; where necessary application made for EPS license; where works may generate loud underwater noise a marine mammal observer should be present to undertake pre-searches prior to commencing work to ensure no cetaceans or otter are within 500m of operations for a 30 minute duration; appointment of ECoW. JNCC guidelines for minimising the risk of injury to marine mammals from geophysical surveys; minimise duration of impulsive sound activities (piling, rock blasting and sub-bottom profiling, follow JNCC guidelines for minimising the risk of injury to marine mammals from using explosives; follow Statutory nature conservation agency protocol for minimising the risk of injury to marine mammals from piling; use of bubble curtain.	EIA/ Construction
Biodiversity, Flora and Fauna	Disturbance to birds during construction.	Bird sensitivities should be taken into account and addressed through the Construction Environmental Management Plan. This may include timing certain activities to avoid the winter months, and others to avoid the breeding season. Consideration should be given to seasonal restrictions to avoid periods when birds are present in the pSPAs; construction works could be undertaken during less sensitive periods; appointment of ECoW.	Construction

Examples of mitigation and enhancement measures

SEA topic	Issue/impact identified	Mitigation measure	Proposed timescale
Biodiversity, Flora and Fauna	Disturbance to birds during operation.	Consideration will be given to identifying appropriate approach routes to piers and limiting vessel speeds in sensitive areas; consultation with key parties to identify and agree embedded mitigation measures.	Ongoing
Biodiversity, Flora and Fauna	Impacts of dredging on flora and fauna.	Ecological and environmental surveys; implementation of dredging mitigation strategy and good practices; careful timing of dredging activities; consultation with SNH. Agree with SNH and SEPA a suitable location for disposal of dredge spoil. Disposal of dredge spoil should be carried out in licensed areas where it would not impact negatively upon vulnerable marine habitats or the activities of other marine users.	Design/EIA
Biodiversity, Flora and Fauna	Habitat disturbance and loss due to shoreline reclamation.	Habitat survey should be undertaken to inform plans for re-vegetation and habitat enhancement, with a view to achieving net biodiversity gain; appointment of ECoW.	EIA/Construction
Biodiversity, Flora and Fauna	Impacts on conservation objectives of designated sites.	Undertake HRA at Project Level, to identify likely impacts on qualifying species and mitigation measures which should be implemented to avoid or minimise adverse effects to ensure no adverse effect on site integrity. Implement these mitigative measures through the Construction Environmental Management Plan. Good planning and timing of works and good construction and management practices; appointment of ECoW.	Ongoing
Biodiversity, Flora and Fauna	Introduction of invasive species during construction and operations.	Analyse proposed activities and shipping movements and identify potential sources of risk. Identify and agree biosecurity measures and implement Ballast Water Management Plan where appropriate; cleaning of equipment and plant machinery with management practices to prevent the spread of invasive species.	Construction
Cultural Heritage	Construction can result in the loss or damage to, historic environment features or may affect their setting.	Undertake a cultural heritage survey, the findings of which should be used to inform project design. Incorporate any mitigative measures into the Construction Environmental Management Plan. Construction will be undertaken in a manner that is sensitive to the cultural heritage and/or historic environment of the surrounding area.	Design/EIA

Examples of mitigation and enhancement measures

SEA topic	Issue / impact identified	Mitigation measure	Proposed timescale
Cultural Heritage	Possible presence of undiscovered archaeology.	Undertake an archaeological survey, the findings of which should be used to inform project design.	Design/EIA
Cultural Heritage	Construction of new infrastructure resulting in damage to, or loss of, cultural heritage including the maritime heritage.	Undertake an archaeological survey, the findings of which should be used to inform project design. Construction will be undertaken in a manner that is sensitive to the cultural heritage; any cultural features identified in the EIA and planning phase should be fed into the detailed design.	Design/EIA
Cultural Heritage	Construction of new infrastructure resulting in damage to, or loss of, cultural heritage including the maritime heritage.	If archaeological features are identified construction should be supervised by a qualified archaeologist and combined with sensitive construction methods and restoration to minimise potential damages. Any new discoveries will be logged and recorded.	Construction
Cultural Heritage	Changes to cultural setting (e.g. Impact on conservation areas).	Impacts kept to a minimum through sensitive design and planning.	Design/EIA
Landscape	Construction of new infrastructure may potentially cause negative impact on landscape during both construction and operational phases.	Undertake landscape and visual assessment to help inform design of individual projects through appropriate mitigation. Construction of new infrastructure will be undertaken in a manner sensitive to the natural heritage and/or historic environment of surrounding area.	Design/EIA
Landscape	Construction of new infrastructure may potentially cause negative impact on landscape during construction.	Impacts kept to minimum through sensitive design, good site practice and planning and adoption of Construction Best Practice.	Construction
Material Assets	New/extended infrastructure would require use of non-renewable resources (e.g. sand and aggregates).	Where possible, rock and aggregate should be sourced locally; where possible the use of secondary aggregate will be considered; it is also anticipated that a proportion of dredged materials could be re-used for developments.	Construction
Material Assets	Disturbance of local infrastructure during construction.	Address disturbance issues through the Construction Environmental Management Plan, in consultation with the relevant organisations, e.g. OIC Roads Service. Good site management, traffic and construction management plan and ongoing public consultation; adoption of Construction Best Practice.	Construction

Examples of mitigation and enhancement measures

SEA topic	Issue / impact identified	Mitigation measure	Proposed timescale
Material Assets	Increase in waste generation.	Prepare and implement a waste management plan.	Ongoing
Population and human health	Uncertainty over potential road safety.	Address road safety issues through the Construction Environmental Management Plan, in consultation with the relevant organisations, e.g. OIC Roads Service. Undertake road traffic assessments.	Design/EIA
Population and human health	Uncertainty over potential vessel collisions with new/extended piers.	Undertake navigational risk assessments.	Design/EIA
Population and human health	Health and safety risks due to presence of new infrastructure.	Address health and safety issues through the Construction Environmental Management Plan, in consultation with the relevant organisations. Good construction management practices and adoption of Construction Best Practice.	Ongoing
Population and human health	Disturbance and nuisance impacts from construction and operation on local communities.	Address disturbance and nuisance issues through the Construction Environmental Management Plan, in consultation with the relevant organisations. Good working practices, planning and timing; noise-producing activities such as piling should only take place during daylight hours; adoption of Construction Best Practice, continued liaison with communities regarding air, noise and vibration emissions during construction and operation.	Construction and maintenance
Soils	Construction of access roads would require land take and lead to land use changes and loss of soils.	Land take should be kept to a minimum.	Design/EIA
Soils	Removal of seabed sediments from dredging.	Re-use of dredged material where possible.	Design/construction
Soils	Contamination of sediments.	Address potential contamination of sediments through the Construction Environmental Management Plan prior to construction. Good management and planning to minimise contamination.	Ongoing

Examples of mitigation and enhancement measures

SEA topic	Issue / impact identified	Mitigation measure	Proposed timescale
Soils	Disturbance to and loss of peat.	Undertake a peat survey and prepare a Peat Management Plan, in accordance with Orkney Local Development Plan Policy 9E Peat and Soils which will enable the project to be designed to minimise loss of or disturbance to peat. Identify appropriate areas for both the storage of surplus peat and overlying vegetation, and the relocation of these materials. Good construction practices to minimise damage and loss of sensitive soils and habitat.	Design/construction
Water	Drainage of surface water from roads and other developed areas.	The inclusion of sustainable drainage systems should be incorporated into the design at planning phase.	Design/EIA
Water	Construction or maintenance dredging has the potential to result in increased suspended solids.	Development of dredging mitigation strategy; designs should ensure that Water Framework Directive (WFD) objectives are not compromised; undertake WFD Assessment for all developments.	Design/ EIA
Water	Construction or maintenance dredging has the potential to result in increased suspended solids.	Completion of all relevant licensing and permitting for dredging activities; timings of dredging to be planned appropriately.	Construction and ongoing maintenance
Water	Dredging required around certain piers in order to accommodate larger vessels impacting on flora and fauna.	Good management and planning should keep water quality impacts to a minimum using BAT techniques and technologies at all times.	Construction
Water	Potential for pollution incidents during construction and operation.	Strict planning and management of construction activities; preparation of emergency response plans; good working practices, in line with NetRegs guidance.	Construction and ongoing maintenance
Water	Potential for flood risk.	Each project should be subject to a detailed Flood Risk Assessment at planning phase. Design of new piers and related infrastructure should take account of climate-related predicted sea-level rise.	Design/EIA
Water	Potential for alterations to coastal processes.	Project design will be informed by detailed surveys and hydrodynamic modelling.	Design/EIA
Cross-sectoral	Dredging required around certain piers in order to accommodate larger vessels impacting on flora and fauna.	Agree with Marine Scotland, SNH and SEPA a suitable location for disposal of dredge spoil. Disposal of dredge spoil should be carried out in licensed areas where it would not impact negatively upon vulnerable marine habitats or the activities of other marine users.	Construction and ongoing maintenance

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Equality Impact Assessment

The purpose of an Equality Impact Assessment (EqIA) is to improve the work of Orkney Islands Council by making sure it promotes equality and does not discriminate. This assessment records the likely impact of any changes to a function, policy or plan by anticipating the consequences, and making sure that any negative impacts are eliminated or minimised and positive impacts are maximised.

1. Identification of Function, Policy or Plan	
Name of function / policy / plan to be assessed.	Orkney Harbours Masterplan Phase 1 – Planning Policy Advice
Service / service area responsible.	Development and Infrastructure
Name of person carrying out the assessment and contact details.	James Green – Senior Policy Planner, Development and Marine Planning
Date of assessment.	20 March 2020
Is the function / policy / plan new or existing? (Please indicate also if the service is to be deleted, reduced or changed significantly).	This is the first time a Harbour Masterplan has been developed in Orkney.

2. Initial Screening	
What are the intended outcomes of the function / policy / plan?	A plan to enable decisions to be taken on future port infrastructure, coastal and marine development.
Is the function / policy / plan strategically important?	Yes – highly important to the strategic outcomes of the Council and its finances with the potential to be of National Strategic importance.
State who is, or may be affected by this function / policy / plan, and how.	The Orkney economy and all those individuals and business who have some reliance upon marine transportation and marine related activities.
How have stakeholders been involved in the development of	A very wide range of stakeholders have been engaged and interviewed as part of the Master

this function / policy / plan?	Plan development.
Is there any existing data and / or research relating to equalities issues in this policy area? Please summarise. E.g. consultations, national surveys, performance data, complaints, service user feedback, academic / consultants' reports, benchmarking (see equalities resources on OIC information portal).	There are no equalities issues likely to result from this plan development or from its outcomes.
Is there any existing evidence relating to socio-economic disadvantage and inequalities of outcome in this policy area? Please summarise. E.g. For people living in poverty or for people of low income. See The Fairer Scotland Duty Interim Guidance for Public Bodies for further information.	This plan is not expected to have any socio economic disadvantages other than the fact that a decline in marine sector employment through not having a Plan of this nature could have a detrimental impact on those involved in work associated with the sea.
Could the function / policy have a differential impact on any of the following equality areas?	(Please provide any evidence – positive impacts / benefits, negative impacts and reasons).
1. Race: this includes ethnic or national groups, colour and nationality.	no
2. Sex: a man or a woman.	no
3. Sexual Orientation: whether a person's sexual attraction is towards their own sex, the opposite sex or to both sexes.	no
4. Gender Reassignment: the process of transitioning from one gender to another.	no
5. Pregnancy and maternity.	no
6. Age: people of different ages.	no
7. Religion or beliefs or none (atheists).	no
8. Caring responsibilities.	no
9. Care experienced.	no

10. Marriage and Civil Partnerships.	no
11. Disability: people with disabilities (whether registered or not).	no
12. Socio-economic disadvantage.	No – unless the Plan is not developed and subsequently implemented
13. Isles-proofing.	No - unless the Plan is not developed and subsequently implemented

3. Impact Assessment	
Does the analysis above identify any differential impacts which need to be addressed?	no
How could you minimise or remove any potential negative impacts?	Not applicable
Do you have enough information to make a judgement? If no, what information do you require?	yes

4. Conclusions and Planned Action	
Is further work required?	No.
What action is to be taken?	none
Who will undertake it?	Not applicable
When will it be done?	Not applicable
How will it be monitored? (e.g. through service plans).	Not applicable

Signature: 

Date: 20 March 2020

Name: J Green (BLOCK CAPITALS).

Please sign and date this form, keep one copy and send a copy to HR and Performance. A Word version should also be emailed to HR and Performance at hrsupport@orkney.gov.uk