Engineering Works to Form New Eastern Inner Dock Quay
Environmental Impact Assessment (EIA) Scoping Report

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CONTROL SHEET

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EnviroCentre Limited Office Locations:

Glasgow **Edinburgh** **Inverness** **Banchory**

Registered Office: Craighall Business Park 8 Eagle Street Glasgow G4 9XA
Tel 0141 341 5040 info@envirocentre.co.uk www.envirocentre.co.uk

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VAT no. GB 348 6770 57.

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1. INTRODUCTION

1.1 Background

EnviroCentre Ltd has been appointed by Global Energy Nigg Ltd (GEN) to undertake an Environmental Impact Assessment (EIA) in relation to the proposals to upgrade the eastern side of the Inner Dock by providing a new berthing quay. The new quay will be used for:-

- Shipping of high voltage cable to be manufactured at the upcoming factory to the east of the site; and
- Support the import, assembly, and export of components necessary for energy production in the marine environment, encompassing the Marine Renewables and North Sea Oil & Gas sectors.

The purpose of this report is to seek a Scoping Opinion from the appropriate Regulatory Authority as required by The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017 and The Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017.

This report has been laid out as follows:

- Section 1 introduces the applicant, the project team and the regulatory background to which this Scoping Request is made. It also sets out the approach to EIA based upon the legislative context;
- Section 2 sets out a description of the proposed development upon which to base an appraisal of potentially significant environmental effects upon;
- Sections 3 – 12 discuss potentially significant environmental effects on a topic-by-topic basis; and
- Section 13 draws together the conclusions reached for each topic considered in the Scoping Report.

1.2 The Applicant

Global Energy Group (GEN) is an Inverness headquartered energy sector service group who operate worldwide. GEN acquired Nigg Yard in 2011 and invested a substantial amount to transform it to the current Nigg Energy Park which includes access to a deep-water quaysides. The primary function of Nigg Energy Park is the provision of facilities and services to support the oil and gas and renewables sectors. The Applicant has since successfully diversified to satisfy current market needs in the north of Scotland. A typical day may include the repair of drilling rigs, fabricating subsea manifolds, berthing vessels or marshalling offshore wind components.

Also contained within Nigg Energy Park is the “not-for-profit” business - Nigg Skills Academy (NSA). The independent business was set up to support black trade skills (Welding, fabrication and pipe fitting) for local employees in partnership with North Highland College and is now diversifying into running courses for other industries.

1.3 Project Team

This Scoping Report has been prepared by EnviroCentre Ltd with input from The Applicant and Arch Henderson LLP, the Project Engineers.

1.4 The Legislative Context

As the proposed development contains elements which are above and below Mean High Water Springs (MHWS) consents will be required from both The Highland Council (THC) and Marine Directorate Licensing Operations Team (MD-LOT).

The proposed development is subject to local, national and European legislation of which the following is the principal legislation:

- The Harbours Act 1964;
- The Town and Country Planning (Scotland) Act 1997, as amended by the Planning etc. (Scotland) Act 2006;
- The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017 (hereafter referred to as 'the EIA Regulations');
- The Marine (Scotland) Act 2010 (Marine Licences) – Under Section 20(1) of the Marine (Scotland) Act 2010 (from 0 -12nm) and Section 65(1) of the Marine and Coastal Access Act 2009 (from 12 – 200nm)[1], a marine licence from Scottish Ministers is required if organisations intend on carrying out certain acts in the Scottish marine area such as:
    - the deposit or removal of a substance or object;
    - Construction, alteration and improvement works,
    - Dredging, and
    - The deposit or use of explosives.
- Marine Scotland stipulate that any associated dredging works taking place that involves disposal at sea, then a Marine Licence for Sea Disposal may also be required; and
- The Marine Works (Environmental Impact Assessment) Regulations 2017) (for works below the mean low water mark) (hereafter referred to as 'the Marine EIA Regulations').

1.4.1 National policy

Under the spatial planning priorities (Annex C), of the National Planning Framework 4, for the Highlands of Scotland, Moray, mainland Argyll, northern parts of rural Stirling and Perthshire, it states the following:

"Through Opportunity Cromarty Firth and other projects, new facilities and infrastructure will help ports to adapt, unlocking their potential to support the transition from fossil fuels through oil and gas decommissioning, renewable energy (including the significant opportunities for marine energy arising from Scotwind) and low carbon hydrogen production and storage, and the expansion of supply chain and services. This will in turn benefit communities by providing employment and income for local businesses."

The proposed development will contribute to the transition from fossil fuels through oil and gas decommissioning to renewable energy and benefit the communities by providing employment and income for local businesses.

As per Scotland's National Marine Plan[2], Nigg port is one of the National Renewables Infrastructure Plan (N-RIP) sites. N-RIP is the strategic economic framework for developing Scotland's ports and harbours for the purpose of supporting offshore renewable energy industry. The sites identified in N-RIP are also recognised as nationally important sites for investment.

[1] Circular 1/2015 The Relationship Between the Statutory Land Use Planning System and Marine Planning and Licensing - http://www.gov.scot/Publications/2015/06/5851/4
[2] https://www.gov.scot/publications/scotlands-national-marine-plan/documents/

1.4.2 Local policy

The Highland Council has a supplementary development plan, The Nigg Development Masterplan, under its Local Development Plan, 2012. The proposed development is in line with the proposed option of supporting renewable energy sector.

The proposed development supports the renewable energy sector – offshore wind. This is in line with the Inner Moray Firth Local Development Plan 2015 and 2022 (proposed).

1.5 EIA Screening

The proposed development is expected to handle vessels of over 1,350 tonnes and this satisfies the criteria for Schedule 1 projects under the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017 and Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017. Paragraph 8 (2) of the regulations states:

> "*Trading ports, piers for loading and unloading connected to land and outside ports (excluding ferry piers) which can take vessels of over 1,350 tonnes*".

A screening request was submitted to MD-LOT with a Screening Opinion received on 22nd November 2023 stating, *"the proposed works are an Environmental Impact Assessment ("EIA") project"*.

The pre-application advice response received from THC states that,

> *"*The *proposed development appears to match prescribed categories of EIA development within the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017."*

1.6 Scoping under the EIA and Marine EIA Regulations 2017

As the proposals fall under the description of a Paragraph 8 (2), Schedule 1 development of both the terrestrial EIA and marine EIA Regulations, we request a Scoping Opinion from both THC and MD-LOT. This Scoping Report is therefore submitted to both regulatory authorities with the intention that it should form the basis of their Scoping Opinion.

The general environmental topic areas to be considered within the context of EIA are summarised below: -

- Accidents & Natural Disasters;
- Air Quality;
- Archaeology & Cultural Heritage;
- Biodiversity (e.g. Fauna and flora);
- Climate (e.g. greenhouse gas emissions, carbon, impacts relevant to adaptation;
- Land Quality;
- Noise and Vibration;
- Socio-Economics;
- SLVIA;
- Transport; and
- Water Environment (e.g. hydromorphological changes, quantity and quality).

Note: Socio-Economics is dealt with in the planning application for the construction and operation of a High Voltage (HV) cable manufacturing factory and ancillary facilities (Refer to Sections 2.2.1). As such it is not considered further in this document.

Additional objectives of EIA Scoping are to:

- Establish the availability of baseline data;
- Request that statutory consultees provide any relevant environmental information relating to the site and surrounding area;
- Define a survey and assessment framework through which comprehensive impact assessment can be achieved; and
- Provide a focus for the planning authority and the consultees' considerations – in terms of:
  - Potential impacts to be assessed;
  - Assessment methodologies to be used;
  - Other areas which should be considered; and
  - Any other environmental issues of perceived concern.

Each regulation requires that any scoping request should be accompanied by:

- A description of the location of the development, including a plan to identify the land;
- A description of the proposed development, and of its likely significant effects on the environment; and
- Such other information or representations as the developer may wish to provide or make.

1.7 General Approach to Assessment

The potential environmental impacts will be identified and assessed in the EIAR, based upon the recommendations of the technical EIA team, consultation with statutory consultees, other interested parties and local communities. Topic assessments will be undertaken using best practice methodology, following industry guidelines whenever appropriate and carried out by specialists with relevant professional experience.

Schedule 4 of the EIA Regulations states the information to be included within the EIA. Each assessment will consider these criteria and assess them whenever appropriate to the proposed development. This also highlights that the emphasis of the EIA process should be on assessing likely significant effects, rather than every environmental effect associated with a development.

Impartial professional consultants will assess the likely significant environmental effects identified. These specialist assessments will generally incorporate:

- Site visits;
- Collection of baseline data regarding the site and surroundings;
- Identification of the likely significant effects of the proposed development; and
- Recommendations on how these effects could be avoided or reduced.

It is essential that the methodology used for assessing the significance of environmental effects is set out clearly and transparently within an EIAR and is justifiable. Significance is generally determined through a combination of the sensitivity of a receptor or resource to an effect and the magnitude of the change resulting from the proposed development, however where this differs the full methodology is explained within the relevant section as appropriate.

Significant effects are more likely to be predicted where important resources, or numerous or sensitive receptors, could be subject to impacts of considerable magnitude. Effects are unlikely to be significant where low value or non-sensitive resources, or a small number of receptors, are subject to minor impacts. The assessment of significance of an environmental effect resulting from the proposed development will have regard to the following:

- Sensitivity, importance or value of the resource or receptor;

- Extent and magnitude of the effect;
- Duration of the effect;
- Nature of the effect;
- Performance against environmental quality standards; and
- Compatibility with environmental policies.

The methods for predicting the nature and magnitude of any potential impacts vary according to the subject area. Quantitative methods of assessment can predict values that can be compared against published thresholds and indicative criteria in Government guidance and standards. However, it is not always possible to ascribe values to environmental assessments and thus qualitative assessments are used. Such assessments rely on previous experience and professional judgement. The methodologies used for assessing each topic area will be described within the individual chapters of the EIAR and will follow best practice guidelines where applicable.

1.8 Mitigation

The EIA Regulations state that the EIAR must contain a "*description of the measures envisaged in order to prevent, reduce and where possible, offset any significant adverse effects on the environment*."

As outlined in PAN 1/2017 there is a widely accepted strategy for mitigation which will be followed when considering the environmental effects of the proposed development. This comprises (in order of preference): avoidance, reduction, compensation and remediation. In addition, consideration will be given to providing the opportunity for enhancement. Mitigation and, if appropriate, monitoring proposals, will be described clearly within the Environmental Impact Assessment Report. The mitigation will be achievable and will be delivered through appropriate mechanisms.

1.9 Requirements of the EIA Regulations

In addition to those items explained above, the EIAR will either include discussion of, or scope out the following items:

- A description of the development, including description of the location, its physical characteristics, land-use requirements during construction and operation, a description of characteristics of the operational phase, and an estimate of the types and quantities of expected residues and emissions;
- A description of reasonable alternatives, including development design, size, scale, and a justification of the project choices made including a comparison of the environmental effects;
- A description of the baseline environmental situation and an outline of the likely evolution thereof without implementation of the proposed development;
- An assessment of the environmental baseline for each environmental topic scoped into the EIA, with reference to those items specified within Schedule 4 (5) of the EIA Regulations;
- A description of mitigation and monitoring measures (where applicable); and
- A description of any expected adverse impacts in relation to the vulnerability of the proposed development to risks of major accidents and/or disasters which are relevant to the project.

1.10 Appraisal of Potentially Significant Environmental Effects

As required, sufficient baseline information has been provided regarding the proposed development and the surrounding and receiving environment upon which to base a decision. The information contained in this document is based on our current understanding of the nature of the site and the proposed

development and preliminary assessment of the potential environmental impacts of the proposed development.

The appraisals will consider the potential environmental impacts related to the development, where applicable, and either scope in or out the need for further assessment through the EIA process. The approach to the appraisal of each of these topic areas is outlined in Sections 3 – 12 with the inclusion of baseline data where relevant and available.

1.11 Cumulative Assessment

It is not proposed to incorporate a section within the EIAR dedicated to cumulative assessment. Instead, the Chapter for each environmental discipline will consider the potential for cumulative impacts within their individual impact assessments.

1.12 Consultation and Stakeholders

The Applicant recognises the importance of consultation and community involvement throughout the project development process in line with "PAN 3/2010 Community Engagement" (PAN 3/2010). PAN 1/2013 also reinforces the importance of public involvement in the Scoping process and makes it clear that the EIA process is intended to ensure that consultation bodies and the public have the opportunity to express their opinion on both the proposed development and the EIAR.

The Applicant has already held informal discussions with local stakeholders and has sought initial advice from THC Planning Department and NatureScot. A Major Development Pre-application Meeting with the council was held on 13th June 2023 with the council providing a Pre-application and Advice for Major Developments note dated 11th July 2023 (Council Ref No 23/02299/PREMAJ) (Refer to Appendix B). This advice has been reflected in this Report and will be taken forward to the design of the proposed development as appropriate.

In addition, statutory community engagement is required under both Planning legislation and in terms of marine licensing, under The Marine Licensing (Pre-application Consultation) (Scotland) Regulations 2013.

1.13 Report Usage

The information and recommendations contained within this report have been prepared in the specific context stated above and should not be utilised in any other context without prior written permission from EnviroCentre Limited.

If this report is to be submitted for regulatory approval more than 12 months following the report date, it is recommended that it is referred to EnviroCentre Limited for review to ensure that any relevant changes in data, best practice, guidance or legislation in the intervening period are integrated into an updated version of the report.

EnviroCentre Limited does not accept liability to any third party for the contents of this report unless written agreement is secured in advance, stating the intended use of the information. EnviroCentre Limited accepts no liability for use of the report for purposes other than those for which it was originally provided, or where EnviroCentre Limited has confirmed it is appropriate for the new context.

2. THE PROPOSED DEVELOPMENT

2.1 The Site

The site is part of the wider Nigg Energy Park which comprises laydown and storage areas, fabrication and assembly shops, staff offices and a deep-water quay. Access to the Park can be gained via the B9715. Location map is provided in Drawing 677964-QGIS007, Appendix A.

Plate 2-1: Aerial View of Nigg Energy Park

The site comprises the eastern side of the Inner Dock at the Port of Nigg Energy Park (Ordnance Survey Grid Reference NH 7940 6921). It is an existing dry dock with a sloped revetment covered with rock armour. Currently the Inner Dry Dock is flooded with the dock gate moored offshore at the adjacent Oil Terminal jetty. This situation is envisaged to remain for the foreseeable future and the proposed construction works would take place within a flooded inner dock (Hereafter the dock will be referred to as the Inner Dock.).

Plate 2-2: View at south end looking north

2.2 The Surrounding Area

2.2.1 General Overview

Nigg Energy Park is situated on the eastern edge of Nigg Bay, a RSPB reserve, and sits at the mouth of the Cromarty Firth, where it meets the Moray Firth (known as 'The Sutors'). The Nigg Oil Terminal is located to the immediate north of Nigg Energy Park, with the B9175 and Fearn Peninsula to the east. The B9175 forms a part of The National Cycle Network.

Nearby settlements include the hamlets of Balnabruich and Balnapaling to the immediate north, with Castlecraig approximately 1.5km east, Nigg approximately 2km north and in the wider area, Arabella Ankerville, Ballintore and the A9 are further north. The village of Cromarty is located ~1.5km south across the Cromarty Firth from the Energy Park. The Cromarty Ferry crosses the entrance to the firth to the west of The Sutors in the summer season from May to September.

The land to the east is predominantly agricultural with areas of pasture as well as arable fields. There are some patches of gorse scrub and small areas of woodland. There is a sandstone quarry ~ 2km to the east and scattered residential housing (refer to Drawing 677964-GIS007, Appendix A).

A planning application (Planning Reference 23/04662/FUL) for the construction and operation of a High Voltage (HV) cable manufacturing factory and ancillary facilities has been submitted to THC Planning in September 2023. The application is currently under consideration. The site of the factory is to the east of the B9175 opposite Nigg Energy Park. It is intended the upgraded east side of the Inner Dock at Nigg Energy Park will be used to ship the HV cables from the factory, directly onto installation vessels, predominantly to service the off-shore wind market.

2.2.2 Ecologically Designated Sites

The surrounding area contains several ecological designations within a 5km radius (refer to Drawing 677964-GIS008, Appendix A). These include the following:

- Cromarty Firth Site of Special Scientific Interest (SSSI), situated approximately 0.59km to the west of the site, designated for intertidal mudflats and sandflats;
- Cromarty Firth Special Protection Area (SPA), situated approximately 0.59km west of the site, designated for a range of non-breeding birds;
- Cromarty Firth Ramsar Site, situated approximately 0.59km west of the site, designated for intertidal mudflats and sandflats and waterfowl assemblage;
- Rosemarkle to Shandwick Coast SSSI, situated approximately 0.76km east of the site, designated for maritime cliffs, geological features and breeding birds;
- Moray Firth Special Area of Conservation (SAC), situated adjacent to the east of the site and designated for bottlenose dolphin.

There are other designations at greater distance, for example the Dornoch Firth and Morroch More SAC, which are relevant to the marine ecology assessment but not in the immediate vicinity of the site (Refer to Section 7.3.1).

2.3 Statutory Harbour Authority

The Port of Cromarty Firth (POCF) is the existing Statutory Harbour Authority for the Cromarty Firth under the Cromarty Firth Port Order of Confirmation 1973 Act as amended. The POCF has the authority to grant licences for marine works and dredging operations in the firth and manages the allocated dredge

disposal site at the Sutors. The Applicant are consequently required to seek these licences prior to the commencement of any marine works. Being a Trust Port, the POCF are designed to reflect local needs and markets.

Invergordon Port lies approximately 8.5km west of Nigg Port and is governed by POCF. Invergordon Port is central to Highland economy and is equipped to maintain, inspect and repair vessels and subsea infrastructure. POCF maintain overall control and management of shipping and vessel access/ egress from Nigg and the wider Cromarty Firth area. Northern European Cruise ships frequently make use of the extensive berthing at Invergordon, where several liners can be anchored simultaneously.

2.4 Green Freeports

Inverness and Cromarty are one of two Scottish ports selected by the Scottish and UK Governments to become a Green Freeport in January 2023. The designation is designed to attract investment into the area while delivering the objectives of the Green Freeports policy. Nigg Energy Park is within the boundary of Inverness and Cromarty Green Freeport and is identified as a “Tax Site” and a “Customs Site”.

2.5 Proposed Development

The proposals comprise modifications to the existing rock revetment forming the east side of the inner dock to form 290m of heavy-duty quayside 36m wide, faced with a vertical retaining wall. The area of the works is 1.6 Hectares or thereby.

A temporary construction compound will be present within Nigg Energy Park with the whole of the site works area segregated from the Nigg Energy Parks operational activities. The principal contractor will manage / control the area through the Construction (Design and Management Regulations 2015 (CDM Regs).

It is important to note that the contract for construction of the facility will be awarded on a design and build basis. Therefore, while exemplar tender designs have been completed by Arch Henderson (Project Technical Advisors), until the preferred contractor is identified, and procurement complete the exact detail of the construction methodologies cannot be confirmed at this stage in the development process.

It is anticipated that the vertical quay wall will be formed from tubular steel piles clutched with sheet piles forming a combi wall (Refer to Definition Drawing Proposed Layout, Arch Henderson Drawing No 225083/004 and Illustrative Drawing Sections A-A & B-B, Arch Henderson Drawing No 225083/008, Appendix A)

2.6 The Need for Development

The proposals to upgrade the east side of the Inner Dock is to primarily facilitate the export of HV cable manufactured at the adjacent proposed factory (which is subject to its own separate planning application) directly onto cable installation vessels. It will also serve as an additional facility to support the existing operations at the site comprising the import, assembly and export of components necessary for energy production in the marine environment, encompassing the Marine Renewables and North Sea Oil & Gas sectors. By creating a new berth on the east of the site, it greatly complements the new east quay, and provides both a load in and load out quay for offshore renewables projects conducted on the East side of the site. The 50m return along the north side of the dock, also allows for roll-on, roll-off operations to be conducted at the east side of the site, replicating the capability already available on the west side of the port.

2.7 Consideration of Alternatives

The Nigg oil terminal site was initially proposed as a potential location for the new HV cable factory, but the client considered that this location was too far away from the existing quays. There is a risk of damaging the cables when transporting them long distances, and therefore the site to the east of the dock was considered optimal for the HV cable factory, providing a new quay could be constructed on the east side of the inner dock to permit direct loading. This close proximity of the proposed quay to the factory allows for the cables to be directly transferred from the storage reels located outside the factory, directly onto the cable carousels located on the deck of the cable installation vessels. Loading the cable via any other quay at Nigg would involve longer and more complicated transportation solutions, and added risk of damaging the cable, thus the other alternative locations were quickly discounted in favour of the proposed solution.

2.8 Construction Phase

2.8.1 General Overview

A tender for construction of the quay and associated quayside infrastructure is currently being progressed with the aim of awarding the contract within the next month. Two alternative methods for the installation of the quay tied piles have been identified. However, there are general similarities in the works proposed. These are:

- Enabling works are identified as the initial phase of both proposals;
- Both options involve the removal of the toe of the existing rock armour and clearance of the pile line to remove obstructions in the location of the outer quay wall;
- Formation of a temporary working platform using imported clean crushed rock from the local quarry;
- Both options use land-based plant to install the outer quay wall piles through the temporary working platform;
- Installation of the anchor wall and tie rods;
- As the work proceeds the rock used to form the temporary working platform will be removed and used to infill the area between the quay wall and anchor wall;
- Installation of the concrete coping beam;
- Continuation of the infilling works and compaction; and
- Concreting to form the final quay surface and installation of quay infrastructure.

The following sections discuss each phase of the works in more detail. The information provided is based on experience of similar projects of this nature.

2.8.2 Enabling Works

The enabling works will entail setting up the work area compound including installation of temporary office and welfare facilities, erection of CDM area/security fences, delineation of traffic and pedestrian routes and conducting any surveys that may still be required as a minimum.

2.8.3 Rock Armour Removal and Clearance of Pile Line

The existing rock armour and infrastructure will be removed by a land-based long reach excavator.

A long reach excavator on a spud leg barge will then excavate the toe of the existing revetment and clear the pile line as shown in Drawing No IDEQ-SRI-1050, Appendix A. This will generate ~2,500m^3 of material consisting of natural sand and rock (ratio of 80:20). The recovered material will be loaded onto tipper lorries and stored on site for future reuse i.e. infill material or, if necessary, disposal.

2.8.4 Formation of Temporary Piling Platform

A temporary working platform will be constructed from clean material sourced from a local quarry. The stone will be placed by long reach excavator from the existing land.

2.8.5 Installation of Main Quay Wall and Anchor Wall

As discussed above, there are two methodologies' being considered for installing the main quay wall. One option has steel tubular king piles with steel sheet infill piles, while the other option has contiguous steel tubular piles forming the quay wall. Both options use piling rigs to install both the northern and eastern quay walls. The preferred methodology will be confirmed on contract award.

2.8.6 Tie Rod Installation and Backfilling

The tie rods will be installed by excavating behind the newly installed quay / anchor walls. The excavation behind the walls will be graded as required to ensure that the tie rods rest at the correct design angle.

After completing a section of tie rods, the area will be backfilled to the underside of the cope beam. Excavators will place the material and it will be compacted in layers using twin drum rollers.

2.8.7 Removal of Temporary Working Platform and Construction of Cope Beam

Once the infill has reached the required level, the material that forms the temporary working platform will be recovered and used as infill material. This activity will be phased to align with the tie rod installation to allow the recovered material to be used as infill material for the tie rod works. A long reach excavator positioned on the land will be used for this purpose.

The cope beam will be installed once the temporary working platform has been removed. The installation will use shutters to create a safe and secure working environment for the coping beam construction. Once the system is installed, the reinforced steel framework will be placed, secured in place and the concrete poured. Once the concrete has cured sufficiently the shutter framework will be removed and used on the next section when the above process will be repeated.

2.8.8 Drainage

The principal contractor will develop a Surface Water Management Plan to ensure surface water and drainage is managed effectively avoiding pollution incidents through controlling sediment run-off and preventing discharge into the dock area. The plan will be submitted to the regulatory authorities for approval prior to work commencing and will be adhered to during the duration of the works.

Should a concrete apron be provided alongside the quays (as is currently planned), permanent drainage infrastructure will also be installed during the construction phase. This permanent infrastructure is designed to incorporate Sustainable Urban Drainage Systems (SUDS) designed in accordance with the

CIRA SUDS Manual (C697). The design will therefore include attenuation chambers, oil interceptors and sampling chambers before discharging to sea via outfall(s).

In the event that the concrete apron is not provided, the granular nature of the surface material and sandy sub-soil will allow natural soak away of surface water.

2.8.9 Construction Traffic

It is envisaged that construction material will be delivered to site by both sea and road. The B9175 is part of the National Cycle Network as well as used by locals therefore a Traffic Management Plan will be developed by the principal contractor to ensure the safety of members of the public and site workers. The plan will be submitted to THC for approval and will be implemented throughout the duration of the work.

For deliveries by road, two access points are anticipated. Access point 1 will be via the main gate of Nigg Energy Park which will be used for general deliveries. Access point 2 will be located further east towards the development site area and will be used to import quarry material.

2.8.10 Environmental Management During Construction

Only experienced marine contractors have been invited to tender for the Works. The successful tenderer will be required to submit:

- A Construction Environmental Management Plan (CEMP);
- Risk Assessments and Method Statements (RAMS) for all major aspects of the Works; and
- A Site Waste Management Plan (SWMP).

The above documents will be submitted for approval by the statutory authorities prior to any Works commencing on site.

Implementation of the CEMP and other environmental control procedures will be checked by an independent environmental clerk of works, through site visits, inspections and audit of the Contractors records throughout the Works.

2.8.11 Construction Timescales and Working Hours

It is anticipated that construction will commence in August 2024 with a planned completion date of 12th March 2026 (subject to change during the detailed planning exercise). The construction programme will be regularly updated throughout the period.

With the exception of environmental management activity, in cases of emergency or unless agreed in writing with the Planning Authority, construction operations shall take place within the following hours;

- Monday to Friday: 08:00 – 19:00; and
- Saturday: 08:00 – 13:00.

There will be no working on Sundays or Scottish Bank Holidays.

In exceptional circumstances, additional or alternative working hours may be agreed between GEN and THC. (An example being when tie-rods are being installed, whereby the ability to conduct the necessary works are dictated by the time of the low tide).

2.9 Operational Phase

Once constructed, the east side of the inner dock will be incorporated into the existing operational activities that occur at Nigg Energy Park. The HV cable export activities from the park is already under consideration through the recently submitted planning application for the proposed cable manufacturing factory.

2.10 Decommissioning Phase

For a development of this type, decommissioning is not envisaged. Should decommissioning ever be planned in the future, Statutory Regulators would be consulted and applications made at that time under whatever future regulatory regime exists at that point in the future.

3. ACCIDENTS & NATURAL DISASTERS

3.1 Introduction

Major accidents and/or disasters is a topic introduced by the 2014/52/EU EIA Directive and subsequent national legislation. Major accidents and/or disasters should be considered where the development has the potential to cause loss of life, permanent injury and or temporary or permanent destruction of an environmental receptor. This section will consider the potential for such eventualities in the context of the construction and operation of the proposed development, as described in Section 2.

3.2 Baseline Conditions

As described in Section 2 the Inner Dock is part of the larger operational Port. The proposed development site is not located within an area of significant seismic activity, nor are climatic factors prone to creating natural disasters such as tsunamis, hurricanes, or catastrophic fluvial flooding. Coastal flooding and sea level rise is considered within the Water Environment and Coastal Processes of this report.

3.3 Potentially Significant Effects

The Institute of Environmental Management and Assessment ("IEMA") 'Major Accidents and Disasters in EIA: A Primer' (September 2020), hereafter referred to as 'The Primer' was reviewed and informed whether there was potential for significant impacts to occur as a result of the development. The Primer provides 3 tests as follows:

Is the development itself a source of major accidents or is vulnerable to disasters?

The upgrade and operation of the Inner Quay is not considered to be of a scale that would represent a significant source of major accidents. The construction work would also be covered by the CDM Regs which have been developed to prevent accidents and fatalities occurring.

The proposed works are not located within an area of significant seismic activity, nor are climatic factors prone to creating disasters such as tsunamis, hurricanes or catastrophic flooding.

Taking the above into account it is considered that the development itself will not be a source of major accidents or will be vulnerable to disasters.

Does the Development Interact with external hazards or associated activity?

The construction phase works are focussed on the eastern side of the Inner Quay area and the only external interaction will be related to import of material to site as part of the works. Similar to other works at Nigg, a Construction Traffic Management Plan will be agreed with the Council prior to work commencing and will be enforced throughout the construction phase of the development.

Once operational the quay will be utilised for import / export of goods / products including HV cables. It is considered that the external interactions associated with the operation of the quay will be comparable in nature to the current use. Similar to other ports, a Marine Safety Management System / Standard Operating Procedures in compliance with the Port Marine Safety Code is enforced by GEN.

It is therefore considered that the development is unlikely to interact with external hazards or associated activities.

If an external major accident or disaster occurred would the existence of the development increase risk of significant effects to environmental receptors?

As noted above the proposed works are concentrated to the east side of the Inner Quay. The construction area will be segregated from the operational areas by fencing and the area would be covered by the CDM Regs under the control of the principal contractor.

A Construction Environmental Management Document (CEMD) will be developed taking into account industry standard and development specific mitigation measures. (Note: The development specific mitigation measures will be identified through the EIAR process. Section 13 provides further details on how the CEMD will be managed).

The construction works are considered to be temporary in nature. Once the work to upgrade the quay are complete the area would return to being under the control of GEN as the port operators with the aforementioned Marine Safety Management System / Standard Operating Procedures being enforced.

As such it is considered that should an external major accident or disaster occur that the existence of the development would not increase the risk of significant effects to environmental receptors occurring.

3.4 Inclusion or Exclusion from the EIAR

As the development is compliant with the 3 tests noted above it is unlikely it will increase the risk of significant effects occurring during the construction phase. The consideration of accidents and natural disasters is therefore scoped out of the EIA.

4. AIRBORNE NOISE

4.1 Introduction

The noise assessment will consider the potential for noise generated by the proposed development to impact upon existing residential receptors during the construction and operational phases. The significance of any noise impact will also be predicted. The effects of construction noise on marine life shall be considered as part of the ecological scope of works as discussed in Section 7.

4.2 Baseline Conditions

A number of existing residential properties are located in the surrounding areas, within the hamlets of Balnabruaich and Balnapaling to the East, and the town of Cromarty situated approximately 1.15km (at its closest point) to the south. The closest existing residential properties within Balnabruaich are located circa 25m to the east of the Nigg Energy Park site boundary and circa 415m to the north of the development area for the Inner Dock East Quay. The hamlet of Balnapaling is located circa 330m to the southeast of the proposed inner dock east quay, in which the Nigg Ferry Hotel is the closest property, approximately 100m from the site boundary.

The current baseline noise environment in the area surrounding the proposed development contains components of noise generated by existing operations within Nigg Energy Park site boundary. This is most significant at existing noise sensitive receptors located closest to the existing operations in Balnabruaich and Balnapaling. Current existing noise generating operations at Nigg Energy Park include the following;

- Ship berthing, pilotage and mooring of client assets;
- Movement of materials between ships and laydown areas;
- Fabrication of subsea and offshore equipment;
- Construction of offshore and subsea infrastructure;
- Architectural repair and refurbishment of offshore rigs;
- Shot blasting and painting of infrastructure; and
- Operation of plant and equipment such as cranes, forklifts, trucks, generators etc

Existing operations at Nigg Energy Park are carried out over a 24 hour period, therefore certain of the above noise generating activities are carried out at sensitive times when background noise is typically low.

Current noise generating activities in the surrounding area outside of the site boundary include;

- Road traffic on local road network;
- Marine vessels passing in the Cromarty Firth;
- The Cromarty Ferry arriving/departing from the slipways in Nigg and Cromarty between the months of May and September;
- Industrial / commercial activities within Cromarty.

It is note that industrial activities within RepsolSinopec's premises to the north of Nigg Energy Park have ceased and that decommissioning of the Nigg Oil Terminal is expected to be ongoing until late 2025.

As part of the planning application for South Quay in 2013, a construction noise assessment was carried out by New Acoustics (dated 9th April 2013). As part of the assessment the existing day and night-time baseline noise (including operational activities) were measured.

EnviroCentre completed a combined construction noise and operational noise impact assessment as part of the EIA carried out to support the East Quay development in 2019. This was supported by background noise monitoring at five locations in the area surrounding Nigg Energy Park, comprising Balnabruaich, Balnapaling, and in the town of Cromarty to the south. Operational noise measurements within Nigg Energy Park were also carried out to support the modelling and assessment of operational activities.

As noted within the Pre-Application Advice ref 23/02299/PREMAJ issued 11th July 2023, previous noise monitoring indicates that noise levels in this area are already elevated due to existing activities associated with this site and neighbouring industrial premises.

Storing, loading out & loading in of HV cable on behalf of Brigg Marine has been ongoing within the Port since October 2020. Trans-spooling of cables is typically conducted on the West Quay in the inner dock area and has also been undertaken east side of the South Quay. Though this specific activity has not been measured or assessed within the 2019 EIA, the character and context of the baseline noise environment is not anticipated to have changed since the completion of the East Quay.

4.3 Potentially Significant Environmental Effects

4.3.1 Construction Phase

The noise from certain construction activities has the potential to impact upon existing noise sensitive receptors. Construction details have not been finalised at this stage. The degree of impact during each phasing stage will depend upon:

- The nature of construction activities being carried out; this includes the type and size of machinery/plant involved, combinations of activities occurring simultaneously and HGV routes in and around the site;
- Location of construction activities relative to the closest noise sensitive receptors;
- Duration of proposed activities;
- Construction site operating times; and
- Extent of noise mitigation measures in place.

Noise generating activities during the construction phase are understood to include;

- Piling of structure for quay wall;
- Delivery and tipping of materials; and
- HGV and plant movements in and around the site.

These elements have the potential to impact upon noise sensitive receptors within Balnabruaich and Balnapaling to the east, and Cromarty to the south if unmitigated.

It has been noted within the Pre-Application Advice that the applicant has submitted a construction noise assessment which suggests that relevant noise criteria can be complied with. The comments indicate that impacts from the above noted activities/sources should be appropriately mitigated using best practicable measures and that the Highland Council has powers to control all aspects of construction noise under the Control of Pollution Act 1974 (COPA).

4.3.2 Operational Phase

During the operational phase noise generating activities have the potential to increase the day and night-time existing baseline (including current operational activities) noise levels at surrounding noise sensitive receptors. Though there are no new operations proposed with consideration of the current site activities, the Inner Dock East Quay development will bring noise generating sources into closer proximity to residential receptors in Balnapaling. Therefore, there is the potential for an adverse effect at this location. A potential increase in noise levels at receptors in Balnabruaich and Cromarty is also possible.

The trans-spooling of HV cables from the proposed HV/DC factory to the east of the site is proposed to be undertaken on the Inner Dock East Quay. As noted above, storing and loading of cables is already undertaken on site at the West Quay and occasionally at the east side of the South Quay. These operations are serviced by diesel powered Self Propelled Motorised Trailers (SPMTs) to transport cables between the storage area and the loading berths. Carousels located on vessels used to receive the cables are also diesel powered.

Noise generating activities which shall be carried out during the operation of the East Quay Inner Dock are similar to those already carried out at the existing berths within Nigg Energy Park and include;

- Ship berthing and mooring;
- Ship loading / unloading activities; including operation of cranes;
- Movement of materials between ships and laydown/quay area;
- Plant and HGV movements within quay and laydown/quay area;
- Loading / unloading of HGVs; and
- Maintenance activities.

The spooling operations within the new HV/DC factory are proposed to be electrically powered and will reduce spooling and loading noise at the factory side. The potential for noise impact from these operations has been separately assessed including the export of the HV cable at the East Quay Inner Dock.

4.4 Inclusion or Exclusion from the EIAR

Detailed assessment of construction noise shall be scoped out of the EIAR. The impacts have been appropriately assessed and may be mitigated according to measures outlined in a construction noise assessment previously submitted by the applicant. The Principal Contractor will develop a Construction Noise Management Plan (CNMP) which will be approved by the council prior to works commencing. The CNMP will be adhered to during the construction phase of the development.

Assessment of general operational noise shall be carried out as part of the EIAR. As noted above, the noise generated by activities associated with the export of the HV cable from the East Quay Inner Dock is currently being considered through the HV/DC cable factory planning application.

4.5 Assessment Methodology

4.5.1 Baseline Noise

As noted previously, baseline noise monitoring of receptors with the greatest potential for impact has been carried out in 2013 and 2019. It is therefore proposed that this data is reviewed to determine its suitability for use in assessment of operational impacts and determination of mitigation measures as

appropriate. This approach would be confirmed with THC, including discussion of the previously measured results.

Should additional noise monitoring be considered necessary, the locations, durations and periods would be confirmed with THC through further consultation.

4.5.2 Operational Noise

Operational noise shall be predicted and assessed at the most exposed residential receptors following guidance provided in the Scottish Government Publication *TAN 2011: Technical Advice Note: Assessment of Noise*, and *BS4142:2014 Methods for Rating and Assessing Industrial and Commercial Sound*. Predicted increases in levels above the baseline shall be assessed in order to determine the significance of effects using background monitoring data approved for use by the Council. The results of the assessment will be used to propose suitable operational noise mitigation measures for general site activities, should it be required.

The operational noise assessment shall comprise of the following stages;

- Review of proposed operational activities, locations and noise data;
- Prediction of operational noise from proposed East Quay Inner Dock Development using CadnaA 3D noise modelling software at location of most exposed sensitive receptors;
- Carry out PAN 1/2011 (using principles defined in BS4142:2014) assessment of change in cumulative operational noise levels, comparing existing operations (before) to existing and proposed operations (after). The noise criteria to be applied is summarised in Table 4-1, where moderate effects or above would be classed as significant;
- If required, make recommendations on mitigation measures required to reduce noise impact at existing residential receptors and to inform the operational noise management plan.

Table 4-1: Significance of Effects

Magnitude of Impact (After – Before) L_{AeqT} dB	**Sensitivity of Receptor Based on Likelihood of Complaint X = (Rating ($L_{Ar,Tr}$) – Background ($L_{A90,T}$)) dB**		
	Low (x < 5)	**Medium (5 ≤ x < 10)**	**High (x ≥ 10)**
Major (≥ 5)	Slight / Moderate	Moderate / Large	Large / Very Large
Moderate (3 to 4.9)	Slight	Moderate	Moderate / Large
Minor (1 to 2.9)	Neutral / Slight	Slight	Slight / Moderate
Negligible (0.1 to 0.9)	Neutral	Neutral / Slight	Slight
No Change (0)	Neutral	Neutral	Neutral

5. AIR QUALITY

5.1 Introduction

During the construction phase there is potential for construction activities including earthworks, general construction activities and track-out to impact local air quality. Once the quay is built the site will return to pre-construction activities.

5.2 Baseline Conditions

The development site is located within an area influenced by maritime weather conditions. Background air quality conditions were assessed using data available for 2022 from Air Quality Scotland[3] and DEFRA[4] (2023) using the methods set out in LAQM.TG(22)[5]. The background concentrations of NO_2, PM_{10} and $PM_{2.5}$ are available for the base year of 2018 and for all other years up to 2030. The concentrations are available in OS 1 kilometre grid squares.

The site is located within OS 1 kilometre grid square 279500 869500. The background pollutant concentrations for this square are outlined in Table 5-1 below.

Table 5-1: Nigg Energy Park 2022 Background Annual Average Air Quality Concentrations

Year	Pollutant Concentration (µg/m^3)		
	NO_2	PM_{10}	$PM_{2.5}$
2022	6.0	5.7	2.8

The 2022 background annual average concentrations of NO_2, PM_{10} and $PM_{2.5}$ for Nigg indicates that air quality is good with the pollutant concentrations being well below the relevant National Air Quality Objectives of 40µg/m^3, 18µg/m^3 and 10µg/m^3 respectively.

The 2022 Air Quality Annual Progress Report for THC (the most up-to-date report available) identifies one Air Quality Management Area (AQMA) within its boundary. This is Inverness City Centre AQMA which was declared for NO_2 in 2014 and located over 24 km to the southwest of Nigg Energy Park.

Review of the Scottish Pollutant Release Inventory identifies no operational industries within the vicinity of the site who need to report their emissions to air to SEPA.

5.3 Potentially Significant Effects

The main concern in relation to air quality impacts is considered to be from construction generated dust emissions. As the site is not located within an Air Quality Management Area (AQMA) and there are no residential receptors immediately adjacent to the proposed construction works (closest properties are over 350m to the southeast of the site) it is considered that there will not be significant effects associated with construction dust.

[3] Air Quality in Scotland (2022). Data for Local Authority Review and Assessment purposes. Air Quality in Scotland. Retrieved from http://www.scottishairquality.co.uk/data/mapping?view=data

[4] DEFRA (2023, October). Background Maps. DEFRA. Retrieved from https://laqm.defra.gov.uk/air-quality-assessment/#about

[5] DEFRA (2022). Local Air Quality Management; Technical Guidance (TG22) (No. LAQM.TG(22)). London: Department for Environment, Food and Rural Affairs.

The potential for generation of construction dust is considered to be temporary and can be controlled through developing a site-specific Construction Dust Management Plan (CDMP) based on the conclusions of a Construction Dust Risk Assessment (CDRA)

The CDRA requires specific information on site operations during construction, including preparatory earthworks, general construction and the potential for trackout. Currently this information is still being finalised. It is therefore proposed to defer the CDRA and formulation of a CDMP until such time as details on construction activities have been finalised.

5.4 Inclusion or Exclusion from the EIAR

Based on the above, it is proposed to defer the submission of the site specific Construction Dust Management Plan until such time as the contract has been awarded. It will be the responsibility of the Principal Contractor to submit this document, amongst others, for approval to the council prior to works commencing.

6. ARCHAEOLOGY & CULTURAL HERITAGE

6.1 Introduction

The following information has been taken from the Nigg Energy Park East Quay EIA Scoping Report (EnviroCentre Report No 671906-001, dated February 2019) which is located in close proximity to the East Quay Inner Dock.

This section of the EIA Scoping Report summarises the baseline Archaeological and Cultural Heritage conditions at the site and considers the likely significant potential effects from the proposed development on heritage assets.

6.2 Baseline Conditions

There are no known heritage assets within the Site. Canmore Maritime records note three wrecks in the general area of the Cromarty Firth, but none of them appear to be within the Site boundary.

Within 2km of the Site boundary there is one Scheduled Monument (SM), one Inventory Garden and Designed Landscape (IGDL), two Listed Buildings (LB) and one Conservation Area (CA) and approximately 160 non-designated heritage assets recorded on Pastmap and the Canmore database.

Dunskeath Castle (SM3319) is the SM and is the site of a 12th century castle on a promontory overlooking the Firth 1km east of the Site. The two Listed Buildings are 1.3 km north-east and consist of one Category B (LB14049; the early nineteenth century Pitcalzean House) and one Category C (LB14050; the Coach House at Pitcalzean House). The IGDL comprising the grounds of Cromarty House* (GDL00120) is located 1.4 km away on the south bank of the Firth and there are five LBs within the IGDL – including two Category A listed buildings. The CA encompasses the historic fishing village of Cromarty, 1 km south-west of the Site, and includes 185 LBs (refer to Drawing 677964-QGIS009, Appendix A).

* Note - Two further IGDL's are identified in the Seascape, Landscape and Visual Section which are greater than 2km distance from the development and therefore no significant impact on their setting is predicted in relation to Cultural Heritage.

6.3 Potentially Significant Effects

Groundworks comprising onshore excavation and offshore dredging and land reclamation required for the proposed development have the potential to impact upon hitherto unknown buried archaeological remains. The level of effect will be dependent upon the finalised design and construction methods associated with the proposed development. However, due to previous development and ground-levelling the Site is considered to be of low archaeological potential – meaning that it is possible, but unlikely, that undiscovered archaeological deposits survive.

The proposed development has the potential to affect the settings of designated heritage assets including Scheduled Monuments, Listed Buildings, a Conservation Area and an Inventory Garden and Designed Landscape.

Designated heritage assets up to 2 km distant from the Site have been identified. However, given the local topography and the character of the heritage assets, it is unlikely that significant setting effects will occur.

6.4 Inclusion or Exclusion from EIAR

As the Site is considered to be of low archaeological potential, and no significant effects are anticipated upon any designated heritage assets it is considered that Archaeology & Cultural Heritage can be scoped out of the EIAR.

A Protocol for Archaeological Discoveries (PAD) will be developed and submitted for approval to Historic Environmental Scotland prior to works commencing. The PAD will provide a framework to facilitate the reporting of unexpected or chance archaeological finds should any be encountered during the works.

7. BIODIVERSITY

7.1 Introduction

This section provides a description of the known baseline conditions and highlights potential impacts of the proposed development on the ecology of the area. For the purposes of the assessment, the ecological interests are sub-divided into Terrestrial Habitats (including faunal interests), Marine Habitats (including faunal interests) and Ornithology and undertakes an assessment to identify any potential significant effect.

7.2 Study Area

The study area considered for the scoping with respect to the biodiversity aspects varied per element, as follows.

- Consideration of designated sites was generally limited up to 10 km from the Proposed development site. For designated marine mammals, designated sites were limited up to 20km.
- Non-statutory designated sites were limited to within 2 km of the site.
- Habitat and protected species surveys were undertaken within the site and up to 250 m where possible.
- Protected species data ranged from 2 km for terrestrial species, to up to 25km for marine species.

7.3 Baseline Conditions

Baseline site conditions were established via a field survey conducted on the 31st October 2023 and desk study conducted in December 2023. The filed work was conducted by Envirocentre Principal Ecologist Mhairi Mackintosh who is a member of the Chartered Institute of Ecology and Environmental Management. Conditions during the survey were dry and sunny with light winds and temperatures around 5°C. The field survey comprised of a UKHab survey of the site and protected species survey walkover.

A desk study was also conducted reviewing the Nigg Energy Park East Quay EIA Scoping Report dated February 2019 and the associated EIAR for data relating to species and habitats which may be relevant to the current proposal.

7.3.1 Designated Sites

The location of all designated sites listed below are shown in Drawing No 677964-GIS008, Appendix A.

Special Areas of Conservation (SACs)

There are no Special Areas of Conservation (SACs) located within the development site. Moray Firth SAC and Dornoch Firth and Morrich More SAC are present within the study area.

Moray Firth SAC

It is located adjacent to the development site.

The site is designated for bottlenose dolphin (*Tursiops truncatus*) and subtidal sandbanks.

Dornoch Firth and Morrich More SAC

It is located 13km north of the site.

The site is designated for otter (*Lutra lutra*), harbour seal (*Phoca vitulina*) and habitats including:

- Atlantic decalcified fixed dunes (*Calluno Ulicetea*)
- Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)
- Coastal dunes with *Juniperus* spp.
- Decalcified fixed dunes with *Empetrum nigrum*
- Embryonic shifting dunes
- Estuaries
- Fixed dunes with herbaceous vegetation (“grey dunes”)
- Humid dune slacks
- Mudflats and sandflats not covered by seawater at low tide
- Reefs
- *Salicornia* and other annuals colonising mud and sand
- Sandbanks which are slightly covered by sea water all the time
- Shifting dunes along the shoreline with *Ammophila arenaria* (“white dunes”)

Special Protection Areas (SPAs)

There are no Special Protection Areas (SPA) located within the site, however there are two within the study area, namely Cromarty Firth SPA and Moray Firth SPA.

Cromarty Firth SPA

It is located approximately 0.7km to the west of the site.

The site is designated for breeding Bar-tailed Godwit (*Limosa lapponica*), breeding common tern (*Sterna hirundo*), breeding osprey (*Pandion haliaetus*), breeding Whooper swan (*Cygnus cygnus*), over-winter greylag goose (*Anser anser*), and waterfowl assemblage: Bar-tailed godwit, Curlew (*Numenius arquata*), Dunlin (*Calidris alpina alpina*), Knot (*Calidris canutus*), Oystercatcher (*Haematopus ostralegus*), Pintail (*Anas acuta*), Red-breasted merganser (*Mergus serrator*), Redshank (*Tringa totanus*), Scaup (*Aythya marila*), Whooper swan, Wigeon (*Anas penelope*).

Moray Firth SPA

It is located 1.9km south of the site.

The site is designated for European shag (*Phalacrocorax aristotelis*) (breeding and non-breeding), great northern diver (*Gavia immer*) (non-breeding), Red-throated Diver (*Gavia stellata*) (non-breeding); Slavonian Grebe (*Podiceps auritus*) (non-breeding); Greater Scaup (*Aythya marila*); Common Eider (*Somateria mollissima*) (non-breeding); Long-tailed Duck (*Clangula hyemalis*) (non-breeding); Common Scoter (*Melanitta nigra*) (non-breeding); Velvet Scoter (*Melanitta fusca*) (non-breeding); Common Goldeneye (*Bucephala clangula*) (non-breeding); Red-breasted Merganser (*Mergus serrator*) (non-breeding).

Sites of Special Scientific Interest (SSSIs)

There are no Sites of Special Scientific Interest (SSSIs) located within the site, however there are two within the study area, namely Cromarty Firth SSSI and Rosemarkie to Shandwick Coast SSSI.

Cromarty Firth SSSI

It is located approximately 0.7km to the west of the site.

The site is designated for mudflats, saltmarsh, sandflats and non-breeding waterfowl: Bar-tailed godwit, red-breasted merganser, redshank, whooper swan and wigeon.

Rosemarkie to Shandwick Coast SSSI

It is located approximately 0.8km to the east of the site.

The site is designated for breeding Cormorant (*Phalacrocorax carbo*), maritime cliff, mesozoic palaeobotany, earth sciences, vascular plants, sand dunes and upland birch woodland.

Cromarty Firth RAMSAR site

There is one RAMSAR site within the study area. Cromarty Firth RAMSAR is located 0.7km to the west of the site.

The site is designated for Intertidal mudflats and sandflats and non-breeding waterfowl assemblage: Bar-tailed godwit, Greylag goose.

7.3.2 Other Designations

No non-statutory designated sites exist within the site boundary, or within a 2km radius of the site.

7.3.3 Terrestrial Habitat and Species

Habitats

The dock is made of tarmac with revetment material on the side slops, classified as Developed land, sealed surface habitat (u1b) under the UKHab.

Plate 7-1: Aerial View of Nigg Energy Park showing the footprint of the temporary working platform

Terrestrial Invasive Non-Native Species (INNS)

No terrestrial Invasive Non-native Species (INNS) have been identified within or adjacent to the site.

Notable Fauna

The following list includes terrestrial species known to be present in the area from previous surveys or desk studies which are afforded legal protection, included within the SBL and/or the Highland Nature Biodiversity Action Plan (BAP):

- Otter (*Lutra lutra*)
- Badger (*Meles meles*)
- Brown long-eared bat (*Plecotus auritus*)
- Common pipistrelle (*Pipistrellus pipistrellus*)
- Soprano pipistrelle (*Pipistrellus pygmaeus*)
- Daubenton's bat (*Myotis daubentonii*)
- Natterer's bat (*Myotis nattereri*)
- Brown hare (*Lepus europaeus*)
- West European hedgehog (*Erinaceus europaeus*)

Although habitats in the wider area are considered to be suitable for the species above, the quayside is considered to offer limited suitability for these species (other than otter). Whilst bats may forage over the water, there is often bright lighting within the quayside area to aid work which reduced the suitability. Previous bat surveys conducted in relation to creation of the East Quay recorded very limited activity.

The site offers suitable habitat for otter and although no evidence of otter has been identified during previous surveys, multiple records via desk study confirm its presence in the area[6].

7.3.4 Marine Habitat and Species

Habitats

Due to the proposed works being within the existing dock where there are no semi-natural habitats present it is not anticipated that any benthic communities of conservation value are present.

Marine Invasive Non-Native Species (mINNS)

There are no known mINNS within the existing dock.

Wireweed (*Sargassium muticum*) is known to be preset in the Moray Firth and EnviroCentre has knowledge of wireweed being present in the vicinity of Ardersier.

Other INNS to note that are widespread and well-established in Scotland are:

- green sea-fingers (*Codium fragile subsp. tomentosoides*);
- common cordgrass (*Spartina anglica*);
- red alga (*Heterosiphonia japonica*);
- acorn barnacle (*Austrominius modestus*);
- Japanese skeleton shrimp (*Caprella mutica*); and
- leathery sea squirt (*Styela clava*).

[6] ECRPT8527 Nigg East Quay: Phase 1 Habitat & Protected Species Survey

Marine Mammals

All species of dolphin, porpoise and whale are European Protected Species (EPS) and appear on the SBL and the Highland BAP. Grey seal (*Halichoerus grypus*) and Common seal (*Phoca vitulina*) are Annex II species. The following list includes all species known to be present in the area from designated sites' features, desk study[7][8] and previous records:

- Harbour porpoise (*Phocoena phocoena*)
- Minke whale (*Balaenoptera acutorostrata*)
- Humpback whale (*Megaptera novaeangliae*)
- Bottlenose dolphin
- White-beaked dolphin (*Lagenorhynchus albirostris*)
- Orca (*Orcinus orca*)
- Long-finned Pilot Whale (*Globicephala melas*)
- Harbour seal
- Grey Seal

There are also four designated Seal Haul-out Sites[9][10] within the study area are:

- Ardersier (Moray Firth-001): Approximately 10km south
- Cromarty Firth (MF-005): Approximately 18km west
- Findhorn (MF-003): Approximately 22km south east
- Beauly (MF-002): Approximately 24km south west

Other species that can be found in UK waters and therefore have the potential to be present in the vicinity of the site irregularly are:

- Northern right whale (*Balaena glacialis*)
- Sei whale (*Balaenoptera borealis*)
- Blue whale (*Balaenoptera musculus*)
- Fin whale (*Balaenoptera physalus*)
- Risso's dolphin (*Grampus griseus*)
- Atlantic White-sided dolphin (*Lagenorhynchus acutus*)
- Common dolphin (*Delphinus delphis*)
- Striped dolphin (*Stenella coeruleoalba*)
- Northern bottlenose whale (*Hyperodoon ampullatus*)
- Cuvier's beaked whale (*Ziphius cavirostris*)
- Sowerby's beaked whale (*Mesoplodon bidens*)
- True's Beaked Whale (*Mesoplodon mirus*)
- False Killer Whale (*Pseudorca crassidens*)
- Sperm Whale (Physeter macrocephalus (*P. catodon*)

Fish Species

The species listed below are known to be present in the vicinity of the site:

- Sea trout (*Salmo trutta*)

[7] Records provided by National Museums Scotland, accessed through NBN Atlas website.
[8] Records provided by Highland Biological Recording Group, accessed through NBN Atlas website.
[9] Scottish Government seal Haul-out maps available at: https://marinescotland.atkinsgeospatial.com/nmpi/default.aspx?layers=446 last accessed December 2023
[10] Haul Out Maps available at: https://webarchive.nrscotland.gov.uk/20180105052418mp_/http://www.gov.scot/Resource/0045/00454619.pdf last accessed December 2023

- Atlantic salmon (*Salmo salar*)
- European Eel (*Anguilla anguilla*)
- Sea lamprey (*Petromyzon marinus*)
- River lamprey (*Lampetra fluviatilis*)

Other species potentially relevant to the site are in the list below, all of which appear on the SBL:

- Cod (*Gadus morhua*)
- Herring (*Clupea harengus*)
- Mackerel (*Scomber scombus*)

Several rivers (Alness, Balnagowan, Conon, Glass and Peffery) flow into the Cromarty Firth, all of which support populations of migratory Atlantic Salmon (*Salmo salar*) and Sea Trout (*Salmo trutta trutta*) that return to the river annually[11]. The nearest of these rivers, the Balnagowan, is 4km from the proposed development.

Other diadromous species of conservation interest, specifically European Eel (*Anguilla anguilla*), Sea Lamprey (*Petromyzon marinus*) and River Lamprey (*Lampetra fluviatilis*) are known to migrate through the Cromarty Firth both from and to connected rivers.

Basking shark (*Cetorhinus maximus*) have not been recorded from the Cromarty Firth but are present occasionally within the wider Moray Firth[12].

7.3.5 Ornithology

Common terns (*Sterna hirundo*) are known to nest within the port to the West of the site.

Cormorants and guillemots were recorded during the survey using the existing rock armour and waters within the site for loafing.

The following list includes foraging and roosting waders and waterfowl offshore obtained from the British Trust for Ornithology (BTO) from within the Nigg Ferry count sector:

- Eider
- Long-tailed Duck
- Common Scoter
- Goldeneye
- Red-breasted Merganser
- Red-throated Diver
- Cormorant
- Shag
- Grey Heron
- Oystercatcher
- Bar-tailed Godwit
- Curlew
- Redshank

None of the species recorded comprise significant numbers against the overall populations of the Cromarty Firth SPA.

[11] Marine Scotland. 2019. Salmon and Sea Trout fishery statistics: 2018 Season - reported catch and effort by method. DOI: 10.4789/12206-1 Accessed last accessed December 2023

[12]

The SNH Commissioned Report No.252: Moray Firth Wildfowl and Wader Roosts[13] identified a small wader roost east of the Nigg Ferry terminal, located approximately 1.2km from the proposed development. This roost site is relatively undisturbed and numbers have been stable since 1994. There are four major wader roost sites within Nigg Bay, all of which are at least 4.5km from the proposed development site.

7.4 Potentially Significant Effects (Construction)

It is anticipated that the construction activities described in Section 2.8 have potential to result in the following negative impacts:

- Disturbance to and /or displacement of Cromarty Firth and Moray Firth SPA qualifying species through construction and vessels movements.
- Accidental spills from vessels, plant and on-site storage of fuels and chemicals leading to pollution of habitats and potential harm to a range of species and habitats.
- Introduction or spread of marine INNS from increased numbers of vessels during construction.

Due to the proposed works being within an existing dock and the limited change in the footprint of the quayside, it is not anticipated that the works would have any impact on coastal processes or result in the direct loss of any semi-natural marine or terrestrial habitats.

Given the site is already an active dock it is considered that any species present in the vicinity will be accustomed to air borne noise and visual stimuli generated by dockside activities and that the proposed works will not significantly increase the impact these have on species present.

The proposed method of works is to install the piles through the temporary working platform. Underwater noise generation and propagation is therefore considered to be limited. In water vessel movements are also unlikely to increase as a result of construction.

7.5 Potentially Significant Effects (Operation)

The following potential negative impacts on ecology could occur during the operational phase of the proposed development:

- The increase in vessel movement occurring throughout the Moray Firth SAC causing disturbance and/or potentially death or injury to marine mammals via collisions and underwater noise including bottlenose dolphin which are a qualifying feature of the Moray Firth SAC.
- The increase in vessel movement occurring in proximity to the Dornoch Firth and Morrich More SAC and seal haul-out sites in the vicinity causing disturbance to harbour seals.
- Accidental spills from vessels, plant and on-site storage of fuels and chemicals leading to pollution of habitats and potential harm to a range of species and habitats.
- Assembly of wind turbine components near the shore could disrupt flight line or cause collision risks for bird species present in the wider environment as well as those which are designated features of the Cromarty Firth and Moray Firth SPAs.
- Introduction or spread of marine INNS from increased numbers of vessels during operation.

[13] Bob Swann. North of Scotland Ornithological Services (2007). Moray Firth Wildfowl & Wader Roosts. Scottish Natural Heritage Commissioned Report No.252 (ROAME No. F098LG02)

Based on our current understanding of the proposed development it is not anticipated that there will be any significant effects on terrestrial ecology post-completion.

7.6 Further Assessment and Design Mitigation

7.6.1 Designated Sites

A shadow Habitats Regulations Appraisal (HRA) will be produced to provide the regulatory authorities with the information required to complete their own assessment of the plans. This may require further survey data (as outlined in section 7.6.3).

7.6.2 Terrestrial Habitats and Species:

Impacts on terrestrial habitat will largely be mitigated by design. No further consideration of terrestrial habitats or species is considered necessary. The following good practice measures are recommended to minimise impacts on terrestrial species and habitats:

- All site contractors should be made aware of the potential presence of protected species in the locale, and in the event that a protected species is discovered on site, all work in that area must stop immediately and a suitably qualified ecologist contacted.
- If works do not commence prior to October 2024, pre-works check for otter should be undertaken by a suitably qualified ecologist or Ecological Clerk of Works (ECoW) prior to the commencement of any works.
- Temporary lights used during construction must be fitted with shades to prevent light spillage outside the working area. Temporary lights must not illuminate scrub, scattered trees and hedgerows as lighting can affect commuting and foraging success of mammals and other species.

7.6.3 Birds

Further wintering bird surveys will be conducted to provide further baseline conditions to assist in undertaking a robust assessment of potential impacts to ornithology, and in particular the qualifying interests of the Moray Firth and Cromarty Firth SPAs. Further engagement with NatureScot will be sought to agree on the methods to be undertaken so that key questions (ie. if turbines are to be tested, if there will be a storage site within the firth) can be addressed. If necessary, overwintering bird surveys could be undertaken during the 2024/25 period.

7.6.4 Marine Habitats, Mammals and Fish:

Benthic Ecology

No further survey or assessment of marine habitats or benthic species assemblages are considered necessary.

Marine NNS

Appropriate mitigation measures will be devised for managing the spread and introduction of marine NNS during construction and operation and detailed biosecurity plans created in accordance with relevant guidance.

Mammals and Fish

It is considered that the potential impacts identified for marine mammals and fish (primarily pollution with possibility of increased vessel movements during operation) can be mitigated through best practice mitigation and no further survey or assessment is required.

If the construction methods are to change and vibratory or impact piling is to be conducted in open water, an updated desk study for marine mammal and fish will be undertaken to update the baseline data on these species groups. A marine mammal and fish risk assessment will also be completed to assess the likely impacts and need for mitigation and licensing. It is anticipated that if construction methods are similar, the results of underwater noise modelling used to inform the East Quay EIA would be broadly applicable to the inner quay works given the proximity of the sites.

7.6.5 Biodiversity Enhancement Plan

A Biodiversity Enhancement Plan will be prepared to accompany the EIAR and demonstrate the proposed developments ability to meet NFP4 policies in relation to biodiversity gains. It is anticipated that the plans will comprise a mix of measures to enhance greenspaces within the wider port land holding as well as measures to enhance the quay wall and infrastructure for marine species. Consideration will also be given to measures which would benefit ornithological interests such as the near by tern nests.

7.7 Inclusion or Exclusion from the EIAR

Based on the current proposals it is recommended that the following topics are included within the EIAR as there is potential for significant potential impacts to arise:

- Designated sites:
    - Moray Firth SAC
    - Dornoch Firth and Morrich More SAC (Harbour seal)
    - Cromarty Firth SPA
    - Moray Firth SPA
- Ornithology
- Biodiversity Enhancements

Due to the location, scale and nature of the proposal the following ecological features will not be taken forward for further assessment based on a lack of potentially significant impacts, or impacts which will not be avoided through standard best practice mitigation:

- Terrestrial habitats and species
- Marine habitats and species (including benthic fauna, marine mammals and fish)

7.8 Assessment Methodology

The methodology for the Ecological Impact Assessment (EcIA) will follow the Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine, Version 1.1 (CIEEM, 2018 (updated 2019)). The British Standard for Biodiversity: Code of Practice for Planning and Development (BS 42020:2013) cites the CIEEM EcIA Guidelines as the acknowledged reference on ecological impact assessment. The guidelines are consistent with the British Standard, which provides recommendations on topics such as professional practice, proportionality, pre-application discussions, ecological surveys, adequacy of ecological information, reporting and monitoring.

The assessment will include all direct and indirect, lethal, and non-lethal impacts on ecology that could reasonably occur during construction work and in operation of the development.

8. CLIMATE CHANGE

8.1 Introduction

This section of the Scoping Report identifies potential impacts with regard to climate change that may occur during the construction phase of the proposed development and outlines whether these will be addressed further in the EIAR.

The EIA Directive (2014/52/EU) and the 2017 updates to UK EIA regulations include the requirement to assess the potential impacts of the proposed development on climate change and its vulnerability to climate change.

The term 'carbon' is used throughout as shorthand to refer to all relevant greenhouse gas (GHG) emissions.

8.1.1 Carbon Impact Assessment

In accordance with the EIA Regulations, the carbon impact assessment involves the evaluation of the potential effects of the development on the climate. This assessment will follow IEMA's guidance[14]. In accordance with the modules contained within *PAS 2080:2023 Carbon Management in Buildings and Infrastructure* (CLC, 2023) and industry best practice, this assessment will measure embodied carbon associated with the materials used to construct the proposed development, the emissions involved transporting the materials to site and construction emissions from use of plant and machinery. Carbon emissions will be quantified to provide a whole life carbon assessment as required by the Environmental Impact Assessments (EIA) Directive 2014/52/EU.

8.1.2 Climate Change Resilience Assessment

The climate change resilience assessment investigates the effects of projected climate change on the development and environmental identified receptors. This assessment will comply with the requirements of the IEMA guide to Climate Change Resilience and Adaptation (IEMA, 2020). This qualitative risk assessment involves assessing the resilience of the proposed development and surrounding environment to climate change.

This assessment will consider mitigation of receptor vulnerability to climate change, that are proposed to exist within design, for the determination of resilience to climate change.

8.2 Baseline Conditions

8.2.1 Carbon Impact Assessment

As per IEMA guidance (IEMA, 2022), the baseline for the carbon impact assessment is taken as a 'business as usual' scenario, prior to existence of the proposed development. It represents existing carbon emissions prior to construction. If the proposed development is located on a brownfield site, the current operations of the application site will be assessed as part of the baseline assessment. Where a baseline involves existing infrastructure, typical baseline carbon emission sources would include

[14] Assessing Greenhouse Gas Emissions and Evaluating their Significance (IEMA, 2022).

maintenance works (e.g., the embodied carbon of materials used), operational energy (e.g., lighting) and user emissions (i.e., emissions from vehicles using the road).

The study area for the assessment encompasses a wider extent than the site boundary due to the consideration of embodied carbon emissions from products and materials, the transport of materials to site and installation processes on site. The study area also includes activities that may be avoided or displaced because of the proposed development, namely construction and operational transport, heating and electricity production activities. The baseline carbon emission sources thus comprise embodied carbon and operational utility consumption (electricity, gas and water consumption).

8.2.2 Climate Change Resilience Assessment

The baseline for the climate change resilience assessment is based on the current climatic conditions, existing at the site and surrounding environment as recorded by the Met Office. The future baseline then describes the projected changes to climatic impacts (e.g., temperature, precipitation and wind), as relevant to the geographical location, characteristics, and timeframe of the project. Future climatic projections are modelled via UKCP18 data (Met Office, 2023) and are depicted based on the most applicable grid resolution of the UKCP18 projections, to the site location. This data will be disseminated around the environmental disciplines to ensure sensitivity of environmental receptors are appropriately considered.

8.3 Potentially Significant Effects

Table 8-1 identifies the likely impacts, in respect of emission source, that will arise from the proposed development during the enabling phase.

Table 8-1: Potential sources of emissions

Lifecycle Stage	Activity	Primary Emission Source
Preconstruction	Land clearance	Emissions associated with loss of carbon sink, e.g., tree removal or peat disturbance.
Product stage	Raw material extraction and manufacturing of products/materials	Emissions associated with raw material extraction and manufacturing of products/materials
Construction process stage	Transport of materials to project site	Transport of materials to site
	On-site construction activity	Emissions associated with energy (electricity, fuel, etc.) consumption from construction activity and processes.
	Disposal of construction waste	Emissions from disposal of waste
Operational Phase	Operational Activities	Emissions associated with electricity, water consumption, building maintenance and operation-related transport, and decommissioning

8.4 Inclusion or Exclusion from EIA

8.4.1 Carbon Impact Assessment

The carbon impact assessment of the construction phase will involve assessing the physical infrastructure assets associated with the proposed development. It includes the embodied carbon of proposed development materials and emissions associated with construction activities. These are defined in terms of lifecycle stages, detailed in of the Guidance Document for *PAS 2080:2023: Carbon*

Management in Buildings and Infrastructure. The scope of assessment will cover the extent of emission sources listed in Table 8.1.

8.4.2 Climate Change Resilience

Although the proposed development may be subject to weather extremes during construction, it is not anticipated that verifiable climate change would occur between the time of design to the end of the construction phase. Therefore, the impact of climate change on the construction phase, with regard to the project's resilience, is scoped out.

It is advised that the scope of assessment is broadened to allow for the assessment of climate change resilience of the proposed development during its operational phase. It is very likely that the proposed development will be susceptible to climate-related impacts, particularly with its coastal location. Otherwise, climate change resilience will not be assessed which doesn't align to 2017 UK EIA regulations requirement for the assessment of project vulnerability to climate change.

8.5 Assessment Methodology

8.5.1 Receptors

Carbon Impact Assessment

For the carbon impact assessment, the receptor is the global atmosphere. The sensitivity of the receptor (global climate) to increases in carbon emissions is always defined as high as any additional carbon impacts could compromise the UK's ability to reduce its carbon emissions and therefore meet its future carbon budgets.

Climate Change Resilience

The IEMA (2020) guidance defines the key potential receptors for consideration within the assessment, as follows:

- Buildings and infrastructure receptors (including equipment and building operations)
- Human health receptors (e.g., construction workers, occupants and site users)
- Environmental receptors (e.g., habitats and species)
- Climatic systems.

The in-combination impact on the UKCP18 projections of climate change on the receptors listed above, are assessed by each technical discipline that will be scoped into the ES. The receptors are qualitatively assessed against a range of climatic impacts (temperature, precipitation, and wind) and their respective change, as modelled by UKCP18 climate projections. Once the future baseline is established, the receptors are assessed for their resilience against the projected climatic changes.

8.5.2 Calculation Methodology

For the assessment of the development's impact on climate change, a calculation method is used following data collection. The calculation of GHG emission followed that provided within the GHG Protocol and is defined as:

Activity Data x Emission Factor = tonnes of Carbon Dioxide equivalent (tCO2e)

8.5.3 Assessment of Significance

Carbon Impact Assessment

The assessment of significance associated with the estimated emissions, as defined by IEMA (2022) guidance, will consider proposed mitigation and the development's ability to meet regional and national policy requirements. The Carbon Impact Assessment will include opportunities for mitigation to be considered in the design of the proposed development in line with design hierarchy of **'build less, build clever, build efficiently'** as set out in IEMA 2022 guidance and PAS2080.

Climate Change Resilience

The climate change resilience assessment involves consultation with all other scoped-in environmental disciplines, to determine any relevant receptors and impacts that could be affected by the climate change parameters and in turn, to identify any potentially significant in-combination impacts. This would also include consultation with the designers to ensure that the proposed development was considering future climatic scenarios and ensuring the development is not vulnerable to climate change.

Significance of effects will be determined in accordance with IEMA (2020) Guidance that involves using a matrix comparing the likelihood of climate hazards with the consequence of in-combination impacts. The likelihood of climate hazards will be defined using an assessment of the regional climatic data, derived from the UKCP18 Climate Projections, combined with professional judgement. The consequence of in-combination impacts will be based on the change to the significance of the effect of the proposed development on the resource or receptor for each relevant environmental discipline, given existing mitigation measures.

9. LAND QUALITY

9.1 Introduction

The primary purpose of this exercise is to undertake a sufficient level of assessment to identify any environmental effects of the project associated with soil and subsoil pollution of the site which could be significant and which should, therefore, be taken forward for more detailed assessment if required.

The following information has been obtained from a review of the ERS contaminated land report.[15]

9.2 Baseline Conditions

The East Quay Inner Dock is part of the Nigg Energy Park operational area. The site is formed from the dredging of estuarine sediments to form a large yard which has historically been used for industrial purposes associated with gas and oil production. Activities at the site now include services associated with the off-shore renewables industries.

In the 1990's it was determined that a large quantity of diesel had seeped from corroded underground fuel lines within the southern and eastern sections of the site. The resulting remediation programme comprised soil vapour extraction / air sparaging and surface pump, treatment and re-injection of nutrient enriched groundwater. Following the remediation programme the source of hydrocarbons in the unsaturated zone was considered to be significantly reduced however it was identified that a residual source of hydrocarbons remained in the groundwater.

Since the remediation programme was completed a series of routine monitoring events have been conducted to assess the impacts of the groundwater pollution since 2006. The most recent investigation was conducted in 2016 following enhanced biodegradation remediation of the groundwater. This involved the introduction of Oxygen Release Compounds (ORC) into the groundwater in February 2014 and October 2015.

The 2016 investigation concluded that:

- The groundwater flow direction was to the south, in the direction of the Inner Dock;
- No measurable free product thickness was noted during the groundwater monitoring event;
- No TPH were detected in any groundwater or surface water samples;
- One PAH (Naphthalene) was detected marginally above the limit of detection in the surface water samples, taken from within the graving dock;
- The Environmental Quality Standards (EQS) for Naphthalene was not exceeded in water samples from the dock; and
- Data gathered during the remediation and monitoring programmes suggests that biodegradation of the contaminants is occurring.

9.3 Potentially Significant Effects

The council have raised concerns in their Major Development Pre-Application Advice document about the potential for piling activities to disturb and thereby remobilise any groundwater contaminants, if still present. They have requested further monitoring is undertaken to assess the current groundwater

[15] Nigg Energy Park Combined Factual and Interpretative Report Routine Groundwater Monitoring Event July 2016, ERS Report Ref 0841-003, dated 10/11/2016

chemistry. If contamination is identified then a suitable risk assessment is completed and mitigation measures identified to ensure the development does not adversely impact the water environment.

9.4 Inclusion or Exclusion from EIA

The proposed works are not expected to result in any significant adverse effects on land quality. As requested by the council a monitoring event was undertaken on 05/12/2023 by ERS with the laboratory results provided in Appendix C. The results confirm there are no hydrocarbon pollutants recorded above the laboratory limit of detection in any of the samples analysed. This indicates that the remediation measures implemented in 2014 and 2015 have had a positive effect on groundwater quality.

10.SEASCAPE, LANDSCAPE AND VISUAL

10.1 Introduction

The following information has been derived from the Nigg Energy Park East Quay EIA Scoping Report (EnviroCentre Report No 671906-001, dated February 2019).

This section addresses the potential significant adverse effects of the proposed development on the landscape and visual interests of the site and surrounding area. These are defined respectively within paragraph 3.21 of the *Guidelines for Landscape and Visual Impact Assessment* (GLVIA)[16] as:

"…*the constituent elements of the landscape, its specific aesthetic or perceptual qualities and the character of the landscape*"

and

"…*the people who will be affected by changes in views or visual amenity at different places*".

To help determine the need for, and to ascertain the potential scope of a Landscape and Visual Impact Assessment (LVIA) as part of an EIA, an initial landscape and visual appraisal has been undertaken to identify the following:

- the landscape character of the site and surrounding area;
- the seascape character of the site and surrounding area;
- the coverage of any landscape designations across the site and surrounding area;
- important views and viewpoints towards the site from the surrounding landscape/seascape;
- any potentially significant landscape and visual effects during construction and post-completion;
- recommendations for mitigating any potentially significant adverse effects; and
- recommendations for further study.

10.2 Baseline Conditions

The purpose of this baseline assessment is to identify the existing landscape and visual resource of the site and surrounding landscape, against which any potential significant effects of the proposed development are predicted. Although any potential significant effects are very unlikely to be experienced beyond 5 km from the site, the assessment of the following landscape and visual receptors has been identified within an indicative study area of 15 km:

- the site and its setting;
- landscape character;
- seascape character;
- landscape designations; and
- key views and visual receptors.

[16] Landscape Institute and Institute of Environmental Assessment (2013). *Guidelines for Landscape and Visual Impact Assessment.* Third edition.

10.2.1 The Site and its Setting

As detailed in Section 2 of this Report, the Site is located on the south-western shore of the Fearn Peninsula that in association with the Cromarty peninsula to the south, separate the inner and outer waters of the Cromarty Firth. The inner firth stretches 25 km from Conon Bridge to Cromarty and Nigg where the Cromarty Ferry crosses the entrance to the firth during the summer season.

The Nigg Energy Park occupies a substantial area of reclaimed land accommodates several large industrial fabrication buildings, open lay- down areas, the graving dock (dry dock) and an extended berth fronting onto the Cromarty Firth at the south quay. Historically, many of the largest North Sea oil and gas production platforms were constructed at Nigg and at present, large oil and gas exploration rigs are berthed at Nigg for inspection, repair, and maintenance (IRM) services. The industrial setting at Nigg is reflected a little further to the west at Invergordon service yard, where IRM services are also carried out on oil and gas exploration rigs, and rig supply vessels. Often, these oil and gas exploration rigs, and rig supply vessels anchor within the Cromarty Firth awaiting access into Nigg or Invergordon.

The site is the graving dock within Nigg Energy Park with agricultural improved grasslands comprising of 'Hill of Nigg' to the east. Hinterland consists of extensive coniferous woodlands of the Balnagowan Estates north-west of the enclosed estuary. Access can be gained from Inverness via the A9 and the Cromarty Bridge and subsequent B9175 route around the northern Fearn Peninsula.

The hamlets of Balnabruaich and Balnapaling lie in quite close proximity to the north. Cromarty Lighthouse lies adjacent to the south, on the opposing northern tip of the headland that accommodates the village of Cromarty.

10.2.2 Landscape Character

As detailed in the Landscape Character Assessment[17] (LCA), the site of the proposed development is located within the *Enclosed Firth* landscape character type (LCT) and as noted in the LCA, the LCT extends from where the firth is narrowed by sand bars or rocky headlands, inland to where the inter-tidal zone dramatically narrows in response to a more prominent slope at the mouth of the Cromarty Firth.

In close proximity to the east of the site, the character of the Fearn Peninsula is represented by the *Open Framed Slopes* LCT and separated by Nigg Bay to the west; the *Enclosed Farmed Landscapes* LCT is viewed against a backdrop of extensive coniferous forest on higher ground. Beyond the *Hard Coastal Shore* LCT that extends the mouth of the inner firth, the opposing peninsula is also characterised by the *Open Framed Slopes* LCT.

Although information on landscape character provides a useful framework in which to describe the landscape and predict potential effects, the information provided in the landscape character assessment is relatively broad brush and in some instances, it does not always provide an understanding of variations at the local level. In understanding the sensitivity of the landscape to the proposed development therefore, it is important to consider the following factors:

- Nigg Energy Park occupies a substantial area of reclaimed land from the adjacent Nigg Bay and currently accommodates several large industrial fabrication buildings and lower rise office blocks;
- large areas of open hard standing are present along the graving dock, east quay and south quayside for temporary storage during loading and off-loading operations to and from vessels and barges;

[17] Scottish Natural Heritage (1998). *Inner Moray Firth Landscape Character Assessment*.

- the open pastoral farmed slopes of the Hill of Nigg are influenced by several disused quarries and gravel pits on its slopes; and
- the settlements on the south-west slopes of the Hill of Nigg (Nigg and the tightly grouped Pitcalzean House and Pitcalzean Mains found midway down the lower slopes) are partially enclosed by mature deciduous woodland.

10.2.3 Seascape Character

Considering the coastal location of the site, the character of the seascape is also an important factor to consider. Seascape character is made up of physical characteristics of hinterland, coast and sea plus a range of perceptual responses to the seascape, as well as visual aspects. Although no explicit detailed seascape character assessment has been undertaken for the study area, the *Inner Moray Firth Landscape Character Assessment* extends across areas of open water, as characterised by the *Inner Firth* and *Hard Coastal Shore* LCTs.

A regional/national coastal character assessment was undertaken in support of a study on the sensitivity and capacity of the Scottish seascape in relation to windfarms[18]. As detailed within this study, the site of the proposed development is located within the *Moray Firth* seascape character area (SCT) and in assessing the sensitivity to wind farms, the following factors, as detailed in the report, are relevant to the proposed development:

- generally a modified seascape with a well settled coastal edge in places, including the village of Cromarty at the mouth of the inner firth;
- some isolated but large scale industry e.g. oil platforms and former Nigg oil terminal within the Cromarty Firth;
- illumination of settlements around coastal fringes but generally sparse lighting in the Outer Firth. Oil platforms lit at night in Cromarty Firth; and
- it is common to see oil platforms being towed fairly close to Moray coast to and from Cromarty Firth.

In taking into account the factors outlined in this section, particularly concerning the industrial character of the site's locality, the sensitivity of landscape/seascape character to the proposed development is assessed as **medium**.

10.2.4 Nationally Important Landscape Designations

There are no National Parks within the study area and the closest National Scenic Area is located at the Dornoch Firth, some 15km to the north of Nigg. As detailed in T*he Inventory of Gardens and Designed Landscapes* (GDLs), there are 3 GDLs within the study area and considering their national importance, these are assessed as having a **high** sensitivity to change(Refer to Drawing 677964-QGIS010, Appendix A). These are:

- Cromarty House;
- Balnagown Castle; and
- Tarbat House.

[18] Scottish Natural Heritage (2005). *An assessment of the sensitivity and capacity of the Scottish seascape in relation to windfarms*.

10.2.5 Locally Important Landscape Designations

As detailed in Highland Council's citation[19], the *Sutors of Cromarty, Rosemarkie and Fort George* Special Landscape Area (SLA) is located in quite close proximity to the east and south-east of the site (Refer to Drawing 677964-QGIS010, Appendix A). It is a coastal area of intersecting firths and pointed headlands stretches from Port An Righ (just south of Shandwick) across the Sutors at the mouth of the Cromarty Firth, along the north-eastern edge of the Black Isle to take in Chanonry Point, then across the inner Moray Firth to take in Fort George, and Whiteness Head.

This SLA encompasses some of the key landscape features of the Inner Moray Firth. It is an area of contrasts which forms the gateway between the open coast and expansive waters of the Moray Firth and the intimate landscapes of the Cromarty and Inverness Firths. The twin headlands at North and South Sutor which stand guard over the entrance to the Cromarty Firth are another key feature, visible from a considerable distance.

As a locally important landscape designation, its sensitivity to change is assessed as **medium-high**.

10.2.6 Key views and visual receptors

Although no detailed analysis of the zone of theoretical visibility has been undertaken at this stage, it is evident that views from the site are focused on surrounding coastal areas of the inner firth. Looking south, there are views over open water towards the relatively nearby Cromarty peninsula and its associated village and lighthouse. Looking west, there are medium-range views over Nigg Bay towards the settlement of Invergordon, beyond which the inner firth narrows. Views to the east are short range, curtailed by rising ground.

Key visual receptors to be considered include:

- road users travelling along the B9175 and A9 – medium sensitivity;
- passengers on the Nigg Ferry – high sensitivity;
- residents in close proximity to the site including Dunskeath House, Balnabruaich, Balnapaling and Pitcalzean Mains – high sensitivity;
- residents in the larger settlements of Cromarty and Invergordon – high or medium sensitivity respectively; and
- recreational users at Cromarty viewpoint – high sensitivity.

10.3 Potentially Significant Effects

In considering the preceding assessment of Baseline Conditions, this section identifies any potential significant effects predicted during the construction phase, without any landscape related mitigation.

As the operational effects of the proposed development would result in a smaller magnitude of effect than those predicted during the construction phase, it is likely that all long-term effects on the relevant landscape and visual receptors in the study area would be **not significant**. To avoid unnecessary duplication of the factors in support of this (as set out in the construction effects discussions below), no detailed justification is provided although in general, it is clearly evident that the existing industrial land uses and activity taking place in and around the quay would significantly limit the magnitude of all landscape and visual effects.

[19] Highland Council (1998). *Assessment of Highland Special Landscape Areas*.

10.3.1 Landscape and Seascape Character

Taking into account the existing industrial use of the site and its immediate setting, and the associated prominent land and sea based activity taking place such as loading and off-loading operations to and from vessels and barges, including oil platforms being towed, any construction activity would generally be experienced within this context. Although any activity associated with the construction of the proposed development would be very noticeable from some nearby areas, this would be characteristic to its immediate setting. Consequently, the magnitude of landscape and seascape effect would be relatively limited and considering the medium sensitivity of the *Enclosed Firth* LCT, effects are very likely to be **not significant** on its integrity (Refer to Drawing 677964-QGIS011 and 677964-QGIS012, Appendix A).

10.3.2 Nationally Important Landscape Designations

Tarbat House
As noted in the GDL inventory, Tarbat House is located on high ground on the north shore of the Cromarty Firth at Nigg Bay and there are views south over the Cromarty Firth and the Sutors of Cromarty. Although some construction activity could be visible amongst intervening built development at the quay, as the designation is located approximately 5 km from the site, effects are very likely to be **not significant** at this distance.

Cromarty House GDL
As noted in the GDL inventory, the parkland is enclosed by woodlands, which screen the town and the Firth from view. As such, it is unlikely that any construction activity would be visible, resulting in **not significant** effects.

Balnagown Castle
As noted in the GDL inventory, the designation commands fine views to the south-west and east over the coastal flats and therefore, it is possible that some construction activity could be visible although intervening built development at the quay is likely to provide some screening. Nonetheless, as the designation is located approximately 7 km from the site, effects are very likely to be **not significant** at this distance.

Sutors of Cromarty, Rosemarkie and Fort George SLA
Although the western boundary of the designation lies in quite close proximity to the site, the large majority of the SLA would not experience any views of construction activity due to the screening effects of intervening landform. From those parts near to Cromarty where activity would be visible, it would be experienced in context of other activity taking place in and around the industrial setting of the quay and as such, the effect on the special qualities of the designation would be very limited. Consequently, effects are predicted to be **not significant.**

Road users travelling along the B9175 and A9
Considering the screening effect of intervening trees and built development along these routes, particularly some large buildings and other infrastructure at the quay, effects on those travelling the B9175 and A9 are very likely to be **not significant**.

Passengers on the Nigg Ferry
When travelling north, passengers would experience some very noticeable views of constructions activity and although this would be in the context of other surrounding industrial land use and activity, short-term effects could be **significant.**

Settlement

From those relatively nearby settlements of Balnabruaich, Balnapaling and Pitcalzean Mains, it is very unlikely that due to the screening effect of intervening trees and built development, including the large buildings and other infrastructure at the quay, residents would not experience any open views of the site. Consequently, effects are very likely to be **not significant**.

From the settlements of Invergordon and Cromarty, including those undertaking recreational activity at Cromarty viewpoint, some construction activity is very likely to be visible although considering this would be experienced in a context of other activity taking place in and around the industrial setting of the quay, effects are very likely to be **not significant** at this distance.

10.4 Inclusion or Exclusion from EIA

Based on the assumption that any potential significant adverse effects predicted during the construction phase would be limited to passengers on the Nigg Ferry, and more importantly, that no long-term significant effects are likely to be experienced during the operational phase, it is recommended that Seascape, Landscape and Visual interests should not be subject to assessment as part of an EIA.

11.TRAFFIC AND TRANSPORT

11.1 Introduction

The following information has been taken from the Nigg Energy Park East Quay EIA Scoping Report (EnviroCentre Report No 671906-001, dated February 2019).

This assessment will identify the preferred route(s) for access to the site and will consider the potential effects of traffic generated during the construction and operational stage of the proposed development.

The assessment will include identification of possible measures to mitigate any disruption to the local road network and receptors along the route(s).

The study area for the access, traffic and transport assessment will effectively be the public road network in the vicinity of the proposed East Quay Inner Dock and the route to the site from the wider strategic road network (the A9), i.e. the B9175.

11.2 Baseline Conditions

11.2.1 Site Access

Access to the current Nigg Energy Park facility is gained from the B9175, which travels in a north-west direction between Nigg Ferry Port and the A9 trunk road. During construction, the proposed East Quay Inner Dock development will be accessed from an existing priority-controlled junction along the B9175 approximately 450m north–west of the Nigg Ferry Port (as the crow flies).

11.2.2 B9175

The B9175 is a single carriageway road generally of a good standard throughout and rural in nature. The B9175 has a derestricted speed limit (60mph) except for a small section of the road through the villages of Nigg Station and Arabella, whereby the speed limit is reduced to 40mph. There is street lighting within the villages and there are intermittent sections of footway along the length of the B9175.

11.2.3 A9 Trunk Road

The A9 connects to the B9175 via a four-arm roundabout. The A9 in the vicinity of the B9175 is a good standard single carriageway with a derestricted speed limit (60mph). The A9 provides a link south to Inverness, the nearest city to the proposed development, and continues north from the roundabout with the B9175 to Thurso and Scrabster.

11.3 Potentially Significant Effects

The IEMA guidelines set out a list of environmental effects which should be assessed for significance in relation to the transport resource (the identified thresholds are exceeded, i.e. ‘Rule 1’ or ‘Rule 2’ described below), as follows:

- Noise and vibrations;

- Air pollution;
- Severance;
- Driver delay;
- Pedestrian delay and amenity;
- Accidents and safety;
- Dust and dirt; and
- Hazardous loads.

The EIAR would explore whether effects on these are likely to be significant based upon two tests contained within IEMA Guidelines. The guidelines suggest that, in order to determine the scale and extent of the assessment and the level of impact that the development will have on the surrounding road network, the following two 'rules' should be applied:

- **Rule 1:** Include highway links where flows are predicted to increase by more than 30% or where the number of HGVs is predicted to increase by more than 30%; and
- **Rule 2:** Include any other specifically sensitive areas where traffic flows are predicted to increase by 10% or more.

Whilst construction and operation of the proposed development will see an increase in current baseline traffic along the A9 and B9175, it is worth noting that the expected increase in traffic volumes associated with the proposals is considered to be minor in relation to historic operations at the existing Nigg facility. It is understood that when the Nigg facility formerly operated as an oil platform construction and fabrication yard (opened in 1972 and put up for sale in 2006), there were in the region of 3,000 – 5,000 staff employed at the facility, and therefore significantly more vehicle movements on the local road network than experienced at present and proposed through the East Quay development proposal.

11.4 Inclusion or Exclusion from EIA

Traffic generated as a result of the proposed development shall be assessed as part of the EIAR. It is unlikely that significant effects would be found however the assessment would be undertaken to demonstrate this. Therefore, traffic and transport would be scoped in as an EIAR chapter, however it is expected that a full Transport Assessment is not required to support the proposed development, particularly given the significant traffic volumes experienced on the B9175 during historic operation of the fabrication yard.

11.5 EIA Assessment Methodology

11.5.1 Method of Baseline Data Collection

In order to establish the baseline traffic flows it is proposed to use the traffic data collected along the B9175 to inform the HV cable Factory Transport Assessment. Accident records will be sought for routes within the study area along with a review of the road capacities will also be undertaken by reference to Crash Map[20]. Publically available annual average daily traffic (AADT) flows from the Department for Transport (DfT) traffic counts and / or Transport Scotland traffic counters (along the trunk road network) will also be used.

[20] https://www.crashmap.co.uk/

11.5.2 Evaluation Criteria

In accordance with the IEMA Guidelines[21], the method used for assessing environmental effects of increased traffic will be based on a comparison between predicted traffic flows on potentially affected roads (i.e. the study area) with and without development traffic, in percentage terms.

Criteria are applied to the percentage increases to establish whether significant environmental effects are likely. These criteria take into account the sensitivity of the receptors likely to be affected and the magnitude of the change which can be influenced by the composition of the traffic.

The significance of the effect of receptors will therefore be evaluated against the IEMA Guidelines. These criteria are subjective but take into account the numbers of receptors affected, their sensitivity, the length of the period for which they will be affected and professional judgement. A conclusion will then be drawn as to whether the effect is Significant or Not Significant for each criteria.

The IEMA Guidelines state that projected changes in base traffic levels of less than 10% create no discernible environmental impact, given that daily variations in background traffic flow may fluctuate by this amount.

Mitigation measures will be identified and incorporated into the development proposals where an effect is deemed to be Significant (prior to any mitigation).

11.5.3 Determining the Magnitude of the Impact

The magnitude of traffic effects is a function of existing traffic volumes, the percentage increase due to the proposals for the development, and changes in type of traffic. IEMA guidelines identify thresholds for determining the magnitude of the impact based on percentage changes in traffic levels. The magnitude of effects arising from the increase in traffic volumes is categorised as follows:

- Substantial: above 90% increase in existing traffic levels (or 70% at sensitive receptors);
- Moderate: between 60% and 90% increase in existing traffic levels (or between 40% and 70% at sensitive receptors);
- Slight: between 30% and 60% increase in existing traffic levels (or 10% and 40% at sensitive receptors); and
- Negligible: under 30% increase in existing traffic levels (or under 10% at sensitive receptors).

The determination of the magnitude of the effects will be undertaken by reviewing the characteristics of the proposed development, establishing the parameters of the road traffic that has the potential to cause an effect, and quantifying these effects against the criteria set out above.

Consideration is given to the composition of the traffic on the road network under both existing and predicted conditions. For example, cars and light goods vehicles (LGVs) have less effect on traffic and the road system than HGVs.

11.5.4 Determining the Sensitivity of the Receptor

The sensitivity of roads to increased severance of communities and pedestrian delay and intimidation is conventionally evaluated based on the proximity and size of residential populations to each road section, in accordance with the EIA guidelines.

[21] IEMA guidance "Environmental Assessment of Traffic and Movement

The IEMA guidelines do not provide specific criteria for evaluating sensitivity, however, for many effects there are no simple rules or formulae which define the thresholds of significance and there is, therefore, a need for interpretation and judgement on the part of the assessor, backed-up by data or quantified information wherever possible. Such judgements will include the assessment of the numbers of people experiencing a change in environmental impact as well as the assessment of the damage to various natural resources.

For the purposes of this assessment, the sensitivity of the road links within the study area to changes in traffic levels will be evaluated on a scale of “low”, “medium” and “high”, based on their usage by pedestrians and cyclists and the size of communities through which the road section passes.

An EIA Chapter would then be prepared to report on all of the above.

12.WATER ENVIRONMENT

12.1 Introduction

The water environment is considered to encompass hydrology, hydrogeology and water quality, whilst coastal processes are considered to encompass tides, waves and sediment transport processes. This section of the Scoping Report will address all of these subject areas, in addition to geology. The associated interactions between the water environment, ecology and fisheries will be considered within the ecology section of this document.

The Water Framework Directive (WFD) (Council Directive 2000/60/EC) aims to protect and enhance water bodies within Europe and covers all estuarine and coastal waters out to one nautical mile. This requires that there is no deterioration in the quality of surface or groundwater bodies and aims to achieve good ecological status or potential. The implications of the WFD must be considered when assessing this project and the details of how compliance will be achieved provided in the EIA.

12.2 Baseline Conditions

12.2.1 Study Area

The proposed development site it situated at Nigg Energy Park, located on the northern shore at the mouth of the Cromarty Firth. The Cromarty Firth extends over 28km in length, and around 12km in width at its widest point. At the mouth, to the east of the development site, the firth is approximately 1.5km in width, narrowing to around 1.3km between the site and Cromarty, before widening westwards. In total the firth covers an area in excess of 78km^2.

12.2.2 Geology

The site is underlain by sandstone of the Raddery Formation, formed in a fluvial or estuary setting during the Devonian Period (383 – 393 million years ago).

Coastal superficial deposits in the vicinity of the site take the form of marine beach deposits, gravel, sand and silt formed up to 3 million years ago during the Quaternary Period. Immediately inland wind blown sand deposits are present, also of the Quaternary Period, with glacial till present further inland[22].

12.2.3 Coastal Processes

The Cromarty Firth is a glacial valley formed during the last Ice Age and subsequently flooded as a result of post-glacial sea level rise. Significant sediment deposits are present within the firth as a result of post-glacial erosion and sedimentation processes, with present day sediment processes within the firth largely relating to the re-working of this material.

[22] BGS Onshore GeoIndex (https://www.bgs.ac.uk/map-viewers/geoindex-onshore/)

Review of historical mapping[23], as well as the Dynamic Coast National Coastal Change Assessment map[24] and associated reports[25], highlights the local changes to the coastline at the development site as a result of land reclamation and hard engineering during previous phases of development. It also highlights that the coastline to the east of the development site, and on the opposite shore of the firth to the south, has remained relatively stable throughout the mapped record.

Tidal currents are low in the Inner Moray Firth, but increase in the constricted mouth of Cromarty Firth, adjacent to Nigg. A gyre exists across Nigg Bay, acting to circulate currents locally. Further west as the Cromarty Firth widens the tidal currents are generally low.

Within the Cromarty Firth the wave climate is heavily influenced by locally wind-generated waves, with south-westerly wind predominant. Some limited North Sea swell penetration into the Cromarty Firth from the Inner Moray Firth also occurs.

Previous assessments of sediment transport in the vicinity of the proposed development site indicate that sediment can move from sandbanks in the Inner Moray Firth to the Cromarty Firth episodically as a result of storm wave driven bedload transport. This material then subsequently becomes re-worked by wave action towards the shoreline, with resultant long-shore transport westwards. Average deposition rates within dredged areas in the vicinity of the development site are around 100mm/year[26].

12.2.4 Tidal Water Levels

The nearest standard port to the development site is Invergordon, situated around 8km further west within the Cromarty Firth. Tidal levels at Invergordon as presented within the Admiralty Tide Tables[27] are shown in Table 11.1. The mean tidal range at Invergordon is 3.6m during spring tides, and 1.7m during neap tides.

Table 12-1: Tidal Range at Invergordon

Tide Condition	Chart Datum (mCD)	Ordnance Datum (mOD)*
Highest Astronomical Tide (HAT)	5.0	2.9
Mean High Water Spring (MHWS)	4.3	2.2
Mean High Water Neap (MHWN)	3.3	1.2
Mean Low Water Neap (MLWN)	1.6	-0.5
Mean Low Water Spring (MLWS)	0.7	-1.4

* Height of Chart Datum (m) relative to Ordnance Datum is -2.1mOD Newlyn

Extreme sea levels have been predicted around the whole UK coastline and published by the Environmental Agency/Department for Environmental Food and Rural Affairs report[28]. These extreme levels include the effects of both tides and storm surge but not the effect of amplification within estuaries or sea lochs. In order to provide better estimates around the Scottish coastline, SEPA have updated the original estimates[29]. The SEPA derived extreme sea levels, predicted at a point adjacent to Nigg, are

[23] National Library of Scotland (https://maps.nls.uk/)

[24] The Scottish Government (2017). Dynamic Coast: Scotland's National Coastal Change Assessment. Retrieved from http://www.dynamiccoast.com/webmap.html

[25] Hansom, J.D., Rennie, A.F. & Fitton, J. M. (2017). Dynamic Coast - National Coastal Change Assessment: Cell 3 - Cairnbulg Point to Duncansby Head. CREW.

[26] Royal Haskoning DHV (2013). Nigg Energy Park: Sedimentation and Wave Modelling. Global Energy Nigg Ltd.

[27] UKHO (2019). Admiralty Tide Tables Volume 1B: United Kingdom and Ireland (Excluding Isles of Scilly, English Channel to River Humber, Channel Islands and European Channel Ports) (Vol. 1).

[28] McMillan, A., Batstone, C., Worth, D., Tawn, J., Horsburgh, K. & Lawless, M. (2011). Coastal flood boundary conditions for UK mainland and islands; Project: SC060064/TR2: Design sea levels. Bristol: Environment Agency.

[29] SEPA (2018). Scottish Coastal Flood Boundary (CFB) Dataset.

3.32m Above Ordnance Datum (AOD) for the 1 in 200 year return period event with an lower and upper confidence interval of 3.18 mAOD and 3.69 mAOD respectively.

12.2.5 Hydrology

The three main watercourses discharging to the Outer Cromarty Firth are the Balnagown River, Pollo Burn, and Fearn Canal. The Balnagown River and Fearn Canal are larger watercourses with catchment areas in excess of 50km^2. All three are classified waterbodies under the Water Framework Directive (WFD) monitoring programme[30].

The River Conon represents the largest watercourse discharging to the wider Cromarty Firth, joining the firth near Dingwall at the western extremity, with a contributing catchment in excess of 1,000km^2.

There are no watercourses located within the Site boundary and no direct impacts on surface watercourses are anticipated.

Overall, the inflow of freshwater remains insignificant relative to the much larger volume of seawater exchanged within the Cromarty Firth.

12.2.6 Water Quality

The waters of the Outer Cromarty Firth are classified under the WFD monitoring programme as a transitional waterbody. The waterbody is classified as being of overall 'Good' status in 2020, with a physico-chem status of 'High' and a hydromorphology status of 'Good'.

12.2.7 Designated Sites

The following designated sites, with designations associated to the water environment, soils and coastal processes contents of this EIAR, are located within 2km of the proposed development:

- The proposed development is within 500m of the Moray Firth Special Area of Conservation (SAC), which has been selected for its bottlenose porpoise and subtidal sandbanks interests.
- The proposed development is within 650m of the Cromarty Firth Site of Scientific Special Interest (SSSI), which has been selected for its breeding and non-breeding birds and mudflats, and within 900m of the Rosemarkie to Shandwick Coast SSSI for earth sciences, coast and breeding birds.
- The proposed development is within 650m of the Cromarty Firth Special Protection Area (SPA), which has been selected for its breeding and non-breeding birds interests.
- The proposed development is within 650m of the Cromarty Firth Special Protection RAMSAR Site, which has been selected for its breeding and non-breeding birds and intertidal mudflats and sandflats interests.

12.2.8 Flood Risk

The proposed development is situated within the 1 in 200 year return period coastal flood extent as shown on the SEPA flood map. As detailed above, the 1 in 200 year coastal flood level is 3.32mAOD.

[30] SEPA Water Classification Hub (https://www.sepa.org.uk/data-visualisation/water-classification-hub/)

12.3 Potentially Significant Effects (Construction)

The proposed development will involve construction activities in and near the water environment, including removal of existing rock armour and construction of new quay wall. The key potential environmental impacts on the water environment and coastal processes during construction and operation have been identified and are outlined below:

- Potential changes in the local coastal processes, including tidal currents, wave climate and sediment transport;
- Potential changes in local drainage;
- Potential contamination of coastal water and sediments through spillages and/or sediment transfer (oil, fuels and suspended solids); and
- Potential interactions between water environment and coastal process impacts and associated ecology and environmental designations.

Potentially significant effects arising from the post-completion phase (i.e. once the development has been built) are likely to arise from the same potential impacts as highlighted above.

12.4 Inclusion or Exclusion from EIA

The nature of the proposed works raises the potential for impacts on the local water environment and coastal processes, including tidal current, wave action, and associated sediment transport processes. However, the proposed works are limited to the existing East Quay Inner Dock area with any impacts likely limited to the existing graving dock. The development site is also subject to existing hard engineering.

The proposed is both similar in character, and in close proximity to the previous East Quay development. It is also in close proximity to other similar developments, including the South Quay and West Finger Jetty. As such, technical assessments of likely impact to coastal processes resulting from these developments are relevant to the future assessment of impact of the proposed development. It is proposed to scope in the qualitative assessment of impact to coastal processes including sediment transport, informed in part by the existing findings of technical assessments and modelling undertaken for these previous developments.

Assessment of the potential for particulate and chemical contamination of the water environment will be central to the EIA. The prevention of pollution during construction and operational phases will be a specific focus, and recommendations will be made for the adoption of good working practices, including suitable drainage measures in line with appropriate guidance. Details of existing and proposed drainage measures will be included within the EIA.

The EIA will include an assessment of impact to WFD status of the associated waterbodies, particularly the Outer Cromarty Firth.

Whilst the development is situated within the 1 in 200 year coastal flood extent as shown by the SEPA flood map, the development represents a water compatible use, and requires to be located within this flood zone for operational reasons.

As noted above and within the SEPA pre-application response, the estimated 1 in 200 year coastal flood level in the vicinity of the proposed development is 3.32mAOD. Finished development platform levels will therefore be as a minimum 3.92mAOD, allowing for a suitable 600mm freeboard to account for modelling uncertainties. It is considered that the development will have negligible impact on coastal flood

levels as the new quay wall will be within the footprint of the existing revetment. In light of the above it is proposed to scope out further assessment of flood risk within the EIA.

12.5 Assessment Methodology

The assessment will follow standard EIA procedures and will include:

- Desk based review of the proposed development and surrounding water environment;
- Consultation with key stakeholders to obtain relevant information and ensure their concerns are addressed within the EIAR;
- Establish baseline conditions:
    - Review of coastal processes including bathymetry, tidal currents, wave action, seabed sediment and sediment transport;
    - Review of hydrology, water quality and drainage;
    - Review of geology and soils on site; and
    - Reporting of baseline conditions to help inform potential impacts from the development.
- Carry out an EIA assessment:
    - Identify potential sensitive environmental receptors and environmental constraints;
    - Identify any potential impacts and impact significance;
    - Identification and assessment of appropriate mitigation measures to reduce and avoid any potential impacts of the proposed development; and
    - Statement of residual impacts.

Baseline data will be used along with expert opinions to qualitatively assess the potential impacts of the proposed development and the significance to receptors. The potential impacts will be evaluated in comparison with water quality standards and objectives, environmental quality standards and sediment quality standards.

13.CONCLUSIONS

The conclusions of the detailed scoping appraisals identified that the topic areas listed below are considered to merit a full impact assessment and thereby documented within an EIAR.

- Airborne Noise
- Biodiversity;
- Climate Change;
- Transport and Traffic; and
- Water Environment.

On the basis of professional judgement and the findings of the scoping appraisal, full EIA's are not considered necessary for the following topics, however supporting statements and information will be provided for each topic within the introductory chapters of the EIAR:

- Accidents and Natural Disasters;
- Air Quality;
- Archaeology and Cultural Heritage;
- Population and Human Health; and
- Seascape, Landscape and Visual

The Highland Council Guidance Note[31], considered a standard throughout Scotland, sets out a robust Environmental Management Process that incorporates the findings of the EIAR as well as other requirements from consents, licenses, legislation and best practise. It is proposed that a Construction Environmental Management Document and Plans (CEMD and CEMPs) be developed in accordance with this Guidance Note so as to provide site specific practical mitigation measures to ensure that during the construction phase the environment is protected.

The CEMD and associated CEMP's would be working documents which would be updated throughout the construction phase of the project. It would also provide a clear roadmap of the key roles and responsibilities during construction works. An Environmental Manager would be identified who would be responsible for the implementation of the CEMD and associated CEMPs, ensuring that all agreed measures are applied and adhered to.

Note: The CEMD and associated CEMPs would be finalised on receipt of Planning / Marine Consent and would aid discharge of planning/marine license conditions.

[31] The Highland Council Guidance Note – Construction Environmental Management Process for Large Scale Projects, dated August 2010.

14.GLOSSARY

AOD	Above Ordnance Datum
AQ	Air Quality
BGS	British Geological Survey
BPEO	Best Practicable Environmental Option
CD	Chart Datum
CEMD	Construction Environmental Management Document
CEMP	Construction Environmental Management Plan
CIEEM	Chartered Institute of Ecology and Environmental Management
ECoW	Ecological Clerk of Works
EHD	Environmental Health Department
EHO	Environmental Health Officer
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
EIA Regulations	Town & Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017
EnvCoW	Environmental Clerk of Works
GHG	Greenhouse Gas
Ha	Hectares
HGV	Heavy Goods Vehicles
IEF	Important Ecological Features
IEMA	Institute of Environmental Management and Assessment
IES	Institute of Environmental Science
IMO	International Maritime Organisation
JNCC	Joint Nature Conservation Committee
mAOD	Metres Above Ordnance Datum
MD-LOT	Marine Directorate Licensing Operations Team
Marine EIA Regulations	Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017
MMPP	Marine Mammal Protection Plan
MMO	Marine Mammal Observer
mNNIS	Marine Non Native Invasive Species
MWHS	Mean Water High Springs
NVC	National Vegetation Classification
NTS	Non-Technical Summary
O&M	Operations & Maintenance
PAC	Pre-Application Consultation Report
PEA	Preliminary Ecological Appraisal
PMF	Priority Marine Features
PPG	Pollution Prevention Guidance
RAMS	Risk Assessments and Method Statements
RBMP	River Basin Management Plan
SAC	Special Area of Conservation
SPA	Special Area of Protection
SBL	Scottish Biodiversity List
SDWQ	Scapa Deep Water Quay
SEPA	Scottish Environmental Protection Agency
SLVIA	Seascape, Landscape & Visual Impact Assessment

SPA	Special Area of Protection
SPMT	Self-Propelled Modular Transporter
SSSI	Sites of Special Scientific Interest
SUDS	Sustainable Urban Draining System
SWMP	Site Waste Management Plan
WFD	Water Framework Directive
WSI	Written Scheme of Investigation
ZOI	Zone of Influence
ZTV	Zone of Theoretical Visibility

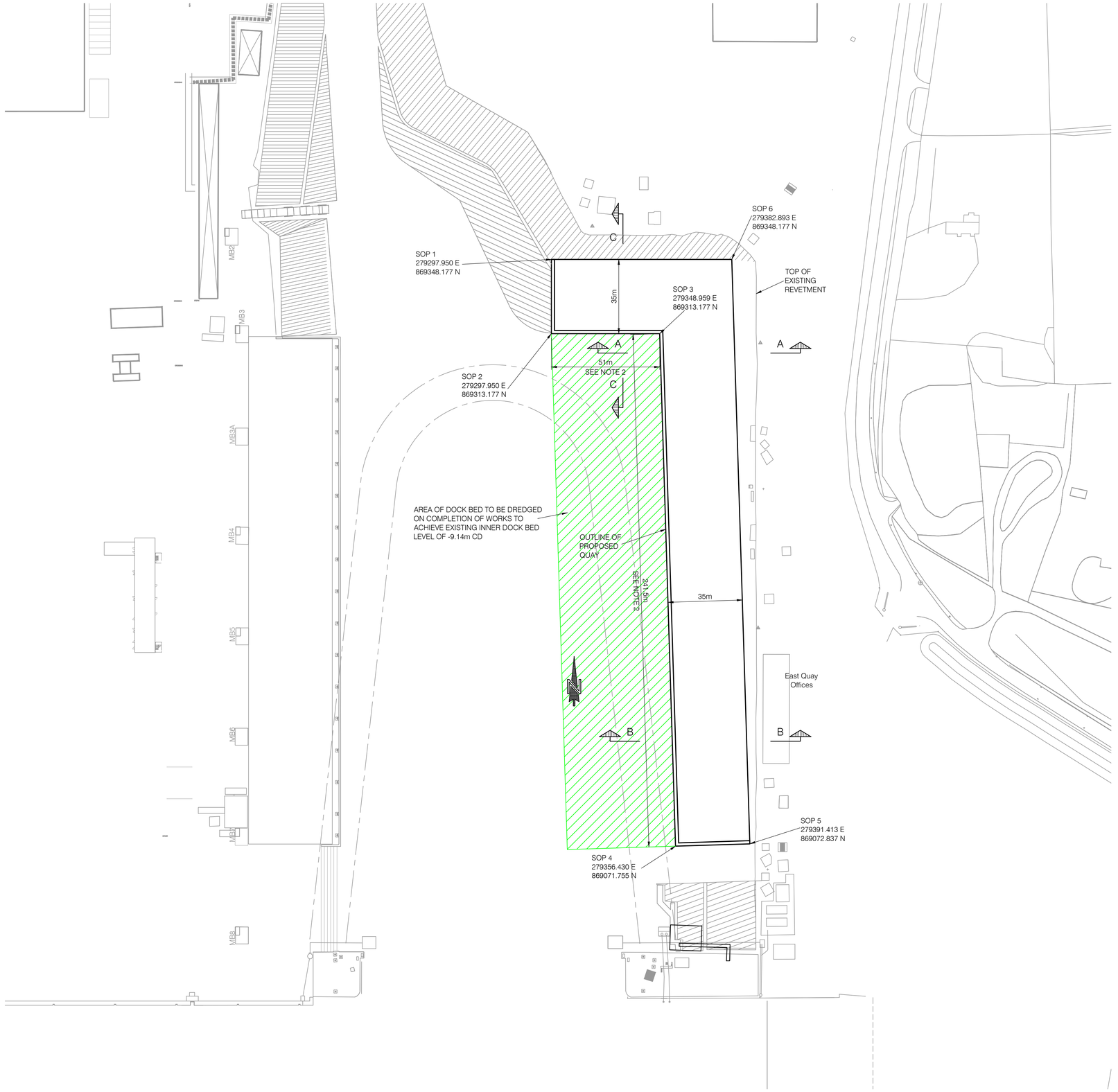
APPENDICES

A DRAWINGS

NOTES

1. FOR DETAILS OF ILLUSTRATIVE SECTIONS A-A, B-B & C-C REFER TO DRAWING NUMBERS 225083/007 & 008.

2. STATED DIMENSIONS ARE BASED ON THE ILLUSTRATIVE DESIGN DETAILS. THE MINIMUM DIMENSIONS THAT THE CONTRACTOR MUST PROVIDE ARE 50m (NORTH FACE) AND 240M (EAST FACE).



REV	DATE	REVISION DESCRIPTION	DRN	VER

Arch Henderson 1919

Civil Engineers
Structural Engineers
Principal Designers
Architects
Geotechnical services
Environmental services

142 St. Vincent Street, Glasgow G2 5LA.
Tel : 0141 227 3060 - Fax : 0141 248 9542
www.arch-henderson.co.uk - email : glasgow@arch-henderson.co.uk

Offices in : Aberdeen, Dundee, Falkland Islands, Glasgow, Inverness, Lerwick, Southampton, Stromness and Thurso

PROJECT : NIGG ENERGY PARK — INNER DOCK EAST QUAY DEVELOPMENT

TITLE :
DEFINITION DRAWING
PROPOSED LAYOUT

DRAWN :	DATE :	VERIFIED :	APPROVED :
W.J.	18/04/2023	M.S.	M.S.

SCALE : (A1)	DRAWING STATUS :
1 : 1000	FOR TENDER

DRAWING No : 225083/004 REV : /

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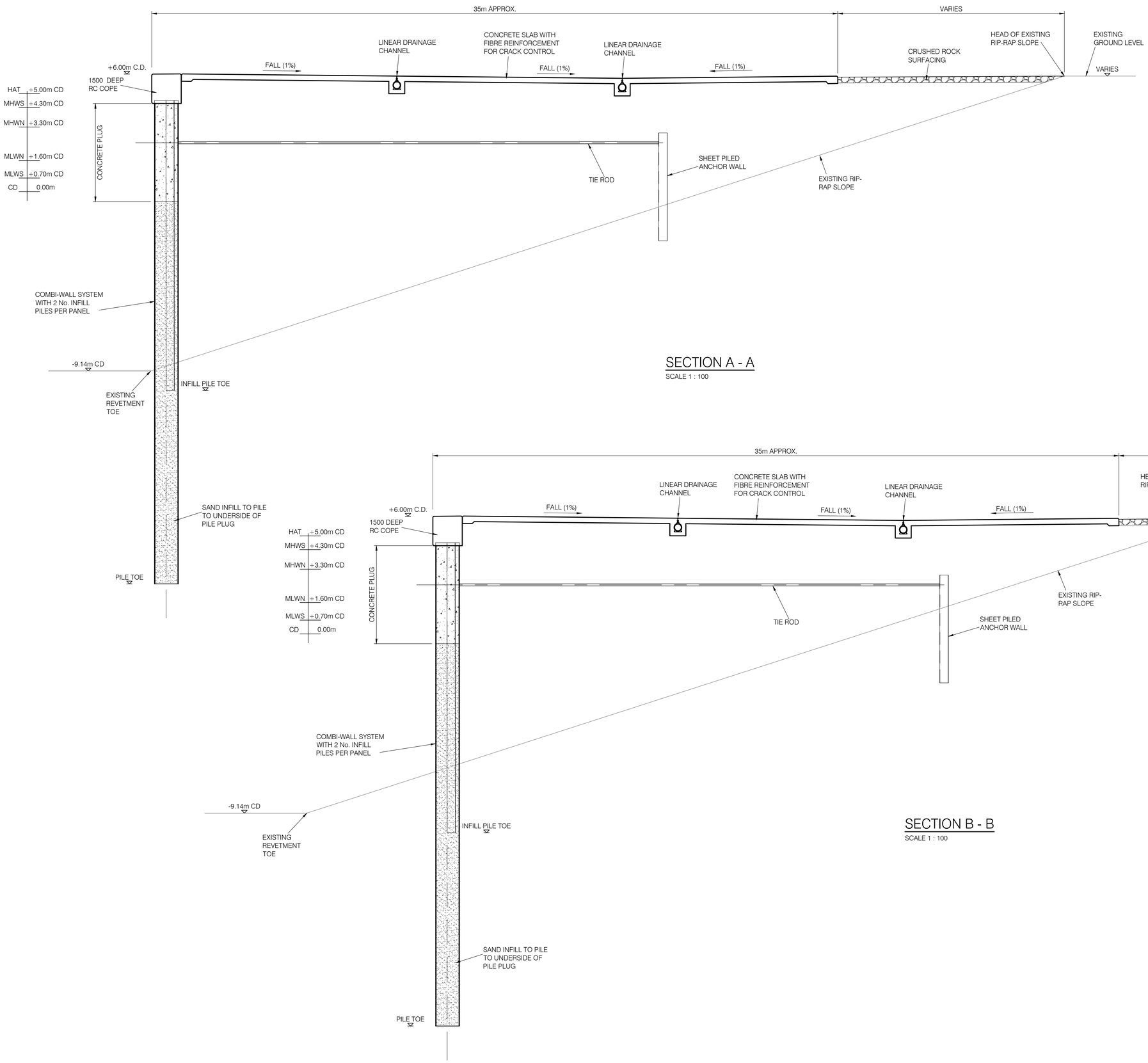

SECTION A - A

SCALE 1 : 100

SECTION B - B

SCALE 1 : 100

NOTES

1. ALL DIMENSIONS IN MILLIMETRES UNLESS NOTED OTHERWISE.
2. ALL LEVELS IN METRES RELATIVE TO CHART DATUM UNLESS NOTED OTHERWISE.
3. AN ALLOWANCE OF 250kg PER m^3 OF CONCRETE IS TO BE ASSUMED FOR COPE REINFORCEMENT.
4. FOR LOCATION OF SECTIONS A - A & B - B REFER TO DRAWING NUMBER 225083/004.

REV	DATE	REVISION DESCRIPTION	DRN	VER

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Structural Engineers
Principal Designers
Architects
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Environmental services
142 St. Vincent Street, Glasgow G2 5LA
Tel : 0141 227 3060 - Fax : 0141 248 9542
www.arch-henderson.co.uk - email : glasgow@arch-henderson.co.uk
Offices in : Aberdeen, Dundee, Falkland Islands, Glasgow, Inverness, Lerwick, Southampton, Stromness and Thurso

PROJECT : NIGG ENERGY PARK — INNER DOCK EAST QUAY DEVELOPMENT

TITLE : ILLUSTRATIVE DRAWING SECTIONS A - A & B - B

DRAWN :	DATE :	VERIFIED :	APPROVED :
W.J.	18/04/2023	M.S.	M.S.

SCALE : (A1)	DRAWING STATUS :
AS SHOWN	FOR TENDER

DRAWING No : 225083/008 REV : /

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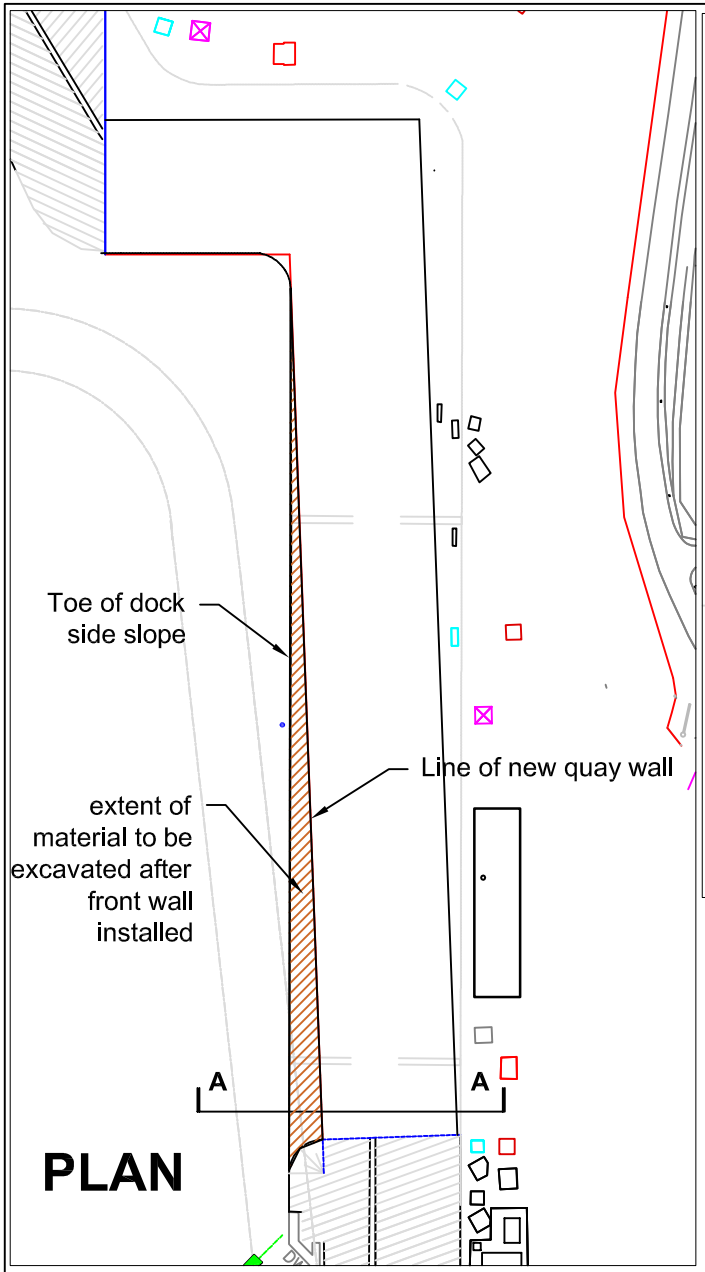
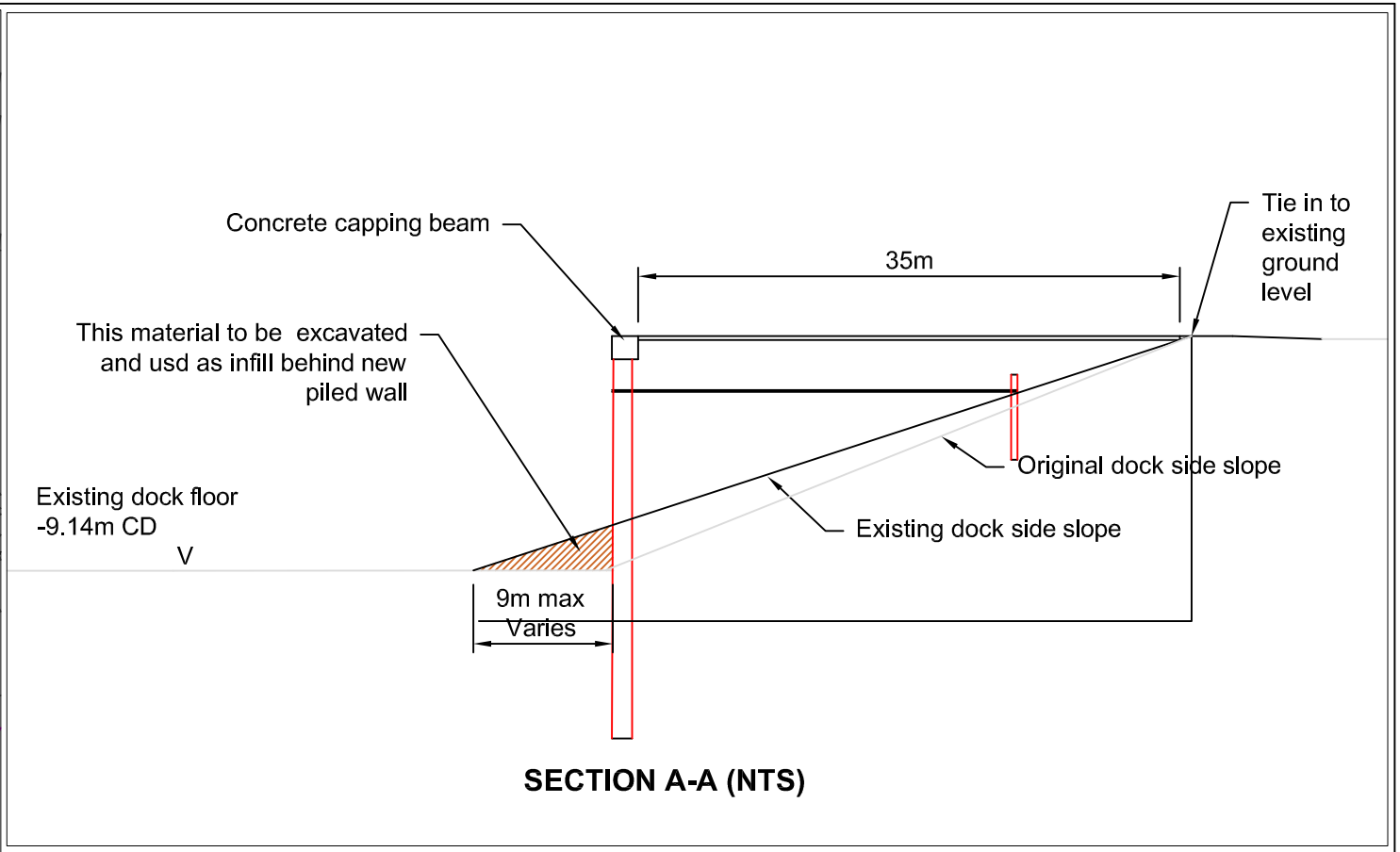




SECTION A-A (NTS)

NOTES

1. ARUP were engineers for the design of the present dock side slope. The work was undertaken in 1997.
2. The ARUP as built drawings show that the previous side slope was steeper and was entirely overlain by new material. As a result the toe of the side slope is now further west by at least 8m
3. The material to be excavated outside the proposed piled wall was all placed around 1997 and is stated as being a layer of crushed rock 500mm thick over geotextile placed on sand

REV	DESCRIPTION	BY	CHKD	DATE
–	–	–	–	–

GLOBAL ENERGY NIGG Ltd
PART OF THE GLOBAL ENERGY GROUP

NIGG ENERGY PARK

TITLE
INNER DOCK EAST QUAYS
Dredging Extent

DRAWING NUMBER
IDEQ-SRI-1050

DRAWN BY	DATE DRAWN	SCALE	REV
S R Innes	22-02-23	NTS	00

Legend

Project Boundary

Do not scale this map

Client
Global Energy Nigg Limited

Project
Eastern Inner Dock Quay

Title
Site Location

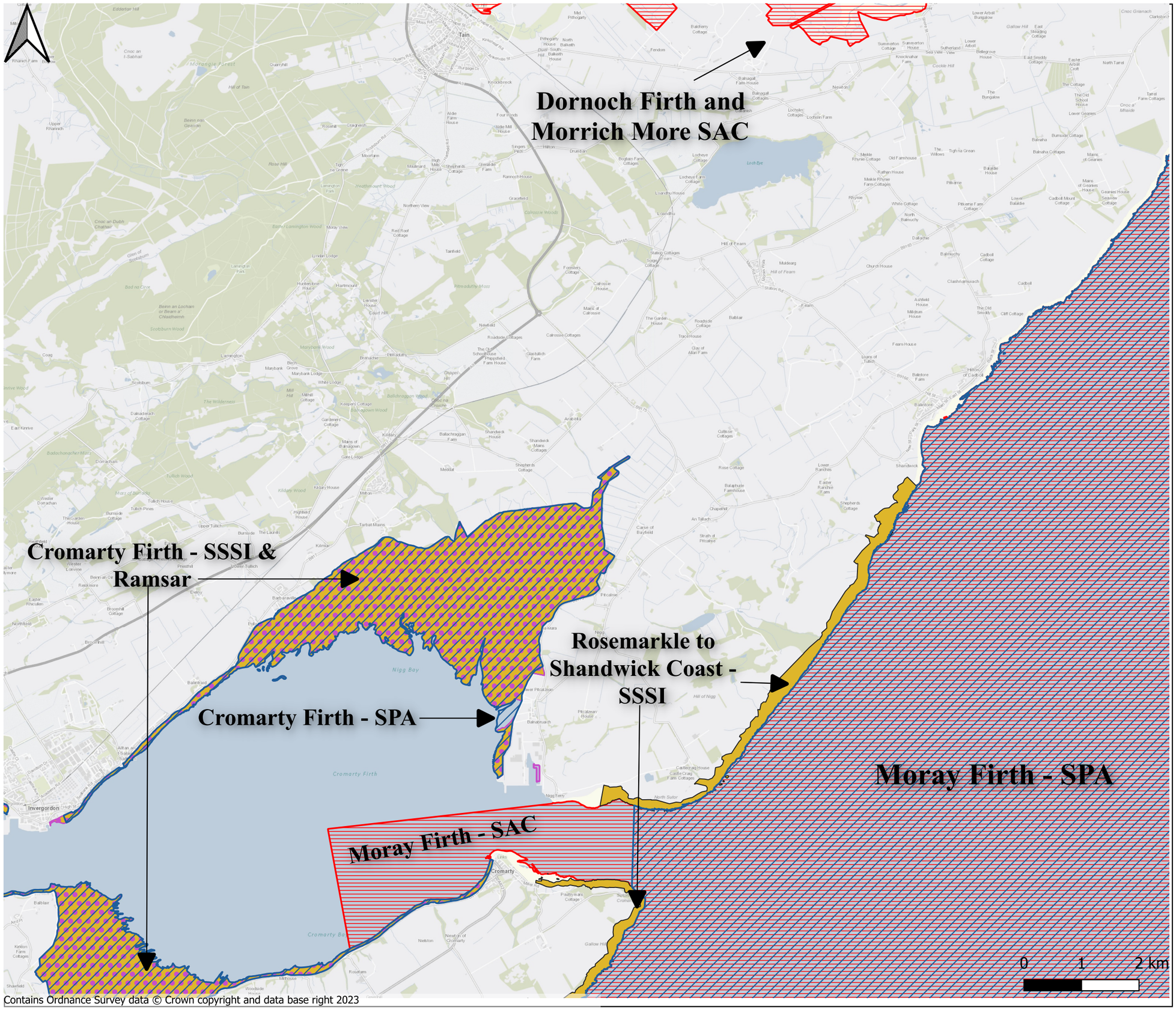
Status
FINAL

Drawing No.	Revision	Date
677964-GIS007	-	13 12 2023
Drawn	**Checked**	**Approved**
JSH	EC	EC

Scale
1:22,670 @ A3

Rev	Date	Amendment	Initials
-	-	-	-

envirocentre
8 Eagle Street, Craighall Business Park, Glasgow, G4 9XA.
T: 0141 341 5040 E: info@envirocentre.co.uk
W: www.envirocentre.co.uk



Legend

- Project Boundary
- Special Protection Areas
- Ramsar Wetlands
- Sites of Special Scientific Interest
- Special Areas of Conservation

Do not scale this map

Client
Global Energy Nigg Limited

Project
Eastern Inner Dock Quay

Title
Environmental Designations

Status
FINAL

Drawing No.	Revision	Date
677964-GIS008	-	13 12 2023
Drawn	**Checked**	**Approved**
JSH	EC	EC

Scale
1:64,042 @ A3

Rev	Date	Amendment	Initials
-	-	-	-

envirocentre
8 Eagle Street, Craighall Business Park, Glasgow, G4 9XA.
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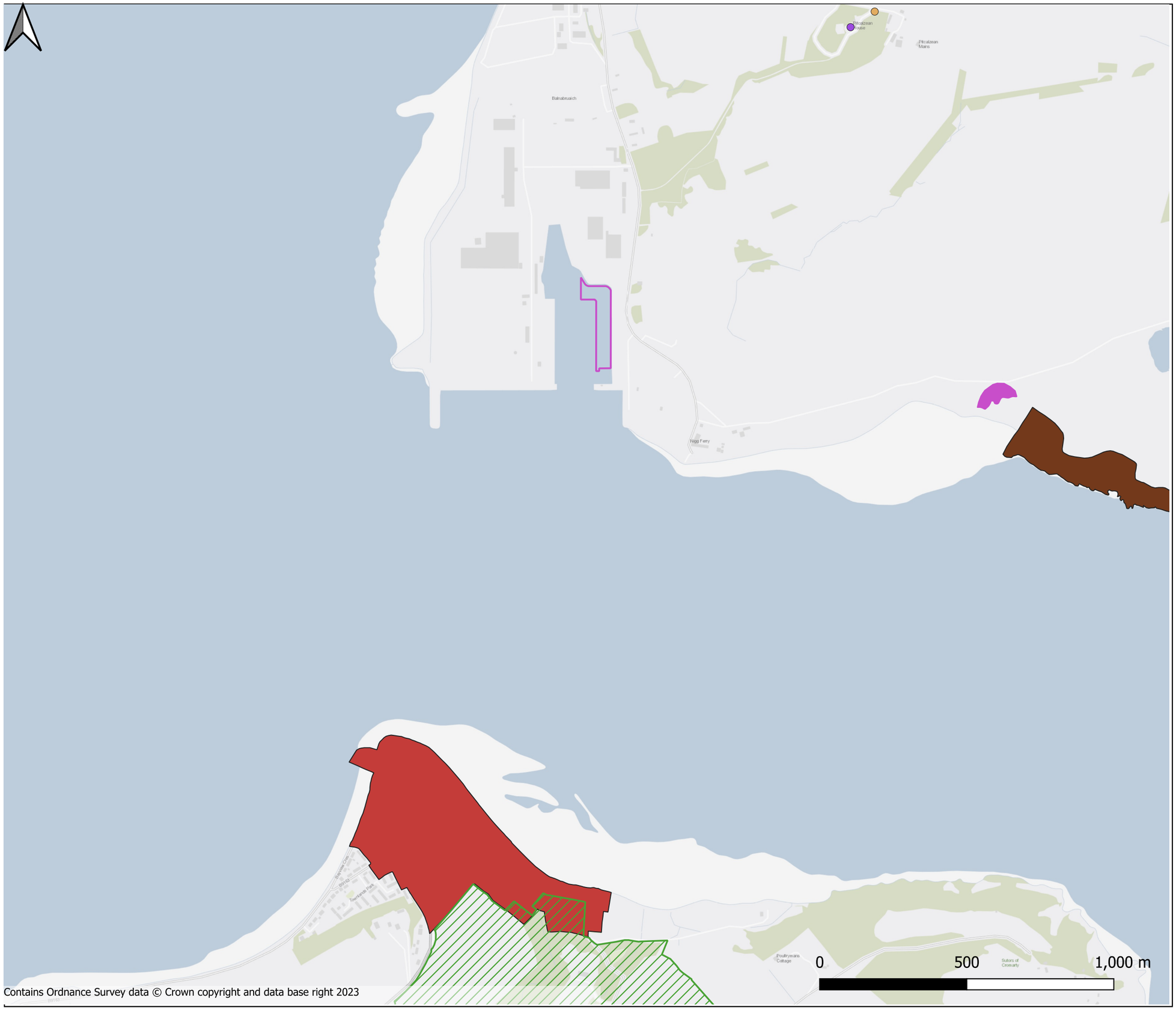

Legend

- Project Boundary
- Geological Conservation Review Sites
- Listed Building Category B
- Listed Building Category C
- Scheduled Monuments
- Garden and Landscape
- Conservation Areas

Do not scale this map

Client
Global Energy Nigg Limited

Project
Eastern Inner Dock Quay

Title
Cultural Heritage and Geological Designations

Status
FINAL

Drawing No.	Revision	Date
677964-GIS009	-	13 12 2023
Drawn	**Checked**	**Approved**
JSH	EC	EC

Scale
1:12,525 @ A3

Rev	Date	Amendment	Initials
-	-	-	-

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House of The Geanies

Balnagown Castle

Project Site

Cromarty House

Sutors of Cromarty, Rosemarkie and Fort George

The Fairy Glen

0 2.5 5 km

Legend

- 5 km Buffer
- 10 km Buffer
- Project Boundary
- Special Landscape Areas
- Gardens and Designed Landscapes

Do not scale this map

Client
Global Energy Nigg Limited

Project
Eastern Inner Dock Quay

Title
SLV Designations

Status
FINAL

Drawing No.	Revision	Date
677964-GIS010	-	14 12 2023
Drawn	**Checked**	**Approved**
JSH	EC	EC

Scale
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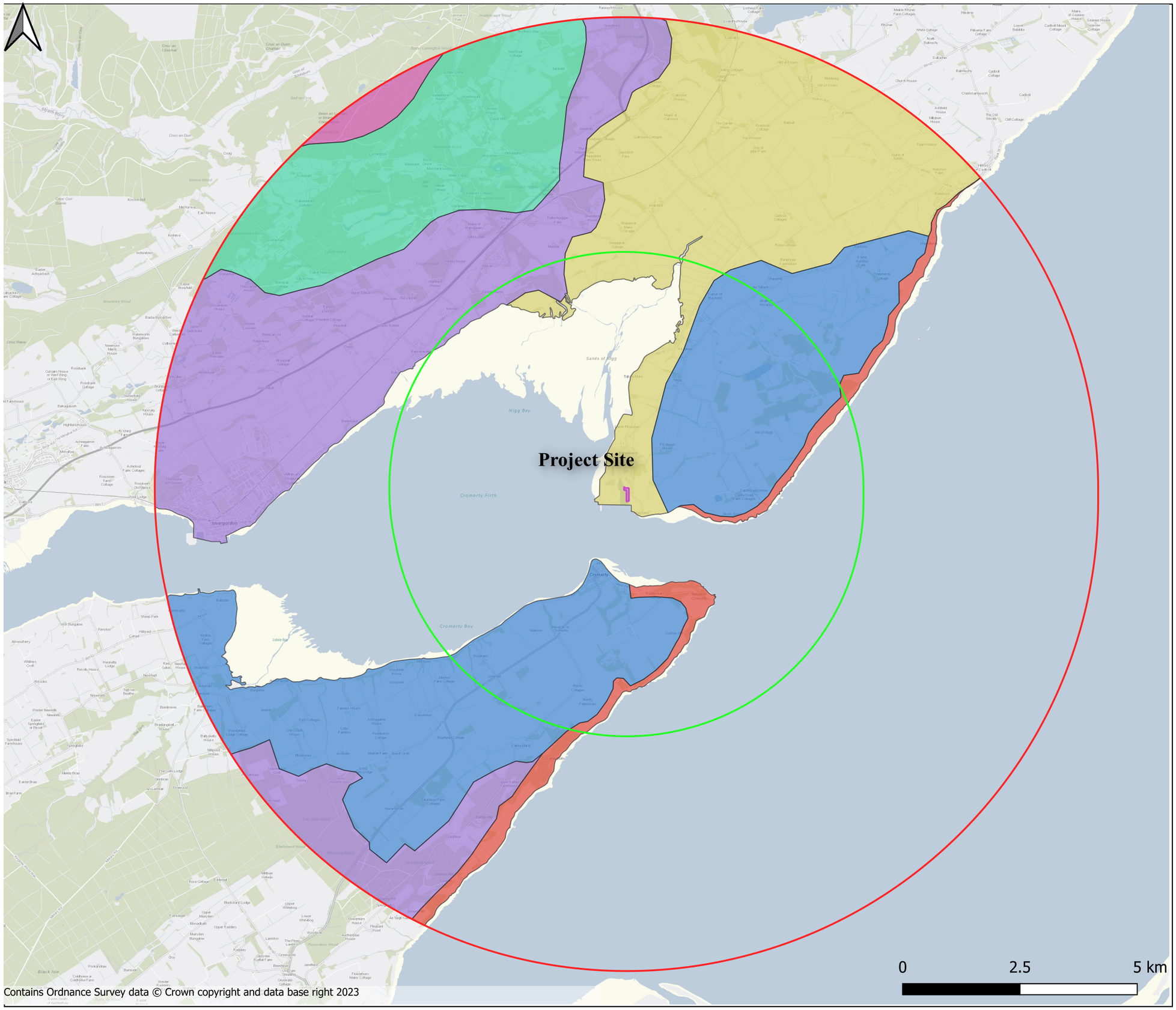

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Legend

- 5 km Buffer
- 10 km Buffer
- Project Boundary
- Cliffs and Rocky Coasts - Ross & Cromarty
- Farmed and Forested Slopes - Ross & Cromarty
- Forest Edge Farming
- Lowland Farmed Plain - Ross & Cromarty
- Open Farmed Slopes
- Rounded Hills and Moorland Slopes - Ross & Cromarty

Do not scale this map

Client
Global Energy Nigg Limited

Project
Eastern Inner Dock Quay

Title
Landscape Character

Status
FINAL

Drawing No.	Revision	Date
677964-GIS011	-	14 12 2023
Drawn	**Checked**	**Approved**
JSH	EC	EC

Scale
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Legend

- 5 km Buffer
- Project Boundary
- Cromarty Bay
- Cromarty Coast
- Nigg Bay
- North Sutor
- Northern Outer Firth
- Southern Outer Firth

Do not scale this map

Client
Global Energy Nigg Limited

Project
Eastern Inner Dock Quay

Title
Coastal Character

Status
FINAL

Drawing No.	Revision	Date
677964-GIS012	-	14 12 2023
Drawn	**Checked**	**Approved**
JSH	EC	EC

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Rev	Date	Amendment	Initials
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B MAJOR DEVELOPMENT PRE-APPLICATION MEETING NOTE

The Highland Council
Comhairle na Gàidhealtachd

PRE-APPLICATION ADVICE FOR MAJOR DEVELOPMENTS

Reference no:	23/02299/PREMAJ	**Date of Issue**:	11th July 2023
Proposal:	Engineering works to form new berthing quay on the East side of the Inner Dock at the Port of Nigg	**Address:**	Land 430M NW Of Nigg Welding School Nigg Tain
Case officer:	Gillian Pearson	**Email and phone no:**	gillian.pearson@highland.gov.uk
Confidentiality Requested	Yes		

This pre-application advice has been specifically prepared for Mabbett & Associates Ltd as the applicant and Mabbett & Associates Ltd as the agent for the proposed development at Land 430M NW Of Nigg Welding School, Nigg

Description of proposal	
Engineering works to form new berthing quay on the East side of the Inner Dock at the Port of Nigg	
Summary of Key Issues	
Based on the information provided, the principle of development is considered to be broadly acceptable. The key considerations in the assessment of any will be: • Ensuring designated sites are satisfactorily protected; • Compliance with NPF4 including with respect to biodiversity • Addressing and mitigating amenity issues particularly noise during construction and operation • Consideration of the transport requirements generated, including construction traffic and by employees, in line with the sustainable travel and investment hierarchies • Addressing the requirements of the National Marine Plan	
Background Information	
Site Area	**1.6 hectares**
Land Ownership	**Global Energy Ltd**
Existing Land Uses	**Graving Dock**

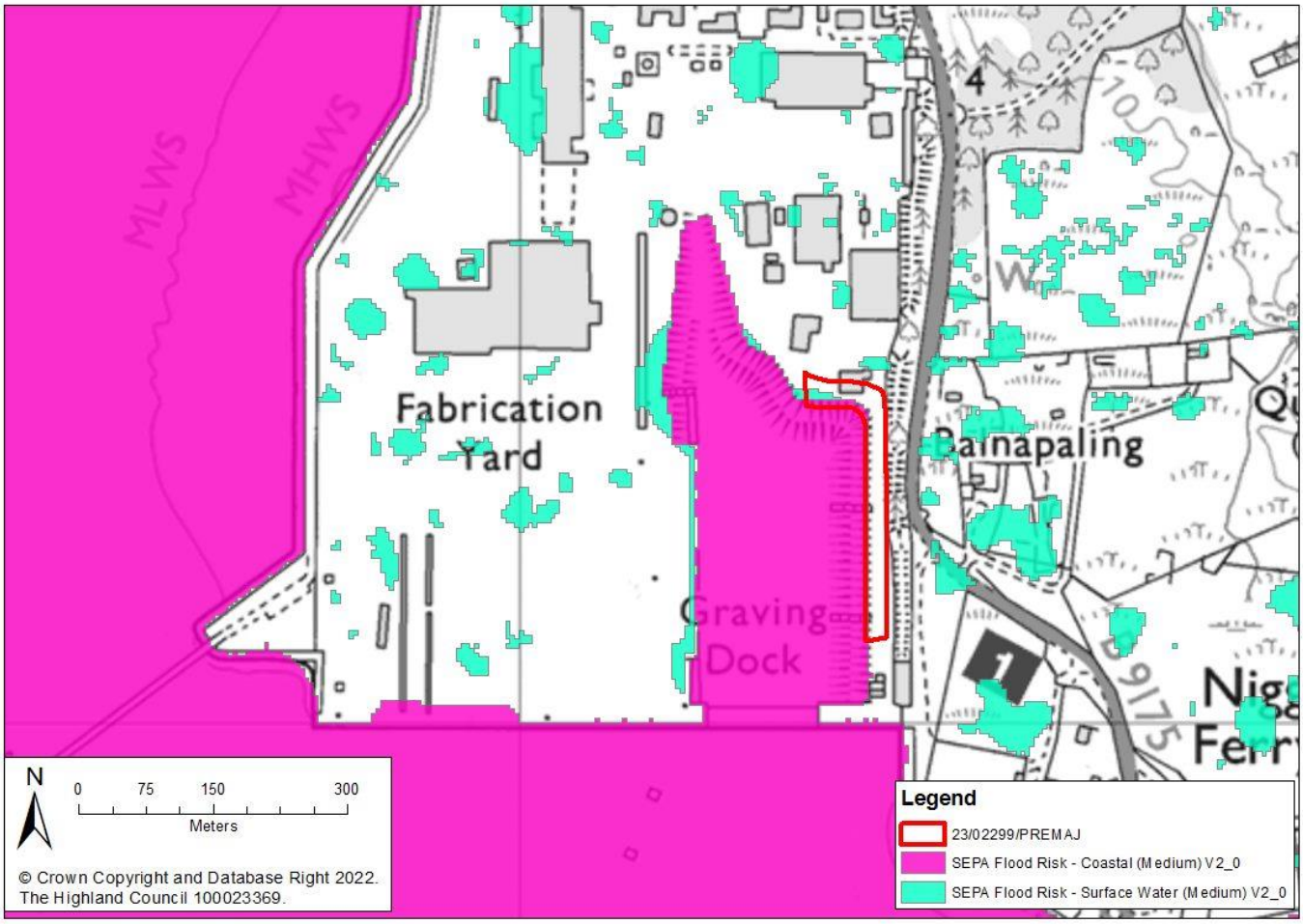
Grid Reference	**279399 (E)**	**869247 (N)**

Consents Required

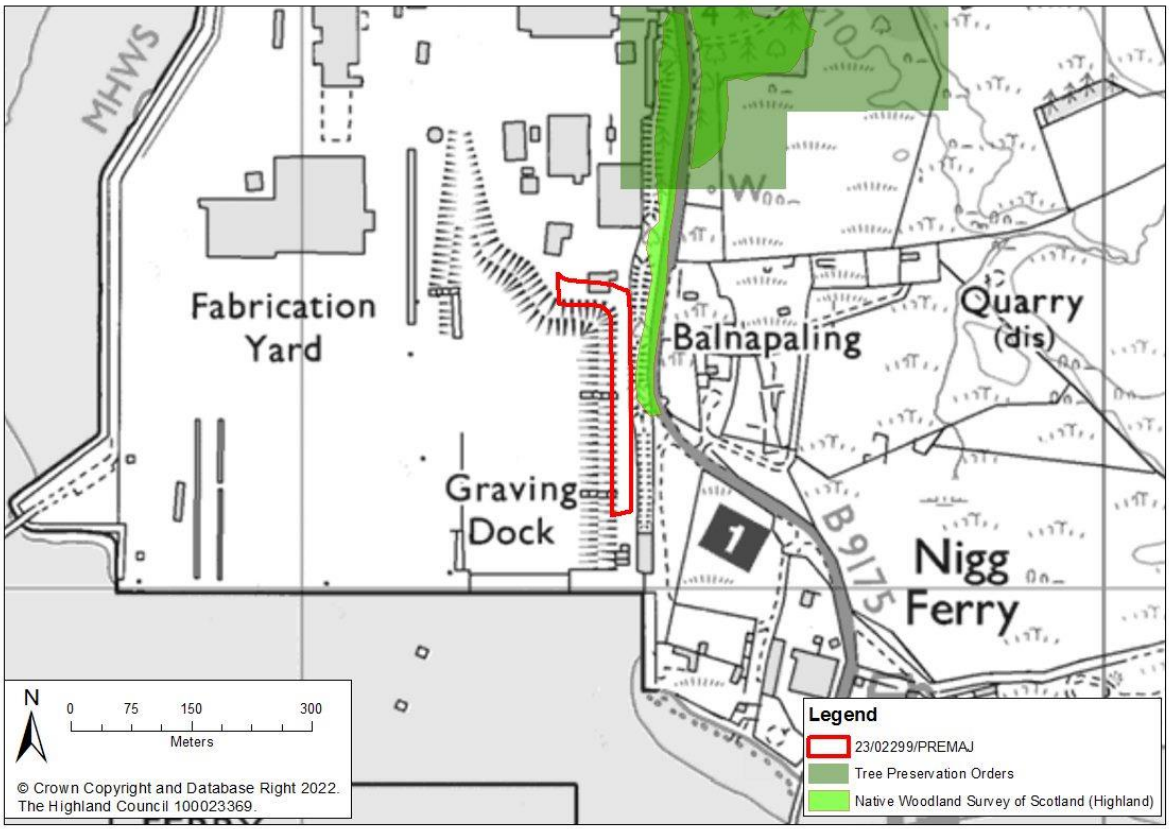
You are advised that the following consent(s) will be required for the proposed development:
Planning Permission
Marine Licence (TBC with Marine Scotland)

Site Constraints Map

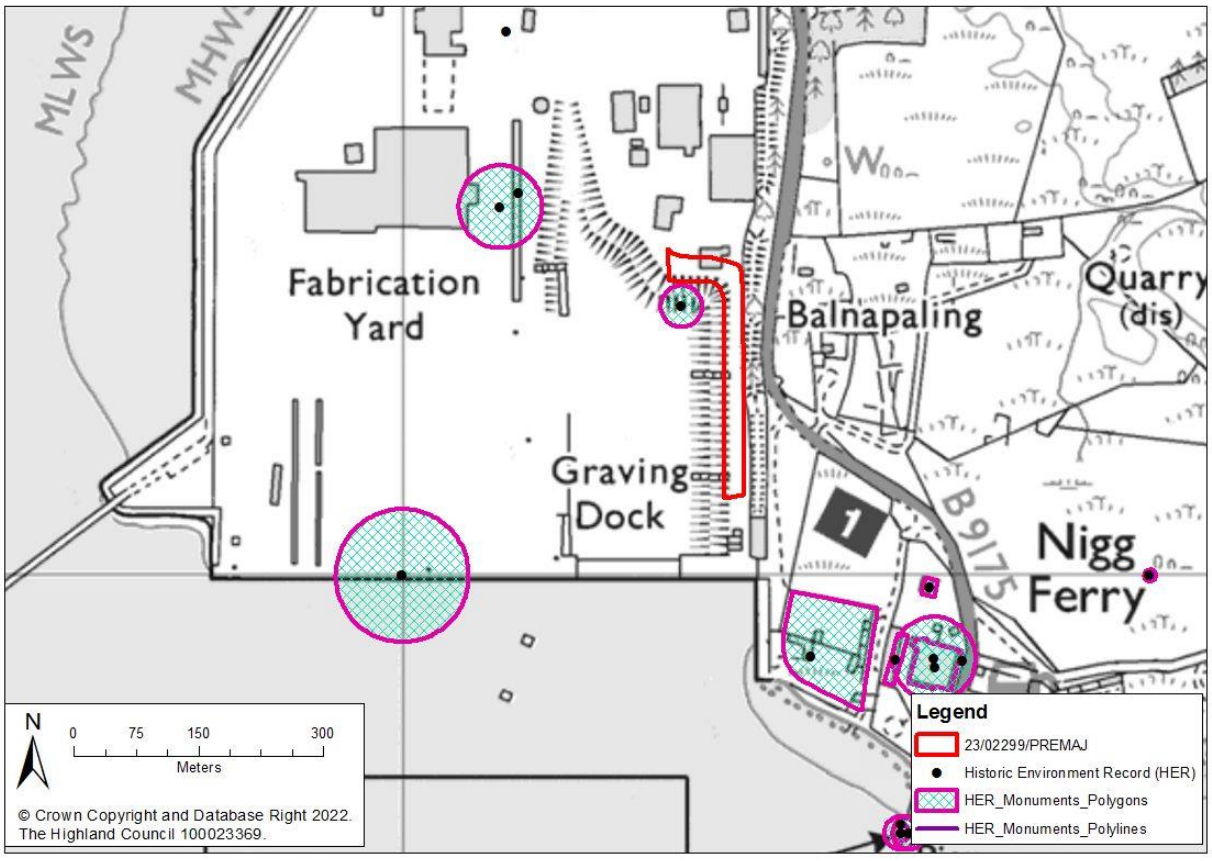
Flood Risk



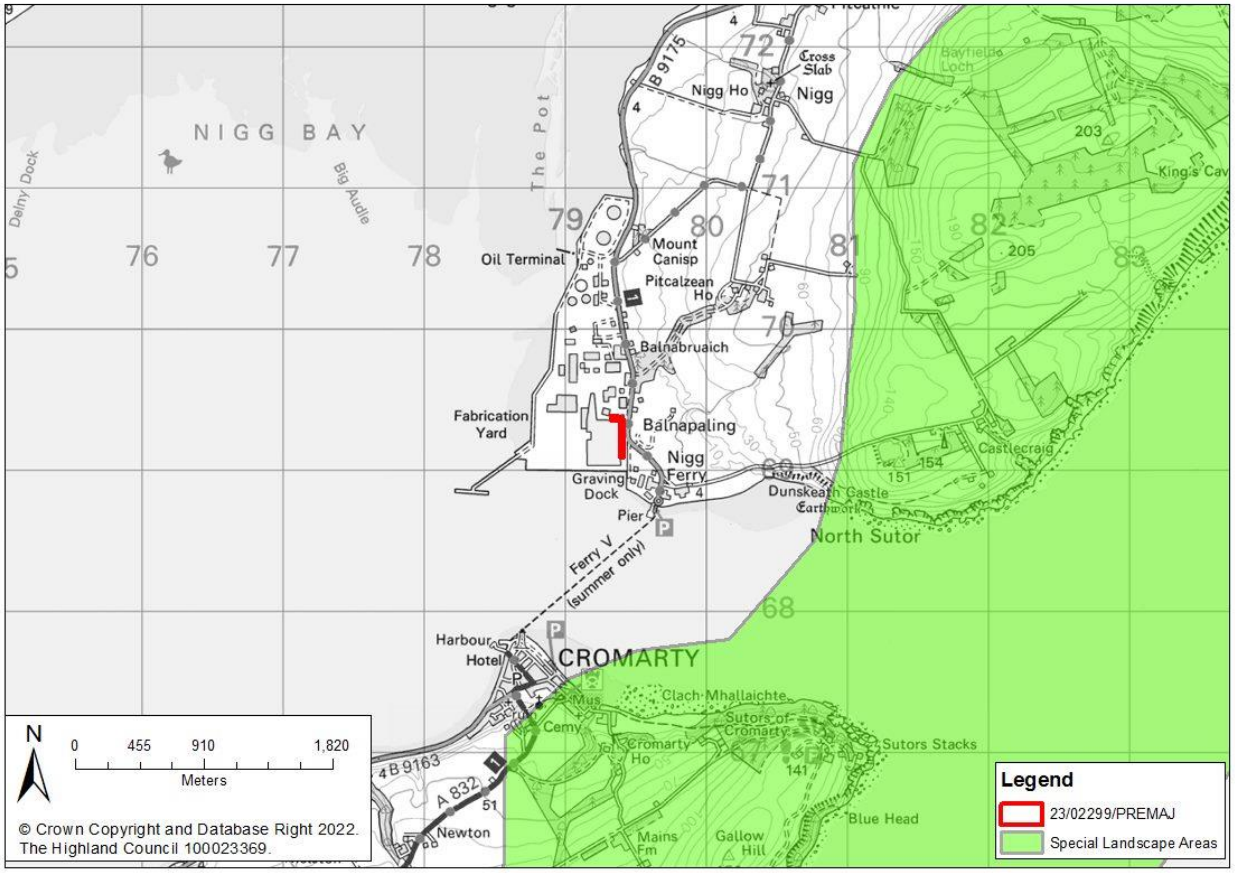
Forestry



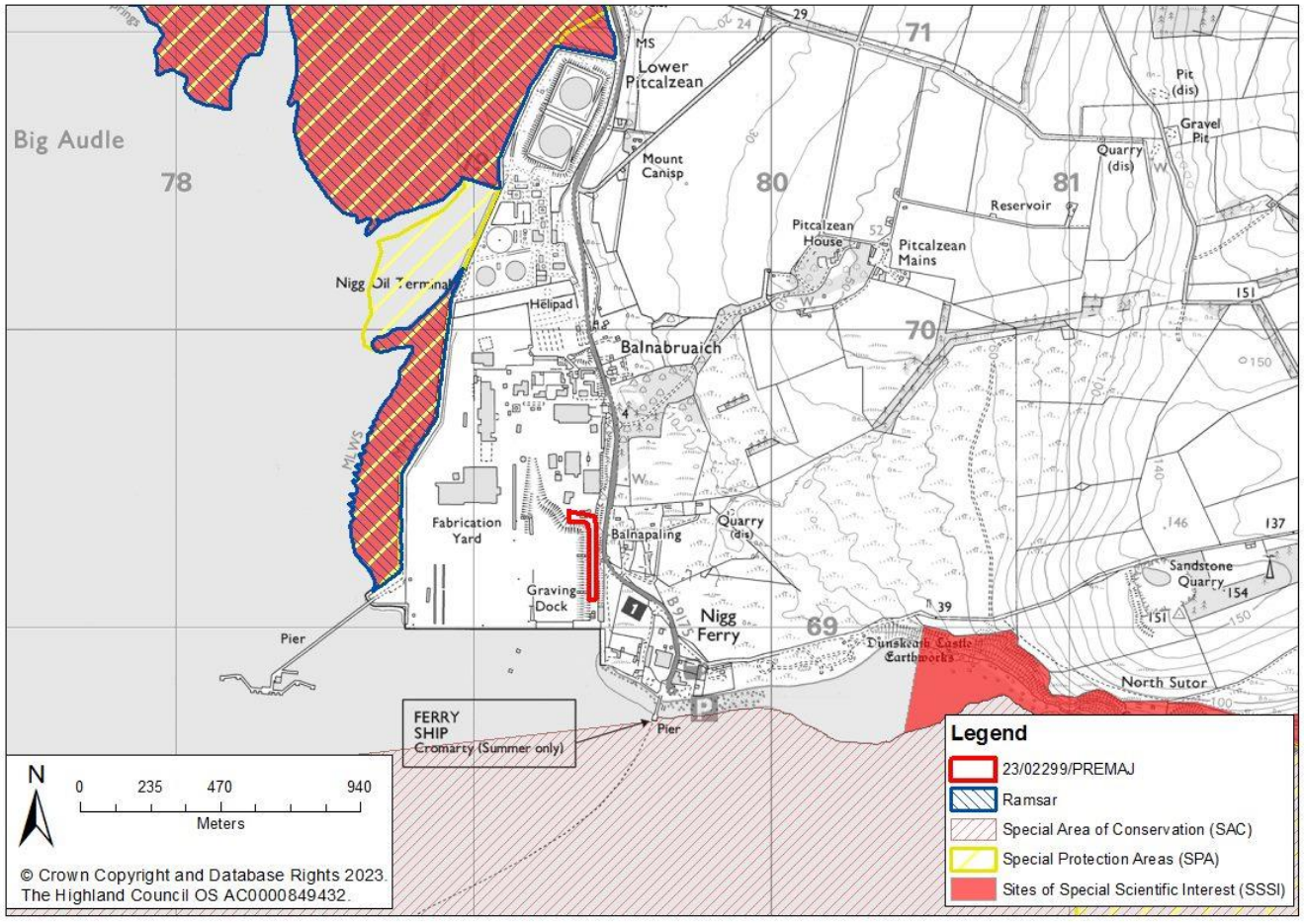
Historic Environment



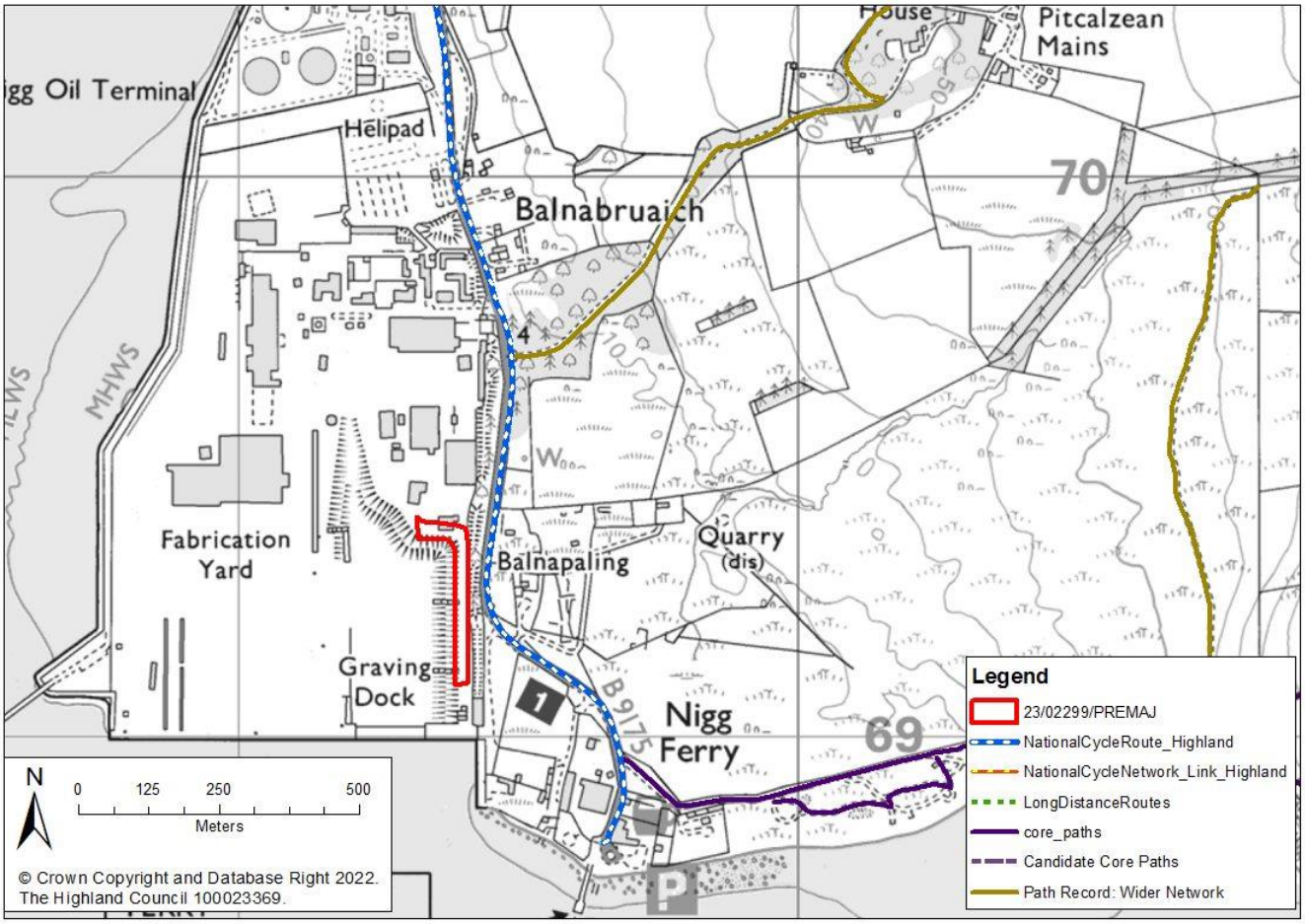
Landscape



Natural Heritage



Outdoor Access



Supporting Information Requirements			
Abnormal Load Assessment	x	Open Space Strategy	
Access Management Plan		Operational Noise Assessment	X
Arboricultural Impact Assessment		Peat Management Plan	
Archaeological Site Investigations		Planning Statement	
Assessment of Impact on Historic Environment		Pre-Application Consultation Report	
Aviation Impact Assessment		Private Water Supplies/Mitigation scheme	
Borrowpit Management Plan		Protected Habitat Survey	X
Carbon Balance Assessment		Protected Species Survey	X
Compensatory Planting Plan		Restoration / Decommissioning Plan	
Construction Noise Assessment	X	Retail Impact Assessment	
Construction Traffic Management Plan	X	Schedule of Mitigation	X
Contaminated Land Report	X	Shadow Flicker Assessment	
Design and Access Statement		Street Elevations	
Development Brief		Structural Survey	
Drainage Impact Assessment	X	Sustainable Design Statement	
Dust Survey	X	Swept Path Analysis	X
Electric Car Charging Strategy		Transport Assessment	
Flood Risk Assessment		Transport Statement	X
Forest Residual Waste Strategy		Tree Constraints Plan	
GWDTE Assessment		Tree Protection Plan	
Habitat Management Plan		TV / Radio Impact Assessment	
Landscape and Visual Impact		Vibration Assessment	
Landscape Maintenance/Management Plan		Visualisations	
Landscape Plan		Waste Strategy	
Masterplan		Other (Please Specify): Biodiversity Enhancement and Management Plan Operational Assessment Marine Mammal Protection Plan Shadow HRA, including mitigation to reduce potential impacts to SAC & SPA features. Planning Statement addressing National Marine Plan	

Planning history			
Previous Reference	**Description**	**Date of Decision**	**Outcome**

None specific to the site

Planning Policy

Policy Appraisal

Proposal:
The proposal is for a new berthing quay on the East side of the Inner Dock at the Port of Nigg. It is understood this additional berthing space is required to accommodate ongoing expansion of renewable energy projects, in particular shipping of high voltage cable manufactured at the planned new factory to the north of site.

Development Plans:
The relevant Development Plans are identified below, within each a range of policies apply, with the most relevant policies of each explored as part of this consultation response.

- National Planning Framework 4 (NPF4) 2023
- Highland-wide Local Development Plan (HwLDP) 2012
- Inner Moray Firth Local Development Plan (IMFLDP) 2015
- Inner Moray Firth Proposed Local Development Plan 2 (IMFpLDP2) 2022

National Planning Framework 4 (NPF4) 2023
NPF4 was adopted on 13 February 2023 and is now part of the Development Plan. It replaces National Planning Framework 3 and Scottish Planning Policy. Full details of NPF4 are available on the Scottish Government website.

NPF4 comprises three distinct parts:

Part 1 - sets out an overarching spatial strategy for Scotland in the future. Outlining that Scotland is facing unprecedented challenges and that we need to reduce greenhouse gas emissions and embrace and deliver radical change so we can tackle and adapt to climate change, restore biodiversity loss, improve health and wellbeing, and build a wellbeing economy while striving to create great places. Therefore, NPF4 sets out that choices need to be made about how we can make sustainable use of our natural assets in a way that benefits communities.

The spatial strategy also reflects existing legislation by setting out that decision making requires to reflect the long-term public interest. However, in doing so, it is clear that the decision maker must make the right choices about where development should be located, ensuring clarity is provided over the types of infrastructure that need to be provided and the assets that should be protected to ensure they continue to benefit future generations. To that end, the Spatial Priorities support the planning and delivery of sustainable places, which will reduce emissions, restore and better connect biodiversity; create liveable places, where residents can live better, healthier lives; and create productive places, with a greener, fairer, and more inclusive wellbeing economy.

Part 2 - sets out detailed planning policies for the development and use of land that are to be applied in the preparation of local development plans; local place plans; masterplans and briefs; and for determining the range of planning consents. The most relevant policies are outlined below.

Part 3 - provides a series of annexes that provide the rationale for the strategies and policies of NPF4, which outline how the document should be used, and set out how the Scottish Government will implement the strategies and policies contained in the document. With Annex A: 'How to use this document' noting that the policies within Part 2 should be read as a whole and '…it is for the decision maker to determine what weight to attach to policies on a case-by-case basis….' It goes on to state that '…where a policy states that

development will be supported, it is in principle, and it is for the decision maker to take into account all other relevant policies….'.

The most relevant subsections and NPF4 Policies to this proposal include:

NPF4's Regional Spatial Priorities explains that the North East area will evolve through a just transition, to move industry and business away from the oil and gas sector towards a cleaner, greener future. It recognises that the North East, along with the wider Moray and Cromarty Firths, has built on its oil and gas experience to pioneer new technologies. It also explains that the North area has experienced outmigration, with further population decline a risk. It recognises that the North area can make a strong contribution towards meeting the ambition for net zero.

Annex C provides more detail on Spatial Planning Priorities. It outlines for the North that key ports include the Cromarty Firth (including Nigg). It recognises that through Opportunity Cromarty Firth and other projects, new facilities and infrastructure will help ports adapt, unlocking their potential to support the transition from fossil fuels through oil and gas decommissioning, renewable energy (including the significant opportunities for marine energy arising from Scotwind) and low carbon hydrogen production and storage, and the expansion of supply chain and services. It expects that this will in turn benefit communities by providing employment and income for local businesses.

Many of NPF4's policies are relevant to consideration of the proposal, should it come forward as an application, but attention is particularly drawn here to the following policies:

Policy 1 (Tackling the climate and nature crises) is an overarching policy that requires 'significant weight' to the global climate and nature crises. The 8th February 2023 Chief Planner letter provides specific advice on this policy and notes '…it will be for the decision maker to determine whether the significant weight to be applied tips the balance in favour for, or against a proposal on the basis of its positive or negative contribution to the climate and nature crises….'.

Policy 3 (Biodiversity) requires all forms of development, to include appropriate measures to conserve, restore and enhance biodiversity proportionate to the nature and scale of development. The requirement to deliver biodiversity enhancement is a new duty, with further advice on the proportionate requirements for achieving biodiversity enhancement for local developments being outlined in NatureScot 'Developing with Nature Guidance' (2023).

Policy 4 (Natural Places) intends to protect, restore and enhance natural assets making best use of nature-based solutions.

- Part (a) does not support proposals that will have an unacceptable impact on the natural environment;
- Part (b) requires development proposals that are likely to have a significant effect on an existing or proposed European Site to be subject to an "appropriate assessment" of the implications for the conservation objectives.
- Part (f) only supports development proposals that are likely to have an adverse effect on species protected by legislation where the proposal meets the relevant statutory tests.

Policy 5 (Soils) seeks to protect prime agricultural land from development.
Policy 6 (Forestry, woodland and trees) intends to protect and expand forests, woodland and trees. Part (b)(ii) does not support development proposals where they result in: adverse impacts on native woodlands, hedgerows and individual trees, or identified for protection in the Forestry and Woodland Strategy and/or (iii) Fragmenting or severing woodland habitats, unless appropriate mitigation measures are identified and implemented in line with the mitigation hierarchy.
Policy 7 (Historic assets and places) intends to protect and enhance historic environment assets and places, and to enable positive change as a catalyst for the regeneration of places. Part (o) explains that non-designated historic environment assets, places and their setting should be protected and preserved in situ wherever feasible.
Policy 9 (Brownfield, vacant and derelict land and empty buildings) intends to encourage, promote and facilitate the reuse of brownfield, vacant and derelict land and empty buildings, and help to reduce the need for greenfield development. Part (c) explains that where land is known or suspected to be unstable or contaminated, development proposals will demonstrate the land is, or can be made suitable for the

proposed new use.
Policy 10 (Coastal development): intends to protect coastal communities and assets and support resilience to the impacts of climate change. Part (a) explains that proposals in developed coastal areas will only be supported where they don't increase the risk to people of coastal flooding or erosion and that they take into account long term projected climate change.
Policy 12 (Zero waste) intends to encourage, promote and facilitate development that is consistent with the waste hierarchy. Part (b) supports development proposals that (i) reuses existing buildings and infrastructure and (ii) minimises demolition and salvage materials for reuse.
Policy 13 (Sustainable transport) intends to encourage, promote and facilitate developments that prioritise walking, wheeling, cycling and public transport for everyday travel and reduce the need to travel unsustainably. Part (b) supports development proposals where it can be demonstrated that the transport requirements generated have been considered in line with the sustainable travel and investment hierarchies.
Policy 14 (Design, quality and place) requires developments to encourage, promote and facilitate well designed developments that make successful places by taking a design-led approach and applying the Place Principle. Part (a) supports development proposals that are designed to improve the quality of an area and part (b) supports development proposals where they are consistent with the six qualities of successful places.
Policy 18 (Infrastructure first) intends to encourage, promote and facilitate an infrastructure first approach to land use planning, which puts infrastructure considerations at the heart of placemaking. Part (a) supports proposals which provide (or contribute to) infrastructure in line with that identified as necessary in LDPs and their delivery programmes will be supported.
Policy 20 (Blue and green infrastructure) intends to protect and enhance blue and green infrastructure and their networks. Part (a) only supports development proposals that result in fragmentation or net loss of existing blue and green infrastructure where it can be demonstrated that the proposal would not result in or exacerbate a deficit in blue or green infrastructure provision, and the overall integrity of the network will be maintained.
Policy 22 (Flood risk and water management) intends to strengthen resilience to flood risk by promoting avoidance as a first principle and reducing the vulnerability of existing and future development to flooding. Part (a) supports development proposals at risk of flooding or in a flood risk area if they are for ii. Water compatible uses.
Policy 23 (Health and Safety) intends to protect people and places from environmental harm, mitigate risks arising from safety hazards and encourage, promote and facilitate development that improves health and wellbeing. Part (e) does not support development proposals that are likely to raise unacceptable noise issues. A Noise Impact Assessment may be required where the nature of the proposal or its location suggests that significant effects are likely.
Policy 26 (Business and Industry) - intends to encourage, promote and facilitate business and industry uses and to enable alternative ways of working such as home working, live-work units and micro-businesses. Part (a) supports proposals for business and industry uses on sites allocated for those use in the Local Development Plan.

Highland-wide Local Development Plan 2012 (HwLDP)
The HwLDP sets out a range of planning policies applicable for the whole Highland Council area. The HwLDP will continue to be used alongside NPF4, until it is replaced by a new style LDP. The Council notes that legislation and planning law indicates that if there is incompatibility between the LDP and the NPF, whichever is the more recent shall prevail. That requirement does not take away from the fact that the HwLDP must, whilst still part of the adopted Development Plan, be part of the consideration and, as such the following policies are considered relevant:

- **Policy 28 Sustainable Design** - assesses proposals on the extent to which they are compatible with a range of factors, including impacts on individual and community residential amenity and demonstrating high quality siting and design. There is Supplementary Guidance related to this policy.
- **Policy 23 Nigg -** allocates the existing Nigg Yard, Oil Terminal and three areas of land to the east of the B9175 for business and industry uses. It explains that the Council will support the development of Nigg Yard and proximal lands in line with its approved Nigg Development Masterplan.
- **Policy 30 Physical Constraints** - explains that where a proposed development is affected by any of the constraints set out in Physical Constraints: Supplementary Guidance developer must demonstrate compatibility with the constraint or outline appropriate mitigation measures to be provided.
- **Policy 31 Developer Contributions** - may seek developer contributions when a development would

result in a deficiency in public services. There is Supplementary Guidance related to this policy.

- **Policy 41 Business and Industrial Land -** directs proposals for new business to sites allocated for this use.
- **Policy 51 Trees and Development** - supports development which promotes significant protection to existing hedges, trees and woodlands on and around development sites. There is Supplementary Guidance related to this policy.
- **Policy 56 Travel** - requires development proposals that involve travel generation to include sufficient information with the application to enable to Council to consider any likely on- and off- site transport implications of the development.
- **Policy 57 Natural, Built and Cultural Heritage** - requires all development proposals to be assessed taking into account the level and importance of these features, the form and scale of the development and any impact on the feature and its setting.
- **Policy 61 Landscape** requires new development to reflect the landscape characteristics and special qualities identified in the relevant SNH (now known as NatureScot) Landscape Character Assessments.

Other policies from HwLDP that will be relevant include:

- Policy 58 - Protected Species
- Policy 59 - Other Important Species
- Policy 60 - Other Important Habitats
- Policy 63 - Water Environment
- Policy 64 - Flood Risk
- Policy 66 - Surface Water Drainage
- Policy 72 - Pollution

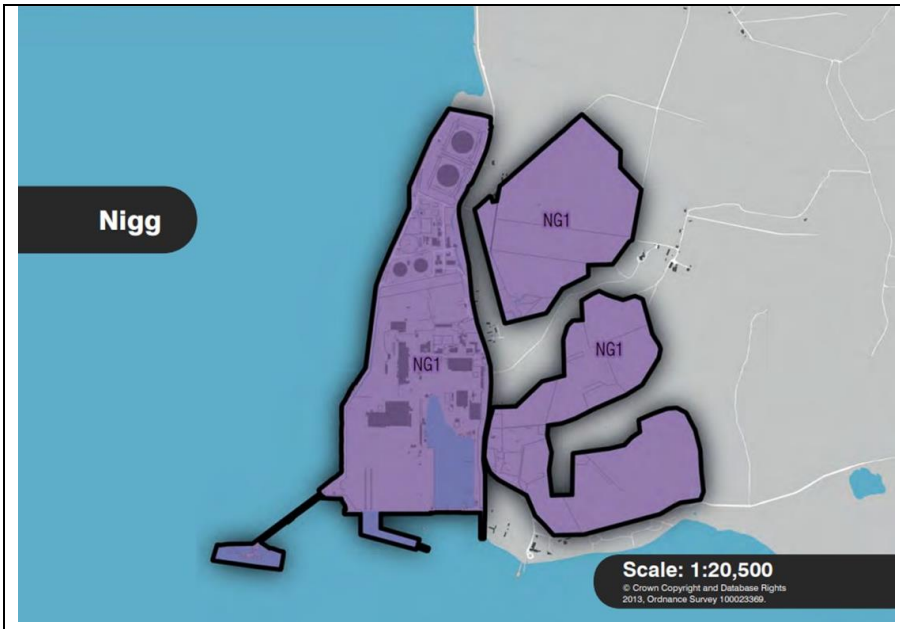
The preparation of a new-style Highland Local Development Plan (HLDP)

The March 2023 Development Plans Newsletter is now available on the Council's website. https://www.highland.gov.uk/info/178/development_plans/1069/development_plans_newsletter

It sets out The Highland Council intentions for the preparation of a new, single Highland Local Development Plan. It is the Council's intention to undertake the evidence-gathering stage of the new LDP throughout 2023, with the tentative programme including an Evidence Report in 2024 and subsequent Gate Check, with Proposed Plan stage in 2025. The HLDP will, once adopted, replace all our current LDPs. As part of this programme of work, the Council will review the coverage and content of its current suite of Supplementary Guidance, to establish which aspects should be covered within the new Local Development Plan itself, which aspects should be covered within non-statutory planning guidance and any aspects no longer required.

Inner Moray Firth Local Development Plan (IMFLDP)

The area plan covering the site is the IMFLDP which was adopted by the Council in 2015. This Plan includes Nigg as one of a number of Strategic Employment Sites in the plan area. The Nigg inset map (below) allocates land for industry (site reference NG1 Nigg Yard).



The developer requirements listed for NG1 are as follows: Development in accordance with the adopted Nigg Masterplan including its Habitats Regulations Appraisal; consideration of the natural, built and cultural heritage of the wider area. Contamination Assessment; Flood Risk Assessment; Coastline Management Plan; Landscape and Visual Impact Assessment.

IMFLDP also defines boundaries (including any refinements) of the Special Landscape Areas (SLAs) across the plan area. The SLA citations webpage provides the most up to date information on SLAs. In this instance Sutors of Cromarty, Rosemarkie and Fort George Special Landscape Area sits approximately 1.5km east and south of the site.

The following policy from IMFLDP may also be relevant to the determination of any future applications application:

- **Policy 2 Delivering Development** - supports the delivery of allocated development sites subject to the provision of necessary infrastructure, services and facilities.

Inner Moray Firth Proposed Local Development Plan 2022 (IMFpLDP2)

The Council is currently working to replace IMFLDP. The consultation closed on the proposed plan stage in summer 2022, officers have since reviewed comments received and reported these and the Council's response to them to relevant Council Committees. The Plan was submitted to Scottish Ministers for Examination on 24 March 2023 and the Examination began on 22 May 2023.

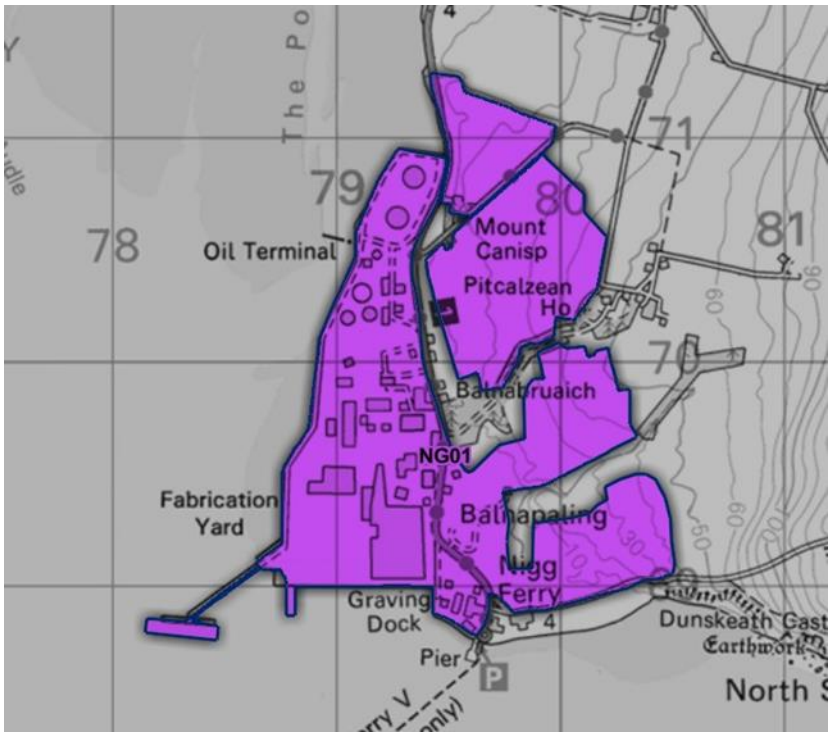
This plan's focus is again on identifying specific site allocations but includes a number of overarching 'general policies' which will apply to all developments:

- **Policy 2 Nature Protection, Preservation and Enhancement** - this policy requires development to assess, conserve and provide biodiversity enhancements within and adjacent to the site.
- **Policy 7 Industrial Land** - all sites allocated for industry are safeguarded for Classes 4, 5 and 6 uses only.
- **Policy 9 Delivering Development and Infrastructure** - explains that the Council will assess each development proposal in terms of its impact on each relevant infrastructure network and community facility capacity.

These policies currently carry limited weight as a material consideration given they were written prior to the publication of NPF4 and there were a number of objections to them during consultation on the Proposed Plan. The level of consideration given to these policies will be dependant upon the timing of any future application and the outcome of the Plan's Examination.

This Plan recognises Nigg as one of the UK's most important energy facilities that provides multi sector capability that combines some of the largest dry dock and construction and assembly workshops in Europe with a large deepwater quayside. It outlines future potential and ambitions of the wider Cromarty Firth area, including Opportunity Cromarty Firth's bid for Green Freeport Status.

It allocates Nigg Energy Park as NG01 for industrial use. The boundary was essentially carried forward from the IMFLDP with the addition of land to the north between the B9175 and single track road at Lower Pitcalzean. The allocation contains numerous developer requirements, including a developer masterplan.



A number of objections were received on allocation NG01 during the Plan's consultation period. The original objections can be viewed on the Council's consultation portal, and the Council's summaries of objections and the Council's response to them can be viewed within the Easter Ross Area Committee Papers dated 8 November 2022.

Notably, the Council has agreed there is some merit in a number of objections to the Plan, and, if the Scottish Government Reporter is minded to agree then the Council would support a number of additional developer assessments to help limit impacts on residential amenity and ensure appropriate access arrangements.
Additionally, the Council supported an expansion of the site to reflect the Green Freeport boundary (boundary illustrated in the Opportunity Cromarty Firth – Green Freeport Bid paper presented to Full Council on 30 June 2022). It is at the Reporter's discretion whether to recommend any changes the Council is supportive off.

Nigg Development Masterplan
The Nigg Development Masterplan outlines a vision and feasible options for the development of Nigg, including the fabrication yard, oil terminal and land to the east of the B9175. Its aim is to maximise the site's strategic development potential and employment opportunities over the next 15 to 20 years. It was adopted as supplementary guidance to the HwLDP in 2013. The IMFpLDP2 does not intend to carry forward the Nigg Development Masterplan as supplementary guidance. Nevertheless, this document does continue to provide useful background information and currently, where relevant, proposals should be consistent with its content.

Development Plan Assessment
Principle of Development
The Council strongly welcomed the announcement that Opportunity Cromarty Firth has been chosen as one of the UK's new Green Freeports in early January 2023. The Council recognises the potential of freeport status to help alleviate socio-economic issues facing the region and in addressing the local and national transition to net zero, help to create sustainable high-quality jobs in a green economy, while regenerating and strengthening communities and reversing depopulation.

The proposal for a new quay on the east side of the existing Inner Dock at Nigg is wholly within the aIMFLDP allocation NG1 Nigg Yard Strategic Employment Site and within the IMFpLDP2 NG01 Economic Development Area and therefore the principle of the development is supported by both the adopted and emerging development plan.

In terms of being sympathetic to existing patterns of development and compatibility with landscape character and capacity there is already an existing large scale industrial facility, including quays, on the site. The pre-application site lies within Landscape Character Type 344 Lowland Farmed Plain. Landscape Character Assessments produced by NatureScot (formerly SNH) identify and explain the combination of elements and features that make landscape distinct from one another and how the landscape is perceived and experienced by people. The Sutors of Cromarty, Rosemarkie and Fort George Special Landscape Area lies approximately 1.5km to the east and south. Given the nature, location and appearance of the development it is unlikely to have a significant visual or landscape impact.

There are a number of residential properties relatively nearby to the site. Information on potential noise, odour, vibration and volume and route of heavy traffic movements should be provided to support any future application to ensure compatibility with the wider area.

Masterplan
The IMFpLDP2 developer requirements list a developer masterplan as a requirement for NG01. Whilst the IMFpLDP is not yet adopted, it does carry some weight as a material consideration. It is important that an indicative masterplan of the wider allocation is provided to support any future applications to ensure that no piecemeal development occurs that may prejudice future development opportunities at Nigg. In particular access, amenity and landscape and visual impact are important considerations for the wider allocation.

Natural Heritage
The site is located in a sensitive location close to a number of natural heritage sites that could be affected by the development, particularly during its construction phase. These are listed below and further information is provided within this pre-application pack from NatureScot.

- Cromarty Firth SPA/Ramsar
- Moray Firth SAC
- Moray Firth SPA
- Dornoch Firth and Morrich More SAC
- Cromarty Firth SSSI
- Rosemarkie to Shandwick Coast SSSI

Accessibility
National and local planning and transport policy has evolved in recent years and there is now a much sharper focus on responding to the climate change emergency by reducing the need to travel unsustainably. It is important for any future application to demonstrate that the transport requirements generated, including construction traffic and by employees, have been considered in line with the sustainable travel and investment hierarchies. The National Cycle Network runs along the B9175 to the east of the site. Maintaining access to this will need to be considered during any construction periods.

Trees/Biodiversity
The Native Woodland Survey of Scotland shows a linear strip of native woodland running parallel to the west side of the B9175 close to the site. However, Google Streetview images from April 2022 show there does not appear to be any woodland at this location. Despite this, consideration should be given to biodiversity enhancement at this location. This would also have the potential to improve the appearance of the bund that runs parallel to the Yard's security fencing.

Historic Environment
A number of sites contained in the Council's Historic Environment Record lie close to the site, including Saltings, W of Balnapaling. The Council's Historic Environment Team and Historic Environment Scotland will advise if any assessments are required in respect to the historic environment.

Sustainability

The Council's Sustainable Design Guide: Supplementary Guidance provides advice and guidance on a range of sustainability topics, including design, building materials and minimising environmental impacts of development.

A Sustainable Design Statement is not required.

Natural Heritage

Impact on Landscape
There are unlikely to be significant landscape issues arising directly from this proposal, however, the proposed development may provide an opportunity to address the interface between the Port of Nigg site generally and the Public realm.

The present bunding between the site and the Minor road which provides local residential access, access to the Nigg ferry and carries the NCR 1, is in a poor condition, showing evidence of colonisation by rabbits which contributes to an eroding bund surface and lack of complete vegetation cover and projects an image of lack of care, which is detrimental to both the landscape and visual environment locally.

Visual Impact
As for Natural Heritage- Landscape.

Designated Sites

Moray Firth Special Area of Conservation (SAC)
The most sensitive receptor linked to this Protected Area are bottlenose dolphins which regularly use the waters within the Outer Cromarty Firth, often in proximity to Nigg Port and the Sutors. However, we recommend that the subtidal sandbank feature is also included for assessment.

Underwater noise is likely to be the most important factor in context to piling and subsequent construction within the dock. We note the use of a temporary piling platform/bund involving granular material to aid the piling works, which may assist reducing underwater noise effects. The use of Marine Mammal Observers, soft starts and consideration of other potential disturbance factors, such as additional vessel movements (see below), should be considered as part of Marine Mammal Protection Plan for SAC dolphins.

It would also be helpful to outline the duration of noise periods through piling, in what months will they occur in context to Protected Area sensitivities and effort to consider these issues in a mitigation context to reduce impacts. Experience built-upon through construction of previous quays and mitigation methods used there should assist with this proposal.

Changes in the movements, numbers and distribution of vessels associated with construction and operational aspects should be assessed. Earlier work on modelling vessel movements associated with the east and south quay developments may be helpful in this regard. Cumulative effects should be considered, taking into account other port and harbour developments in the Inner Moray Firth area.

For further information, see the Conservation & Management Advice document for this SAC, https://apps.snh.gov.uk/sitelink-api/v1/sites/8327/documents/59. If there is available time, we welcome further pre-application discussion on underwater noise mitigation if you feel that would be helpful.

Moray Firth Special Protection Area (SPA) and Cromarty Firth SPA
Both these SPA's are relatively close to Nigg Energy Park (i.e., within a couple of km's), and include mainly non-breeding waterbirds. Efforts to reduce disturbance, displacement & avoidance effects to non-breeding SPA birds would be welcomed as the project takes shape, including any best practice protocols to avoid pollution during construction and operations.

In addition to servicing the proposed cabling factory, NatureScot understands from the pre-app meeting, that the new Inner Dock quay is also likely to facilitate offshore floating turbine developments. In this regard, we

recommend that any potential effects from these new operations are also included for assessment. For example, we are led to believe that offshore turbines will require to be assembled onto bases that are floating port-side. In addition, is it also possible that turbine testing will take place at port-side? If so, some assessment of collision risk may be required for a specific turbine testing zone. Will floating turbines require 'wet storage' somewhere within the Cromarty Firth before being deployed offshore and if so, could these towering structures cause displacement effects on SPA birds (even when turbines are non-functional)?

We would welcome further engagement on these 'new issues', just in case specific survey work is required to marry-up areas of low SPA importance with turbine testing and storage, for example.

For further information, see the Conservation & Management Advice document for the Moray Firth SPA, https://apps.snh.gov.uk/sitelink-api/v1/sites/10490/documents/59. As yet, there is no such document for the Cromarty Firth SPA, but the following may be of some assistance; https://www.nature.scot/doc/habitats-regulations-appraisal-hra-moray-firth-guide-developers-and-regulators.

NatureScot is aware that breeding common terns occasionally nest at Nigg and therefore it would make sense that this issue is considered in terms of construction and operational procedures.
For example, it would help to reduce likelihood of this species (& other terns) nesting, if ground conditions are largely unsuitable, especially in context to crucial areas identified to ensure that the development work can proceed as smoothly as possible. In this regard, please see our guidance on Disturbance Distances in Selected Bird Species https://www.nature.scot/doc/disturbance-distances-selected-scottish-bird-species-naturescot-guidance, which identifies a maximum disturbance avoidance zone of 400m for common terns.

However, perhaps Nigg could identify and offer a specific predator-proof tern nesting area (e.g. mink proof) in the hope that nesting terns might be proactively managed, with benefits to both port operations and the Cromarty Firth SPA. If this is of interest, we know that RSPB staff have valuable experience of tern nesting colonies and can be contacted for further advice. For more information on Developing with Nature (NPF4) , see; https://www.nature.scot/doc/developing-nature-guidance.

Dornoch Firth & Morrich More SAC
This development is approximately 42km from this SAC & therefore it can be considered to have connectivity for harbour seal at this distance. Therefore, potential impacts of underwater noise should also be considered in context to this SAC harbour seal population.

European Protected Areas (as above)
For all of the above Protected Areas, we recommend that a shadow Habitats Regulations Appraisal (HRA) is provided as part of this application for all SAC & SPA features, outlining potential impacts on the above European Protected Areas & their Conservation Objectives.
We can provide further advice on specific Protected Area features during this pre-application period, if required.

Ecology – Highland Council Ecology Officer

Ecology Assessment
At this stage no ecological/environmental information has been submitted and therefore I cannot give detailed advice on the ecological/environmental aspect of the proposal. Further advice will be given at the scoping stage of the development but as a general guide the following information is recommended:

A full assessment of the marine ecology of the site and a suitable buffer around the site needs to be undertaken to determine if there are any ecological/environmental constraints associated with the proposed development. The assessment should include (but not be limited to):

- Desk study records, from NatureScot Sitelink, the NBN atlas and local biodiversity record groups;
- Specific surveys of the site to identify any protected species, priority habitats and priority species, including those listed within the Highland Nature Biodiversity Action Plan to fulfil Policies 57-60 of the Highland Wide Local Development Plan;
- Assessment of ecological effects; and
- Relevant mitigation and compensation measures.

Notes:

Surveys should be undertaken by a suitably qualified and experienced Ecologist.

NaturesScot's guidance on surveying protected species should be followed:
https://www.nature.scot/professional-advice/planning-and-development/planning-and-development-advice/planning-and-development-protected-species

Policies 57-60 of the Highland Wide Local Development Plan (HwLDP) pertain to the protection of certain species and habitats within the Highland region that must be considered for any developments.

https://www.highland.gov.uk/info/178/development_plans/199/highlandwide_local_development_plan
The Highland Nature biodiversity Action Plan (HNBAP) lists priority species and habitats that are considered to be important within the Highland region. These priority species and habitats must be given consideration for any developments.

https://www.highlandenvironmentforum.info/biodiversity/action-plan/

Biodiversity Enhancement
National Planning Framework 4 (NPF4) was formally adopted on the 13th of February 2023 and is a material consideration for this development. As this is a major development, Policy 3b is applicable and requires biodiversity enhancement of the site post-construction in addition to mitigation and compensation measures.

Biodiversity Enhancement and Management
In order to satisfy Policy 3b a Habitat Management Plan that details how criteria i to v will be met, will be required in addition to the EIA/EcIA. This will demonstrate that the development will significantly enhance the biodiversity of the surrounding area, from its pre-development state. Where the Habitat Management Plan is unable to demonstrate to the satisfaction of the planning authority that the development will conserve, restore and enhance biodiversity, the proposal will not be supported.

The Habitat Management Plan must demonstrate to the satisfaction of the planning authority that the development will accord with Policies 57-60 of the HwLDP.

The enhancement measures may be linked in to the wider green freeport.

Amenity

Contaminated Land Issues
This application is in close proximity to an area of previous hydrocarbon contamination of the groundwater. Remediation and ongoing monitoring was carried out on a voluntary basis, with the final monitoring (submitted to Highland Council) in 2016 in a document entitled "Nigg Energy Park - Combined Factual and Interpretative Report; Routine Groundwater Monitoring Event; July 2016" by ERS.

It is understood that the bedrock will be near to ground surface in the northern part of site, and piling will be required to 10m depth. The closest piles are understood to be approximately 30m from the previous monitoring boreholes.

Given the potential for disturbance and mobilisation of groundwater contaminants (if present) during piling, it is recommended that the monitoring wells are checked and utilised for a further round of groundwater monitoring for hydrocarbons. If the previously installed monitoring wells are no longer serviceable, it is recommended that new boreholes are installed, and the groundwater sampled. Groundwater sampling shall take note of the tide times, with samples collected during low tide conditions. If contamination is encountered in groundwater, suitable risk assessment and, if necessary, mitigation measures shall be required to ensure that the development does not adversely impact the water environment.

Construction Noise
Generally, people are more tolerant of construction noise during normal working hours however; should the proposed development include weekend, evening and night time working. I have concerns that such

intensive construction activities may give rise to complaints particularly with regard to weekend piling and night time dredging.

This Service has powers to control all aspects of construction noise under the Control of Pollution Act 1974 (COPA). As such we would not usually impose controls through Planning conditions. The applicant has submitted a construction noise assessment which suggests that relevant noise criteria can be complied with. Therefore, if the work can be undertaken without complaints arising, I would not seek to impose restrictions for the sake of it.

It is expected that the best practicable measures will be employed at all times to reduce the impact of noise. Particular consideration should be given to reducing noise from piling and reversing alarms. I would also advise that the applicant ensures good communication with neighbouring residents.

However, for the avoidance of doubt, if this Service were to receive complaints about construction noise activities, we would be required to investigate in terms of COPA and if the levels were found to be unreasonable, there may have to be changes to working hours or practices.

Operational Noise

The development should include a Noise Impact Assessment to be submitted to, and approved in writing by, the Planning Authority. The assessment shall be carried out by a suitably qualified and competent person and shall assess the likely impact of noise emanating from the development on neighbouring properties. Furthermore, the following should comprise part of the assessment:-

i. A description of the proposed development in terms of noise sources and the proposed locations and operating times of the same;

ii. A description of any noise mitigation methods that will be employed. The effect of mitigation methods on the predicted levels should be reported where appropriate;

iii. A detailed plan showing the location of noise sources, noise sensitive premises and survey measurement locations;

iv. A survey of current ambient (LAeq) and background (LA90) noise levels at appropriate locations neighbouring the proposed site;

v. A prediction of noise levels resultant at neighbouring noise sensitive premises, for the operational phase of the proposed development. The raw data and equations used in the calculations should be provided; and

vi. An assessment of the predicted noise levels in comparison with relevant standards.

Development shall progress in accordance with the approved Noise Impact Assessment and all approved mitigation measures shall be implemented prior to the first occupation/use of the development, or as otherwise may be agreed in writing by the Planning Authority.

The application should include a baseline noise survey which confirms the results of previous monitoring that suggests noise levels in this area are already elevated due to existing activities associated with this site and neighbouring industrial premises. Typically, new industrial development is usually assessed by comparing before and after noise levels however, in this case that could just lead to a self-perpetuating creeping background which would keep increasing with each new development.

I am of the opinion that a more reasonable approach is to consider the noise cumulatively. Historically, this Service has received several complaints about noise from rigs moored off Cromarty. However, very few, if any have been about noise from the on-shore site activities. That being the case, I would advise that the applicant's initial target should be to ensure that this development results in little or no increase in operational noise levels to minimise the likelihood of complaints in future.

I also understand that it is the applicant's intention to prepare an operational noise management plan to identify measures to reduce cumulative noise levels from this development and from the existing site. I would agree that this is the best approach to minimise the impact of noise from this development and the site in general.

Pollution Prevention

Depending on the proximity of the working area to houses etc. the applicant may require to submit a scheme for the suppression of dust during construction. Particular attention should be paid to construction traffic

movements.

Transport and Wider Access

Impact on the Trunk Road Network Transport Scotland

The proposal comprises engineering works to form new berthing quay on the east side of the Inner Dock at the Port of Nigg. The site is located approximately 10km south of the A9(T) / B9175 trunk road junction.

The supporting information submitted with the pre-application does not include any indication as to the likely trip generation or distribution associated with the development. Transport Scotland will require a threshold assessment be carried out on the A9(T) / B9175 junction to determine if there is likely to be any significant increase in the volume, or a material change in the character of traffic entering or leaving the trunk road and any requirement for further trunk road assessment.

Depending on the result of the threshold assessment, Transport Scotland would seek a Transport Assessment be prepared and submitted with the planning application. Transport Scotland should be consulted on the Scoping for the Transport Assessment to agree the parameters, including the traffic surveys, assessment year, traffic growth factors, trip generation and distribution and network impact.

In the absence of more detailed information, Transport Scotland has no further comment to make and will not be in attendance at the Pre-Application meeting in this instance.

Impact on the Road Network, Highland Council Transport Planning Team

Construction Impacts

Unless considering bringing in all plant, materials and the workforce by sea, this development will generate new construction traffic on the existing local public roads. We recommend any submission includes a Framework Construction Traffic Management Plan (CTMP) setting out the anticipated type, quantum and profile of construction-related vehicles likely to be generated by the proposed development. This should be broken down by at least Abnormal Loads (AILs) if required, large goods vehicles (HGVs) and cars / small goods vehicles.

The Framework CTMP should also include an assessment into the capability of the local public roads serving this site to physically accommodate those predicted construction vehicles, whilst remaining safe for other general road users. Where physical mitigation or traffic management measures are deemed necessary from that assessment to maintain safety and effective network management of the local public road(s) impacted, any submission should set out what those mitigation measures are likely to be, why they'd be needed and should be deemed acceptable, whilst also clarifying if those measures will be temporary or permanent.

To be clear, we would expect any submission to confirm that all roads-based construction access to and from this site will be taken along the B9175 local public road from the roundabout junction with the A9(T). We would not support any other local public road being used for construction access purposes and the Framework CTMP should set out how this will be managed and enforced.

The Framework CTMP should recognise that the B9175 is used for the movement of AILs. If there is the possibility of AIL's from other developments being moved along the B9175 whilst these works are being undertaken, the CTMP should justify how any works to or traffic management measures on the local public road will not prevent such AIL movements.

Similarly, if any AILs will be required for this development, the Framework CTMP will need to justify the capability of the local public roads impacted to physically and safely accommodate such movements.

The National Cycle Network (NCN) Route 1 runs through Nigg along part of the B9175. Any submission should recognise this and demonstrate how users of that route can be safely accommodated during the time when the construction traffic for this development will also be making use of this route.

Depending on the scale of goods vehicle movements that this proposal would generate, there is a possibility of the public roads incurring damage over and above the general wear and tear levels that could be expected. To protect The Council from extraordinary expenses in having to repair any such damage inflicted, we would expect any application to confirm that the Promoter would be willing to enter into a formal 'wear and tear' agreement with The Council as the Local Roads Authority. Any such agreement would be to cover the requirements of Section 96 of the Roads (Scotland) Act 1984 and may require a suitable road bond or other form of financial security.

The proposed inspection regimes required for any 'wear and tear' agreement should be used to determine if there are any sections of the existing local public road network that have the potential to require repair work during the intended construction access needs of this development. Where such situations exist, the Promoter may want to consider investing in getting those repairs done in advance of the main development works commencing. This could help avoid disruption to the planned use of the proposed construction access routes by any works being required to undertake emergency repairs to the public road.

Parking or loading / unloading of construction-related vehicles will not be supported on the local public road network. Suitable facilities for such activities should be provided within the development, with the CTMP clarifying where they will be and how such activities will be discouraged on the public road.

The Framework CTMP should also clarify how the local public road will be kept clear of mud and other construction-related materials from this development.

Impact on Local Road Network:

The proposed points of access for both the construction and the ongoing operation of the proposed development should be clarified in any submission, along with setting out any changes required. This will include justifying the adequacy of the access(es) to physically and safely accommodate the vehicle movements that will need access into and out of this development. Any such changes will need to have been designed in accordance with the requirements from our published Roads and Transport Guidelines for New Developments.

To be clear, we will not support any construction or ongoing operational vehicular access needing to either reverse onto or off the local public road network when manoeuvring in and out of the proposed access(es).

The achievable visibility splays in both directions along the points of egress from the local public road will need to be clarified and justified against the requirements from our above linked Guidelines. If reduced visibility splays are being sought, these should be justified with suitable data on the actual speeds of traffic in the vicinity of the proposed access(es).

If this development will generate a lasting change to the traffic movements to and from this site after the construction works are complete, any submission will need to quantify the predicted scale of such changes and justify that the local public roads impacted will or can be made capable of physically and safely accommodating such changes. Such information should be set out in a Transport Statement or Transport Assessment document, depending on the predicted scale of any predicted lasting impacts. The scope of any such assessment should be agreed with both Highland Council and Transport Scotland as the Trunk Roads Authority prior to works commencing to undertake such assessment work.

Should this development be creating a lasting material change to the traffic movements on the local public roads serving this site, any submission should give consideration to how those changes will safely interact with the NCN Route 1 that runs through this area. This may require giving consideration to providing suitably designed segregated facilities along part of the B9175 in the vicinity of this development.

Any ongoing operational parking or servicing needs for the proposed development should be set out in the submission, with the adequacy of such provisions being justified. We don't have specific parking standards for ports, so any need for parking generated by the proposed development will need to be assessed on merit.

If this development will generate a demand for new car parking, the proposals should also include suitable

facilities for both disabled and cycle parking. We have minimum standards for such things within Section 6 of our published Roads and Transport Guidelines for New Developments.

Impacts on Public Access
No comments on this application

Water Environment

Flood Risk
The Highland Council Flood Risk Management Team has reviewed the information provided and has the following advice for the Applicant at this stage. We would be happy to provide comment on any further draft proposals prior to the formal submission of the planning application.

The development proposal would appear to fall under the 'Water Compatible Use' classification under SEPA's Flood Risk and Land Use Vulnerability Guidance. This means that they can be located in a flood risk area as defined under NPF4. The site is already an established dock and so there would be no increase in the vulnerability of the site. The flood risk management team are therefore very unlikely to object to a planning application of this type at this location.

Development or landraising within any flood plain should be avoided and proposals should generally follow SEPA's Standing Advice for Flood Risk. Should any permanent infrastructure be located within close proximity to a watercourse a Flood Risk Assessment should be submitted to demonstrate that the development is not at risk from flooding and will not increase flood risk elsewhere. SEPA's Technical flood risk guidance for stakeholders outlines the information require to be submitted as part of a Flood Risk Assessment:
https://www.sepa.org.uk/media/162602/ss-nfr-p-002-technical-flood-risk-guidance-for-stakeholders.pdf

Small watercourse crossings should be oversized and larger scale watercourse crossings should be demonstrated to be adequately designed to accommodate the 1 in 200 year flow (including an allowance for climate change and freeboard) to avoid increasing the risk of flooding. Further information must be provided to justify any smaller structures.

A minimum buffer strip of 50m should be kept free from development from the top of bank(s) of any watercourse or waterbody. Storage of materials within this area during construction is not permitted.

Further advice and SEPA's best practice guidance is available within the water engineering section of SEPA's website:
https://www.sepa.org.uk/regulations/water/engineering/

Guidance on the design of water crossings can be found in Construction of River Crossings Good Practice Guide:
http://www.sepa.org.uk/media/151036/wat-sg-25.pdf

Drainage
A Drainage Impact Assessment (DIA), written in accordance with our Supplementary Guidance: Flood Risk and Drainage Impact Assessment, is required to be submitted with the planning application. The DIA should be submitted at the first stage of planning.

The DIA will need to detail the proposed surface water and foul drainage systems and include appropriate drawings and calculations. An allowance for climate change should be included in the calculations and any excess flows up to and including the 1 in 200 year event should be managed within the site boundary without flooding buildings or critical roads. Clear exceedance routing plans should be provided with the planning application.

There would be no restriction on the rate of discharge of surface water drainage to coastal waters. If there is the potential for the drainage outfall to be tide locked during periods of high tide or coastal flooding, the DIA will need to demonstrate that this can be managed without flooding to property or roads.

The DIA will need to consider any existing surface water runoff routes into/through the site and the impact of the proposed development on these flow routes. It shall be demonstrated that any mitigation, such as land raising, will not increase flood risk to others.

Supporting evidence in the DIA should include (but not be limited to) calculations showing drainage network details, contributing area summary, control / storage structure details and simulation results tables for any new network. A site plan showing the type of treatment and location on site, where this will be discharged to, and proposed maintenance arrangements must be submitted in support of the application.

Please refer to the Supplementary Guidance: Flood Risk and Drainage Impact Assessment, available from the Highland Council website, for further detailed requirements for addressing flood risk and drainage.

http://www.highland.gov.uk/info/178/local_and_statutory_development_plans/213/supplementary_guidance/14

Topic Water
A Drainage Impact Assessment (DIA) is required. The DIA should include details relating to any existing field drains and the management of surface water drainage, which should be designed in line with general Sustainable Drainage Systems (SuDS) principles. The applicant should demonstrate, within the proposals submitted, any mitigation measures to manage the residual risk of overland flow/pluvial flooding.

Natural flood management techniques should also be applied to reduce the rate of runoff where possible. Tracks should not act as preferential pathways for runoff and efforts should be made to retain the existing drainage network. Appropriate drainage is required to restrict runoff to pre-development rates and to minimise erosion to existing watercourses. The DIA should ensure that post development runoff rate is no greater than pre-development runoff rate (i.e. greenfield runoff) for all return periods up to the 1 in 200 year event including an allowance for climate change.

Runoff from all events up to and including the 1 in 200 year plus climate change event should be managed within the site boundary, with no flooding to critical roads or buildings, and evidence as to how this will be achieved should be included within the DIA.

Refer to the Council's Flood Risk and Drainage Impact: Supplementary Guidance for further detailed requirements:
https://www.highland.gov.uk/downloads/file/2954/flood_risk_and_drainage_impact_assessment_supplementary_guidance

Marine Environment
Marine Plan (2015): The National Marine Plan (NMP) and the policies it contains cover both Scottish inshore waters (mean high water springs out to 12 nautical miles) and offshore waters (12 to 200 nautical miles). It also applies to the exercise of both reserved and devolved functions.

The Marine Acts require that public authorities must take authorisation or enforcement decisions in accordance with the NMP, unless relevant considerations indicate otherwise. They must also have regard to the NMP in taking other decisions if they impact on the marine area. The NMP therefore provides direction to a wide range of marine decisions and consents made by public bodies, including Local Authorities The expectation therefore should be that the proposed development appropriately considers and addresses the relevant policies of the NMP.

The NMP contains a number of objectives and policies that are of relevance to and supportive of port development. Due to the nature of the associated development, it is expected that the following objectives will be supported:
"Shipping, Ports, Harbours and Ferries:
Objective 2: Sustainable growth and development of ports and harbours as a competitive sector, maximising their potential to facilitate cargo movement, passenger movement and support other sectors.
Objective 5:
Best available technology to mitigate and adapt to climate change, where possible, supporting efficiencies in fleet management and ensuring port infrastructure and shipping services are able to adapt to the

consequences of climate change. Consideration of the provision of facilities for shoreside power in new developments to allow for this to be provided when markets require it, if it becomes cost effective to do so."

The NMP contains sector specific policies for ports, notably support is provided via the following policy: "TRANSPORT 4: Maintenance, repair and sustainable development of port and harbour facilities in support of other sectors should be supported in marine planning and decision making". The NMP also contains a set of general policies likely to apply to most development. Amongst these policies key considerations are set that address natural heritage, noise, visual impact, water quality and risk of non-native invasive species.

The National Marine Plan can be viewed here: Ministerial Foreword - Scotland's National Marine Plan - gov.scot

Static maps contained within the National Marine Plan may not be up to date. More current information may be available via the National Marine Plan Interactive website. This provides up to date spatial data and evidence that underpins the implementation of NMP policy: https://marinescotland.atkinsgeospatial.com/nmpi/default.aspx?layers=1148#

National Marine Plan 2: In autumn of 2022 Scottish Government announced that work was commencing on developing National Marine Plan 2 (NMP2). Work is currently underway on this with an expected adoption date for NMP2 set for Summer 2025.

Regional Marine Plan: There is no Regional Marine Plan in place for the relevant area.

Environmental Impact Assessment

The proposed development appears to match prescribed categories of EIA development within the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017. Regarding port development the Regulations include two relevant categories:

• Schedule 1 development, 8 (2) 'Trading ports, piers for loading and unloading connected to land and outside ports (excluding ferry piers) which can take vessels of over 1,350 tonnes'
• Schedule 2, 10 (g) 'Construction of harbours and port installations, including fishing harbours (unless included in schedule 1); [Threshold] where the area of works exceed 1 hectare.

It is unclear from the information provided what capacity of vessel the facility will service. Schedule 1 development automatically triggers the requirement for an EIA to be undertaken. If the development falls within schedule 2, then an EIA screening opinion from Highland Council may be required to determine if an EIA is necessary. A request for this should be made prior to submission of any application. However, if by virtue of the complexities or significance of the potential impacts associated with the development the applicant opts to progress automatically to undertake EIA, then this can be understood as to have had the same effect as a screening opinion.

Where development is undertaken within the marine area (below mean high water springs) the provisions of the Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017 apply in tandem with equivalent EIA development categories included in this set of Regulations. Marine Scotland would be the competent authority for decisions taken under this set of Regulations.

Marine Environment

Key impacts for marine habitats and species that are likely to be associated with port development are:

• Physical change/ loss (of habitat or supporting habitat)
• Sub-surface abrasion/ penetration
• Underwater noise (impulsive)
• Disturbance (visual/ noise)
• Barriers to species movement
• Siltation changes
• Spread/ dispersal of contaminants
• Changes to tidal water flow, wave exposure, water clarity

It is noted that the Highland Council Ecology Officer comments already identify and address NPF4 biodiversity enhancement requirements. Consideration should be given to onsite, integrated measures wherever possible, however it is accepted that the marine environment will present challenges and that off

site measures may be more practical. Where possible preference should be given to 'blue' rather than 'green' measures given the nature of the development. Several designated sites adjoin or have connectivity to the proposed development site, including marine designations, which will require consideration when preparing a development proposal for this site. Appropriate assessment may be required but NatureScot will advise further. Early consideration of inbuilt mitigation is advised, for example dry piling.

In addition to those matters already identified regarding general ecology, records indicate the presence of the following priority marine features: Sea grass beds and blue mussels have been recorded as present to the north of the site within Nigg Bay. South of the site in the opening to Cromarty Firth and within the channel between the two Sutors, records show the presence of Horse Mussel Beds.

As well as the bottlenose dolphin population designated as a feature of Moray Firth SAC, other species of marine mammals are known to be present in the coastal waters adjoining the development site. This includes seals with known haul out areas within Cromarty Firth.

Coastal waters are also likely represent transitory routes for migratory fish species including Atlantic Salmon, Sea Trout and Lamprey. Key periods of sensitivity should be considered in relation to construction activities that may result in impacts.

Other Marine and Coastal Users

Consideration of other ongoing marine use and users will be necessary. Any shoreside or seaward development should:

• Take account of and avoid disruption to the operation of the Cromarty ferry service
• Avoid impacts upon the Shellfish Waters Protected Area located on the on the southern side of Cromarty Firth and the shellfish aquaculture operations within it
• Limit or avoid impacts upon recreational boating and navigation
• Take account of and avoid disruption to other ongoing port operations
• Avoids need for further coastal protection elsewhere

MARINE LICENSING

Marine Scotland - Licensing Operations Team does not intend to comment on the planning application. If any part of the project is located below Mean High Water Springs, a marine licence may be required under the Marine (Scotland) Act 2010. Please advise the applicant to contact us directly at ms.marinelicensing@gov.scot to seek advice on the marine licensing requirements.

Built and Cultural Heritage

Impact on the Historic Environment, Historic Environment Scotland

Thank you for your pre-application advice request in relation to the formation of a new berthing quay on the east side of the Inner Dock at the Port of Nigg. Historic Environment Scotland (HES) received this on 30 May 2023 and have reviewed the details for HES' historic environment interests. HES' historic environment interests cover world heritage sites, scheduled monuments and their setting, category A-listed buildings and their setting, and gardens and designed landscapes (GDLs), historic marine protected areas (HMPAs) and battlefields in their respective inventories.

You should also seek advice from your archaeology and conservation service for matters including unscheduled archaeology and category B and C-listed buildings.

Our Advice

Given the location of the proposed development HES confirm that we do not consider that there is a potential for significant impacts on our terrestrial interests. HES have no further comments to make regarding the proposals at this stage.

We hope this is helpful. Please contact us if you have any questions about this response. The officer

managing this case is Samuel Fox who can be contacted by phone on 01316685421 or by email at Samuel_fox@hes.scot.

Impact on Archaeology
There are no historic environment issues in regard to this proposed development.

Developer Contributions

The Council's Developer Contributions Supplementary Guidance will be used in the determination of planning applications and requires all development, including single house developments, make proportionate financial developer contributions towards meeting service and infrastructure needs in areas of Highland where clear deficiencies are identified. For the proposed development, the anticipated developer contribution requirements are outlined below. Please note that requirements can change over time and the exact amount payable will be confirmed at the point that a planning application is determined.

Planning obligations are sought to mitigate the impact of any development which cannot be mitigated through the planning process or through planning conditions. Any planning obligations sought must accord with Scottish Government Planning Circular 3/2012 (Planning Obligations and Good Neighbour Agreements).

This assessment is made against NPF4 Policy 18 (Infrastructure First) HwLDP Policy 31: Developer Contributions, our Developer Contributions Supplementary Guidance and our most recently published Inner Moray Firth Delivery Programme (2023). There may be additional obligations that arise during the planning process.

The following developer contributions and/or onsite provision are likely to be required:

- Transport infrastructure improvements as the proposal may result in additional HGV, car, public transport, wheeled and pedestrian trips to the site; and
- Green infrastructure, this should include appropriate measures to conserve, restore and enhance biodiversity. Given the nature of the proposal this could potentially be towards off site enhancements within the wider Nigg Energy Park Tax Site.

For the avoidance of doubt, as the proposal is for industrial uses, contributions towards affordable housing, education and community facilities are not required.

Pre-Application Procedures

Public Consultation
Public consultation is not mandatory as the proposal does not consistute 'major' development. Consultation could however be undertaken at the discretion of the application as the proposals develop to help both gauging the opinion of the local community and also scoping potential areas of conflict which could be addressed prior to submission of the application.

When carrying out community consultation we recommend that full consideration is taken of Scottish Government Planning Advice Note 3/2010 - Community Engagement. This includes the standards for community involvement which should be adhered to. These standards are:

- Involvement
- Support
- Planning
- Methods
- Working together
- Sharing information
- Working with others
- Improvement
- Feedback
- Monitoring and evaluation

It is advisable to take into consideration all of the comments made by members of the public before a planning application is submitted to ensure that the public feel they have had an influence over the proposals. For public consultation it may be useful to use the SP=EED tool developed by Planning Aid Scotland. This builds on the Standards for Community Engagement set out in PAN 3/2010. This is available online at https://www.pas.org.uk/.

Environmental Impact Assessment Screening

The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017 requires that construction of harbours and port installations, including fishing harbours (unless included in schedule 1); where the area of works exceed 1 hectare must be screened to determine whether an Environmental Impact Assessment (EIA) is required to support a planning application. *This proposal is therefore required/ to be screened.* A formal request for a Screening Opinion/s should be made in writing to the Planning Authority. An EIA Screening Opinion form can be downloaded from the Councils website here. At present it is not possible to do this online.

Community Councils

In terms of the appropriate Community Councils to consult, the proposal is located within the *Nigg and Shandwick Community Council* area. A development of the nature proposed may affect a number of adjacent Community Councils, as such it is recommended that adjacent Community Councils are also consulted. The Ward Manager *Helen Ross* can provide advice further in this regard if required. Contact details for all community Councils can be found here.

Access

It would be beneficial to at this stage consult with the local Disability Access Panel. The contact details for your local panel are:

Ross & Cromarty Disability Access Group, PO Box 32, Muir of Ord, Ross-shire, IV6 7WE. Telephone: 01349 861956

For general advice in relation to the removal of barriers and the promotion of equal access for all people affected by disability for your development contact the Scottish Disability Equality Forum, 12 Enterprise House, Springkerse Business Park, Stirling, FK7 7UF. Telephone: (01786) 446456.

Application Procedures

Processing Agreements

A processing agreement is a way of helping developers, the Council and relevant stakeholders work together through the planning process. It involves setting out the key stages involved in deciding a planning application, identifying what information is required from whom and setting time scales for the various stages of the process.

The Council actively encourages the use of processing agreements for major applications. You are advised to contact the Council's Major Application Team with a view to agreeing a Processing Agreement at the earliest possible opportunity. Contact details are provided in section 18 towards the end of this pack.

Councillors Code of Conduct

It would be beneficial for you to be familiar with the Councillors' Code of Conduct. This is available online at the Standards Commission for Scotland website.

Scheme of Delegation

All applications will be determined in line with the Council's Scheme of Delegation. It would be beneficial for you to familiarise yourself with the scheme. This is available online.

Any Other Appropriate Information

Gaelic

In line with the Council's ongoing commitment to promote the increased use of Gaelic in developments within the Highlands, you are encouraged to consider the use of bilingual signs - both internal and external - as part of your proposal. Our Gaelic Translation Officers are able to provide additional advice and help with translations, if required.

For further information and guidance, please contact gaelic@highland.gov.uk

To download a copy of the Council's 'Using Gaelic in Signs' advice note, please visit: https://www.highland.gov.uk/downloads/file/11857/guidelines_on_the_use_of_gaelic_in_highland_council_services

For details on grant funding for bilingual signage, please contact Comunn na Gàidhlig on (01463) 724287 or visit www.cnag.org.

Contacts	
Gillian Pearson - Case Officer	gillian.pearson@highland.gov.uk
Dafydd Jones - Area Planning Manager North	dafydd.jones@highland.gov.uk
Flood Risk Management Team – Richard Bryan	Richard.Bryan@highland.gov.uk
Access Officer – Philip Waite	Philip.Waite@highland.gov.uk
Contaminated Land – Esther Macrae	Esther.macrae@highland.gov.uk
Landscape Officer – Anne Cowling	Anne.cowling@highland.gov.uk
Historic Environment Team – Kirsty Cameron	kirsty.cameron@highland.gov.uk
Ecology Officer - Karen Couper	Karen.Couper@highland.gov.uk
Coastal Planner – Jethro Watson	Jethro.watson@highland.gov.uk
Transport Planning – Mark Clough	Mark.clough@highland.gov.uk
Environmental Health Officer – Chris Ratter	chris.ratter@highland.gov.uk
Development Plans - Lynn Mackay	Lynn.mackay1@highland.gov.uk
Nature Scot - David Patterson	David.patterson@nature.scot
Marine Licensing - Maureen McIntyre	ms.marinelicensing@gov.scot
SEPA – Laura Seivwright	laura.seivwright@sepa.org.uk
Transport Scotland – Gerard Mcphillips	gerard.mcphillips@transport.gov.scot
Historic Environment Scotland - Samuel Fox	samuel.fox@hes.scot

Disclaimer

This advice is based on the information submitted and is given without prejudice to the future consideration of and decision on any application received by The Highland Council.

Pre-application case files are not publicly available but can be the subject of Freedom of Information and Environmental Information Regulations requests.

Useful Weblinks

The Highland Council Development Plans

https://www.highland.gov.uk/info/178/local_and_statutory_development_plans

Highland Council Supplementary and Development Guidance Listed by Category:

https://www.highland.gov.uk/directory/52/development_guidance

Siting and Design Quality:

THC Sustainable Design Guide
https://www.highland.gov.uk/directory_record/683409/sustainable_design

Roads/Access and Transport

More information on access and parking standards (incl. small housing developments) can be found at:
https://www.highland.gov.uk/info/20005/roads_and_pavements/101/permits_for_working_on_public_roads/4

Access Panel

The Council encourages applicants at pre-application stage to engage with the local Disability Access Panel to consider accessibility improvements for physically disabled and sensory impaired people. The Highland Council have published a Planning Protocol for Effective Engagement with Access Panels, which you should take into consideration

Access Panels Contact Info-
https://www.highland.gov.uk/info/751/equality_diversity_and_citizenship/326/equality_and_diversity_contacts/4

Scottish Government

Scottish Government Building, Planning and Design Pages
https://www.gov.scot/building-planning-and-design/

Scottish Government Planning and Architecture Guidance
https://www.gov.scot/policies/planning-architecture/planning-guidance/

Scottish Planning Policy
https://www.gov.scot/publications/scottish-planning-policy/

Scottish Water

Contact Scottish Water for guidance on connections to the public water/drainage network:
https://www.scottishwater.co.uk/en/Business-and-Developers/Connecting-to-Our-Network/Pre-Development-Information/Planning-Your-Development

SEPA

You can find more information on SUDS at: https://www.sepa.org.uk/regulations/water/diffuse-pollution/diffuse-pollution-in-the-urban-environment/

You can view SEPA's small-scale developments guidance here:
https://www.sepa.org.uk/regulations/water/small-scale-sewage-discharges/

You can view SEPA's flood risk map here: https://www.sepa.org.uk/environment/water/flooding/flood-maps/

CAR Licensing - https://www.sepa.org.uk/media/34761/car_a_practical_guide.pdf

Historic Environment

The Highland Historic Environment Record (HER) contains detailed information about listed buildings, conservation areas and archaeological sites in the Highland area:
http://her.highland.gov.uk

General advice on development affecting historic designations can be found at:
https://www.historicenvironment.scot/advice-and-support/

Protected Species -SNH

More information on Scotland's protected species and areas can be found at:
https://www.nature.scot/professional-advice/safeguarding-protected-areas-and-species/protected-species

https://www.nature.scot/professional-advice/planning-and-development/natural-heritage-advice-planners-and-developers/planning-and-development-protected-areas

Trees and Woodland

The Scottish Government's woodland strategy and associated polices can be found here:
https://forestry.gov.scot/support-regulations/control-of-woodland-removal

The Council's guidance on tree/woodland issues can be found here:
http://www.highland.gov.uk/info/1225/countryside_farming_and_wildlife/63/trees_and_forestry/

C LABORATORY RESULTS

Technical File Note #01 – Water Sampling

Version	Date	Written By	Reviewed By
1	15/12/23	Amy Marcham (Technical Specialist)	JP Renaud (Technical Director)

TABLE OF CONTENTS

APPENDICES

1. INTRODUCTION

ERS was instructed by Global Energy Nigg Ltd. (The Client) to undertake groundwater monitoring and sampling from existing boreholes located in Nigg Dock, Nigg. Alterations to the Inner Dock are planned, including construction of a quay, and water monitoring / sampling was requested to provide information on current conditions.

Existing boreholes BH109, MW23, BH04-12 and BH105 were identified as the locations most relevant for the proposed development.

2. MONITORING AND SAMPLING

1.1 Groundwater Monitoring and Sampling

The monitoring and sampling visit was undertaken on 05 December 2023. BH109, MW23, BH04-12 and BH105 were dipped and groundwater was identified in all 4no. monitoring wells.

Groundwater samples were obtained from all 4 no. boreholes, to assess the status of the groundwater underlying this area of the site. The wells were purged using a purge pump / bailer of three well volumes prior to sampling to ensure collection of representative samples.

No visual or olfactory evidence of potential contamination was observed during the monitoring. The groundwater monitoring and sampling record sheet is presented in Appendix 1. Borehole sample locations are shown on DN6459.

1.2 Surface Water Sampling

2 no. surface water samples from the dock were also taken, accessed from the rock armour riprap, using a pole extension. Approximate surface water sample locations are shown on DN6459.

1.3 Sample Handling and Analysis

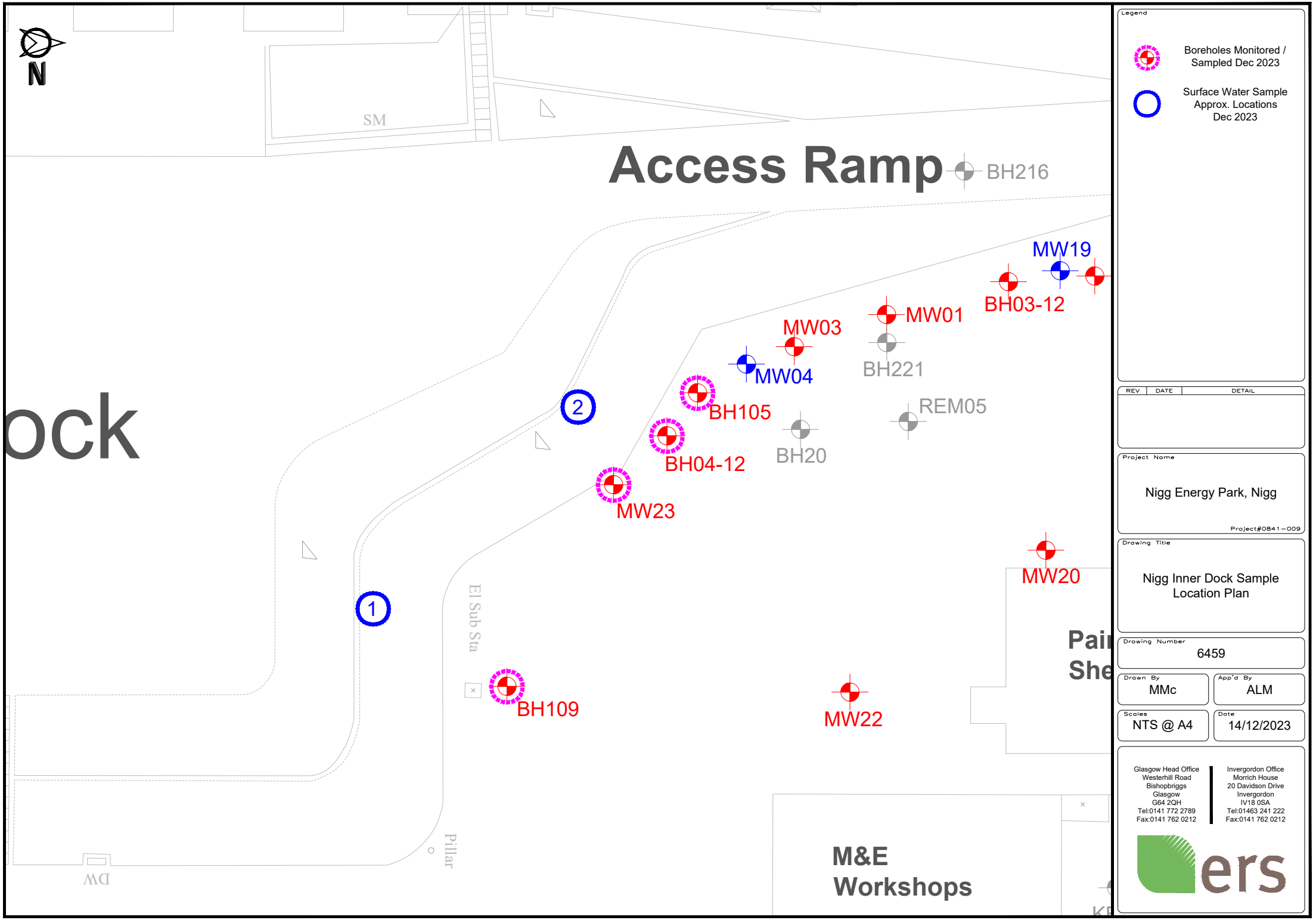
The water samples were taken in accordance with BS 6068-6.11:2009 and kept in glass containers in cold storage, during transportation to i2 Analytical. Samples were scheduled for hydrocarbons (groundwater and surface water samples) and biodegradation indicators (groundwater samples only). The samples were received by the laboratory and analysis started on 06 November 2023. A copy of the chain of custody is included in Appendix 2.

1.4 Laboratory Results

The laboratory results are provided in Appendix 3.

The results show that hydrocarbons (TPH CWG, BTEX and PAH) were not detected above their limit descriptions in any of the groundwater or surface water samples.

DRAWING – ERS DN6459


N
Access Ramp
BH216
SM
ock
MW19
BH03-12
MW01
MW03
BH221
MW04
REM05
BH105
BH20
BH04-12
MW23
MW20
2
1
El Sub Sta
BH109
MW22
Pillar
DW
M&E
Workshops
Legend
Boreholes Monitored / Sampled Dec 2023
Surface Water Sample Approx. Locations Dec 2023
REV
DATE
DETAIL
Project Name
Nigg Energy Park, Nigg
Project#0841-009
Drawing Title
Nigg Inner Dock Sample Location Plan
Drawing Number
6459
Drawn By
MMc
App'd By
ALM
Scales
NTS @ A4
Date
14/12/2023
Glasgow Head Office
Westerhill Road
Bishopbriggs
Glasgow
G64 2QH
Tel:0141 772 2789
Fax:0141 762 0212
Invergordon Office
Morrich House
20 Davidson Drive
Invergordon
IV18 0SA
Tel:01463 241 222
Fax:0141 762 0212
ers

Appendix 1 – Water Monitoring Record Sheet

ERS
Westerhill Road
Bishopbriggs, Glasgow
G64 2QH

Tel: 0141 772 2789
Fax: 0141 762 0212
Web: www.ersremediation.com

GROUNDWATER LEVEL MONITORING RECORD

Contract Name: Nigg Inner Dock
Contract No.: 0841-009

Date of Visit: 12/05/2023
Engineer: Scott B

Weather Conditions: Sunny / Freezing Fog

Purge Method: Well Pump
Sampling Method: Low Flow Peristatic Pump
Added Procedure: Decontamination of interface meter between boreholes

BH No.	Depth to GW (mbGL)	Depth to NAPL	NAPL Thickness (mm)	Ground Level (mAOD)	Groundwater Level (mAOD)	Radius of Well r (m)	1 x Well Volume (L) ($1.\pi.r^2.h.1000$)	Required Well Volume Factor	Calculated Volume (L)	Measured Purged Volume (L)	Time sampled	Comments	Samples
BH109	3.56	-	-	4.13	0.57	0.025	8.77	3	26.32	27.0	11:15	HW Height 41cm, BH safe and in good condition, missing gas bung. Water slightly cloudy. No odour/sheen.	2x 300ml Glass + 2x 40ml Vials
MW23	3.38	-	-	4.01	0.63	0.025	10.58	3	31.73	32.0	12:10	BH HW damaged, BH is usable and in good condition. Water slightly cloudy. No odour/sheen.	2x 300ml Glass + 2x 40ml Vials
BH04-12	3.77	-	-	4.08	0.31	0.025	10.36	3	31.09	32.0	13:05	HW height 43cm, Water flooded headworks but cleared and BH ok, Gas Bung Present and functional. Water slightly cloudy. No odour/sheen.	2x 300ml Glass + 2x 40ml Vials
BH105	3.84	-	-	4.08	0.24	0.025	9.99	3	29.97	30.0	14:00	Headworks broken, BH had alot of gravel inside blocking access, cleared and BH seemed ok, base Dip may differ due to ingress of loose gravel. Water slightly cloudy. No odour/sheen.	2x 300ml Glass + 2x 40ml Vials
Surface 1	-	-	-	-	-	-	-	-	-	-	10:00	Sampled all ok from rocks with Extendable sampling pole. No odour/sheen.	2x 300ml Glass + 2x 40ml Vials
Surface 2	-	-	-	-	-	-	-	-	-	-	10:40	Sampled all ok from rocks with Extendable sampling pole. No odour/sheen.	2x 300ml Glass + 2x 40ml Vials

Appendix 2 – Chain of Custody

ERS
Westerhill Road
Bishopbriggs
Glasgow
G64 2QH

GEOCHEMICAL SCHEDULE

Contract No.	0841-009	**Project Manager:**	Amy Marcham	**Date Scheduled:**	06/12/2023
Contract Name:	Nigg Inner Dock Quay	**Contact No.:**	01417722789	**Turnaround Reqd:**	
Site Address:	Nigg Inner Dock Quay	**E-mail:**	amy@ersremediation.com	**Due Date:**	
Client:		**Date Sampled:**	05/12/2023	**PO No.:**	17036
Consultant:		**Sampled By:**	SB	**Page No.:**	1 of 1

Geochem Lab:	i2	Special Instructions:	All samples to be kept and stored below 4°C. All soil samples to be held in store under standard laboratory time until disposal confimration received.
Lab Quote Ref:	Q-802584.2		

Additional

Mark `x` where required

	AGS Report Fomat
x	CSV Report Format
x	PDF Report Format
	GIS Format
	Other

GEOCHEMICAL TESTING REQUIREMENTS

Sample Details

Exploratory Position No. (BH/TP/HP)	Sample Depth (m)	Sample Date	Sample Type (ES = J,V,ET)	Sample Format	Leachate Preparation Required	TPHCWG - accredited	Speciated PAHs	pH	Redox potential	Dissolved oxygen	Electrical conductivity	Ferric Iron - Fe (III)	Mn (total)	Chloride	Nitrate	Nitrite	Sulphate	Sulphide	Comments
Limits of Detection (LOD)																			
LOD Units																			
BH109		05/12/2023		GW		x	x	x	x	x	x	x	x	x	x	x	x	x	2x 300ml glass, 2x VOC vial
MW23		05/12/2023		GW		x	x	x	x	x	x	x	x	x	x	x	x	x	2x 300ml glass, 2x VOC vial
BH04-12		05/12/2023		GW		x	x	x	x	x	x	x	x	x	x	x	x	x	2x 300ml glass, 2x VOC vial
BH105		05/12/2023		GW		x	x	x	x	x	x	x	x	x	x	x	x	x	2x 300ml glass, 2x VOC vial
Surface 1		05/12/2023		SW		x	x	x	x	x	x								2x 300ml glass, 2x VOC vial
Surface 2		05/12/2023		SW		x	x	x	x	x	x								2x 300ml glass, 2x VOC vial
Geochemical Test Totals						6	6	6	6	6	6	4	4	4	4	4	4	4	

SAMPLE RECEIPT

i2's job no: 23-73315

Environmental Reclamation Services Limited
Bishopbriggs
Glasgow
G64 2QH

Tel:
Fax:
E-mail: amy@ersremediation.com

Contact: Amy Marcham
Your job no: 0841-009 **Received on:** 06/12/2023
Your order no: 17036 **Booked in:** 06/12/2023
Turnaround: 5 **Due date:** 13/12/2023

Site: Nigg Inner Dock Quay
Sample Type(s): 6 water samples

i2 Analytical
7 Woodshots Meadows
Croxley Green Business Park
Watford
Herts
WD18 8YS
Tel: 01923 225404
Fax: 01923 237404
www.i2analytical.com

Accreditation Status of Test				Metals in water by ICP-MS (total)	Electrical conductivity at 20oC of water	Metals in water by ICP-OES (dissolved)	Nitrate in water	Dissolved Oxygen in water	Speciated EPA-16 PAHs in water	Redox Potential of waters	Sulphide in water	Sulphate in water	TPHCWG (Waters)
		UKAS		Y	Y	Y	Y		Y			Y	
		MCERTS											
SAMPLES	**SAMPLE ID**	***AGS TYPE**	**DEPTH**										
2902144	BH109	W		X	X	X	X	X	X	X	X	X	X
2902145	MW23	W		X	X	X	X	X	X	X	X	X	X
2902146	BH04-12	W		X	X	X	X	X	X	X	X	X	X
2902147	BH105	W		X	X	X	X	X	X	X	X	X	X
2902148	Surface 1	W			X			X	X	X			X
2902149	Surface 2	W			X			X	X	X			X

For samples submitted to i2 Analytical Limited that requires a statement of conformity to an industry standard specification, the risk associated with uncertainty in relation to the decision rules applied, do not need to be considered. The uncertainty is taken into account from the relevant international standards used. More information can be found on our Terms & Conditions.
For tests showing Y to Accreditation, refer to UKAS Scope of Accreditation (https://www.ukas.com/download-schedule/4041/Testing/) for detail of parameters and matrices. For MCERTS accredited tests to be reported as such, the sample description performed on receipt at the laboratory must conform to the sand/clay/loam soil type. Where soils do not meet the MCERTS matrix requirements, accreditation status of an accredited test will be reported as NONE.

SAMPLE RECEIPT

i2's job no: 23-73315

Environmental Reclamation Services Limited
Bishopbriggs
Glasgow
G64 2QH

Tel:
Fax:
E-mail: amy@ersremediation.com

Contact: Amy Marcham
Your job no: 0841-009 **Received on:** 06/12/2023
Your order no: 17036 **Booked in:** 06/12/2023
Turnaround: 5 **Due date:** 13/12/2023

Site: Nigg Inner Dock Quay
Sample Type(s): 6 water samples

i2 Analytical
7 Woodshots Meadows
Croxley Green Business Park
Watford
Herts
WD18 8YS
Tel: 01923 225404
Fax: 01923 237404
www.i2analytical.com

Accreditation Status of Test				TPH C10-C35 by GCxGC-FID	BTEX and MTBE in water (Monoaromatics)	Nitrate as N in water	Iron (II) and Iron (III) in water	pH at 20oC in water (automated)	Chloride in water				
			UKAS	Y	Y	Y		Y	Y				
			MCERTS										
SAMPLES	**SAMPLE ID**	***AGS TYPE**	**DEPTH**										
2902144	BH109	W		X	X	X	X	X	X				
2902145	MW23	W		X	X	X	X	X	X				
2902146	BH04-12	W		X	X	X	X	X	X				
2902147	BH105	W		X	X	X	X	X	X				
2902148	Surface 1	W		X	X			X					
2902149	Surface 2	W		X	X			X					

For samples submitted to i2 Analytical Limited that requires a statement of conformity to an industry standard specification, the risk associated with uncertainty in relation to the decision rules applied, do not need to be considered. The uncertainty is taken into account from the relevant international standards used. More information can be found on our Terms & Conditions.
For tests showing Y to Accreditation, refer to UKAS Scope of Accreditation (https://www.ukas.com/download-schedule/4041/Testing/) for detail of parameters and matrices. For MCERTS accredited tests to be reported as such, the sample description performed on receipt at the laboratory must conform to the sand/clay/loam soil type. Where soils do not meet the MCERTS matrix requirements, accreditation status of an accredited test will be reported as NONE.

Appendix 3 – Analytical Results

Amy Marcham
Environmental Reclamation Services Limited☐
Bishopbriggs
Glasgow
G64 2QH

e: amy@ersremediation.com

i2 Analytical Ltd.
9 Langlands Place,
Kelvin South Business Park,
East Kilbride,
Glasgow,
G75 0YF

t: 01355202915
f: 01923237404
e: scotland@i2analytical.com

Analytical Report Number : 23-73315

Project / Site name:	Nigg Inner Dock Quay	**Samples received on:**	06/12/2023
Your job number:	0841-009	**Samples instructed on/ Analysis started on:**	06/12/2023
Your order number:	17036	**Analysis completed by:**	13/12/2023
Report Issue Number:	1	**Report issued on:**	13/12/2023
Samples Analysed:	6 water samples		

Signed:

Alyssa Brown
Customer Service Advisor
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 23-73315
Project / Site name: Nigg Inner Dock Quay

Your Order No: 17036

Lab Sample Number				2902144	2902145	2902146	2902147	2902148
Sample Reference				BH109	MW23	BH04-12	BH105	Surface 1
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				05/12/2023	05/12/2023	05/12/2023	05/12/2023	05/12/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH (L099)	pH Units	N/A	ISO 17025	7.4	7.5	7.4	7.4	7.9
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	970	1100	980	1000	37000
Sulphate as SO4	µg/l	45	ISO 17025	55700	70000	61900	47900	-
Sulphate as SO4	mg/l	0.045	ISO 17025	55.7	70	61.9	47.9	-
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	-
Chloride	mg/l	0.15	ISO 17025	94	130	90	100	-
Nitrate as N	mg/l	0.01	ISO 17025	10.4	11.2	10.7	10.2	-
Nitrate as NO3	mg/l	0.05	ISO 17025	46.1	49.4	47.2	45.3	-
Redox Potential	mV	-800	NONE	214	218.1	212.7	210.9	178.1
Dissolved Oxygen	mg/l	1	NONE	3.5	3.9	3.6	3.5	9.5
Speciated PAHs								
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Total PAH								
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16
Heavy Metals / Metalloids								
Iron (dissolved)	mg/l	0.004	ISO 17025	0.027	0.022	< 0.004	0.012	-
Iron (dissolved)	µg/l	4	ISO 17025	27	22	< 4.0	12	-
Iron (Fe2+) (dissolved)	µg/l	200	NONE	< 200	2000	< 200	< 200	-
Iron (Fe3+) (dissolved)	µg/l	200	NONE	< 200	< 200	< 200	< 200	-
Manganese (total)	µg/l	0.05	ISO 17025	75	240	78	92	-
Monoaromatics & Oxygenates								
Benzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Toluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Ethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
p & m-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
o-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Petroleum Hydrocarbons								

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Environmental Science

Analytical Report Number: 23-73315
Project / Site name: Nigg Inner Dock Quay

Your Order No: 17036

Lab Sample Number				2902144	2902145	2902146	2902147	2902148
Sample Reference				BH109	MW23	BH04-12	BH105	Surface 1
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				05/12/2023	05/12/2023	05/12/2023	05/12/2023	05/12/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
TPH-CWG - Aliphatic >C5 - C6 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C5 - C7 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic >C10 - C12 $_{EH\_2D\_AR\_\#1\_\#2}$	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Aromatic >C12 - C16 $_{EH\_2D\_AR\_\#1\_\#2}$	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Aromatic >C16 - C21 $_{EH\_2D\_AR\_\#1\_\#2}$	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Aromatic >C21 - C35 $_{EH\_2D\_AR\_\#1\_\#2}$	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Aromatic >C10 - C35 $_{EH\_2D\_AR\_\#1\_\#2}$	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Aliphatic >C10 - C12 $_{EH\_2D\_AL\_\#1\_\#2}$	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Aliphatic >C12 - C16 $_{EH\_2D\_AL\_\#1\_\#2}$	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Aliphatic >C16 - C21 $_{EH\_2D\_AL\_\#1\_\#2}$	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Aliphatic >C21 - C35 $_{EH\_2D\_AL\_\#1\_\#2}$	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Aliphatic >C10 - C35 $_{EH\_2D\_AL\_\#1\_\#2}$	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not Detected

UKAS TESTING
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Analytical i2 Environmental Science

Analytical Report Number: 23-73315
Project / Site name: Nigg Inner Dock Quay

Your Order No: 17036

Lab Sample Number				2902149
Sample Reference				Surface 2
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				05/12/2023
Time Taken				None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
General Inorganics				
pH (L099)	pH Units	N/A	ISO 17025	7.9
Electrical Conductivity at 20 °C (L031B)	µS/cm	10	ISO 17025	37000
Sulphate as SO4	µg/l	45	ISO 17025	-
Sulphate as SO4	mg/l	0.045	ISO 17025	-
Sulphide	µg/l	5	NONE	-
Chloride	mg/l	0.15	ISO 17025	-
Nitrate as N	mg/l	0.01	ISO 17025	-
Nitrate as NO3	mg/l	0.05	ISO 17025	-
Redox Potential	mV	-800	NONE	169.5
Dissolved Oxygen	mg/l	1	NONE	10
Speciated PAHs				
Naphthalene	µg/l	0.01	ISO 17025	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01
Total PAH				
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16
Heavy Metals / Metalloids				
Iron (dissolved)	mg/l	0.004	ISO 17025	-
Iron (dissolved)	µg/l	4	ISO 17025	-
Iron (Fe2+) (dissolved)	µg/l	200	NONE	-
Iron (Fe3+) (dissolved)	µg/l	200	NONE	-
Manganese (total)	µg/l	0.05	ISO 17025	-
Monoaromatics & Oxygenates				
Benzene	µg/l	3	ISO 17025	< 3.0
Toluene	µg/l	3	ISO 17025	< 3.0
Ethylbenzene	µg/l	3	ISO 17025	< 3.0
p & m-xylene	µg/l	3	ISO 17025	< 3.0
o-xylene	µg/l	3	ISO 17025	< 3.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0
Petroleum Hydrocarbons				

Analytical Report Number: 23-73315
Project / Site name: Nigg Inner Dock Quay

Your Order No: 17036

Lab Sample Number				2902149
Sample Reference				Surface 2
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				05/12/2023
Time Taken				None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
TPH-CWG - Aliphatic >C5 - C6 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aliphatic >C6 - C8 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aliphatic >C8 - C10 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aromatic >C5 - C7 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aromatic >C7 - C8 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0
TPH-CWG - Aromatic >C8 - C10 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0
Aromatic >C10 - C12 $_{EH\_2D\_AR\_\#1\_\#2}$	µg/l	10	ISO 17025	< 10
Aromatic >C12 - C16 $_{EH\_2D\_AR\_\#1\_\#2}$	µg/l	10	ISO 17025	< 10
Aromatic >C16 - C21 $_{EH\_2D\_AR\_\#1\_\#2}$	µg/l	10	ISO 17025	< 10
Aromatic >C21 - C35 $_{EH\_2D\_AR\_\#1\_\#2}$	µg/l	10	ISO 17025	< 10
Aromatic >C10 - C35 $_{EH\_2D\_AR\_\#1\_\#2}$	µg/l	10	ISO 17025	< 10
Aliphatic >C10 - C12 $_{EH\_2D\_AL\_\#1\_\#2}$	µg/l	10	ISO 17025	< 10
Aliphatic >C12 - C16 $_{EH\_2D\_AL\_\#1\_\#2}$	µg/l	10	ISO 17025	< 10
Aliphatic >C16 - C21 $_{EH\_2D\_AL\_\#1\_\#2}$	µg/l	10	ISO 17025	< 10
Aliphatic >C21 - C35 $_{EH\_2D\_AL\_\#1\_\#2}$	µg/l	10	ISO 17025	< 10
Aliphatic >C10 - C35 $_{EH\_2D\_AL\_\#1\_\#2}$	µg/l	10	ISO 17025	< 10

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not Detected

Analytical Report Number : 23-73315
Project / Site name: Nigg Inner Dock Quay

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in water by ICP-MS (total)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 "for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
Electrical conductivity at 20oC of water	Determination of electrical conductivity in water by electrometric measurement. Accredited Matrices SW, GW, PW	In-house method	L031-PL	W	ISO 17025
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Nitrate in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW	In-house method based on Examination of Water and Wastewatern & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
Dissolved Oxygen in water	Determination of dissolved oxygen.	In-house method	L086-PL	W	NONE
Speciated EPA-16 PAHs in water	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards. Accredited matrices: SW PW GW	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
Redox Potential of waters	Determination of redox potential in water by electrometric measurement versus Ag/AgCl electrode.	In house method.	L084-PL	W	NONE
Sulphide in water	Determination of sulphide in water by ion selective electrode.	In-house method	L029-PL	W	NONE
Sulphate in water	Determination of sulphate in water after filtration by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	ISO 17025
TPH C10-C35 by GCxGC-FID	Determination of total petroleum hydrocarbons in water by GC x GC FID with carbon banding aliphatic and aromatic C10-C35. Accredited Matrices SW,GW,PW.	In-house method	L101B-PL	W	ISO 17025
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260. Refer to CoA for analyte specific accreditation	L073B-PL	W	ISO 17025
Nitrate as N in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewatern & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
Iron (II) and Iron (III) in water	Determination of Iron II and Iron III in water by coloration with phenanthroline and calculation.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L079-PL	W	NONE
pH at 20oC in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L099-PL	W	ISO 17025
Chloride in water	Determination of Chloride (diissolved) colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260. Accredited matrices: SW, PW, GW.	L082-PL	W	ISO 17025

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Analytical Report Number : 23-73315
Project / Site name: Nigg Inner Dock Quay

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL or B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

Sample Deviation Report

Analytical Report Number : 23-73315
Project / Site name: Nigg Inner Dock Quay

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis.Please note that the associated result(s) may be unreliable and should be interpreted with care.

Key: a - No sampling date b - Incorrect container c - Holding time d - Headspace e - Temperature

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH109	None Supplied	W	2902144	c	pH in water	L099-PL	c
MW23	None Supplied	W	2902145	c	pH in water	L099-PL	c
BH04-12	None Supplied	W	2902146	c	pH in water	L099-PL	c
BH105	None Supplied	W	2902147	c	pH in water	L099-PL	c
SURFACE 1	None Supplied	W	2902148	c	pH in water	L099-PL	c
SURFACE 2	None Supplied	W	2902149	c	pH in water	L099-PL	c
BH109	None Supplied	W	2902144	c	Electrical conductivity at 20oC of water	L031-PL	c
MW23	None Supplied	W	2902145	c	Electrical conductivity at 20oC of water	L031-PL	c
BH04-12	None Supplied	W	2902146	c	Electrical conductivity at 20oC of water	L031-PL	c
BH105	None Supplied	W	2902147	c	Electrical conductivity at 20oC of water	L031-PL	c
SURFACE 1	None Supplied	W	2902148	c	Electrical conductivity at 20oC of water	L031-PL	c
SURFACE 2	None Supplied	W	2902149	c	Electrical conductivity at 20oC of water	L031-PL	c