

ENVIRONMENTAL IMPACT ASSESSMENT SCOPING REPORT

STRANRAER MARINA



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1 INTRODUCTION

This Environmental Impact Assessment (EIA) Scoping Report has been prepared by RPS on behalf of Dumfries and Galloway Council in respect of the proposed Stranraer Marina development (henceforth referred to as the Proposed Development), which will comprise of both land (terrestrial) and marine development.

The existing marina is located in the north of the town of Stranraer and is operated by the applicant, Dumfries and Galloway Council. The existing marina serves the southern end of Loch Ryan and has historically been one of the busiest ports in the region. The location of the Proposed Development is illustrated in Figures 1.1 and 1.2 Site Location, Appendix 1.1.

The Proposed Development consists of a number of elements, including the following:

- Revised marina layout;
- Increased dredging and breakwater provision;
- Land reclamation;
- Extension to harbour facilities including reception and offices, car parking, boatyard and ancillary development;
- Renewable energy provision; and
- Enhanced connectivity with town centre.

1.1 EIA Screening

In respect of the proposals comprising of both marine and terrestrial development, an EIA Screening Opinion on the Proposed Development has been sought from both Marine Scotland Licensing Operations Team (MSLOT) and Dumfries and Galloway District Council planning authority.

The requests for an EIA Screening Opinion have been submitted in accordance with the relevant requirements, as set out in The Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017 and the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017.

The requests for an EIA Screening Opinion were issued in September 2020. Marine Scotland provided a response (dated 3rd February 2021) which is provided in Appendix 1.2 along with associated consultation responses from SEPA, Historic Scotland and NatureScot. Marine Scotland determined that *the proposed works are an EIA project under the 2017 MW Regulations and, therefore, an EIA is required*.

At the time of writing, no EIA screening opinion has been provided by Dumfries and Galloway District Council planning authority.

On foot of the EIA screening process, Dumfries and Galloway Council commissioned RPS to prepare this EIA SR in respect of the Proposed Development. The content of the Marine Scotland screening opinion correspondence and associated consultations responses, has been considered in the preparation of the EIA SR.

1.1.1 Purpose of EIA Scoping

The main purpose of the scoping exercise is to identify potentially significant issues for detailed examination and those that can be 'scoped out' of future assessments. Scoping out is justified on the basis of any of the following:

- A topic is irrelevant, due to the nature of the works on the receiving environment
- The proposed option results in negligible impacts and is located in an area that is not environmentally sensitive to the anticipated effects;
- Effects on a particular receptor are considered to be below the significance threshold; or
- Any design or mitigation measures proposed will avoid the particular environmental effect.

The EIA Scoping Report considers environmental topics having regards to:

- A brief assessment of the existing situation (baseline);
- The identification of potential effects and key issues which may be associated with both the construction and operation of the proposed redevelopment;
- An indication of any mitigation measures likely to be proposed; and
- An indication of the approach to be adopted towards a detailed assessment of potential effects (where appropriate).

The EIA Scoping Report has been provided in line with Part 4, Regulation 14 of The Marine Works (EIA) (Scotland) Regulations 2017 and Part 4, Regulation 17 of the Town and Country Planning (EIA) (Scotland) Regulations 2017, to include the following:

- a description of the location of the works, including a plan sufficient to identify the area in which the works are proposed to be sited;
- a brief description of the nature and purpose of the works and their likely impact on the environment.

1.2 Project Need & Objectives

The opportunity has emerged for the expansion of the existing Stranraer Marina, a key element in the regeneration of Stranraer waterfront, to be included as a project within the Borderlands Inclusive Growth Deal. The Borderlands Inclusive Growth Deal is a joint initiative to secure investment for priority projects that will deliver accelerated economic growth for the benefit of individuals, businesses and communities across the Borderlands region, Stranraer included.

Heads of Terms for the Borderlands Growth Deal were signed in July 2019 by the UK and Scottish Governments, Dumfries & Galloway Council, Scottish Borders Council, Northumberland County Council, Cumbria County Council and Carlisle City Council.

The Stranraer Marina project has been included within the Destination Borderlands theme of the Growth Deal which aims to promote tourism as a priority sector. Stranraer Marina has a provisional Growth Deal funding allocation, subject to satisfactory approval of Outline and then Full Business Cases. An Outline Business Case has been prepared and is due to be submitted shortly.

Dumfries & Galloway Council intend to repurpose Stranraer and Loch Ryan as a distinctive and successful marine leisure destination.

Specific objectives of the Proposed Development, the expansion of Stranraer Marina, include the following:

- To increase the number of visitors to Stranraer and the surrounding area;
- To increase employment opportunities;
- To optimise the capacity of the marina, its layout and mix of berth sizes, and shoreside facilities, to ensure that the marina is capable of financially sustainable operation, and that its role, contribution and performance as an economic asset for Stranraer is fully developed;
- To meet best practice identified in the Code of Practice for the Design, Construction and Operation of Coastal and Inland Marinas and Yacht Harbours, produced by the Yacht Harbour Association and the British Marine Federation;
- To ensure that expansion complements the operation and facilities provided by the traditional harbour for commercial vessels; and
- To ensure all proposals align with the overall aims and strategic priorities for Stranraer Regeneration.

Following a market assessment and initial engineering and architectural design work, the concept proposals are for a 223 berth comprehensive service marina with supporting shoreside facilities.

The existing and proposed marina layouts are illustrated in Appendix 1.1 with further details provided in Chapter 2 Project Description.

1.3 Outline of Alternatives

The Proposed Development is focused upon the improvement of the existing marina; provision of an entirely new, alternative location is ruled out for both commercial reasons but also on the basis that such proposals would represent greater environmental impacts.

Equally, the Proposed Development has been specifically tailored to meet the objectives noted above. The facilities, as detailed within Chapter 2, are considered appropriate in scale and design to assist in repurposing Stranraer and Loch Ryan as *a distinctive and successful marine leisure destination*.

As outlined in Chapter 2, consideration is being given to alternatives in respect of the proposed breakwater designs. An existing breakwater is located immediately north of the existing marine berths; the Proposed Development comprises of an extension to the existing breakwater **or** the provision of two new breakwaters, the final arrangement of which is to be established following completion of wave modelling and detailed design works. The draft option designs are illustrated in drawing *136625-OBC-003 Extended Breakwater Layout* and *136625-OBC-004 New Breakwater Layout*, Appendix 1.1.

1.4 EIA Reporting

1.4.1 Proposed Structure of EIA Report

The proposed structure for the EIA is as follows:

- Non-Technical Summary
- Volume I. Main Report
- Volume II. Technical Appendices
- Volume III. Design Drawings, Figures

1.4.2 EIA Methodology

The EIA will be undertaken in consideration of the requirements of The Marine Works (EIA) (Scotland) Regulations 2017 and The Town and Country Planning (EIA) (Scotland) Regulations 2017; the methodology for EIA provides for a staged approach, which can be summarised as follows:

- Scoping / consultation exercise: to be undertaken with those bodies listed in Appendix 1.3 to compile relevant background data and identify issues and constraints;
- Baseline surveys: including walk-over visits, detailed specialist surveys and discussions with relevant statutory and other consultees to determine the nature and extent of the existing environment;
- Identification of potential significant effects: predicting the likely significant environmental effects of the redevelopment during construction and during operation of the facility for the range of predicted uses as well as setting the scene for the identifying appropriate mitigation for the redevelopment;
- Mitigation: on-going development and description of mitigation proposals which will be incorporated into the project design as it evolves, including regular review and evaluation, to mitigate the potential environmental effects;
- Monitoring: if considered necessary, monitoring requirements may be identified for the both the construction and operational phase of the redevelopment;
- Residual and cumulative effects: consideration of the residual effects remaining after mitigation; and
- Reporting: preparation of the EIA Report, including Non-Technical Summary (NTS).

1.4.3 Assessment of Environmental Effects

The assessment of whether the redevelopment is likely to have a significant impact on the environment will be undertaken through a variety of methods:

- Professional judgement and experience based on published guidance criteria;

- Assessment of both temporary and permanent effects;
- Assessment of cumulative effects;
- Assessment of duration, frequency and reversibility of effects;
- Assessment against local, regional and national planning policy; and
- Consultation with statutory and non-statutory consultees.

Significance criteria will be based on the type of potential consequences, the probability of the consequence occurring and the magnitude of the consequence. Table 1.1 identifies the scale that will be used to evaluate significance of effect, thus providing a consistent approach throughout the EIA Report.

Table 1.1: Significance Criteria

Significance Criteria	Definition
Major Adverse/Beneficial Effect	Substantial deterioration/improvement compare to the current scenario e.g. high impact on a regionally or nationally importance resource
Moderate Adverse/Beneficial Effect	Noticeable deterioration/improvement compared to the current scenario e.g. moderate to high impact on a locally important resource
Minor Adverse/Beneficial Effect	Slight deterioration/improvement compared to the current scenario e.g. low impact on a locally important resource
Neutral	No noticeable alterations to the current scenario

Each environmental topic / chapter will identify significant effects relevant to each topic having regard to this scale.

2 PROJECT DESCRIPTION

2.1 Location of the Proposed Development

The site of the Proposed Development consists of Stranraer Marina and will comprise of both land (terrestrial) and marine development.

The existing marina is located in the north of the town of Stranraer and is operated by the applicant, Dumfries and Galloway Council. The Proposed Development is located within lands under ownership / control of the Council; an area of the marina is leased from Crown Estates.

The existing marina serves the southern end of Loch Ryan and has historically been one of the busiest ports in the region.

The marina itself currently consists of a dogleg quay, and a finger pontoon, which is used by smaller fishing vessels, excursions and recreational craft.

The former Stena ferry terminals are also located north of the harbour, giving access to the Clyde, the Solway, Isle of Man and the North Channel, and beyond to the Irish Sea. The ferry service has subsequently transferred to Cairnryan port, approximately 7km north (via the A77).

The existing and proposed marina layouts are illustrated in Appendix 1.1.

2.2 Description of the Proposed Development

2.2.1 Overview of the Proposed Development

The Proposed Development consists of a number of elements, which include development both on land and in the marine environment and will comprise of the following elements:

2.2.1.1 Revised Marina Layout

The existing marina comprises of 70 berths; the revised marina layout will have provision of a total of (up to) 223 berths. The revised marina layout will also provide for *super yacht, large visitor* berthing (Leg D). It is likely that higher numbers of occupancy of the berths will occur in summer months, June – August.

The existing commercial quay for fishing boats and commercial vessels will be safeguarded and retained as complementary to the new marina. The proposed pontoon layout has been configured in a way that will provide additional manoeuvring space for commercial vessels accessing the quay such that operations for leisure and commercial vessels can be safely integrated.

A fuel berth is proposed as part of the revised layout, to be located as part of revisions to the existing marina berths.

It is noted that there are no ferry operations in Stranraer harbour; the previous Stena operations have been operating from Cairnryan port since c. 2011.

2.2.1.2 Bridge Landing Area Improvements

The existing bridge landing area for existing pontoons is proposed to be upgraded to provide a new arrival point for proposed leisure and commercial berths. Enhancements are proposed to include new hard and soft landscape treatments, artwork, information signage and recycling / refuse storage.

2.2.1.3 Increased Dredging and Breakwater Provision

The marina is subject to an existing dredging regime with dredge material disposed at sea. The Proposed Development includes further dredging to establish the required depths in the channel.

The proposed dredge will provide a general depth of water of 2.5m with additional 0.5m margin in all states of the tide. In the area where larger vessels such as superyachts can berth, the provided depth will be 4.0m with an additional 0.5m margin.

The overall estimated dredge volumes are 115,000 cubic metres, which will be utilised in the scheme itself, i.e. not disposed offshore.

The indicative extent of the proposed new dredge area is illustrated in Appendix 1.1, drawing Proposed Detail Plan.

An existing breakwater is located immediately north of the existing marine berths. The Proposed Development comprises of an extension to the existing breakwater or the provision of two new breakwaters, the final arrangement of which is to be established following completion of wave modelling and detailed design works.

The draft option designs are illustrated in Appendix 1.1, drawing 136625-OBC-003 Extended Breakwater Layout and 136625-OBC-004 New Breakwater Layout. The length of the breakwater extension shown in drawing 136625-OBC-003 is approximately 40 linear metres; the length of the new breakwaters shown in drawing 136625-OBC-004 are approximately 80 linear metres each. The extents of the proposed dredging area with respect of the breakwater options, are illustrated in Appendix 1.1, drawing Extended Breakwater Estimated Dredging Volumes and New Breakwater Estimated Dredging Volumes.

It is proposed to construct the breakwaters using dredge material as fill with a rock armour exterior; a typical breakwater cross section is provided in Appendix 1.1, drawing Cross Sections.

2.2.1.4 Land Reclamation, Car Parking, Parkland and Pavilion

It is proposed to reclaim the land in the south east corner of the site, depositing the dredged material behind a constructed rock armour revetment.

The area of land reclamation is approximately 18,200 square metres. A typical revetment cross section is provided in Appendix 1.1, drawing Cross Sections.

The reclaimed area will provide additional car parking to cater for the Proposed Development and will also include new parkland with a small pavilion (boat trolley storage) and play area. The additional car parking will be accessed directly from the existing junction at the Harbour Road / Port Rodie roundabout.

2.2.1.5 Extension to Boatyard

The existing boatyard is to be extended to approximately 4250m² (currently approximately 2000m²) to accommodate approximately 50 vessels; currently the boatyard accommodates approximately 25 vessels.

2.2.1.6 Overspill Car Park and Ancillary Buildings

The area subject to the extension of the boatyard will also serve as a flexible space, to accommodate overspill car parking and an events area.

A small number of ancillary buildings / workshops are also proposed in this area to provide marine related servicing with a potential floor space of approximately 250m².

2.2.1.7 Motorhome and Caravan Car Parking

The existing car park to the south west of the marina (Agnew Crescent) will be retained to include availability for 12 motorhomes or caravans.

2.2.1.8 Extension to Harbour Reception and Office Building

The existing harbour reception and office building will be extended to include the following:

- Extended Harbour Master's office to include space for chandlery sales, meeting rooms and welfare facilities;
- Expanded / New facilities for visitors / marina users, to include: WCs, showers, laundry and drying area, storage;

- Welfare facilities for fishermen including changing and locker storage.

2.2.1.9 Pedestrian Bridge

A new pedestrian bridge is proposed to provide access between the existing Breastworks parking area / The Promenade and the proposed reclaimed area (comprising of car parking, parkland and pavilion).

2.2.1.10 Fishermans Storage Compound

The Proposed Development comprises of the provision of a secured fishermans storage compound for fishing vessels. The area of approximately 130m² will replace the existing storage area currently located directly south of the harbour office.

2.2.1.11 Renewable Energy Provision

The Proposed Development is to include provision of a renewable energy installation which is intended to provide energy to be utilised in the marina.

The Council commissioned a sustainable energy screening study in 2020 which considered the following renewable energy installations to provide electrical power, hot water, heating and energy storage (to varying extents dependent upon the technology to be employed):

- Solar thermal hot water;
- Ground source heat pump;
- Marine source heat pump;
- Solar PV electricity generation;
- Battery electricity storage (in conjunction with a solar PV installation).

Further consideration of these options is ongoing, prior to selection of preferred solution.

2.2.1.12 Enhanced Connectivity with Town Centre

It is intended to provide enhanced linkages between the Proposed Development (i.e. the waterfront and marina area) and Stranraer town centre including a focus on ensuring a positive impact from the reclaimed land area walkways and public amenity space.

2.3 Cumulative Projects

2.3.1 Cumulative Projects

In line with the requirements of EIA Regulations, the Proposed Development is to be assessed with consideration to the cumulative effects with other existing or approved works.

The following developments are likely to be located directly within the marina or within the immediate vicinity. These developments will not form part of the Proposed Development which is intended, ultimately to be the subject of planning and marine licence consents however they may be progressed subsequently or in parallel with the same. As such, these developments are referenced here for the purposes of assessing potential for cumulative impacts.

2.3.1.1 Proposed Water Sports Building

Stranraer Water Sports Association (SWSA) are proposing a new training and regatta facility, to be located adjacent to (west of) the existing harbour office; a storage area for SWSA equipment

It is expected that the training and regatta facility will be progressed to consent (planning) stage by SWSA in parallel or in advance of the consenting phase of the Proposed Development.

2.3.1.2 Proposed Restaurant / Bar

Provision has been made for a bar / restaurant to be located within the existing Breastworks car park. It is likely that this project will not be progressed to consenting stage until further consideration, through market engagement, is undertaken by the Council.

2.4 Outline Project Programme

The various elements of the Proposed Development outlined above will likely be subject to a phased construction, over a 5 year period, provisionally proposed to commence in 2023 however this date is subject to change.

Delivery of the Proposed Development would be phased over this 5 year period with the landside elements, including land reclamation and breakwater works, undertaken first (Year 1) with the provision of pontoon berths phased over the following 4 year period.

3 COASTAL PROCESSES

3.1 Context

This chapter of the EIA Scoping Report considers the potential impacts of the Proposed Development on Coastal Processes. Stranraer lies at the head of Loch Ryan and for many years was the Port for the Stena Ferry traffic from Northern Ireland. The sediment transport regime around Stranraer was strongly influence by the ferry movements particularly at low tide. Following the transfer of Stena's ferry operation to their new base at Old House Point, the coastal processes will gradually try to return the marine environment around Stranraer to a state that it would naturally have been prior to the influence of the modern ferry traffic, i.e. a relatively shallow tidal area with weak tidal currents. Thus the Proposed Development of an enlarged base for recreational and tourism boating at Stranraer will require dredging to provide adequate water depths as well as a degree of ongoing dredging to maintain these depths over time.

3.2 Baseline Environment

3.2.1 Natural Coastal Processes

The tidal range at Stranraer is approximately 2.8 metres at spring tides and 1.7m at neap tides with the mean sea level being about 0.5m above OD Newlyn. The extreme 1 in 50 coastal water level for Loch Ryan is 3.11m to OD (4.51m CD) i.e. 1.31m above MHWS. The tidal streams around Stranraer are generally weak. Stranraer is exposed to waves from the NW to NE sector. Long period wave disturbance which penetrates into the outer parts of Loch Ryan does not reach Stranraer thus the 1 in 50 year return period wave climate approaching the harbour has a significant wave height of 1.54 metres and a spectral peak wave period of 4.24 seconds. The 1 in 1 year return period storm approaching the harbour is predicted to have a significant wave height of 1.05 metre and spectral wave period of 3.6 seconds.

3.3 Key Issues and Scope of EIA

3.3.1 Impact of the Proposed Development

As there are already significant pier developments at Stranraer from the previous ferry operations, the proposed project at Stranraer is not expected to have any significant impact on the existing coastal processes in Loch Ryan away from the area around the harbour. The wave climate approaching the harbour is too severe to allow the development of pontoon berths for leisure craft without the additional protection measure included in the scheme. Similarly the additional dredging will be required to provide the required depths at all stages of the tide. It is therefore expected that the proposed project will have an impact on the coastal processes in the areas adjoining the harbour during both the construction and operation phases particularly in relation to the wave climate, local flow regime and sedimentation.

The scope of the EIA in relation to the coastal processes should include the alteration to the wave climate, the local flow regime and sedimentation in the harbour and its adjoining areas. The dispersion and fate of the sediment plume from the dredging and reclamation during the construction process should be included in the studies particularly if there is any pollutants found in the sediments to be dredged from the harbour. The requirement for ongoing maintenance dredging should be evaluated and proposals for its disposal should be included in the assessment.

3.4 EIA Report Assessment Methodology

3.4.1 Predictive Hydraulic Modelling

Predictive hydraulic modelling developed by experienced coastal engineers or scientists should be used to undertake the coastal process assessment for the EIA. The modelling should be undertaken using well establish coastal process modelling software to simulate both the existing coastal processes around Stranraer and the

processes with the Proposed Development in place. Simulations of the plumes from the dredging and reclamation processes should be undertaken using particular plant and techniques that are likely to be specified in the construction contract documentation. The models should be supplemented by field studies where possible and sensitivity testing undertaken for parameters where onsite measurements are not feasible. Difference plots (proposed minus existing) should be used to give clarity to the conclusions of the coastal process assessment.

3.5 Summary

3.5.1 Coastal Process Assessment

The Proposed Development at Stranraer is not expected to have an impact on the overall coastal processes of Loch Ryan but is likely to influence the wave climate, tidal flow and sedimentation of the areas adjoining the existing harbour. The scope of the EIA in relation to the coastal processes should include the alteration to the wave climate, the local flow regime and the sedimentation in the harbour and its adjoining areas. The dispersion and fate of the sediment plume from the dredging and reclamation during the construction process should be included in the studies particularly if there is any pollutants found in the sediments to be dredged from the harbour. The assessment should include the requirement for future ongoing maintenance dredging including the disposal of this dredged material.

4 FLOOD RISK

4.1 Context

This chapter of the EIA Scoping Report will address the potential impact of the Proposed Development on flood risk within the study area. It will do this by way of summarising the baseline flood risk to the development; as defined through desk-based assessment and consultation. It will then provide a description of the methodology and results employed to determine the impact of the Proposed Development upon local flood risk and the residual impact which the development might have, following mitigation.

4.1.1 Legislative Context

The assessment will be carried out in accordance with Scottish Planning Policy (SPP).

A key requirement of SPP is that a Flood Risk Assessment (FRA) should be carried out in relation to development which is considered to be at a medium to high risk of coastal or fluvial flooding, i.e. Annual Exceedance Probability (AEP) is greater than 0.5%. An FRA may also be required in relation to development which is considered to be at low to medium risk, between 0.1% and 0.5% AEP, when the nature of the development or local circumstances indicate heightened risk.

The results of the FRA should be used to inform the final design of a development and to demonstrate that all risks have been identified and appropriately mitigated for, so as to provide for its safe use for the duration of its proposed lifetime.

The prime objective of an FRA is to develop a full appreciation of:

- The consequences of flooding on the development;
- The consequences (i.e. the overall impacts) of the development on flood risk elsewhere within the catchment for a range of potential flooding scenarios up to that flood having a probability of 0.1%;
- Whether appropriate mitigation measures can be incorporated into the design of the development so as to ensure that the development minimises risk to life, damage to property and disruption to people.

The impact assessment will determine whether an FRA needs to be undertaken and submitted along with the planning application.

4.1.2 Planning Context

In order to provide a basis for decision making with regard to planning, a characterisation of flood risk into 'little or none', 'low to medium' and 'medium to high' is set out in the Risk Framework developed by the Scottish Executive.

The Risk Framework, as detailed in SPP, outlines the appropriate response of the planning system to flood risk. This is based upon the annual probability of flooding. This Framework will be accounted for in the impact assessment.

In addition to SPP, the assessment will also take into consideration a number of local and regional Plans. In particular, it will consider the Dumfries and Galloway Shoreline Management Plan, which provides strategic guidance for coastal development, the Dumfries and Galloway Local Development Plan, which sets out spatial planning policy for the Dumfries and Galloway area, and other plans such as Scotland's National Marine Plan.

4.2 Baseline Environment

The baseline conditions at the Proposed Development site will be thoroughly reviewed to identify all potential impacts relating to the water environment.

To achieve this, a relevant data request will be submitted to SEPA and the Local Authority; and publicly available information such as that provided by the SEPA flood maps, UKCP18, the Solway Flood Risk Management Strategy and the River Basin Management Plan for the Scotland River Basin District 2015-2027 etc. will be employed.

The baseline report will document the desk-based assessment and describe the baseline conditions in terms of flood risk.

4.3 Key Issues and Scope of EIA

An initial review of strategic flood mapping developed by SEPA identifies a risk of coastal, pluvial and fluvial flooding within the Study Area. Fluvial flooding affecting the development area comes from the Town Burn, a heavily culverted tributary of the Black Stank. No significant risk of reservoir or groundwater flooding were identified. Furthermore, initial consultation with SEPA has identified areas of recorded coastal and pluvial flooding within the development area. The site is located within the Flood Warning Target Area (FWTA) for Lough Ryan.

As part of the impact assessment it will be necessary to determine whether the site itself is at risk and to review if flood risk is likely to increase as a result of the Proposed Development. If it is clear that such risk is likely to increase, then the submission of an FRA along with the planning application will be recommended.

Similarly, it will be necessary to demonstrate that the Proposed Development will not have significant effect on surface water drainage and will not contribute towards the creation of additional flow paths for coastal flooding as a result of land reclamation or other works. In the event that the Proposed Development is likely to have a significant effect on surface water drainage then the procedure outlined within SEPA Guidance Note 9 will be recommended. Specifically, this entails the submission of a Drainage Impact Assessment to accompany the planning application.

As part of the impact assessment, a determination will be made as to whether the footprint of the Proposed Development is likely to change, with reference to Appendix 2 of SEPA Guidance Note 8. If it is not likely to change, then resilience measures will be reviewed as part of the impact assessment.

The impact assessment will further consider the requirement of The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended) (CAR) to ensure that surface water discharge does not result in pollution of the water environment. It will also consider the requirement for Sustainable Drainage Systems (SuDS).

4.4 EIA Report Assessment Methodology

To determine the impact of the development upon flood risk, an assessment of flood risk will be made in line with SEPA's requirements for flood risk assessment for new development. The various elements of the proposed development will be considered based on SEPA's Land Use Vulnerability Guidance.

The outputs from the Coastal Processes chapter, will further inform the assessment of the impact on flood risk of the development plans. The consideration of flood risk with surface water drainage and climate change scenarios will be included.

Consultation with SEPA and Dumfries and Galloway Council will form an integral part of developing an accurate representation of flood risk within the area.

Where the impact assessment identifies potential impacts upon coastal, fluvial and/or pluvial mechanism which can be reduced or eliminated through mitigation, suitable mitigation measures will be suggested. This may include changes to development design, should this be deemed necessary, or recommendations for a particular methodology or method. Where necessary, monitoring programmes may also be proposed; to confirm compliance with any environmental requirements and to minimise the impact of future works.

Following the incorporation of any mitigation measures, the potential impacts will be re-examined and a description of impact and significance of the residual impacts, with mitigation in place, will be provided.

4.5 Summary

An initial review of flooding in and around the development site has confirmed that there is existing risk. Therefore, flood risk will be scoped into the EIA. This will determine whether the risk is significant, or if risk is likely to increase as a result of development. The EIA report will allow for the determination of potential mitigation methods required to reduce risk which may include changes to design or monitoring programs to minimise future impacts of work.

5 MARINE BIODIVERSITY

5.1 Context

This chapter of the EIA Scoping Report provides information on the key marine ecology receptors in the vicinity of Stranraer Marina that have the potential to be impacted by the Proposed Development. Marine Ecology will cover relevant aspects of the marine ecosystem that may potentially be affected, including the benthic environment (i.e. the seabed), fish and shellfish and marine mammals (e.g. whales, dolphins, seals). Information on Invasive Non-Native Species (INNS) is also included. The following provides information on the relevant aspects of the marine ecology of Stranraer Marina and its adjacent waters.

The key aspects of the Proposed Development for the marine environment include the provision of additional berths, a new pontoon layout, upgrade of existing bridge landing area, dredging activity and extension to the existing breakwater or the provision of two new breakwaters. These activities have the potential to impact the marine environment and the species present in the vicinity of the works.

5.2 Baseline Environment

5.2.1 Introduction

This section describes the key biological aspects of the marine environment within Stranraer Marina, which is located at the very south of Loch Ryan, as well as the wider Solway Firth region. The characterisation of the marine ecology of the area is based on existing information available on the environment of Stranraer Marina and available literature regarding the ecology of Loch Ryan and the wider Solway Firth region.

5.2.2 Benthic Ecology

Sediments within Stranraer Marina are expected to comprise gravelly mud, mudstone and sandstone based on the predicted habitats in the Stranraer Bay by EMODnet Seabed Habitats (EMODnet, 2020) predictive habitats model. The sediments then change to wacke¹ and mudstone at the neck of Stranraer Bay.

The main difference between the coastal sediments and those within the marina will relate to the semi-enclosed and stable nature of the harbour, compared to the dynamic environment in coastal areas outside the harbour walls. This has the potential to lead to sediments being more cohesive and potentially more highly reduced (poorly oxygenated), therefore potentially hosting slightly different ecological communities than those characterising the coastal habitats outside the marina. Studies of harbours and docks have demonstrated very low densities of only a few macrobenthic species within dock sediments (e.g. Derweduwen *et al.*, 2014) and those that have been recorded have generally been short lived species (e.g. Hawkins *et al.*, 2002).

The area of Stranraer Marina is dominated by the infralittoral and circalittoral mixed sediments benthic habitats. The presence of infralittoral and circalittoral coarse sediments and infralittoral rock and biogenic reef habitats is noted towards the neck of Stranraer Bay (EMODnet, 2020). In this area, there are several Priority Marine Features (PMFs), including seagrass beds (*Zostera marina* and *Z. angustifolia*) on lower shore or infralittoral clean or muddy sand, blue mussel (*Mytilus edulis*) beds and kelp and seaweed communities on sublittoral sediment, *Laminaria saccharina* and *Chorda filum* on sheltered upper infralittoral muddy sediment (Marine Scotland, 2021).

Further into the Firth of Clyde, near Stranraer Marina, the following PMFs have been recorded (Marine Scotland, 2021):

- seapens and burrowing megafauna in circalittoral fine mud;
- mud burrowing amphipod (*Maera loveni*);
- fireworks anemone (*Pachycerianthus multiplicatus*); and

¹ Wacke, also called dirty sandstone, is a sedimentary rock composed of sand- sized grains (0.063-2 mm) with fine-grained clay matrix.

- tall seapen (*Funiculina quadrangularis*); burrowing megafauna and *Maxmuelleria lankesteri* in circalittoral mud.

The waters of Loch Ryan are also important for several species of seaweed such as kelp (*Laminaria* spp. and *Lithothamnion glaciale*), with some areas with potential presence of red and brown seaweed (Marine Scotland, 2021). Seagrass (*Zostera holt*) is also present in some areas.

There are two Marine Protected Areas (MPAs) designated for marine habitats and/or benthic species within proximity of Stranraer Marina. The closest, Clyde Sea Sill MPA, lies approximately 14 km north-west of Stranraer and has “circalittoral and offshore sand and coarse sediment communities” as a protected feature (NatureScot, 2020a). The South Arran MPA is located approximately 53 km north of Stranraer and has several protected features (burrowed mud, kelp and seaweed communities on sublittoral sediments, maerl beds, maerl or coarse shell gravel with burrowing sea cucumbers, ocean quahog aggregations, seagrass beds and shallow tide-swept coarse sands with burrowing bivalves) (NatureScot, 2020b).

The closest Special Area of Conservation (SAC) designated for marine habitats is the Luce Bay and Sands SAC, designated principally for its seabed and dune habitats and the species which depend on these places, which lies approximately 9 km to the south (Solway Firth Partnership, 2021). The Solway Firth SAC, approximately 80 km to the east, is designated for its marine and coastal habitats including saltmarsh, mudflats and reefs (Solway Firth Partnership, 2021).

In addition to this, Loch Ryan has been designated as a Marine Consultation Area (MCA) for the habitats it contains and the presence of native oyster (*Ostrea edulis*) and seagrass (*Z. marina*) beds. Other marine species to note within this MCA include sponges (*Mycale lobata*), sea anemones (*Cereus pedunculatus*), molluscs (*Calyptraea chinensis*) and sea cucumbers (*Aslia lefevrei* and *Neopentadactyla mixta*) (Solway Firth Partnership, 2014).

5.2.3 Fish Ecology

The fish community within Stranraer Marina would be expected to reflect the species known to occur in the wider Solway Firth area. These include elasmobranchs (e.g. sharks, rays and skates, including the basking shark (*Cetorhinus maximus*)) and a number of commercially important fish species, either as adults or juveniles, including whiting (*Merlangius merlangus*), sprat (*Sprattus sprattus*), saithe (*Pollachius virens*), plaice (*Pleuronectes platessa*) and herring (*Clupea harengus*) (McIntyre *et al.*, 2012). Based on fisheries sensitivity maps available from Marine Scotland Maps National Marine Plan Interactive (NMPi) (Marine Scotland, 2021) and spawning and nursery area data from Coull *et al.* (1998) and Ellis *et al.* (2010), several species have spawning and nursery areas that coincide with or are near Stranraer Marina. These include:

- Whiting (spawning area approximately 10 km east of Stranraer; nursery area approximately 17 km north of Stranraer);
- Sprat (spawning area);
- Saithe (nursery area approximately 20 km north of Stranraer);
- Plaice (nursery area; spawning area approximately 23 km north-west of Stranraer);
- *Nephrops* (spawning and nursery areas); and
- Herring (spawning area approximately 17 km north of Stranraer and nursery area approximately 10 km south).

Loch Ryan has three rivers / streams which are important for migratory salmon (*Salmo salar*) and sea trout (*Salmo trutta*) namely the Water of App at Finnarts Bay, the Sole Burn and one stream near Innermessan (Marine Scotland, 2021 and Solway Firth Partnership, 2014). In addition to this, there are several rivers for migratory fish species entering the sea via the Firth of Clyde, including the Rivers Clyde, Leven, the Carts, the rivers of the Ayrshire coast and those entering via sea lochs (Mackay and Doughty, 1986). These are particularly important for their salmon, sea trout and European eel (*Anguilla anguilla*) populations, although these have been reduced due to high levels of pollution in the area (Thurstan and Roberts, 2010). There are no SACs designated for migratory fish species in Loch Ryan or in its vicinity.

In addition to the finfish species identified above, there are several commercially important shellfish species in Loch Ryan including native oysters, cockles (*Cerastoderma edule*) and razor shells (*Ensis* spp.) (Solway Firth Partnership, 2014 and Cefas, 2010). Commercially important populations of brown crab (*Cancer pagarus*), velvet crab (*Necora puber*) and European lobster (*Homarus gammarus*) are also present within the Solway Firth and the Firth of Clyde (Marine Scotland, 2021).

Loch Ryan has been given protection as shellfish growing waters in line with the Shellfish Water Directive (2006/113/EC) under The Water Environment (Shellfish Water Protected Areas: Designation) (Scotland) Order 2013. These waters are used for commercial shellfish cultivation (for oysters, cockles and razor shells) and water quality is regularly monitored by the Scottish Environment Protection Agency (SEPA) (Scottish Government, 2019).

Basking sharks are regularly sighted around the Solway Firth and have been recorded at the mouth of Loch Ryan (Marine Scotland, 2021), with their distribution directly attributed to changes in zooplankton abundances (McIntyre *et al.*, 2012).

5.2.4 Invasive Non-Native Species

Invasive Non-Native Species (INNS) are those which have been intentionally or accidentally released into an environment outside their native geographic range, posing a threat to native species as they compete for space, light or food, often preying on local wildlife.

One of the most common methods in which INNS can be transported are through shipping by attachment to hulls and in ballast water. INNS can result in ecological impacts as described above, but also economic impacts as aquaculture and fisheries can be affected.

Several INNS have been identified as current threats in the Solway Firth region, including common cord grass (*Spartina anglica*), Pacific oyster (*Crassostrea gigas*), wireweed (*Sargassum muticum*), orange tipped sea squirt (*Corella eumyota*), acorn barnacle (*Elminius modestus*), leathery seas squirt (*Styela clava*), green sea fingers (*Codium fragile*), Japanese skeleton shrimp (*Caprella mutica*) and American lobster (*Homarus americanus*) (Solway Firth Partnership, 2017). The INNS carpet sea squirt (*Didemnum vexillum*) has also been recorded at various locations in the River Clyde.

The following INNS have been found in Stranraer Marina: Japanese skeleton shrimp, orange-tipped sea squirt and acorn barnacle (Solway Firth Partnership, 2019). Solway Firth Partnership (2014) has also recorded Japanese wireweed, leathery sea-squirt and green sea fingers in Loch Ryan.

There are also several INNS which have been identified as potential threats in the Solway Firth region, including Chinese mitten crab (*Eriocheir sinensis*), carpet sea squirt, slipper limpet (*Crepidula fornicata*), killer shrimp (*Dikerogammarus villosus*) and zebra mussel (*Dreissena polymorpha*) (Solway Firth Partnership, 2017).

5.2.5 Marine Mammals

More than 20 cetacean species have been recorded in Scottish waters, but only seven of these are relatively common. These include bottlenose dolphin (*Tursiops truncatus*), harbour porpoise (*Phocoena phocoena*), minke whale (*Balaenoptera acutorostrata*), white-beaked dolphin (*Lagenorhynchus albirostris*), Risso's dolphin (*Grampus griseus*), short-beaked common dolphin (*Delphinus delphis*) and orca (*Orcinus orca*) (NatureScot, 2020c). The remaining 13 are considered to be vagrants or rare visitors which do not occur regularly in Scottish waters. Cetaceans have the potential to range widely with some undertaking large scale seasonal migrations to other parts of Europe or rest of the world. Some species are more localised in their distribution and resident populations of some species are present in Scottish waters. Many of these species may use areas within proximity of Stranraer Marina and within the Solway Firth.

Based on data available from Marine Scotland (2021), the most likely species to be present in the area include white-beaked dolphin, short-beaked common dolphin, Risso's dolphin, minke whale and harbour porpoise, which have all been observed in the area during surveys. There is no SAC designated for the presence of cetaceans in the vicinity of Loch Ryan.

Two species of seals (grey seal - *Halichoerus grypus*, and harbour (common) seal - *Phoca vitulina*) are found around Scotland's coast and inshore waters. Seal usage data presented by Marine Scotland (2021) demonstrate

that both grey seal and harbour seal are present within the Solway Firth and the vicinity of Stranraer Marina. The closest SAC designated for harbour seals is the South-East Islay Skerries SAC located south of Islay, approximately 106 km to the north-west of Stranraer and for grey seals The Maidens SAC in Northern Ireland, which is approximately 60 km to the west.

5.3 Key Issues and Scope of EIA

A full marine ecology desk-based assessment will be undertaken which will include a review of readily available information from desktop sources. The key sources of information to be consulted will include any data collected previously within Stranraer Marina as well as any additional information from local sources.

As discussed above, there is limited information available on the marine ecology of Stranraer Marina, therefore the marine ecology baseline will draw upon data available for Loch Ryan, and the wider Solway Firth and Firth of Clyde and from studies of similar harbour environments to provide some insight into the ecological receptors likely to be present. Given the lack of data on the benthic environment in Stranraer Marina, a benthic environment survey is proposed to collect seabed samples, to identify key benthic organisms and to undertake analysis of the sediment composition.

All marine habitats and species identified as having the potential to occur in the vicinity of the Proposed Development will be categorised as Valued Ecological Receptors (VERs) against which impacts associated with the construction and operation of the Proposed Development will be assessed. VERs will include intertidal and subtidal habitats, fish and marine mammal species and communities. Identification of VERs will consider the economic, ecological and nature conservation importance of the features within the vicinity of Stranraer Marina.

The impacts arising from the construction and operation of the project will be identified, and an assessment made of the likely effects on the marine ecology VERs identified through the desktop review and the results of surveys. The effects will be assessed from the project alone as well as cumulatively with other relevant Proposed Developments. Impacts will be assessed assuming the implementation of mitigation measures included as part of the design of the project, as well as any residual effects assessed after any further mitigation has been factored in if necessary.

The following potential impacts have been identified for the marine works associated with the Proposed Development:

- Temporary disturbance/loss of habitat arising from dredging activity within the harbour;
- Temporary disturbance/loss of habitat arising from displacement/compaction of the seabed in the vicinity of piling activities (if piling is required) and placement of material on the seabed;
- Potential for water quality impacts due to increased dredging;
- Permanent habitat loss arising from the berth extension and the area of land reclamation;
- Effects of increased suspended sediment concentrations and sediment deposition within Stranraer Marina on marine ecology receptors;
- Potential for resuspension of contaminated sediments with effects on marine ecology receptors;
- Effects of underwater noise arising from construction activities (e.g. dredging, vessel noise and potential piling) on fish including migratory fish species and marine mammals;
- Disturbance and collision risk to marine mammals from increased vessel traffic during construction and operation; and
- Increased risk of importing marine INNS to the area due to the higher numbers of visiting boats and the potential to further spread INNS already present.

5.4 EIA Report Assessment Methodology

The assessment of effects for marine ecology will follow the EIA methodology set out above in chapter 1, Section 1.4.2. Specific to this topic, the following guidance documents will also be considered:

- Guidelines for Ecological Impact Assessment in the UK and Ireland. Terrestrial, Freshwater and Coastal, 2nd edition (CIEEM, 2016); and
- Guidelines for Ecological Impact Assessment in Britain and Ireland. Marine and Coastal published by the Chartered Institute of Ecology and Environmental Management (IEEM, 2010).

5.5 Summary

The waters in the vicinity of Stranraer Marina are rich in terms of benthic habitats, fish, shellfish and marine mammals. The key issues affecting these receptors have been identified in Section 5.3 and mitigation measures to reduce any potential impacts on these as a result of the proposed operations will be identified as part of the EIA process.

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6 WATER QUALITY

6.1 Context

6.1.1 Legislative context

The Marine Scotland Licensing Operations Team (MS-LOT) consider that any impact from a development that compromises the achievement of WFD objectives or causes deterioration in status of waters to be a significant environmental impact in terms under Part 2, Regulation 11 of the Marine Works (Environmental Impact Assessment) Scotland Regulations 2017 (as Amended).

The following relevant legislation and guidance relating to water quality will be considered during the preparation of the Water Quality chapter of the EIA;

- SEPA standing advice for The Department of Energy and Climate Change and Marine Scotland on marine consultations;
- the Water Framework Directive (WFD); the WFD is the European legislation which was developed to establish systems to manage Europe's water environment - rivers, lochs, estuaries, coastal waters and groundwater;
- The Water Environment and Water Services (Scotland) Act 2003; this Act transposes the requirement of the WFD into Scottish law;
- The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended); these regulations were introduced under the 2003 Act to specify the control regimes for discharges to, abstractions from and impoundments and engineering activities affecting the water environment (i.e. rivers, lochs, transitional waters (estuaries), coastal waters groundwater, and groundwater dependant wetlands);
- The Water Environment (Oil Storage) (Scotland) Regulations 2006; these regulations set out standards for the design and installation of oil storage containers, including those used on construction sites;
- SEPA Land Use Planning System Guidance Note 7: Guidance on the Water Framework Directive including river basin planning; provides guidance on implementing the requirement of WFD within development planning;
- Planning Advice Note (PAN) 51 Planning, Environmental Protection and Regulation; provides guidance regarding the integration of environmental protection within planning policy;
- PAN 79 Water and Drainage; this specifically sets out the requirements for developers in delivering appropriate drainage infrastructure which meets planning policy;
- Pollution Prevention Guidelines (PPG) 1: General Guide to the Prevention of Pollution, Guidance for Pollution Prevention (GPP) 2: Above Ground Oil Storage Tanks, GPP 5: Works and maintenance in or near water, and PPG6 Working at Construction and Demolition Sites, in addition to all other relevant PPGs and GPPs relating to general site activities such as plant refuelling and incident response;
- Additional SEPA guidance including 'Special Requirements for Civil Engineering Contracts for the Prevention of Pollution v2' and 'Guidance on the Special Requirements for Civil Engineering Contracts v2';
- CIRIA Guide C584 – Coastal and Marine Environmental Site Guide; and
- CIRIA C532 'Control of Water Pollution from Construction Sites - Guidance for Consultants

A fundamental requirement of the WFD is to attain good ecological and chemical water quality status and ensure that any deterioration in the status of waters is prevented. Any new development must ensure that these two fundamental objectives of the Directive are not compromised, nor are there any detrimental impacts to nearby EU designated Natura 2000 sites or other protected areas listed under Article 3 of the Directive, i.e. drinking waters, nutrient sensitive waters, shellfish waters, and bathing waters.

6.2 Baseline Environment

The baseline conditions at the Proposed Development site will be thoroughly reviewed to identify all potential impacts relating to water quality.

Baseline data will be gathered from existing sources such as water quality monitoring stations included in the Scottish Environment Protection Agency (SEPA) WFD monitoring programme, as part of their River Basin Management Plan (RBMP) reporting.

A relevant data request may be submitted to SEPA and the relevant Local Authority if the available data is insufficient.

This will be supplemented by additional localised monitoring programmes with methodologies detailed below.

The impact on marine water quality will be based on the development's potential to hinder the achievement of the WFD objectives.

Stranraer Marina is located at the southern end of Loch Ryan, a coastal water body (ID: 200011), in the Solway Tweed River Basin District (RBD). It is 13 km long and 4.8km wide and the most recent available WFD reporting data (2018) is outlined below.

Parameter	2018
1: Overall status	Good
1-1: Pre-HMWB status	Good
1-3: Overall ecology	Good
1-3-2: Biological elements	Good
1-3-2-3: Invertebrate animals	High
1-3-2-3-4: Benthic invertebrates (IQI)	High
1-3-2-7: Macroalgae	High
1-3-2-7-1: Macroalgae (FSL)	High
1-3-2-7-2: Macroalgae (RSL)	Good
1-3-4: Hydromorphology	High
1-3-4-1: Morphology	High

6.3 Key Issues, Scope of EIA and Preliminary Mitigation Measures

A review of the baseline data suggests that Loch Ryan is currently meeting its WFD Objectives by achieving Good ecological status, as outlined in the RBMP for the Scotland RBD. The WFD objectives require that this must not be compromised and as such the Proposed Development must not cause deterioration in status.

As part of the impact assessment it will be necessary to identify and monitor key parameters to ensure that the development is not likely to cause a significant impact on water quality. Appropriate mitigation will be recommended where potential risk of impact is identified.

Similarly, any pollution events or recorded increases in concentrations of contaminants will be considered in terms of their potential impact on the nearby designated protected areas. Consultation with Scottish Natural Heritage (SNH) identifies these areas as;

- Glen App and Galloway Moors Special Protection Area (SPA) and Site of Special Scientific Interest (SSSI) - the proposal lies approximately 5km from the SPA/SSSI, classified for its Hen Harriers.
- Shellfish Growing Waters - the proposal lies within the same place as the designated Shellfish Harvesting site, classified for its Native Oysters and Razors.

The status of the sites described mean that the requirements of the Conservation (Natural Habitats, &c.) Regulations 1994 as amended (the "Habitats Regulations") apply. Consequently, Marine Scotland is required to consider the effect of the proposal on these sites before it can be consented (commonly known as Habitats Regulations Appraisal).

The proposal has the potential to affect these sites by noise (and vibration), sedimentation and pollution risk. Birds within the SPA could be at risk of disturbance from the proposed works.

The potential impact from additional drainage will be considered alongside the Flood Risk chapter, in that it will be assessed if existing foul and storm networks have the capacity for any additional loading which may arise from the Proposed Development.

It is envisaged that the new buildings will connect into existing Scottish Water infrastructure subject to design and approval of such. Surface water runoff will be managed in accordance with good practice to control any discharge into combined sewers or existing surface water drains. There are no plans for an onsite waste water treatment system.

Potential impact from the operational phase of the proposal will also be considered to include predicted increased vessel traffic following the pier upgrades, refuelling activities and possible changes to the coastal processes that could affect the hydromorphology of the Loch Ryan water body

Initial mitigation will be included by consideration of the design process in line with best practice.

Where the impact assessment identifies potential impacts upon water quality which can be reduced or eliminated through mitigation, suitable mitigation measures will be suggested. This may include changes to development design, should this be deemed necessary, or recommendations for a particular methodology e.g. dredging type or method.

Prior to the commencement of construction a Construction Stage Environmental Management Plan (CEMP) will be prepared to assist the main contractor in preventing, managing and/or minimizing significant environmental impacts during the construction phase. In order to achieve this, the CEMP shall comprehensively incorporate all environmental commitments and provide a method of compliance with these.

The Scottish Water plans indicate two pipes in the vicinity of the existing slipway that will be affected by the infilling work. There is a 450mm diameter combined sewer flowing west to east and a 675mm diameter treated water pipe flowing east to west before discharging at sea North West of the West Pier. No other cables or pipes are known to be affected.

Mitigation and control measures will be implemented to address the potential impacts from the construction, such as elevated suspended solids, concrete, oils and chemicals. This will be supplemented by contingency planning for any accidental spillages which may arise from working with fuels and chemicals.

Where necessary, monitoring programmes may also be proposed; to confirm compliance with any environmental requirements and to minimise the impact of future works.

Following the incorporation of any mitigation measures, the potential impacts will be re-examined and a description of impact and significance of the residual impacts, with mitigation in place, will be provided.

6.4 EIA Report Assessment Methodology

To determine the impact of the development upon water quality, a monitoring programme will be scheduled in line with SEPA's requirements for new development.

This will include:

- a suite of physico-chemical monitoring on surface sediment grab samples to assess alongside WFD and Local Authority monitoring;
- sampling of the surface seabed by diver grab sample to inform the baseline study.

The outputs from surveys undertaken within the Marine Biodiversity chapter will further inform the assessment of the impact on water quality and ecological status from the development proposal.

6.5 Summary

The key issue in relation to water quality here is associated with the physical disturbance in the marine environment throughout the construction phase, particularly dredging activities and the construction of new structures in the coastal water body and the potential impact this may have on the WFD Objectives. The consideration of the WFD objectives will also include the protected area objectives of the neighbouring SPA/SSSI and designated shellfish growing waters to ensure the avoidance of negative effects during and after construction.

During the operational stage any potential changes to the morphology of the water body will need to be assessed and the impact of any predicted increased vessel traffic will be assessed. Impact from infrastructure servicing the development including stormwater and foul water, and the refuelling activities will also be assessed in the context of the WFD objectives and objectives of the protected areas identified above.

Relevant assessments pre-construction need to be completed in order to meet these ongoing environmental requirements. This should include baseline surveys being conducted within the marina and relevant data collected from SEPA.

Initial mitigation protocols can be put in place but amendments to these should be expected once the construction work planning has been finalised and modifications to the harbour have begun.

7 TERRESTRIAL BIODIVERSITY AND ORNITHOLOGY

7.1 Context

This chapter of the EIA Scoping Report provides information on the key terrestrial ecology and ornithological receptors in the vicinity of the Proposed Development that have the potential to be impacted by the Proposed Development. Terrestrial Ecology will cover relevant aspects of the ecosystem that may potentially be affected, including the terrestrial habitats, protected and notable species and ornithological interests using the land or sea (seabirds). The following provides information on the relevant aspects of the terrestrial ecology of Stranraer Marina and its adjacent waters. Marine Biodiversity is covered in Chapter 5.

The surrounding area is comprised predominantly of open water, buildings (both commercial and residential) and amenity land within the town of Stranraer. The key aspects of the Proposed Development relevant to terrestrial biodiversity and ornithology receptors include:

- the provision of additional berths (from circa 70 berths to 223 berths);
- the construction of a new pontoon layout;
- upgrade of an existing bridge landing area;
- extension of the harbour master office facilities;
- dredging activities; and,
- an extension to the existing breakwater or the provision of two new breakwaters.

These activities have the potential to impact the habitats and the species present in the vicinity of the works.

7.2 Baseline Environment

7.2.1 Introduction

This section describes the key biological aspects of the terrestrial environment within Stranraer Marina and Loch Ryan. The characterisation of the terrestrial ecology of the area is based on the recent Preliminary Ecological Appraisal and Otter Report (RPS, 2020).

7.2.2 Terrestrial Ecology

A Preliminary Ecological Appraisal (PEA) following Chartered Institute of Ecology and Environmental Management guidance (CIEEM, 2017) comprising a Phase 1 Habitat Survey (JNCC, 2016) was conducted across all land on site and with an additional 100m buffer by experienced ecologists on 25 November 2020. A desk study was also completed as part of the PEA.

7.2.2.1 Desk Study

No international or nationally designated sites were located within 2km of the Proposed Development boundary. The open water within Stranraer Marina is part of a Marine Consultation Area which denotes an area identified as deserving particular distinction in respect to the quality and sensitivity of the marine environment within them (Chapter 5: Marine Biodiversity).

There were 27 records of otter (*Lutra lutra*) within 5km of the site, predominantly sourced from burns and roadkill in the surrounding areas. No records were located within the site boundary. There was two confirmed bat roosts, one of which was a small nursery colony of Soprano pipistrelles (*Pipistrellus pygmaeus*) within Stranraer and approximately 500m from the proposed works area. The desk study returned 77 records of red squirrel (*Sciurus vulgaris*) and six records of badger, within 5km of the survey area but none of these were within the site boundary. There were 211 records of invasive species within 5km of the site boundary. Two records were located within the proposed area of works. These included one record of grey squirrel (*Sciurus carolinensis*) within the amenity grassland/parkland in the west of the site and one record of snow goose (*Chen caerulescens*) within the harbour.

7.2.2.2 Field Surveys

7.2.2.2.1 Phase 1 Habitat Survey

Fourteen Phase 1 Habitat types were recorded during the field survey as presented in Figure 2 of the Preliminary Ecological Appraisal and Otter Report (RPS, 2020).

- A2.2 – Scrub (scattered);
- A3.1 – Parkland with scattered broad-leaved trees;
- A3.2 – Parkland with scattered coniferous trees;
- B2.2 – Semi-improved neutral grassland;
- G1 – Standing water;
- H1.1 – Intertidal mud/sand;
- J1.2 – Amenity grassland;
- J2.1.2 – Intact hedge (species-poor);
- J2.4 – Fence;
- J2.5 – Wall;
- J3.5 – Sea wall (artificial material);
- J3.6 – Buildings;
- J4 – Bare ground;
- J5 - Other habitat (floating dock).

The areas and percentage coverage of each habitat is provided in Table 7.1 below, though linear features (those without an area are not included). The dominant habitat types are highlighted in grey.

Table 7.1: Area and Percentage Covering of each Habitat Type

Phase 1 Habitat Code	Area (m ²)	Percentage (%)
A2.2 - Scrub (scattered);	435	0.1
B2.2 - Semi-improved neutral grassland	4623	1.3
G1 – Standing water	174439	48.6
H1.1 – Intertidal mud/sand	6047	1.7
J1.2 – Amenity grassland	35975	10.0
J3.5 – Sea wall (artificial material)	2792	0.8
J3.6 – Buildings	23599	6.6
J4 – Bare ground	109781	30.6
J5 - Other habitat (floating dock)	1146	0.3
Total	358838	100

The dominant habitat types on site at standing water (coastal), bare ground and amenity grassland. Intertidal mud/sand represented 1.7% of the survey area. It is an important habitat for many juvenile fish and a vital habitat for wintering waders and wildfowl and is discussed further within Chapter 5: Marine Biodiversity. All terrestrial habitats identified within the PEA survey are considered common and locally abundant.

7.2.2.2.2 Protected Species Survey

All areas of suitable habitat within 200m of the site boundary were examined for evidence of otter presence. This included areas of intertidal mud/sand to the west of the site and boundary, along the concrete beneath the pier, the floating berths within the marina, and the breakwater and rock armour (from a distance with binoculars).

Two potential otter spraints were located on the larger of the two floating docks within the marina. However, the two potential spraints had been substantially weathered by recent rains to the point where precise identification

could not be made. No other evidence of otter holts or field signs indicating presence were observed within the site or within 200m of the site boundary.

It is likely that otters are occasionally using the marina for foraging. However, given the disturbance from boat activity and the presence of more suitable habitat within the broader surroundings, it is likely that these occurrences are rare. Therefore, it is considered that the proposals will have a negligible impact on local otter populations.

Other than otter, no evidence of European protected species or invasive non-native terrestrial species was recorded during the field survey

Further surveys for bat species are proposed due to the identification during the Phase 1 Habitat survey of buildings with the potential to be affected by the Proposed Development works. Initial surveys would comprise of internal/ external bat roost inspections. If necessary, further activity surveys may be required depending on the results of these inspections and the likelihood of bat roosts being present. A lighting strategy is recommended to minimise light pollution relevant to nocturnal protected species utilising the development.

7.2.3 Bird Species

7.2.3.1 Desk Study

Figure 1 of the Preliminary Ecological Appraisal and Otter Report (RPS, 2020) presents all statutory designated sites within 5km of the development. Loch of Inch and Torrs Warren RAMSAR (citation: UK13037) is located within 5km of the site. The Ramsar site is comprised of two separate sites: a large eutrophic freshwater loch (Loch of Inch) and an area of foreshore and sand dunes (Torrs Warren). The latter system contains several sand dune habitats of international importance and nationally important examples of dune slacks which are over 5km from the site. Both components of the site support, in winter, internationally important numbers of Greenland white-fronted geese (*Anser albifrons*) and a nationally important number of hen harrier (*Circus cyaneus*); the overall assemblage of wintering waterfowl is also of interest.

Glen App and Galloway Moors SPA is designated for a breeding population of hen harrier. The citation (UK9003351) does not cover the winter period and the Stranraer Marina site does not include any suitable hen harrier winter roost sites. Evidence presented in Ruddock and Whitfield (2007)¹ has been considered and given the distance of the proposed site from potentially suitable hen harrier foraging habitat (>500m) the need for winter hen harrier surveys have been scoped out.

There were 31 records of Schedule 1 birds sourced during the desk assessment from within the proposed site boundary.

7.2.3.2 Incidental Results from the PEA

During the walkover survey, two incidental records of Schedule 1 bird species were recorded within the Proposed Development boundary. This included six whooper swans (*Cygnus cygnus*) flying over and a great northern diver (*Gavia immer*) foraging within the harbour. Additionally, there were numerous birds of conservation concern (red and amber listed) which were recorded within the Proposed Development boundary.

Birds were noted to be roosting/nesting within the Proposed Development boundary including a juvenile pied wagtail (*Motacilla alba*) which emerged from a crack in the harbour wall. Other areas of note included the trees and hedgerows within the amenity grassland habitats which could provide suitable opportunities for breeding birds. All birds, regardless of species, are afforded a level of protection while on the nest.

No trees are expected to be impacted by the proposed works and therefore, no nesting birds should be disturbed. Depending on the impacts of the proposed works on the harbour walls, further breeding bird checks in this area would be completed if necessary prior to works commencing.

¹ M. Ruddock & D.P. Whitfield (2007). A Review of Disturbance Distances in Selected Bird Species. A report from Natural Research (Projects) Ltd to Scottish Natural Heritage

7.2.3.3 Field Surveys

7.2.3.3.1 Monthly Through the Tide Counts

Monthly Through the Tide Counts (TTTCs) were undertaken between October 2020 and February 2021 in a survey area comprising the footprint of the works and in coastal habitats approximately 500m east and west of the works. The objective of the bird survey is to identify any key high tide roost locations and low tide feeding areas used by waterbird species, as defined by Wetlands International (Rose & Scott, 1997), within the survey area.

TTTC survey methodology follows an adapted version of that used during the British Trust for Ornithology's (BTO) Wetland Bird Surveys (WeBS) core and low tide counts (as described in Bibby et al., 2000).

All birds seen and heard are recorded on large-scale maps using standard BTO species codes and notes on behaviour (feeding, roosting, or loafing), as well as the number of birds in each corresponding location.

The waterbird species list generated during the surveys is as follows:

- Black guillemot
- Black-headed gull
- Black-tailed godwit
- Black-throated diver
- Brent goose (dark-bellied)
- Common gull
- Common scoter
- Common tern
- Cormorant
- Curlew
- Dunlin
- Eider
- Goldeneye
- Goosander
- Great crested grebe
- Great northern diver
- Greenland white-fronted goose
- Grey heron
- Herring gull
- Knot
- Little grebe
- Mallard
- Mute swan
- Oystercatcher
- Pink-footed goose
- Red-breasted merganser
- Red-necked grebe
- Redshank
- Red-throated diver
- Ringed plover
- Sanderling
- Scaup
- Shag
- Shelduck
- Slavonian grebe
- Teal
- Turnstone
- White-fronted goose
- Whooper swan
- Wigeon

The EIA will consider the wider context of Loch Ryan for birds using additional information utilising RSPB and BTO held data, by collating WeBS survey data and data within Lawson et al. 2015.

7.3 Key Issues and Scope of EIA

All terrestrial habitats, protected species and birds identified as having the potential to occur in the vicinity of the Proposed Development will be categorised as Valued Ecological Receptors (VERs) against which impacts associated with the construction and operation of the Proposed Development will be assessed. VERs will include terrestrial (above the high tide line) habitats, bird species, and all notable species associated with the land. Identification of VERs will consider the economic, ecological and nature conservation importance of the features within the vicinity of Stranraer Marina.

The impacts arising from the construction and operation of the project will be identified, and an assessment made of the likely effects on the Terrestrial Biodiversity and Ornithology VERs identified through the desktop review and the results of surveys. The effects will be assessed from the project alone as well as cumulatively with other relevant Proposed Developments. Impacts will be assessed assuming the implementation of mitigation measures included as part of the design of the project, as well as any residual effects assessed after any further mitigation has been factored in if necessary.

The following potential impacts have been identified associated with the Proposed Development:

- Temporary disturbance/loss of habitat arising from construction and demolition activities (including piling activities where required) causing disturbance to otters;
- Temporary disturbance/loss of habitat arising from construction and demolition activities (including demolition or extension of buildings) causing noise, vibration and light disturbance to bats in buildings;
- Temporary disturbance/loss of foraging and roosting habitat arising from construction and demolition activities (including piling activities where required) causing noise, vibration and visual disturbance to waterbirds;
- Permanent waterbird foraging habitat loss arising from the berth extension (from circa 70 berths to 223 berths) and areas of land reclamation;
- Operational disturbance to waterbirds due to increased leisure vessel traffic in Loch Ryan visiting the harbour (anticipated to be approx. 220% increase in leisure vehicle traffic in the summer months); and
- Increased risk of importing marine Invasive Non-Native Species (INNS) to the area due to the higher numbers of visiting boats and spreading those already present (covered within the Marine Biodiversity Chapter of the EIA/EIA).

7.3.1 VERs Scoped In/Out

Based on the identified likely impacts for consideration with the Terrestrial Biodiversity and Ornithology Chapter of the EIA, a review of the important ecological features that could be significantly affected (including negative of positive effects) has been completed during scoping and the conclusions and rationale is presented in Table 7.2.

Table 7.2: VERs Scoped In or Out for consideration in the EIA Chapter

VER	Development Phase	Scope In or Out	Rationale
Otter	Construction, Operation and Decommissioning	Out	Existing boat disturbance and more suitable habitat within the wider area, therefore anticipated to be infrequent visitors. Considered that the proposals will have a negligible (not significant) effect on local otter populations
Bats in Buildings	Construction	In	Inclusion to be reviewed following the completion of the recommended bat surveys prior to the EIA submission.
Waterbirds (Schedule 1 bird species, birds of conservation concern)	Construction, Operation and Decommissioning	In	Temporary disturbance/loss of foraging and roosting habitat arising from construction activities (including piling activities where required) causing noise, vibration and visual disturbance to waterbirds using the harbour and wider Loch Ryan. Permanent waterbird foraging habitat loss arising from the berth extension (from circa 70 berths to 223 berths).

Loch of Inch and Torrs Warren RAMSAR	Construction and In Decommissioning		The RAMSAR supports an internationally important population of Greenland white-fronted geese during the winter which may be, depending on timing and methodology, be significantly affected by the proposals.
Glen App and Galloway Moors SPA	Construction, Operation and Decommissioning	Out	Glen App and Galloway Moors SPA is designated as an important summer breeding site for hen harrier. Given the distance of the proposed site from potentially suitable hen harrier foraging habitat (>500m), potentially significant effects on the qualifying interests of the SPA have been scoped out.

7.4 EIA Report Assessment Methodology

The assessment of effects for Terrestrial Biodiversity and Ornithology will follow the EIA methodology set out above in chapter 1, Section 1.4.2. Specific to this topic, the following guidance document will also be considered:

- Guidelines for Ecological Impact Assessment in the UK and Ireland. Terrestrial, Freshwater and Coastal, Version 1.1 (CIEEM, 2018)

7.5 Summary

Fourteen Phase 1 Habitat types were recorded within the survey area during the PEA. Of these, the open saltwater habitat, semi-improved neutral grassland, amenity grassland, and buildings will be directly impacted by the proposed works. The loss of terrestrial habitat is not considered to be significant given their abundance geographically.

It is likely that otters are occasionally using the marina for foraging. However, given the disturbance from boat activity and the presence of more suitable habitat within the broader surroundings, it is likely that these occurrences are rare. Therefore, it is considered that the proposals will have a negligible (not significant) impact on local otter populations. If any other buildings are to be impacted or are within close proximity (<30m) of the proposed works, further survey will be required for bat species. Other than bat roosting potential, all other terrestrial ecological receptors are scoped out for assessment within the EIA.

The key consideration for the chapter will be the construction, operational and decommissioning impacts to Schedule 1 bird species, birds of conservation concern (red and amber listed) and consideration of any potential connection of seabirds recorded during the TTTC surveys through later 2020 and early 2021 to Loch of Inch and Torrs Warren RAMSAR. Woodward *et al* (2019) will be used to assess connectivity from a SPA to a Proposed Development area as per consultation responses received from NatureScot (19.11.2020). A Habitat Regulations Assessment (HRA) section will be included within the EIA Chapter to document the Natura 2000 assessment process.

7.6 References

- Bibby, C.J., Burgess, N.D., Hill, D.A & Mustoe, S (2000). Bird Census Techniques. Second Edition. Academic Press, London.
- Lawson, J., Kober, K., Win, I., Bingham, C., Buxton, N.E., Mudge, G., Webb, A., Reid, J.B., Black, J., Way, L. & O'Brien, S. (2018) An assessment of numbers of wintering divers, seaduck and grebes in inshore marine areas of Scotland (Revised May 2018), JNCC Report No. 567. JNCC, Peterborough, ISSN 0963-8091.
- JNCC (2016). Handbook for Phase 1 habitat survey. Joint Nature Conservation Committee
- Rose, P.M. and Scott, D.A. (1997). Waterfowl Population Estimates. Second Edition. Wetlands International Publication No. 44. Wetlands International, Wageningen, The Netherlands. 106 pp

RPS (2020). Stranraer Marina: Preliminary Ecological Appraisal and Otter Report

M. Ruddock & D.P. Whitfield (2007). A Review of Disturbance Distances in Selected Bird Species. A report from Natural Research (Projects) Ltd to Scottish Natural Heritage

Woodward, I., Thaxter, C.B., Owen, E., and Cook, A.S.C.P. (2019). Desk-based revision of seabird foraging ranges used for HRA screening. BTO research report number 724.

8 TRANSPORTATION

8.1 Context

This chapter of the EIA Scoping Report will consider the traffic impacts of the proposed development and expansion of the Stranraer Marina. The majority of works are proposed within the existing lands and therefore the existing access arrangements are unlikely to be impacted upon or require any mitigation works. The supporting transportation analysis required as part of this proposal (in the form of a Transport Statement or Transportation Assessment) will be agreed with Dumfries & Galloway Council and Transport Scotland as part of the scoping exercise.

8.2 Baseline Environment

8.2.1 Existing Site & Baseline Traffic Conditions

The existing site is located at the southern end of Loch Ryan. The site has a modern marina and a finger pontoon which is mainly used by smaller fishing vessels, excursions and recreational craft.

The supporting Transportation information will provide information in relation to the existing site, including;

- Site location plan, indicating the proposed development in relation to the surrounding area and transport system;
- The permitted and existing use at the site;
- Existing access arrangements and any access constraints, if applicable.

The supporting information will also provide information in relation to the baseline transport conditions, including;

- A qualitative description of the travel characteristics of the existing site, including a review of the existing pedestrian, cycling and public transport network;
- Details of any committed transport improvements or projects in the vicinity of the site;
- A description of the existing highway network in the vicinity of the site;
- A review of existing accident / collision history in the vicinity of the site.

Baseline traffic surveys will also be undertaken to determine existing traffic volumes at the existing site accesses and the surrounding road network, both internal and external to the port. Any existing data currently held by the Council will be utilised where possible.

Due to the existing operation of the site surveys will likely be undertaken over a period of 24no. hours to ensure the external and internal peak periods are adequately addressed.

Given COVID-19 and current restrictions in place in terms of movement, traffic data cannot be collected at this time and therefore this will be discussed with the Council and Transport Scotland as part of the Scoping process.

8.3 Key Issues and Scope of EIA

8.3.1 Transport Impacts

The supporting transportation information will include an assessment of both the construction and operational impacts of the proposed development.

This will consider the increase in HGV movements associated with the construction phase and the increase in vehicular movements (likely to be car trips) during the operational phase.

This will also consider the requirement for any improvement to the existing pedestrian / cycling / public transport / private vehicle facilities as part of the proposed development.

8.4 EIA Report Assessment Methodology

8.4.1 Transport Impacts

The supporting information will be assessed in accordance within the current guidance published by Dumfries & Galloway Council and Transport Scotland where applicable. The information will include;

- Plan of the proposed development;
- Description of proposed land use;
- Scale of redevelopment / expansion;
- Arrangements for Non Motorised Users (pedestrians, cyclists & public transport);
- Construction traffic generations;
- Operational traffic generations;
- Parking numbers and strategy;
- Impact of construction and operational generations on highway network.

The impacts will be compared against the current baseline scenario which will establish the impact of the proposed development upon the surrounding highway network.

8.5 Summary

8.5.1 Summary of Transport Impacts

The scoping exercise has concluded that due to the potential increase in vehicle traffic during the construction and operational stage then transportation should be scoped in to the EIA. The environmental impacts of an increase in traffic generation should also be scoped.

9 AIR QUALITY AND CLIMATE CHANGE

9.1 Context

This chapter of the EIA Scoping Report sets out the proposed methodology for assessing the impact on air quality and climate arising from the construction, operation and maintenance of the Proposed Development. This chapter considers air quality and climate features within the terrestrial and coastal environment and provides information on the key receptors that have the potential to be subject to likely significant effects resulting from the Proposed Development, and how that assessment is to be conducted.

This chapter of the EIA Scoping Report will be comprised of two sub-topics:

- Air Quality - which relates to pollutants with potential to affect human health and ecosystems at a local level (this includes a construction phase dust and emissions assessment); and,
- Climate change - which is related to emissions of greenhouse gases (GHGs). Climate change will continue to cause impacts on the environment. In this regard, it is appropriate to assess the impact of projects on climate (for example greenhouse gas emissions) and their vulnerability to climate change.'

9.2 Baseline Environment

9.2.1 Background Air Quality Data

Local council air quality monitoring information will be used as background data along with Defra background estimates. The DMRB Screening Method will be used to estimate pollutant levels for the base year and future years of operation.

9.2.2 Air Quality Objectives in Scotland

The assessment will examine levels of atmospheric pollution in accordance the most relevant European and Scottish directives/regulations. Table 9.1 summarises the air quality objectives in Scotland. The 2011 Regulations specify limit values in ambient air for sulphur dioxide (SO₂), lead, benzene, particulate matter (PM₁₀ and PM_{2.5}), carbon monoxide (CO), nitrogen dioxide (NO₂) and oxides of nitrogen (NO_x). These limits are mainly for the protection of human health and are largely based on review of epidemiological studies on the health impacts of these pollutants. In addition, there are limits that apply to the protection of the wider environment (ecosystems and vegetation). All predicted concentrations from the operation of the Proposed Development are compared to the air quality limits to determine the extent of any impact on residential or ecological receptors.

Table 9.1: Summary of Air Quality Objectives in Scotland (Source – Annual Progress Report APR 2019)

Pollutant	Criteria	Value
Nitrogen Dioxide	Hourly limit for protection of human health - not to be exceeded more than 18 times/year	200 µg/m ³ NO ₂
	Annual limit for protection of human health	40 µg/m ³ NO ₂
	Annual limit for protection of vegetation	30 µg/m ³ NO + NO ₂
Benzene	Running Annual Mean for protection of human health	3.25µg/m ³
Carbon Monoxide	Maximum daily 8-hour running mean	10 mg/m ³
Lead	Annual limit for protection of human health	0.25 µg/m ³

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Sulphur Dioxide	Hourly limit for protection of human health - not to be exceeded more than 24 times/year	350 µg/m ³
	Daily limit for protection of human health - not to be exceeded more than 3 times/year	125 µg/m ³
	Not to be exceeded more than 35 times a year	266 µg/m ³
Particulate Matter PM ₁₀	24-hour limit for protection of human health - not to be exceeded more than 7 times/year	50 µg/m ³ PM ₁₀
	Annual limit for protection of human health	18 µg/m ³ PM ₁₀
Particulate Matter PM _{2.5}	Annual target value for the protection of human health	10 µg/m ³ PM _{2.5}

Local Air Quality Management Technical Guidance (2016) referred to as LAQM.TG(16), outlines that the AQALs apply in the following locations:

- Annual mean - all locations where members of the public might be regularly exposed - i.e. building facades of residential properties, schools, hospitals, care homes etc.
- 24-hour mean and 8-hour mean - all locations where the annual mean objective would apply together with hotels and gardens of residential properties.
- 1-hour mean - all locations where the annual mean, 24-hour and 8-hour mean apply together with kerbside sites and any areas where members of the public might be reasonably expected to spend one hour or more.
- 15-minute mean - all locations where members of the public might reasonably be exposed for a period of 15 minutes or more.

Critical Levels for the protection of sensitive ecosystems and habitats are also outlined within the Air Quality Standards (Scotland) Amendment Regulations (2016) for oxides of nitrogen and sulphur dioxide. Limits for ammonia are contained in IPPC H1 (2003), however these have been superseded by more recent Critical Levels as detailed within the Air Pollution Information System (APIS).

9.2.3 LAQM 2019 Progress Report

9.2.3.1 Background

The LAQM process places an obligation on all local authorities to regularly review and assess air quality in their areas to determine if air quality objectives are likely to be achieved. Where an exceedance is considered likely the local authority must declare an Air Quality Management Area (AQMA) and prepare an Air Quality Action Plan (AQAP) setting out the measures it intends to put in place in pursuit of the objectives. This Annual Progress Report summarises the work being undertaken by Dumfries and Galloway Council to improve air quality and any progress that has been made.

Dumfries and Galloway Council currently does not have any AQMAs, however the Council has taken forward a number of measures during the reporting year of 2018 in pursuit of improving local air quality. Details of planned measures are set out in the Public Sector Climate Change Duties 2015-2016 Report.

This Dumfries and Galloway Council document in addition to carbon reporting covers: alternatives to private vehicle use; corporate freight and delivery management; policy guidance and development control; promotion of low emission plants and promoting low emission transport; promoting travel alternatives; transport planning and infrastructure and includes initiatives such as vehicle fleet efficiency and driver training.

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Many of the measures outlined in the South West of Scotland Transport Partnership (SWESTRANS) Climate Change Strategy together with previous SWESTRANS initiatives have had and will have direct implications for the improvement of air quality in the Council area.

9.2.3.2 Neighbouring Council Area

Tables 9.2 and 9.3 below illustrate the air pollution data from the two monitoring sites for a neighbouring Council area – South Ayrshire. Although the data detailed in Tables 9.2 and 9.3 are from a neighbouring council area, they still provide useful background information in terms of recorded air pollution. Table 9.2 details information in relation to a harbour site and Table 9.3 reflects concentrations in an urban setting, included for completeness. Section 9.2.3.3 sets out air quality monitoring data for Dumfries and Galloway Council.

Table 9.2: Ayr Harbour Air Pollutant Concentration

Pollutant	Band	Concentration	Period
PM _{2.5} particulate matter (Hourly measured)	Low (1)	-1 ug ^m - ³ (TEOM FDMS)	24 Hour mean
Nitrogen dioxide (NO ₂)	Low (1)	6 ug ^m - ³	Hourly mean
Non-volatile PM _{2.5} (Hourly measured)	Not applicable	-1 ug ^m - ³ (TEOM FDMS)	24 Hour mean
Volatile PM _{2.5} (Hourly measured)	Not applicable	-2 ug ^m - ³ (TEOM FDMS)	24 Hour mean
Nitrogen oxides as nitrogen dioxide (NO _x asNO ₂)	Not applicable	15 ug ^m - ³	Hourly mean
Nitric oxide (NO)	Not applicable	6 ug ^m - ³	Hourly mean

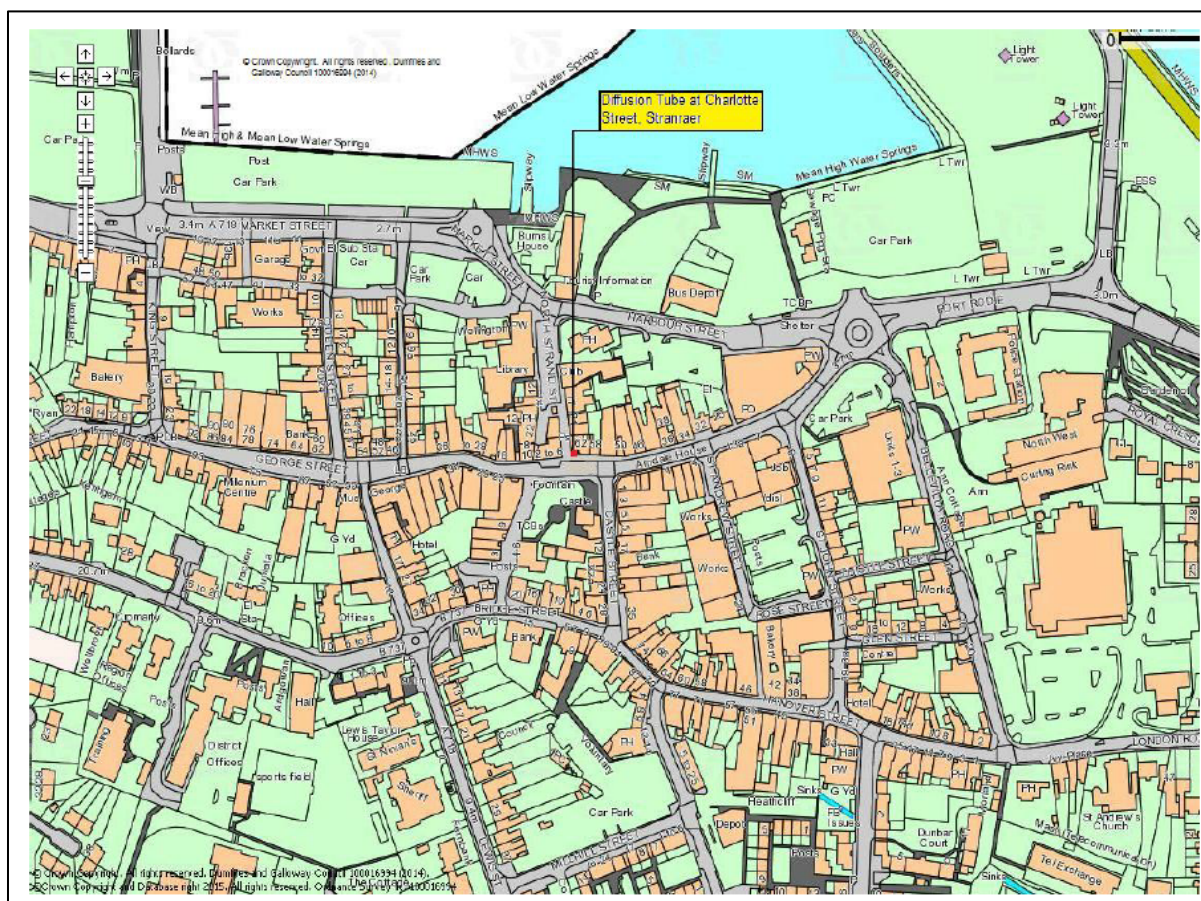
Table 9.3: Ayr High Street Air Pollutant Concentration

Pollutant	Band	Concentration	Period
PM _{2.5} particulate matter (Hourly measured)	Low (1)	3 ug ^m - ³ (TEOM FDMS)	24 Hour mean
Nitrogen dioxide (NO ₂)	Low (1)	10 ug ^m - ³	Hourly mean
Non-volatile PM _{2.5} (Hourly measured)	Not applicable	0 ug ^m - ³ (TEOM FDMS)	24 Hour mean
Volatile PM _{2.5} (Hourly measured)	Not applicable	3 ug ^m - ³ (TEOM FDMS)	24 Hour mean
Nitrogen oxides as nitrogen dioxide (NO _x asNO ₂)	Not applicable	17 ug ^m - ³	Hourly mean
Nitric oxide (NO)	Not applicable	4 ug ^m - ³	Hourly mean

9.2.3.3 Dumfries and Galloway Council Monitoring

Dumfries and Galloway Council undertook non-automatic (passive) monitoring of nitrogen dioxide at 12 sites during 2018. Maps showing the location of the monitoring sites are provided and below shows the Stranraer monitoring site.

Figure 9.1 Map details Stranraer monitoring site (Source – Annual Progress Report APR 2019)



Tables 9.4 and 9.5 show the details on the Stranraer monitoring site and the annual mean nitrogen dioxide monitoring results.

Table 9.4 Details of Stranraer Non-Automatic Monitoring Site (Source – Annual Progress Report APR 2019 Table A.2)

Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Pollutants Monitored	In AQMA ?	Distance to relevant exposure (m)	Distance to kerb of nearest road (m)	Tube collocated with a continuous analyser?
Charlotte Street, Stranraer	Roadside	206085	580859	N02	No	<1	4.0	No

Table 9.5 Annual Mean NO2 Monitoring Results (Source – Annual Progress Report APR 2019 Table A.3)

Site Name	Site Type	Monitoring Type	Valid Data Capture 2018 (%)	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Charlotte Street, Stranraer	Roadside	Diffusion Tube	91.7	18.7	21.8	17.7	18.1	17.9	17.6	17.0	16.3	15.5	19.5

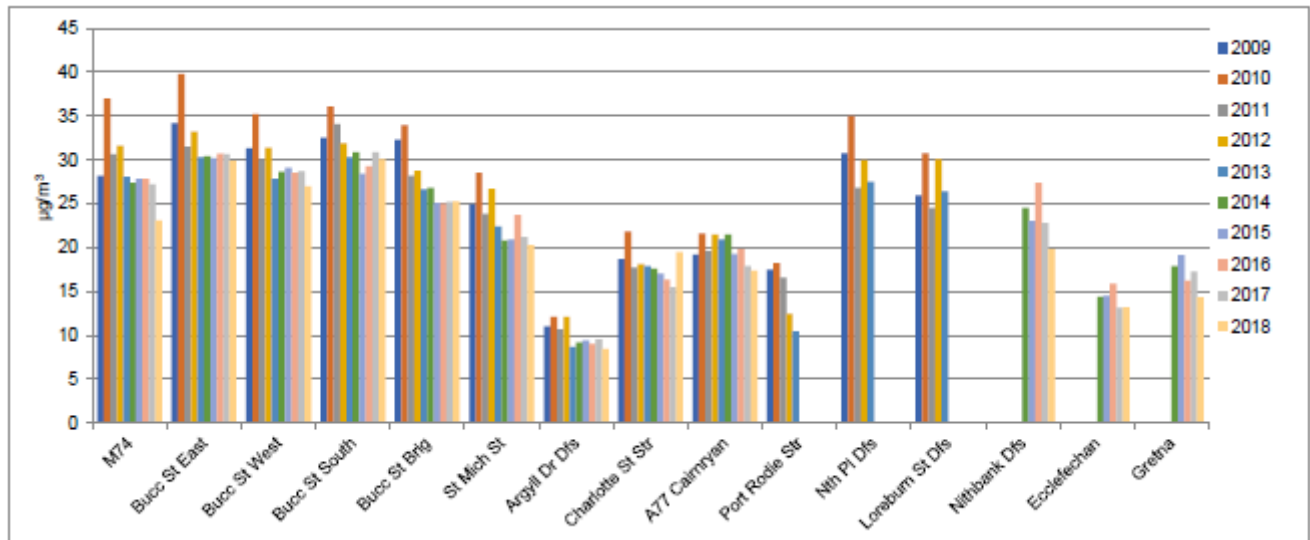
There were no exceedances of air quality objectives for nitrogen dioxide recorded in Dumfries and Galloway. Annual mean concentration air quality objective for nitrogen dioxide is 40µg/m3.

Figure 9.2 show trends in nitrogen dioxide levels over the past eleven years. No exceedances of the objectives for nitrogen dioxide have been recorded and the trend (See trend lines in Figure 9.3) for the last

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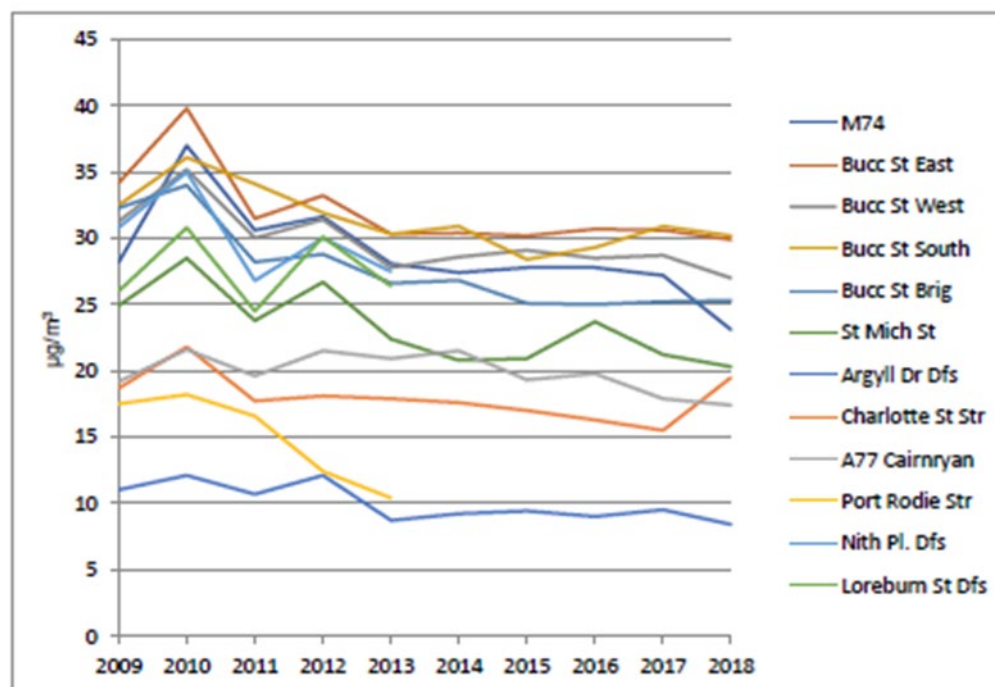
eight years has been static and significantly below the relatively high level recorded at Buccleuch Street, Dumfries in 2010.

Figure 9.2 Trends in Annual Mean Nitrogen Dioxide Concentrations Measured at Diffusion Tube Monitoring Sites. (Source – Annual Progress Report APR 2019 Figure A.2)



Most sites show a general reduction in nitrogen dioxide annual average levels from 2009 to 2018.

Figure 9.3 Historical Annual Mean Nitrogen Dioxide Diffusion Tube Concentrations at All Sites (Source – Annual Progress Report APR 2019 Figure A.5)



9.3 Key Issues and Scope of EIA

The chapter will summarise the levels of atmospheric pollution in the coastal area and also provides details on the local council air quality reports. The air quality assessment considers the likely impacts of the proposal on the local environment and ascertains whether or not the Proposed Development will lead to a breach of relevant threshold levels of particular atmospheric pollution concentrations. Local council air quality monitoring information will be used as background data along with relevant SEPA references.

9.3.1 Construction Phase

The scope of the assessment during the construction phase will include emissions of nitrogen dioxide (NO₂) and particulate matter (PM₁₀ and PM_{2.5}) from construction plant and vehicles, and dust arising from construction activities. Activities during the construction phase of the development have the potential to generate air pollutants associated with movement of plant and construction vehicles. These emissions are produced by the use of construction materials, transport of materials, construction machinery, and general site operations.

9.3.2 Operational Phase

The operational phase will include assessment of NO₂ and PM₁₀ (and PM_{2.5}) concentrations associated with vehicle traffic on the road network. The operational phase will also examine any changes in harbour activities (both on shore and off shore) in relation to impacts on air pollutants.

9.4 EIA Report Assessment Methodology

9.4.1 Construction Phase – Air Quality

Effects during construction can often be more significant than those that arise during the operational life of a project. Larger projects can take several years to complete. During this period, there may be numerous significant effects. For the construction phase it is important to define the physical characteristics of the whole project, including, where relevant, demolition works, the land-use requirements during construction and operation as well as other works that are integral to the project.

The impact of both dust and vehicle emissions during the construction phase will be considered within the EIA. Dust emissions can lead to elevated PM₁₀ and PM_{2.5} concentrations and may also cause dust soiling. The impacts of dust emissions will be assessed by estimating the area over which there is a risk of significant impacts.

The significance of impacts due to vehicle emissions during the construction phase will be dependant on the number of additional vehicle movements, the proportion of HGVs and the proximity of sensitive receptors to site access routes. If construction traffic would lead to a significant change (> 10%) in AADT flows near to sensitive receptors, then concentrations of nitrogen dioxide, PM₁₀ and PM_{2.5} will be predicted.

Where the location of any designated habitats is within 200 m of any construction works, then this will be clearly identified within the EIA, and consideration given to the need for additional mitigation measures to reduce dust emissions.

Any assessment of air quality impacts on sensitive ecosystems will be discussed and agreed with the project ecologist. The potential impact of the scheme on sensitive ecosystems is limited to the local level. Consideration will therefore be given to all designated sensitive sites that are within 200m of any road that could be affected by the proposed scheme, both during operation and construction.

9.4.2 Operational Phase – Air Quality

9.4.2.1 Scoping Out of Operational Phase Air Quality Assessment

The following traffic scoping criteria shall be used to determine whether the air quality impacts of a project can be scoped out or require an assessment based on the changes between the do something traffic (with the project) compared to the do minimum traffic (without the project) in the opening year:

- Increases in operational traffic is not significant due to the nature of the development and no significant predicted increases in future traffic are associated with the project.

Where the Proposed Development does not lead to a change in any of the traffic scoping criteria then an air quality assessment shall not be required and can be scoped out. Where the air quality assessment is

scoped out, a statement shall be provided stating that the traffic scoping criteria have not been triggered and consequently there was no requirement for an air quality assessment.

9.4.3 Climate

At the national/international level, emissions of nitrogen oxides (NO_x) are of concern with respect to nitrogen deposition and the formation of ozone, while emissions of carbon dioxide (CO₂) are associated with climate change. It is important to determine the impact of the Proposed Development on climate (for example the nature and magnitude of greenhouse gas emissions) and the vulnerability of the Proposed Development to climate change and this follows the publication by the Commission of 'Guidance on Integrating Climate Change and Biodiversity into Environmental Impact Assessment'. It aligns the Directive with the United Nations Convention on Biological Diversity and with 'Our life insurance, our natural capital: an EU biodiversity strategy to 2020'.

CO₂ emissions have a climate warming effect which is global. This is regardless of their rate of release, location or the weather when they are released into the atmosphere. This is unlike pollutants that affect local air quality where the rate of release, location and prevailing weather, as well as the amount of pollutant, determines the local concentrations and the impact. Local ambient concentrations of CO₂ are not relevant and there are no limits or thresholds that can be applied to particular sources of carbon emissions – any amount of CO₂ released into the atmosphere will contribute to climate warming, the extent of which is determined by the magnitude of the release. Although CO₂ emissions are typically expressed as kilogrammes or tonnes per year, there is a cumulative effect of these emissions because CO₂ emissions have a warming effect which lasts for 100 years or more.

It is proposed that the assessment is undertaken using the Institute of Environmental Management and Assessment (IEMA) Assessing Greenhouse Gas Emissions and Evaluating their Significance document.

9.4.4 Preliminary Mitigation Measures

The findings of the air quality and climate assessment will be used to develop relevant mitigation measures as appropriate for the operational and construction phases of the Proposed Development to mitigate significant adverse impacts. An important consideration during the construction phase is nuisance dust. Mitigation measures will be developed where appropriate to ensure that the risk of nuisance dust effects is reduced to a minimum.

A dust management plan shall be developed for construction phase dust control and mitigation measures to be employed by the construction contractor. The series of mitigation and control measures will help prevent significant air quality and dust impacts during the demolition and construction phase.

In addition embedded mitigation measures include the following:

- A CEMP which will include pollution prevention measures during construction.

In relation to construction phase works, such measures will include a Construction Environmental Management Plan (CEMP) to ensure pollution prevention measures will be implemented to address such potential impacts from the construction of the Proposed Development.

9.5 Summary

The impact of the proposal on air quality (including climate) considers demolition, construction and operational phases of the Proposed Development. The assessment will make reference to the following guidance documents:

- Institute of Environmental Management and Assessment (IEMA) Assessing Greenhouse Gas Emissions and Evaluating their Significance, 2017;
- Institute of Air Quality Management (IAQM) Guidance on the assessment of dust from demolition and construction (2014),
- DMRB Volume 11, Section 3, Part 1 (HA207/07) Air Quality;

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- Local Air Quality Management - New Technical Guidance TG(16)Local Air Quality Management - New Policy Guidance PG(S) (16).

The scoping exercise has concluded that a number of potential environmental effects at construction stage should be scoped into EIA, that is: emissions from plant and vehicles and dust levels from construction activities. The effect of air pollutants emissions at operational stage should be scoped out of the EIA, whilst a climate assessment is scoped in for both construction and operational stages.

10 NOISE AND VIBRATION

10.1 Context

This chapter of the EIA Scoping Report sets out the proposed methodology for assessing the impact on noise and vibration arising from the construction, operation and maintenance of Proposed Development.

This chapter of the EIA Scoping Report will be comprised of the following:

- potential noise impacts associated with construction phase activities from the Proposed Development
- potential noise impacts associated with increased traffic flows and vessel numbers at the operational stage of the Proposed Development; and
- noise mitigation measures necessary to comply with current noise standards and guidance during both construction and operation.

10.2 Baseline Environment

The existing marina serves the southern end of Loch Ryan and currently consists of a dogleg quay, and a finger pontoon, which is used by smaller fishing vessels, excursions and recreational craft.

Whilst infrastructure remains, the ferry terminal ferry operations in Stranraer harbour are no longer in operation.

Consideration shall be given to the potential impact of the Proposed Development upon the residential properties and other noise sensitive receptors.

Stranraer Harbour falls within the boundary of Dumfries and Galloway Council.

10.2.1 Baseline Noise Monitoring Survey

A baseline noise monitoring survey will be conducted within the study area. Noise monitoring locations will be selected so as to be representative of all groups of sensitive receptors. Noise sensitive receptors include residential properties and any non-residential buildings that may have particular sensitivities to increased noise levels (e.g. hospitals, nursing homes, educational facilities, establishments/laboratories/workshops where high precision tasks are performed etc.).

Noise monitoring will be conducted over day and night-time periods.. Given COVID-19 and ongoing current restrictions in place in terms of traffic movements and impact on baseline noise environment baseline noise monitoring survey and methodology will be discussed with the baseline noise monitoring survey, including locations, will be discussed and agreed with Dumfries and Galloway Council Environmental Health Department in advance of commencement of the monitoring survey.

The Proposed Development is to include a provision of a renewable energy installation. The baseline noise monitoring survey will also take consider specific noise guidance requirements in relation to proposed renewable energy installation.

Baseline measurements will be made at a height of 1.2 – 1.5m above ground level. The weather conditions will be accordance with the requirements of BS7445: Description and Measurement of Environmental Noise and ISO 1996: Acoustics - Description, Measurement and Assessment of Environmental Noise.

The following parameters will be recorded during each monitoring period:

L_{Aeq} The continuous equivalent A-weighted sound pressure level. This is an “average” of the sound pressure level.

L_{Amax} This is the maximum A-weighted sound level measured during the sample period.

L_{Amin} This is the minimum A-weighted sound level measured during the sample period.

L_{A10} This is the A-weighted sound level that is exceeded for noise for 10% of the sample period.

L_{A90} This is the A-weighted sound level that is exceeded for 90% of the sample period.

10.3 Key Issues and Scope of EIA

The Proposed Development has the potential to give rise to noise and vibration impacts on the immediate surrounding environment as a result of construction phase activities, including dredging, at the proposed site and construction phase traffic travelling to and from the site.

During the operational phase, the most significant potential noise impacts will be as a result of increased vessel movements and associated road traffic.

The Proposed Development is to include a provision of a renewable energy installation. This renewable energy installation will be considered and assessed in relation to operational noise impacts on confirmation of final energy installation.

There is potential for other operational phase noise impacts such plant/equipment noise during Proposed Development operations.

10.4 EIA Report Assessment Methodology

10.4.1 Proposed Methodology

The impact of the Proposed Development on noise and vibration considers demolition, construction including dredging and operational phases.

A noise and vibration chapter will be submitted as part of the supporting documentation for the planning application.

The noise and vibration assessment report will include:

- Construction Phase: BS5228:2009+A1:2014 Assessment of potential construction phase noise and vibration impacts at nearest residential properties and adjacent to include the construction of the Proposed Development.
- Operational Phase: CadnaA noise modelling software will be used to predict the worst-case operational phase noise levels from the Proposed Development to include the renewable energy installation;
- Operational Phase: BS4142:2014, BS8233:2014 and WHO Guidelines will be used to assess the potential noise impact from plant/equipment, including the proposed renewable energy installation, associated with the Proposed Development;
- Traffic Noise: An assessment of construction and operational phase traffic noise in accordance with the Design Manual for Roads and Bridges (Vol. 11, Section 3, Part7, HD 213/11) and the Calculation of Road Traffic Noise
- Vibration: General consideration of potential vibration impacts in accordance with BS5228:2009+A1:2014 Part 2.

Mitigation measures will be outlined for the construction and operational phases of the Proposed Development to help minimise potential noise and vibration impact.

It is unlikely that there will be operational vibration affecting noise sensitive receptors as there are no known significant vibration sources affecting the Proposed Development.

10.4.2 Legislation and Policy

Noise and Vibration guidance and policy to be included within the methodology and assessment is summarised below in Table 10.1.

Table 10.1: Summary of Noise and Vibration Guidance, Policy and Legislation

National Policy	Summary
Planning Advice Note 1/2011: Planning and Noise	This note provides advice on how the planning system can be used to minimise the adverse impact of noise.
British Standard BS5228, Code of Practice of Noise and Vibration Control on Construction and Open sites	BS5228 consists of two parts and covers the need for protection against noise and vibration of persons living and working in the vicinity of construction and open sites. The standard recommends procedures for noise and vibration control in respect of construction operations.
British Standard 8233: 2014 Sound Insulation and Noise Reduction for Buildings – Code of Practice	BS8233:2014 provides guidance values for a range of ambient noise levels within residential properties. The noise and vibration impact assessment will ensure that the appropriate internal noise levels at the nearest noise sensitive receptors to the proposal are not exceeded as a result of activities associated with the Proposed Development
World Health Organisation (WHO) – Guidelines for Noise	WHO) Guidelines for Community Noise (1999), a L_{Aeq} threshold daytime noise limit of 55 dB is suggested for outdoor living areas in order to protect the majority of people from being seriously annoyed. A second daytime limit of 50 dB is also given as a threshold limit for moderate annoyance. The guidelines suggest that an internal L_{Aeq} not greater than 30 dB for continuous noise is needed to prevent negative effects on sleep. This is equivalent to a façade level of 45 dB L_{Aeq} , assuming open windows or a free-field level of about 42 dB L_{Aeq} . If the noise is not continuous, then the internal level required to prevent negative effects on sleep is a $L_{Amax,fast}$ of 45 dB.
Calculation of Road Traffic Noise (CRTN) – Department of Transport Welsh Office 1988	Calculation of Road Traffic Noise (CRTN) guidance document outlines the procedures to be applied for calculating noise from road traffic. They provide guidance appropriate to the calculation of traffic noise for more general applications e.g. environmental appraisal of road schemes, highway design and land use planning.
Design Manual for Roads and Bridges (DMRB) Section 3 Part 7 , HD213/11 Noise and Vibration	DMRB provides guidance on the assessment of the impacts that road projects may have on levels of noise and vibration, predominately traffic noise and vibration.
British Standard BS4142:2014 Methods for rating and assessing industrial and commercial sound	BS4142:2014 describes methods for rating and assessing sound of an industrial and/or commercial nature.
Control of Pollution Act 1974	The contractor will adopt the Best Practicable Means as defined in Section 72 as a means of controlling noise from construction sites.

10.4.3 Potential Mitigation Measures

The findings of the noise and vibration assessment will be used to develop relevant mitigation measures as appropriate for the operational and construction phases of the Proposed Development to mitigate significant adverse noise impacts.

British Standard BS5228:2009+A1:2014 – Noise and vibration control on construction and open sites outlines a range of measures that can be used to reduce the impact of construction phase noise on the nearest noise sensitive receptors. Table 11.2 outlines the applicable noise threshold limits that apply at the nearest noise sensitive receptors.

Table 10.2 outlines the applicable construction noise threshold limits that apply at the nearest noise sensitive receptors. The determination of what category to apply is dependent on the existing baseline ambient (L_{Aeq}) noise level (rounded to the nearest 5dB) at the nearest noise sensitive property. For daytime, if the ambient noise level is less than the Category A threshold limit, the Category A threshold limit (i.e. 65dB) applies. If the ambient noise level is the same as the Category A threshold limit, the Category B threshold limit (i.e. 70dB) applies. If the ambient noise level is more than the Category A threshold limit, the Category C threshold limit (i.e. 75dB) applies.

Table 10.2: Noise Threshold Limits at Nearest Sensitive Receptors for Construction Activities

	Threshold Limits [dB(A)]		
	Category A	Category B	Category C
Night-time (23:00 - 07:00)	45	50	55
Evening and Weekends (19:00 - 23:00) Weekdays, 13:00-23:00 Saturdays, 07:00-23:00 Sundays)	55	60	65
Weekday daytime (07:00-19:00) and Saturdays (07:00-13:00)	65	70	75

A range of measures should be taken to ensure that the quietest machinery is used or that the use of machinery is such as to be sensitive to the residents at the nearest properties.

10.5 Summary

The scoping exercise has concluded that a noise and vibration impact assessment will be included in EIA. The noise and vibration impact assessment will assess the potential impacts from the construction and operation of the Proposed Development.

11 SOILS, GEOLOGY AND CONTAMINATION

11.1 Context

This chapter of the EIA Scoping Report sets out the proposed methodology for assessing the impact on soils and geology.

11.2 Baseline Environment

11.2.1 Bedrock geology

The British Geological Survey (BGS) identify that the site and surrounding area is underlain by the Loch Ryan Formation which consists of coarse breccia with a conglomerate of greywacke clasts in a red sandstone matrix.

11.2.2 Superficial geology

The site is underlain by Marine Beach deposits comprising shingle, sand, silt and clay. The BGS also identifies that Made Ground is present beneath the site.

11.2.3 Hydrogeology

The BGS identify that the site is underlain by a moderately productive aquifer.

11.3 Key Issues and Scope of EIA

Key issues for soils and geology are as follows;

- Confirm site geology as identified in British Geological Survey maps through intrusive ground investigation.
- Establish contaminant status of sediments to be dredged to ascertain if they are suitable for re-use within the site for reclamation.
- Undertake contaminated land assessment in accordance with Environment Agency and SEPA guidance. This will include an assessment of the dredged sediments to ascertain if they will pose an unacceptable risk to site end users and environmental receptors when used for reclamation. A land and marine based ground investigation will be undertaken to establish ground conditions and to collect soil, sediment and groundwater samples for laboratory analysis for a wide suite of contaminants including Tributyl Tin (TBT).
- Consultation required with Marine Scotland on the requirement for a Marine License to enable re-use of dredged sediments for reclamation and scope of ground investigation.
- Consultation required with SEPA to understand if there are any waste licensing requirements in relation to re-use of dredged sediments for reclamation.

11.4 EIA Report Assessment Methodology

11.4.1 Ground Contamination

To aid the environmental assessment process, a contaminated land risk assessment will be prepared to accompany the chapter. The assessment will be carried out in accordance with Environment Agency guidance Land Contamination Risk Management (LCRM) published in October 2020. A Preliminary Risk Assessment (PRA) will examine the potential for sources of contamination and pollutant linkages to be present and inform the scope of the ground investigation. An intrusive land and marine based ground investigation will be undertaken to confirm the actual ground conditions in the area of the proposed development site. The information gathered from the ground investigation will be used to undertake a Generic Quantitative Risk Assessment (GQRA) which will quantify the risk from any ground contamination to site end users and environmental receptors such as

groundwater and surface water. If unacceptable risks are identified, a remedial strategy will be devised to minimise the identified risks.

11.4.2 Sensitivity of Receptor

Effects of contaminated land on receptors will be assessed taking into account sensitivity of the receptor and magnitude of the effect. The sensitivity of geological receptors will be determined according to the methodology shown in Table 11.1.

Table 11.1: Sensitivity of Geological/Hydrogeological Receptors

Sensitivity	Criteria	Typical Examples
High	High importance and rarity, international or national scale and very limited potential for substitution.	<p>Geology: World Heritage Sites or site protected under EU or UK wildlife legislation (SAC, SPA, SSSI, Ramsar site).</p> <p>Soils: Agricultural land of Grade 1 or 2 quality.</p> <p>Controlled Water: Groundwater vulnerability is classified as high; Principal aquifer providing a regionally or locally important resource or supporting site protected under wildlife legislation</p> <p>Future site users: Sensitive land uses proposed such as residential housing with gardens, allotments, schools.</p> <p>Built Environment: Sites of international Importance, World Heritage Sites, Listed Buildings, and Scheduled Monuments.</p>
Medium	Attribute has a medium quality and rarity on local scale	<p>Geology: Regionally Important Geological Sites (RIGS).</p> <p>Soils: Agricultural land of Grade 3 quality.</p> <p>Controlled Water: Moderate classification of groundwater vulnerability; Secondary aquifer providing water for agricultural or industrial use with limited connection to surface water.</p> <p>Future site users: Moderately sensitive land uses such as residential housing without gardens, commercial developments and open spaces.</p> <p>Built Environment: Sites with local interest for education or cultural appreciation.</p>
Low	Attribute has a low quality and rarity on local scale	<p>Geology: Rock exposures.</p> <p>Soils: Agricultural land of Grade 4&5 quality.</p> <p>Controlled Water: Deep Secondary aquifer with poor water quality not providing baseflow to rivers; Aquifer not used for water supplies (public or private).</p>

		Future Site Users: Low sensitivity land use such as Industrial Sites, highways and rail.
		Built Environment: Infrastructure (e.g. Roads, railways, tramways).
Neutral	Very low importance and rarity, local scale.	Geology: No rock exposures. Soils: Urban classified soils. Controlled Water: Non-aquifer/Unproductive Strata
		Future Site Users: No sensitive land use proposed.

11.4.3 Magnitude of Effect

The magnitude of a potential effect is independent of the sensitivity of the feature. The magnitude considers the scale of the predicted change to the baseline condition taking into account its duration (i.e. the magnitude may be moderated by the effects being temporary rather than permanent, short term rather than long term) and whether the effect is direct or indirect. Definitions for impact magnitude are described in Table 11.2.

Table 11.2: Criteria to Determine the Magnitude of Effect

Magnitude	Criteria	Typical Examples
Major adverse	Total loss or major alteration to key features of the baseline conditions such that post development character/composition of baseline condition will be fundamentally changed.	Pollution of potable sources of water abstraction. Loss of, or extensive change, to an aquifer, groundwater supported designated wetlands. Loss of, or extensive change, to nationally important geological features.
Moderate adverse	Loss or alteration to one or more key features of the baseline conditions such that post development character/composition of baseline condition will be materially changed.	Partial loss or change to an aquifer. Partial loss of the integrity of groundwater supported designated wetlands. Permanent loss of, regionally important geological features, or substantial changes to nationally important geological features.
Minor adverse	Results in some measurable change in attributes quality or vulnerability compared to baseline conditions. Changes arising from the alteration will be detectable but not material; the underlying character/composition of baseline condition will be similar to the pre-development situation.	Measurable impact or aquifer but of limited size or proportion, which does not lead to a reduction in the aquifer status. Minor effects on groundwater supported wetlands. Loss of, or extensive change, to locally important geological features
Neutral	Very little change from baseline conditions. Change is barely distinguishable approximately to a "no change" situation.	No measurable impact upon groundwater. No measurable impact on geological features.

Beneficial	Benefit to, or addition of, key characteristics, features or elements compared to baseline conditions.	Treatment or removal of contaminated soils from site Improvement to geological features
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11.4.4 Assessment of Significance Matrix

The significance of a specific potential effect is derived from both the sensitivity of the feature and the magnitude of the effect, and can be then determined using the matrix presented in Table 11.3. Effects can be beneficial, adverse or neutral and their significance Very Large, Large, Moderate, Slight or Neutral or an intermediary designation as cases dictate based on professional judgement. The significance of an impact should also be qualified based on the likelihood of an effect occurring (using a scale of certain, likely or unlikely) and the confidence in the accuracy of the assessment. Professional judgement can be used to vary the category where specific circumstances dictate, for example due to the vulnerability or condition of the receptor.

Table 11.3: Assessment of Significance Matrix

Sensitivity of Attribute	Magnitude of Effect			
	Major	Moderate	Minor	Neutral
High	Large/very large	Moderate/large	Slight/moderate	Neutral
Medium	Large	Moderate	Slight	Neutral
Low	Slight/moderate	Slight	Neutral	Neutral
Neutral	Neutral	Neutral	Neutral	Neutral

11.4.5 Significance Criteria

The potential significance of these effects will be assessed using Table 11.4. The rationale for the assessment of significance is based on the risk assessment process and therefore, takes account of the different sensitivities (importance) of the potential receptors.

Table 11.4: Significance Criteria

Significance Category		Description and Examples	Significance
Neutral	-	Minimal impact on geological condition, minor loss of urban soils; and No discernible negative impact with regards to contaminated land.	Not Significant
Minor	Adverse	Changes to Made Ground deposits only, moderate/ major loss/ degradation of Grade 4 or 5 soils. minor or moderate loss/ degradation of Grade 3 soils Easily preventable, non-permanent health impacts on humans; Minor low-level and localised contamination of on-site soils;	Not Significant

		<p>Pollution of non-sensitive water resource or low long term risk of pollution to sensitive water resource; and</p> <p>Easily repairable damage to buildings / infrastructure.</p>	
	Beneficial	<p>Remediation of localised low levels of contamination;</p> <p>Remediation of non-sensitive water resource contamination; and</p> <p>Minimal improvements to overall soil and water quality.</p>	Not Significant
Moderate	Adverse	<p>Superficial disturbance to near surface deposits,</p> <p>Changes in geomorphology, large loss/ degradation of Grade 3 soils, minor loss/ degradation of Grade 1 or 2 soils.</p> <p>Sterilisation of low quality mineral resources.</p> <p>Easily preventable, permanent health impacts on humans or medium-term (chronic) risk to human health;</p> <p>Medium long-term risk of pollution of sensitive water resources; damage to buildings / infrastructure (on or off site); and</p> <p>Localised damage to buildings/ infrastructure (on or off site).</p>	Not Significant
	Beneficial	<p>Remediation of localised moderate levels of contamination;</p> <p>Remediation of moderate to high, localised sensitive water resource contamination; and</p> <p>Re-use of excavated soils on-site to avoid disposal to landfill.</p>	Not Significant
Major	Adverse	<p>Substantial changes due to cuttings, moderate/ large loss/ degradation of Grade 1 or 2 soils;</p> <p>Loss of exposed designated geological features;</p> <p>Sterilisation of high quality mineral resource</p> <p>Long-term (chronic) risk to human health or short-term (acute) risk to human health;</p> <p>Short- term risk of pollution of sensitive water resources;</p> <p>Extensive damage to buildings / infrastructure (on or off site);</p> <p>Generation of significant quantities of waste sediment or soils for landfill ; and</p> <p>Contamination of offsite soils.</p>	Significant
	Beneficial	<p>Remediation of widespread high levels of contamination/ widespread contamination;</p> <p>Remediation of significant, widespread sensitive water resource contamination; and</p> <p>Re-use of significant quantities of excavated soils on-site to avoid disposal to landfill.</p>	Significant

11.5 Summary

The main items to be addressed within the soils, geology and contamination EIA chapter will be the potential for ground contamination and assessment of the suitability of dredged sediments to be re-used for land reclamation.

12 CULTURAL HERITAGE

12.1 Context

This chapter identifies the proposed scope of the EIA in respect of likely significant effects of the Proposed Development upon cultural heritage assets. It provides an initial summary of the baseline situation and a proposed scope for the cultural heritage impact assessment and sets out the proposed assessment methodology.

In general developments may affect cultural heritage assets either by causing physical damage or disturbance, generally during construction, or as a result of changes in setting, generally during operation; changes in setting during the construction phase are generally short-lived and hence rarely have the potential to result in significant effects.

12.2 Baseline Environment

12.2.1 Introduction

The initial baseline study draws upon the following sources:

- Historic Environment Scotland designated asset datasets;
- Canmore (Canmore incorporates data from RCAHMS' Project Adair and hence all wrecks and obstructions recorded by UKHO as of March 2013);
- Historic maps held by the National Library of Scotland; and
- Satellite imagery.

12.2.2 Designated Heritage Assets

Stranraer Conservation Area takes in the southern and western parts of the site of the Proposed Development and the 1930s harbour office and weighbridge is a Category C Listed Building (LB49655).

Immediately to the south-east of the site are the Category B-listed 28 and 30 Harbour Street (LB41768). These comprised a late 18th century a house (no. 28), which is now a Tourist Information Office, with a contemporary warehouse to the rear. The warehouse appears to have been demolished some time ago, its site is occupied by the modern Burns House, but the listing has not been updated.

Across Market Street from the site are 10 and 11 Market Street (LB41771 & 41772). Both are of 19th century date. The former was originally built as a hotel, but is now government offices. The latter was built as a house and is now a guest house.

The setting of all of these Listed Buildings is dominated by the numerous car parks that occupy the southern part of the site and lie south of Market Street.

12.2.3 Non-designated Heritage Assets and Archaeological Potential

The site of the Proposed Development was reclaimed in the second half of the 19th century. Prior to this the site lay in the intertidal zone, the only structure present was the Steam Boat Wharf, built in the first half of the 19th century. This was subsequently extended to form the current West Pier. Ordnance Survey mapping demonstrates that buildings within the reclaimed area were sparse. The buried remains of these buildings, if present will have minimal potential to yield useful archaeological data. They are not therefore considered likely to represent heritage assets.

Canmore contains fifteen entries relate to marine losses in the 19th and 20th centuries in and around the harbour. The exact location of these losses is unknown and there is no evidence that there are substantive remains within the site. Some are recorded as having been dispersed and it is reasonable to assume that any that lay within the site have been removed to prevent them being a hazard to shipping, given the size of the harbour or during routine dredging operations.

As the land lay below the high-water mark, it is considered that the potential for archaeological assets to be present here is negligible.

12.3 Key Issues and Scope of EIA

The key issue from a cultural heritage perspective is the potential effects upon the character and appearance of the Stranraer Conservation Area and the setting of the Listed Buildings within and adjacent to the site (as identified in Section 12.2.2). As changes in setting relating to the construction phase will be short-lived and transitory, construction phase setting effects will be scoped out and only effects relating to the operational phase will be assessed. The potential for cumulative effects will be considered.

The physical effects of the Proposed Development upon the Category C-listed harbour office will be considered.

Prior to reclamation in the 19th century the site lay entirely within the intertidal zone. Since the harbour was enclosed it has been maintained and the numerous marine losses recorded in and around the harbour have almost certainly been removed or dispersed in order to keep the harbour clear of potential hazards. There is therefore limited potential for significant effects upon marine losses, but available bathymetry and other data will be reviewed in order to establish this potential further and to develop appropriate mitigation methods.

12.4 EIA Report Assessment Methodology

The assessment of effects will be undertaken with reference to relevant guidance in particular HES' Managing Change in the Historic Environment series and Appendix 1 of the EIA Handbook (NatureScot & HES 2018). Accordingly, the assessment will describe the cultural significance of the relevant assets and the contribution of setting to this. Assessment will be a matter for professional judgement but the following guidelines are provided to assist consistency and transparency. All effects at 'moderate' or above levels will be considered to be significant in the context of the EIA Regulations.

Table 12.1: Guideline sensitivity criteria

Sensitivity	Guideline Criteria
High	Assets valued at an international or national level, e.g. World Heritage Sites, scheduled monuments, Category A listed buildings, Inventory gardens and designed landscapes, Inventory battlefields, historic marine protected areas, some conservation areas and non-designated assets that meet the relevant criteria for designation in the opinion of the assessor. Category B or C-listed buildings where the existing designation does not adequately reflect their value, in the opinion of the assessor.
Medium	Assets valued at a regional level, e.g. Category B listed buildings, some conservation areas and non-designated assets of similar value in the opinion of the assessor. Category C-listed buildings where the existing designation does not adequately reflect their value, in the opinion of the assessor.
Low	Assets valued at a local level, e.g. Category C listed buildings, some conservation areas and non-designated assets of similar value in the opinion of the assessor.

Table 12.2: Guideline examples for the assessment of magnitude of effect

Magnitude	Guideline Examples	
	Adverse	Beneficial
Substantial	Changes to the fabric or setting of a heritage asset resulting in the complete or near complete loss of its cultural significance, such that it may no longer be considered a heritage asset.	Preservation of the asset in situ where it would be completely or almost completely lost in the do-nothing scenario or removal of elements of the setting that prevent the appreciation of the asset's cultural significance.
Moderate	Changes to the elements of the fabric or setting of the heritage asset that contribute to its cultural significance such that this is substantially altered.	Changes to key elements of the asset's fabric or setting that result in its cultural significance being preserved, where they would otherwise be lost, or restored.

Slight	Changes to the elements of the fabric or setting of the heritage asset that contribute to its cultural significance such that this is slightly altered.	Changes that result in elements of the asset's fabric or setting that detract from its cultural significance being removed
Negligible	Changes to fabric or setting that leave significance unchanged.	

Table 12.3: Guideline significance criteria

Sensitivity	Magnitude			
Subheading	Substantial	Moderate	Slight	Negligible
High	Major	Major	Moderate	Negligible/None
Medium	Major	Moderate	Minor	Negligible/None
Low	Moderate	Minor	Minor	Negligible/None

12.5 Summary

The operation of the Proposed Development has the potential to affect Stranraer Conservation Area and the setting of Listed Buildings in and adjacent to the site. The cultural significance of these assets will be established and this will be factored into the design of the Proposed Development where appropriate. Where embedded mitigation preventing adverse effects is not possible, appropriate mitigation measures to reduce or offset these potential effects will be proposed.

The site of the Proposed Development takes in land that has historically lain within the intertidal zone and was not reclaimed until the latter part of the 19th century. The potential for previously unrecorded heritage assets to be affected will be considered and appropriate mitigation measures will be developed.

13 LANDSCAPE AND VISUAL

13.1 Context

This chapter of the EIA Scoping Report considers the potential effects of the proposed marina development on the local landscape character and visual amenity. The Proposed Development at Stranraer Marina will result in a combination of new features and amendments to the existing marina and associated infrastructure in terms of the local landscape character and visual context of the marina.

13.2 Baseline Environment

The existing landscape and visual baseline conditions will be established by providing an overview of the landscape character within which the Proposed Development sits, or which lies immediately adjacent to the site.

The Proposed Development site is located on the northern edge of Stranraer, Dumfries and Galloway, and therefore the adopted Local Development Plan 2 (LDP2) forms the current development plan.

Whilst the Proposed Development site is located within the existing townscape associated with Stranraer, the site lies adjacent to 2Nr. landscape character types, identified from NatureScot as Peninsula (LCT 156) and Coastal Flats – Dumfries and Galloway (LCT 158). Both of these identified LCT's are influenced by the existing built form of Stranraer at a local level.

It is also noted that the Proposed Development site sits adjacent to the Conservation Area associated with Stranraer (Map 5 of LDP2).

13.3 Key Issues and Scope of EIA

The Proposed Development has the potential to give rise to localised townscape effects as the Proposed Development is located within the existing townscape associated with Stranraer and a detailed townscape character assessment will be completed. Within the assessment of townscape effects an assessment of the potential construction phase impacts will also be completed, as construction phase impacts have the potential to be prominent, though temporary.

The Proposed Development has the potential to give rise to visual effects, from both the immediate surroundings as well as from the wider Loch Ryan setting and a detailed visual impact assessment will be completed. Residential properties will be considered as part of the assessment, particularly those properties that lie adjacent to the Proposed Development.

Viewpoints will be carefully selected to illustrate representative views of the Proposed Development from within Stranraer and the wider environs and will include a number of viewpoints that are representative of views available from residential properties within close proximity to the development site.

13.4 EIA Report Assessment Methodology

13.4.1 Methodology

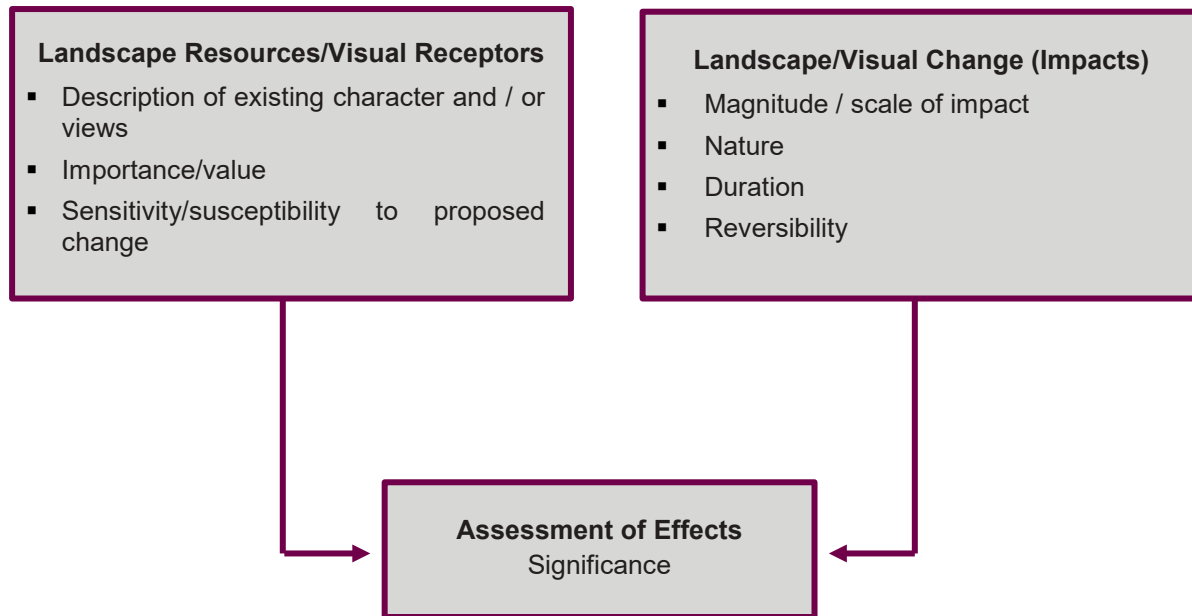
The methodology and approach to the assessment contained within this chapter will be carried out in accordance with best practice guidance described in the following documents;

- Guidelines for Landscape and Visual Impact Assessment, Third Edition (The Landscape Institute and Institute of Environmental Management & Assessment, 2013) (GLVIA3);
- Technical Guidance Note 06/19 Visual Representation of Development Proposals (The Landscape Institute, 2019).

GLVIA3 recommends that an LVIA '*concentrates on principles and process*' and '*does not provide a detailed or formulaic 'recipe'*' to assess effects, it being the '*responsibility of the professional to ensure that the approach and methodology adopted are appropriate to the task in hand*' (preface to the third edition).

The effects on the landscape resources and visual receptors (people) will be assessed by considering the proposed change in the baseline conditions (the impact of the development) against the type of landscape resource or visual receptor (including the importance and sensitivity of that resource or receptor). These factors are determined through a combination of quantitative (objective) and qualitative (subjective) assessment using professional judgement. The assessment methodology is summarised in Figure 13.1 below.

Figure 13.1: Assessment Methodology Summary



The LVIA will consider the potential effects of the Proposed Development upon:

- Individual landscape features and elements;
- Landscape character; and
- Visual amenity and the people who view the landscape.

The capacity of the townscape/ landscape to accept change of the type proposed by the Proposed Development will be assessed by reviewing the sensitivity of each landscape character area identified from NatureScot Landscape Character Type assessments. Overall key landscape components are normally landform, vegetation, historical and townscape components. Landform relates to topography, drainage characteristics and geology. Historical and cultural components include historic landscapes, listed buildings, conservation areas and historic designed landscapes. Vegetation plays an important role in how the landscape and visual resources of an area are viewed and is an integral component of a landscape character.

13.4.2 Identification of Baseline Conditions

Baseline conditions will be identified and assessed through analysis and review of;

- Up to date digital copies of Ordnance Survey Ireland Discovery Series raster and vector maps;
- Aerial photography;
- Dumfries and Galloway Local Development Plan 2;
- NatureScot Landscape Character Type Assessments (LCTs);
- Historic Environment Scotland – Inventory gardens and designed landscape; and
- Drawings of the Proposed Development.

Site visits will be undertaken to assess the existing environment, to establish the existing visual resource and to identify sensitive receptors, i.e. landscape/ townscape receptors, visual receptors including residential properties and any scenic viewpoints. Site visits will also be used to establish the perceived extent of landscape/ townscape and visual impacts that may be associated with the Proposed Development.

Recommended viewpoints for visual assessment purposes include;

- A77/ Ladies Walk Junction;
- A77/ Bowling Green Road Junction;
- Harbour Street (A717);
- Agnew Crescent / Car park entrance;
- A717 / Queen Street Junction; and
- Broadstone Road.

An assessment of any cumulative effects that could arise through other plans, projects and ongoing activities within the study area will be undertaken based on available information.

Cumulative landscape/ townscape and visual effects on individual or specific groups of receptors will be considered and assessed as part of the LVIA.

Mitigation of monitoring measures will be developed where appropriate to ensure that predicted effects on landscape resources and visual receptors as a consequence of the Proposed Development are reduced to insignificant levels.

13.5 Summary

The scoping exercise has concluded that as a result of potential landscape/ townscape and visual effects arising from the Proposed Development during the construction and operational phases that Landscape and Visual should be scoped into the EIA.

14 POPULATION, HUMAN HEALTH AND SOCIO ECONOMICS

14.1 Context

This chapter of the EIA Scoping Report seeks to provide an overview of the Proposed Development in the context of local populations, settlement and the general human environment within the locale. Information is also presented in relation to demography of the local area and the wider region.

Consideration is also given to the matter of human health where this is not assessed under other EIA disciplines e.g. air quality, noise and vibration, transportation, water quality and contamination.

Consideration is also given to the socio economic impacts associated with the Proposed Development, both direct (construction employment, material and plant supplies) and indirect (tourism, secondary spend).

14.2 Baseline Environment

14.2.1 Land Use and Population

The town of Stranraer is located on the shores of Loch Ryan, on the northern side of the isthmus joining the Rhins of Galloway to the mainland; the town is located within the Dumfries and Galloway Council area. Stranraer was formerly a ferry port, connecting Scotland with Belfast and Larne in Northern Ireland. The ferry service has subsequently transferred to Cairnryan port, approximately 7km north (via the A77).

The town is approximately 140km (by road) southwest of Glasgow, 84km southwest of Ayr and 116km to the west of Dumfries. The A75 runs east from Stranraer to Gretna, with links to the M6 going to Carlisle. Stranraer railway station is located adjacent to the former ferry terminal; rail connections are daily to Ayr, Glasgow and Kilmarnock.

Stranraer is Dumfries and Galloway's second-largest town, with a population of 10,851 (2001 Census). Stranraer is an administrative centre for the West Galloway Wigtownshire area of Dumfries and Galloway. Residential land use is relatively offset from the existing marina with the commercial (town) centre immediately to the south of the A77.

14.2.2 Human Health

Larger areas of residential land use are relatively set apart from the existing marina with some residential properties, fronting on to the A77. The commercial (town) centre is located immediately to the south of the A77.

The existing marina comprises berths for leisure and commercial (fishing) vessels with car parking with some informal and formal open space and recreation areas, also located immediately adjacent, including Agnew Park and coastal paths.

The population in excess of 10,000 represents a significant population within the town and the wider area, which should be considered in the context of human health. Matters in respect of human health will be considered within the EIA as set out in relevant chapters of the EIA Scoping Report.

14.2.3 Socio Economics

Traditionally, key industry and economic generators within Stranraer have been related to the harbour and port operations. Whilst the ferry operations have been relocated to Cairnryan, the marina continues to operate for commercial (fishing) and leisure vessels. The wider tourism offer (including golf) and farming represent other key economic generators for the area.

14.3 Key Issues and Scope of EIA

14.3.1 Population and Human Health

Impacts upon population and human health shall be assessed within the relevant chapters elsewhere within the EIA including air quality, noise and vibration, transportation, water quality and contamination. Population and Human Health are therefore scoped out of the EIA.

14.3.2 Socio Economics

The potential socio economic benefits of the Proposed Development to the local area are potentially high; market research has indicated that Consideration shall be given to the potential socio economic impacts associated with the proposed redevelopment within the Project Description chapter of the EIAR under the need for the project.

The Stranraer Marina project has been included within the Destination Borderlands theme of the Growth Deal which aims to promote tourism as a priority sector. Stranraer Marina has a provisional Growth Deal funding allocation, subject to satisfactory approval of Outline and then Full Business Cases. An Outline Business Case has been prepared and is due to be submitted shortly. It is anticipated that the Proposed Development (and associated development such as the SWSA training and regatta facility) could provide new marine related jobs and associated economic benefits, up to £3.7m per annum.

Although the Proposed Development is predicted to deliver positive socio-economic impacts, a standalone Socio-Economic assessment is scoped out of the EIA.

14.4 Summary

Impacts upon population and human health shall be assessed within the relevant chapters within the EIA; Population and Human Health are therefore scoped out of the EIA. A standalone Socio-Economic assessment is also scoped out of the EIA.

15 MAJOR ACCIDENTS AND DISASTERS

15.1 Context

This chapter of the EIA Scoping Report seeks to assess the impact of the Proposed Development in terms of potential major accidents and disasters. The requirement to consider these matters is outlined within The Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017 which states, in relation to matters to be included within an EIA, “a description of the expected significant adverse effects of the works on the environment deriving from the vulnerability of the works to risks of major accidents and/or disasters which are relevant to the project concerned”.

Potential exists for the occurrence of a major disaster during both the construction and operational phases of the Proposed Development.

15.2 Baseline Environment

The receiving environment is Stranraer Harbour, which is an existing harbour with a marina and commercial berths. Whilst the Proposed Development seeks to improve the existing facilities (both landside and marine side) there will be no fundamental changes to the types of operations currently undertaken within the harbour.

Stranraer Harbour is one of the busiest ports in the region; current operations consist of a marina used by small fishing vessels, excursions and recreational craft, serving the southern end of Loch Ryan, and a commercial quay used by fishing boats and commercial vessels.

Ferry terminals are also located north of the harbour (managed by a separate Statutory Harbour Authority); whilst infrastructure remains, the ferry terminal ferry operations in Stranraer harbour are no longer in operation having transferred to Cairnryan port, approximately 7km north (via the A77). The Proposed Development does not include any works associated with the former ferry terminal infrastructure.

In addition to port infrastructure, there are a number of other land uses within the harbour estate, including a boat yard, harbour reception building and car parking.

Harbour operations and procedures are overseen by the Harbour Master and Dumfries and Galloway Council which are implemented in line with the “Schedule of Conditions Relative for Berths and Moorings” provided at <https://www.dumgal.gov.uk/article/15847/Stranraer-West-Pier-Marina> by Dumfries and Galloway Council.

15.3 Key Issues and Scope of EIA

Impact upon the natural environment, local land uses and human population, caused by accidental discharge of dangerous substances (oils, fuels, cement, paints, contaminants exposed through excavation works etc) could occur during the construction phase but these are addressed in other chapters in the EIA Scoping Report, including Water Quality and Soils, Geology and Contamination and don't merit a Major Accidents and Disasters Chapter and is scoped out.

Similarly operational impacts may also occur through accidental discharge of dangerous substances (during servicing and refuelling of vessels, leaks, spillages and handling of sensitive cargo materials) but these matters will be addressed elsewhere within the EIA Scoping Report (water quality, and soils, geology and contamination) and will not therefore be covered within the scope of the Major Disasters and Accidents Assessment Chapter and is scoped out.

The presence, movement and navigation of vessels during both construction and operational phases, has the potential to result in accidents; collision with other vessels or with natural and / or manmade features, may result in damage to the environment through accidental discharge of sensitive substances such as fuels and cargo materials. However, the existing navigational systems and controls in the harbour will be adhered to and remain in place during and post construction. The movement and navigation of vessels will be described in the EIA and the need for a Major Disasters and Accidents Chapter is scoped out.

15.4 EIA Report Assessment Methodology

It is proposed to scope Major Disasters and Accidents out of the EIA.

15.5 Preliminary Mitigation Measures

All construction phase operations should be undertaken in line with appropriate safeguarding policies, construction method statements and risk assessments, which should be compiled in line with current best practice guidance.

Harbour operations should continue to be undertaken in line within existing operational controls which should be amended to take account of any operational changes which may occur during the construction or operational phases.

15.6 Summary

The scoping exercise has concluded that major disaster or accident effects at construction and operational stages should be scoped out of the EIA *and* be assessed through the specialist topics of terrestrial and marine biodiversity, water quality and soils, geology and contamination instead.

16 MATERIAL ASSETS

16.1 Context

This chapter of the EIA Scoping Report considers the impact of the Proposed Development upon material assets. The requirement to consider the direct and indirect significant effects of a development on land use and material assets is outlined within the Marine Works (EIA) (Scotland) Regulations 2017 and the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017.

There is no clear cut definition of what constitutes a 'material asset', however for the purposes of the initial scoping assessment, a material asset can generally be categorised under the following:

- Built Assets: including transport, energy and services infrastructure, settlement and commercial land, port/harbour infrastructure, community resources and the historical environment; and
- Natural Assets: including forestry, open space minerals, water resources, watercourses.

16.2 Baseline Environment

16.2.1 Land Use

The site location comprises Stranraer Marina which comprises a range of marine and land based infrastructure, supporting the recreational and commercial uses. In the marine area there is a dogleg quay and a finger pontoon, accommodating 70 berths, used by smaller fishing vessels, excursions and recreational crafts. Ferries utilise the wider marine area.

The harbour hinterland adjacent to the marine area accommodates a range of recreational and commercial buildings, supporting the marine use, including a reception building, boatyard, and car park. There are large areas of hardstanding, which are utilised for and support the wider waterfront/marina uses. There are amenity park areas adjacent, along with a coastal walk.

The planning context for the site location is set out in the local Development Plan, which identifies the area (Policy STR MU1 Stranraer Waterfront) as a regeneration area, and expansion and improvements are encouraged.

16.2.2 Material Assets

Material assets include consideration of the existing marina and harbour infrastructure, road and transport infrastructures, utilities, water and sewerage infrastructure, as well as cultural, architectural structures.

There are numerous utilities in the area, including roads, footpaths, and cycle ways within the surrounding urban and coastal areas, facilitating access to the site locations. There is evidence of electricity and telecoms infrastructure throughout the landscape which will need to be considered, although given the nature of the project, it is unlikely to be impacted.

16.3 Key Issues and Scope of EIA

16.3.1 Land Use

Following a review of the background information and project description, it is clear that the proposal is an extension to the existing uses in the area, namely an increase in the marina based use and supporting shoreside facilities. The proposals will improve the marina facilities, encourage tourism, and enhance the potential for greater commercial and community activities within the area.

The proposals are consistent with the character and amenity of this coastal area, and maintain and enhance the existing amenities in terms of links, pedestrian routes and connectivity. As such, no significant effects are anticipated.

The Local Development Plan (LDP2) supports the regeneration masterplan for Stranraer waterfront, which amongst other elements, supports the area as a '*distinctive and successful leisure destination*'. The Stranraer Waterfront Masterplan (STR.MU1) is planning guidance adopted as part of the Plan, and is a material consideration in the planning process.

The Proposed Development is consistent with the objectives of the overall masterplan and urban design strategy, and in particular the Marina Character Area. The objectives include construction of new marina facilities, new buildings to support the marina services, increase the number of pontoons, and encourage new routes, linkages and shared spaces. The proposals express these objectives, and as such likely significant effects on land use are not anticipated on future development potential land uses.

16.3.2 Material Assets

There are potential effects on a range of material assets, within the site location and beyond, during the construction and operational phases of the project. These include:

- Harbour infrastructure, including quay, pier, marina and vessel berths;
- Utilities infrastructure, including telecoms, gas, electricity, and others;
- Road, footpath and cycle structures;
- Existing coastal / flood defence structures;
- Recreation and natural assets, including the beaches, parks etc.

There is existing utilities infrastructure within the existing marina area which supports the current uses and buildings. Good consultation with the utilities companies is recommended to identify the exact locations, and any changes to these can be incorporated into the proposed detailed design and agreed with the relevant authorities. No significant effects are anticipated in this respect.

The proposals include extensions to existing shoreside buildings and areas including the Harbour Reception Building, boatyard and parking areas. These will require land take, however this appears minimal within the overall land available. Similarly, there are proposals to improve and augment the pedestrian amenity, with coastal walk and amenity lands. There is likely to be short term impacts during construction works, however during the operational phase the proposal will improve the marina offering and enhance facilities. No significant effects are anticipated.

The site location is within the Stranraer Conservation Area boundary, and there are several listed buildings within and adjacent to the area. The impacts of the proposals on the historic environment will be explored and considered as part of the Cultural Heritage assessment (Chapter 12). There is a considerable body of water within the existing marina area, and the potential effects of the project on coastal processes, water quality, and coastal flooding and their associated infrastructure will be considered as part of the assessments in Chapters 3, 4 and 6 respectively.

Given the nature of the site location and existing uses, there is considerable marine infrastructure within the area namely, the existing pontoon/berth infrastructure and harbour facilities to support the HSS. There are likely to be short terms impacts on these during the construction process, as the improvements to the marine and shoreside facilities are improved. Good management techniques and an agreed programme of works will minimise effects.

16.4 Summary

This chapter of the EIA Scoping Report has considered the potential effects on land use and material assets, as a result of the Proposed Development, during both the construction and operational phase of the works, within the existing Stranraer Marina area.

The Proposed Development aims to augment the existing marina and shoreside facilities, and is consistent with the Stranraer Waterfront Masterplan. The proposals augment the existing area with new coastal walks, amenity areas and public realm in a coordinated manner, and therefore there no impacts are predicted in regards to severance, amenity and linkages. No significant effects are anticipated, further assessment is not required, and land use is scoped out.

There is the potential for Proposed Development to impact on the existing assets within the marina, including the berths, and quayside infrastructure during the construction period. However these are likely to be short-term, and can be managed through best practice construction methods. Similarly, all existing utilities within the area may be effected by the project, however maintaining good consultation with the relevant utility providers throughout the project can ensure that any impacts are minimised.

Potential effects on the cultural heritage within the area and the surrounding water resources are explored within other accompanying assessments. As such, no significant effects are anticipated, further assessment is not required, and material assets is scoped out.

17 CUMULATIVE IMPACTS

17.1 Context

EIA Regulations require an EIA to consider '*the cumulative effects with other existing and/or approved works*'.

17.2 Baseline Environment

The Proposed Development will be assessed under each of the disciplines within the EIA, in consideration of the existing and ongoing operations within the wider area.

Consideration will also be given to identified projects which have been approved (or are awaiting approval via planning or marine licencing), which may result in a cumulative effect with the Proposed Development.

Projects identified to date that may be considered cumulatively along with the Proposed Development include the following:

- Maintenance Dredging and Sea Deposit - Stranraer Harbour - Marine Licence Application
- Deposit of Oyster Shells - Loch Ryan, Dumfries and Galloway - Marine Licence Application
- Capital Dredging and Sea Disposal - Loch Ryan Port, Cairnryan – Marine Licence Application

It should be noted that no relevant planning applications have been identified via the Dumfries and Galloway Council ePlanning web portal.

As noted within chapter 2 of the EIA Scoping Report, there are a number of the following developments are likely to be located directly within the marina or within the immediate vicinity, but will not form part of the Proposed Development. These projects will be considered within the EIA in terms of cumulative impacts.

- Water Sports Building - (Stranraer Water Sports Association) new training and regatta facility adjacent to harbour office
- Restaurant / Bar - within the existing Breastworks car park.

17.3 Key Issues and Scope of EIA

The issues outlined within this EIA Scoping Report, under each discipline, will be considered in terms of cumulative impacts.

17.4 EIA Report Assessment Methodology

In order to identify those projects which should be included in terms of cumulative assessment, a review of the Dumfries and Galloway Council ePlanning web portal and Marine Scotland's register of current projects will be undertaken.

Further consultation will be undertaken with relevant regulatory authorities to determine project types, status and potential for cumulative effects.

Mitigation measures will be outlined under each of the disciplines assessed within the EIA.

18 CONCLUSION

An EIA Screening Opinion on the Proposed Development has been sought from both Marine Scotland Licensing Operations Team (MSLOT) and Dumfries and Galloway District Council planning authority.

Marine Scotland determined that *the proposed works are an EIA project under the 2017 MW Regulations and, therefore, an EIA is required.*

At the time of writing, no EIA screening opinion has been provided by Dumfries and Galloway District Council planning authority.

This report has been prepared in order to assist the authorities in adopting a scoping opinion. In line with the relevant EIA Regulations, the following has been provided within this report:

- a description of the location of the works and a description of the nature and purpose of the works
- a plan to identify the area in which the works are proposed to be sited;
- the likely effects of the works on the environment.

The EIA scoping exercise has identified potentially significant environmental effects that require more detailed examination and analysis in an EIA and those that can be 'scoped out' of an EIA.

Table 18.1 summarises a range of potential environmental effects that have been scoped in or out of EIA, based on the analysis in the foregoing sections of the report.

Table 18.1: Summary of EIA Scoping (All Disciplines)

Environmental Effect	Scoped In	
	Construction Stage	Operational Stage
Coastal Processes	✓	✓
Flood Risk	-	✓
Marine Biodiversity	✓	✓
Water Quality	✓	✓
Terrestrial Biodiversity and Ornithology	✓	✓
Transportation	✓	✓
Air Quality and Climate	✓	✓
Noise and Vibration	✓	✓
Soils, Geology and Contamination	✓	-
Cultural Heritage	✓	✓
Landscape and Visual	✓	✓
Population, Human Health and Socio-economics	-	-
Major Accidents and Disasters	-	-
Material Assets and Land Use	-	-

APPENDIX 1.1

Figures and Drawings

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Note

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Legend

Site Location

Rev	Description	By	Ckd	Date



Elmwood House, 74 Boucher Road,
BELFAST, BT12 6RZ
T: 028 9066 7914

Client Dumfries and Galloway Council

Project Stranraer Marina

Title Site Location

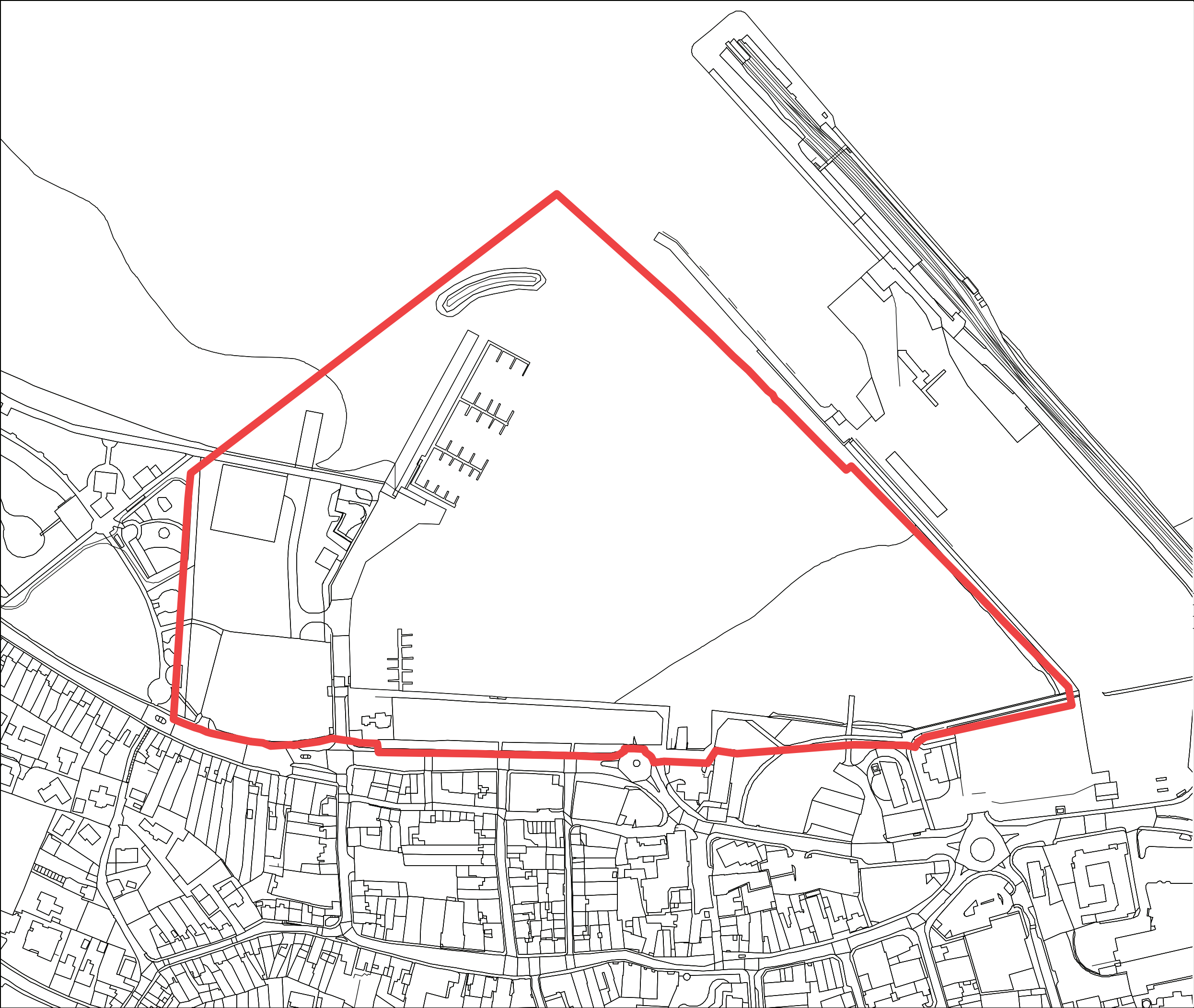
Figure Number 1.1

Status	Scale @ A3	Date
For Reference	1:5000	11.03.21

RPS Project Number	Revision
NI2285	—

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Legend



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Project Stranraer Marina

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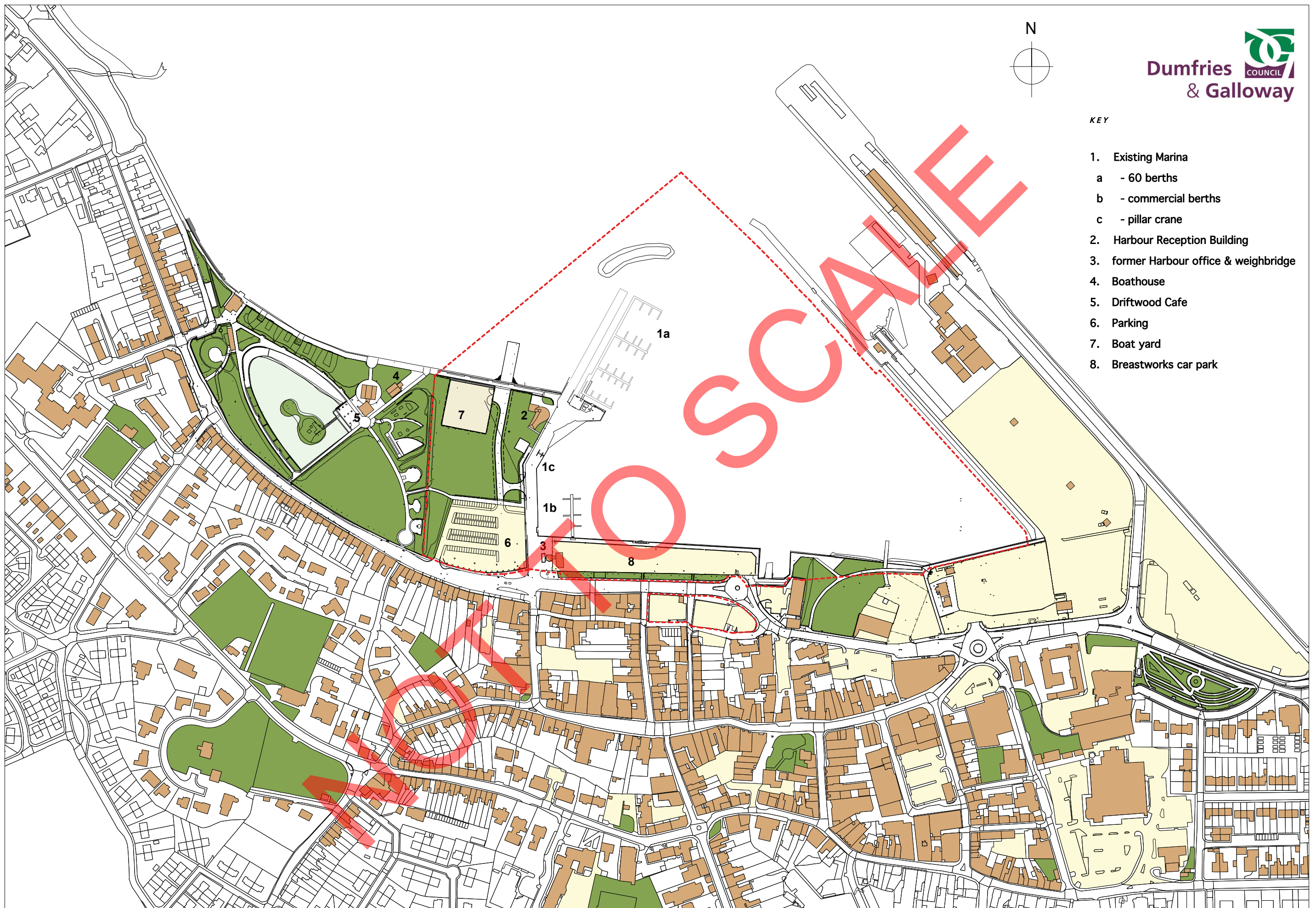
Figure Number 1.2

Status	Scale @ A3	Date
For Reference	1:2500	11.03.21

RPS Project Number	Revision
NI2285	-

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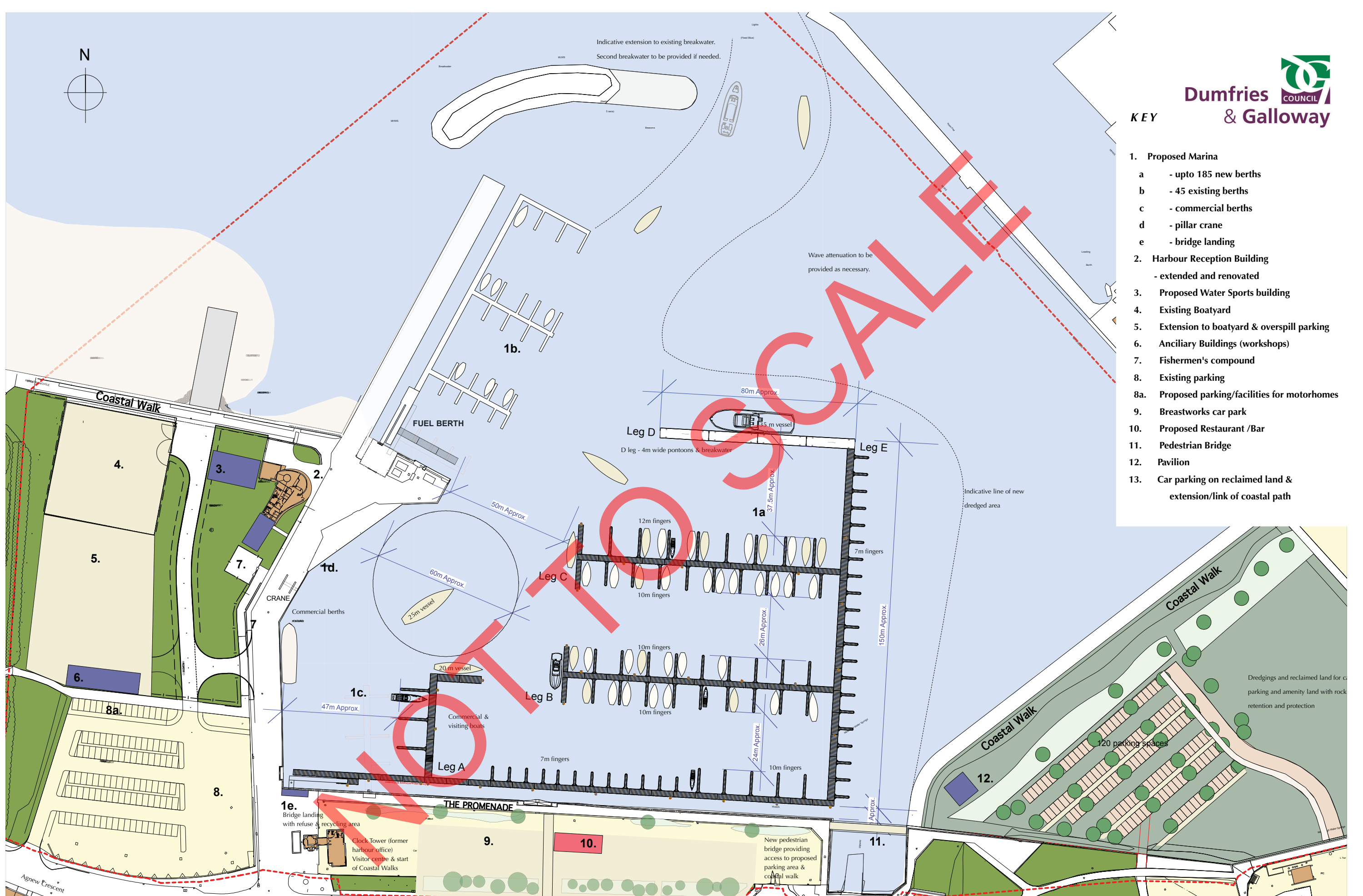




KEY

1. Existing Marina
 - a - 60 berths
 - b - commercial berths
 - c - pillar crane
2. Harbour Reception Building
3. former Harbour office & weighbridge
4. Boathouse
5. Driftwood Cafe
6. Parking
7. Boat yard
8. Breastworks car park

0 20 40 60 80 100



KEY

1. Proposed Marina
 - a - upto 185 new berths
 - b - 45 existing berths
 - c - commercial berths
 - d - pillar crane
 - e - bridge landing
2. Harbour Reception Building
 - extended and renovated
3. Proposed Water Sports building
4. Existing Boatyard
5. Extension to boatyard & overspill parking
6. Ancillary Buildings (workshops)
7. Fishermen's compound
8. Existing parking
- 8a. Proposed parking/facilities for motorhomes
9. Breastworks car park
10. Proposed Restaurant /Bar
11. Pedestrian Bridge
12. Pavilion
13. Car parking on reclaimed land & extension/link of coastal path

STRANRAER MARINA EXPANSION REVIEW

Proposed detail plan Option 20-3 Rev 04/06/2020 Scale 1:1000 @ A2



PLAN
(SCALE 1:1000)

NOTES:

1. LAYOUT OF MARINA WITH WAVE PROTECTION PROVIDED BY EXTENDING THE EXISTING BREAKWATER AND AN INNER FLOATING BREAKWATER ALONG THE NORTH EDGE OF THE NEW PONTOON ARRANGEMENT
2. BREAKWATER LAYOUT INTENDED TO PROVIDE ADEQUATE PROTECTION FOR ALL BERTHS WITH OPERATIONAL REQUIREMENTS NEEDED DURING EXTREME WEATHER EVENTS
3. WAVE ACTION OR SEDIMENTATION MODELLING HAS NOT BEEN CARRIED OUT ON THIS LAYOUT, THIS WILL BE REQUIRED AT FULL BUSINESS CASE

Client:



Project Title:

STRANRAER MARINA

Drawing Title:

EXTENDED BREAKWATER LAYOUT

Do not scale from this drawing.

SAFETY HEALTH AND ENVIRONMENTAL INFORMATION

IN ADDITION TO THE HAZARD/RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING, NOTE THE FOLLOWING RISKS AND INFORMATION.

RISKS LISTED HERE ARE NOT EXHAUSTIVE. REFER TO DESIGN ASSESSMENT FORM NO.

CONSTRUCTION

DEMOLITION

FOR INFORMATION RELATING TO USE, CLEANING AND MAINTENANCE SEE THE HEALTH AND SAFETY FILE

IT IS ASSUMED THAT ALL WORKS WILL BE CARRIED OUT BY A COMPETENT CONTRACTOR WORKING, WHERE APPROPRIATE, TO AN APPROVED METHOD STATEMENT.

Rev.	Date	Description	Drawn	Checked	Approved

FAIRHURST

225 Bath Street,
GLASGOW, G2 4QZ
Tel: 0141 204 8800 Fax: 0141 204 8801

Scale at A1:
AS SHOWN

Status:
For Information

Drawn:
GAM

Checked:
GSDS

Approved:
GSDS

Date:
11/06/2020

Date:
11/06/2020

Date:
11/06/2020

Drawing No.:

136625-OBC-0003

Revision:

—



PLAN
(SCALE 1:1000)

NOTES:

1. LAYOUT OF MARINA WITH WAVE PROTECTION PROVIDED BY THE EXISTING BREAKWATER AND TWO NEW BREAKWATERS
2. BREAKWATER LAYOUT INTENDED TO PROVIDE ENHANCE PROTECTION COMPARED TO EXTENDED BREAKWATER WITH INNER FLOATING BREAKWATER CASE
3. WAVE ACTION OR SEDIMENTATION MODELLING HAS NOT BEEN CARRIED OUT ON THIS LAYOUT, THIS WILL BE REQUIRED AT FULL BUSINESS CASE

Rev.	Date	Description	Drawn	Checked	Approved

Client:



Project Title:

STRANRAER MARINA

Drawing Title:

NEW BREAKWATER LAYOUT

Do not scale from this drawing.

SAFETY HEALTH AND ENVIRONMENTAL INFORMATION

IN ADDITION TO THE HAZARD/RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING, NOTE THE FOLLOWING RISKS AND INFORMATION.

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FAIRHURST

225 Bath Street,
GLASGOW, G2 4QZ
Tel: 0141 204 8800 Fax: 0141 204 8801

Scale at A1:

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Status:

For Information

Drawn:

GAM

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GSDS

Approved:

GSDS

Date:

11/06/2020

Date:

11/06/2020

Date:

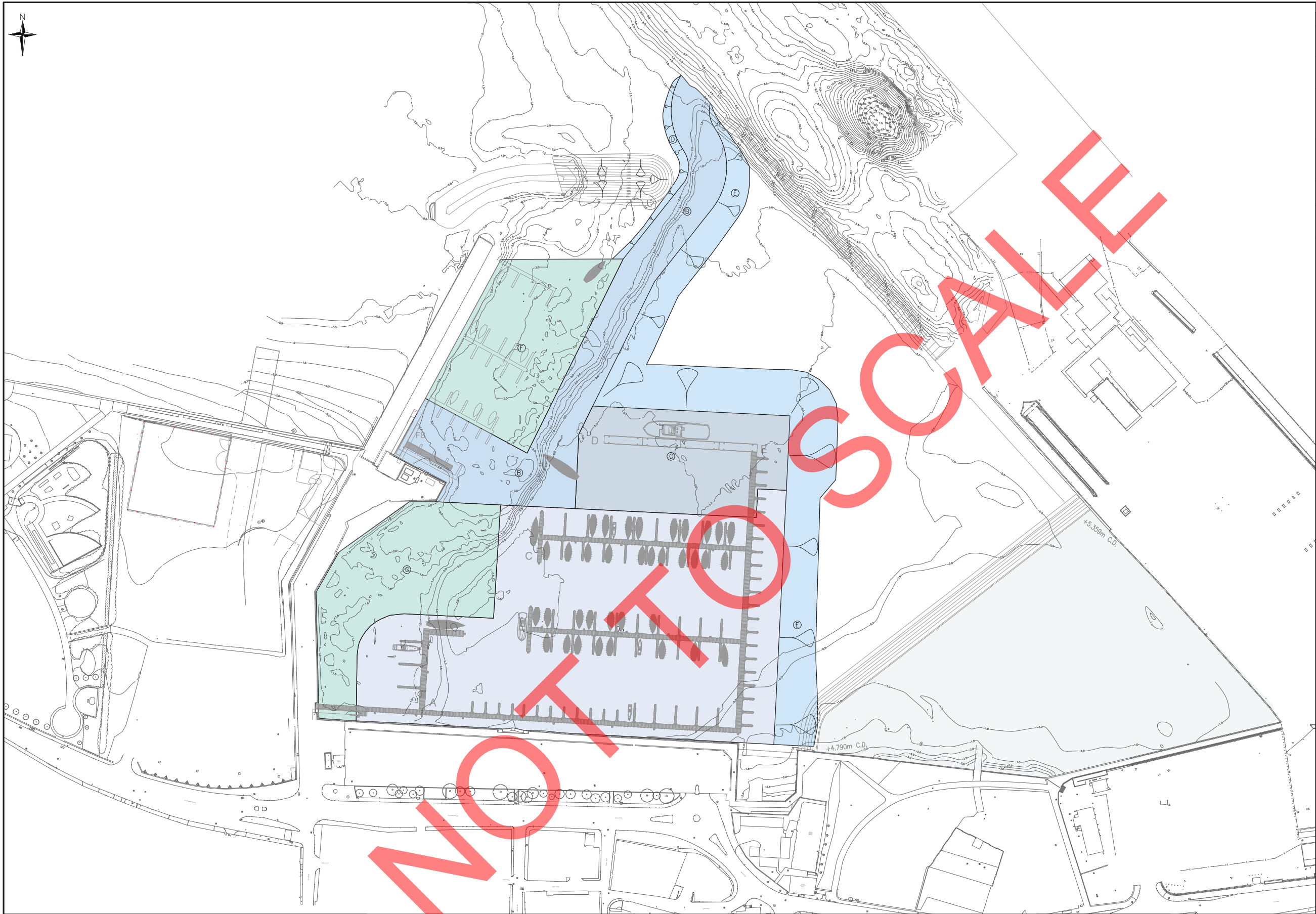
11/06/2020

Drawing No.:

136625-OBC-0004

Revision:

-



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SAFETY HEALTH AND ENVIRONMENTAL INFORMATION

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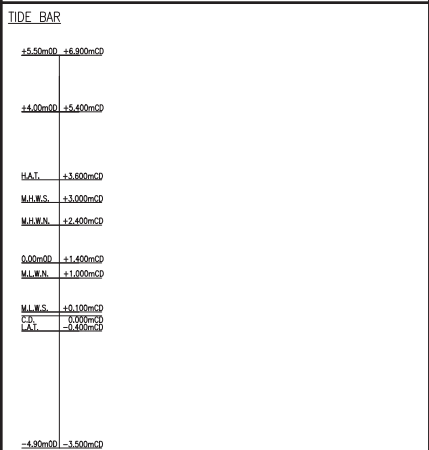
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CONSTRUCTION

DEMOLITION

FOR INFORMATION RELATING TO USE, CLEANING AND MAINTENANCE SEE THE HEALTH AND SAFETY FILE

IT IS ASSUMED THAT ALL WORKS WILL BE CARRIED OUT BY A COMPETENT CONTRACTOR WORKING, WHERE APPROPRIATE, TO AN APPROVED METHOD STATEMENT.



VOLUMES:

DREDGING

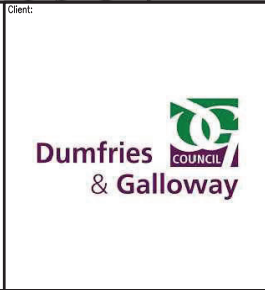
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(B)	GROSS	9850m³ CUT, 8.0m³ FILL
	NETT	9842m³
(C)	NETT	27855m³ CUT
Y D Y	NETT	145m³ CUT
Y E Y	NETT	17350m³ CUT
(F)	NETT	3555m³ CUT
(G)	NETT	8990m³ CUT

Rev.	Date	Description	Drawn	Checked	Approved

- NOTES:
1. PROPOSED FUTURE DREDGING LEVEL = -3.4m CD EXCEPT WHERE NOTED.
 2. AREAS OF DREDGING BASED ON SKETCH RECEIVED MAY 2020.
 3. BATHYMETRIC SURVEY BASED ON INFORMATION RECEIVED 23/03/16, CARRIED OUT BY ASPECT LAND & HYDROGRAPHIC SURVEYS IN MARCH 2012 AND UPDATED DATA RECEIVED 02/04/20.
 4. SURVEY INFORMATION DOWNLOADED FROM D&G SECURE FILE SHARE ON 26/01/16.
 5. 1 IN 5 SIDE SLOPES TO NATURAL SEA BED LEVEL.
 6. CHART DATUM IS 1.4m BELOW ORDNANCE DATUM.

LEGEND:

(A)	AREA DREDGED TO -3.4m CD
(B)	AREA DREDGED TO -3.4m CD (ACCESS CHANNEL/FUEL BERTH)
(F) (G)	AREA DREDGED TO -3.4m CD (BY OTHERS)
(C)	AREA DREDGED TO -4.9m CD
Y D Y	SIDE SLOPES (1in5)



Project Title:

STRANRAER MARINA

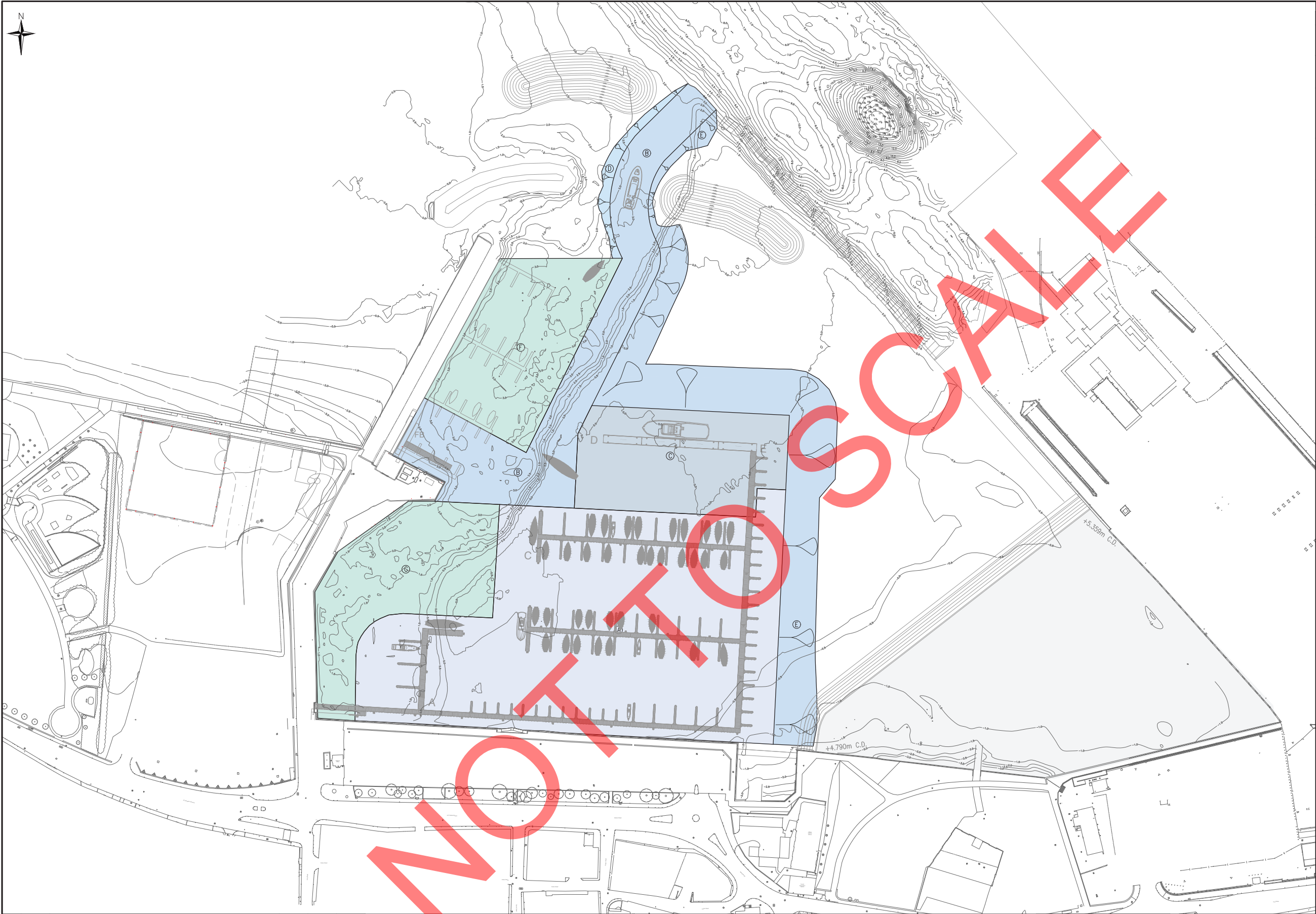
Drawing Title:

EXTENDED BREAKWATER LAYOUT
ESTIMATED DREDGING VOLUMES

FAIRHURST

225 Bath Street,
GLASGOW, G2 4QZ
Tel: 0141 204 8800 Fax: 0141 204 8801

Scale at A1: 1:1000	Status: For Information	
Drawn: KAB	Checked:	Approved:
Date: 22/06/20	Date:	Date:
Drawing No.: 136625-0BC-0001	Revision:	



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SAFETY HEALTH AND ENVIRONMENTAL INFORMATION

IN ADDITION TO THE HAZARD/RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING, NOTE THE FOLLOWING RISKS AND INFORMATION.

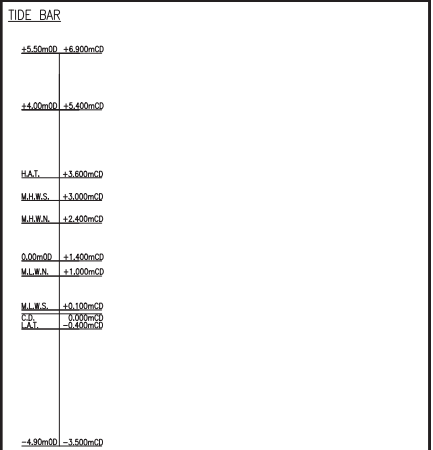
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CONSTRUCTION

DEMOLITION

FOR INFORMATION RELATING TO USE, CLEANING AND MAINTENANCE SEE THE HEALTH AND SAFETY FILE

IT IS ASSUMED THAT ALL WORKS WILL BE CARRIED OUT BY A COMPETENT CONTRACTOR WORKING, WHERE APPROPRIATE, TO AN APPROVED METHOD STATEMENT.



VOLUMES:

DREDGING		
(A)	NETT	59,460m³ CUT
(B)	GROSS	8130m³ CUT, 7.0m³ FILL
	NETT	9123m³
(C)	NETT	27855m³ CUT
Y D Y	NETT	205m³ CUT
Y E Y	GROSS	15978m³ CUT 83.0m³ FILL
	NETT	15895m³
(F)	NETT	3555m³ CUT
(G)	NETT	8990m³ CUT

Rev.	Date	Description	Drawn	Checked	Approved

- NOTES:
1. PROPOSED FUTURE DREDGING LEVEL = -3.4mCD EXCEPT WHERE NOTED.
 2. AREAS OF DREDGING BASED ON SKETCH RECEIVED MAY 2020.
 3. BATHYMETRIC SURVEY BASED ON INFORMATION RECEIVED 23/03/16, CARRIED OUT BY ASPECT LAND & HYDROGRAPHIC SURVEYS IN MARCH 2012 AND UPDATED DATA RECEIVED 02/04/20.
 4. SURVEY INFORMATION DOWNLOADED FROM D&G SECURE FILE SHARE ON 26/01/16.
 5. 1 IN 5 SIDE SLOPES TO NATURAL SEA BED LEVEL.
 6. CHART DATUM IS 1.4m BELOW ORDNANCE DATUM.

LEGEND:

(A)	AREA DREDGED TO -3.4m CD
(B)	AREA DREDGED TO -3.4m CD (ACCESS CHANNEL/FUEL BERTH)
(F) (G)	AREA DREDGED TO -3.4m CD (BY OTHERS)
(C)	AREA DREDGED TO -4.9m CD
Y D Y	SIDE SLOPES (1in5)

Client:

Dumfries & Galloway COUNCIL

Project Title:

STRANRAER MARINA

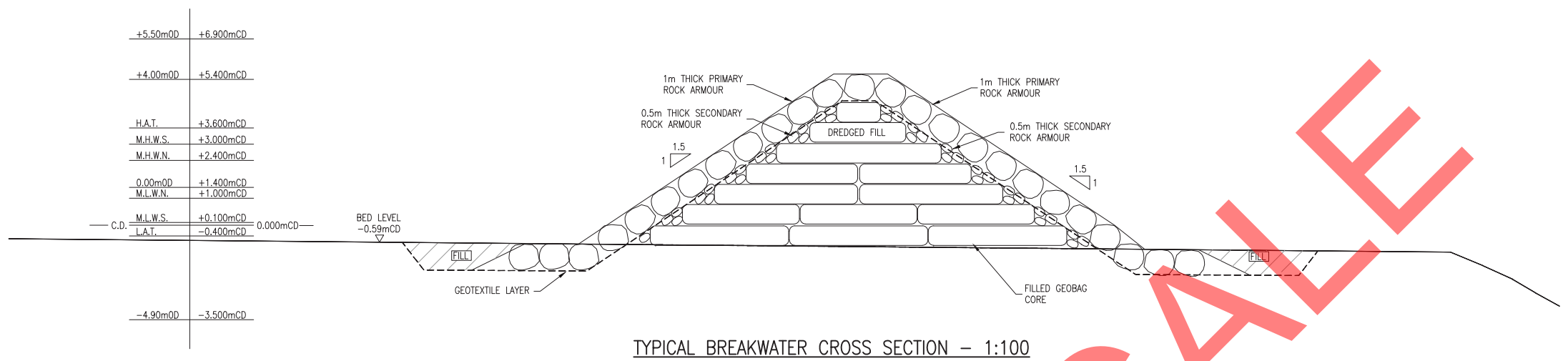
Drawing Title:

NEW BREAKWATER LAYOUT
ESTIMATED DREDGING VOLUMES

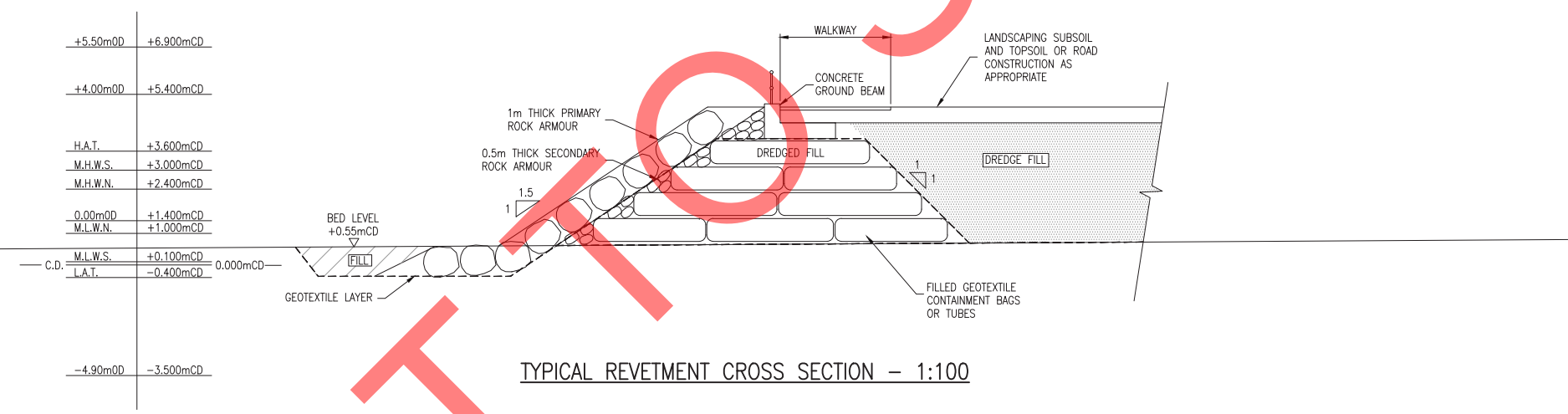
FAIRHURST

225 Bath Street,
GLASGOW, G2 4QZ
Tel: 0141 204 8800 Fax: 0141 204 8801

Scale at A1: 1:1000	Status: For Information	
Drawn: KAB	Checked:	Approved:
Date: 22/06/20	Date:	Date:
Drawing No.: 136625-OBC-0002	Revision:	



TYPICAL BREAKWATER CROSS SECTION – 1:100



TYPICAL REVETMENT CROSS SECTION – 1:100

Do not scale from this drawing.
SAFETY HEALTH AND ENVIRONMENTAL INFORMATION
IN ADDITION TO THE HAZARD/RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING, NOTE THE FOLLOWING RISKS AND INFORMATION.
RISKS LISTED HERE ARE NOT EXHAUSTIVE. REFER TO DESIGN ASSESSMENT FORM NO.
CONSTRUCTION
DEMOLITION
FOR INFORMATION RELATING TO USE, CLEANING AND MAINTENANCE SEE THE HEALTH AND SAFETY FILE
IT IS ASSUMED THAT ALL WORKS WILL BE CARRIED OUT BY A COMPETENT CONTRACTOR WORKING, WHERE APPROPRIATE, TO AN APPROVED METHOD STATEMENT.

NOT FOR SCALE

Rev.	Date	Description	Drawn	Checked	Approved

NOTES: 1. CROSS SECTIONS INDICATIVE OF LIKELY SOLUTION 2. SIZE AND SHAPE OF GEOTEXTILE CONTAINMENT MAY VARY SUBJECT TO DESIGN AND GROUND INVESTIGATION					

Client:

Dumfries & Galloway COUNCIL

Project Title:		
STRANRAER MARINA		
Drawing Title:		
CROSS SECTIONS		

FAIRHURST
225 Bath Street,
GLASGOW, G2 4QZ
Tel: 0141 204 8800 Fax: 0141 204 8801

Scale at A1: AS SHOWN	Status: For Information	
Drawn: GAM	Checked: GSDS	Approved: GSDS
Date: 11/06/20	Date: 11/06/2020	Date: 11/06/2020
Drawing No.: 136625-OBC-0005	Revision: —	

APPENDIX 1.2

Marine Scotland EIA Screening Opinion

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T: +44 (0)300 244 5046
E: ms.marinelicensing@gov.scot

Josh Murphy
Fairhurst
1 Arngrove Court,
Barrack Road,
Newcastle upon Tyne,
NE4 6DB

Date: 03 February 2021

Dear Mr Murphy,

SCREENING OPINION UNDER THE MARINE WORKS (ENVIRONMENTAL IMPACT ASSESSMENT) (SCOTLAND) REGULATIONS 2017 (AS AMENDED)

Thank you for your screening opinion request dated 13 October 2020 and further information dated 05 November 2020, in regards to the proposed marina expansion works, including pontoon installation, dredging, land reclamation and breakwater construction at Stranraer Marina (“the Proposed Works”).

The Scottish Ministers consider the Proposed Works to fall under paragraph 12(a) of schedule 2 of The Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (as amended) (“the 2017 MW Regulations”), with the Proposed Works meeting the corresponding threshold described in column 2 of schedule 2. Consequently, the Scottish Ministers are obliged to adopt a screening opinion as to whether the Proposed Works are, or are not, an Environmental Impact Assessment (“EIA”) project under the 2017 MW Regulations.

Under regulation 10(5) of the 2017 MW Regulations, the Scottish Ministers have consulted with NatureScot (formerly Scottish Natural Heritage), the Scottish Environment Protection Agency (“SEPA”), Dumfries and Galloway Council and Historic Environment Scotland (“HES”) as to their view on whether the Proposed Works are an EIA project. Copies of the consultation responses received are attached for your review (at Appendix I). Due to delays, Dumfries and Galloway Council have been unable to provide a screening consultation response to date. It is however the Scottish Ministers’ understanding that Dumfries and Galloway Council are currently screening the terrestrial concerns of this project under the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017.

When making a determination as to whether schedule 2 works are an EIA project, the Scottish Ministers must take into account such of the selection criteria set out in schedule 3 of the 2017 MW Regulations as are relevant to the Proposed Works. In this regard, the Scottish Ministers have considered the following:

Characteristics of the works

The Proposed Works include the installation of pontoons and fingers to provide 185 new marina berths (increasing the total number of berths to approximately 223), dredging, land reclamation and the construction of breakwaters to significantly extend and reconfigure the existing marina layout.

The pontoons are to be held in position by vertical tubular piling driven into the seabed and possibly socketed into bedrock. Dredging is proposed to provide a general depth of water of 2.5 metres with an additional 0.5 metre margin in all states of the tide. In the areas where larger vessels, such as superyachts, are proposed to be berthed, the provided depth will be 4.0 metres with an additional 0.5 metre margin. The overall estimated dredge volume is 115,000 cubic metres. It is intended for the dredged material to be re-used as infill in the land reclamation and breakwater construction works. Approximately 18,200 square metres of land reclamation is to be undertaken in the eastern corner of the site, retained by a 200 metre long revetment structure. To protect the new berths from waves and adverse weather, the existing breakwater is to be extended by 40 metres in length. In addition, two new, approximately 80 metre long, breakwaters, will be constructed. The breakwater construction will consist of a filled (with dredged material) geobag core surrounded by geotextile and rock armour protection. The marina expansion involves both marine- and land-based works and is likely to be subject to a phased construction over a 5 year period.

During the Proposed Works, noise and visual disturbance could disturb or displace birds, fish or marine mammals from the immediate area of the works. In addition, increased sedimentation may occur within the water column due to dredging and the movement of materials. The Proposed Works also have the potential to pollute the marine environment should any release of contaminants from the dredged material or leakage of fuels, oils etc. from plant machinery/equipment occur.

SEPA advised that, with respect to its interests, assuming modest or plainly and easily achievable environmental mitigation measures are implemented, the Proposed Works are unlikely to have a significant effect on the environment.

Location of the works

The Proposed Works are not located within any sensitive areas, as defined by the 2017 MW Regulations, however, the Glen App and Galloway Moors Special Protected Area and Site of Special Scientific Interest, both designated for the protection of breeding Hen harrier (*Circus cyaneus*), are located approximately 5 kilometres northeast of the site. Whilst it is envisaged that any impacts upon these sites are likely to be negligible, the applicant has acknowledged it is likely that bird surveys will be required to support any future marine licence application.

The Scottish Ministers note that the Proposed Works are located in Loch Ryan, an area known for the presence of native oysters (*Ostrea edulis*). The loch also contains the Priority Marine Features seagrass and blue mussel beds.

The invasive non-native species Japanese skeleton shrimp (*Caprella mutica*), and the orange-tipped sea squirt (*Corella eumyota*) are known to be present in Stranraer Marina. The invasive non native species Carpet sea squirt (*Didemnum vexillum*) is also known to be present at various locations in the River Clyde.

HES advised that, in this instance, it did not consider that there are likely to be significant impacts on either terrestrial or marine heritage assets. Nonetheless, HES recommended that an assessment of impacts on the marine historic environment should be undertaken to consider the archeological potential of the marine development area and, also, ensure that appropriate recording and mitigation measures are put in place to address any archaeological discoveries or potential impacts.

Characteristics of the potential impact

NatureScot identified that the Proposed Works could have a significant effect on a number of ecological interests including: benthic habitat, native oyster, marine mammals (cetaceans, seals and otter), terrestrial mammals (bats), marine ornithology, fish and land and marine invasive non-native species.

NatureScot advised that, at present, there is insufficient information to determine whether the Proposed Works will have a significant effect on the environment and therefore consider an EIA to be required.

The Scottish Ministers are in agreement with NatureScot that, due to insufficient information, it cannot currently be concluded that the Proposed Works will not have a significant effect on the environment.

Conclusion

In view of the findings above, the Scottish Ministers are of the opinion that the Proposed Works are an EIA project under the 2017 MW Regulations and, therefore, an EIA is required to be carried out in respect of the Proposed Works.

If you increase, alter or extend the Proposed Works, you are advised to contact Marine Scotland - Licensing Operations Team again to confirm if the screening opinion is still valid.

A copy of the screening opinion has been forwarded to Dumfries and Galloway Council planning department. The screening opinion has also been made publicly available through the Marine Scotland Information website.

If you require any further assistance or advice on this matter, please do not hesitate to contact me.

Yours sincerely

Ellie Noble
Marine Scotland - Licensing Operations Team

Appendix I

10 December 2020

Naomi Gibson
Marine Scotland
Scottish Government
Marine Laboratory
375 Victoria Road
Aberdeen
AB11 9DB

By email only to: naomi.gibson@gov.scot

Dear Madam

The Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017 Stranraer Marina Development – EIA Screening, Stranraer, Dumfries and Galloway

Thank you for consulting SEPA for a screening opinion for the above development proposal by way of your email of 23 November 2020.

Based on the information provided in the screening request (letter dated 13 October 2020 and updated on 05 November 2020) we consider that, with respect to interests relevant to our remit, the proposed development will be **unlikely to have a significant effect** (in the context of the Regulations) on the environment and therefore Environmental Impact Assessment (EIA) is **not required**. This is on the assumption that modest or plainly and easily achievable environmental mitigation measures will be put in place during the construction works and operation. Whether or not EIA is required, this must be demonstrated through the submission of adequate information. We have provided further pre application advice on the proposed development below.

1. Advice on the proposed development

Flood Risk

- 1.1 We will require that the following matters be addressed through the consenting process to address flood risk issues at the site and avoid objection from us:
 - The Finished Floor Levels (FFLs) of the restaurant and pavilion must be provided taking into account appropriate freeboard and climate change allowances;
 - It should be demonstrated that the pavilion will not become an 'island of development' within the coastal floodplain and that safe access/egress will be ensured; and
 - Confirmation that evacuation plans will be implemented, ensuring safe access/egress from all areas of development.
- 1.2 Please refer to Appendix 1 enclosed for our full flood risk advice on the proposed development.

Waste Management

- 1.3 We can confirm that since the disposal of the dredgings will be deposited below mean high water springs, we have concerns from a Waste Management Licensing (Scotland) Regulations 2011 perspective. The disposal works should be licensed by Marine Scotland.

Protection of the Water Environment

- 1.4 Please refer to our standing advice on marine consultations in our [SEPA standing advice for The Department of Energy and Climate Change and Marine Scotland on marine consultations](#) for links to best practice guidance for the construction phase of the works. The applicant should also have regard to the relevant [Guidance for Pollution Prevention](#) documents and CIRIA Guide C584 – Coastal and Marine Environmental Site Guide. For information, we note further up Loch Ryan is designated shellfish waters for mussels.
- 1.5 From a marine ecology perspective, the screening request concludes '*it is not anticipated that the proposed construction or operation of the proposal would have any significant impact in terms of ecology that would warrant the undertaking of an EIA*'. We agree and, as above, recommend reference to our standing advice. Any other biodiversity issues should be dealt with by NatureScot.

Radioactive Contamination

- 1.6 For information, the site is in proximity to a former military WWII sea plane base RAF Stranraer. We are not aware of any measured radioactive contaminants on the former RAF site or any documentary evidence to suggest that radioactive contaminants may be present. However, given the site's former use as a military airbase radium 226 may be present due to its use in aircraft dials during WWII. If further research shows that the marina development is in the former location of RAF Stranraer we can provide further advice as required.

2. Regulatory advice for the applicant

- 2.1 Details of regulatory requirements and good practice advice can be found on our [website](#).

If you have any queries relating to this, please contact me by e-mail to planning.sw@sepa.org.uk.

Yours faithfully

Simon Watt
Senior Planning Officer
Planning Service

Disclaimer

This advice is given without prejudice to any decision made on elements of the proposal regulated by us, as such a decision may take into account factors not considered at this time. We prefer all the technical information required for any SEPA consents to be submitted at the same time as the planning or similar application. However, we consider it to be at the applicant's commercial risk if any significant changes required during the regulatory stage necessitate a further planning application or similar application and/or neighbour notification or advertising. We have relied on the accuracy and completeness of the information supplied to us in providing the above advice and can take no responsibility for incorrect data or interpretation, or omissions, in such information. If we have not referred to a particular issue in our response, it should not be assumed that there is no impact associated with that issue. For planning applications, if you did not specifically request advice on flood risk, then advice will not have been provided on this issue. Further information on our consultation arrangements generally can be found on our [website planning pages](#).

Appendix 1 – Flood Risk Advice

1. We have reviewed the information provided with the screening request and note that the application site (or parts thereof) lies within the medium likelihood (0.5% annual probability or 1 in 200 year return period) coastal flood extent of the SEPA Flood Map, and may therefore be at medium to high risk of flooding.
2. For planning purposes, the functional flood plain will generally have a greater than 0.5% (1:200) probability of flooding in any year. Built development should not therefore take place on the functional flood plain. Scottish Planning Policy (SPP) states in paragraph 255, that *“the planning system should promote a precautionary approach to flood risk from all sources”*, as well as flood avoidance and flood reduction, where appropriate. It further defines in paragraph 256 that, *“the planning system should prevent development which would have a significant probability of being affected by flooding or would increase the probability of flooding elsewhere. Piecemeal reduction of the functional floodplain should be avoided given the cumulative effects of reducing storage capacity”*.
3. This area has a history of coastal flooding. In January 1928 North Stand Street was flooded during high tide and storm conditions. In February 2011 coastal flooding impacted the area around the West Pier, including the walkway. A high astronomical tide combined with a surge tide and high offshore winds resulted in flooding of roads and public parking in March 2014. In addition, we note the site is located within the Flood Warning Target Area (FWTA) for Loch Ryan.
4. We note the proposal includes a mix of land and marine based development types. The additional berths, water sports building, extension/secondary breakwater structure and extension to the boatyard are viewed as ‘Water Compatible’ land uses as per our [Land Use Vulnerability Guidance](#). There is an operational/location requirement for these proposals at this location. These aspects of the proposal are therefore seen as appropriate, provided suitable evacuation procedures are put in place. Other aspects of the proposal which are not seen as being water compatible, but are viewed as low risk, include the expansion of an existing car park, the extension to a reception building and the proposed pedestrian bridge. Whilst they are not water compatible, there is an operational/location need for these proposals at this site and they are unlikely to increase local flood risk or adversely affect the functional floodplain.
5. Reclaimed land using dredged materials is also proposed in the south east end of the site. Whilst we would not accept land raising in the fluvial floodplain it is less of a concern in the coastal floodplain as the proposal should not have a significant detrimental impact on the functional floodplain or local flood risk, provided an adequate evacuation procedure is implemented. A car park, coastal path and small pavilion have been proposed for the area of reclaimed land. Appropriate FFLs should be provided for the pavilion, considering freeboard and climate change allowances. Please note we have recently updated our [land use planning and climate change guidance](#) to adopt regional allowances. It is recommended that this allowance is adopted. We also request confirmation that an ‘island of development’ is not created around the Pavilion and safe access/egress and evacuation procedures will be implemented. The car park and coastal path are viewed as ‘Essential Infrastructure’ and the pavilion ‘Least Vulnerable’, as per our Land Use Vulnerability Guidance, please note we would not support high risk development on the reclaimed land.

6. A restaurant has been proposed at the southern end of the site entirely within the 1 in 200-year coastal flood extent of the SEPA Flood Map. We require the applicant provides the FFLs for the proposed restaurant, taking into account appropriate freeboard and climate change allowances in line with best practice. As with other aspects of the proposal an evacuation procedure is essential to ensure safe access/egress during a flood event.
7. For information, an approximate 1 in 200-year water level for the area is 3.9mAOD based on extreme still water level calculations using the CFB Method. This does not take into account the potential effects of wave action, funnelling or local bathymetry at this location. We also recommend that the applicant contact Dumfries and Galloway Council, as Flood Risk Management Authority, with regard to the appropriate levels of freeboard for the area.

Caveats & Additional Information for Applicant

8. The [SEPA Flood Maps](#) have been produced following a consistent, nationally-applied methodology for catchment areas equal to or greater than 3km² using a Digital Terrain Model (DTM) to define river corridors and low-lying coastal land. The maps are indicative and designed to be used as a strategic tool to assess, flood risk at the community level and to support planning policy and flood risk management in Scotland.
9. We refer the applicant to the document entitled: [“Technical Flood Risk Guidance for Stakeholders”](#). This document provides generic requirements for undertaking Flood Risk Assessments. Please note that this document should be read in conjunction with [Policy 41](#) (Part 2).
10. Our [Flood Risk Assessment Checklist](#) should be completed and attached within the front cover of any flood risk assessments issued in support of a development proposal which may be at risk of flooding. The document will take only a few minutes to complete and will assist our review process.
11. Please note that we are reliant on the accuracy and completeness of any information supplied by the applicant in undertaking our review, and can take no responsibility for incorrect data or interpretation made by the authors.



HISTORIC
ENVIRONMENT
SCOTLAND

ÀRAINNEACHD
EACHDRAIDHEIL
ALBA

By email to:

MS.MarineLicensing@gov.scot

Marine Scotland
Marine Laboratory
375 Victoria Road
Aberdeen
AB11 9DB

Longmore House
Salisbury Place
Edinburgh
EH9 1SH

Alison.Baisden@hes.scot

T: 0131 668 8575

Our case ID: 300047640

16 December 2020

Dear Naomi Gibson

**The Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017
Stranraer Marina Development, Dumfries and Galloway
EIA Screening Request – Further Information**

Thank you for your e-mail which we received on 14 December 2020. We understand that you are seeking further clarification on the advice included in our EIA screening letter of 9 December 2020. In particular, you are seeking our views on whether an Environmental Impact Assessment (EIA) is required for this development. In this instance, we do not consider that there are likely to be significant impacts on either terrestrial or marine heritage assets to warrant a full EIA for our interests.

We nevertheless recommend that any Marine Licence application prepared for the proposals is supported by an assessment of impacts on the marine historic environment. Any such assessment should be undertaken by a suitably qualified professional and meet the requirements of the [Historic Environment Policy for Scotland](#) (HEPS, 2019) and [Scotland's National Marine Plan](#) (2015). Consequently, this assessment should include a consideration of the archaeological potential of the marine development area and, also, ensure that suitable mitigation methods are put in place to address any potential impacts identified. The [Joint Nautical Archaeological Committee's Code of Practice for Seabed Development](#) will be helpful in assessing the impacts of the proposals. The guidance in [The Crown Estate Protocol for Archaeological Discoveries document](#) will also help with the design of suitable actions and mitigation measures.

We hope this is helpful. Please contact us if you have any questions about this response. The officer managing this case is Alison Baisden and they can be contacted by phone on 0131 668 8575 or by email on Alison.Baisden@hes.scot.

Yours faithfully

Historic Environment Scotland

Historic Environment Scotland – Longmore House, Salisbury Place, Edinburgh, EH9 1SH

Scottish Charity No. **SC045925**

VAT No. **GB 221 8680 15**

Naomi Gibson
Marine licensing Officer, Scottish Government
Marine Laboratory,
375, Victoria Road,
Aberdeen
AB11 9DB.

12 January 2021

Our ref: CEA161291

Dear Naomi

1336625 – THE MARINE WORKS (ENVIRONMENTAL IMPACT ASSESSMENT) REGULATIONS (AMENDED 2017) AND THE TOWN AND COUNTRY PLANNING ENVIRONMENTAL IMPACT ASSESSMENT (SCOTLAND) REGULATIONS 2017

PROPOSED - STRANRAER MARINA EXPANSION WORKS - REQUEST FOR SCREENING OPINION

Thank you for your consultation dated 23rd November requesting screening opinion for the above proposal.

1. Summary

This type of development is listed on Schedule 2 of The Town and Country Planning Environmental Impact Assessment (Scotland) Regulations 2017 (either Construction of harbours and port installations including fishing harbours, or Marinas) and exceeds the applicable size thresholds for both of these types. It is not located in one of the listed sensitive area types. There is currently insufficient information for us to conclude that the development will not have a significant effect on the environment. On that basis, it is our view that an Environmental Impact Assessment is required in this case. (See Section B.4.34 of the [Environmental Impact Assessment Handbook](#) for further detail on this position).

2. Background

The proposal involves a new Marina layout with a total approximate 223 berths; increased dredging and breakwaters to accommodate the new marina layout; proposed water sports building; extension to boatyard; extension to the overspill car park; proposed new pavilion;

extension to reception building; proposed ancillary buildings; proposed restaurant/bar and a proposed new bridge. The proposed work includes development both on land and marine based and is likely to be subject to a phased construction, over a 5 year period.

3. Screening Advice

It is our view that an EIA is required in this case. At present, there is insufficient information to determine whether the development will have a significant effect on the environment. In particular, we think the development has the potential to have a significant effect on the following ecological interest:

- Benthic habitat
- Native Oyster
- Marine mammals (Cetaceans, seals, otter)
- Terrestrial mammals (Bats)
- Marine ornithology
- Fish
- Land and marine invasive non-native species (INNS).

Although our view is that the proposal has the potential to have a significant effect on the environment we consider that it should be possible to mitigate some of these effects to an acceptable level, in both the short and long term.

If an EIA is required then, at the scoping stage, we can provide detailed advice on these issues and the information required to assess potential impacts.

Please do not hesitate to contact me for further information or comment if required

Yours sincerely,

Karl Munday

Area Officer, Southern Scotland

Karl.munday@nature.scot

APPENDIX 1.3

Proposed Bodies for EIA Scoping

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It is proposed that the following list of organisations shall be consulted as part of EIA for the Proposed Development; this list is not exhaustive and additional organisations or individuals may also be consulted.

Bodies for EIA Consultation
Association of Salmon Fishery Boards
Community Councils
Crown Estate Scotland
Defence Infrastructure Organisation
Fishery Office
Health and Safety Executive
Historic Environment Scotland
Inshore Fishery Group
Internal Marine Scotland Advisers
Local Authority
Local Rivers Association
Marine Safety Forum
Maritime Coastguard Organisation
Nature Scotland
Northern Lighthouse Board
Royal Yachting Association
Scottish Environment Protection Agency
Scottish Fishermen's Federation
Scottish Fishermen's Organisation
Scottish Water
Scottish Wildlife Trust
Transport Scotland
UK Chamber of Shipping
Visit Scotland
Whale and Dolphin Conservation Society