

# Stromar Offshore Wind Farm

## Environmental Impact Assessment: Scoping Report

Proposed Onshore Development

Date: 20 December 2023

Document Number: 08548600\_A

Revision Number: A

Classification: External

**Revision History**

Rev.	Prepared By	Checked by	Approved by	Description	Date
A	SLR	Ørsted	Ørsted	Final for issue	20.12.2023

## Executive Summary

### Overview

Stromar Offshore Wind Farm Limited (the Developer) is proposing the development of the Stromar Offshore Wind Farm (the Project) off the north-east coast of Scotland approximately 50 km east of Wick. The Project would be capable of powering over 1 million UK homes each year. It would therefore make a significant contribution to the Scottish and UK Government's ambitions for increased deployment of offshore wind capacity<sup>1</sup> in order to meet net zero targets, provide greater energy security and maximise economic opportunities.

Essential to the Project will be the provision of the onshore infrastructure (herein after referred to as 'the Proposed Onshore Development') needed to facilitate the export of power generated from the offshore wind farm into the national electricity transmission network. The need for the provision of such infrastructure is recognised in the Scottish Government's National Planning Framework 4 (NPF4) (Scottish Government, 2023a), which confirms that the addition of new electricity transmission infrastructure to connect and transmit the output from new offshore wind farms constitutes national development.

The Proposed Onshore Development will include Onshore Export Cables to connect to Offshore Export Cables at landfall, and a new Onshore Substation/Converter Station. An Onshore Reactive Compensation Station may also be needed. Landfall will be made along the Aberdeenshire Coastline between Rosehearty and Fraserburgh. It is anticipated that the grid connection will be made at New Deer 2 substation, a new 400 kilovolt (kV) substation to be developed by Scottish and Southern Electricity Networks Transmission (SSEN Transmission) near to the existing New Deer substation. It is expected that the Onshore Export Cable route will be approximately 30 km long.

The purpose of this Onshore Scoping Report is to support a request for a formal Scoping Opinion from Aberdeenshire Council under Regulation 17 of the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017 (the 2017 EIA Regulations) for the Proposed Onshore Development. It provides a brief description of the Proposed Onshore Development's nature, purpose and possible effects upon the environment; a plan sufficient to identify the land to which the Proposed Onshore Development relates; identifies likely significant effects that may arise as a result of the Proposed Onshore Development and describes how these effects are proposed to be assessed. It is anticipated that Aberdeenshire Council will consult with a number of consultees and incorporate their views within the Scoping Opinion response.

It is recognised that many EIAs and EIA Reports (EIARs) have become unnecessarily onerous and excessively long. A key objective of this Onshore Scoping Report is to seek to deliver a more proportionate EIA that focuses on likely significant effects only (rather than any potential impacts) and is not any longer than necessary to properly assess those effect. In addition to identifying impacts to be scoped in and scoped out of the EIA, this Onshore Scoping Report therefore identifies impacts which have been scoped in on a precautionary basis at this scoping stage but where it is anticipated further evidence will be provided post-scoping to refine the scope of the assessment. This further evidence may take the form of project design decisions, refinement of the route planning and site selection (RPSS) work, or further baseline data collection.

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<sup>1</sup> The Climate Change (Emissions Reduction Targets) (Scotland) Act 2019 commits Scotland to be net zero by 2045. The Climate Change Act 2019 commits the UK to net-zero emissions of all greenhouse gases by 2050.

In order to achieve this proportionate EIA approach, further post-scoping consultation with statutory and non-statutory consultees throughout the ongoing RPSS and EIA process will be needed. This Onshore Scoping Report identifies the proposed mechanisms and timing for this post-scoping consultation. This may include a pre-EIAR gate check with Aberdeenshire Council at which agreement would be requested on the proposed final content of the Onshore EIAR.

A series of public consultation events will also take place throughout 2024 to ensure the public is fully informed and that their views are considered in the site selection, design and development of the Proposed Onshore Development. These events will take place in accordance with the statutory pre-application consultation requirements for national developments.

Some ecology and ornithology surveys have already taken place. The remaining environmental surveys and assessments will be undertaken in 2024, with the outputs from this work informing the layout and design of the Proposed Onshore Development as well as the identification of any additional secondary commitments that are proposed to prevent, reduce or offset any likely significant adverse effects on the environment.

The findings of the EIA will then be reported in the Onshore EIAR to be submitted with the planning application. The EIAR will be based on the best and most recent evidence. The content of the EIAR will reflect the Scoping Opinion and any further agreements/decisions with Aberdeenshire Council and consultees on the scope of the EIA or the assessment methodologies that have taken place post-scoping.

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Appendix 3.2: Onshore Commitments Register

Appendix 3.3: Onshore Impacts Register

Appendix 8.1: Protected, Notable, and Legally Controlled Species Records

Appendix 10.1: Designated Cultural Heritage Assets

Appendix 11.1: Land Capability for Agriculture Classes

## Glossary of Terminology

Acronym	Definition
Approved of Matters Specified in Conditions (AMSC)	The second stage of a Planning Permission in Principle (PPP) application under the Town and Country Planning (Scotland) Act 1997 when the approval, consent or agreement of the Planning Authority for any detailed aspects of the development is sought.
Array Area	The area in which the generation infrastructure will be located, including Wind Turbine Generators and associated foundations, inter-array/interconnector cables, and offshore substations.
Biodiversity Restoration Enhancement Plan (BREP)	Required under National Planning Framework 4 (NPF4) which sets out new requirements for developments to deliver positive effects, primarily under Policy 3 - this states that all development will contribute to the enhancement of biodiversity, including where relevant, restoring degraded habitats.
Cable Protection	Cable protection may be placed on the seabed to protect cables from hazards.
Commitment	A term used interchangeably with mitigation and enhancement measures. Commitments are Embedded Mitigation Measures. The purpose of Commitments is to reduce and/or eliminate Likely Significant Effect (LSE), in EIA terms.
Cumulative Effects	The combined potential effect of the Project in combination with the potential effects from consented and future projects, on the same single receptor/resource. Cumulative effects also refers to potential effects from both the Proposed Offshore Development and Proposed Onshore Development on the same receptor.
Design Envelope	Project parameters that are used in the Environmental Impact Assessment (EIA) for the Stromar Offshore Wind Farm. This comprises a description of the range of possible elements that make up the project design options under consideration, as set out in detail in the project description when the exact engineering parameters are not yet known. This is often referred to as a "Rochdale Envelope" approach.
Developer	Stromar Offshore Wind Farm Limited. A consortium comprising Ørsted, Renantis, and BlueFloat Energy.
Effect	Term used to express the consequences of an impact. The significance of an effect is determined by correlating the magnitude of the impact with the importance, or sensitivity, of the receptor or resource in accordance with defined significance criteria.
EIA Directive	European Union Directive 85/337/EEC, as amended by Directive 97/11/EC, 2003/35/EC and 2009/31/EC and then codified by Directive 2011/92/EU of 13 December 2011 (as amended in 2014 by Directive 2014/52/EU).

Acronym	Definition
EIA Regulations	<p>The collective term used to refer to the following:</p> <ul style="list-style-type: none"> <li>• The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017;</li> <li>• The Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017; and</li> <li>• The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017.</li> </ul>
Embedded Mitigation	<p>Primary (design) and tertiary (inherent) mitigation measures that are included in the design of the project.</p>
Energy Balancing Infrastructure	<p>All of the equipment and associated infrastructure required to provide whole energy system services. This may include importing, storing and exporting energy to meet grid needs, improving grid stability and reliability, or providing additional services such as system monitoring and computing. This will be subject to a separate consent application.</p>
Enhancement Commitment	<p>Commitments made by the Project to provide broader environmental enhancement that Stromar seek to deliver across a range of environmental aspects. Enhancement commitments are not required to mitigate environmental impacts of the project.</p>
Environmental Impact Assessment	<p>A statutory process whereby planned projects must be assessed before a formal decision to proceed can be made. It involves the collection and consideration of environmental information, which fulfils the assessment requirements on the EIA Directive and EIA Regulations, including the publication of an Environmental Impact Assessment (EIA) Report.</p>
Foundations	<p>The foundations on which the wind turbine generators or offshore substations are installed. These can be floating or fixed to the seabed.</p>
Gardens and Designed Landscapes (GDL)	<p>Grounds consciously laid out for artistic effect, including estate landscapes, botanic gardens, urban parks, horticulturalist gardens and cemeteries. Comprises gardens and landscapes included in the Inventory of Gardens and Designed Landscapes, maintained by Historic Environment Scotland.</p>
Habitats Regulations Appraisal (HRA)	<p>A process which helps determine likely significant effects and (where appropriate) assesses adverse impacts on the integrity of European conservation sites and Ramsar sites. The process consists of up to four stages of assessment: screening, appropriate assessment, assessment of alternative solutions and assessment of imperative reasons of over-riding public interest (IROPI).</p>
Horizontal Directional Drilling (HDD)	<p>A method of cable installation where the cable is drilled beneath a feature without the need for trenching.</p>
High Voltage Alternating Current (HVAC)	<p>High voltage alternating current is the bulk transmission of electricity by alternating current (AC), whereby the flow of electric charge periodically reverses direction.</p>

<b>Acronym</b>	<b>Definition</b>
High Voltage Direct Current (HVDC)	High voltage direct current is the bulk transmission of electricity by direct current (DC), whereby the flow of electric charge is in one direction.
Inter-array Cables	Cables which link the Wind Turbine Generators to each other and the Offshore Substation(s).
Interconnector Cables	Cables which link the Offshore Substations to one another.
Inter-related Effects	Effects through different phases of the Project and the cumulation of different environmental impacts on the same receptor – e.g. construction noise and construction dust.
Intertidal Area	The area located between Mean Low Water Springs (MLWS) and Mean High Water Springs (MHWS).
Joint bay	An excavation located at regular intervals along the cable route consisting of a concrete flat base slab constructed beneath the ground to facilitate the jointing together of the cables.
Landfall Area of Search	The broad area in which the landfall(s) being considered are located and where ultimately the final landfall will be located.
Landfall	The location (from Mean Low Water Springs) where the Offshore Export Cables will interface with and are connected to the Onshore Export Cables at a transition joint bay.
Link Box	Smaller pit than a joint bay, which house connections between the cable shielding, joints for fibre optic cables and other auxiliary equipment.
Likely Significant Effects (LSE)	It is a requirement of Environmental Impact Assessment Regulations to determine the Likely Significant Effects of the Proposed Development on the environment which should relate to the level of an effect and the type of effect.
Maximum Design Scenario (MDS)	The maximum design parameters for each Project design component (both onshore and offshore) considered to be a worst case for any given assessment.
Marine Directorate (MD)	The Directorate responsible for the integrated management of Scottish waters. Acts on behalf of the Scottish Ministers.
Marine Directorate – Licensing Operations Team (MD-LOT)	The division of MD responsible for the regulation of marine licence applications within the Scottish inshore region (between 0 and 12 nm) under the Marine (Scotland) Act 2010 and in the Scottish offshore region (between 12 and 200 nm) under the Marine and Coastal Access Act 2009.
Marine Directorate – Science, Evidence, Data and Digital (MD-SEDD)	The scientific division of Marine Directorate, responsible for provision of expert scientific, economic and technical advice and services on issues relating to fisheries, aquaculture, marine renewable energy. MD-SEDD provides the evidence to support the policies and regulatory activities of the Scottish Government through a programme of monitoring and research as well as performing regulatory and enforcement activities.



Acronym	Definition
Marine Licence	Licence granted under the Marine (Scotland) Act 2010 and also under the Marine and Coastal Access Act 2009 if relevant.
New Deer 2 Substation	The new 400 kV substation being developed near the existing New Deer substation. The new substation will enable the connection of a new 400 kV overhead line between Beauly, Blackhillock, New Deer and Peterhead. This substation does not form part of the Proposed Onshore Development for the Stromar Offshore Wind Farm project and is the subject of a separate consent application by Scottish and Southern Electricity Networks (SSEN).
Non-statutory Consultee	Organisations that the Planning Authority and/ or Marine Directorate may choose to engage (if, for example, there are planning policy reasons to do so) who are not designated in law but are likely to have an interest in a proposed development.
Offshore Export Cable(s)	The subsea electricity cable(s) running from the Offshore Substation(s) to the transition joint bay at the landfall, which transmit the electricity generated by the offshore wind farm to the onshore export cable(s) for transmission onwards to the onshore substation and the national electrical transmission system.
Offshore Export Cable Corridor	The specific corridor of seabed (seaward of Mean High Water Springs (MHWS)) from array area to the landfall, within which the offshore export cable(s) will be located.
Offshore Export Cable Corridor Study Area	The broad area in which the offshore export corridor(s) being considered are located and where the preferred offshore export cable corridor and ultimately the final offshore export cable route will be located.
Offshore Project Boundary	The boundary within which all offshore development will take place.
Offshore Scoping Report	The Scoping Report setting out the proposed contents of the Offshore EIAR and provided to Marine Directorate Licensing Operations Team (MD-LOT) to support the request for a Scoping Opinion.
Offshore Substation	Offshore platforms potentially consisting of a combination of High Voltage Alternating Current (HVAC) substations, High Voltage Direct Current (HVDC) converter stations and/or a combined HVAC/HVDC substation depending on the final electrical set up of the project.
Offshore Scoping Opinion	The Scoping Opinion that will be provided by Marine Directorate Licensing Operations Team (MD-LOT) under the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 and the Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017, setting out the Scottish Ministers' opinion on the content of the Offshore EIAR including those issues that will or will not need to be addressed in the Offshore EIA.
Offshore Transmission Works	The proposed transmission infrastructure comprising: Offshore Substation(s) and associated foundations and substructures; the offshore export cable(s); and the landfall area up to Mean High Water Springs (MHWS).

<b>Acronym</b>	<b>Definition</b>
Offshore Wind Farm	Infrastructure comprising wind turbines and associated foundations and substructures, Substation Platform(s) and associated foundations, export cables and inter-array / interconnector cables.
Onshore Export Cables	The cables running from the transition joint bay at Landfall to the Onshore Substation/Converter Station.
Onshore Export Cable Corridor (OnECC)	The temporary working corridor within which the Onshore Export Cables will be laid. This will typically be approximately 100m wide, though may be wider in areas where additional temporary working areas for watercourse and infrastructure/utilities crossings are required. This corridor will contain up to three cable trenches plus temporary soil storage areas, a temporary haul road and temporary drainage arrangements.
Onshore Export Cable Corridor Area of Search	The broad area in which the Onshore Export Corridor(s) being considered are located and where the preferred Onshore Export Cable Corridor and ultimately the final onshore export cable route will be located.
Onshore Grid Connection Cables	The buried electrical cables running from the Onshore Substation/Converter Station to the proposed New Deer 2 Substation.
Onshore Grid Connection Cable Corridor (OnGCC)	The temporary working corridor within which the Onshore Grid Connection Cables will be laid.
Onshore Reactive Compensation Station Area of Search	The broad area in which the Onshore Reactive Compensation Station is being considered to be located and where the final Onshore Reactive Compensation Station will be located.
Onshore Scoping Area	An area defined at the Scoping stage. The boundary within which all onshore development will be located.
Onshore Scoping Opinion	The Scoping Opinion that will be provided by the Planning Authority under the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017, setting out their opinion on the content of the Onshore EIAR including those issues that will or will not need to be addressed in the Onshore EIA.
Onshore Scoping Report	Report assessing all onshore infrastructure of the project landward of MLWS and provided to the Planning Authority to support the request for an Onshore Scoping Opinion.
Onshore Substation Area of Search	The broad area in which the Onshore Substation/Converter Station is being considered to be located and where the final Onshore Substation/Converter Station will be located.
Onshore Substation / Converter Station (OnSS)	Comprises a compound containing the electrical components for transforming the power supplied from Stromar to 400 kV and to adjust the power quality and power factor, as required to meet the UK System-Operator Code for supply to the national electricity transmission network. If a HVDC system is used the Onshore Substation will also house equipment to convert the power from HVDC to HVAC.

Acronym	Definition
Option to Lease Agreement	'Lease/Lease Agreement' is a legal agreement from Crown Estate Scotland whereby an area of foreshore or seabed is occupied by a third party (a 'tenant') for an agreed purpose, such as renewable energy, and which gives consent for the tenant to develop on the lease site(s) if other required permissions are gained.
Order Limits	The onshore, intertidal, and/ or offshore limits within which Stromar may be carried out.
Pre-application Consultation	The statutory pre-application consultation with communities required for National and Major developments under Section 35B of the Town and Country Planning (Scotland) Act 1997.
Planning Permission In Principle (PPP)	An alternative consenting route under Section 59 of the Town and Country Planning (Scotland) Act 1997 which separates the consideration of matters of principle for a proposed development from the final detailed design of the development. The permission in principle consent route has two application stages: the first stage (the permission in principle application) seeks to establish whether a site is suitable in principle and is granted subject to conditions requiring the approval of certain matters before the development can commence; and the second stage (the approval of matters specific in conditions application) when the details of these outstanding matters are subsequently submitted for approval.
Primary commitment	<p>Primary (inherent) mitigation is an intrinsic part of the project design – it should be described in the design evolution narrative and included within the project description. For example, reducing the height of a development to reduce visual impact. Definition in accordance with 'Guide to Shaping Quality Development' (IEMA, 2015).</p> <p>IEMA, 2015. Guide to Shaping Quality Development available at <a href="https://www.iema.net/download-document/7018">https://www.iema.net/download-document/7018</a></p>
Project	Stromar Offshore Wind Farm.
Proposed Offshore Development	The offshore project elements to which the Offshore Scoping Report relates.
Proposed Onshore Development	The onshore project elements to which the Onshore Scoping Report relates.
Planning Authority	The primary responsibility for the delivery of the planning service in Scotland lies with the 32 local authorities and the two national park authorities. Aberdeenshire Council is the Planning Authority for the entirety of the onshore project footprint.
Reactive Compensation Station (RCS)	Due to the cable length a Reactive Compensation Station is required to compensate for reactive power losses and to ensure the efficiency of the power transmission. This could be on or offshore.

Acronym	Definition
Scottish Ministers	The Ministers of the devolved Scottish Government, who exercise statutory functions transferred from the UK Government. The Scottish Ministers support the First Minister in leading the Scottish Government.
Secondary commitment	<p>Secondary (foreseeable) mitigation requires further activity in order to achieve the anticipated outcome – typically, these will be described within the topic chapters of the EIAR, but often are secured through planning conditions and/or management plans. For example, description of certain lighting limits that will be subject to submission of a detailed lighting layout as a condition of approval. Definition in accordance with 'Guide to Shaping Quality Development' (IEMA, 2015).</p> <p>IEMA, 2015. Guide to Shaping Quality Development available at <a href="https://www.iema.net/download-document/7018">https://www.iema.net/download-document/7018</a></p>
Section 36	Consent under Section 36 of the Electricity Act 1989 for the construction, or extension, and operation of electricity generating stations.
Statutory Consultee	Organisations that are required to be consulted by the Planning Authority and/or Marine Directorate, and who have a duty to respond to the consultation within a set deadline. Not all consultees will be statutory consultees (see non-statutory consultees definition).
Stromar Offshore Wind Farm	The Project.
Tertiary commitment	<p>Tertiary (inexorable) mitigation will be required regardless of any EIA assessment, as it is imposed, for example, as a result of legislative requirements and/or standard sectoral practices. For example, considerate contractor practices that manage activities which have potential nuisance effects. Definition in accordance with 'Guide to Shaping Quality Development' (IEMA, 2015).</p> <p>IEMA, 2015. Guide to Shaping Quality Development available at <a href="https://www.iema.net/download-document/7018">https://www.iema.net/download-document/7018</a></p>
Transition Joint Bay (TJB)	The area where Offshore Export Cables are connected to Onshore Export Cables at Landfall.
Wind Turbine Generator (WTG)	The wind turbines that generate electricity consisting of tubular towers and blades attached to a nacelle housing mechanical and electrical generating equipment.

## Glossary of Acronyms

Acronym	Definition
AC	Alternating Current
AADF	Annual Average Daily Flow
AADT	Annual Average Daily Traffic
ACAS	Aberdeenshire Council Archaeological Service
ALDP	Aberdeenshire Local Development Plan
AMP	Access Management Plan
AMSC	Approval of Matters Specified in Conditions
AOD	Above Ordnance Survey
APR	Annual Progress Report
AQAP	Air Quality Action Plan
AQMA	Air Quality Management Areas
AQSR	Air Quality Standards (Scotland) Regulations 2010
ATC	Automatic Traffic Count
AURN	Automatic Urban and Rural Network
AW	Ancient Woodland
AWI	Ancient Woodland Inventory
BEIS	Department for Business, Energy & Industrial Strategy
BGS	British Geological Survey
BNG	Biodiversity Net Gain
BNL	Basic Noise Level
BoCC	Birds of Conservation Concern
BPM	Best Practicable Means
BRAG	Black, Red, Amber, Green
BREP	Biodiversity Restoration and Enhancement Plan
BSI	British Standards Institution
BTO	Bird Trust for Ornithology
CAA	Civil Aviation Authority
CAR	Controlled Activities Regulations
CBRA	Cable Burial Risk Assessment
CD	Chart Datum

Acronym	Definition
CDM Regulations	Construction (Design and Management) Regulations 2015
CEMFAW	Control of Electromagnetic Fields at Work Regulations
CEMP	Construction Environmental Management Plan
CES	Crown Estate Scotland
CIEEM	Chartered Institute of Ecology and Environmental Management
CIRIA	Construction Industry Research and Information Association
CoCP	Code of Construction Practice
COMAH	Control Of Major Accident Hazards
CRTN	Calculation of Road Traffic Noise
CSM	Conceptual Site Model
CTMP	Construction Traffic Management Plan
DC	Direct Current
Defra	Department for Environment, Food & Rural Affairs
DfT	Department for Transport
DMRB	Design Manual for Roads and Bridges
DWPA	Drinking Water Protected Area
EC	European Commission
ECA	Emission Control Area
EclA	Ecological Impact Assessment
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
EIR	Environmental Information Requests
EISA	Electrical Infrastructure Study Area
EMF	Electromagnetic Field
EnvCoW	Environmental Clerk of Works
EPA	Environmental Protection Act
EPS	European Protected Species
EU	European Union
EUNIS	European Nature Information System
FMMS	Fisheries Management and Mitigation Strategy
GCR	Geological Conservation Review

Acronym	Definition
GDL	Garden and Designed Landscape
GEATM	IEMA Guidelines: Environmental Assessment of Traffic and Movement
GHG	Greenhouse Gases
GIS	Geographical Information System
GLTA	Ground Level Tree Assessment
GLVIA3	Guidelines for Landscape and Visual Impact Assessment, 3 <sup>rd</sup> Edition
GPP	Guidance for Pollution Prevention
GVA	Gross Value Added
GW	Gigawatts
GWDTE	Groundwater Dependent Terrestrial Ecosystems
HabMoS	Habitat Map of Scotland
HAT	Highest Astronomical Tide
HDD	Horizontal Directional Drilling
HDV	Heavy-Duty Vehicle
HE	High Explosive
HEPS	Historic Environment Policy for Scotland
HER	Historic Environment Record
HES	Historic Environment Scotland
HGV	Heavy Goods Vehicle
HM Government	His Majesty's Government
HM Treasury	His Majesty's Treasury
HNDFUE	Holistic Network Design Follow Up Exercise
HRA	Habitat Regulations Appraisal
HSI	Habitat Suitability Index
HVAC	High Voltage Alternating Current
HVDC	High Voltage Direct Current
IAQM	Institute of Air Quality Management
ICNIRP	International Commission on Non-Ionizing Radiation Protection
IEMA	Institute of Environmental Management and Assessment
IHT	Institution of Highways and Transportation
INNS	Invasive Non-Native Species

Acronym	Definition
INTOG	Innovation and Targeted Oil and Gas
IROPI	Imperative Reason of Overriding Public Interest
IUCN	International Union for Conservation of Nature
JB	Jointing Bays
LAQM	Local Air quality Management
LAT	Lowest Astronomical Tide
LB	Listed Building
LCA	Land Capability for Agriculture
LCT	Landscape Character Type
LDP	Local Development Plan
LDV	Light-Duty Vehicle
LGV	Light Goods Vehicle
LiDAR	Light Detection and Ranging
LMP	Landscape Management Plan
LNCS	Local Nature Conservation Sites
LNR	Local Nature Reserves
LRN	Local Road Network
LSE	Likely Significant Effects
LVIA	Landscape and Visual Impact Assessment
MARPOL	The International Convention for the Prevention of Pollution from Ships
MCA	Maritime and Coastguard Agency
MD	Marine Directorate
MD-LOT	Marine Directorate – Licensing Operations Team
MDS	Maximum Design Scenario
MHWS	Mean High Water Springs
MLWS	Mean Low Water Springs
MoD	Ministry of Defence
MoRPh	Modular River Physical survey
MSL	Mean Sea Level
NATS	National Air Traffic Services
NCAP	National Collection of Aerial Photograph



Acronym	Definition
NCN	National Cycle Network
NE LBAP	North East Scotland Local Biodiversity Action Plan
NESBReC	North East Scotland Biological Records Centre
NETS	National Electricity Transmission System
NGESO	National Grid Electricity System Operator
NHZ	Natural Heritage Zone
NNR	National Nature Reserve
NO <sub>2</sub>	Nitrogen Dioxide
NPF4	National Planning Framework 4
NPI	Net Positive Impact
NRMM	Non-Road Mobile Machinery
NSR	Noise Sensitive Receptor
NTS	Non-Technical Summary
NVC	National Vegetation Classification
NVMP	Noise and Vibration Management Plan
O&G	Oil and Gas
O&M	Operation and Maintenance
oBREP	Outline Biodiversity Enhancement and Enhancement Plan
OFGEM	Office of Gas & Electricity Markets
OFTO	Offshore Transmission Operator
OLA	Option for Lease Agreement
OnECC	Onshore Export Cable Corridor
OnGCC	Onshore Grid Connection Cable Corridor
OnRCS	Onshore Reactive Compensation Station
ONS	Office for National Statistics
OnSS	Onshore Substation / Converter Station
OSS	Offshore Substation
OWIC	Offshore Wind Industry Council
PAC	Pre-Application Consultation
PAN	Planning Advice Note
PBA	Protection of Badgers Act, 1992

Acronym	Definition
PCM	Pollution Climate Mapping
PCSM	Preliminary Conceptual Site Model
PEA	Preliminary Ecological Appraisal
PIA	Personal Injury Accidents
PLQRA	Preliminary Land Quality Risk Assessment
PM	Particulate Matter
PM <sub>10</sub>	Particulate Matter (Particles 10 Microns or Less in Diameter)
PMP	Peat Management Plan
PoAN	Proposal of Application Notice
PPE	Personal Protective Equipment
PPG	Pollution Prevention Guidelines
PPP	Planning Permission in Principle
PPV	Peak Particle Velocity
PRA	Preliminary Roost Assessment
RAF	Royal Air Force
RBMPs	River Basin Management Plans
RCA	River Condition Assessment
RCS	Reactive Compensation Station
RIAA	Report to Inform Appropriate Assessment
RIGS	Regionally Important Geodiversity Sites
ROSPA	The Royal Society for the Prevention of Accidents
RoW	Rights of Way
RPSS	Route Planning and Site Selection
RSPB	Royal Society for the Protection of Birds
RTPIS	Royal Town Planning Institute Scotland
RTS	Regional Transport Strategy
RVAA	Residential Visual Amenity Assessment
SAC	Special Area of Conservation
SBL	Scottish Biodiversity List
SCDS	Supply Chain Development Statement
SEA	Strategic Environmental Assessment

Acronym	Definition
SEPA	Scottish Environment Protection Agency
SFCC	Scottish Fisheries Coordination Centre
SLA	Special Landscape Area
SLR	SLR Consulting
SM	Scheduled Monument
SMP	Soil Management Plan
SNH	Scottish Natural Heritage (now NatureScot)
SoS	Secretary of State
SOWEC	Scottish Offshore Wind Energy Council
SPA	Special Protection Area
SPP	Scottish Planning Policy
SSEN	Scottish and Southern Energy Networks
SSSI	Site of Special Scientific Interest
SuDS	Sustainable Drainage Systems
TJB	Transition Joint Bay
TRN	Trunk Road Network
TRSA	Tourism and Recreation Study Area
UK	United Kingdom
UKHab	UK Habitat Classification
UNESCO	United Nations Educational, Scientific and Cultural Organization
UXO	Unexploded Ordnance
VMP	Vessel Management Plan
WANE Act	The Wildlife and Natural Environment (Scotland) Act 2011
WCA	Wildlife and Countryside Act 1981
WeBS	Wetland Bird Survey
WFD	Water Framework Directive
WSI	Written Scheme of Investigation
WTG	Wind Turbine Generator
ZTV	Zone of Theoretical Visibility

Glossary of Units

Acronym	Definition
dB (decibel)	The scale on which sound pressure level is expressed. It is defined as 20 times the logarithm of the ratio between the root-mean-square pressure of the sound field and a reference pressure ( $2 \times 10^{-5}$ Pa).
dB(A)	A-weighted decibel. This is a measure of the overall level of sound across the audible spectrum with a frequency weighting (i.e. 'A' weighting) to compensate for the varying sensitivity of the human ear to sound at different frequencies.
GW	Gigawatt
Ha	Hectare
km	Kilometre
kv	Kilovolt
$L_{Aeq}$	$L_{Aeq}$ is defined as the notional steady sound level which, over a stated period of time, would contain the same amount of acoustical energy as the A - weighted fluctuating sound measured over that period.
$L_{10}$ and $L_{90}$	If a non-steady noise is to be described it is necessary to know both its level and the degree of fluctuation. The $L_n$ indices are used for this purpose, and the term refers to the level exceeded for n% of the time. Hence $L_{10}$ is the level exceeded for 10% of the time and as such can be regarded as the 'average maximum level'. Similarly, $L_{90}$ is the 'average minimum level' and is often used to describe the background noise. It is common practice to use the $L_{10}$ index to describe traffic noise.
$L_{Amax}$	$L_{Amax}$ is the maximum A - weighted sound pressure level recorded over the period stated. $L_{Amax}$ is sometimes used in assessing environmental noise where occasional loud noises occur, which may have little effect on the overall $L_{Aeq}$ noise level but will still affect the noise environment. Unless described otherwise, it is measured using the 'fast' sound level meter response
m	Metre
nm	Nautical mile

# 1 Introduction

## 1.1 Purpose and Objective of this Report

- 1.1.1 This Onshore Scoping Report has been produced to support a request for a formal Scoping Opinion from Aberdeenshire Council under Regulation 17 of the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017 (the 2017 EIA Regulations) in relation to the onshore components (the Proposed Onshore Development) associated with the proposed Stromar Offshore Wind Farm (the Project). A separate Offshore Scoping Report (Ørsted, 2023a) has been submitted to the Marine Directorate on behalf of Scottish Ministers for the offshore components of the Project (the Proposed Offshore Development).
- 1.1.2 An application for Planning Permission in Principle (PPP) will be made under the Town and Country Planning (Scotland) Act 1997 for the Proposed Onshore Development. This application will require an Environmental Impact Assessment (EIA) under the 2017 EIA Regulations. The findings of the EIA process will be used to inform the design of the Proposed Onshore Development and assess its environmental effects. The results of the EIA will be presented in an Onshore EIA Report (EIAR) that will be submitted with the planning application to Aberdeenshire Council.
- 1.1.3 The aim of this Onshore Scoping Report is to identify the potential impacts associated with the Proposed Onshore Development proceeding that have (or do not have) the potential to result in likely significant effects (LSE). This assessment is based upon the project information, baseline data, and best practice available at this scoping stage. The purpose of this scoping assessment is to allow Aberdeenshire Council, in consultation with relevant consultees, to provide a Scoping Opinion on the content and extent of matters (including the appropriate methods of survey and impact assessment, where relevant) to be covered by the Onshore EIA and the resulting Onshore EIAR.
- 1.1.4 This Onshore Scoping Report seeks to ensure that a proportionate approach to EIA will be taken. In the post-scoping stage leading up to the planning application being submitted, more evidence will become available in relation to the Proposed Onshore Development and its LSE, including survey results and refinement of the project description and design parameters. This may allow for refinement of the treatment of certain matters, beyond those already proposed at scoping stage to be scoped out. Where such refinement is proposed post-scoping, this Onshore Scoping Report sets out the process by which it is proposed to agree through further consultation with Aberdeenshire Council (in consultation with relevant consultees) areas where a refined assessment in the EIAR is accepted. The purpose of this proposed approach is to ensure that the EIAR focusses exclusively or mainly on the LSE of the Proposed Onshore Development.

## 1.2 The Developer

- 1.2.1 The Developer, Stromar Offshore Wind Farm Limited, is a joint venture between Ørsted, BlueFloat Energy and Renantis.
- 1.2.2 For Ørsted, the Project will represent their first commercial scale offshore wind farm in Scotland, having already gained significant English and international experience. Ørsted pioneered the first offshore wind farm in 1991 and has since solidified its reputation as a leading developer in the offshore wind market. Ørsted brings over 30 years of experience to the joint venture, with a current

installed global capacity of approximately 7.5 gigawatts (GW) and the ambition to achieve 30 GW of global offshore wind installed by 2030. Within the United Kingdom (UK), Ørsted currently has approximately 6.2 GW of installed capacity, with full or part ownership in 13 offshore wind farms.

- 1.2.1 Renantis has 62 plants with an installed capacity of 1,420 MW in Italy, the UK, the US, Spain, France, Finland, Sweden and Norway. The company also offers business and technical consulting, engineering and M&A services, with more than 5,100 MW of solar and wind energy managed for third parties and 17 plants with community benefit schemes. Renantis and BlueFloat Energy are partnered in seven offshore wind farm projects currently under development in the UK, five of which comprise floating offshore wind farms in Scottish waters. This Scottish experience will lend itself well to the ongoing stakeholder and community engagement, due to Renantis' established presence and reputation in this market.
- 1.2.2 BlueFloat Energy is a global offshore wind developer with a team across key project development functions with technical capabilities in floating offshore wind. With a circa 33 GW portfolio of both fixed-bottom and floating developments, BlueFloat Energy is now positioned as one of the leaders in the floating offshore wind sector. This market-leading expertise in floating wind technology will lend itself to developing the proposed Stromar Offshore Wind Farm in an environmentally conscious and sustainable way.

### 1.3 The Development

- 1.3.1 The Project will be located off the north-east coast of Scotland approximately 50 km east of Wick.
- 1.3.2 The Proposed Offshore Development will include all offshore components associated with the Project seaward of Mean High Water Springs (MHWS). This will include the offshore Wind Turbine Generators and associated foundations, Offshore Substation, Inter-Array Cables and Offshore Export Cables. Other potential components of the Proposed Offshore Development may include an Offshore Reactive Compensation Station.
- 1.3.3 The Proposed Onshore Development will include all onshore infrastructure associated with the Project landward of Mean Low Water Springs (MLWS). All of the Proposed Onshore Development will be wholly located with Aberdeenshire Council's local authority area. The Proposed Onshore Development will include the construction and operation of an Onshore Substation/Converter Station (OnSS), Onshore Export Cables and Grid Connection Cables to connect into the national electricity transmission network. Associated ancillary infrastructure will include transition joint bays, link boxes and joint pits, as well as temporary access tracks, construction compounds and laydown areas. Other potential onshore infrastructure may include an Onshore Reactive Compensation Station (OnRCS). Energy Balancing Infrastructure is also being considered for a range of supplementary green energy options, however this would not form part of the planning application for the Proposed Onshore Development and is therefore not considered in this Onshore Scoping Report.
- 1.3.4 The grid connection location for the Project is dependent upon the outcomes of the ongoing Offshore Transmission Network Review but it is anticipated that it will be at the proposed New Deer 2 400 kV substation near New Deer, Aberdeenshire. Scottish and Southern Electricity Networks Transmission (SSEN) are progressing a separate consent application for this new substation.

- 1.3.5 An Onshore Scoping Area is shown on **Figure 1.1**. This Onshore Scoping Area provides a wider area within which the Proposed Onshore Development will be located. Further details on this Onshore Scoping Area and how it will be refined is provided in **Section 3.3** of **Chapter 3: Proposed Development Description** of this Onshore Scoping Report.

## 1.4 The Consenting Process

- 1.4.1 The Proposed Onshore Development<sup>2</sup> will be the subject of a planning application to Aberdeenshire Council under the Town and Country Planning (Scotland) Act 1997. As the application for consent for the Proposed Onshore Development is being made in advance of developing the detailed design, it is currently proposed to submit a PPP application to Aberdeenshire Council to establish the acceptability of the principle of the proposal. If granted permission, the detailed design of the Proposed Onshore Development – including the layout, siting and external appearance of the OnSS and the final route of the Onshore Export Cables and Onshore Grid Connection Cables - will then be developed and consulted upon before being submitted for approval to Aberdeenshire Council through the submission of associated Approval of Matters Specified in Conditions (AMSC) applications.

## 1.5 EIA Project Team

- 1.5.1 The preparation of the Onshore EIA for the Proposed Onshore Development is being led by SLR Consulting (SLR) with technical input from BiGGAR Economics on socio-economics.
- 1.5.2 SLR is a holder of the Institute of Environmental Management and Assessment (IEMA) EIA Quality Mark. The IEMA Quality Mark is awarded to companies that have achieved the required standards in EIA following regular independent review of EIA work by IEMA. The company has significant experience in the preparation of planning applications and undertaking EIAs for a wide variety of renewable energy projects.
- 1.5.3 In accordance with the 2017 EIA Regulations, the EIA for the Proposed Onshore Development will be undertaken and its findings reported by competent experts. A table will be included in the Onshore EIAR identifying the relevant qualifications and expertise of the EIA co-ordinators and technical experts.

## 1.6 Report Structure

- 1.6.1 Following this introductory Chapter, the structure of this Onshore Scoping Report follows the outline presented in **Table 1.1**.

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<sup>2</sup> The Proposed Offshore Development will be the subject of a separate marine licence and Section 36 consent applications to Scottish Ministers under the Marine (Scotland) Act 2010 and the Electricity Act 1989.

**Table 1.1: Structure of the Onshore Scoping Report.**

Chapter(s)	Chapter Title	Overview
2	Planning and Policy Background	Identifies the Development Plan policies and other material considerations relevant to the planning application for the Proposed Onshore Development.
3	Proposed Development Description	Provides an overview of the Proposed Onshore Development for which it is intended to seek planning permission.
4	Site Selection and Consideration of Alternatives	Outlines the route planning and site selection approach (RPSS) for the Proposed Onshore Development.
5	EIA Methodology	Provides detail on the approach to scoping the EIA, sets out the process of scoping consultation, and describes the specialists studies that will be undertaken to assess the impact of the Proposed Onshore Development on the environment.
6-15	Technical Assessments	Describes the specialist technical assessments that are proposed to be undertaken to assess the LSE of the Proposed Onshore Development on the environment. Where relevant, also identifies the process that will be undertaken to agree with Aberdeenshire Council the treatment of those impacts that have been scoped in at scoping stage but it is anticipated may not require detailed assessment in the EIAR once further evidence is available.
16	Other Considerations	Describes the other environmental topics which have been considered during the preparation of this Onshore Scoping Report for which no standalone Chapter is proposed in the Onshore EIAR or which it is proposed to scope out of the EIAR.
17	Summary and Next Steps	Provides a summary of approach to scoping and next steps.

1.6.2 **Table 1.2** sets out the information required under Regulation 17(2) of the 2017 EIA Regulations that must be included within a Scoping Opinion request and identifies where this can be found within this Onshore Scoping Report.

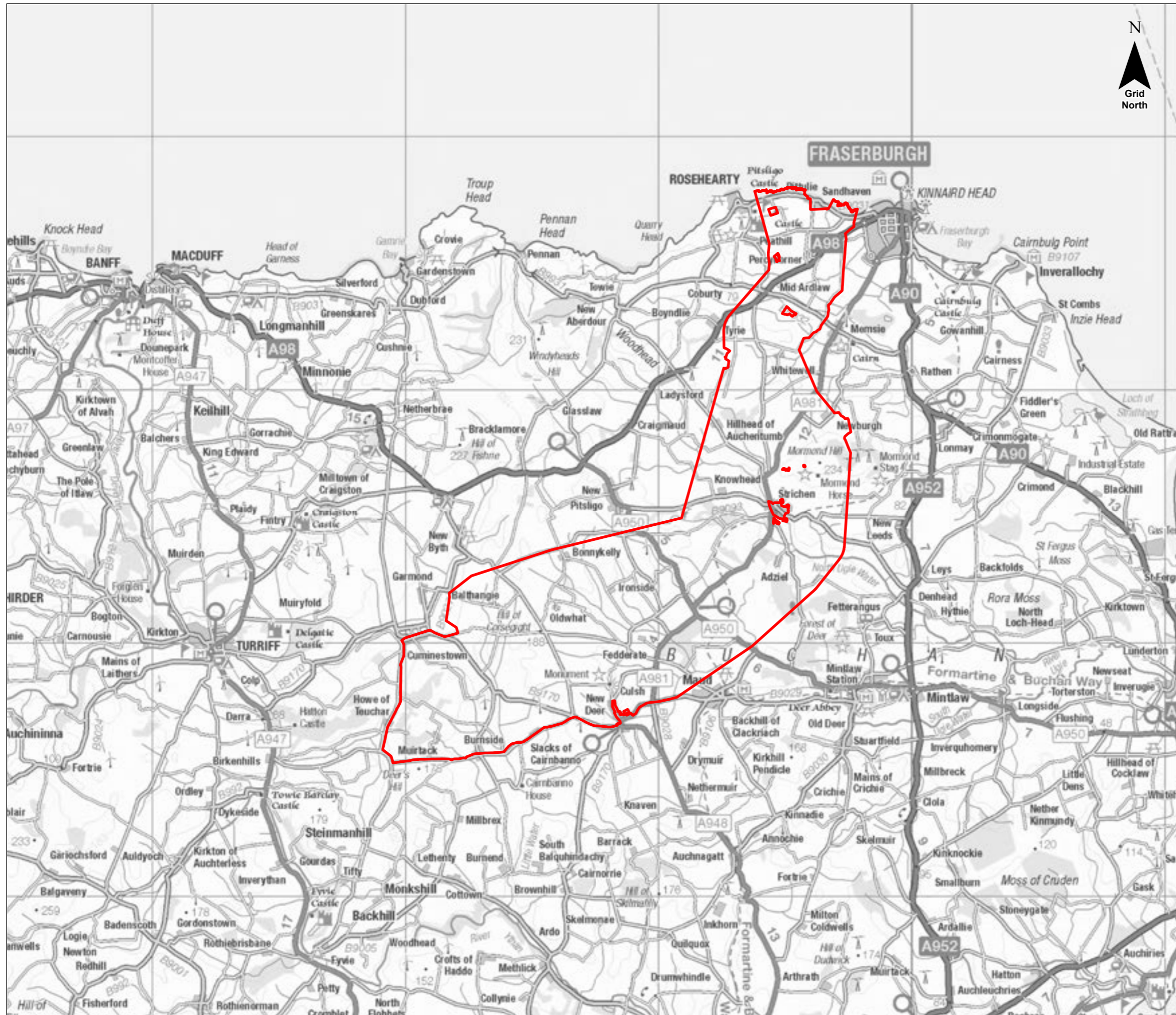
**Table 1.2: EIA Scoping Opinion Information Requirements**

Information Requirement	Where Found in this Onshore Scoping Report
A description of the location of the development, including a plan sufficient to identify the land.	A description of the location of the Proposed Onshore Development can be found in <b>Section 3.3 of Chapter 3: Proposed Development Description</b> . The Onshore Scoping Area is shown on <b>Figure 1.1</b> .
A brief description of the nature and purpose of the development and its likely significant effects	A description of the nature and purpose of the Proposed Onshore Development and the Project to which it relates is provided in <b>Sections 3.4 to 3.7 of Chapter 3: Proposed Development Description</b> .

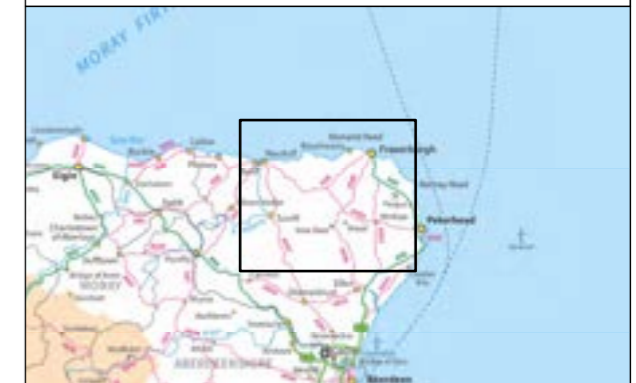


# Stromar Offshore Wind Farm

## Figure 1.1 Onshore Scoping Area

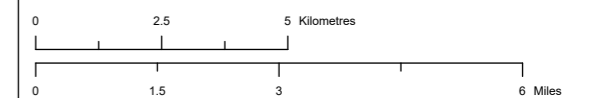


Legend  
 Onshore Scoping Area



Coordinate System: British National Grid

Scale @ A3 : 1:150,000



Rev	Description	Date
A	First Draft	22/08/2023
B	Second Draft	09/11/2023
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Doc. Report : Onshore Scoping Report  
 Doc. Title : Onshore Scoping Area  
 Doc. No : 404.V64554.00001.0041.0  
 Doc. No of Pages : 1  
 Created by : PW  
 Checked by : SH  
 Approved by : MF



## 2 Planning and Policy Context

### 2.1 Introduction

- 2.1.1 This Chapter of the Onshore Scoping Report identifies the Development Plan policies and other material considerations against which the planning application for the Proposed Onshore Development will be determined.
- 2.1.2 The Onshore EIAR will provide an overview of relevant legislative and planning policy context within each topic Chapter. The assessment will have regard to national and local policy documents, where relevant. However, it is not proposed to include a dedicated Chapter on Planning Policy Context in the Onshore EIAR.
- 2.1.3 Instead, it is proposed that a separate Planning Statement will be submitted with the planning application. The Planning Statement will provide an assessment of the Proposed Onshore Development in relation to the Development Plan and other relevant material considerations, before weighing up the planning case for the proposals and providing a conclusion on the overall acceptability of the development. Whilst the Planning Statement will not form part of the Onshore EIAR, it will be informed by the conclusions of the EIAR.

### 2.2 Statutory Development Plan

#### ***National Planning Framework 4***

- 2.2.1 National Planning Framework 4 (NPF4) (Scottish Government, 2023a) was adopted by the Scottish Government on the 13<sup>th</sup> February 2023. It replaced previous national planning policy which was contained in NPF3 (Scottish Government, 2014a) and Scottish Planning Policy (SPP) (Scottish Government, 2014b) and now forms part of the statutory Development Plan for planning applications made under the Town and Country Planning (Scotland) Act 1997.
- 2.2.2 Annex A of NPF4 details how it is to be used in decision making and makes clear that it is to be read as a whole. This was reiterated in a letter issued by the Chief Planner and Planning Minister on 8<sup>th</sup> February 2023 (Scottish Government 2023c), which recognised that conflicts between individual policies are to be expected, and that factors for and against development will be weighed up in the balance of planning judgement.
- 2.2.3 Section 24 of the Town and Country Planning (Scotland) Act 1997 as amended by Section 13 of the Planning (Scotland) Act 2019 provides that in the event of any incompatibility between the provision of the National Planning Framework and a provision of the Local Development Plan, whichever of them is the later in date is to prevail. That includes where a Local Development Plan is silent on an issue that is now provided for in NPF4.

#### ***National Spatial Strategy for Scotland to 2045***

- 2.2.4 Part 1 of the NPF4 sets out the overarching spatial strategy for Scotland to 2045 and includes six spatial principles including a just transition that are to influence all future plans and decisions. The introductory text to the spatial strategy on page 3 of NPF4 states that:

*“The world is facing unprecedented challenges. The global climate emergency means that we need to reduce greenhouse gas emissions and adapt to the future impacts of climate change. We*

*will need to respond to a growing nature crisis, and to work together to enable development that addresses the social and economic legacy of the coronavirus pandemic, the cost crisis and longstanding inequality.”*

- 2.2.5 By applying the spatial strategy, NPF4 identifies that it will support the planning and delivery of, amongst other things, sustainable places where we reduce emissions, restore and better connect biodiversity. Page 7 of NPF4 sets out the Scottish Government’s vision and strategy for the delivery of sustainable places. It states that:

*“Scotland’s future places will be net zero, nature-positive places that are designed to reduce emissions and adapt to the impacts of climate change, whilst protecting, recovering and restoring our environment.*

*Meeting our climate ambition will require a rapid transformation across all sectors of our economy and society. This means ensuring the right development happens in the right place.*

*Every decision on our future development must contribute to making Scotland a more sustainable place. We will encourage low and zero carbon design and energy efficiency, development that is accessible by sustainable travel, and expansion of renewable energy generation.”*

#### **National Developments**

- 2.2.6 Eighteen national developments are identified in total in NPF4. These are defined as “*significant developments of national importance that will help to deliver our spatial strategy*”. NPF4 identifies that “*national development status does not grant planning permission for the development*” but does clarify that “*their designation means that the principle of the development does not need to be agreed in later consenting processes.*”

- 2.2.7 Annex B of NPF4 provides further details and Statements of Need for each of the eighteen national developments. National Development 3 is for Strategic Renewable Electricity Generation and Transmission Infrastructure, for which NPF4 states that:

*“This national development supports renewable electricity generation, repowering, and expansion of the electricity grid.*

*A large and rapid increase in electricity generation from renewable sources will be essential for Scotland to meet its net zero emissions targets. Certain types of renewable electricity generation will also be required, which will include energy storage technology and capacity, to provide the vital services, including flexible response, that a zero carbon network will require. Generation is for domestic consumption as well as for export to the UK and beyond, with new capacity helping to decarbonise heat, transport and industrial energy demand. This has the potential to support jobs and business investment, with wider economic benefits.*

*The electricity transmission grid will need substantial reinforcement including the addition of new infrastructure to connect and transmit the output from new on and offshore capacity to consumers in Scotland, the rest of the UK and beyond. Delivery of this national development will be informed by market, policy and regulatory developments and decisions.”*

- 2.2.8 The location for National Development 3 is set out as being all of Scotland and in terms of need

it is described as:

*"Additional electricity generation from renewables and electricity transmission capacity of scale is fundamental to achieving a net zero economy..."*

- 2.2.9 With regard to onshore electricity generation, Appendix B of NPF4 clarifies that offshore electricity generation, including electricity storage, from renewables exceeding 50 MW and new high voltage electricity transmission lines and cables of 132 kv or more would qualify as being classified as of national development status under National Development 3.

### **National Planning Policy**

- 2.2.10 Part 2 of NPF4 sets out national planning policy for Scotland by topic under the themes of 'Sustainable Places', 'Liveable Places' and 'Productive Places'.

- 2.2.11 In terms of the application of these national planning policies, page 98 of NPF4 states that:

*"The policy sections are for use in the determination of planning applications. The policies should be read as a whole. Planning decisions must be made in accordance with the development plan, unless material considerations indicate otherwise. It is for the decision maker to determine what weight to attach to policies on a case by case basis. 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."*

- 2.2.12 With regard to Local Development Plans, NPF4 is clear that the focus of these should be on land allocation through the spatial strategy and interpreting national policy in a local context. It states:

*"There is no need for LDPs to replicate policies within NPF4, but authorities can add further detail including local specific policies should they consider to be a need to do so, based on the area's individual characteristics."*

- 2.2.13 All of the national planning policies within NPF4 are underpinned by **Policy 1: Tackling the Climate and Nature Crisis**, an overarching policy which states that *"when considering all development proposals that significant weight will be given to the global climate emergency and nature crises"*. The introduction of Policy 1 represents a fundamental rebalancing of the planning system compared to the previous position in NPF3 and SPP, with the climate emergency and nature recovery now to be given overriding significance in all planning decisions. Whilst it was previously open to decision makers to give such weight as they thought appropriate to the global climate emergency, Policy 1 is entirely new in that it is now a matter of policy that decision makers give significant weight to the global climate emergency and nature crises.

- 2.2.14 The intent of **Policy 11: Energy** is to encourage, promote and facilitate all forms of renewable energy development and associated distribution infrastructure, and the policy outcome is identified as the expansion of renewable, low carbon and zero emission technologies. Policy 11 part (a) makes clear that all types of renewable energy including enabling works such as grid transmission and distribution infrastructure are supported in principle. Policy 11 part (c) identifies that proposals will only be supported where they maximise net economic impact, including local and community socio-economic benefits. Policy 11 part (e) sets out the assessment criteria for renewable energy developments, with specific consideration to be given to the following criteria:

- Impacts on communities and individual dwellings;
- Significant landscape and visual impacts;
- Public access;
- Aviation and defence interests;
- Impacts on telecommunications and broadcasting installations;
- Impacts on road traffic and trunk roads;
- Impacts on the historic environment;
- Effects on hydrology, the water environment and flood risk;
- Biodiversity;
- Impacts on trees, woods and forests;
- Proposals for decommissioning;
- Site restoration; and
- Cumulative impacts.

2.2.15 In accordance with Policy 1, Policy 11 part (e) provides that when considering impacts upon the above considerations that *“significant weight will be placed on the contribution of the proposal to renewable energy generation targets and on greenhouse gas emissions reduction targets.”*

2.2.16 **Table 2.1** lists the other national planning policies considered to be of relevance to the Proposed Onshore Development and summarises the intent of these policies.

**Table 2.1: Relevant National Planning Policies in NPF4**

NPF4 Policy	Policy Intent
Policy 1: Tackling the Climate and Nature Crisis	To encourage, promote and facilitate development that addresses the global climate emergency and nature crisis.
Policy 2: Climate Mitigation and Adaption	To encourage, promote and facilitate development that minimises emissions and adapts to the current and future impacts of climate change.
Policy 3: Biodiversity	To protect biodiversity, reverse biodiversity loss, deliver positive effects from development and strengthen nature networks.
Policy 4: Natural Places	To protect, restore and enhance natural assets making best use of nature-based solutions.
Policy 5: Soils	To protect carbon-rich soils, restore peatlands and minimise disturbance to soils from development.
Policy 6: Forestry, Woodland and Trees	To protect and expand forests, woodland and trees.
Policy 7: Historic Assets and Places	To protect and enhance historic environment assets and places, and to enable positive change as a catalyst for the regeneration of places.
Policy 11: Energy	To encourage, promote and facilitate all forms of renewable energy development onshore and offshore.

NPF4 Policy	Policy Intent
Policy 20: Blue and Green Infrastructure	To protect and enhance blue and green infrastructure and their networks.
Policy 22: Flood Risk and Water Management	To strengthen resilience to flood risk by promoting avoidance as a first principle and reducing the vulnerability of existing and future development to flooding.
Policy 23: Health and Safety	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.

### ***Aberdeenshire Local Development Plan 2023***

- 2.2.17 The Aberdeenshire Local Development Plan (ALDP) (Aberdeenshire Council, 2023a) was adopted in January 2023 and sets out the policies that Aberdeenshire Council will use for determining planning applications over the next five years.
- 2.2.18 Proposals for onshore transmission infrastructure are generally considered under **Policy C2: Renewable Energy**. This policy supports proposals for renewable energy and associated development in principle but provides that assessment of the acceptability of such proposals must take into account effects on socio-economic aspects; renewable energy targets; greenhouse gas emissions; communities; landscape and visual aspects; natural heritage; carbon rich soils; the historic environment; tourism and recreation; aviation, defence, telecommunications and broadcasting installations; road traffic; hydrology; and opportunities for energy storage.
- 2.2.19 **Table 2.2** lists the other ALDP policies considered to be of relevance to the Proposed Onshore Development.

**Table 2.2:** *Relevant Local Development Plan Policies in ALDP*

ALDP Policy	Policy Intent
Policy P1: Layout, Siting and Design	Part 7 of this policy sets out the requirements to provide biodiversity enhancement in proportion to the opportunities available and the scale of the development opportunity.
Policy R1: Special Rural Areas	To safeguard the special nature of the green belt and coastal zone.
Policy R2: Development Proposals Elsewhere in the Countryside	To protect the countryside from inappropriate development.
Policy E1: Natural Heritage	To protect nature conservation sites and protected species from development, and to enhance biodiversity.
Policy E2: Landscape	To ensure that Special Landscape Areas are protected from inappropriate development and to ensure that impacts upon landscape character are acceptable.
Policy E3: Forestry and Woodland	To protect and enhance Aberdeenshire's forests and native and semi-natural woodland areas.

ALDP Policy	Policy Intent
Policy HE1: Protecting Listed Buildings, Scheduled Monuments and Archaeological Sites	To protect and enhance historic environment assets.
Policy HE2: Protecting Historic, Cultural and Conservation Areas	To protect conservation areas, inventoried battlefields and designed landscapes and their setting.
Policy PR1: Protecting Important Resources	To protect important environmental resources associated with air quality, the water environment, important mineral deposits, prime agricultural land, peat and other carbon rich soils, open space and important trees and woodland from development.
Policy C2: Renewable Energy	To support renewable energy proposals and associated development that are appropriately sited and designed.
Policy C3: Carbon Sinks and Stores	To protect carbon sinks and stores, such as woodland and high-carbon peat rich soils, from disturbance or destruction.
Policy C4: Flooding	To avoid increasing flood risk vulnerability.

## 2.3 Other Relevant Material Considerations

2.3.1 Climate change and renewable energy policy and legislation will be important material considerations in the determination of the planning application for the Proposed Onshore Development. National policy and legislation that will be considered by the Developer will include:

- **The Climate Change (Emissions Reduction Targets) (Scotland) Act 2019**, which amends the Climate Change (Scotland) Act 2009 and commits Scotland to a legally binding target of net-zero emissions of all greenhouse gases by 2045 at the latest alongside a series of interim targets for 2030 and 2040;
- **The Scottish Energy Strategy** (Scottish Government, 2017a), which presents the Scottish Government's vision for the future energy system in Scotland and details the Government's ambition to support the offshore wind industry in boosting the Scottish supply chain and reaching the scale required to support Scotland's future energy needs;
- **Offshore Wind Policy Statement** (Scottish Government, 2020), which sets out the Scottish Government's ambition to achieve up to 11 GW of offshore wind in Scottish waters by 2030;
- **The British Energy Security Strategy** (Department for Business, Energy & Industrial Strategy (BEIS), 2022), which sets out the UK Government's ambition to deliver up to 50 GW of offshore wind by 2030, including up to 5 GW of floating offshore wind;
- **The Draft Energy Strategy and Just Transition Plan** (Scottish Government 2023b), which was published by the Scottish Government for consultation in January 2023 and recognises the need to review the current 11 GW target for the deployment of offshore wind in Scottish waters by 2030; and
- **Powering Up Britain** (His Majesty's (HM) Government, 2023), which sets out the UK Government's ambitions to diversify, decarbonise and domesticate energy production.

## 2.4 Questions

- Do consultees agree that the identified Development Plan policies and other material considerations are relevant to the planning application for the Proposed Onshore Development?
- Are there any other policies or guidance which consultees consider will also be relevant to the Proposed Onshore Development?
- Are consultees in agreement that the Development Plan policies and other relevant material considerations will be identified and assessed in the Planning Statement and there is consequently no need to include a dedicated Chapter on Planning Policy Context in the EIA?



## 3 Proposed Development Description

### 3.1 Introduction

- 3.1.1 This Chapter provides an overview of the Proposed Onshore Development and the wider Project to which it relates. It also describes the key activities that will be undertaken during construction, operation and maintenance (O&M) and decommissioning, including key parameters along with indicative timescales.
- 3.1.2 At this early stage in the Project, the project description is indicative, and the 'envelope' has been designed to include sufficient flexibility to accommodate further refinement during detailed design. This Chapter therefore sets out a series of options and/or parameters for which maximum values are used to constitute a realistic Maximum Design Scenario (MDS) for the Project.
- 3.1.3 Project design and likely construction approach will be refined throughout the EIA process, therefore the description of the Proposed Onshore Development provided is high-level to provide context for the development of the onshore EIA scope.

### 3.2 Design Envelope Approach

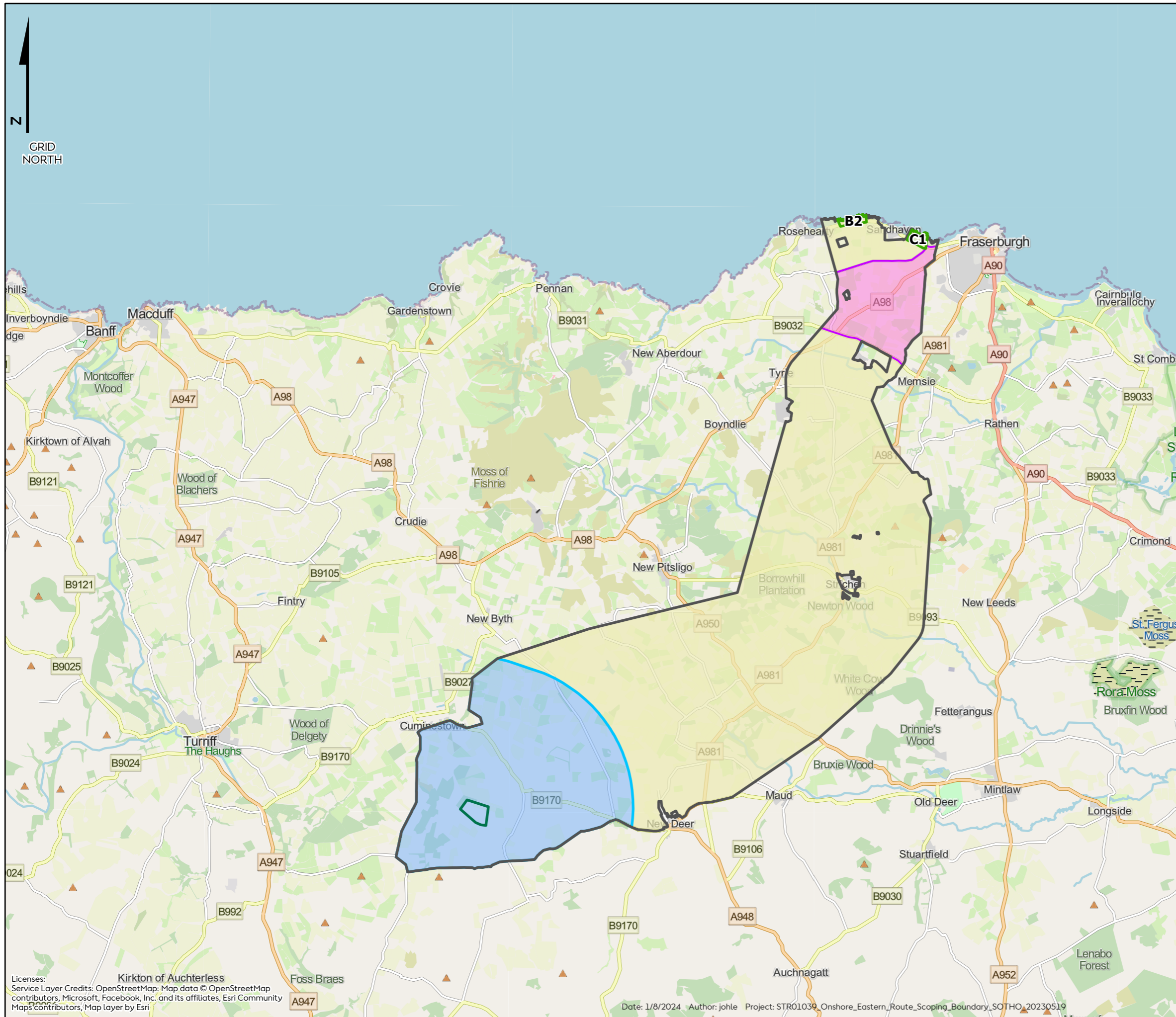
- 3.2.1 The Developer has adopted a design envelope approach to inform the EIA for the Proposed Onshore Development. Currently the Proposed Onshore Development is in the early stages of definition, and it is not possible to apply exact specifications. An Onshore Scoping Area is therefore identified at this stage, which is a wider area within which the Proposed Onshore Development will be located. Areas of search within the Onshore Scoping Area have also been identified within which the OnSS and OnRCS will be located.
- 3.2.2 The Onshore EIAR to support the PPP application will define an application site boundary and development zones (refined areas of search within the application site boundary) within which the different components of the Proposed Onshore Development will be located. The final locations of the different components of the Proposed Onshore Development will then be detailed in the subsequent AMSC application(s).
- 3.2.3 The design envelope for the Onshore EIAR will identify a range of parameters associated with each component of the Proposed Onshore Development, enabling a realistic assessment of the likely worst-case environmental effects upon a particular receptor. A more developed project design envelope will be presented in the Onshore EIAR than that used in the Onshore Scoping Report, which will provide the maximum envelope of the consent sought, allowing appropriate flexibility to enable the refinement of the Proposed Onshore Development design after consent (if granted). Each topic-specific assessment within the Onshore EIAR will consider the relevant design parameters that give rise to the greatest potential impact for the receptors in question, while only considering realistic solutions. Any design parameter that is equal or less than those assessed will have an equal or lesser impact.
- 3.2.4 By employing the design envelope approach, the Developer seeks to retain a reasonable level of flexibility in the design of the Proposed Onshore Development within certain maximum extents and ranges, all of which will be fully assessed in the Onshore EIAR. The design envelope will be developed in parallel with the wider iterative EIA and design development (including the identification of embedded commitments) process and will be influenced by the results of

environmental and technical studies where relevant, as well as taking on board feedback through stakeholder consultation.

### 3.3 Onshore Scoping Area

3.3.1 To inform this Onshore Scoping Report an Onshore Scoping Area has been identified which takes the form of a corridor between the Landfall Area of Search along the Aberdeenshire coast and the OnSS Area of Search in the proximity of New Deer 2. The Onshore Scoping Area provides a wider area within which the Proposed Onshore Development will be wholly located within, to be refined and narrowed down throughout the EIA process.

3.3.2 The Onshore Scoping Area is shown on **Figure 3.1**. The proposed Landfall Area of Search is located in the northern part of the Onshore Scoping Area and extends approximately 4 km between Rosehearty and Fraserburgh. The proposed OnSS Area of Search extends up to a 5 km radius from the proposed New Deer 2 substation, excluding areas to the south and west constrained by other infrastructure and environmental designations. The proposed OnRCS Area of Search extends up to 5 km from the coastline but excludes the North Aberdeenshire Coast Special Landscape Area.



# Stroma Offshore Wind Farm

## Figure 3.1 Onshore Scoping Area

- Legend**
- SSEN New Deer 2 Preferred Location
  - Potential Landfall Locations
  - Onshore Export Cable Corridor Area of Search
  - Onshore Scoping Boundary
  - Onshore Reactive Compensation Station Area of Search
  - Onshore Substation / Converter Station Area of Search
  - Onshore Scoping Boundary



Coordinate System: British National Grid  
 Scale@A3: 1:130,000

0 1.25 2.5 5 Kilometres

0 5,000 10,000 20,000 Feet

REV	REMARK	DATE
1	First issue	19/05/2023

Figure 3.1 : Onshore Scoping Area  
 Document no: STR01039  
 Created by: JOHLE  
 Checked by:  
 Approved by: SOTHO

Licenses:  
 Service Layer Credits: OpenStreetMap: Map data © OpenStreetMap contributors, Microsoft, Facebook, Inc. and its affiliates, Esri Community Maps Contributors, Map layer by Esri

### 3.4 Project Infrastructure Overview

3.4.1 This Chapter presents a description of the design of the Proposed Onshore Development. It sets out the design components as well as the main activities associated with the construction, O&M, and decommissioning of the Proposed Onshore Development.

#### *Design Envelope*

3.4.2 As with most offshore wind farm applications, the Proposed Onshore Development is adopting a Design Envelope approach due to the complex nature of the development and given that many of the final details of the development are unlikely to be known at the time of application such as:

- Transmission system<sup>3</sup>;
- Cable type and cable route;
- Exact location of the OnSS; and
- Exact location of the OnRCS.

3.4.3 The Design Envelope approach will present a series of maximum extents for the Proposed Onshore Development for which likely significant effects can be identified, and meaningful assessments undertaken for the Proposed Onshore Development, while retaining reasonable flexibility for future detailed design. To avoid excessive conservatism, the parameters considered throughout are not necessarily a combination of the maximum design parameters for each component.

3.4.4 The Proposed Onshore Development requires flexibility in choice of for example transmission technology, specific siting of infrastructure, construction methodologies, to ensure that anticipated changes in available technology and project economics can be accommodated within the final detailed design. The final detailed design of the Proposed Onshore Development will depend on factors including ground conditions, Project economics, supply chain, and procurement approach. This Chapter therefore sets out the maximum design parameters for the Proposed Onshore Development, which are encompassed within the Design Envelope.

3.4.5 The key components of the Project are described in **Table 3.1**.

---

<sup>3</sup> There are two main transmission technologies being considered for the Project, defined by the type of current: High Voltage Alternating Current (HVAC) and High Voltage Direct Current (HVDC). The Developer will decide on which transmission type it will use during the detailed design and procurement stage, post-consent, based on a range of factors including project economics and technology risk. The selection of transmission technology will have implications for the design envelope relating to the footprint and size of the OnSS, OnECC footprint and number of cables, requirement for OnRCS etc.

**Table 3.1: Proposed Onshore Development Overview**

Infrastructure	Components	Detail
OnECC	Onshore Export Cables	Buried cables connecting the landfall to the OnSS. Where possible and practical, less intrusive construction methods will be adopted for example by using Horizontal Directional Drilling (HDD) to cross environmentally sensitive water courses or major roadways. Cables will be delivered in sections and buried in trenches, which will subsequently be reinstated to pre-existing condition as far as reasonably practical. Sections will be connected within jointing bays.
OnSS	Onshore substation/converter station	The OnSS will be located as close as practical to the SSEN substation at New Deer 2 and will include all necessary electrical plant to meet the requirements of the National Grid.
OnRCS	Reactive Compensation Station	Due to the cable length an RCS is required to compensate for reactive power losses and so ensure the efficiency of the power transmission. This could be located either onshore or offshore.
OnGCC	Grid connection cables	Buried cables connecting the Project OnSS with the new SSEN substation at New Deer 2.

3.4.6 All the components of the Proposed Onshore Development will be located within the Onshore Scoping Area as illustrated in **Figure 3.1**.

## 3.5 Electrical Infrastructure

### Overview

3.5.1 The Proposed Onshore Development will likely consist of several onshore cables and an OnSS, as outlined in **Table 3.2**. The transmission system will collect and transport the power produced at the wind turbine generators on to the UK electricity transmission network. Although the transmission system will be constructed by the Developer, ownership will be transferred to an Offshore Transmission Operator (OFTO) after the Project is constructed in a transaction overseen by The Office of Gas & Electricity Markets (OFGEM), the Government regulator for gas and electricity markets.

3.5.2 The Developer has entered into a Bilateral Connection Agreement and Construction Agreement with National Grid Electricity System Operator (NGESO) that provides the Project with a grid connection point to the National Electricity Transmission System (NETS) at the proposed new substation called New Deer 2. This has also been the main assumption during NGESO Holistic Network Design Follow Up Exercise (HNDfUE) in 2022/2023. The grid connection point for the Project will be finalised through detailed design that is currently being completed by NGESO and the onshore transmission owner SSEN Transmission.

**Table 3.2:** *Maximum Design Scenario: Proposed Onshore Development*

Package	Parameter	Design Envelope
Landfall	Installation methodology	Either open cut / trenched or trenchless (e.g., HDD)
	HDD	11 (3 drills per circuit plus 2 spare)
	Transition Joint Bay (TJB)	3 (1 per circuit)
	TJB dimensions (each TJB)	250 m <sup>2</sup> (10 m x 25 m) located within a 40 m x 40 m working area
	Temporary Construction Compound	40,000 m <sup>2</sup>
OnECC	Number	9 (3 per circuit)
	Trenches	3 (1 per circuit)
	Trench width	5 m per trench and 10 m gap between trenches
	Installation	Direct lay in trenches, or pulled through pre-installed ducting
	Permanent corridor (except in case of obstructions e.g., at HDD crossings)	45 m
	Temporary construction corridor (except in case of obstructions e.g., at HDD crossings)	105 m
	Number of primary logistics compounds	1 (140 m x 140 m)
	Number of secondary logistics compounds	5 (90 m x 90 m)
OnSS	Area of site	90,000 m <sup>2</sup> (indicatively 60,000 m <sup>2</sup> permanent footprint plus 30,000 m <sup>2</sup> temporary area for construction)
	Number of main buildings	1-5
	Height of main building	30 m
	Electrical equipment height (if external to substation/converter station height)	35 m (lightning protection and power mast)

Package	Parameter	Design Envelope
OnRCS	Area of site	30,000 m <sup>2</sup> (indicatively 15,000 m <sup>2</sup> permanent footprint plus 15,000 m <sup>2</sup> temporary area for construction)
	Single building dimensions (m) (combining three circuits)	120 x 75 m
	Number of buildings (if multiple buildings)	4 (one per circuit plus a GIS and Control building)
	Single building dimensions (if multiple buildings)	60 m x 40 m
	Building and fire walls height	12.5 m
	Lightning protection height from ground level	17.5 m

### **Landfall**

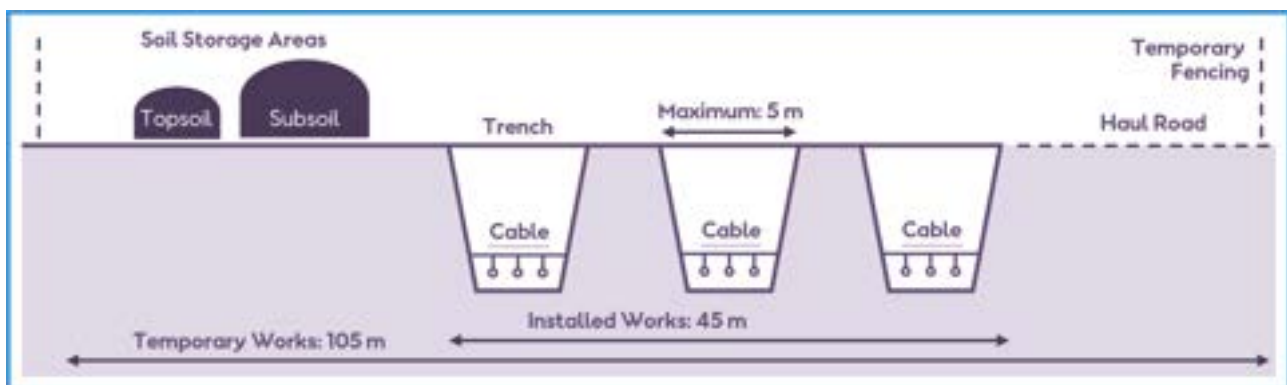
- 3.5.3 The Landfall is the interface between the onshore and offshore aspects of the Project, and construction will therefore involve both onshore and offshore plant and installation methods.
- 3.5.4 The Landfall Area of Search is the area within which all permanent and temporary works required to bring the Offshore Export Cables onshore and connect to the OnECC will take place. These works may include construction of a landfall compound including welfare and temporary office facilities, construction of TJBs either landward of MHWS or between MLWS and MHWS for installation and jointing of offshore and onshore high-voltage cables, backfilling of TJBs and reinstatement works.
- 3.5.5 A TJB is an underground concrete structure holding the joint between the offshore and onshore export cables. The exact location of the TJB will be identified in the AMSC application.
- 3.5.6 The Project may use either a direct burial or trench-less landfall cable installation technique, such as HDD or similar or a combination of both.
- 3.5.7 Direct burial installation can be carried out using one of a number of methods such as ploughs, rock cutters or jetting tools, similar to those used offshore, which can be pulled from the offshore installation vessel, or from winches within the landfall compound. Installation tools may be pulled along the beach on skids or be tracked. Prior to the vessel arrival, piled rollers may be placed on the beach, which are removed once the cables have been installed.
- 3.5.8 Trenchless installation for example via HDD or similar, may exit either in the intertidal or subtidal zone. If in the intertidal zone, it may be necessary to consider dewatering (pumping dry) and water exclusion (e.g., cofferdams). Works in the intertidal may require use of pontoons, barges or jack-up vessels, which would be maintained in place by a minimum of a 4-point mooring system, which

will be set-up with the support of tugboats and anchor handling vessels, and removed once installation is complete.

- 3.5.9 A temporary access track may be required for beach access during construction for personnel and construction related vehicles and plant. This may require upgrading existing access or creating a new access, potentially either a stone aggregate track or trackway approximately 10 m wide to allow for around a 6 m running track.
- 3.5.10 In addition, equipment may also need to be brought to Landfall by sea by utilising and beaching a barge, or similar vessel, throughout the construction period. Whilst installation is ongoing, access to working areas on the beach will need to be managed for operational, and health and safety reasons.
- 3.5.11 Further details will be provided in the Proposed Onshore Development Description within the Onshore EIAR. The current maximum parameters of the Landfall envelope are presented in **Table 3.2**.

### **Onshore Export Cable**

- 3.5.12 The construction work area associated with OnECC will be approximately 105 m working width, except at HDD crossings, the approach to Landfall and the approach to the OnSS. The permanent onshore export cable easement will be approximately 45 m width except where obstacles are encountered, and on the approach to the Landfall and OnSS.
- 3.5.13 The indicative onshore cable arrangement is illustrated in a typical trench cross-section in **Figure 3.2**. Cable installation is a well-established technique and incorporates environmental management and mitigation measures as standard practice. Precise installation methods will differ according to the nature of the environment through which the cable is being installed and will be designed to create the most cost effective and least environmentally damaging approach to cable construction.



**Figure 3.2:** Typical cross-section of OnECC (not to scale)

- 3.5.14 As well as the typical cross-section of cables, jointing bays (JB) are required. A JB is an underground concrete structure holding the joint between sections of the Onshore Export Cables. The exact location and number of JB's will be identified in the AMSC application.



- 3.5.15 All cables will be installed by one or a combination of open-cut and horizontal directional drill (HDD) or other trenchless methods. HDD is a trenchless method where the cable is directly pulled into pre-drilled underground sections.

#### ***Onshore substation/converter station***

- 3.5.16 The OnSS contains the electrical components for transforming the power supplied from the Offshore Wind Farm to 400 kv and to adjust the power quality and power factor, as required to meet the UK Grid Code for supply to the National Grid. If a HVDC system is used it will also house equipment to convert the power from HVDC to HVAC. The equipment will either be housed within a single or multiple building(s), in an open yard or a combination of the above.
- 3.5.17 The MDS will be set out in the Onshore EIAR (e.g., maximum height, footprint, number and type of buildings).

#### ***Energy Balancing Infrastructure***

- 3.5.18 The use of energy balancing infrastructure is becoming increasingly widespread to effectively and cost-efficiently balance the supply and demand of power on the electricity transmission network and to increase the overall reliability and stability of the whole energy system. The use of energy balancing infrastructure will be especially needed in parts of the grid that have a high penetration of renewables and low demand for electricity and will help to ensure that more green energy can be used at the time it is needed rather than when it is produced. Since this is a rapidly evolving technology solution, a range of technologies are under development. Once the detailed requirements for energy balancing infrastructure are known, a consenting route will be determined in line with any guidance and this may be a separate planning permission/consent application which will be considered and assessed within a separate EIAR.

#### ***Onshore HVAC Reactive Compensation Station***

- 3.5.19 Long distance, large capacity HVAC transmission systems require reactive compensation equipment to reduce the reactive power generated by the capacitance of the offshore export cable in order to allow the power delivered to the National Grid to be useable. The electrical equipment required to provide the reactive compensation, in the form of an HVAC Reactive Compensation Station (RCS), can be located onshore (in proximity of landfall), on an offshore platform, or within a subsea structure (along the export cable corridor). The Developer requires flexibility in location, type and foundation choice for offshore or onshore RCS to ensure that anticipated changes in available technology and project economics can be accommodated within the final detailed Project design.

### **3.6 Construction Programme**

- 3.6.1 A detailed construction programme will be developed as design and procurement activities progress. It is anticipated that the onshore construction will take place over four and a half years, with the OnSS taking approximately three years and seven months, OnECC two years and works at the Landfall to last approximately six months. Activities associated with these components of the Proposed Onshore Development may not be continuous, and they may be divided into various phases and/or seasons. However, they are expected to take place within the four and a half years.

### 3.7 Operations, Maintenance and Decommissioning

- 3.7.1 The overall O&M strategy for the Project will be finalised once the onshore O&M base location and technical specification are known, including electrical transmission design and final project layout. The O&M strategy could include either an onshore O&M base (which would be an existing facility or consented separately under local planning regulations), an offshore O&M base (accommodation platforms), or both.
- 3.7.2 Maintenance activities will be categorised into two levels: preventive and corrective maintenance. Preventive maintenance will be undertaken according to scheduled services whereas corrective maintenance would be needed to cover unexpected repairs, component replacements, retrofit campaigns and breakdowns.
- 3.7.3 In the event of permanent cessation of electricity generation from the Project, confirmation will be provided to Aberdeenshire Council whether or not the Proposed Onshore Development continues to be required for electricity transmission purposes.
- 3.7.4 Where the Proposed Onshore Development is not required for electricity transmission purposes beyond the operational life of the Project, the onshore components would be decommissioned, and the land reinstated as follows:
- The above ground infrastructure would be removed from site for reuse elsewhere or disposed of in line with the waste regulations in force at the time;
  - Where removal of infrastructure such as cables, cable ducting and foundations would result in more damage than leaving them in place, they would be left in situ; and
  - Disturbed ground would be reinstated, and where required reseeded with an appropriate seed mix and/or native planting.
- 3.7.5 Details of the decommissioning and restoration scheme would be submitted to Aberdeenshire Council for approval within 24 months of the permanent cessation of electricity generation from the Project and prior to any decommissioning works commencing.

### 3.8 Commitments

- 3.8.1 In accordance with adopting a proportionate approach to the EIA process (see **Chapter 5: EIA Methodology**), the Developer has identified the potential impacts associated with the Proposed Onshore Development (**Appendix 3.3: Impacts Register**) and considered mitigation measures (referred to herein as Commitments) that may be adopted to reduce or eliminate those where LSE is concluded (see **Section 5.2 of Chapter 5: EIA Methodology**).
- 3.8.2 The commitments made pre-scoping are presented in **Appendix 3.2: Onshore Commitments Register**. Commitments to reduce or eliminate LSE from the Proposed Onshore Development design at this scoping stage are presented in **Table 3.3**.

**Table 3.3:** *Commitments to reduce or eliminate LSE at Scoping Stage*

<b>ID</b>	<b>Stage</b>	<b>Commitment Type</b>	<b>Commitment</b>	<b>Rationale</b>
C-ONS-002	Scoping	Primary	The onshore cable duct installation strategy (if ducts are used) is proposed to be conducted in a sectionalised approach in order to minimise impacts. Construction teams would work on a sectional approach (approximately 600-1500 m) and once the cable ducts have been installed, the section would be backfilled and the top soil replaced before moving onto the next section. This would minimise the amount of land being worked on at any one time and would also minimise the duration of works on any given section of the route.	To minimise impacts associated with cable installation.
C-ONS-004	Scoping	Primary	The OnECC and OnGCC will be buried underground for their entire length. Following reinstatement, the only above ground structures related to the OnECC and OnGCC will be link box lids where there are joints in the cable. These will typically take the form of a set of manhole covers surrounded by a small post and rail fenced enclosure.	To minimise the effects of landscape and visual impacts.
C-ONS-017	Scoping	Tertiary	Post-construction all temporary working areas will be reinstated to pre-existing conditions as far as reasonably practical in line with DEFRA 2009 Construction Code of Practice for the Sustainable Use of Soils on Construction Sites PB13298 or latest relevant available guidance.	To minimise the effects on soils and geology

### 3.9 Questions to Consultees

- Is the definition of the Proposed Onshore Development and what infrastructure forms part of the development clear?

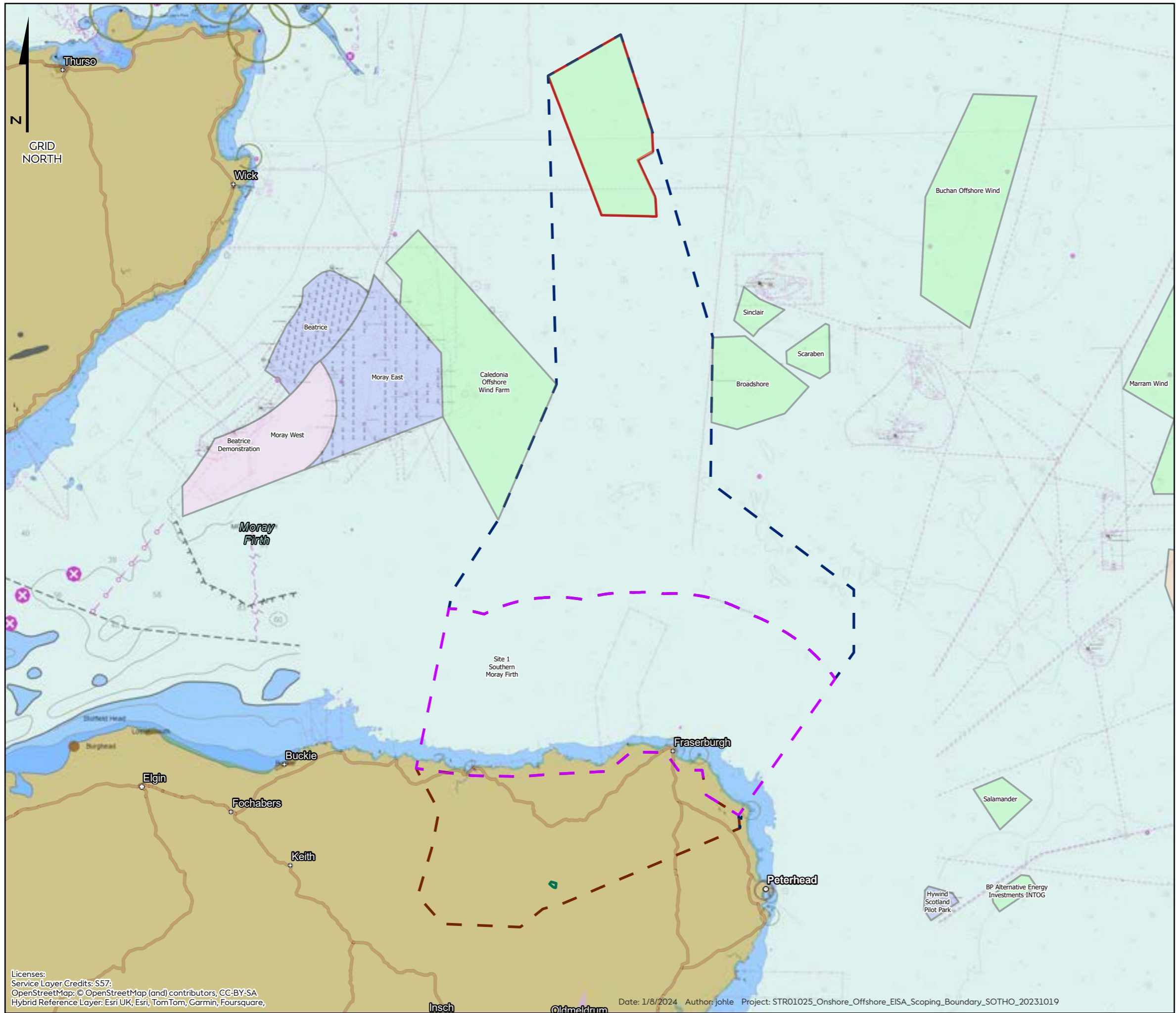
## 4 Site Selection

### 4.1 Introduction

- 4.1.1 A comprehensive site selection exercise was undertaken by the Developer in 2022-2023 to identify the optimal site for the Proposed Onshore Development, taking into consideration environmental, commercial, socio-economic, and technical factors. Engagement has been undertaken with Aberdeenshire Council and NatureScot to identify and then refine areas of search for each of the components of the Proposed Onshore Development. These areas of search all lie within the Onshore Scoping Area.
- 4.1.2 This process is ongoing and further refinements to the areas of search for the Proposed Onshore Development will occur once more detailed information, such as onshore surveys and further consultation with stakeholders, is obtained. The Onshore EIAR will outline the site selection process undertaking including alternatives considered. Furthermore, any refinements to the Proposed Onshore Development that have taken place as a result of the EIA process and in response to consultation and stakeholder feedback, as well as the main alternatives that have been considered as part of this process, will be detailed in the EIAR.
- 4.1.3 This Chapter presents a summary of the process followed for Route Planning and Site Selection (RPSS) for scoping.

### 4.2 Electrical Infrastructure Study Area

- 4.2.1 An Electrical Infrastructure Study Area (EISA) was defined and used as an initial search area for the RPSS. The Project EISA was largely defined by the Option for Lease Agreement (OLA) area (location of the Array Area) and grid connection point at New Deer 2 (location of the OnSS). These two locations form the northern and southern extents of the EISA. The EISA is shown in **Figure 4.1**.



# Stromar Offshore Wind Farm

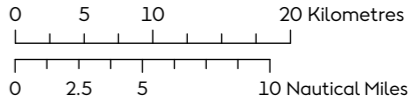
## Figure 4.1

### Electrical Infrastructure Study Area

- Legend**
- Stromar Site Boundary
  - Nearshore EISA Area (12nm)
  - Offshore EISA Area
  - Onshore Electrical Infrastructure Study Area
  - SSEN New Deer 2 Preferred Location
  - New Deer 2
  - Concept/Early Planning
  - Consent Application Submitted
  - Fully Commissioned
  - Pre-Construction
- Windfarm Status (4C Offshore)**



Coordinate System: ETRS 1989 UTM Zone 30N  
Scale@A3: 1:550,000



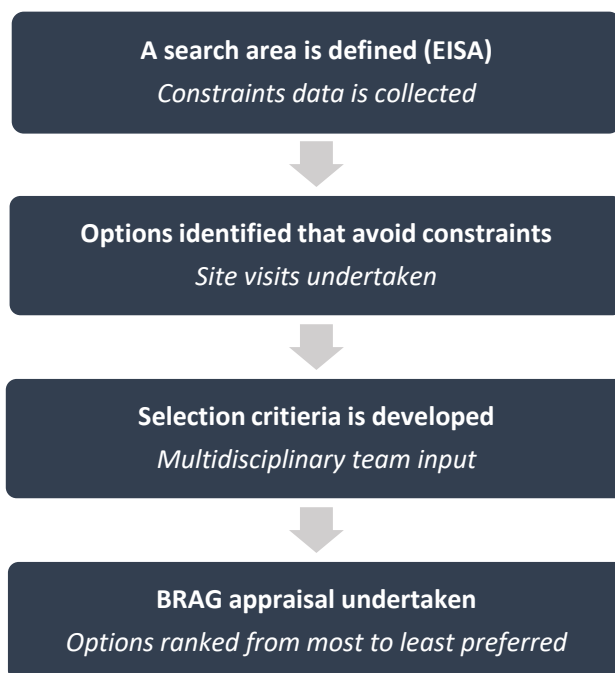
REV	REMARK	DATE
	First issue	19/10/2023

Figure 4.1 : Electrical Infrastructure Study Area  
Document no: STR01025  
Created by: JOHLE  
Checked by:  
Approved by: SOTHO

Licenses:  
Service Layer Credits: S57:  
OpenStreetMap; © OpenStreetMap (and) contributors, CC-BY-SA  
Hybrid Reference Layer: Esri UK, Esri, TomTom, Garmin, Foursquare,

### 4.3 Route Planning and Site Selection Methodology

- 4.3.1 The methodology applied to the early stage RPSS process is presented below. The RPSS process will continue throughout the pre-application phase. The final design of the Proposed Onshore Development will be a result of the RPSS process and consultation with stakeholders.
- 4.3.2 Identification of suitable areas of search for each of the components of the Proposed Onshore Development within the EISA each followed a similar process, shown below.



- 4.3.3 The black, red, amber, green (BRAG) ratings are defined as shown on **Table 4.1**:

**Table 4.1:** BRAG Criteria

Black	Showstopper to development
Red	High potential for the development to be constrained
Amber	Intermediate potential for the development to be constrained
Green	Low potential for the development to be constrained

### 4.4 Considerations

- 4.4.1 **Table 4.2** presents examples of RPSS considerations taken into account at the pre-scoping stage of Project development. These considerations ensure the avoidance of black or red constraints areas identified as part of the BRAG appraisal (e.g., species/habitats). All commitments as a result of this process are presented in the **Onshore Commitments Register (Appendix 3.2)**.

Table 4.2: RPSS Considerations

Consideration	Rationale
Avoidance of designated natural conservation sites of international, national and local importance	To avoid impacts to the natural environment
Areas of archaeological constraint will be avoided.	To avoid impacts to heritage assets of high significance
Avoid or minimise loss/disturbance of prime agricultural land	To avoid impacts to soils, geology, and agriculture
Avoid or minimise loss/disturbance of key habitat features identified as supporting important breeding or wintering bird species	To avoid impacts to ornithology
There will be no permanent High Voltage infrastructure installed above surface within 200 m of residential properties and sub surface infrastructure (including the onshore export cable) within 50 m of residential properties.	To minimise impacts to residents
Avoidance of designated natural conservation sites of international, national and local importance	To avoid impacts to the natural environment

## 4.5 Landfall Locations

4.5.1 The landfall search area included the coastal stretch within the EISA (see **Figure 4.1**). Due to much of this coastline, particularly the northern extent, being dominated by cliff-edged headlands, sheer cliffs, and narrow, fissured inlets, a significant proportion of the coastline was precluded from providing viable landfalls. Therefore, a more targeted approach was taken, using a desk-based review to identify potential locations based on the following guiding principles:

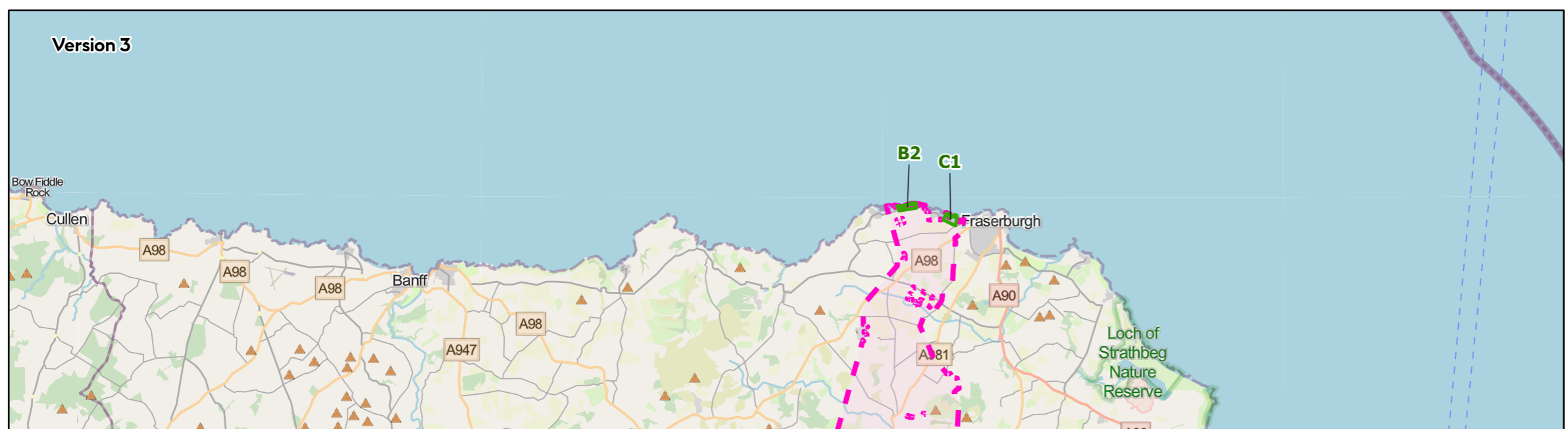
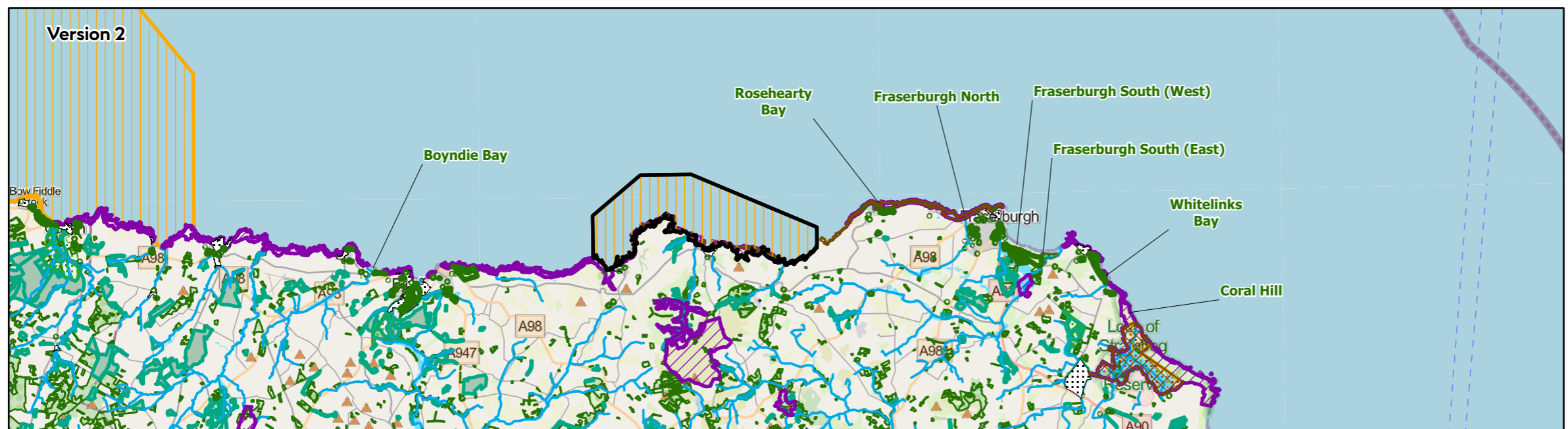
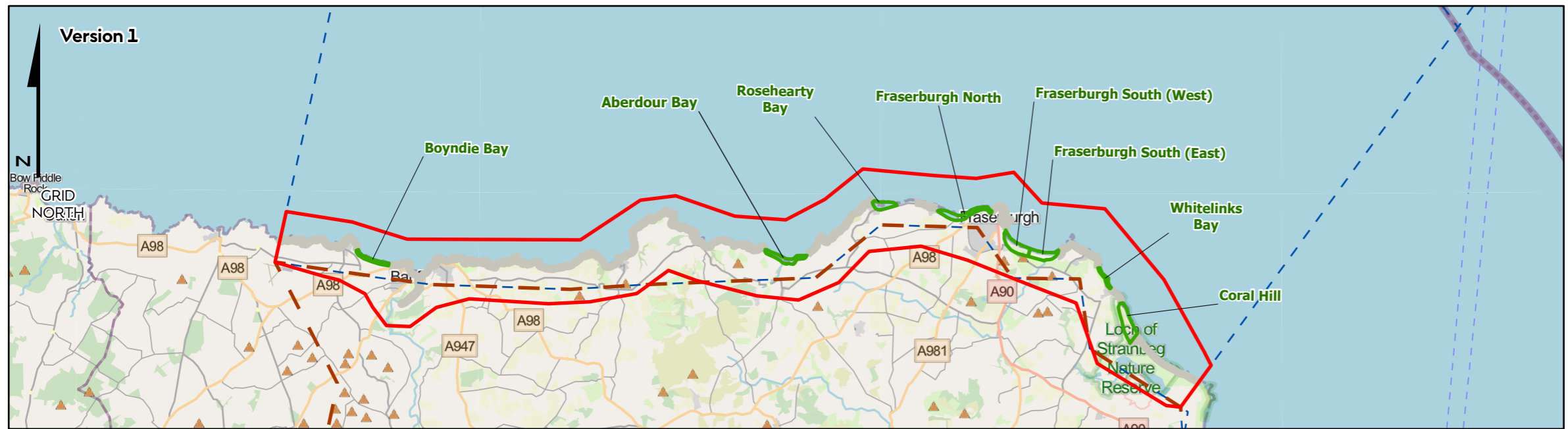
- Grid connection at New Deer <sup>4</sup>, Aberdeenshire;
- Minimum landfall width required 500 m;
- The shortest route possible to minimize overall project footprint;
- Avoiding key sensitive features where possible (for example environmental designated sites);
- Coastal geomorphology enabling construction using the chosen technology (e.g., cliff height and slope);
- Minimizing disruption to populated areas through avoidance or buffer zones; and
- Providing sufficient space for construction of the Proposed Onshore Development.

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<sup>4</sup> The Developer has entered into a Bilateral Connection Agreement and Construction Agreement in 2021 with National Grid Electricity System Operator (NGESO) that provides the Project with a grid connection point to the National Electricity Transmission System (NETS) at a proposed new substation called New Deer 2. This has also been the main assumption during NGESO's Holistic Network Design Follow Up Exercise (HND FUE) in 2022/2023. The grid connection point for the Project will be finalised through detailed design studies that are currently being completed by NGESO and the onshore transmission owner SSEN-T: once completed, the final location of the grid connection point and associated works will be confirmed.

- 4.5.2 The Landfall search area extended from Whitehills, west of Banff to the Loch of Strathbeg north of Peterhead (this area is highly constrained with significant oil and gas infrastructure between Rattray Head and Peterhead).
- 4.5.3 Potential landfall locations were identified driven by an approximate 30 km extent of the OnECC from the existing New Deer substation (as the location of New Deer 2 was unknown at this stage). It was not considered feasible to make landfall south of Peterhead, due to a significant number of offshore utilities crossings that would be required in the vicinity of the St Fergus Gas Terminal. Further west of Whitehills was also not considered, due to the length of onshore export cable required, and due to previous local community consultation on the Moray East Offshore Wind Farm project with Sandend (the next westward viable landfall option). The Developer made a decision to avoid Sandend for this reason. The Developer also committed to avoiding designated natural conservation sites of international, national, and local importance including Troup, Pennan and Lion's Head Special Protection Area (SPA) and any associated potential impacts on breeding seabird assemblages (C-ONS-001 in **Appendix 3.2: Onshore Commitments Register**).
- 4.5.4 The sequential process that was followed for Landfall refinement is illustrated on **Figure 4.2**.





# Stromar Offshore Wind Farm

## Figure 4.2

### Landfall Site Selection

- Version 1**
- Landfall Study Area
  - Offshore EISA Area
  - Onshore Electrical Infrastructure Study Area
  - Potential Landfall Locations
  - Unsuitable Coastline
- Version 2**
- Troup, Pennan and Lion's Heads SPA
  - OS Open Greenspaces
  - Troup, Pennan and Lion's Heads SPA
  - Local Nature Reserves (ACC)
  - Green Belt Areas (ACC)
  - Important Bird Areas
  - Battlefield Boundary
  - Conservation Areas
  - SSSIs
  - SACs
  - Gardens and Designed Landscapes
  - OS Open Watercourse Links
  - Ancient Woodland Inventory
  - National Forestry Inventory (Forestry Commission)
  - Country Park
  - Local Nature Reserves
  - SPAs
  - RAMSAR
  - River Flood Risk Zones (SEPA)
- Version 3**
- Onshore Scoping Boundary
  - Potential Landfall Locations



Coordinate System: British National Grid  
 Scale@A3: 1:260,000

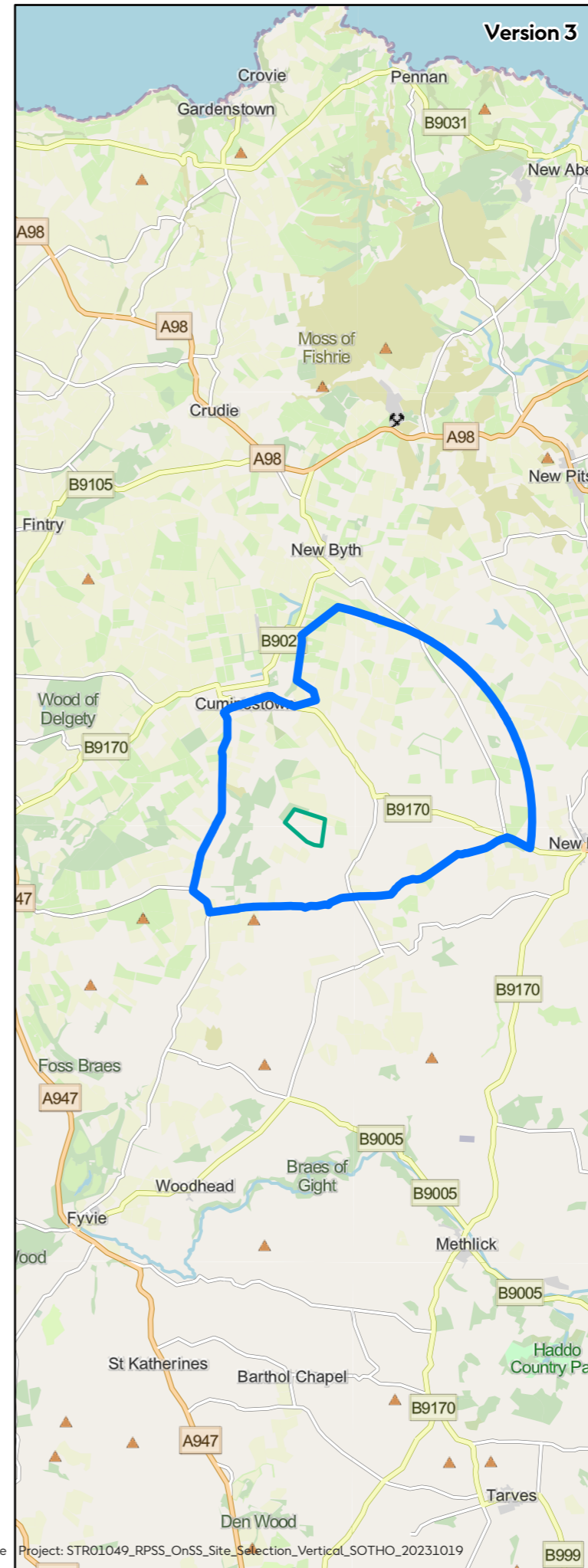
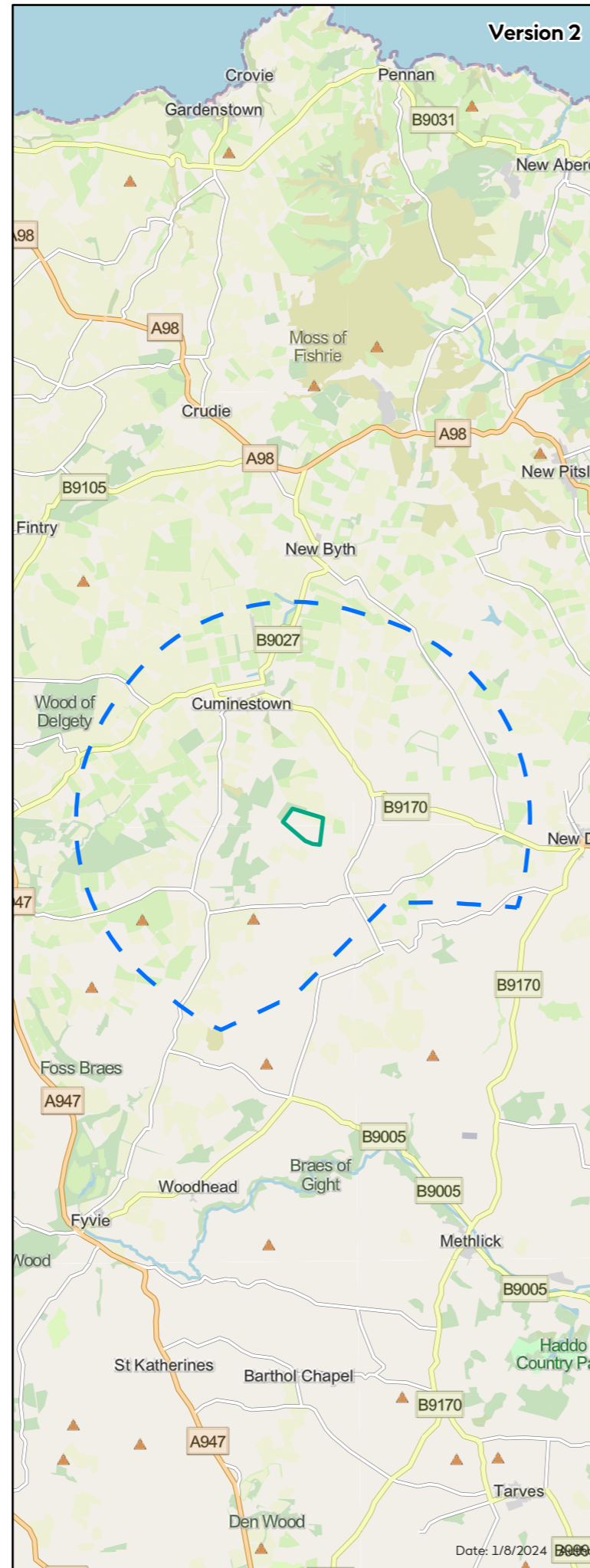
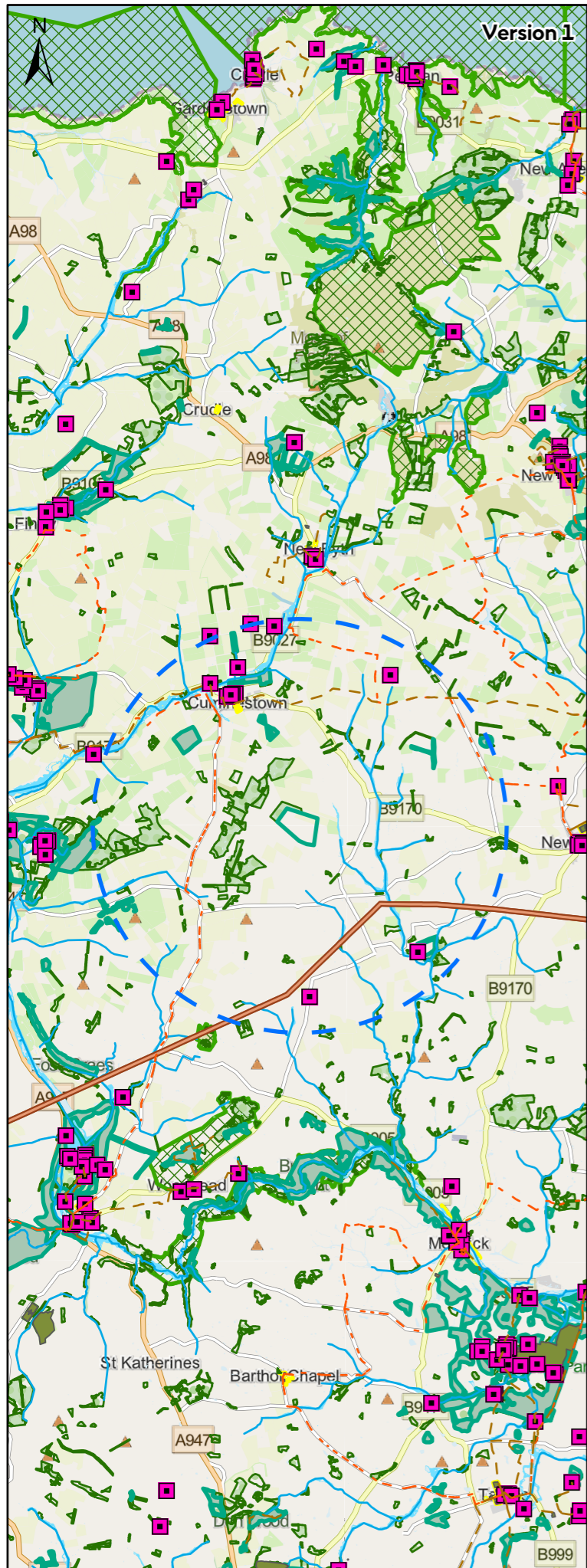
0 2.5 5 10 Kilometres

0 1.25 2.5 5 Nautical Miles

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1	First issue	25/07/2023

## 4.6 Onshore Substation/Converter Station

- 4.6.1 A 5 km radius was drawn surrounding the SSEN preferred location for the New Deer 2 substation once it became known, to limit the search for a suitable OnSS site to an area as close as reasonably practicable to the grid connection location. The search area was then amended to remove heavily constrained areas (e.g., high voltage overhead lines, settlements (C-ONS-003), and environmental designations (C-ONS-001).
- 4.6.2 The next step was to identify suitably sized land parcels within the search area as OnSS options which were then rated against BRAG criteria to be included as part of the EIAR. Refinement of the OnSS site selection is illustrated in **Figure 4.3**.

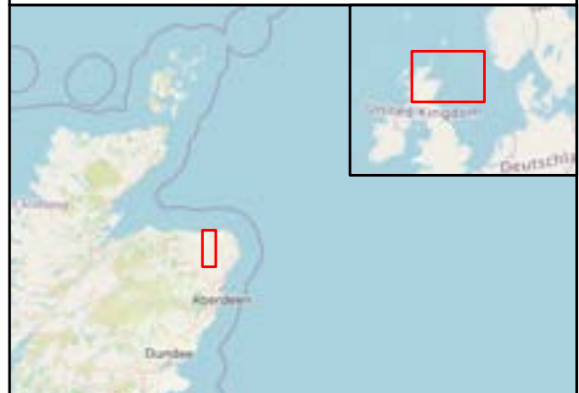


# Stromar Offshore Wind Farm

## Figure 4.3

### Onshore substation site selection

- Version 1**
- New Deer 2 Preferred Site 5km Buffer
  - New Deer 2 Scoping Sites
  - Preferred New Deer 2 Site
  - Reserved Protected Land Areas (Aberdeenshire County Council)
  - Local Nature Conservation Sites (Aberdeenshire County Council)
  - OS Open Greenspaces
  - Local Nature Reserves (ACC)
  - OS Open Watercourse Links
  - Ancient Woodland Inventory
  - National Forestry Inventory (Forestry Commission)
  - Local Nature Reserves
  - Surface Water Flood Risk Zones (SEPA)
  - River Flood Risk Zones (SEPA)
  - Adopted Core Paths (ACC)
  - Cycle Routes (ACC)
  - Listed Buildings (HES)
  - OS Open Electricity Transmission Line
  - Railway line
- Version 2**
- New Deer 2 OnSS Site
  - Preferred New Deer 2 Site
  - New Deer 2 Preferred Site 5km Buffer
- Version 3**
- Onshore Substation Area of Search
  - New Deer 2 Scoping Sites
  - Preferred New Deer 2 Site



Coordinate System: British National Grid  
 Scale@A3: 1:140,000

0 1.25 2.5 5 Kilometres

0 5,000 10,000 20,000 Feet

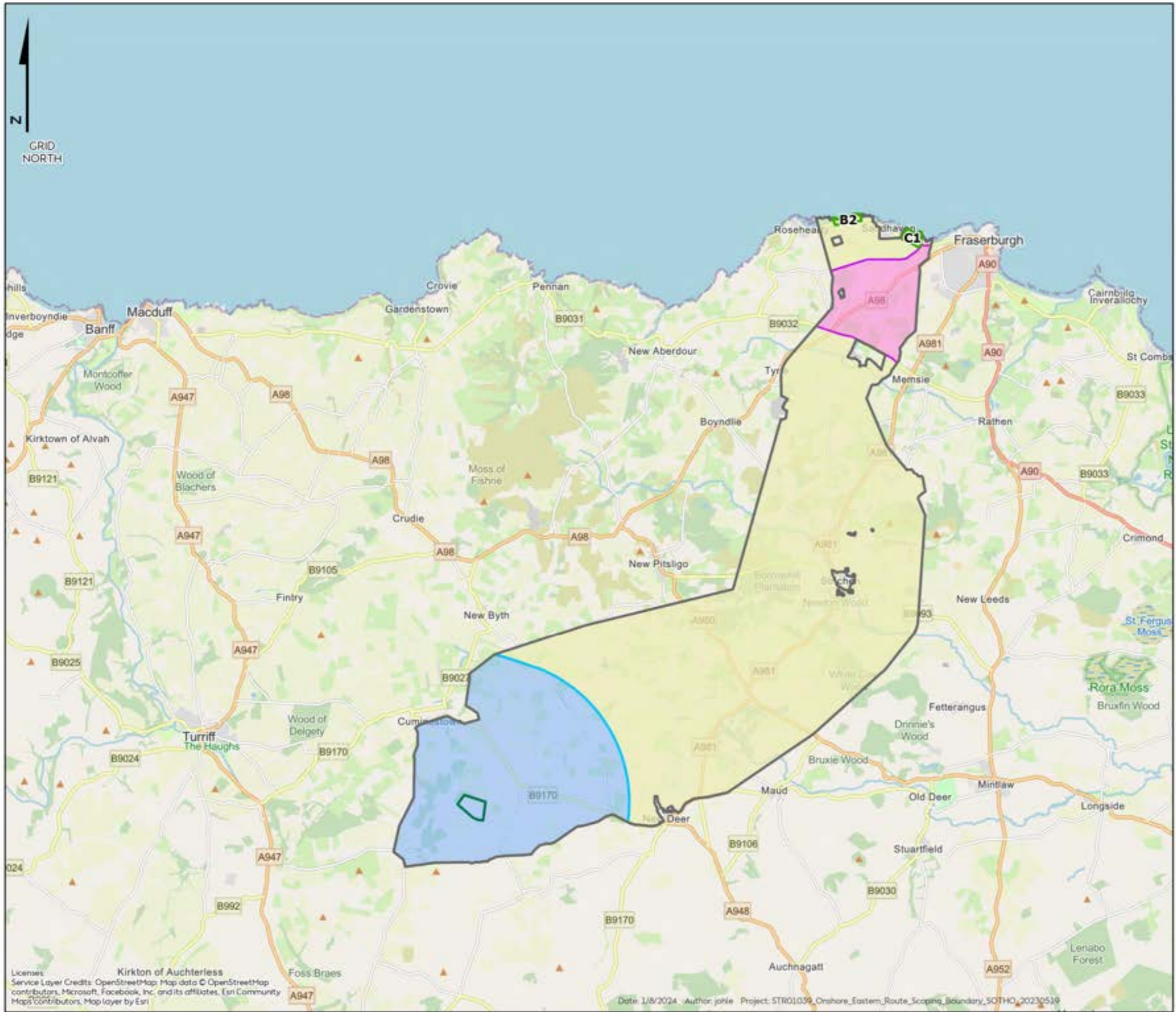
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1	First issue	19/10/2023

## 4.7 Onshore Export Cable Corridor (OnECC)

4.7.1 Initially, straight lines were drawn from the long list of landfalls to the anticipated grid connection location at New Deer 2. Constraints were then mapped and assessed using the BRAG process. Once the landfalls were refined, the initial straight line was rerouted to avoid black and red constraints and the length of travel through amber constraints was minimised. Following this rerouting, a 2 km buffer was applied to the centre line of the indicative route (widening at the approach to the 5 km buffer around the preferred location of New Deer 2), which was then refined further to exclude constraints within and at the boundary such as settlements (C-ONS-003), areas of archaeological or environmental designations (C-ONS-006), and to remove superfluous road crossings. This led to the creation of the Onshore Scoping Area for the purposes of seeking a Scoping Opinion (**Figure 4.4**).

## 4.8 Onshore Reactive Compensation Station (OnRCS)

4.8.1 An RCS is required to be halfway between the Array Area and OnSS. An OnRCS Area of Search has therefore been identified within 5 km of the Landfall. Through the RPSS process, a Special Landscape Area was identified at the Landfall. The North Aberdeenshire Coast Special Landscape Area was therefore excluded from this Area of Search. The OnRCS Area of Search is shown in **Figure 4.4**.



**Stroma Offshore Wind Farm**  
**Figure 4.4**  
**Onshore Scoping Area**

- Legend**
- SSEN New Deer 2 Preferred Location
  - Potential Landfall Locations
  - Onshore Export Cable Corridor Area of Search
  - Onshore Scoping Boundary
  - Onshore Reactive Compensation Station Area of Search
  - Onshore Substation / Converter Station Area of Search
  - Onshore Scoping Boundary



Coordinate System: British National Grid  
 Scale@A3: 1:130,000

0 1.25 2.5 5 Kilometres

0 5,000 10,000 20,000 Feet

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## **4.9 Refinement and Next Steps**

4.9.1 At this current scoping stage, the Developer has not selected the preferred locations of each of the components of the Proposed Onshore Development. Instead areas of search have been identified for the different components within an Onshore Scoping Area. These will then be further refined during the EIA process.

4.9.2 The Onshore EIAR to support the PPP application will define an application site boundary and the final refined areas of search (to be known as 'Development Zones') within the application site boundary within which the different components of the Proposed Onshore Development will be located. The final locations of the different components of the Proposed Onshore Development will then be detailed in the subsequent AMSC application(s).

## **4.10 Questions**

- Is the process by which the Proposed Onshore Development's design has been, and will be, refined via the RPSS process clear?

## 5 EIA Methodology

### 5.1 Introduction

- 5.1.1 EIA is a process for identifying the likely significant effects (LSE) of a development on the environment before planning permission or development consent is granted. It is a means to ensure that planning decisions are made in the knowledge of the LSE and with the full engagement of statutory bodies, local and national groups and members of the public.
- 5.1.2 The aim of EIA is to avoid, prevent or reduce any significant adverse effects of developments on the environment and, where possible, to offset any remaining effects. The EIA process may also be used to identify opportunities for environmental enhancement, for example ecological enhancements to comply with statutory biodiversity enhancement requirements specified in national planning policies.
- 5.1.3 This Chapter sets out the proposed approach to the EIA for the Proposed Onshore Development, including the manner in which impacts and effects will be addressed through the EIA process. The processes set out in this Chapter are intended to describe the general EIA approach that will be adopted, noting that for some topics a different approach may be adopted in line with best practice and relevant guidance. These differences are identified in the specialist environmental topic Chapters of this Onshore Scoping Report.

### 5.2 EIA Approach

- 5.2.1 The EIA for the Proposed Onshore Development will be undertaken in accordance with the legislation and guidance identified in **Table 5.1**. Other topic-specific specialist methodologies and good practice guidance will be drawn on as necessary.

**Table 5.1: Relevant Legislation, Policy and Guidance**

Title	Source
<b>Legislation</b>	
The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017	<a href="https://www.legislation.gov.uk/ssi/2017/102/contents/made">https://www.legislation.gov.uk/ssi/2017/102/contents/made</a>
<b>Guidance</b>	
Scottish Planning Circular 1/2017: Environmental Impact Assessment Regulations	<a href="https://www.gov.scot/publications/planning-circular-1-2017-environmental-impact-assessment-regulations-2017/">https://www.gov.scot/publications/planning-circular-1-2017-environmental-impact-assessment-regulations-2017/</a>
Scottish Planning Advice Note 1/2013: Environmental Impact Assessment	<a href="https://www.gov.scot/publications/planning-advice-note-1-2013-environmental-impact-assessment/">https://www.gov.scot/publications/planning-advice-note-1-2013-environmental-impact-assessment/</a>
A Handbook on Environmental Impact Assessment v5 (NatureScot (formerly Scottish Natural Heritage (SNH)), 2018)	<a href="https://www.nature.scot/doc/publication-2018-environmental-impact-assessment-handbook">https://www.nature.scot/doc/publication-2018-environmental-impact-assessment-handbook</a>
Institute of Environmental Management and Assessment (IEMA) Guidelines for Environmental Impact Assessment, 2004.	-

Title	Source
IEMA Delivering Proportionate EIA, A Collaborative Strategy for Enhancing UK Environmental Impact Assessment Practice, 2016	<a href="https://www.iema.net/resources/reading-room/2017/07/18/delivering-proportionate-eia">https://www.iema.net/resources/reading-room/2017/07/18/delivering-proportionate-eia</a>
IEMA Environmental Impact Assessment Guide to Shaping Quality Development, 2015	-

### **Proportionate EIA**

5.2.2 It is widely acknowledged that EIA practice has become increasingly complex and the scope of assessment and length of EIARs has significantly increased. As noted by IEMA in its 2017 report (IEMA, 2017), the need for delivering proportionate EIA is a key issue. The IEMA report notes:

*“...the drive for improved quality in EIA, combined with the UK’s evidence-based and precautionary approach, has led to substantial challenges for the future of the practice. The increased complexity of multi-faceted decisions and wider range of stakeholders who seek transparency and clear audit trails, has further compounded the problems. The combined impact of the above good intentions has often led to individual EIAs being too broadly scoped and their related Environmental Statements to be overly long and cumbersome.”*

5.2.3 This Onshore Scoping Report is intended to inform a more proportional and robust approach to assessment through initial evaluation and reporting of identified LSE associated with the Proposed Onshore Development. Where appropriate, this Scoping Report seeks to scope out the environmental topic areas that are unlikely to be subject to LSE with suitable justification and evidence provided. The aim of this process is to focus the subsequent EIA on the Proposed Onshore Development’s LSE only (rather than any potential impacts) and not be any longer than necessary to properly assess those effects.

5.2.4 The Developer’s approach to proportionate EIA is described in **Appendix 3.1: Proportionate EIA Position Paper**. This position paper details the tools that will be utilised throughout the consenting process to deliver a proportionate EIA. These tools are summarised as follows:

- (i) A **Commitments Register** (see **Appendix 3.2**): throughout development the Developer will make commitments to mitigate, where possible, against the impacts identified in the Impacts Register; and
- (ii) An **Impacts Register** (see **Appendix 3.3**): which lists all potential impacts identified as part of the Proposed Onshore Development’s construction, O&M, and decommissioning.

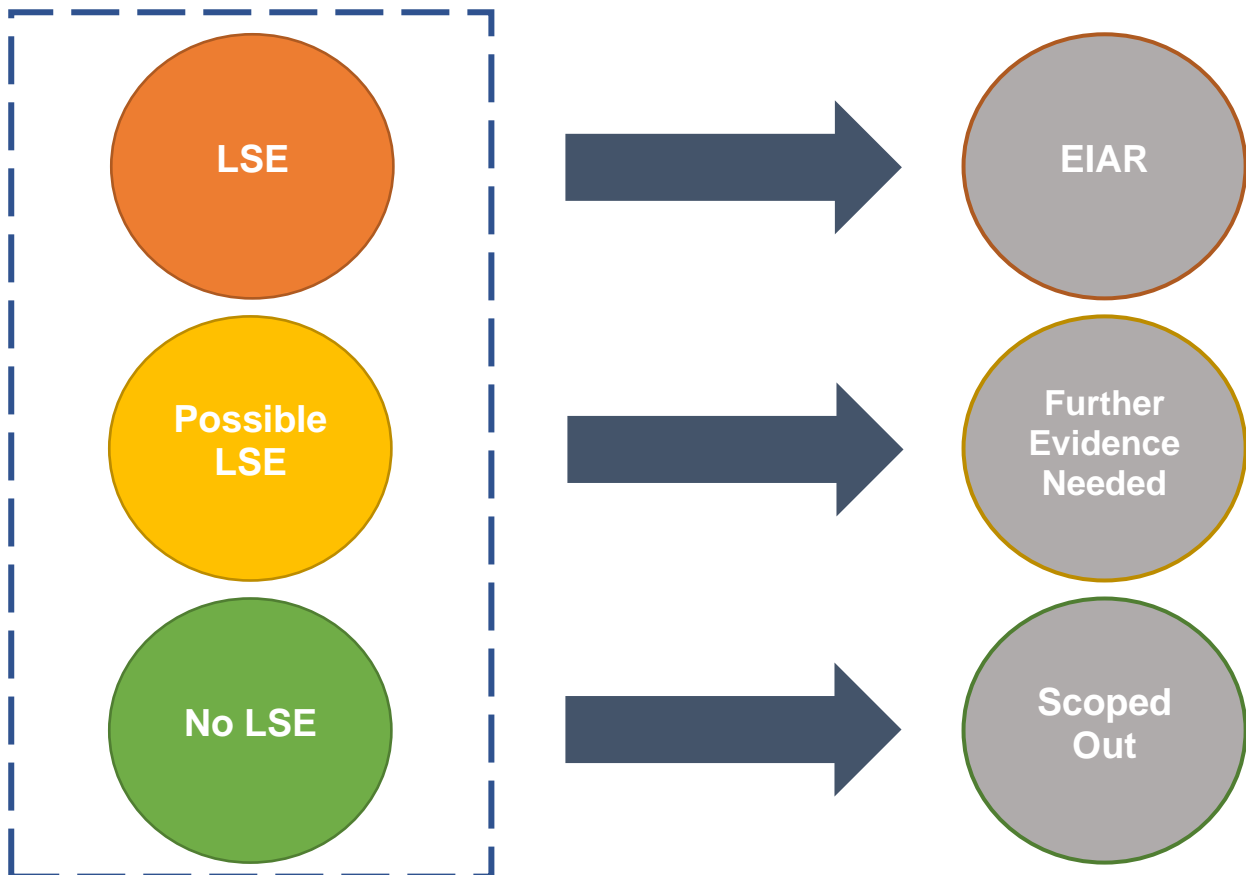
5.2.5 A key aspect of the proportionate EIA approach to scoping is the initial identification of LSE of the Proposed Onshore Development.

### **Scoping Strategy and Identification of LSE**

5.2.6 The Onshore Scoping Report will adopt a comprehensive and proportionate approach to EIA. It will set out the LSE anticipated to arise from all phases of the construction, O&M and decommissioning of the Proposed Onshore Development.



5.2.7 The Onshore Scoping Report will provide an initial assessment of the potential for LSE. The initial scoping assessment of all Proposed Onshore Development impacts is presented on an environmental topic by topic basis in each technical Chapter, with a full assessment across all environmental topics provided in the Impacts Register. At this scoping stage, impacts are broadly categorised into one of three categories ('LSE', 'Possible LSE' or 'No LSE' - see **Figure 5.1**).



**Figure 5.1:** *Categorisation of LSE into Categories within this Onshore Scoping Report and the Resultant Pathway*

5.2.8 LSE impacts will be presented in an assessment in the Onshore EIAR. 'No LSE' impacts will be presented in the Impacts Register part of the Onshore EIAR. For 'Possible LSE' impacts, the Onshore Scoping Report proposes mechanisms to refine assessment requirements post-scoping which, if agreed in time, could then be set out in the Scoping Opinion. Ahead of the Onshore EIAR being submitted, more evidence may become available in relation to the Proposed Onshore Development, its likely impacts and parameters.

5.2.9 Impacts that fall into the 'Possible LSE' category are scoped in at the scoping stage and could then follow one of two routes between scoping and EIAR:

1. Scoped in with an appropriate level of assessment in the Onshore EIAR; or
2. Scoped in with the justification for no LSE to be narrated in the Impacts Register.

5.2.10 For these 'Possible LSE', the Onshore Scoping Report will detail what further evidence is needed to re-categorize the effect post-scoping but prior to the submission of the Onshore EIAR. This 'further evidence' may take the form of project design decisions, refinement through the RPSS

work or further data collection.

- 5.2.11 Leading up to the submission of the Onshore EIAR, the Developer will provide the relevant stakeholders with the additional evidence to support the conclusions in relation to the 'Possible LSE' category. The Developer will continue to engage with Aberdeenshire Council and consultees as relevant in order to confirm areas where all are confident that no LSE can be concluded and those areas narrated in the Impacts Register rather than with the main text of the EIAR. This may include a pre-EIAR gate check with relevant consultees, where outcomes, including areas where no further assessment in the EIAR is required, would be agreed in writing.
- 5.2.12 The Onshore EIAR will be based on the best and most recent evidence. The EIAR will be submitted with the planning application for the Proposed Onshore Development and its content will reflect the Scoping Opinion and any further post-scoping agreements/decisions with stakeholders and consultees.
- 5.2.13 In order to achieve this proportionate approach to EIA, it is requested that the Scoping Opinion expressly states that it will be possible to undertake refinement of certain areas for assessment post-scoping as further evidence becomes available. The Developer will be responsible for ensuring post-scoping discussions/agreements are secured and for these to be documented formally and presented within the Onshore EIAR.

### **Study Areas**

- 5.2.14 The study areas to be assessed by each of the environmental topic areas are different depending on each discipline and their receptors. Details of each of the proposed study areas are provided in the topic assessment Chapters of this Onshore Scoping Report.
- 5.2.15 For the purposes of this Onshore Scoping Report, the Scoping Study Area is generally defined based upon the Onshore Scoping Area shown on **Figure 1.1**. This Onshore Scoping Area provides a wider area within which the Proposed Onshore Development (including any temporary working areas required during construction) will be located.
- 5.2.16 The final EIA Study Area for each of the topic areas will be defined post-scoping following the refinement and the identification of the location and design of the Proposed Onshore Development. Each EIA Study Area will then be agreed with the relevant consultees for that topic.

### **Design Envelope Approach**

- 5.2.17 At this early stage, the project description is indicative and a 'design envelope' has been developed to include sufficient flexibility to accommodate further design refinement. **Chapter 3: Proposed Development Description** (of this Onshore Scoping Report) sets out a series of options and/or parameters for which maximum values are used to constitute a realistic 'Maximum Design Scenario' (MDS) for the Proposed Onshore Development.
- 5.2.18 A more detailed design envelope for the Proposed Onshore Development will be presented in the Onshore EIAR which will identify the MDS for which consent is sought. Each technical assessment Chapter in the EIAR will then identify and assess the worst-case scenario within that MDS for the topics assessed. This approach ensures that the scenario that will have the greatest impact (i.e. largest footprint, tallest dimensions or longest duration of works, depending on the topic) is assessed. It can then be assumed that any other lesser scenarios will have an impact

that is no greater than that assessed.

### ***Commitments***

- 5.2.19 Good practice advises that EIA should be an iterative process rather than a unique, post design environmental appraisal. In this way, the findings of the technical assessments can be used to inform the design of the development to respond to environmental constraints and opportunities present. This approach is being followed for the Proposed Onshore Development, as discussed below.
- 5.2.20 At this scoping stage, where the potential for LSE has been identified, primary commitments have been identified (for example through the initial RPSS work undertaken) which seek to avoid, remove or reduce these adverse environmental impacts. The primary commitments which the Developer has committed to adopt at this scoping stage for the Proposed Onshore Development are presented in **Appendix 3.2: Onshore Commitments Register**. In addition to these primary commitments embedded into the design of the Proposed Onshore Development, this Onshore Commitments Register also identifies standard industry best-practice measures (known as tertiary commitments) which will be implemented for the Proposed Onshore Development.
- 5.2.21 Post-scoping, the Developer will continue to identify further primary commitments to be embedded into the design of the Proposed Onshore Development as the layout and design of the development is developed and refined. All primary commitments will then be presented in the updated Onshore Commitments Register to be submitted as part of the Onshore EIAR.
- 5.2.22 The requirements for any additional secondary commitments to prevent, reduce or offset and remaining significant adverse effects of the Proposed Onshore Development will also be developed throughout the EIA process dependent on the significance of effects predicted following implementation of the primary and tertiary commitments. These additional secondary commitments will also be presented in the updated Onshore Commitments Register to be submitted as part of the Onshore EIAR.

## **5.3 Assessment Process**

### ***Baseline Characterisation***

- 5.3.1 The existing and likely future environmental conditions in the absence of the Proposed Onshore Development are known as 'baseline conditions'. Each topic Chapter will include a description of the current baseline environmental conditions. The baseline conditions within the EIA Study Area will form the basis of the assessment, enabling the LSE of the Proposed Onshore Development to be identified through a comparison with the baseline conditions.
- 5.3.2 The baseline for the assessment of environmental effects will primarily be based upon the conditions that exist at the time the survey work and assessment is made. However, consideration will also be given to any likely changes to future baseline at the time of the construction and operation of the Proposed Onshore Development. In some cases, these changes may include the construction or operation of other planned developments in the area. Where such developments are built and operational at the time of data collection and writing of the assessment, these will be considered to form part of the baseline environment. In all other cases, planned future developments will be considered within the assessment of cumulative effects instead. The consideration of future baseline conditions will also take into account the likely effects

of climate change, as far as these are known at the time of writing the assessment.

### ***Assessment of Potential Significant Effects***

- 5.3.3 This Onshore Scoping Report sets out the potential environmental impacts associated with the Proposed Onshore Development and, in accordance with the proportionate EIA approach as described in **Section 5.2**, categorises these into 'LSE', 'Possible LSE' or 'No LSE'. The EIA scoping assessment considers the primary and tertiary commitments identified in **Appendix 3.2: Onshore Commitments Register**.
- 5.3.4 For those impacts scoped into the EIA, each topic Chapter within the Onshore EIAR will describe the significance of effect expected to result from the Proposed Onshore Development using a standard EIA methodology. The assessment process will consider the potential magnitude of change to the baseline conditions arising from the Proposed Onshore Development, the sensitivity of the particular receptor under consideration, and any relevant primary and tertiary commitments included in the Onshore Commitments Register.
- 5.3.5 Each topic Chapter within the Onshore EIAR will provide topic specific definitions of magnitude, sensitivity and significance as required. The definitions will consider guidance and specialist knowledge specific to the topic in question.
- 5.3.6 Where the impact assessment identifies that an aspect of the Proposed Onshore Development is likely to give rise to LSE, additional secondary commitments will be identified to further prevent, reduce or offset these adverse effects. At this point the impact will be reassessed, considering the additional secondary commitments, to determine the residual effect.
- 5.3.7 Effects that are considered to be LSE prior to secondary commitments, but after the implementation of primary and tertiary commitments included in the Onshore Commitments Register in the Onshore EIAR, will be identified and assessed in detail in the relevant topic Chapter of the Onshore EIAR. Other effects will be reported in a simple assessment or in the Impact Register in the EIAR instead.

## **5.4 Cumulative Effects**

- 5.4.1 A 'cumulative effect' is the term used to describe an environmental effect of a development together with other developments on the same single receptor.
- 5.4.2 The EIA for the Proposed Onshore Development will include:
- A cumulative assessment of the potential effects of the Proposed Onshore Development together with other elements of the Project; and
  - A further cumulative assessment which, in addition to including the other elements of the Project, will also consider other proposed development projects.
- 5.4.3 The cumulative assessment with other elements of the Project will include the Proposed Offshore Development works. If relevant and sufficient information is available at the time of submission, it will also include any other aspects of the Project intended to be progressed as separate consent applications to the Proposed Onshore and Offshore Developments – for example the potential Energy Balancing Infrastructure.

- 5.4.4 The further cumulative assessment will consider any other developments that are under construction, consented but not yet built or are the subject of valid planning or consent applications. Other development projects which are reasonably foreseeable and for which there is sufficient information in the public domain may also be included if requested by consultees. Developments that are already built and operational at the time of assessment will be considered as part of the baseline instead.
- 5.4.5 A list of other projects that may interact cumulatively with the Proposed Onshore Development will be identified in the preparation of the Onshore EIAR and consulted upon. A cut-off date for inclusion of other cumulative developments would be agreed in consultation with Aberdeenshire Council, at which point a final search would be concluded and a final list of developments to be included in the cumulative effects assessment would be agreed.
- 5.4.6 The search for other development projects will include (but will not be limited to):
- Relevant renewable energy developments;
  - Relevant electricity network and grid reinforcement developments;
  - Relevant onshore pipeline developments; and
  - Other relevant strategic and national development projects.
- 5.4.7 It is proposed that the cumulative effects assessment (both with other elements of the Project and with other proposed development projects) be included within each of the topic Chapters within the Onshore EIAR rather than as a separate Chapter.
- 5.4.8 Subject to consultee feedback, a separate Chapter identifying the likely impacts of all of the elements of the Project as a whole is not proposed in the Onshore EIAR. However, where there is considered to be the potential for cumulative LSE associated with other elements of Project, for example, noise disturbance from near shore works during cable laying activities, these will be reported within the Onshore EIAR. It is considered that this approach will deliver a proportionate EIA that avoids lengthy duplication with the Offshore EIAR yet allows for a whole project assessment of all the onshore and offshore elements of the Project.

## 5.5 Inter-related Effects

- 5.5.1 Inter-related effect is the term used to describe where there are multiple impacts between different environmental topics on the same receptor from a development (for example the combined effects of noise and air quality impacts during construction on local residents). Such inter-related effects may lead to different or greater environmental effects on the same receptor than in isolation.
- 5.5.2 Inter-related effects will be assessed in a separate standalone Chapter of the Onshore EIAR which will consider the effects of the Proposed Onshore Development on each of the identified receptor groups.

## 5.6 Transboundary Effects

- 5.6.1 The Proposed Onshore Development would not have transboundary effects and therefore this will not be considered further within this Onshore Scoping Report or the Onshore EIAR.

## 5.7 Content and Structure of the EIAR

5.7.1 The findings of the EIA for the Proposed Onshore Development will be reported in an Onshore EIAR which will be submitted in support of the PPP application to Aberdeenshire Council. The Onshore EIAR will include all of the information as required under Schedule 4 of the 2017 EIA Regulations. This will include:

- A description of the Proposed Onshore Development, comprising information about the site, design, size and other relevant features of the proposal;
- A description of the LSE of the Proposed Onshore Development on the environment;
- A description of the embedded commitments and any additional secondary commitments measures proposed in order to avoid, prevent, reduce and if possible, offset any LSE;
- The data used to identify the baseline and assess the main effects that the Proposed Onshore Development (both alone, but also cumulatively with other parts of the Project and with other proposed developments) is likely to have on the environment;
- A description of the reasonable alternatives that have been considered by the Developer and information on the main reason for the chosen option(s), taking into account the environmental effects; and
- A Non-Technical Summary (NTS) which will summarise the findings of the EIAR in a way that is easily understandable to the general public.

## 5.8 Consultation

### *Pre-Application Public Consultation*

5.8.1 Since the Proposed Onshore Development falls within the scope of National Development 3 'Strategic Renewable Electricity Generation and Transmission Infrastructure' as identified in NPF4, it will be classified as being of national development status in accordance with the Town and Country Planning (Hierarchy of Developments) (Scotland) Regulations 2009.

5.8.2 Such national development status requires applicants to engage with local communities during a formal pre-application consultation process triggered by the submission of a Proposal of Application Notice (PoAN) to the planning authority. That pre-application process must then be documented within a Pre-Application Consultation (PAC) Report which must be submitted with the planning application. The Developer confirms that these statutory pre-application consultation requirements will be delivered as part of a comprehensive programme of pre-application consultation programmed for 2024.

5.8.3 As part of the pre-application consultation process, a series of public consultation events will take place to seek views on the Proposed Onshore Development. These events will be held locally to where the infrastructure may be located in order to best engage those who have the potential to be impacted by the Proposed Onshore Development. Meetings will also be held with the relevant Community Councils to ensure the public is fully informed and that their views are considered in the site selection, design and development of the Proposed Onshore Development.

5.8.4 Any pre-application consultation undertaken in relation to the Proposed Onshore Development will be co-ordinated as far as possible with that programmed for the Proposed Offshore

Development application in order to avoid the requirement for attendance at multiple events.

- 5.8.5 Full details of the proposed approach to pre-application consultation for the Proposed Onshore Development will be provided in the PoAN which will be submitted to relevant Community Councils and Aberdeenshire Council for their comment and approval.

### ***Stakeholder Consultation and Engagement***

- 5.8.6 The Developer has undertaken initial early engagement with Aberdeenshire Council, NatureScot and the Royal Society for the Protection of Birds (RSPB). The focus of this early engagement has been to identify the appropriate contacts within the organisation; to establish when and how they wish to be consulted upon; and to introduce the Project and proposed timescales for the application for the Proposed Onshore Development. Subsequent meetings have also been undertaken with these consultees to update them on the ongoing RPSS work being undertaken (as discussed in **Chapter 4: Site Selection** of this Onshore Scoping Report) as well as to agree the methodologies for the ornithology and ecology survey campaigns which have already commenced (as discussed in **Chapter 8: Ecology, Biodiversity and Nature Conservation** of this Onshore Scoping Report).
- 5.8.7 All consultation and feedback received in response to this Scoping Opinion request will be used to inform the EIA, and the subsequent EIAR will be based upon that Scoping Opinion. In addition, further ongoing consultation is proposed post-scoping with consultees as part of the EIA process. The focus of this consultation will be on agreeing, for those impacts categorised as having 'Potential LSE' at this scoping stage, the refinement of the scope of the individual assessments as further evidence is collected and becomes available to justify such decisions. It is considered that this more collaborative approach post-scoping should ultimately lead to a more focused EIAR. Further details on who it is proposed to consult with on these matters post-scoping and when is provided in each of topic Chapters of this Onshore Scoping Report.

## **5.9 Questions to Consultees**

- Do you agree with the proposed approach to only assess and report LSE after the implementation of the primary and tertiary commitments in the Onshore Commitments Register (**Appendix 3.2**)?
- For the impacts categorised as having 'Possible LSE' at this Scoping stage, do you agree with the proposed approach to enable the refinement of the assessment approach for these issues at the post-scoping stage once more baseline and Project information is available?
- Do you agree with the proposed approach that the justification for no LSE be narrated in the Impacts Register rather than in the main text of the Onshore EIAR?
- Do you agree with the proposed approach to the assessment of cumulative effects, including the proposed approach to the assessment of the Project as a whole?
- Are there any specific plans or projects which you would wish to see included in the cumulative assessment?
- Do you have any other comments on the proposed approach to EIA for the Proposed Onshore Development, including the manner in which impacts and effects will be addressed?

## 6 Geology and Ground Conditions

### 6.1 Introduction

6.1.1 This Chapter of the Onshore Scoping Report considers the potential effects from the construction, O&M, and decommissioning of the Proposed Onshore Development on the Geology and Ground Conditions landward of Mean Low Water Springs (MLWS). It also identifies the proposed scope of the assessment methodology to be used in the Onshore EIAR.

6.1.2 This Chapter should be read alongside the following Chapters of the Onshore Scoping Report:

- **Chapter 7: Hydrology and Flood Risk;** and
- **Chapter 11: Land Use and Agriculture.**

6.1.3 It should also be read alongside the following Chapters of the Offshore Scoping Report (Ørsted, 2023a), which consider the potential effects of the Proposed Offshore Development seaward of Mean High Water Springs (MHWS):

- **Chapter 8: Marine and Coastal Processes.**

### 6.2 Legislation, Policy and Guidance

6.2.1 In addition to those described in **Chapter 2: Planning and Policy Context** of this Onshore Scoping Report, the legislation, policy and guidance identified in **Table 6.1** will be taken into account during the assessment of effects on Geology and Ground Conditions.

**Table 6.1:** *Relevant Legislation Policy and Guidance*

Title	Source
<b>Legislation</b>	
The Scottish Soil Framework (Scottish Government, 2009)	<a href="https://www.gov.scot/publications/scottish-soil-framework/">https://www.gov.scot/publications/scottish-soil-framework/</a>
Pollution Prevention and Control (Scotland) Regulations 2012	<a href="https://www.legislation.gov.uk/ssi/2012/360/contents">https://www.legislation.gov.uk/ssi/2012/360/contents</a>
The Town and Country Planning (Environmental Impact Assessment) Regulations 2017	<a href="https://www.legislation.gov.uk/uksi/2017/571/contents">https://www.legislation.gov.uk/uksi/2017/571/contents</a>
The Construction Design and Management Regulations 2015 (CDM Regulation)	<a href="https://www.hse.gov.uk/construction/cdm/2015/index.htm">https://www.hse.gov.uk/construction/cdm/2015/index.htm</a>



Title	Source
Environmental Protection Act (EPA) 1990: Part 2A. Contaminated Land Statutory Guidance.	<a href="https://assets.publishing.service.gov.uk/media/5a757dfa40f0b6360e47489d/pb13735cont-land-guidance.pdf">https://assets.publishing.service.gov.uk/media/5a757dfa40f0b6360e47489d/pb13735cont-land-guidance.pdf</a>
<b>Policy</b>	
Aberdeenshire Local Development Plan (ALDP) 2023	<a href="https://www.aberdeenshire.gov.uk/planning/plans-and-policies/ldp-2023/">https://www.aberdeenshire.gov.uk/planning/plans-and-policies/ldp-2023/</a>
National Planning Framework 4 (NPF4) 2023	<a href="https://www.gov.scot/publications/national-planning-framework-4/pages/1/">https://www.gov.scot/publications/national-planning-framework-4/pages/1/</a>
<b>Guidance</b>	
SEPA's Guidance for Pollution Prevention (GPPs) and Pollution Prevention Guidelines (PPGs)	<a href="https://www.netregs.org.uk/environmental-topics/guidance-for-pollution-prevention-gpp-documents/">https://www.netregs.org.uk/environmental-topics/guidance-for-pollution-prevention-gpp-documents/</a>
Scottish Government Planning Advice Notes (PANs) and Guidance (including PAN 33 Development of Contaminated Land) 2017	<a href="https://www.gov.scot/publications/pan-33-development-of-contaminated-land/">https://www.gov.scot/publications/pan-33-development-of-contaminated-land/</a>
British Standards Institution. Investigation of potentially contaminated sites. Code of practice - Code of practice BS 10175:2011+A2:2017	<a href="https://knowledge.bsigroup.com/products/investigation-of-potentially-contaminated-sites-code-of-practice-code-of-practice?version=standard">https://knowledge.bsigroup.com/products/investigation-of-potentially-contaminated-sites-code-of-practice-code-of-practice?version=standard</a>
Scottish Government Planning Advice Notes (PANs) and Guidance (including PAN 51 Planning) 2006	<a href="https://www.gov.scot/publications/planning-advice-note-pan-51-revised-2006-planning-environmental-protection/pages/0/">https://www.gov.scot/publications/planning-advice-note-pan-51-revised-2006-planning-environmental-protection/pages/0/</a>
Scotland's National Peatland Plan: Working for our Future (Scottish Natural Heritage 2015)	<a href="https://www.nature.scot/doc/scotlands-national-peatland-plan-working-our-future">https://www.nature.scot/doc/scotlands-national-peatland-plan-working-our-future</a>
Scottish Government, Scottish Natural Heritage, SEPA (2017) Peatland Survey. Guidance on Developments on Peatland	<a href="https://www.gov.scot/binaries/content/documents/govscot/publications/advice-and-guidance/2018/12/peatland-survey-guidance/documents/peatland-survey-guidance-2017/peatland-survey-guidance-2017/govscot%3Adocument/Guidance%2Bon%2Bdevelopments%2Bon%2Bpeatland%2B-%2Bpeatland%2Bsurvey%2B-%2B2017.pdf">https://www.gov.scot/binaries/content/documents/govscot/publications/advice-and-guidance/2018/12/peatland-survey-guidance/documents/peatland-survey-guidance-2017/peatland-survey-guidance-2017/govscot%3Adocument/Guidance%2Bon%2Bdevelopments%2Bon%2Bpeatland%2B-%2Bpeatland%2Bsurvey%2B-%2B2017.pdf</a>

Title	Source
Construction Code of Practice for the Sustainable Use of Soils on Construction Sites (Department for Environment, Food & Rural Affairs (Defra), 2009)	<a href="https://assets.publishing.service.gov.uk/media/5b2264ff40f0b634cfb50650/pb13298-code-of-practice-090910.pdf">https://assets.publishing.service.gov.uk/media/5b2264ff40f0b634cfb50650/pb13298-code-of-practice-090910.pdf</a>
SEPA WAT-SG-75 Sector-specific Guidance – Construction Sites. 2021	<a href="https://www.sepa.org.uk/media/340359/wat-sg-75.pdf">https://www.sepa.org.uk/media/340359/wat-sg-75.pdf</a>

6.2.2 Relevant policies within National Planning Framework 4 (NPF4) and the Aberdeenshire Local Development Plan 2023 (ALDP) and their policy intent are identified in **Table 6.2** and **Table 6.3**, respectively.

**Table 6.2:** *Relevant National Planning Policies in NPF4*

NPF4 Policy	Policy Intent
Policy 5: Soils	To protect carbon-rich soils, restore peatlands and minimise disturbance to soils from development.
Policy 33: Minerals	To support the sustainable management of resources. To ensure that important workable mineral resources are protected from sterilisation by other developments

**Table 6.3:** *Relevant Local Development Plan Policies in ALDP*

ALDP Policy	Policy Intent
Policy E1: Natural Heritage	To protect nature conservation sites (including geodiversity) and protected species from development, and to enhance biodiversity.
Policy PR1: Protecting Important Resources	To protect important environmental resources associated with air quality, the water environment, important mineral deposits, prime agricultural land, peat and other carbon rich soils, open space, and important trees and woodland.

## 6.3 Scoping Study Area

6.3.1 For the purposes of this scoping assessment, the Onshore Scoping Study Area is defined as the Onshore Scoping Area and 500 m buffer as shown in **Figure 6.1**.

## 6.4 Baseline Environment

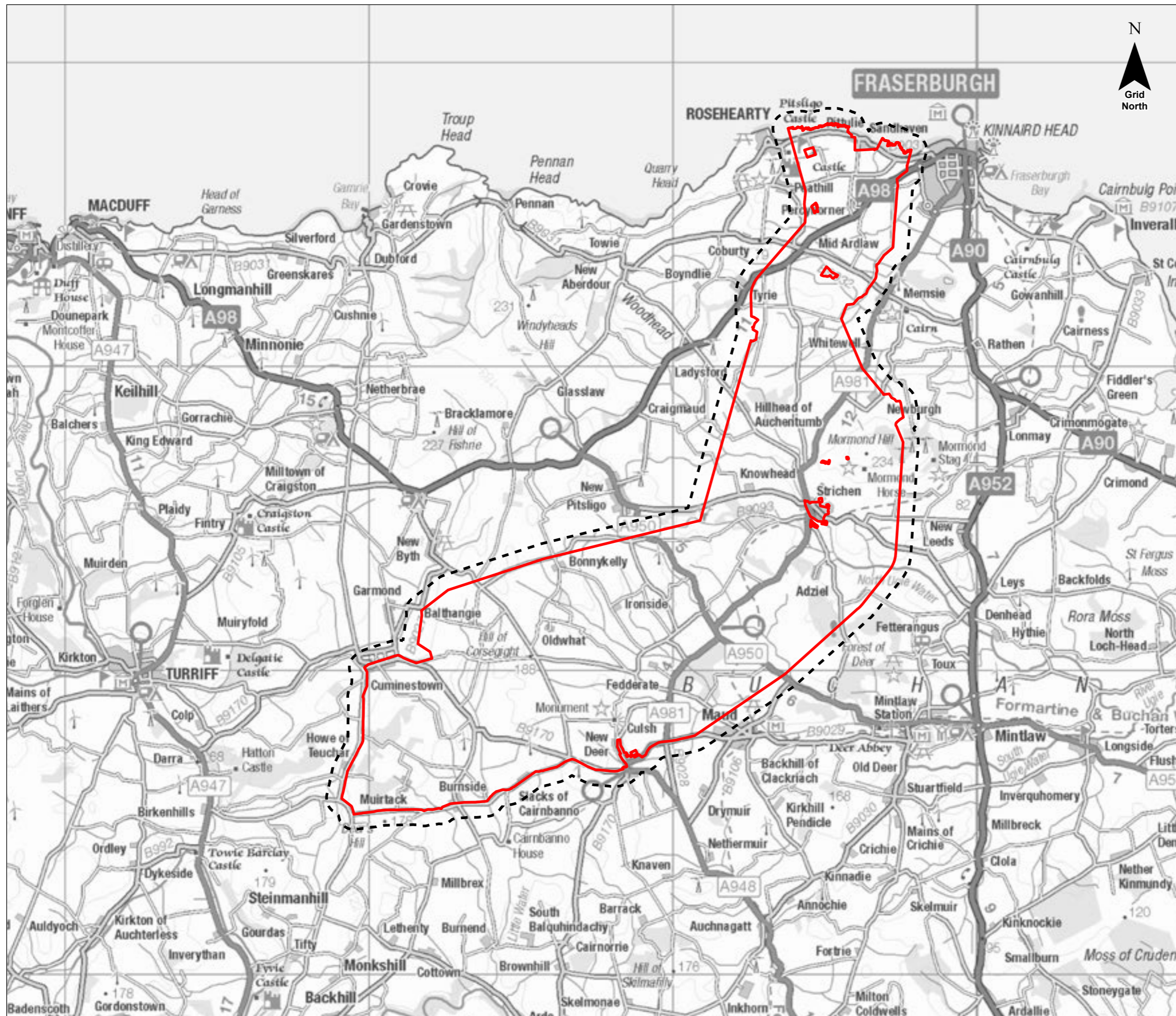
### *Data Sources*

6.4.1 To describe the Geology and Ground Conditions baseline within the Onshore Scoping Study Area in this Chapter, the data sources identified in **Table 6.4** have been used. These data sources will

also be used to inform the baseline characterisation for Geology and Ground Conditions in the Onshore EIAR, along with the additional data sources identified in **Section 6.9**.

# Stromar Offshore Wind Farm

**Figure 6.1**  
**Geology and Ground**  
**Conditions Scoping Study Area**



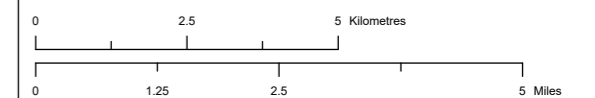
Legend

- Onshore Scoping Area
- Onshore Scoping Area 500 m Buffer



Coordinate System: British National Grid

Scale @ A3 : 1:125,000



Rev	Description	Date
A	First Draft	22/08/2023
B	Second Draft	11/12/2023
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Doc. Report : Onshore Scoping Report  
 Doc. Title : Geology and Ground Conditions Scoping Study Area  
 Doc. No : 404.V64554.00001.0084.0  
 Doc. No of Pages : 1  
 Created by : PW  
 Checked by : SH  
 Approved by : MF



Table 6.4: Onshore Scoping Study Area Baseline Data Sources

Source	Summary	Coverage of Onshore Scoping Study Area
British Geological Survey (BGS) BGS Onshore Geoindex Map	<a href="https://www.bgs.ac.uk/map-viewers/geoindex-onshore/">https://www.bgs.ac.uk/map-viewers/geoindex-onshore/</a> Independent research organisation providing objective, expert geoscientific data, information and knowledge.	Full Study Area.
NatureScot data services	<a href="https://www.nature.scot/information-hub/naturescot-data-services">https://www.nature.scot/information-hub/naturescot-data-services</a> Data and information on many aspects of Scotland's environment.	Full Study Area.
The Coal Authority Website	<a href="https://mapapps2.bgs.ac.uk/coalauthority/home.html">https://mapapps2.bgs.ac.uk/coalauthority/home.html</a> Access information about historical coal mining.	Full Study Area.
Scotland's Environment Website	<a href="https://map.environment.gov.scot/sewebmap/">https://map.environment.gov.scot/sewebmap/</a> Data and information on many aspects of Scotland's environment.	Full Study Area.
Contaminated Land Register	<a href="https://www.aberdeenshire.gov.uk/media/17044/public-register-of-contaminated-land-index-nov11.pdf">https://www.aberdeenshire.gov.uk/media/17044/public-register-of-contaminated-land-index-nov11.pdf</a> Public register of Contaminated Land.	Full Study Area.
Site Link	<a href="https://sitelink.nature.scot/home">https://sitelink.nature.scot/home</a> SiteLink provides access to data and information on key protected areas across Scotland.	Full Study Area.
National Soil Map of Scotland	<a href="https://soils.environment.gov.scot/maps/soil-maps/national-soil-map-of-scotland/">https://soils.environment.gov.scot/maps/soil-maps/national-soil-map-of-scotland/</a> National coverage of the main soil types across Scotland mapped originally at 1:250 000 scale.	Full Study Area.
Carbon and Peatland Map	<a href="https://www.nature.scot/professional-advice/planning-and-development/planning-and-development-advice/soils/carbon-and-peatland-2016-map">https://www.nature.scot/professional-advice/planning-and-development/planning-and-development-advice/soils/carbon-and-peatland-2016-map</a> The map is a predictive tool which provides an indication of the likely presence of peat on each individually mapped area.	Full Study Area.

### Description of Baseline Environment

- 6.4.2 The Onshore Scoping Study Area is located in Aberdeenshire between Rosehearty/Fraserburgh on the coast and New Deer (near Turriff). Ground elevations vary between 230 m Above Ordnance Survey (AOD) near the summit of Waughton Hill to approximately 10 m AOD near Sandhaven. Elevations generally decrease northwards towards the coast.
- 6.4.3 An initial desk study was undertaken to obtain information on geology, ground conditions (including those that have been subject to potentially contaminative activity) and protected sites relevant to Geology and Ground Conditions. The findings of this research are presented below in order to provide an understanding of the baseline environment of the Onshore Scoping Study Area and to inform the scoping process. The key features of Geology and Ground Conditions which are likely to require consideration within the Onshore EIAR are:

- Bedrock and superficial geology;
- Soils including areas of peat and agricultural land capability;
- Mineral resources;
- Designated sites; and
- Contaminated land.

6.4.4 Once the layout and design of the Proposed Onshore Development has been refined and identified for the EIAR, there may be a requirement to source additional third-party data (e.g., Landmark Envirocheck database reports, historical Ordnance Survey maps) for any areas of land identified as higher risk through the desk study searches.

#### ***Bedrock Geology***

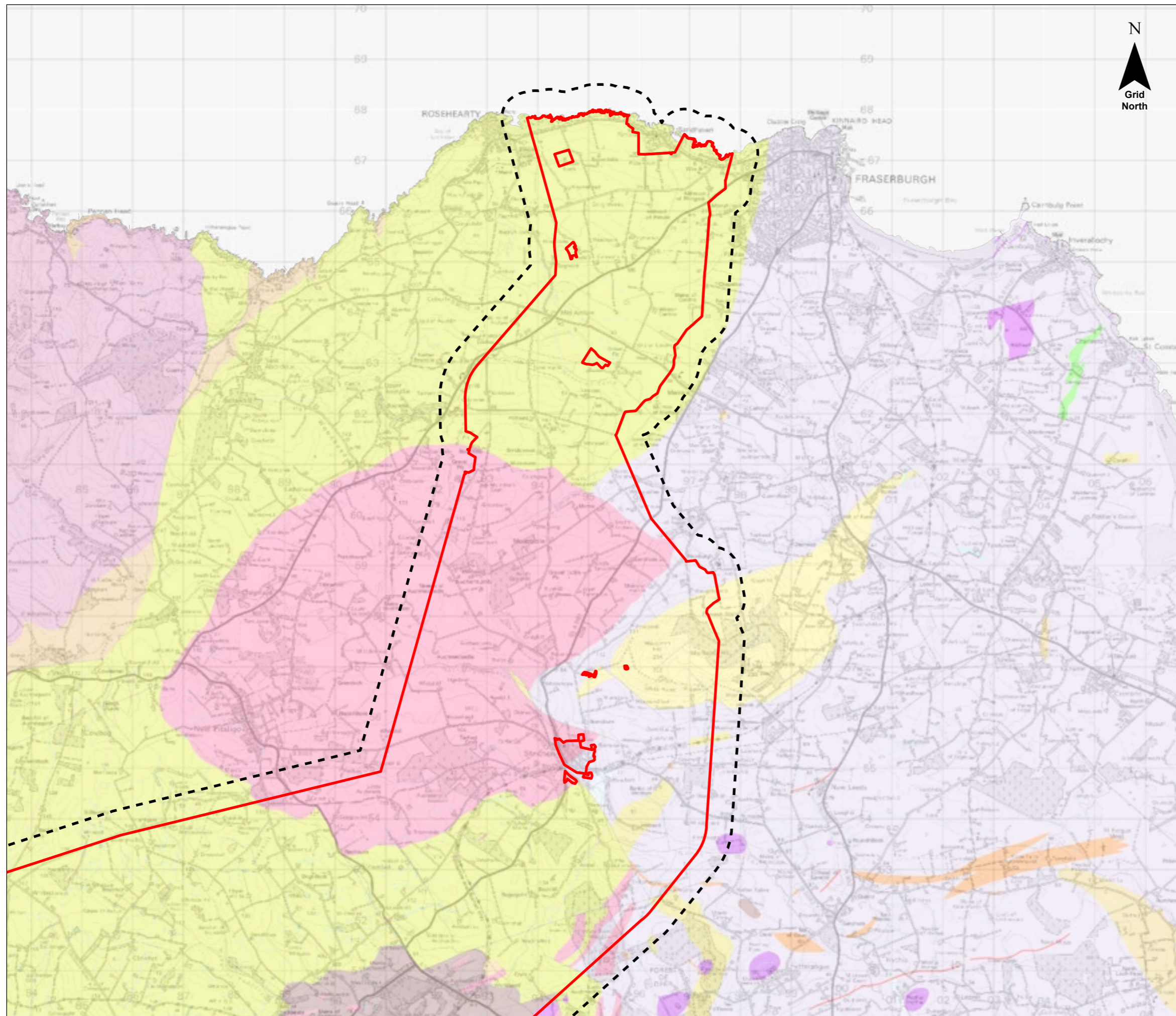
6.4.5 The Onshore Scoping Study Area is shown by the British Geological Survey (BGS) (2023a) to be generally underlain by psammites, pelites and semipelites of the Macduff Formation and Crinan and Tayvallich Subgroups. Two igneous plutons are also noted within the centre of the Onshore Scoping Study Area, the Strichen Pluton (Melagranite & biotite) within the eastern centre and the Maud Pluton (Gabbroic-rock) within the southern centre. The far south-western extent of the Onshore Scoping Study Area is underlain by the Crovie Sandstone Group, a sedimentary bedrock unit comprising, sandstones, siltstones and mudstones.

6.4.6 The bedrock geology within the Onshore Scoping Study Area is shown on **Figure 6.2**, and listed below:

- Macduff Formation - Micaceous psammite, semipelite and pelite. Tonian and Ediacaran periods;
- Strichen Formation - Semipelite, pelite and psammite. Tonian and Ediacaran periods;
- Mormond Hill Quartzite Member - Quartzite and psammite. Tonian and Ediacaran periods;
- Strichen Pluton - Melagranite, biotite. Ordovician period;
- Maud Pluton - Gabbroic-rock. Ordovician period;
- North-east Grampian Granitic Suite Melagranite, biotite. Ordovician Period; and
- Crovie Sandstone Group - Sandstone, siltstone and mudstone. Devonian Period.

# Stromar Offshore Wind Farm

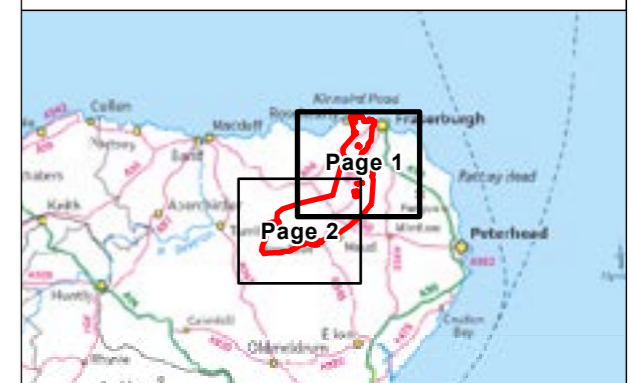
## Figure 6.2.a Terrestrial Bedrock Geology in the Study Area



### Legend

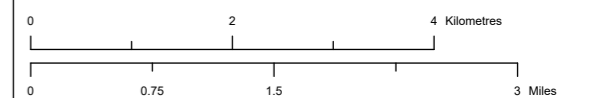
- Onshore Scoping Area
- Onshore Scoping Area 500 m Buffer

Legend can be found on Figure 6.2.c



Coordinate System: British National Grid

Scale @ A3 : 1:75,000



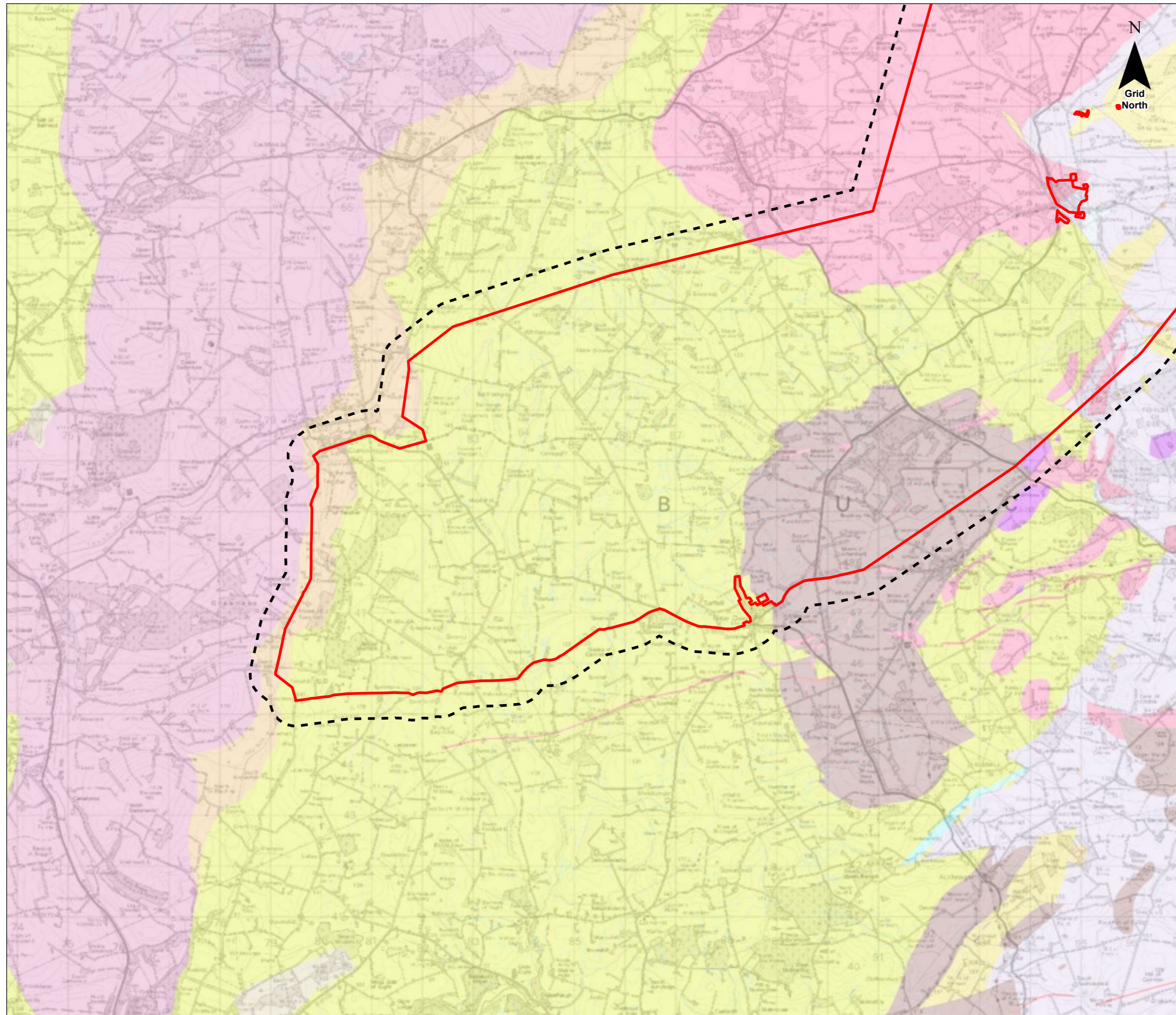
Rev	Description	Date
A	First Draft	22/08/2023
B	Second Draft	15/12/2023
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Doc. Report : Onshore Scoping Report  
 Doc. Title : Terrestrial Bedrock Geology  
 Doc. No : 404.V64554.00001.0044.1  
 Doc. No of Pages : 3  
 Created by : PW  
 Checked by : SH  
 Approved by : MF



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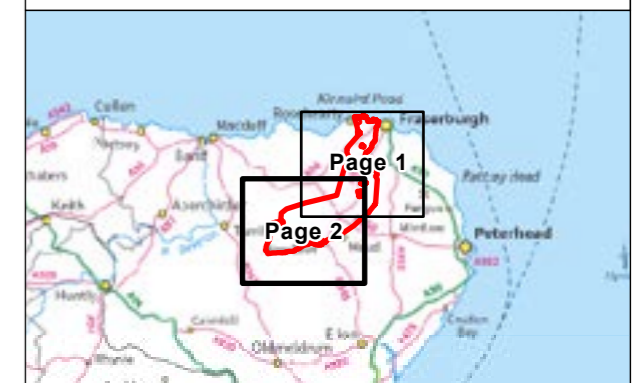
## Figure 6.2.b Terrestrial Bedrock Geology in the Study Area



### Legend

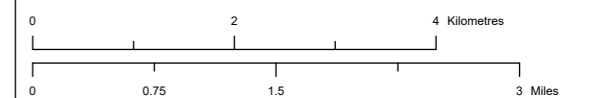
- Onshore Scoping Area
- Onshore Scoping Area 500 m Buffer

Legend can be found on Figure 6.2.c



Coordinate System: British National Grid

Scale @ A3 : 1:75,000



Rev	Description	Date
A	First Draft	22/08/2023
B	Second Draft	15/12/2023
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Doc. Report : Onshore Scoping Report  
 Doc. Title : Terrestrial Bedrock Geology  
 Doc. No : 404.V64554.00001.0044.1  
 Doc. No of Pages : 3  
 Created by : PW  
 Checked by : SH  
 Approved by : MF
















# Stromar Offshore Wind Farm

Figure 6.2.c  
Terrestrial Bedrock Geology  
in the Study Area Legend

## Legend

-  Onshore Scoping Area
-  Onshore Scoping Area 500 m Buffer
- Bedrock Geology**
- Neogene / Quaternary**
-  Windy Hills Gravel Member - Clay And Gravel
- Tonian/Edicaran**
-  Crovie Sandstone Group - Breccia And Conglomerate
-  Crovie Sandstone Group - Sandstone, Siltstone And Mudstone
-  Gardenstown Conglomerate Formation - Conglomerate
- Ordovician**
-  North-east Grampian Granitic Suite (ordovician) - Metamelagranite, Foliated-biotite
-  Arnage Pluton - Norite And Gabbro
-  Cairnbulg Diorite - Diorite
-  Maud Pluton - Gabbroic-rock
-  North-east Grampian Basic Suite - Gabbroic-rock
-  North-east Grampian Basic Suite - Norite
-  North-east Grampian Granitic Suite (ordovician) - Diorite
-  North-east Grampian Granitic Suite (ordovician) - Granite, Muscovite-biotite
-  North-east Grampian Granitic Suite (ordovician) - Granite, Pegmatitic-muscovite-biotite
-  North-east Grampian Granitic Suite (ordovician) - Granodiorite
-  North-east Grampian Granitic Suite (ordovician) - Melagranite, Biotite
-  North-east Grampian Granitic Suite (ordovician) - Melagranite, Pegmatitic-biotite
-  North-east Grampian Granitic Suite (ordovician) - Quartz-diorite
-  North-east Grampian Granitic Suite (ordovician) - Tonalite
-  Rora Tonalite - Tonalite
-  Strichen Pluton - Melagranite, Biotite
- Tonian / Ediacaran**
-  Crinan Subgroup And Tayvallich Subgroup - Calcsilicate-rock
-  Crinan Subgroup And Tayvallich Subgroup - Quartzite
-  Crinan Subgroup And Tayvallich Subgroup - Semipelite, Pelite And Psammite
-  Inzie Head Gneiss Formation - Metalimestone
-  Inzie Head Gneiss Formation - Quartzite
-  Inzie Head Gneiss Formation - Semipelite, Gneissose
-  Macduff Formation - Metaconglomerate
-  Macduff Formation - Micaceous Psammite, Semipelite And Pelite
-  Macduff Formation - Quartzite
-  Methlick Formation - Psammite And Semipelite
-  Mormond Hill Quartzite Member - Quartzite
-  Mormond Hill Quartzite Member - Quartzite And Psammite
-  Strichen Formation - Calcsilicate-rock
-  Strichen Formation - Metalimestone And Calcsilicate-rock
-  Strichen Formation - Quartzite
-  Strichen Formation - Semipelite, Pelite And Psammite
- Archean Eon / Silurian**
-  Unnamed Metamorphosed Igneous Rocks, Pre-caledonian To Caledonian - Amphibolite And Hornblende Schist
- Carboniferous / Permian**
-  North Britain Late Carboniferous Tholeiitic Suite - Quartz-microgabbro
- Silurian / Devonian**
-  North Britain Siluro-devonian Calc-alkaline Dyke Suite - Felsite
-  North Britain Siluro-devonian Calc-alkaline Dyke Suite - Felsite, Porphyritic
-  North Britain Siluro-devonian Calc-alkaline Dyke Suite - Granite
-  North Britain Siluro-devonian Calc-alkaline Dyke Suite - Granite, Pegmatitic
-  North Britain Siluro-devonian Calc-alkaline Dyke Suite - Lamprophyres
- Ordovician / Devonian**
-  Caledonian Supersuite - Granite
- Linear Feature**
-  Axis of Large Scale Glacial Flute
-  Axis of Large Scale Glacial Gouge
-  Backfeature Former Coast
-  Backfeature River Terrace
-  Esker Crestline
-  Fault Normal Inf Downthrow Unspecified
-  Fold Anticline
-  Fold Syncline
-  Glacial Meltwater Channel Centre Head
-  Glacial Meltwater Channel Centre Head Humped Profile
-  Glacial Meltwater Channel Centre Undiff
-  Ice Marg Glacial Meltwater Channel Left
-  Limit Metamorphic Zone AL
-  Limit Metamorphic Zone AS and K
-  Limit Metamorphic Zone CD
-  Limit Metamorphic Zone CL
-  Limit Metamorphic Zone SI
-  Limit Migmatiation
-  Shear Zone Inf

Rev	Description	Date
A	First Draft	22/08/2023
B	Second Draft	18/12/2023
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Doc. Report : Onshore Scoping Report  
 Doc. Title : Bedrock Legend  
 Doc. No : 404.V64554.00001.0094.0  
 Doc. No of Pages : 3  
 Created by : PW  
 Checked by : SH  
 Approved by : MF



### *Superficial Geology*

6.4.7 The superficial geology predominantly comprises glacial deposits within the Onshore Scoping Study Area. The glacial deposits comprise Glacial Till and Glaciofluvial deposits with some localised areas of Peat, Alluvium and Blanket Head.

6.4.8 Glacial Till deposits are recorded within the northern extent of the Onshore Scoping Study Area to the north of Strichen and in the southern extent surrounding Cuminestown. A deposit of Blanket Head, comprising angular rock fragment, is present to the northeast of Strichen in the area of Waughton Hill and Mormond Hill, adjacent to the Onshore Scoping Area boundary. Glaciofluvial deposits are recorded within the northern extent of the Onshore Scoping Study Area comprising clay, silt, sand and gravel. Within the southern central part of the Onshore Scoping Study Area, superficial deposits are limited with bedrock indicated at surface. The superficial geology within the Onshore Scoping Study Area is shown on **Figure 6.3**, and listed below:

- Till, Devensian – Diamicton. Quaternary Period;
- Glaciofluvial Sheet and Ice Contact Deposits – Gravel, sand and silt. Quaternary Period;
- Blanket Head - Rock fragments, angular, undifferentiated source rock. Sedimentary superficial deposit. Quaternary Period;
- Alluvium - Clay, silt, sand and gravel. Quaternary Period; and
- Peat – Quaternary Period.

### *Artificial Ground*

6.4.9 The BGS Geindex (2023a) records an area of infilled ground directly southeast of Strichen, adjacent to Strichen Sewage works. A larger area of infilled ground is recorded within the Onshore Scoping Study Area, approximately 1.5 km southeast of Strichen. The infill material for both these areas is unknown. The artificial ground within the Onshore Scoping Study Area is shown on **Figure 6.4**.

### *Soils*

#### *Peat*

6.4.10 NatureScot's Carbon and Peatland mapping (2016) indicates that carbon-rich, deep peat and priority peatland habitat (Class 1) is present in small, localised areas within the Onshore Scoping Study Area, in the central and northern area, as well as to the southwest and north of Strichen. There are also localised areas of Class 5 soils within the Onshore Scoping Study Area. The areas of peatland within the Onshore Scoping Study Area are shown on **Figure 6.5**.

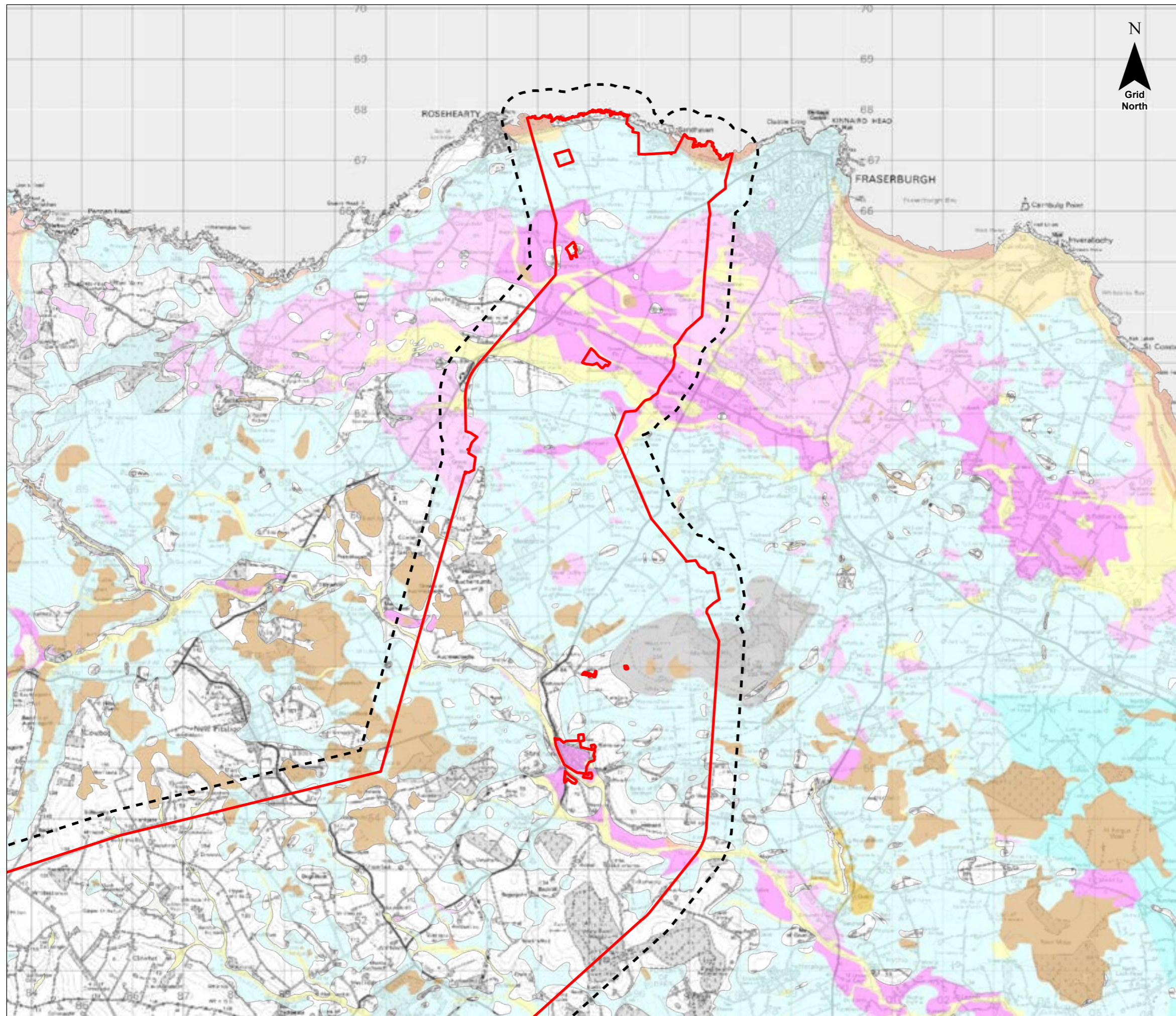
#### *Agricultural Soils*

6.4.11 The majority of the Onshore Scoping Study Area is underlain by Class 3.2 Soils, described as land capable of average production though high yields of barley, oats and grass can be obtained, grass leys are common, with some localised areas of Class 3.1 soils described as land capable of producing consistently high yields of a narrow range of crops and/or moderate yields of a wider range, short grass leys are common (James Hutton Institute, 2013).

6.4.12 Localised areas of Class 4.1 and above are also present within the Onshore Scoping Study Area.

# Stromar Offshore Wind Farm

## Figure 6.3.a Terrestrial Superficial Geology in the Study Area



### Legend

- Onshore Scoping Area
- Onshore Scoping Area 500 m Buffer

### Superficial Geology

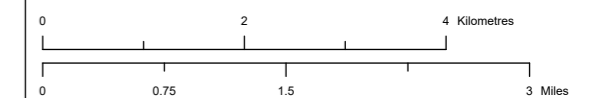
#### Quaternary

- Alluvial Fan Deposits - Gravel, Sand, Silt And Clay
- Alluvium - Clay, Silt, Sand And Gravel
- Banchory Till Formation - Diamicton
- Blanket Head - Rock Fragments, Angular, Undifferentiated Source Rock
- Blown Sand - Sand
- Glaciofluvial Ice Contact Deposits - Gravel, Sand And Silt
- Glaciofluvial Sheet Deposits - Gravel, Sand And Silt
- Hatton Till Formation - Diamicton, Clay, Sand And Gravel
- Kirk Burn Silt Formation - Clay, Silt And Sand
- Lacustrine Deposits - Clay, Silt And Sand
- Leys Gravel Formation - Sand And Gravel
- Marine Beach Deposits - Gravel, Sand And Silt
- Peat - Peat
- Raised Marine Deposits Of Holocene Age - Gravel, Sand And Silt
- Till, Devensian - Diamicton



Coordinate System: British National Grid

Scale @ A3 : 1:75,000



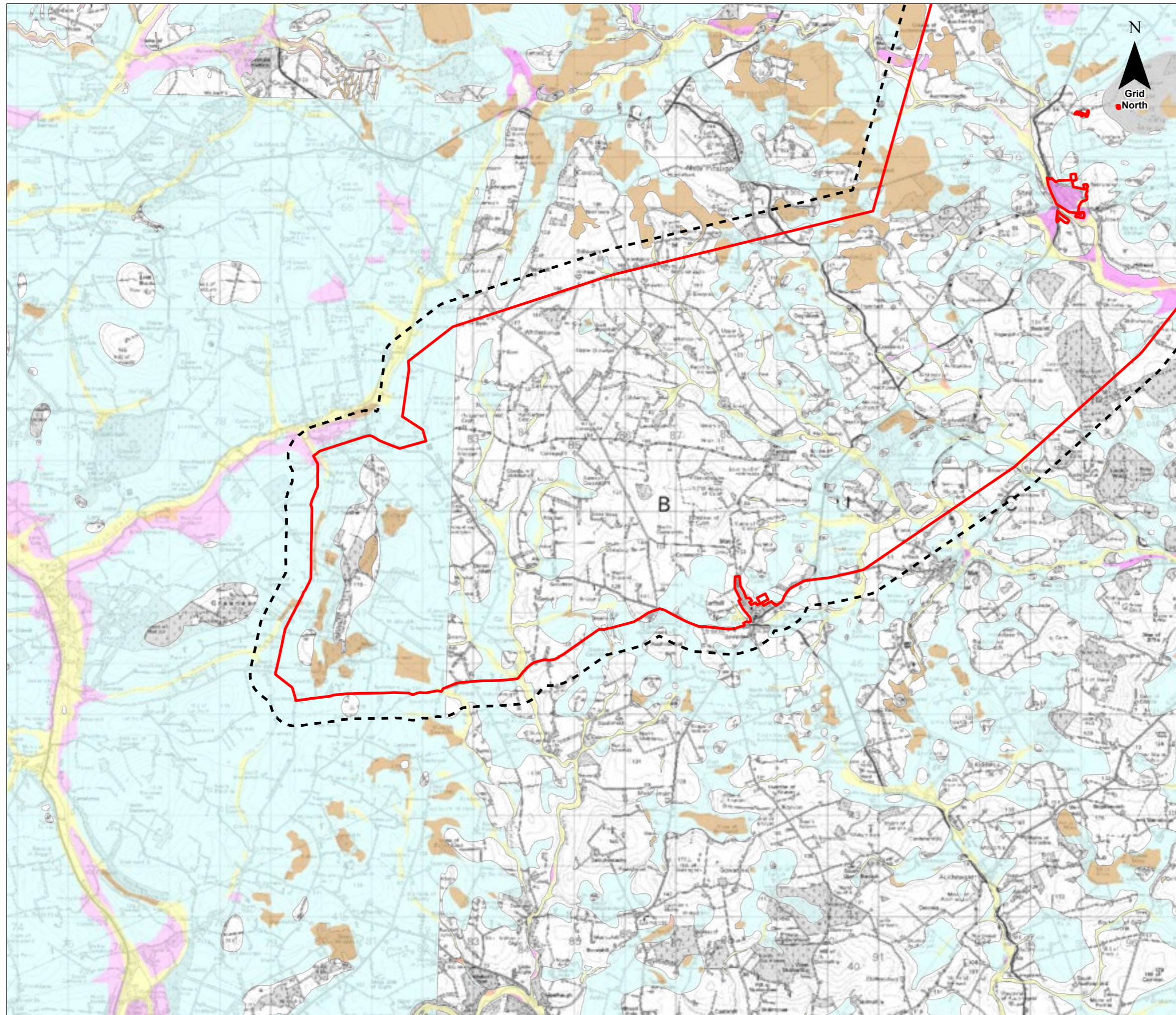
Rev	Description	Date
A	First Draft	22/08/2023
B	Second Draft	12/12/2023
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Doc. Report : Onshore Scoping Report  
 Doc. Title : Terrestrial Superficial Geology  
 Doc. No : 404.V64554.00001.0045.1  
 Doc. No of Pages : 2  
 Created by : PW  
 Checked by : SH  
 Approved by : MF



# Stromar Offshore Wind Farm

## Figure 6.3.b Terrestrial Superficial Geology in the Study Area



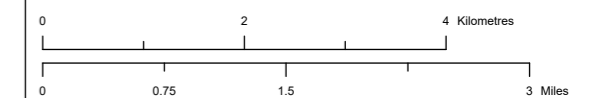
### Legend

- Onshore Scoping Area
- Onshore Scoping Area 500 m Buffer
- Superficial Geology**
- Quaternary**
- Alluvial Fan Deposits - Gravel, Sand, Silt And Clay
- Alluvium - Clay, Silt, Sand And Gravel
- Banchory Till Formation - Diamicton
- Blanket Head - Rock Fragments, Angular, Undifferentiated Source Rock
- Glaciofluvial Deposits - Gravel, Sand And Silt
- Glaciofluvial Ice Contact Deposits - Gravel, Sand And Silt
- Glaciofluvial Sheet Deposits - Gravel, Sand And Silt
- Head - Gravel, Sand, Silt And Clay
- Peat - Peat
- River Terrace Deposits - Gravel, Sand, Silt And Clay
- Till, Devensian - Diamicton



Coordinate System: British National Grid

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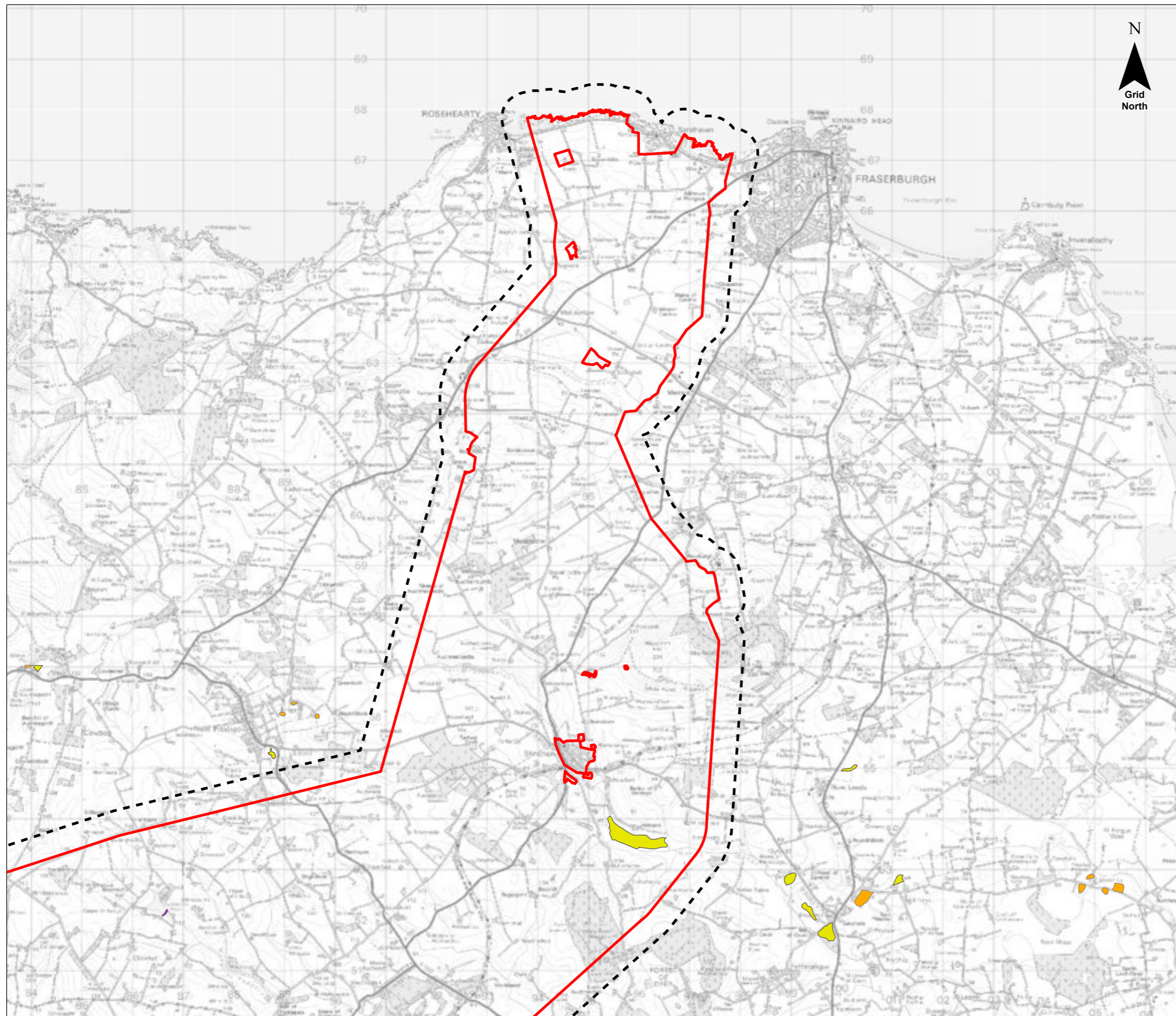
Rev	Description	Date
A	First Draft	22/08/2023
B	Second Draft	12/12/2023
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Doc. Report : Onshore Scoping Report  
 Doc. Title : Terrestrial Superficial Geology  
 Doc. No : 404.V64554.00001.0045.1  
 Doc. No of Pages : 2  
 Created by : PW  
 Checked by : SH  
 Approved by : MF



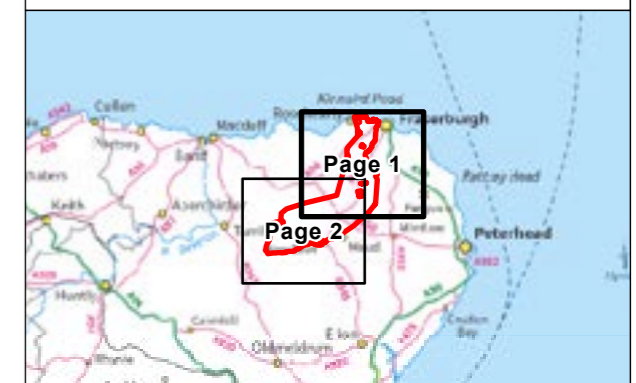
# Stromar Offshore Wind Farm

## Figure 6.4.a Artificial Geology



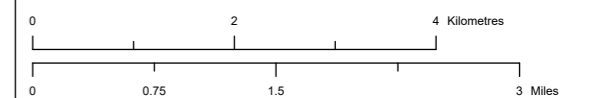
### Legend

- Onshore Scoping Area
- Onshore Scoping Area 500 m Buffer
- Artificial Geology**
- Worked Ground (Undivided) - Void
- Infilled Ground - Artificial Deposit
- Made Ground (Undivided) - Artificial Deposits



Coordinate System: British National Grid

Scale @ A3 : 1:75,000



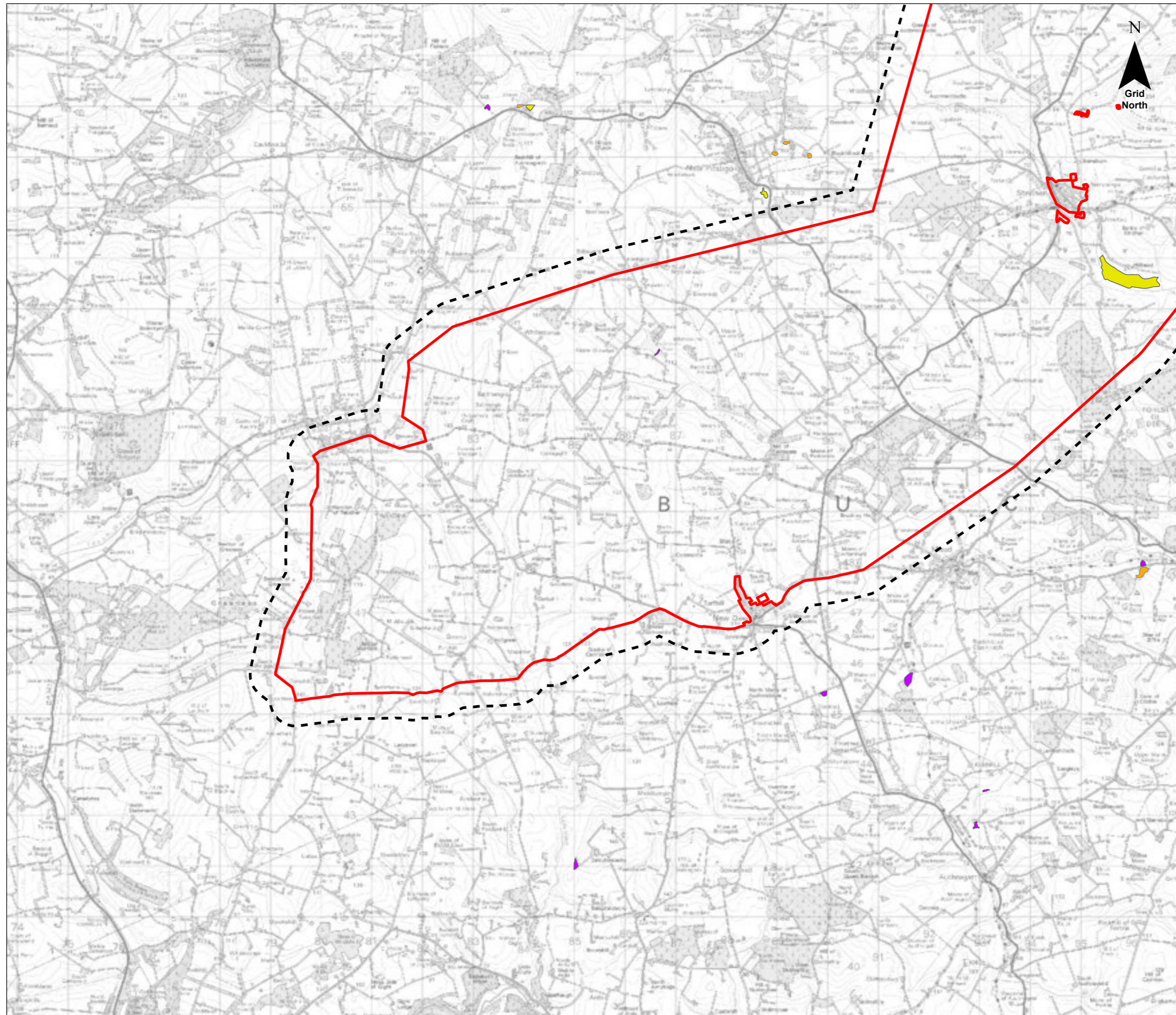
Rev	Description	Date
A	First Draft	22/08/2023
B	Second Draft	12/12/2023
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Doc. Report : Onshore Scoping Report  
 Doc. Title : Artificial Ground  
 Doc. No : 404.V64554.00001.0080.0  
 Doc. No of Pages : 2  
 Created by : PW  
 Checked by : SH  
 Approved by : MF



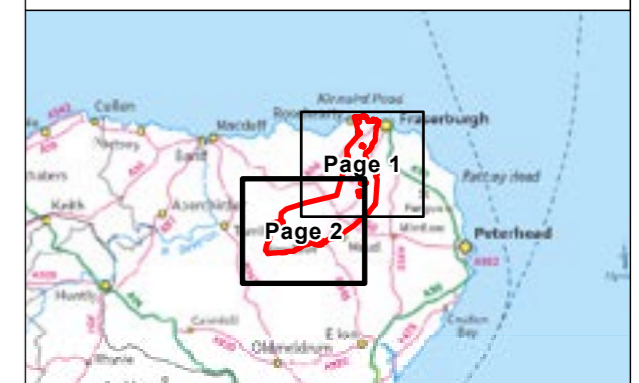
# Stromar Offshore Wind Farm

## Figure 6.4.b Artificial Geology



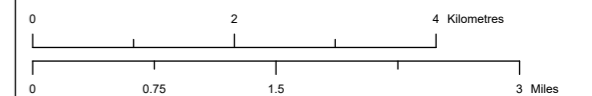
### Legend

- Onshore Scoping Area
- Onshore Scoping Area 500 m Buffer
- Artificial Geology**
- Worked Ground (Undivided) - Void
- Infilled Ground - Artificial Deposit
- Made Ground (Undivided) - Artificial Deposits



Coordinate System: British National Grid

Scale @ A3 : 1:75,000



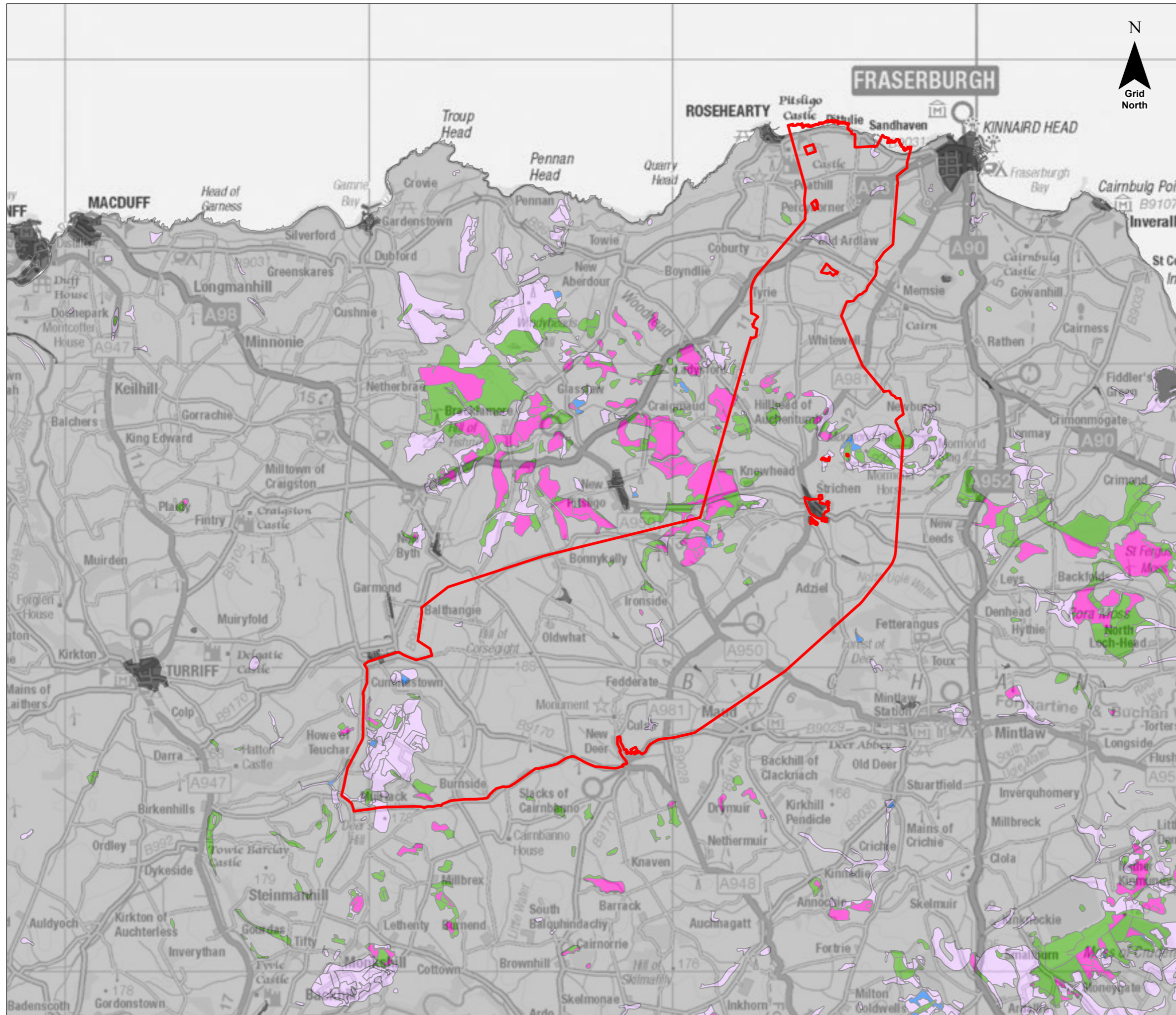
Rev	Description	Date
A	First Draft	22/08/2023
B	Second Draft	12/12/2023
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Doc. Report : Onshore Scoping Report  
 Doc. Title : Artificial Ground  
 Doc. No : 404.V64554.00001.0080.0  
 Doc. No of Pages : 2  
 Created by : PW  
 Checked by : SH  
 Approved by : MF



# Stromar Offshore Wind Farm

Figure 6.5  
Priority Peatland

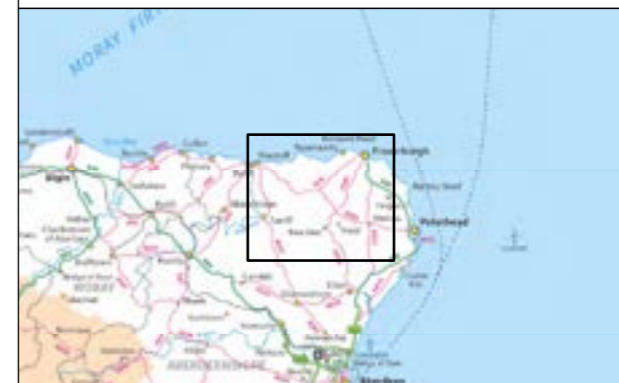


**Legend**

- Onshore Scoping Area

**Carbon and Peatland 2016 (Importance)**

- Class 1 Nationally important carbon-rich soils, deep peat and priority peatland habitat. Areas likely to be of high conservation value
- Class 2 Nationally important carbon-rich soils, deep peat and priority peatland habitat. Areas of potentially high conservation value and restoration potential
- Class 3 Dominant vegetation cover is not priority peatland habitat but is associated with wet and acidic type. Occasional peatland habitats can be found. Most soils are carbon-rich soils, with some areas of deep peat
- Class 4 Area unlikely to be associated with peatland habitats or wet and acidic type. Area unlikely to include carbon-rich soils
- Class 5 Soil information takes precedence over vegetation data. No peatland habitat recorded. May also include areas of bare soil. Soils are carbon-rich and deep peat.
- Mineral Soil Peatland habitats are not typically found on such soils (Class 0)
- Non-Soil (e.g. loch, built up area, rock and scree) (Class -2)



Coordinate System: British National Grid  
 Scale @ A3 : 1:125,000

Rev	Description	Date
A	First Draft	22/08/2023
B	Second Draft	10/11/2023
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Doc. Report : Onshore Scoping Report  
 Doc. Title : Priority Peatland  
 Doc. No : 404.V64554.00001.0046.1  
 Doc. No of Pages : 1  
 Created by : PW  
 Checked by : SH  
 Approved by : MF



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 The Carbon and Peatland map is based on soil and land cover map data produced by the James Hutton Institute. Used with the permission of The James Hutton Institute. All rights reserved (2023)

**Mineral Resources**

- 6.4.13 Policy PR1 of the ALDP identifies important mineral safeguarded sites where other forms of development should not generally be allowed, and wider areas of search where mineral reserves should not be sterilised by inappropriate developments (Aberdeenshire Council, 2023a).
- 6.4.14 The ALDP identifies the following areas within the Onshore Scoping Study Area as ‘Areas of Search for Minerals (Sand and Gravel Reserves)’:
  - Memsie West; and
  - Tarwathie, Strichen.

**Quarrying and Mining**

- 6.4.15 The Coal Authority website does not identify any areas within the Onshore Scoping Study Area that have been impacted by coal mining.
- 6.4.16 The BGS (2023a) records several mines and quarries to be present within the Onshore Scoping Study Area. The majority of sites are recorded to be “ceased”. One inactive quarry is recorded to be present within the Onshore Scoping Study Area as shown in **Table 6.5**.

**Table 6.5:** *Inactive Mines and Quarries within Onshore Scoping Study Area*

Mine/Quarry Name	Status	Location
Smiddyseat Quarry	Inactive	Easting: 394200, Northing: 861300

**Designated Sites**

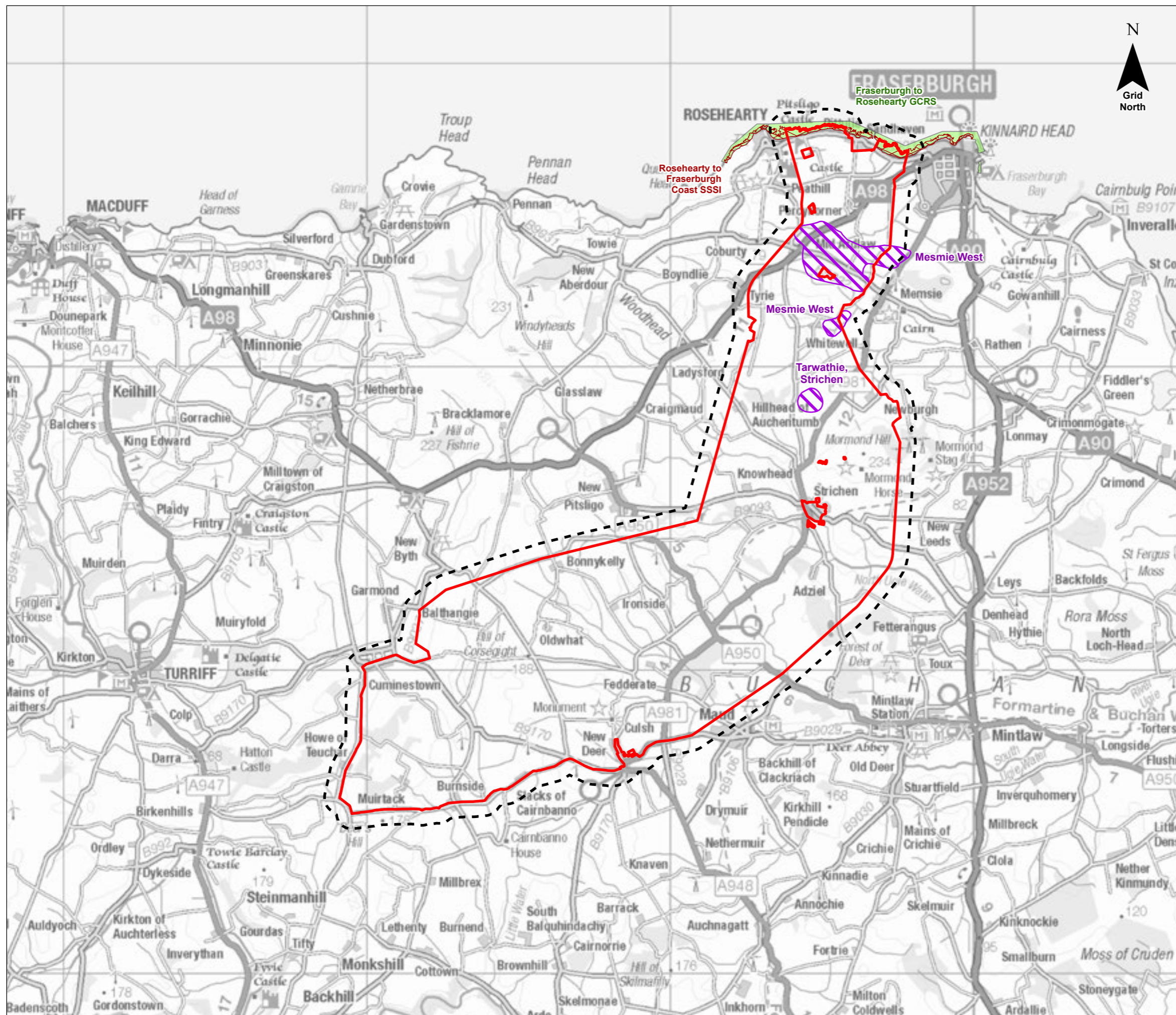
- 6.4.17 Designated sites identified within the Onshore Scoping Study Area are limited to the coastline in the north and are detailed below:
  - Site of Special Scientific Interest (SSSI) – Rosehearty to Fraserburgh Coast – Ref: 1375, documented area is 135.8 ha. The area comprises the coastline from Fraserburgh to the west of Rosehearty; and
  - Geological Conservation Review (GCR) site – Fraserburgh to Rosehearty – Ref: 9596, total site area is 290.23 ha and comprises the coastline from Fraserburgh to the west of Rosehearty.
- 6.4.18 The designated sites are shown on **Figure 6.6** (NatureScot, 2023a).



# Stromar Offshore Wind Farm

## Figure 6.6

### Designated Geological Sites and Mineral Safeguarded Sites within Scoping Study Area



- Legend**
- Onshore Scoping Area
  - Onshore Scoping Area 500 m Buffer
  - Geological Conservation Review Site (GCRS) - Designated for Geology
  - Site of Special Scientific Interest (SSSI) - Designated for Geology
  - Area of Search for Minerals (Sand and Gravel Reserve)



Coordinate System: British National Grid  
 Scale @ A3 : 1:125,000

Rev	Description	Date
A	First Draft	22/08/2023
B	Second Draft	15/12/2023
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Doc. Report : Onshore Scoping Report  
 Doc. Title : Designated Sites and Areas of Interest Within Study Area  
 Doc. No : 404.V64554.00001.0049.1  
 Doc. No of Pages : 1  
 Created by : PW  
 Checked by : SH  
 Approved by : MF



### ***Contaminated land***

- 6.4.19 The Contaminated Land Register maintained by Aberdeenshire Council (2011) lists no contaminated sites within or near to the Onshore Scoping Study Area.
- 6.4.20 Once the location, layout and design of the Proposed Onshore Development has been refined, a detailed desk study will be undertaken to source additional third-party data (e.g., Landmark Envirocheck database reports, historical Ordnance Survey maps), to confirm potential contaminated land sources.

### ***Historic Past Use and Industrial Activities***

- 6.4.21 Contaminated soils are generally associated with historical or current industrial activities where localised or widespread contamination has occurred. In general, these former activities are concentrated in and around urban areas. Historical past uses that are present within the Onshore Scoping Study Area comprise the following:
- Infilled old quarries and gravel pits – several ceased mines and quarries are recorded to be present;
  - Old rifle range northeast of Strichen and East of Mormond Hill;
  - Smithy's (Blacksmiths) – multiple historical smithy's are recorded; and
  - Sewage treatment works southeast of Strichen.
- 6.4.22 It is considered that the Proposed Onshore Development will likely be positioned as part of the ongoing RPSS to avoid, where practicable, significantly developed urban areas and associated known potential areas of contamination.

### ***UXO***

- 6.4.23 The coastline within the north of the Onshore Scoping Study Area and the area of Fraserburgh is classified as High Risk of unexploded ordnance (UXO), described as 'Areas indicated as having a bombing density of 50 bombs per 1000 acre or higher'. The remainder of the Onshore Scoping Study Area is classified as Low Risk.
- 6.4.24 During WWII, Royal Air Force (RAF) Hillhead was established within the northwest of the Onshore Scoping Study Area which was a Chain Home Radar Station and was protected by several pillboxes. Readily available records have been found to indicate that several High Explosive (HE) bombs fell in close proximity to the site. RAF Hillhead closed in March 1946. The area is now derelict, but several structures remain extant.
- 6.4.25 A historical rifle range is recorded northeast of Strichen, which has the potential to be contaminated from this historic use. Lead is a common contaminant related to shooting ranges and elevated concentrations could be present in the superficial soils in this area.
- 6.4.26 When the final location of the Proposed Onshore Development is known, if any construction activities fall within areas of medium to high risk of UXO, a detailed UXO desk study and risk assessment will be undertaken to confirm the risks associated with UXO. The study shall identify where additional commitments such as non-intrusive geophysical clearance or supervision by an explosive ordnance clearance operative is required.

6.4.27 UXO risks will be managed in accordance with Construction Industry Research and Information Association (CIRIA) C785 Unexploded Ordnance (UXO) risk management guide for land-based projects.

**Future Baseline**

6.4.28 The baseline environment is not static and will exhibit some degree of change over time, with or without the Proposed Onshore Development in place. Therefore, when undertaking impact assessments, it will be necessary to place any potential impacts in the context of the envelope of change that might occur naturally over the lifetime of the Proposed Onshore Development. This future baseline will be defined for the purposes of the Onshore EIAR.

**6.5 Commitments**

6.5.1 The Developer has committed to adopt a series of design commitments (primary commitments) at this scoping stage to avoid and (where avoidance is not possible) reduce the potential for effects on the environment. Further best practice measures (tertiary commitments) are embedded as an inherent aspect of the EIA process.

6.5.2 Those scoping commitments of relevance to Geology and Ground Conditions are identified in **Table 6.6** below. Full details on each of these commitments can be found in the Onshore Commitments Register in **Appendix 3.2** of this Onshore Scoping Report.

**Table 6.6:** *Relevant Commitments to Geology and Ground Conditions*

ID	Commitment	How this commitment will be secured
<b>Primary Commitments</b>		
C-ONS-002	The onshore cable duct installation strategy (if ducts are used) is proposed to be conducted in a sectionalised approach in order to minimise impacts. Construction teams would work on a sectional approach (approximately 600-1500 m) and once the cable ducts have been installed, the section would be backfilled and the top soil replaced before moving onto the next section. This would minimise the amount of land being worked on at any one time and would also minimise the duration of works on any given section of the route.	General location of Proposed Onshore Development to be approved through grant of PPP consent. Final location (including any micro-siting allowance) to be approved through AMSC consent.

ID	Commitment	How this commitment will be secured
<b>Tertiary commitments</b>		
C-ONS-009	Production and compliance with a Construction Environmental Management Plan (CEMP). An Outline CEMP will be produced and included alongside the Onshore EIAR to support the PPP application. A detailed CEMP will then be submitted to Aberdeenshire Council for approval (in consultation with NatureScot and Scottish Environment Protection Agency (SEPA)) prior to construction of the development. The CEMP will then be implemented to avoid, minimise or mitigate effects on the environment during the construction phase.	Planning Condition attached to PPP consent requiring CEMP to be submitted and approved by Aberdeenshire Council.
C-ONS-015	Refuelling of machinery will be undertaken within designated areas where spillages can be easily contained. Machinery will be routinely checked to ensure it is in good working condition. Any tanks and associated pipe work containing oils and fuels will be double skinned and be provided with intermediate leak detection equipment. Areas at risk of spillage, such as vehicle maintenance areas and hazardous substance stores (including fuel, oils and chemicals) will be bunded and carefully sited to minimise the risk of hazardous substances entering soils, groundwater, drainage systems or local watercourses. Additionally the bunded areas will have impermeable bases to limit the potential for migration of contaminants into potential receptors following any leakage/spillage. Bunds used will store fuel, oil etc. to have a 110% capacity. Excavated material will be placed in such a way as to avoid any disturbance of areas near to the banks of watercourses and any spillage into the local earth/water environment. Construction materials will be managed in such a way as to effectively minimise the risk posed to the environment. All plant machinery and vehicles will be maintained in a good condition to reduce the risk of fuel leaks. Consultation with SEPA to be ongoing throughout the construction period to promote best practice and to implement proposed mitigation measures.	Planning Condition attached to PPP consent requiring CEMP to be submitted and approved by Aberdeenshire Council.
C-ONS-016	A Soil Management Plan (SMP) will be submitted and agreed with Aberdeenshire Council prior to the commencement of development to ensure that soil resources are managed in accordance with best practice. During construction, all soils to be excavated, handled, stored and reinstated in accordance with the approved SMP.	Planning Condition attached to PPP consent required CEMP to be submitted and approved by Aberdeenshire Council.

ID	Commitment	How this commitment will be secured
C-ONS-017	Post-construction all temporary working areas will be reinstated to pre-existing conditions as far as reasonably practical in line with Defra 2009 Construction Code of Practice for the Sustainable Use of Soils on Construction Sites PB13298 or latest relevant available guidance.	Planning Condition attached to PPP or AMSC consent requiring approval of a scheme for the reinstatement of all temporary working areas following completion of construction.
C-ONS-018	In areas subject to vehicle and heavy plant movement the topsoil and subsoil will be stripped and stored on site within the temporary working corridor. The topsoil and subsoil will be stored in separate stockpiles and post-construction these working areas will be reinstated to pre-existing condition as far as reasonably practical in line with Defra 2009 Construction Code of Practice for the Sustainable Use of Soils on Construction Sites PB13298 and The Scottish Soil Framework.	Planning Condition attached to PPP consent requiring CEMP to be submitted and approved by Aberdeenshire Council.
C-ONS-019	A Pollution Prevention and Management Plan would be developed. This will detail a pollution control strategy to be implemented in accordance with Controlled Activities Regulations (CAR) licence regulations, incorporating measures for protecting ground and surface water during construction and operational phases. Details on appropriate fuel and chemical storage will be provided, along with measures associated with water abstraction and incident response procedures.	Planning Condition attached to PPP consent requiring CEMP to be submitted and approved by Aberdeenshire Council.
C-ONS-020	Potential risks to human health from any encountered (unexpected) ground contamination will be avoided by the use of appropriate Personal Protective Equipment (PPE) and by adopting appropriate working practices.	Planning Condition attached to PPP consent required CEMP to be submitted and approved by Aberdeenshire Council.
C-ONS-021	Any contamination encountered during the construction phase would be subject to appropriate risk assessment and if necessary, either removed, treated and/or mitigated as part of the Project.	Planning Condition attached to PPP consent required CEMP to be submitted and approved by Aberdeenshire Council.
C-ONS-029	Where the Proposed Onshore Development is not required for electricity transmission purposes beyond the operational life of the Project, the onshore components would be decommissioned, and the land reinstated. Details of the decommissioning and restoration scheme shall be submitted to Aberdeenshire Council within 24 months of the permanent cessation of electricity generation.	Planning Condition attached to PPP consent required approval of decommissioning and site restoration plan.

6.5.3 As a result of the commitment to implement these measures, this mitigation is considered inherently part of the design of the Proposed Onshore Development and has, therefore, been included in the scoping assessment presented in **Section 6.6** of this Chapter.

6.5.4 It is expected that additional primary commitments will be identified as the layout and design of the Proposed Onshore Development is refined and developed. These will take into account any consultation feedback received.

6.5.5 The requirement for any additional secondary commitments to prevent, reduce or offset any remaining significant adverse effects of the Proposed Onshore Development will be developed throughout the EIA process dependent on the significance of effect upon Geology and Ground Condition receptors.

## 6.6 Scoping of Impacts

6.6.1 The Impacts Register (**Appendix 3.3**) sets out the proposed assessment of the potential effects of the Proposed Onshore Development on the environment, including Geology and Ground Conditions, at the scoping stage of the EIA. It identifies all potential impacts and provides an assessment on whether or not it is considered that they have (or do not have) the potential to result in a likely significant effect (LSE). A summary assessment of the potential impacts on Geology and Ground Conditions is provided in **Table 6.7**.

6.6.2 The assessment in the Impacts Register and **Table 6.7** has been based upon a combination of:

- The maximum development parameters of the Proposed Onshore Development at this scoping stage;
- The commitments identified in **Table 6.6** and the Onshore Commitment Register in **Appendix 3.2**;
- The level of understanding of the baseline environment at this scoping stage;
- The existing evidence base;
- Relevant legislation and policy; and
- The professional judgement and experience of the qualified Geology and Ground Conditions specialists.

6.6.3 In accordance with the proportionate EIA approach (see **Section 5.2** and **Appendix 3.1**), for this scoping stage of the EIA process, the Impacts Register and **Table 6.7** categorises likely significance of effect as follows:

- **LSE identified at scoping stage without secondary commitments** – the impact will be subject to detailed assessment and scoped in to the EIAR.
- **Possible LSE identified at scoping stage without secondary commitments** – however it may become clear post scoping that the impact does not require detailed assessment in the EIAR. The impact will be scoped in at scoping stage, however further evidence will be brought forward post scoping to agree with consultees the specific treatment of the impact in the EIAR.
- **No LSE identified at scoping stage** – the impact will be scoped out of assessment in the EIAR.

6.6.4 Where it is agreed that potential effects can be scoped out of the EIAR, it is confirmed that these would still be presented within the Impacts Register within the EIAR with an explanation provided as to why it has been agreed it can be scoped out.

Table 6.7: Scoping Assessment for Geology and Ground Conditions

Potential Effect	Project Element					Commitment(s)	Scoping Status			Proposed Approach to Assessment, including Description of Any New Evidence Required
	Landfall	OnECC	OnGCC	OnSS	OnRCS		LSE	Possible LSE	No LSE	
<b>Construction</b>										
Impact on geology.	✓	✓	✓	✓	✓	-	✓			Scoped in for detailed assessment in the EIAR: <ul style="list-style-type: none"> <li>Data review to include identification of geological SSSI and GCR Sites. Areas of geological importance will be identified and assessed within the EIAR.</li> </ul>
Impact on peatland and carbon rich soils.	✓	✓	✓	✓	✓	-		✓		Scoped in at scoping. Further evidence to be provided post-scoping: <ul style="list-style-type: none"> <li>Baseline data review to include identification of priority peatland habitat once the study area is defined following the refinement of the location, routing and design of the Proposed Onshore Development; and</li> <li>Areas of priority peatland will be identified, and their locations described. If peat and carbon rich soils are identified within the area of the Proposed Onshore Development and cannot be avoided then a Peat Management Plan (PMP) will be produced to ensure peat and carbon rich soils are protected and ensure minimal disturbance to these soils in accordance with NPF4.</li> </ul>
Impact on mineral resources.	✓	✓	✓	✓	✓	-		✓		Scoped in at scoping. Further evidence to be provided post-scoping: <ul style="list-style-type: none"> <li>Baseline data review to include identification of safeguarded mineral resources once the study area is defined following the refinement of the location, routing and design of the Proposed Onshore Development. Areas of mineral resources will be identified and their locations described.</li> </ul>

Potential Effect	Project Element					Commitment(s)	Scoping Status			Proposed Approach to Assessment, including Description of Any New Evidence Required
	Landfall	OnECC	OnGCC	OnSS	OnRCS		LSE	Possible LSE	No LSE	
Impact on contaminated land.	✓	✓	✓	✓	✓	C-ONS-021		✓		Scoped in at scoping. Further evidence to be provided post-scoping: <ul style="list-style-type: none"> <li>Baseline data review to include production of a Preliminary Land Quality Risk Assessment (PLQRA), once the study area is defined following the refinement of the location, routing and design of the Proposed Onshore Development, to identify any significant potential pollutant linkages from the development.</li> </ul> The commitment proposed will reduce the potential for effects on the environment from any unexpected encountered contaminated land.
Impact on surface sediments through structural deterioration erosion.	✓	✓	✓	✓	✓	C-ONS-016 C-ONS-017 C-ONS-018			✓	Scoped out. The commitments proposed will reduce the potential for effects on surface sediments from the Proposed Onshore Development and therefore the proposed commitments will ensure there are no LSEs.
Impact on agricultural soils.	✓	✓	✓	✓	✓	C-ONS-016 C-ONS-018			✓	Scoped out. The construction of the Proposed Onshore Development will be carried out in a controlled and considered manner so as not to have any long term impact upon agricultural soils and their quality. The commitments proposed will reduce the potential for effects on agricultural soils from the Proposed Onshore Development and therefore the proposed commitments will ensure there are no LSE.
Impact on soil quality.	✓	✓	✓	✓	✓	C-ONS-019			✓	Scoped out. The commitment proposed will reduce the potential for effects on soil quality from the Proposed Onshore Development and will ensure there are no LSE.



Potential Effect	Project Element					Commitment(s)	Scoping Status			Proposed Approach to Assessment, including Description of Any New Evidence Required
	Landfall	OnECC	OnGCC	OnSS	OnRCS		LSE	Possible LSE	No LSE	
Impact on Unexploded Ordnance (UXO).	✓	✓	✓	✓	✓	-		✓		Scoped in at scoping. Further evidence to be provided post-scoping: <ul style="list-style-type: none"> <li>UXO desk study once the location, routing and design of the Proposed Onshore Development has been identified.</li> </ul>
Impact to construction workers from contaminated soils.	✓	✓	✓	✓	✓	C-ONS-020			✓	Scoped out. The commitment proposed will reduce the potential for effects on human health from any encountered contaminated land and will ensure there are no LSE.
<b>Operation and Maintenance</b>										
Impact on soil quality.	✓	✓	✓	✓	✓	C-ONS-019			✓	Scoped out. The commitment proposed will reduce the potential for effects on soil quality from the Proposed Onshore Development and will ensure there are no LSE.
Impact on ground conditions through heating impacts.	✓	✓	✓			-			✓	Scoped out. Detailed design of the cable corridors will be carried out to mitigate against heating impacts once the Proposed Onshore Development is refined and the exact ground conditions of the OnECC and OnGCC are known. It is therefore considered unlikely that the Proposed Onshore Development will lead to any significant heating effects.
<b>Decommissioning</b>										
Decommissioning of the Proposed Onshore Development.	✓	✓	✓	✓	✓	C-ONS-029		✓		Scoped in however the effects associated with the construction phase can be considered to be representative of reasonable worst-case decommissioning effects, and therefore no separate assessment of the decommissioning phase is proposed for Ground Conditions and Geology in the EIAR.

## 6.7 Potential Cumulative Effects with Proposed Offshore Development

- 6.7.1 There is a direct overlap in jurisdictions of consenting and regulatory regimes within the intertidal area between MHWS and MLWS. Proposed Offshore Development works below MHWS will therefore take place alongside Proposed Onshore Development works at the intertidal area at landfall.
- 6.7.2 It is considered unlikely that there will be any potential for cumulative effects in relation to Geology and Ground Conditions resulting from the onshore and offshore works of the Project in this area.

## 6.8 Potential Cumulative Effects with Other Projects

- 6.8.1 A review of other existing and proposed projects near the Proposed Onshore Development will be undertaken and potential impacts on Geology and Ground Conditions receptors will be assessed to identify potential cumulative impacts. In accordance with **Chapter 5: EIA Methodology** of this Onshore Scoping Report, the cumulative effects assessment for the Proposed Onshore Development will consider any other developments that are under construction, consented but not yet built or are the subject of valid planning or consent applications.
- 6.8.2 It is considered unlikely that there will be any significant residual or cumulative impact to report in relation to Geology and Ground Conditions. The final scope of the cumulative effects assessment will be agreed with Aberdeenshire Council following refinement of the Proposed Onshore Development.

## 6.9 Proposed Approach to the EIA

### *EIA Study Area*

- 6.9.1 The EIA Study Area for the Geology and Ground Conditions impact assessment in the Onshore EIAR will be defined following the refinement of the layout and design of the Proposed Onshore Development.
- 6.9.2 Once the EIA Study Area is defined and agreed with consultees, the initial stage of assessment would comprise a detailed review of site-specific data from an environmental database (i.e. Landmark Envirocheck Report) and a targeted walkover of areas of interest. A Conceptual Site Model (CSM) will be produced and assessed to determine the site's suitability for use in accordance with PAN33<sup>5</sup> using the source-pathway-receptor approach.

### *Additional Data Sources*

- 6.9.3 The following additional data sources in **Table 6.8** will be used to inform the Geology and Ground Conditions assessment in the EIAR, once the EIA Study Area has been refined.

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<sup>5</sup> Planning Advice Note 33: Development of Contaminated Land. December 2017 (Scottish Government, 2017a).

**Table 6.8: Additional Baseline Data Sources for EIA**

Source	Summary
Environmental Information Requests (EIR)	<p>EIR to Aberdeenshire Council Contaminated Land Officer for any environmental information they may hold on the Proposed Onshore Development related to Geology and Ground Conditions, such as contaminated land designations, previous site investigation data, former industrial land uses, pollution incidents etc.</p> <p>EIR to NatureScot for further details on Geological SSSI/Geological Conservation Review site within the EIA Study Area.</p>
Landmark Envirocheck Report	Site specific data from an environmental database including historical Ordnance Survey mapping.

**Desk Based Assessment**

- 6.9.4 Once the layout and design of the Proposed Onshore Development has been refined, the following assessment would be required as a minimum to support the planning application to ensure the site is considered suitable for use in accordance with PAN33<sup>5</sup>.
- 6.9.5 A Phase 1 Desk based Preliminary Land Quality Risk Assessment (PLQRA) will be carried out in accordance with BS10175 to identify and assess any potential sources of contamination within the footprint of the Proposed Onshore Development (including any associated temporary construction areas).
- 6.9.6 The PLQRA will present information with respect to the site’s environmental setting, land use history, anticipated ground conditions and the potential for contamination.
- 6.9.7 The information obtained will be used to develop a preliminary conceptual site model (PCSM) of potential risks to human and environmental receptors. The conceptual model examines the potential for contaminant-pathway-receptor linkages.
- 6.9.8 The desk study will identify sensitive features in relation to Geology and Ground Conditions which may potentially be affected by the Proposed Onshore Development and will be used to inform the scope of the proposed field surveys.

**Field Surveys**

- 6.9.9 Any field surveys will be determined by the results of the PLQRA. Appropriate information will be gathered to allow a comprehensive impact assessment to be completed. Where potentially significant pollutant linkages are identified this will potentially trigger further phases of assessment that could comprise intrusive ground investigation field surveys, the recovery of soil and water samples for laboratory chemical analysis and/or the provision of a quantitative risk assessment.
- 6.9.10 The size of the area(s) requiring field survey investigation will be devised with reference to the likely significance of the identified sources of contamination and the sensitivity of the construction works and environmental setting of each Proposed Onshore Development area.

### Consultation

- 6.9.11 Following receipt of the Scoping Opinion, appropriate consultation with Aberdeenshire Council, SEPA and other relevant statutory and non-statutory organisations will be undertaken as necessary throughout the EIA process.

### Assessment Methodology

- 6.9.12 Where potentially significant pollutant linkages are identified this will potentially trigger further phases of assessment and the provision of a quantitative risk assessment.
- 6.9.13 The findings of the initial phases of assessment, and the nature and extent of any identified contamination, would be used to inform working practices and the design of the Proposed Onshore Development. Where the risks cannot be ameliorated through the adoption of control measures consideration may need to be given to localised remediation.

### Assessment Criteria and Assignment of Significance

- 6.9.14 The EIA will follow the general approach outlined in **Chapter 5: EIA Methodology** of this Onshore Scoping Report. The following subsections propose the approach to defining the sensitivity of the Geology and Ground Conditions receptors, the magnitude of the potential impacts and the significance of these effects. It should be noted that significant effects need not be unacceptable or irreversible.
- 6.9.15 Geology and Ground Conditions receptor sensitivities will be determined by their rarity/importance/quality, potential for replacement, designation and sensitivity. Contaminated land would also be determined based on using the aforementioned aspects but in respect of the receptors it could potentially impact, as well as the sensitivity of further receptors that could be impacted in respect of contaminated land.
- 6.9.16 The criteria used to predict the sensitivity of a Geology and Ground Conditions receptor is shown in **Table 6.9**.

**Table 6.9:** Proposed Sensitivity of Receptors

Receptor Sensitivity	Definition (Typical Descriptions)
Very High	Geology: very rare and of international importance with no potential for replacement (e.g. United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Sites, UNESCO, Global Geoparks, SSSI's and GCR where citations indicate features of international importance). Geology meeting international designation citation criteria which is not designated as such.
High	Geology: rare and of national importance with little potential for replacement (e.g. geological SSSI, National Nature Reserves (NNR)). Geology meeting national designation citation criteria which is not designated as such.
Medium	Geology: of regional importance with limited potential for replacement (e.g. Regionally Important Geodiversity Sites (RIGS)). Geology meeting regional designation citation criteria which is not designated as such.
Low	Geology: of local importance/interest with potential for replacement (e.g. non designated geological exposures, former quarry's/mining sites).

Receptor Sensitivity	Definition ( <i>Typical Descriptions</i> )
Negligible	Geology: no geological exposures, little/no local interest.

6.9.17 For Geology and Ground Conditions, impact magnitude will be determined by the physical spatial scale, temporal scale, and wider context of the impact (economic, environmental). These will be coupled with the findings of qualitative and quantitative risk assessments, as well as the sensitivity of further receptors that could be impacted in respect of contaminated land. Definitions of the magnitude criteria to be adopted as part of the assessment are provided in **Table 6.10**.

**Table 6.10:** *Proposed Magnitude of Impacts*

Magnitude	Description ( <i>Typical Description</i> )
Major	<b>Adverse</b> Geology: loss of geological feature/designation and/or quality and integrity, severe damage to key characteristics, features or elements.
Moderate	<b>Adverse</b> Geology: partial loss of geological feature/designation, potentially adversely affecting the integrity; partial loss of/damage to key characteristics, features or elements.
Minor	<b>Adverse</b> Geology: minor measurable change in geological feature/designation attributes, quality or vulnerability; minor loss of, or alteration to, one (maybe more) key characteristics, features or elements.
Negligible	<b>Adverse</b> Geology: very minor loss or detrimental alteration to one or more characteristics, features or elements of geological feature/designation. Overall integrity of resource not affected.

6.9.18 The receptor importance/sensitivity and subsequent magnitude of change would be assessed as a function of one another to determine the significance of each effect, as shown in **Table 6.11**.

6.9.19 This approach provides a mechanism for identifying the areas where site specific mitigation measures will be required and for identifying mitigation measures appropriate to the risk presented by the Proposed Onshore Development. This approach also allows effort to be focused on reducing risk where the greatest benefit may result.

Table 6.11: Proposed Matrix to Determine the Significance of Effects

Significance of Effect		Magnitude of Impact			
		Negligible	Minor	Moderate	Major
Sensitivity of Receptor	Low	Negligible (Not significant)	Negligible or Minor (Not Significant)	Minor (Not Significant)	Minor (Not Significant) or Moderate (Significant)
	Medium	Negligible (Not Significant)	Minor (Not Significant)	Moderate (Significant)	Moderate (Significant) or Major (Significant)
	High	Negligible (Not Significant)	Minor (Not Significant) or Moderate (Significant)	Moderate (Significant) or Major (Significant)	Major (Significant) or Substantial (Significant)
	Very High	Negligible (Not significant)	Moderate (Significant) or Major (Significant)	Major (Significant) or Substantial (Significant)	Substantial (Significant)

6.9.20 The methods outlined in **Table 6.11** used to predict the significance of effects would be subject to professional judgement by a competent and suitably trained environmental consultant. Effects that are assessed to be 'Moderate', 'Major' or 'Substantial' would be assessed to be significant in terms of the EIA Regulations.

## 6.10 Scoping Questions

6.10.1 The following Scoping Questions are designed to focus the scoping exercise and inform the Scoping Opinion:

- Is there any other baseline information that should be considered, including regional geological areas of importance?
- Do you agree that all potential receptors and impacts have been identified for Geology and Ground Conditions?
- Can Aberdeenshire Council or SEPA advise on any specific sources of contamination of concern to them within the Onshore Scoping Study Area?
- Do you agree with the Geology and Ground Conditions impacts that have been scoped in and out of the assessment?
- Do you agree with the methodology presented within this Chapter in regard to future assessment?
- Do you agree with the suggested commitments?
- Do you agree that all relevant legislation, policy and guidance documents have been identified for the Geology and Ground Conditions assessment, or are there any additional legislation, policy and guidance documents that should be considered?

- Do you agree with the approach to analysis and assessment that will inform the EIA?
- Do you agree that the risks and impacts associated with contaminated land are unlikely to be significant across the large majority of the Onshore Scoping Study Area, and that any subsequent, more detailed assessments are most likely to target localised impacts?

## 7 Hydrology and Flood Risk

### 7.1 Introduction

7.1.1 This Chapter of the Onshore Scoping Report considers the potential effects from the construction, O&M, and decommissioning of the Proposed Onshore Development on Hydrology and Flood Risk landward of Mean Low Water Springs (MLWS). It also provides a brief overview of the onshore water environment, which includes hydrology, hydrogeology, flood risk and drainage, and identifies the proposed scope of the assessment methodology to be used in the Onshore EIAR.

7.1.2 This Chapter should be read alongside the following Chapters of the Onshore Scoping Report:

- **Chapter 6: Geology and Ground Conditions;** and
- **Chapter 8: Ecology, Biodiversity and Nature Conservation.**

7.1.3 It should also be read alongside the following Chapters of the Offshore Scoping Report (Orsted, 2023a), which consider the potential effects of the Proposed Offshore Development:

- **Chapter 7: Marine and Coastal Processes;**
- **Chapter 8: Marine Water and Sediment Quality;** and
- **Chapter 9: Benthic and Intertidal Ecology.**

### 7.2 Legislation, Policy and Guidance

7.2.1 In addition to those described in **Chapter 2: Planning and Policy Context** of this Onshore Scoping Report, the legislation, policy and guidance identified in **Table 7.1** will be taken into account during the assessment of effects on Hydrology and Flood Risk.

**Table 7.1: Relevant Legislation Policy and Guidance**

Title	Source
Legislation	
European Commission (EC) Water Framework Directive (2000/60/EC)	<a href="https://environment.ec.europa.eu/topics/water/water-framework-directive_en">https://environment.ec.europa.eu/topics/water/water-framework-directive_en</a>
Water Environment and Water Services (Scotland) Act 2003	<a href="https://www.legislation.gov.uk/asp/2003/3/contents">https://www.legislation.gov.uk/asp/2003/3/contents</a>
Water Environment (Controlled Activities) Regulations 2011	<a href="https://www.legislation.gov.uk/ssi/2011/209/contents">https://www.legislation.gov.uk/ssi/2011/209/contents</a>
The Water Intended for Human Consumption (Private Supplies) (Scotland) Regulations 2017	<a href="https://www.legislation.gov.uk/ssi/2017/282/contents/made">https://www.legislation.gov.uk/ssi/2017/282/contents/made</a>



Title	Source
Flood Risk Management (Scotland) Act 2009	<a href="https://www.legislation.gov.uk/asp/2009/6/contents">https://www.legislation.gov.uk/asp/2009/6/contents</a>
The Town and Country Planning (Environmental Impact Assessment) Regulations 2017	<a href="https://www.legislation.gov.uk/uksi/2017/571/contents">https://www.legislation.gov.uk/uksi/2017/571/contents</a>
<b>Policy</b>	
National Planning Framework 4 (NPF4)	<a href="https://www.gov.scot/publications/national-planning-framework-4/">https://www.gov.scot/publications/national-planning-framework-4/</a>
Aberdeenshire Local Development Plan	<a href="https://www.aberdeenshire.gov.uk/planning/plans-and-policies/ldp-2023/">https://www.aberdeenshire.gov.uk/planning/plans-and-policies/ldp-2023/</a>
<b>Guidance</b>	
SEPA Guidance Note 31 (Guidance on Assessing Impacts of Development Proposals on Groundwater Abstractions and Groundwater Dependent Terrestrial Ecosystems), Version 3	<a href="https://www.sepa.org.uk/media/144266/lups-gu31-guidance-on-assessing-the-impacts-of-development-proposals-on-groundwater-abstractions.pdf">https://www.sepa.org.uk/media/144266/lups-gu31-guidance-on-assessing-the-impacts-of-development-proposals-on-groundwater-abstractions.pdf</a>
CIRIA Control of Water Pollution from Linear Construction Projects – Technical Guidance C648	<a href="https://www.ciria.org/CIRIA/CIRIA/Item_Detail.aspx?iProductCode=C649&amp;Category=BOOK">https://www.ciria.org/CIRIA/CIRIA/Item_Detail.aspx?iProductCode=C649&amp;Category=BOOK</a>
CIRIA Environmental Good Practice on Site – C741	<a href="https://www.ciria.org/CIRIA/CIRIA/Item_Detail.aspx?iProductCode=C741">https://www.ciria.org/CIRIA/CIRIA/Item_Detail.aspx?iProductCode=C741</a>
CIRIA The SuDS Manual – C753	<a href="https://www.ciria.org/CIRIA/CIRIA/Item_Detail.aspx?iProductCode=C753">https://www.ciria.org/CIRIA/CIRIA/Item_Detail.aspx?iProductCode=C753</a>

7.2.2 Relevant policies within National Planning Framework 4 (NPF4) and the Aberdeenshire Local Development Plan 2023 (ALDP) and their policy intent are identified in **Table 7.2** and **Table 7.3**, respectively.

**Table 7.2:** *Relevant National Planning Policies in NPF4*

NPF4 Policy	Policy Intent
Policy 2: Climate Mitigation and Adaption	To encourage, promote and facilitate development that minimises emissions and adapts to the current and future impacts of climate change.
Policy 4: Natural Places	To protect, restore and enhance natural assets making best use of nature-based solutions.

<b>NPF4 Policy</b>	<b>Policy Intent</b>
Policy 5: Soils	To protect carbon-rich soils, restore peatlands and minimise disturbance to soils from development.
Policy 11: Energy	To encourage, promote and facilitate all forms of renewable energy development onshore and offshore. Policy 11 (e) requires that project design and mitigation will require to demonstrate, amongst other matters, how impacts are addressed on (viii) effects on hydrology, the water environment and flood risk.
Policy 20: Blue and Green Infrastructure	To protect and enhance blue and green infrastructure and their networks.
Policy 22: Flood Risk and Water Management	To strengthen resilience to flood risk by promoting avoidance as a first principle and reducing the vulnerability of existing and future development to flooding.

**Table 7.3:** *Relevant Local Development Plan Policies in ALDP*

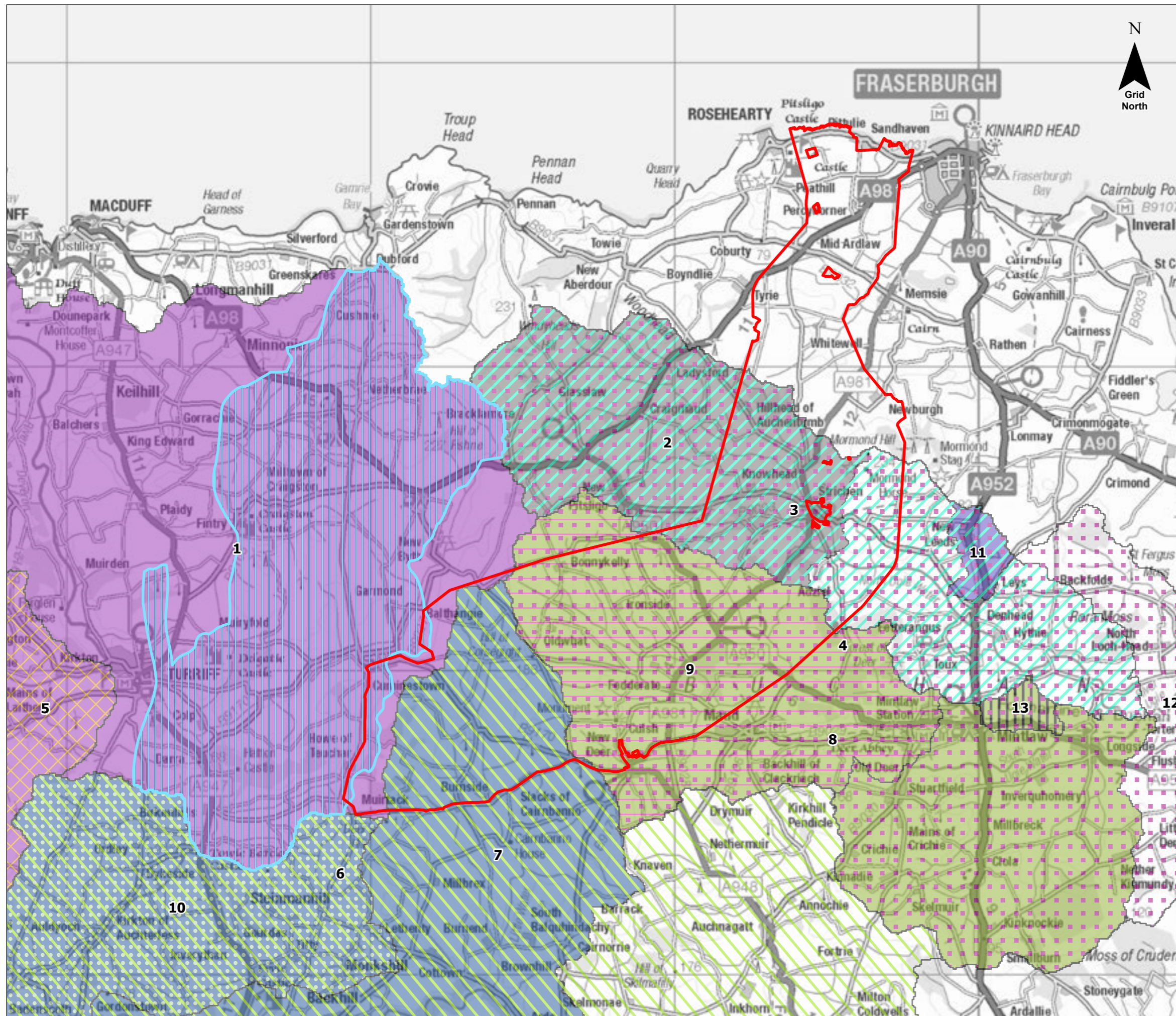
<b>ALDP Policy</b>	<b>Policy Intent</b>
Policy R1: Special Rural Areas	In order to safeguard the special nature of the green belt and coastal zone, development opportunities will be restricted and subject to the considerations set out in ALDP.
Policy RD1: Providing Suitable Services	To locate and design development to take advantage of or incorporate the services, facilities and infrastructure necessary to support it. Such matters may include sustainable transport linkages and supporting infrastructure, facilities for alternatively fuelled vehicles, road access, waste management provision, water supply, wastewater connections and treatment, and other elements as may be appropriate in the circumstances.
Policy E1: Natural Heritage	To protect nature conservation sites and protected species from development, and to enhance biodiversity.
Policy PR1: Protecting Important Resources	To protect natural resources associated with air quality, the water environment, important mineral deposits, prime agricultural land, peat and other carbon rich soils, open space and important trees and woodland.
Policy C2: Renewable Energy	To support renewable energy developments, including solar, wind, biomass (energy from biological material derived from living, or recently living organisms) and hydroelectricity projects, as well as energy storage projects, which are in appropriate sites and of the appropriate design.
Policy C3: Carbon Sinks and Stores	To protect carbon sinks and stores such as woodland and high carbon peat rich soils.
Policy C4: Flooding	To ensure developments are resilient to flood risk and ensure flooding is not increased elsewhere as a result of the development.

## 7.3 Scoping Study Area

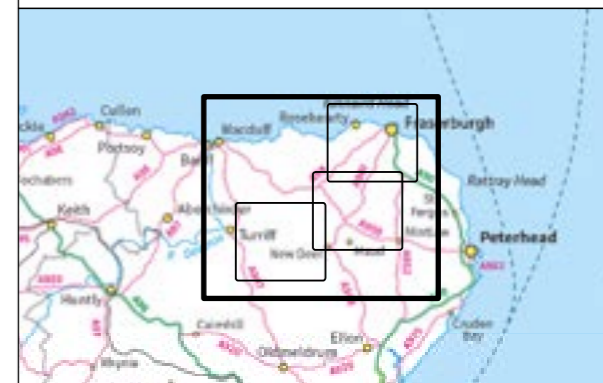
7.3.1 Scoping Study Area For the purposes of this scoping assessment, the Onshore Scoping Study Area for hydrology and flood risk is defined as the Onshore Scoping Area as shown in **Figure 7.1**.

# Stromar Offshore Wind Farm

## Figure 7.1.a Local Hydrology and Flood Risk



- Legend**
- Onshore Scoping Area
  - Drinking Water Protected Area
- Nested Catchment Body**
- 1 River Deveron - Turriff to Tidal Limit
  - 2 North Ugie Water - Upper Catchment
  - 3 North Ugie Water - Lower Catchment
  - 4 River Ugie - North/South Confl to Tidal Limit
  - 5 River Deveron - Huntly to Turriff
  - 6 River Ythan - Fyvie to Methlick
  - 7 River Ythan - Methlick to Ellon
  - 8 South Ugie Water - Stuartfield to Longside
  - 9 South Ugie Water - New Deer to Stuartfield
  - 10 River Ythan - Upper Catchment Above Fyvie
  - 11 Trib of North Ugie - d/s New Leeds WWTP
  - 12 Trib of River Ugie - d/s Willowbank WWTP
  - 13 Trib of South Ugie - d/s Les Taylor



Coordinate System: British National Grid  
 Scale @ A3 : 1:125,000  
 0 1 2 Kilometres  
 0 1.25 2.5 5 Miles

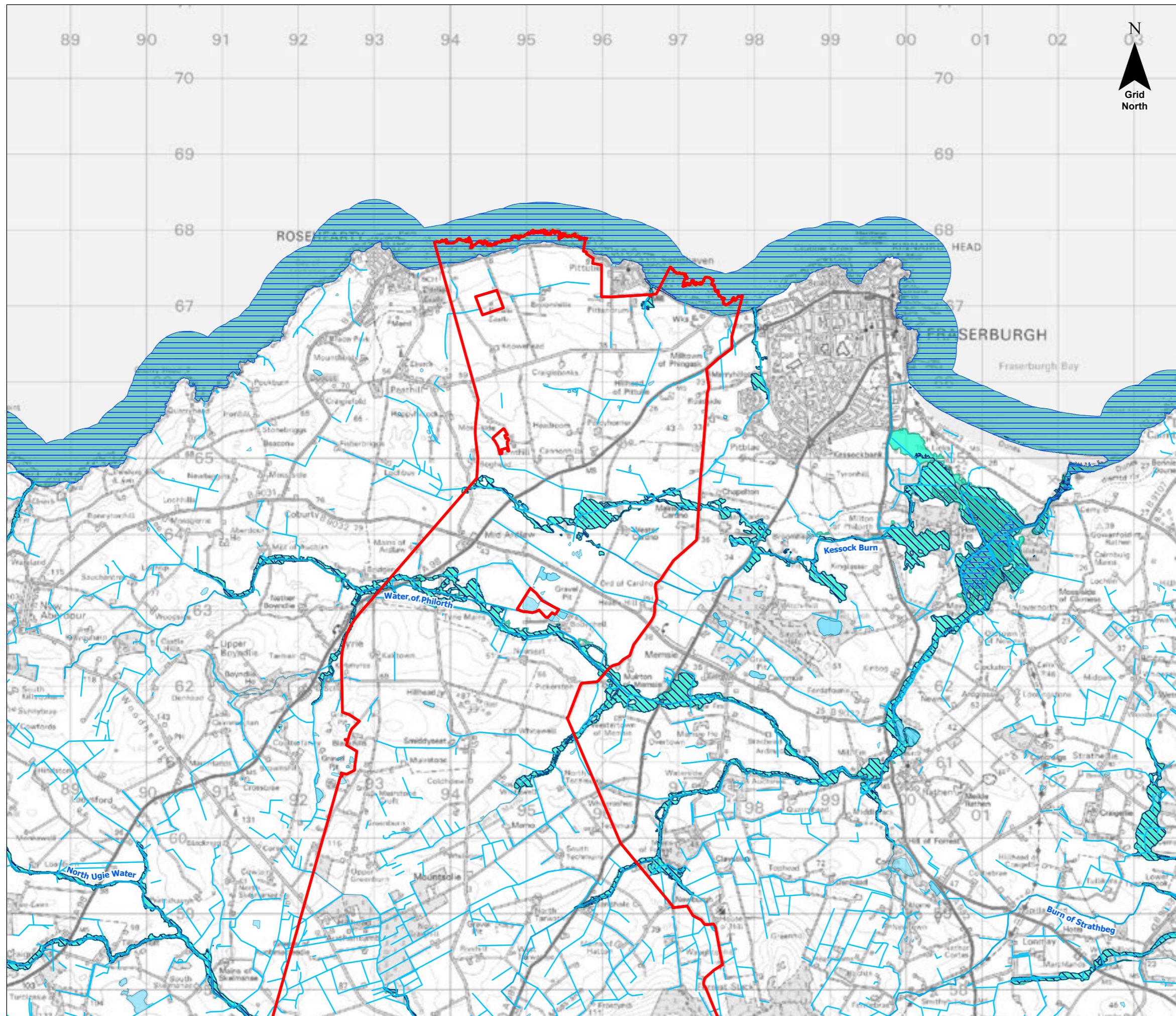
Rev	Description	Date
A	First Draft	22/08/2023
B	Second Draft	15/12/2023
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Doc. Report: Onshore Scoping Report  
 Doc. Title : Local Hydrology  
 Doc. No : 404.V64554.00001.0048.1  
 Doc. No. of Pages : 4  
 Created by : PW  
 Checked by : JS  
 Approved by : MF



# Stromar Offshore Wind Farm

## Figure 7.1.b Local Hydrology and Flood Risk



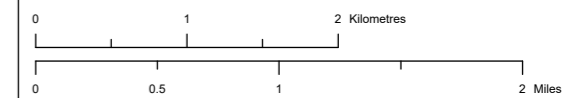
### Legend

- Onshore Scoping Area
- Watercourse (OS Open Map Local)
- Waterbody (OS Open Map Local)
- Fluvial Flood Medium Risk
- Future Fluvial Flood Extent
- Coastal Flood Medium Risk
- Future Coastal Flood Extent



Coordinate System: British National Grid

Scale @ A3 : 1:50,000



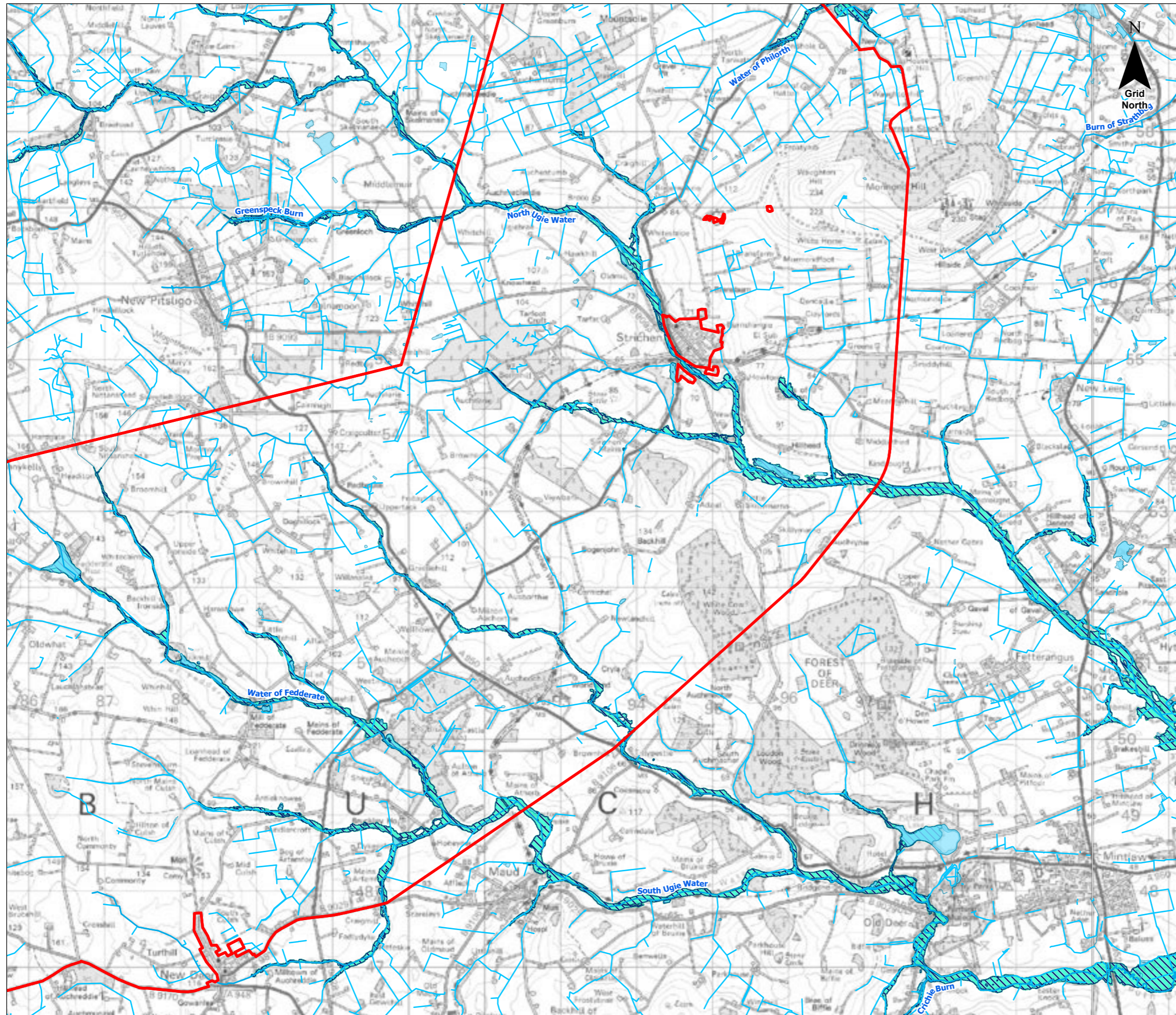
Rev	Description	Date
A	First Draft	22/08/2023
B	Second Draft	15/12/2023
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Doc. Report: Onshore Scoping Report  
 Doc. Title : Local Hydrology  
 Doc. No : 404.V64554.00001.0048.1  
 Doc. No. of Pages : 4  
 Created by : JW  
 Checked by : JS  
 Approved by : MF



# Stromar Offshore Wind Farm

## Figure 7.1.c Local Hydrology and Flood Risk



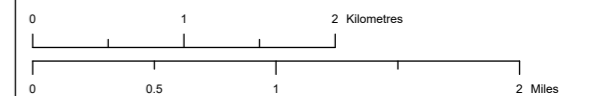
### Legend

- Onshore Scoping Area
- Watercourse (OS Open Map Local)
- Waterbody (OS Open Map Local)
- Flood Risk**
- Fluvial Flood Medium Risk
- Future Fluvial Flood Extent



Coordinate System: British National Grid

Scale @ A3 : 1:50,000



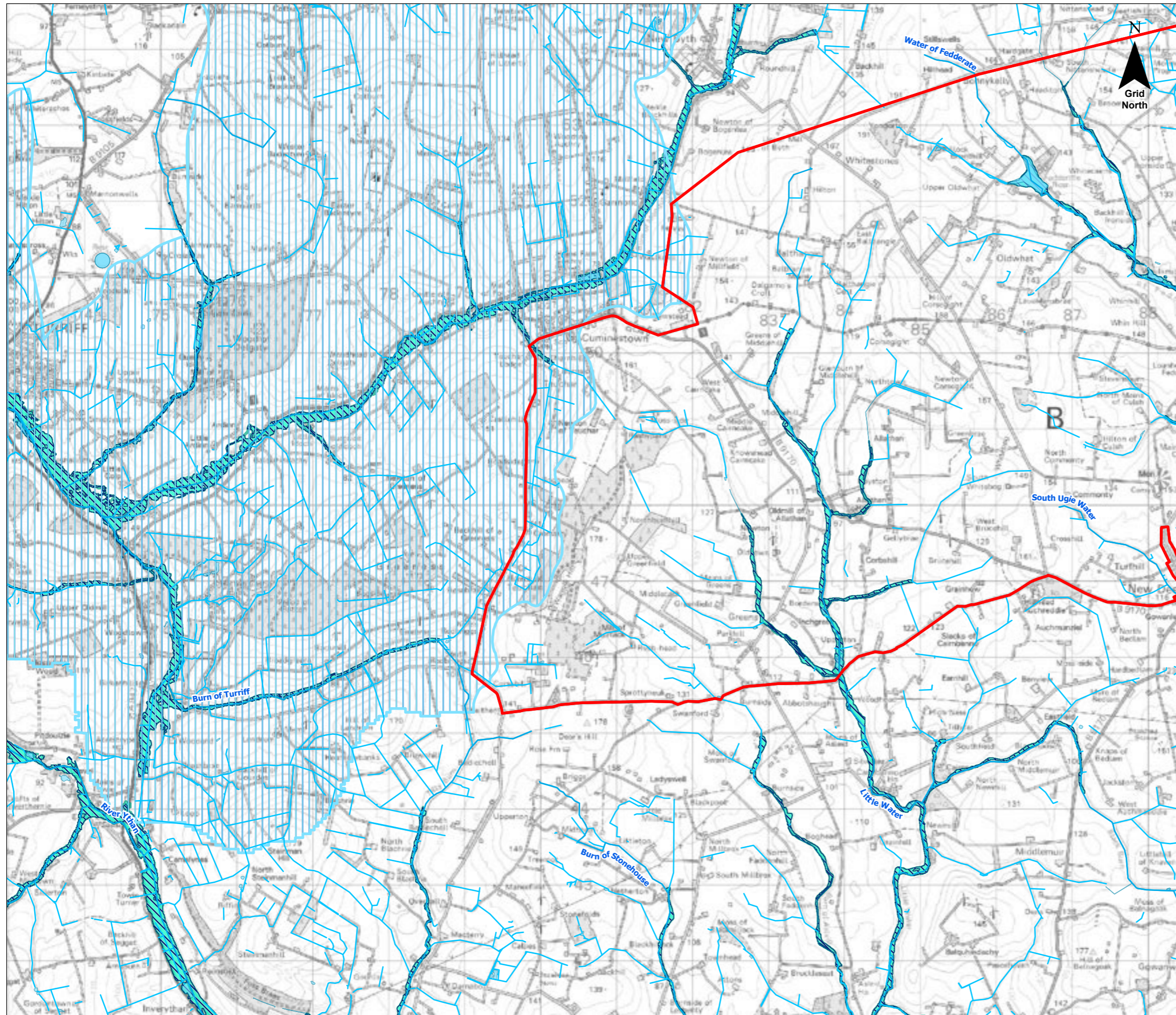
Rev	Description	Date
A	First Draft	22/08/2023
B	Second Draft	15/12/2023
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Doc. Report: Onshore Scoping Report  
 Doc. Title: Local Hydrology  
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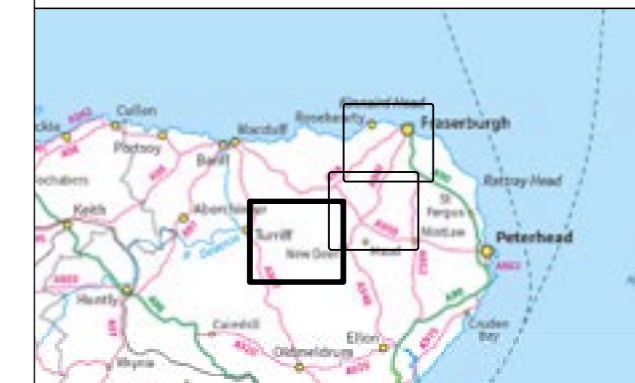


# Stromar Offshore Wind Farm

## Figure 7.1.d Local Hydrology and Flood Risk



- Legend**
- Onshore Scoping Area
  - Drinking Water Protected Area
  - Watercourse (OS Open Map Local)
  - Waterbody (OS Open Map Local)
- Flood Risk**
- Fluvial Flood Medium Risk
  - Future Fluvial Flood Extent



Coordinate System: British National Grid  
 Scale @ A3 : 1:50,000

Rev	Description	Date
A	First Draft	22/08/2023
B	Second Draft	15/12/2023
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Doc. Report: Onshore Scoping Report  
 Doc. Title : Local Hydrology  
 Doc. No : 404.V64554.00001.0048.1  
 Doc. No. of Pages : 4  
 Created by : PW  
 Checked by : JS  
 Approved by : MF



## 7.4 Baseline Environment

### Data Sources

7.4.1 To describe the Hydrology and Flood Risk baseline within the Onshore Scoping Study Area in this Chapter, the data sources identified in **Table 7.4** have been used. These data sources will also be used to inform the baseline characterisation for Hydrology and Flood Risk in the Onshore EIAR, along with the additional data sources identified in **Section 7.9**.

**Table 7.4:** Onshore Scoping Area Baseline Data Sources

Source	Summary	Coverage of Onshore Scoping Study Area
British Geological Survey (BGS), Onshore GeoIndex	Review superficial geology, bedrock geology and regional hydrogeology characteristics. Available at <a href="https://www.bgs.ac.uk/map-viewers/geoindex-onshore/">https://www.bgs.ac.uk/map-viewers/geoindex-onshore/</a>	Entire Onshore Scoping Study Area
James Hutton Institute, National Soil map of Scotland	Review of national soil characteristics. Available at <a href="https://soils.environment.gov.scot/">https://soils.environment.gov.scot/</a>	Entire Onshore Scoping Study Area
James Hutton Institute, Carbon and peatland 2016 map	Review of distribution of carbon and peatland classes across Scotland. Available at <a href="https://soils.environment.gov.scot/">https://soils.environment.gov.scot/</a>	Entire Onshore Scoping Study Area
NatureScot, SiteLink	Review of statutory designated sites. Available at <a href="https://sitelink.nature.scot/home">https://sitelink.nature.scot/home</a>	Entire Onshore Scoping Study Area
Scottish Environment Protection Agency (SEPA), Flood Maps	Review of national flood maps which show areas likely to flood from rivers, the sea, surface water, groundwater, and breach from reservoirs. Available at <a href="https://www.sepa.org.uk/environment/water/flooding/flood-maps/">https://www.sepa.org.uk/environment/water/flooding/flood-maps/</a> and <a href="https://map.sepa.org.uk/reservoirsfloodmap/Map.htm">https://map.sepa.org.uk/reservoirsfloodmap/Map.htm</a>	Entire Onshore Scoping Study Area
SEPA Environmental Data	Review of relevant datasets related to the environment, including licenced sites, water condition information, river flow, water levels and rainfall, surface water catchments and drinking water protected areas. Available at <a href="https://www.sepa.org.uk/environment/environmental-data/">https://www.sepa.org.uk/environment/environmental-data/</a>	Entire Onshore Scoping Study Area

### Description of Baseline Environment

7.4.2 The Onshore Scoping Study Area is located in Aberdeenshire between Rosehearty/Fraserburgh on the coast and New Deer (near Turriff) inland. Ground elevations vary between 230 m Above Ordnance Datum (AOD) near the summit of Waughton Hill to approximately 10 m AOD near Sandhaven. Elevations generally decrease northwards towards the coast. The area receives an annual average rainfall of between 750 and 900 mm/a.

### *Geology and Hydrogeology*

- 7.4.3 The Onshore Scoping Study Area is shown by the BGS (BGS, 2023b) to be generally underlain by psammites, pelites and semipelites of the Macduff Formation and Crinan and Tayvallich Subgroups. Two igneous plutons are also noted within the centre of the Onshore Scoping Study Area whilst the south-western boundary of the Onshore Scoping Study Area is underlain by the Crovie Sandstone Group which comprises breccia, conglomerates, sandstones, siltstones and mudstones.
- 7.4.4 The bedrock is shown to be generally overlain by glacial till, with small, isolated areas of peat. Alluvium and glaciofluvial deposits are recorded within the northern extent of the Onshore Scoping Study Area and located adjacent to larger watercourses (BGS, 2023b).
- 7.4.5 Many of the superficial deposits and bedrock beneath the Onshore Scoping Study Area are unlikely to contain much groundwater. The metamorphic and igneous bedrock has been classified by the BGS as a low productivity aquifer whereby small amounts of groundwater may be present within the near surface weathered zone or secondary fractures (BGS, 2023b). The sedimentary bedrock has been classified as a moderately productive aquifer which may locally yield moderate amounts of groundwater. Shallow groundwater may also be present in the alluvium and glaciofluvial deposits. Any shallow groundwater is likely to be in hydraulic continuity with nearby watercourses and may support locally important water supplies.

### *Hydrology and Designated Sites*

- 7.4.6 The Onshore Scoping Study Area is located within the following surface water catchments (SEPA, 2023b), as shown on **Figure 7.1**:
- The northern extent is located within the surface water catchments of the Kessock Burn, Water of Philorth and several other small unnamed watercourses. These watercourses discharge into the North Sea at Phingask Shore and Fraserburgh Bay and flow generally northwards and eastwards;
  - The centre of the Onshore Scoping Study Area is located within the River Ugie surface water catchment, in particular the North Ugie Water, Leeches Burn and South Ugie Water sub catchments. The watercourses in these catchments generally flow south-eastward before discharging into the River Ugie. The River Ugie flows generally eastward to discharge to the North Sea north of Peterhead;
  - The north-western extent is located within the River Deveron surface water catchment, in particular the Burn of Turriff sub catchment. The River Deveron flows generally northwards before discharging into the North Sea near Banff; and
  - The south-western extent is located within the River Ythan surface water catchment, including the Little Water/Black Burn sub catchment. These watercourses flow generally south and south-eastwards.
- 7.4.7 It is noted given the rural and agricultural nature of the Onshore Scoping Study Area, there will likely be numerous perimeter field drains and other minor watercourses, and associated drainage measures to improve farmland.



- 7.4.8 The larger watercourses within the Onshore Scoping Study Area are monitored by SEPA as part of the Water Framework Directive (WFD) (SEPA, 2023b) and have generally been classified with an overall classification of Moderate or Good during 2020, which is the last reporting cycle.
- 7.4.9 The River Deveron (named 'River Deveron – Turriff to tidal limit') and Burn of Turriff catchments have been designated as a Drinking Water Protected Area (DWPA) and support public water abstractions (SEPA, 2023b).
- 7.4.10 The streams and rivers, as well as groundwater may support other local private and public water supplies, and irrigation water supplies.
- 7.4.11 Review of NatureScot SiteLink website (NatureScot, 2023b) confirms that one designated site is located within the Onshore Scoping Study Area. The coastline between Rosehearty to Fraserburgh, along the northern boundary of the Onshore Scoping Study Area, has been designated as a Geological Conservation Review (GCR) site and Site of Special Scientific Interest (SSSI). The GCR and SSSI has been designated for structural and metamorphic geological outcrops and breeding bird assemblages.

#### ***Flood Risk***

- 7.4.12 SEPA flood mapping (SEPA, 2023a) confirms that the majority of the Onshore Scoping Study Area is not at risk from flooding, now or in the future (to 2085). The northern extent of the Onshore Scoping Study Area is shown to be at risk from coastal flooding however this is generally confined to tidal limits between the MHWS and MLWS. The Proposed Onshore Development will also cross several floodplains associated with the larger watercourses within the Onshore Scoping Study Area, however, flood extents are typically confined to the watercourse corridors. Small, isolated areas of surface water risk are also noted across the Onshore Scoping Study Area, particularly within the northern extent, however these are isolated never forming large, interlinked areas. No potential groundwater flooding is recorded by SEPA.

#### ***Future Baseline***

- 7.4.13 Climate change studies predict a decrease in summer precipitation and an increase in winter precipitation alongside higher average temperatures. This suggests that there may be greater pressures on water supplies and lower water levels in summer months in the future. Additionally, summer storms are predicted to be of greater intensity. Peak fluvial and surface water flows associated with extreme storm events may also increase in volume and velocity, and sea level rise is anticipated. These potential changes are considered in the assessment of effects.
- 7.4.14 Whilst there is uncertainty surrounding the future baseline environment, there are no other anticipated changes on the soils or geology, hydrological or hydrogeological environment throughout the anticipated lifetime of development besides climate change.

## **7.5 Commitments**

- 7.5.1 The Developer has committed to adopt a series of design commitments (primary commitments) at this scoping stage to avoid and (where avoidance is not possible) reduce the potential for effects on the environment. Further best practice measures (tertiary commitments) are embedded as an inherent aspect of the EIA process.

7.5.2 Those scoping commitments of relevance to Hydrology and Flood Risk are identified in **Table 7.5** below. Full details on each of these commitments can be found in the Onshore Commitments Register in **Appendix 3.2** of this Onshore Scoping Report.

**Table 7.5: Relevant Commitments to Hydrology and Flood Risk**

ID	Commitment	How this commitment will be secured
<b>Primary Commitments</b>		
C-ONS-005	The location of the OnSS and OnRCS will avoid areas of known flood risk.	General location of OnSS and OnRCS to be approved through grant of PPP consent.
C-ONS-008	For any works taking place near watercourses, a buffer of 50 m will be applied where possible (with the exception of watercourse crossings, which would be minimised). Where other constraints mean this is not possible, a justification would be provided in the EIAR and additional mitigation measures to safeguard the water environment will be undertaken in accordance with SEPA guidance and in line with the requirements of the Controlled Activities Regulations (CAR) to prevent or reduce adverse effects to the watercourse.	Planning Condition attached to PPP consent requiring CEMP to be submitted and approved by Aberdeenshire Council.
<b>Tertiary Commitments</b>		
C-ONS-009	Production and compliance with a Construction Environmental Management Plan (CEMP). An Outline CEMP will be produced and included alongside the Onshore EIAR to support the PPP application. A detailed CEMP will then be submitted to Aberdeenshire Council for approval (in consultation with NatureScot and Scottish Environment Protection Agency (SEPA)) prior to construction of the development. The CEMP will then be implemented to avoid, minimise or mitigate effects on the environment during the construction phase.	Planning Condition attached to PPP consent requiring CEMP to be submitted and approved by Aberdeenshire Council.

ID	Commitment	How this commitment will be secured
C-ONS-015	<p>Refuelling of machinery will be undertaken within designated areas where spillages can be easily contained. Machinery will be routinely checked to ensure it is in good working condition. Any tanks and associated pipe work containing oils and fuels will be double skinned and be provided with intermediate leak detection equipment. Areas at risk of spillage, such as vehicle maintenance areas and hazardous substance stores (including fuel, oils and chemicals) will be bunded and carefully sited to minimise the risk of hazardous substances entering soils, groundwater, drainage systems or local watercourses. Additionally the bunded areas will have impermeable bases to limit the potential for migration of contaminants into potential receptors following any leakage/spillage. Bunds used will store fuel, oil etc. to have a 110% capacity. Excavated material will be placed in such a way as to avoid any disturbance of areas near to the banks of watercourses and any spillage into the local earth/water environment. Construction materials will be managed in such a way as to effectively minimise the risk posed to the environment. All plant machinery and vehicles will be maintained in a good condition to reduce the risk of fuel leaks. Consultation with SEPA to be ongoing throughout the construction period to promote best practice and to implement proposed mitigation measures.</p>	<p>Planning Condition attached to PPP consent requiring CEMP to be submitted and approved by Aberdeenshire Council.</p>
C-ONS-017	<p>Post-construction all temporary working areas will be reinstated to pre-existing conditions as far as reasonably practical in line with Defra 2009 Construction Code of Practice for the Sustainable Use of Soils on Construction Sites PB13298 or latest relevant available guidance.</p>	<p>Planning Condition attached to PPP or AMSC consent requiring approval of a scheme for the reinstatement of all temporary working areas following completion of construction.</p>
C-ONS-019	<p>A Pollution Prevention and Management Plan would be developed. This will detail a pollution control strategy to be implemented in accordance with Controlled Activities Regulations (CAR) licence regulations, incorporating measures for protecting ground and surface water during construction and operational phases. Details on appropriate fuel and chemical storage will be provided, along with measures associated with water abstraction and incident response procedures.</p>	<p>Planning Condition attached to PPP consent requiring CEMP to be submitted and approved by Aberdeenshire Council.</p>
C-ONS-025	<p>All construction works to be undertaken under the guidance of an Environmental Clerk of Works (EnvCoW). The EnvCoW's scope of work shall include monitoring compliance with the mitigation measures within the EIAR and any planning conditions.</p>	<p>Planning Condition attached to PPP consent requiring appointment of an EnvCOW in consultation with Aberdeenshire Council.</p>
C-ONS-026	<p>Drainage works to be constructed to relevant statutory guidance and approved via consultation with Aberdeenshire Council and SEPA prior to the commencement of construction.</p>	<p>Detailed design to be approved through AMSC consent.</p>
C-ONS-027	<p>The surface drainage network would be designed to minimise the surface water discharge rate, such that it does not exceed the higher of; the peak run-off rate in its greenfield condition, or the maximum discharge rate set by Scottish Water.</p>	<p>Detailed design to be approved through AMSC consent.</p>

ID	Commitment	How this commitment will be secured
C-ONS-028	Areas of required hardstanding (temporary and permanent) will benefit from a positive drainage system and sustainable drainage systems (SuDS), which will be incorporated into the detailed design so that incident rainfall is collected and treated prior to discharge.	Detailed design to be approved through AMSC consent.
C-ONS-029	Where the Proposed Onshore Development is not required for electricity transmission purposes beyond the operational life of the Project, the onshore components would be decommissioned, and the land reinstated. Details of the decommissioning and restoration scheme shall be submitted to Aberdeenshire Council within 24 months of the permanent cessation of electricity generation.	Planning Condition attached to PPP consent required approval of decommissioning and site restoration plan.

7.5.3 As a result of the commitment to implement these measures, this mitigation is considered inherently part of the design of the Proposed Onshore Development and has, therefore, been included in the scoping assessment presented in **Section 7.6** of this Chapter.

7.5.4 It is expected that additional primary commitments will be identified as the layout and design of the Proposed Onshore Development is refined and developed. These will take into account any consultation feedback received.

7.5.5 The requirement for any additional secondary commitments to prevent, reduce or offset any remaining significant adverse effects of the Proposed Onshore Development will be developed throughout the EIA process dependent on the significance of effect upon Hydrology and Flood Risk receptors.

7.5.6 At this stage, we anticipate that additional commitments may include:

- Larger watercourses to be crossed by HDD or other trenchless technology where technically possible. Where HDD technologies are not practical, the crossing of ordinary watercourses may be undertaken by open cut methods. In such cases, temporary measures will be employed to maintain flow of water along the watercourse. Main rivers will not be temporarily dammed and/or rerouted.
- A programme of field investigation to be undertaken to identify the location of private and licensed water supplies, and in consultation with the project ecologists areas of water sensitive habitats (including groundwater dependent terrestrial ecosystems (GWDTEs)) will be identified as design constraints.
- Confirmatory water quality monitoring. If the assessment concludes that water quality monitoring is required prior to, during and post construction (for example of watercourses, private water sources and/or areas of GWDTE), this would be specified in the CEMP.

## 7.6 Scoping of Impacts

7.6.1 The Impacts Register (**Appendix 3.3**) sets out the proposed assessment of the potential effects of the Proposed Onshore Development on the environment, including Hydrology and Flood Risk, at the scoping stage of the EIA. It identifies all potential impacts and provides an assessment on whether or not it is considered that they have (or do not have) the potential to result in a LSE. A

summary assessment of the potential impacts on Hydrology and Flood Risk is provided in **Table 7.6**.

- 7.6.2 The assessment in the Impacts Register and **Table 7.6** has been based upon a combination of:
- The maximum development parameters of the Proposed Onshore Development at this scoping stage;
  - The commitments identified in **Table 7.5** and the Onshore Commitment Register in **Appendix 3.2**;
  - The level of understanding of the baseline environment at this scoping stage;
  - The existing evidence base;
  - Relevant legislation and policy; and
  - The professional judgement and experience of the qualified hydrologist specialists.
- 7.6.3 In accordance with the proportionate EIA approach (see **Section 5.2** and **Appendix 3.1**), for this scoping stage of the EIA process, the Impacts Register and **Table 7.6** categorises likely significance of effect as follows:
- **LSE identified at scoping stage without secondary commitments** – the impact will be subject to detailed assessment and scoped in to the EIAR;
  - **Possible LSE identified at scoping stage without secondary commitments** – however it may become clear post scoping that the impact does not require detailed assessment in the EIAR. The impact will be scoped in at scoping stage, however further evidence will be brought forward post scoping to agree with consultees the specific treatment of the impact in the EIAR.
  - **No LSE identified at scoping stage** – the impact will be scoped out of assessment in the EIAR.
- 7.6.4 Where it is agreed that potential effects can be scoped out of the EIAR, it is confirmed that these would still be presented within the Impacts Register within the EIAR with an explanation provided as to why it has been agreed it can be scoped out.

Table 7.6: Scoping Assessment for Hydrology and Flood Risk

Potential Effect	Project Element					Commitment(s)	Scoping Status			Proposed Approach to Assessment, including Description of any New Evidence Required
	Landfall	OnECC	OnGCC	OnSS	OnRCS		LSE	Possible LSE	No LSE	
<b>Construction</b>										
Impacts on surface water and groundwater quality from pollution from fuel, oil, concrete, or other hazardous substances.	✓	✓	✓	✓	✓	C-ONS-008 C-ONS-009 C-ONS-015 C-ONS-019			✓	Scoped out.  Subject to adoption of CEMP, Pollution Prevention and Management Plan and other best practice construction measures, no LSE is anticipated as a result of the Proposed Onshore Development.  It is also proposed to scope out site specific water quality monitoring as water quality data is published by SEPA and can be used to characterise baseline conditions.
Discharge of sediment-laden runoff to drainage system and watercourses.	✓	✓	✓	✓	✓	C-ONS-008 C-ONS-009 C-ONS-028			✓	Scoped out.  Subject to adoption of CEMP, and other best practice construction measures, no LSE is anticipated as a result of the Proposed Onshore Development.

Potential Effect	Project Element					Commitment(s)	Scoping Status			Proposed Approach to Assessment, including Description of any New Evidence Required
	Landfall	OnECC	OnGCC	OnSS	OnRCS		LSE	Possible LSE	No LSE	
Increased flood risk to areas downstream through increased surface run-off.	✓	✓	✓	✓	✓	C-ONS-005 C-ONS-008 C-ONS-026 C-ONS-027 C-ONS-028		✓		<p>Scoped in at scoping.</p> <p>Subject to appropriate site design and commitments no LSE is anticipated as a result of the Proposed Onshore Development.</p> <p>Further evidence to be provided post scoping include:</p> <ul style="list-style-type: none"> <li>• Simple screening of potential flood sources which will be presented in the EIAR;</li> <li>• A flood risk and drainage impact assessment, which will include sizing of required water attenuation features, for the OnSS and OnRCS only; and</li> <li>• A schedule of watercourse crossings for the proposed track and cable route will be presented as a technical appendix in the EIAR.</li> </ul> <p>It is proposed to scope out the following:</p> <ul style="list-style-type: none"> <li>• A detailed flood risk assessment for the Landfall, OnECC and OnGCC as published mapping confirms that most of the Onshore Scoping Study Area is not identified as being at flood risk; and</li> <li>• A geomorphological assessment of water features, however as part of the proposed baseline surveys photographs and records of key existing or baseline water features will be recorded and presented in the EIAR.</li> </ul>
Changes in groundwater levels from dewatering excavations.	✓	✓	✓	✓	✓	C-ONS-009		✓		<p>Scoped in at scoping stage.</p> <p>Subject to appropriate site design and commitments no LSE is anticipated as a result of the Proposed Onshore Development.</p> <p>Further evidence to be provided post scoping and to include site surveys to identify public and private water supply sources and potential areas of GWDTE.</p>

Potential Effect	Project Element					Commitment(s)	Scoping Status			Proposed Approach to Assessment, including Description of any New Evidence Required
	Landfall	OnECC	OnGCC	OnSS	OnRCS		LSE	Possible LSE	No LSE	
Potential change of groundwater flow paths and water contribution to areas of GWDTEs.	✓	✓	✓	✓	✓	C-ONS-025		✓		<p>Scoped in at scoping stage.</p> <p>Field works will be completed as part of the EIA which will include details on NVC mapping and potential areas of GWDTE. An assessment of potential GWDTEs will be included in the EIAR.</p> <p>Dewatering calculations for proposed temporary dewatering features, such as cable trenches and transition joint bays will be scoped out of the assessment, unless water dependant habitat is identified within 250 m of the Proposed Onshore Development in accordance with SEPA guidance (LUPS-GU31).</p>
Potential pollution impacts to public and private water supplies, including DWPA's.	✓	✓	✓	✓	✓	-		✓		<p>Scoped in at scoping stage.</p> <p>Consultation with Aberdeenshire Council and field works will be completed as part of the EIA which will confirm the location of public and private water supplies. An assessment of potential effects on private and public water supplies will be included in the EIAR.</p> <p>Dewatering calculations for proposed temporary dewatering features, such as cable trenches and transition joint bays will be scoped out of the assessment, unless groundwater abstractions are identified within 250 m of the Proposed Onshore Development in accordance with SEPA guidance (LUPS-GU31).</p>
<b>Operation and Maintenance</b>										
Adverse changes to surface water flow paths, watercourse discharge rates and volumes, and alteration of watercourse geomorphology.	✓	✓	✓	✓	✓	C-ONS-009 C-ONS-028			✓	<p>Scoped out.</p> <p>Subject to adoption of CEMP, and other best practice measures, no LSE is anticipated as a result of the Proposed Onshore Development.</p>



Potential Effect	Project Element					Commitment(s)	Scoping Status			Proposed Approach to Assessment, including Description of any New Evidence Required
	Landfall	OnECC	OnGCC	OnSS	OnRCS		LSE	Possible LSE	No LSE	
As a result of an alteration of groundwater and surface water flow paths, an adverse effect on water abstractions and water dependent habitat.	✓	✓	✓	✓	✓	-		✓		Scoped in. Consultation with Aberdeenshire Council and field works will be completed as part of the EIA which will confirm the location of public and private water supplies An assessment of potential effects on potential areas of GWDTE and private and public water supplies will be included in the EIAR.
An adverse effect on surface water or groundwater quality from pollution, fuel, oil, concrete, or other hazardous substances from site traffic associated with maintenance activities.	✓	✓	✓	✓	✓	C-ONS-008 C-ONS-009 C-ONS-015 C-ONS-025			✓	Scoped out. Subject to adoption of CEMP, and other best practice construction measures, no LSE is anticipated as a result of the Proposed Onshore Development.

Potential Effect	Project Element					Commitment(s)	Scoping Status			Proposed Approach to Assessment, including Description of any New Evidence Required
	Landfall	OnECC	OnGCC	OnSS	OnRCS		LSE	Possible LSE	No LSE	
Increased flood risk through increased surface water runoff from new permanent impermeable areas and retained watercourse crossings.	✓	✓	✓	✓	✓	C-ONS-005 C-ONS-008 C-ONS-026 C-ONS-027 C-ONS-028		✓		Subject to appropriate site design and commitments no LSE is anticipated as a result of the Proposed Onshore Development.  Further evidence to be provided post scoping include: <ul style="list-style-type: none"> <li>• Simple screening of potential flood sources which will be presented in the EIAR;</li> <li>• A flood risk and drainage impact assessment, which will include sizing of required water attenuation features, for the OnSS and OnRCS only; and</li> <li>• A schedule of watercourse crossings for the proposed track and cable route will be presented as a technical appendix in the EIAR.</li> </ul> It is proposed to scope out the following: <ul style="list-style-type: none"> <li>• A detailed flood risk assessment for the Landfall, OnECC and OnGCC as published mapping confirms that most of the Onshore Scoping Study Area is not identified as being at flood risk; and</li> <li>• A geomorphological assessment of water features as part of the proposed baseline surveys, photographs and records of key existing or baseline water features will be recorded and presented in the EIAR; and</li> <li>• Increase of flood risk caused by blockages to flow during operation and maintenance of the Proposed Onshore Development. Any required watercourse crossings would be subject to routine maintenance.</li> </ul>
<b>Decommissioning</b>										
Decommissioning of the Proposed Onshore Development.	✓	✓	✓	✓	✓	C-ONS-029		✓		Scoped in however the effects associated with the construction phase can be considered to be representative of reasonable worst-case decommissioning effects, and therefore no separate assessment of the decommissioning phase is proposed for Hydrology and Flood Risk in the EIAR.

## 7.7 Potential Cumulative Effects with Proposed Offshore Development

7.7.1 Potential cumulative effects with the Proposed Offshore Development during the construction phase may include:

- An adverse effect on water quality from pollution, fuel, oil, concrete, or other hazardous substances; and
- Discharge of sediment-laden runoff to drainage system, watercourses or coastal waters arising from excavation of ground materials.

7.7.2 As discussed in **Table 7.6**, subject to appropriate site design and adoption of appropriate commitments (for example a CEMP) it is not considered that the Proposed Onshore Development will result in any significant effects associated with drainage, flood risk, pollution and/or discharge of sediment-laden runoff to the water environment. The adoption of best practice ensures that potential impacts are mitigated at source. It is, therefore, considered that the Proposed Onshore Development will not result in any significant cumulative effects between the offshore and onshore parts of the Project in terms of Hydrology and Flood Risk.

## 7.8 Potential Cumulative Effects with Other Projects

7.8.1 A review of other existing and proposed projects near the Proposed Onshore Development will be undertaken and potential impacts on Hydrology and Flood Risk receptors will be assessed to identify potential cumulative impacts. In accordance with **Chapter 5: EIA Methodology** of this Onshore Scoping Report, the cumulative effects assessment for the Proposed Onshore Development will consider any other developments that are under construction, consented but not yet built or are the subject of valid planning or consent applications.

## 7.9 Proposed Approach to the EIA

### *EIA Study Area*

7.9.1 The EIA Study Area for the Hydrology and Flood Risk impact assessment in the Onshore EIAR will be defined following the refinement of the layout and design of the Proposed Onshore Development. This study area will consider a 500 m buffer from the different onshore elements of the development.

7.9.2 The EIA Study Area for potential cumulative effects will use the catchments within the study area, with a maximum distance of 5 km from the Proposed Onshore Development. Beyond this 5 km distance, any effect is considered to be so diminished as to be undetectable and therefore not significant.

### *Additional Data Sources*

7.9.3 The following additional data sources in **Table 7.7** will be used to inform the Hydrology and Flood Risk assessment in the EIAR, once the EIA Study Area has been refined.

Table 7.7: Additional Baseline Data Sources for EIAR

Source	Summary
Data request to SEPA	Details on registered/licenced abstractions and discharges.
Data request to Aberdeenshire Council	Details on historical flooding records and private water supplies.
Scottish Water	Details of water abstraction points and of their infrastructure locations.

### Desk Based Assessment

7.9.4 An initial desk study will be undertaken to determine and confirm the baseline characteristics by reviewing available information relating to Hydrology and Flood Risk such as groundwater resources, licensed and unlicensed groundwater and surface water abstractions, public and private water supplies, surface water flows, flooding extents and history, rainfall data, water quality and soil data. This will include review of published geological maps, Ordnance Survey maps, aerial photographs and site-specific data such as site investigation data, geological and hydrogeological reports, digital terrain models and geological literature.

7.9.5 The desk study will identify sensitive features which may potentially be affected by the Proposed Onshore Development and will be used to inform the scope of the proposed field surveys.

### Field Surveys

7.9.6 The hydrological and flood risk assessment specialists will liaise closely with the project ecology and geology/geotechnical specialists to ensure that appropriate information is gathered to allow a comprehensive impact assessment to be completed.

7.9.7 A detailed site visit and walkover survey will be undertaken by experienced hydrologists/flood risk specialists, to:

- Verify the information collected during the desk and baseline study;
- Undertake a visual assessment of the main surface waters;
- Identify drainage patterns, areas vulnerable to erosion or sediment deposition, and any pollution risks;
- Visit any identified GWDTEs or other water dependent habitat (in consultation with the project ecologists);
- Visit private water supply sources within the study area to confirm details of the location of the abstraction, its type and use, as required; and
- Prepare a schedule of potential watercourse crossings (tracks and cables).

7.9.8 The desk study and field surveys will be used to identify potential development constraints and to inform the refinement of the development layout and design.

7.9.9 Once the desk study is completed and sensitive water features are confirmed an impact assessment will be undertaken to assess the potential effects on the water environment as a result of the construction, operation and decommissioning of the Proposed Onshore Development.

### ***Consultation***

- 7.9.10 As discussed in **Table 7.7**, data requests with Aberdeenshire Council and SEPA will be undertaken to obtain details of licenced and private water supplies and historical flood records.
- 7.9.11 Once the location and design of the Proposed Onshore Development has been developed further and the baseline assessment completed, it would be proposed to further consult with SEPA and Scottish Water regarding potential impacts to GWDTE habitats, licenced abstractions, Scottish Water infrastructure and DWPAs.
- 7.9.12 The findings and output of this further consultation would be used to further inform the emerging project design.

### ***Assessment Methodology***

- 7.9.13 A qualitative risk assessment methodology will be used to assess the significance of the potential effects. Two factors will be considered: the sensitivity of the receiving environment and the potential magnitude should that potential impact occur.
- 7.9.14 This approach provides a mechanism for identifying the areas where mitigation measures are required, and for identifying mitigation measures appropriate to the risk presented by the Proposed Onshore Development. This approach also allows effort to be focused on reducing risk where the greatest benefit may result.
- 7.9.15 The sensitivity of the receiving environment (the baseline quality of the receiving environment as well as its ability to absorb the effect without perceptible change) and the magnitude of impacts will each be considered through a set of pre-defined criteria.
- 7.9.16 The sensitivity of the receiving environment together with the magnitude of the effect defines the significance of the effect, which will be categorised into level of significance.

### ***Assessment Criteria and Assignment of Significance***

- 7.9.17 The EIA will follow the general approach outlined in **Chapter 5: EIA Methodology** of this Onshore Scoping Report. The following subsections propose the approach to defining the sensitivity of the Hydrology and Flood Risk receptors, the magnitude of the potential impacts and the significance of these effects.
- 7.9.18 The sensitivity of the receiving environment (i.e. the baseline quality of the receiving environment) is defined as its ability to absorb an effect without a detectable change and can be considered through a combination of professional judgement and a set of pre-defined criteria as set out in **Table 7.8**. Receptors in the receiving environment only need to meet one of the defined criteria to be categorised at the associated level of sensitivity.

**Table 7.8: Proposed Sensitivity of Receptors**

Receptor Sensitivity	Definition ( <i>Typical Descriptions</i> )
High	<ul style="list-style-type: none"> <li>• Soil type and associated land use is highly sensitive (e.g. unmodified blanket bog peatland);</li> <li>• SEPA WFD Water Body Classification: High-Good or is close to the boundary of a classification Moderate to Good or Good to High;</li> <li>• Receptor is of high ecological importance or national or international value (e.g. Site of Special Scientific Interest (SSSI), Special Area of Conservation (SAC), habitat for protected species) which may be dependent upon the hydrology of the Site;</li> <li>• Receptor is at risk from flooding in the future (2085) and/or water body acts as a current active floodplain or flood defence;</li> <li>• Receptor is used for public and/or private water supply (including DWPA);</li> <li>• Groundwater vulnerability is classified as high; and</li> <li>• If a GWDTE is present and identified as being of high sensitivity.</li> </ul>
Moderate	<ul style="list-style-type: none"> <li>• Soil type and associated land use is moderately sensitive (e.g. arable, commercial forestry); and</li> <li>• Moderate classification of groundwater aquifer vulnerability.</li> </ul>
Low	<ul style="list-style-type: none"> <li>• Soil type and associated land use not sensitive to change in hydrological regime and associated land use (e.g. intensive grazing of sheep and cattle);</li> <li>• SEPA Water Framework Directive Water Body Classification Poor or Bad;</li> <li>• Receptor is not at risk of flooding in the future (2085); and</li> <li>• Receptor not used for water supplies (public or private).</li> </ul>
Not Sensitive	<ul style="list-style-type: none"> <li>• Receptor would not be affected by the Proposed Onshore Development, e.g., lies within a different and unconnected hydrological/hydrogeological catchment.</li> </ul>

7.9.19 The potential magnitude of an impact would depend upon whether the potential effect would cause a fundamental, material, or detectable change. In addition, the timing, scale, size and duration of the potential effect resulting from the Proposed Onshore Development are also determining factors.

7.9.20 The criteria that have been used to assess the magnitude of impact are defined in **Table 7.9**. The characteristics of the impacts are described as: direct/indirect, temporary (reversible) or permanent (irreversible), together with timescales (short, medium and long term).

Table 7.9: Proposed Magnitude of Impacts

Magnitude	Criteria	Description (Typical Description)
Major	Results in loss of attribute	<p>Long term or permanent changes to the baseline Hydrology and Flood Risk, such as:</p> <ul style="list-style-type: none"> <li>Wholesale changes to watercourse channel, route, hydrology or hydrodynamics;</li> <li>Changes to the site resulting in an increase in runoff with flood potential and also significant changes to erosion and sedimentation patterns;</li> <li>Major changes to the water chemistry; and</li> <li>Major changes to groundwater levels, flow regime and risk of groundwater flooding.</li> </ul>
Medium	Results in impact on integrity of attribute or loss of part of attribute	<p>Material and short to medium term changes to baseline Hydrology and Flood Risk, such as:</p> <ul style="list-style-type: none"> <li>Some changes to watercourses, hydrology or hydrodynamics;</li> <li>Changes to site resulting in an increase in runoff within system capacity;</li> <li>Moderate changes to erosion and sedimentation patterns;</li> <li>Moderate changes to the water chemistry of surface runoff and groundwater; and</li> <li>Moderate changes to groundwater levels, flow regime and risk of groundwater flooding.</li> </ul>
Low	Results in minor impact on attribute	<p>Detectable but non-material and transitory changes to the baseline Hydrology and Flood Risk, such as:</p> <ul style="list-style-type: none"> <li>Minor or slight changes to the watercourse, hydrology or hydrodynamics;</li> <li>Changes to site resulting in slight increase in runoff well within the drainage system capacity;</li> <li>Minor changes to erosion and sedimentation patterns;</li> <li>Minor changes to the water chemistry of surface runoff and groundwater; and</li> <li>Minor changes to groundwater levels, flow regime and risk of groundwater flooding.</li> </ul>
Negligible	Results in an impact on attribute but of insufficient magnitude to affect the use/integrity	<p>No perceptible changes to the baseline Hydrology and Flood Risk, such as:</p> <ul style="list-style-type: none"> <li>No alteration or very minor changes with no impact to watercourses, hydrology, hydrodynamics, erosion and sedimentation patterns;</li> <li>No pollution or change in water chemistry to either groundwater or surface water; and</li> <li>No alteration to groundwater recharge or flow mechanisms.</li> </ul>

7.9.21 The sensitivity of the receptor together with the magnitude of impact determines the significance of the effect, which can be categorised into a level of significance as identified in **Table 7.10**.

7.9.22 In some cases, the potential sensitivity of the receiving environment or the magnitude of potential impact cannot be quantified with certainty and therefore professional judgement remains the most robust method for identifying the predicted significance of a potential likely effect.

**Table 7.10: Proposed Matrix to Determine the Significance of Effects**

Significance of Effect		Magnitude of Impact			
		Negligible	Low	Medium	Major
Sensitivity of Receptor	Not Sensitive	Negligible (Not Significant)	Negligible (Not Significant)	Negligible (Not Significant)	Negligible (Not Significant)
	Low	Negligible (Not Significant)	Minor (Not Significant)	Minor (Not Significant)	Moderate (Significant)
	Moderate	Negligible (Not Significant)	Minor (Not Significant)	Moderate (Significant)	Moderate (Significant)
	High	Negligible (Not Significant)	Moderate (Significant)	Major (Significant)	Major (Significant)

## 7.10 Scoping Questions

7.10.1 The following Scoping Question are designed to focus the scoping exercise and inform the Scoping Opinion:

- It is proposed to prepare a standalone flood risk assessment and drainage impact assessment for areas of permanent hardstanding only (OnSS/OnRCS). An outline drainage design will be provided. Is this acceptable?
- It is anticipated the detailed drainage design for permanent and temporary works would be secured by a pre-commencement planning permission should the Proposed Onshore Development be granted planning permission. Is this acceptable?
- It is proposed to detail principles for the control and management of runoff, as well as flood risk, at proposed HDD/trenchless locations near larger watercourse crossings in the EIAR. Is this acceptable?
- It is considered that there is no need to develop a flood evacuation plan for any element of the Proposed Onshore Development as part of the EIAR, as it is anticipated areas of flood risk will be avoided by the site design. Temporary works in the floodplain might be required at larger watercourse crossings and at the landfall, but it is proposed that flood risk controls at these locations can be agreed as part of the detailed design and following grant of any planning permission. Is this agreed?



## 8 Ecology, Biodiversity and Nature Conservation

### 8.1 Introduction

8.1.1 This Chapter of the Onshore Scoping Report identifies the onshore ecology, biodiversity and nature conservation interests of relevance to the Proposed Onshore Development and considers the potential effects that may result from its construction, O&M, and decommissioning on ecological features<sup>6</sup>. The Chapter then presents the proposed scope of the Ecological Impact Assessment (EclA).

8.1.2 This Chapter should be read alongside the following other Chapters of this Onshore Scoping Report:

- **Chapter 6: Geology and Ground Conditions;**
- **Chapter 7: Hydrology and Flood Risk;**
- **Chapter 12: Traffic and Transport;**
- **Chapter 13; Noise and Vibration;** and
- **Chapter 14: Air Quality.**

8.1.3 It should also be read alongside the following Chapters of the Offshore Scoping Report (Ørsted, 2023a), which consider the potential effects of the Proposed Offshore Development:

- **Chapter 9: Benthic and Intertidal Ecology;**
- **Chapter 10: Fish and Shellfish Ecology;**
- **Chapter 11: Offshore Ornithology;** and
- **Chapter 12: Marine Mammals.**

### 8.2 Legislation, Policy and Guidance

8.2.1 In addition to those described in **Chapter 2: Planning and Policy Context** of this Onshore Scoping Report, the legislation, policy and guidance identified in **Table 8.1** will be taken into account during the assessment of effects on ecology and ornithology.

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<sup>6</sup> In this Onshore Scoping Report Chapter and in the subsequent Ecological Impact Assessment (EclA) Chapter of the Onshore EIAR, receptors will be referred to as 'ecological features' to accord with the Chartered Institute of Ecology and Environmental Management guidelines for EclA (CIEEM, 2018). Within this guidance, the term 'ecological feature' relates to habitats, species and ecosystems.

Table 8.1: Relevant Legislation Policy and Guidance

Title	Source
<b>Legislation</b>	
Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (the 'Habitats Directive')	<a href="https://environment.ec.europa.eu/topics/nature-and-biodiversity/habitats-directive_en">https://environment.ec.europa.eu/topics/nature-and-biodiversity/habitats-directive_en</a>
The Conservation (Natural Habitats &c.) Regulations 1994 (the 'Habitats Regulations')	<a href="https://www.legislation.gov.uk/ukxi/1994/2716/contents">https://www.legislation.gov.uk/ukxi/1994/2716/contents</a>
Wildlife and Countryside Act 1981 (the 'WCA')	<a href="https://www.legislation.gov.uk/ukpga/1981/69">https://www.legislation.gov.uk/ukpga/1981/69</a>
Nature Conservation (Scotland) Act 2004	<a href="https://www.legislation.gov.uk/asp/2004/6/contents">https://www.legislation.gov.uk/asp/2004/6/contents</a>
The Wildlife and Natural Environment (Scotland) Act 2011 (WANE Act)	<a href="https://www.legislation.gov.uk/asp/2011/6/contents">https://www.legislation.gov.uk/asp/2011/6/contents</a>
Salmon and Freshwater Fisheries (Consolidation) (Scotland) Act 2003	<a href="https://www.legislation.gov.uk/asp/2003/15/contents">https://www.legislation.gov.uk/asp/2003/15/contents</a>
Protection of Badgers Act 1992	<a href="https://www.legislation.gov.uk/ukpga/1992/51/contents">https://www.legislation.gov.uk/ukpga/1992/51/contents</a>
The Town and Country Planning (Environmental Impact Assessment) Regulations 2017	<a href="https://www.legislation.gov.uk/ukxi/2017/571/contents">https://www.legislation.gov.uk/ukxi/2017/571/contents</a>
<b>Policy</b>	
National Planning Framework 4	<a href="https://www.gov.scot/publications/national-planning-framework-4/">https://www.gov.scot/publications/national-planning-framework-4/</a>
Scottish Biodiversity List	<a href="https://www.nature.scot/doc/scottish-biodiversity-list">https://www.nature.scot/doc/scottish-biodiversity-list</a>
Aberdeenshire Local Development Plan	<a href="https://www.aberdeenshire.gov.uk/planning/plans-and-policies/ldp-2023/">https://www.aberdeenshire.gov.uk/planning/plans-and-policies/ldp-2023/</a>
Aberdeenshire Council Natural Heritage Strategy 2019 - 2022	<a href="http://publications.aberdeenshire.gov.uk/dataset/b71bf9e9-6a19-4d3e-a89e-0a0af7523b15/resource/5596fc91-f5d1-4eb6-971e-695c992b9389/download/natural-heritage-strategy-2019-2022.pdf">http://publications.aberdeenshire.gov.uk/dataset/b71bf9e9-6a19-4d3e-a89e-0a0af7523b15/resource/5596fc91-f5d1-4eb6-971e-695c992b9389/download/natural-heritage-strategy-2019-2022.pdf</a>
North East Scotland Biodiversity Partnership	<a href="https://www.nesbiodiversity.org.uk/">https://www.nesbiodiversity.org.uk/</a>
<b>Guidance</b>	
Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine (CIEEM, 2018).	<a href="https://cieem.net/wp-content/uploads/2019/02/Combined-EcIA-guidelines-2018-compressed.pdf">https://cieem.net/wp-content/uploads/2019/02/Combined-EcIA-guidelines-2018-compressed.pdf</a>
Guidelines for Preliminary Ecological Appraisal, Second Edition (CIEEM, 2017).	<a href="https://cieem.net/resource/guidance-on-preliminary-ecological-appraisal-gpea/">https://cieem.net/resource/guidance-on-preliminary-ecological-appraisal-gpea/</a>
Securing positive effects for biodiversity in new development - Planning Advice PA2023-10 (Aberdeenshire Council, 2023b).	<a href="http://publications.aberdeenshire.gov.uk/dataset/0ceb7c55-b43d-45c4-a311-798f4bc9fa75/resource/fd777edd-c277-4621-bd31-f3672edef765/download/pa2023-10---planning-advice---securing-positive-effects-for-biodiversity.pdf">http://publications.aberdeenshire.gov.uk/dataset/0ceb7c55-b43d-45c4-a311-798f4bc9fa75/resource/fd777edd-c277-4621-bd31-f3672edef765/download/pa2023-10---planning-advice---securing-positive-effects-for-biodiversity.pdf</a>

Title	Source
Developing with Nature: How to deliver positive effects for biodiversity through development.	<a href="https://www.nature.scot/doc/developing-nature-guidance">https://www.nature.scot/doc/developing-nature-guidance</a>
The UK Habitat Classification (UKHab) User Manual, Version 1.1 (Butcher <i>et al.</i> , 2020)	<a href="https://ukhab.org/">https://ukhab.org/</a> .
Guidelines for Pollution Prevention (GPPs)	<a href="https://www.netregs.org.uk/environmental-topics/guidance-for-pollution-prevention-gpp-documents/">https://www.netregs.org.uk/environmental-topics/guidance-for-pollution-prevention-gpp-documents/</a>
Disturbance Distances Review: An updated literature review of disturbance distances of selected bird species (Goodship and Furness, 2022)	<a href="https://www.nature.scot/doc/naturescot-research-report-1283-disturbance-distances-review-updated-literature-review-disturbance">https://www.nature.scot/doc/naturescot-research-report-1283-disturbance-distances-review-updated-literature-review-disturbance</a>
Assessing Connectivity with Special Protection Areas (SPAs) (Scottish Natural Heritage (SNH) [now NatureScot], 2016)	<a href="https://www.nature.scot/doc/assessing-connectivity-special-protection-areas">https://www.nature.scot/doc/assessing-connectivity-special-protection-areas</a>
Recommended Bird Survey Methods to Inform Impact Assessment of Onshore Wind Farms, Version 2. (SNH [now NatureScot], 2017)	<a href="https://www.nature.scot/doc/recommended-bird-survey-methods-inform-impact-assessment-onshore-windfarms">https://www.nature.scot/doc/recommended-bird-survey-methods-inform-impact-assessment-onshore-windfarms</a>
Assessing Significance of Impacts from Onshore Wind Farms on Birds Outwith Designated Areas, Version 2 (SNH [now NatureScot] 2018a);	<a href="https://www.nature.scot/doc/guidance-assessing-significance-impacts-bird-populations-onshore-wind-farms-do-not-affect-protected">https://www.nature.scot/doc/guidance-assessing-significance-impacts-bird-populations-onshore-wind-farms-do-not-affect-protected</a>
Assessing the Cumulative Impact of Onshore Wind Energy Developments (SNH [now NatureScot] 2018b)	<a href="https://www.nature.scot/doc/guidance-assessing-cumulative-landscape-and-visual-impact-onshore-wind-energy-developments">https://www.nature.scot/doc/guidance-assessing-cumulative-landscape-and-visual-impact-onshore-wind-energy-developments</a>
The Status of our Bird Populations: the Fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and Second International Union for Conservation of Nature (IUCN) Red List Assessment of Extinction Risk for Great Britain (BoCC5) (Stanbury <i>et al.</i> , 2021)	<a href="https://britishbirds.co.uk/sites/default/files/BB_Dec21-BoCC5-IUCN2.pdf">https://britishbirds.co.uk/sites/default/files/BB_Dec21-BoCC5-IUCN2.pdf</a>

8.2.2 Relevant policies within National Planning Framework 4 (NPF4) and the Aberdeenshire Local Development Plan 2023 (ALDP) and their policy intent are identified in **Table 8.2** and **Table 8.3** respectively.

**Table 8.2:** *Relevant National Planning Policies in NPF4*

NPF4 Policy	Policy Intent
Policy 3: Biodiversity	To protect biodiversity, reverse biodiversity loss, deliver positive effects from development and strengthen nature networks.
Policy 4: Natural Places	To protect, restore and enhance natural assets making best use of nature-based solutions.
Policy 5: Soils	To protect carbon-rich soils, restore peatlands and minimise disturbance to soils from development.

NPF4 Policy	Policy Intent
Policy 11: Energy	To encourage, promote and facilitate all forms of renewable energy development onshore and offshore. Policy 11 (e) requires that project design and mitigation will require to demonstrate, amongst other matters, how impacts are addressed on (ix) biodiversity including impacts on birds and (x) impacts on trees, woods and forests.

**Table 8.3:** *Relevant Local Development Plan Policies in ALDP*

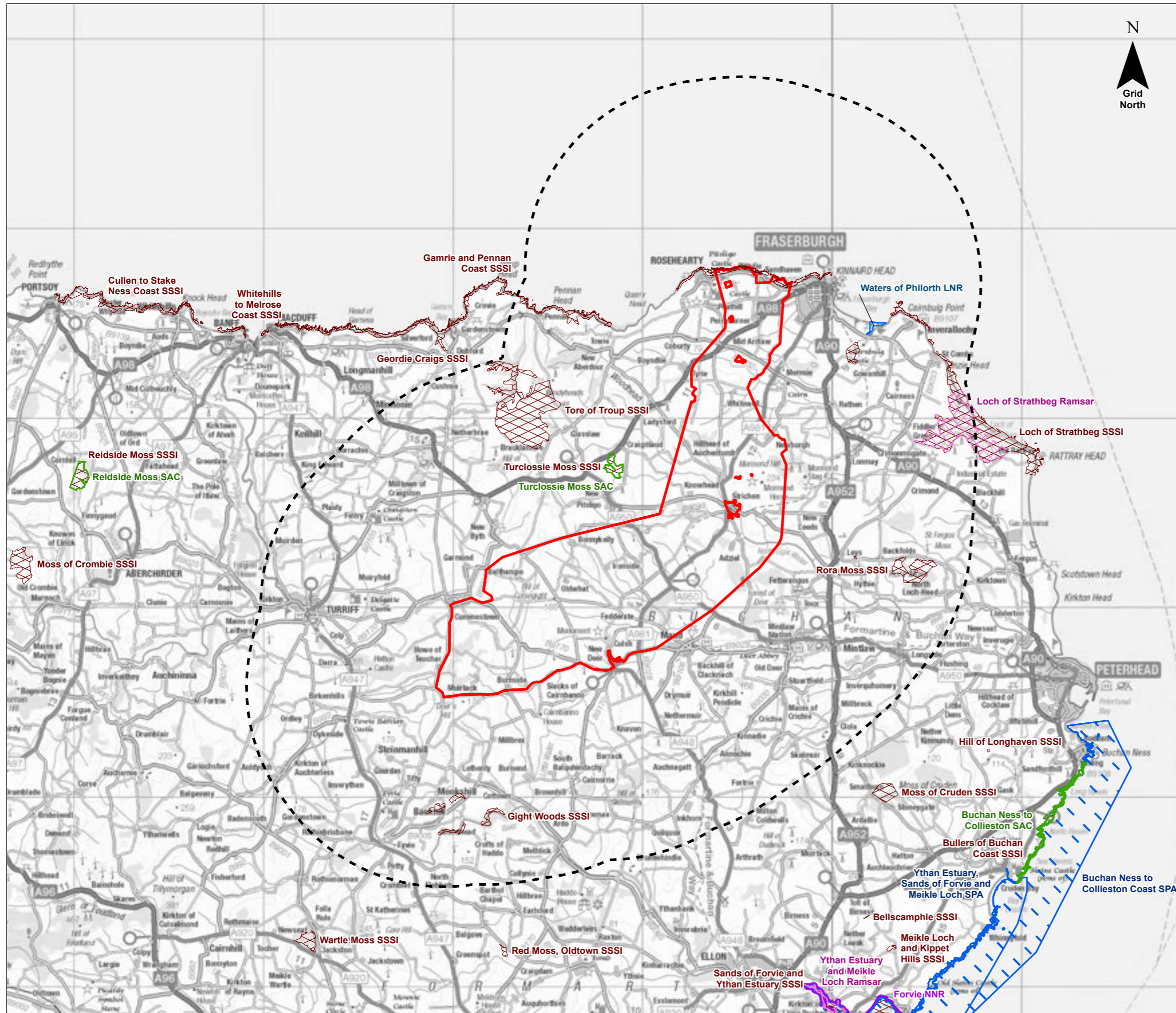
ALDP Policy	Policy Intent
Policy P1: Layout, Siting and Design	Part 7 of this policy sets out the requirements to provide biodiversity enhancement in proportion to the opportunities available and the scale of the development opportunity.
Policy E1: Natural Heritage	To protect nature conservation sites and protected species from development, and to ensure developments are designed to minimise adverse impacts on a sites environmental quality, ecological status, or viability.
Policy E3: Forestry and Woodland	To protect and enhance Aberdeenshire’s forests and native and semi-natural woodland areas.

### 8.3 Scoping Study Area

8.3.1 For the purposes of this scoping assessment, the Onshore Scoping Study Area for ecology is defined as the Onshore Scoping Area as shown in **Figure 8.1** and associated additional buffers relevant to each ecological feature as identified in **Table 8.4**.

# Stromar Offshore Wind Farm

## Figure 8.1 Statutory (Non-Avian) Designated Sites Within 10 km



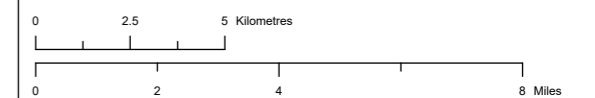
### Legend

- Onshore Scoping Area
- Onshore Scoping Area 10 km Buffer
- Special Area of Conservation (SAC)
- Ramsar
- Special Protection Area (SPA)
- Site of Special Scientific Interest (SSSI)
- National Nature Reserve (NNR)
- Local Nature Reserve (LNR)



Coordinate System: British National Grid

Scale @ A3 : 1:200,000



Rev	Description	Date
A	First Draft	22/08/2023
B	Second Draft	09/11/2023
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Doc. Report : Onshore Scoping Report  
 Doc. Title : Statutory (Non-Avian) Designated Sites Within 10 km  
 Doc. No : 404.V64554.00001.0018.0  
 Doc. No of Pages : 1  
 Created by : PW  
 Checked by : SH  
 Approved by : MF

**STROMAR**

## 8.4 Baseline Environment

### *Data Sources*

8.4.1 To describe the ecology and ornithology baseline within the Onshore Scoping Study Area in this Chapter, the data sources identified in **Table 8.4** have been used. These data sources will also be used to inform the baseline characterisation for ecology and ornithology in the Onshore EIAR, along with the additional data sources identified in **Section 8.10**.

**Table 8.4:** *Onshore Scoping Study Area Baseline Data Sources*

Source	Summary	Coverage of Onshore Scoping Study Area
<b>Non-avian Ecological Data</b>		
NatureScot Sitelink <sup>7</sup> online mapping tool and Multi Agency Geographic Information for the Countryside <sup>8</sup> website.	Statutory designated sites of international importance – Ramsar.	A 10 kilometre (km) buffer around the Onshore Scoping Area.
	Statutory designated sites of European importance - Special Areas of Conservation (SACs).	
	Statutory designated sites of national importance - Special Scientific Interest (SSSI), National Nature Reserves (NNR), and Local Nature Reserves (LNR).	

<sup>7</sup> The NatureScot Sitelink website is available at: <https://sitelink.nature.scot/map>

<sup>8</sup> The MAGIC website is available at: <https://magic.defra.gov.uk>

Source	Summary	Coverage of Onshore Scoping Study Area
North East Scotland Biological Records Centre (NESBReC) <sup>9</sup> .	Locally designated sites – Local Nature Conservation Sites (LNCS).	A 2 km buffer around the Onshore Scoping Area.
Ancient Woodland Inventory (AWI) (Scotland) database <sup>10</sup> .	Other sites of nature conservation importance - ancient woodland.	
NESBReC.	Legally protected and notable species: Habitats and species listed on Schedules 2 and 4 of the Habitats Regulations; Legally protected species listed in Schedules 1, 5 and 8 of the WCA; Habitats and species listed within the Scottish Biodiversity List (SBL) as habitats of principal importance for biodiversity conservation in Scotland; and Badgers, who are afforded protection under the Protection of Badgers Act 1992.	
	Legally controlled species: Species listed on Schedule 9 of the WCA and Wildlife and Natural Environment (Scotland) Act 2011.	
<b>Ornithological Data</b>		
NatureScot Sitelink online mapping tool and Multi Agency Geographic Information for the Countryside website.	Statutory designated sites of international importance – Ramsar.	A 20 km buffer around the Onshore Scoping Area.
	Statutory designated sites of European importance - Special Protection Areas (SPAs) and Ramsar sites.	
	Statutory designated sites of national importance - SSSI, NNR, and LNR.	
NESBReC.	Legally protected and notable species: Species listed on Annex I of the Birds Directive;	A 2 km buffer around the Onshore Scoping Area.
Bird Trust for Ornithology (BTO) Wetland Bird Survey (WeBS) <sup>11</sup> – limited coverage only.	Species listed on Schedule 1 of the WCA;	
Raptor Study Group.	Species listed on the SBL; and Birds of Conservation Concern (BoCC)	

<sup>9</sup> <https://nesbrec.org.uk/>

<sup>10</sup> The Ancient Woodland Inventory (Scotland) database is available online at <https://www.data.gov.uk/dataset/c2f57ed9-5601-4864-af5f-a6e73e977f54/ancient-woodland-inventory-scotland>

<sup>11</sup> <https://app.bto.org/webs-reporting/numbers.jsp>

Source	Summary	Coverage of Onshore Scoping Study Area
Royal Society for the Protection of Birds (RSPB).	red and amber list species.	

## Description of Baseline Environment

### Statutory Designated Sites

8.4.2 **Figure 8.1** presents the statutory non-avian ecological designations within 10 km of the Onshore Scoping Area. **Figure 8.2** presents the statutory ornithological designations within 20 km of the Onshore Scoping Area. A summary of all the international, national, and locally designated sites within these buffers is presented in **Table 8.5**.

**Table 8.5: Statutory Designated Sites within 10 km (Non-avian) and 20 km (Ornithological)**

Site Name	Designation	Reason for Designation	Distance/Direction from Onshore Scoping Area
<b>International/European Importance – Statutory (non-avian, within 10 km)</b>			
Turclossie Moss.	SAC.	Qualifying features of this site include active raised bog and degraded raised bog still capable of natural regeneration.	2.35 km north.
Loch of Strathbeg.	Ramsar.	This site is composed of a dune slack pool with surrounding wetland habitats, dune and grassland communities.  The site qualifies as a Ramsar by virtue of it containing the largest dune slack pool in Britain, with an area of 200 hectares (ha), as well as ornithological interest features (see below).	6.76 km east.
<b>National Importance - Statutory (non-avian, within 10 km)</b>			
Turclossie Moss.	SSSI.	This site is notified for supporting features of both blanket bog and raised bog and has therefore been classified as an 'intermediate raised bog'. While the bog has been subject to peat cutting in the past, the structure and peat archive of the central dome remain intact.	2.35 km north.
Gight Woods.	SSSI.	This site is formed of three separate areas of ancient woodland with some of the largest and least disturbed areas of native woodland in the Aberdeenshire lowlands. Notified features of this site include upland oak woodland and upland mixed ash woodland.	5.97 km south.
Tore of Troup.	SSSI.	This site supports the only large area of moorland in the north of Aberdeenshire and its steep-sided wooded dens contain some of the best examples of native woodland in the Aberdeenshire lowlands. It is notified for supporting upland mixed ash woodlands, upland birch woodland and a woodland ground flora assemblage with locally rare or uncommon species, including hay-scented buckler-fern <i>Dryopteris aemula</i> , ramsons <i>Allium</i>	4.89 km west.



Site Name	Designation	Reason for Designation	Distance/Direction from Onshore Scoping Area
		<i>ursinum</i> , bluebell <i>Hyacinthoides non-scripta</i> , moschatel <i>Adoxa moschatellina</i> , woodruff <i>Galium odoratum</i> and oak fern <i>Gymnocarpium Dryopteris</i> .	
Rora Moss.	SSSI.	This site supports the second largest lowland raised bog in Aberdeenshire and maintains a significant area of uncut dome and associated cut-over areas.	6.05 km east.
Gamrie and Pennan Coast.	SSSI.	This site is designated for its maritime cliffs which support a number of locally rare plants including spring squill <i>Scilla verna</i> and both purple and mossy saxifrage <i>Saxifraga oppositifolia</i> and <i>S. hypnoides</i> , along with roseroot <i>Sedum rosea</i> . The site is also notified for supporting features of ornithological interest (described below).	5.45 km west.
Loch of Strathbeg.	SSSI.	Loch of Strathbeg is the largest waterbody in the north-east lowlands and is the largest dune lake in Britain. The site is notified for its important sand dune, saltmarsh, eutrophic loch, open water transition fen and fen-meadow habitats, as well as supporting ornithological interest features.	6.76 km east.
<b>Local Importance - Statutory (non-avian, within 10 km)</b>			
Waters of Philorth.	LNR.	The Waters of Philorth Local Nature Reserve incorporates the estuary of the River Philorth and the sand dune complex, of which is part of the larger Fraserburgh Bay sand dune system. There are also areas of reed bed, salt marsh and mud flats associated with the estuary. These habitats are known to support a diversity of bird life resulting from the range of habitats present.	4.49 km north east.

Site Name	Designation	Reason for Designation	Distance/Direction from Onshore Scoping Area
<b>International/European Importance - Statutory (ornithological, within 20 km)</b>			
Troup, Pennan and Lions Head.	SPA.	This site comprises a 9 km stretch of sea cliffs along the Aberdeenshire coast, of which support large colonies of breeding seabirds. The site qualifies as an SPA by regularly supporting over 20,000 individual breeding seabirds and internationally important breeding populations of black-legged kittiwake <i>Rissa tridactyla</i> and common guillemot <i>Uria aalge</i> , Northern fulmar <i>Fulmarus glacialis</i> , herring gull <i>Larus argentatus</i> , and razorbill <i>Alca torda</i> .	3.66 km northwest.
Loch of Strathbeg.	SPA.	This site comprises a shallow freshwater loch with surrounding wetland, dune and grassland communities. It provides wintering habitat for a number of important wetland bird species, particularly wildfowl. The SPA is contained within Loch of Strathbeg SSSI.  The site qualifies as an SPA for regularly supporting populations of European importance of the Annex 1 species Sandwich tern <i>Sterna sandvicensis</i> , whooper swan <i>Cygnus cygnus</i> , and Svalbard barnacle goose <i>Branta leucopsis</i> . It also supports populations of European importance of the migratory species pink-footed goose <i>Anser brachyrhynchus</i> and greylag goose <i>Anser anser</i> . Furthermore it is known regularly support in excess of 20,000 individual waterfowl, including nationally important populations of teal <i>Anas crecca</i> , and goldeneye <i>Bucephala clangula</i> .	6.76 km east.
Loch of Strathbeg.	Ramsar.	Qualifying features of ornithological interest include: Sandwich tern (supporting approximately 2% of the UK population); teal and goldeneye (supporting in excess of 20,000 individual waterfowl); pink-footed goose, greylag goose, whooper swan and Svalbard barnacle goose (supports at least 1% or more of population).	6.76 km east.
Buchan Ness to Collieston Coast.	SPA.	This site comprises a 15 km stretch of south-east facing cliff in Aberdeenshire. It qualifies as an SPA by regularly supporting over 20,000 individual breeding seabirds and internationally important breeding populations of black-legged kittiwake and common guillemot, Northern fulmar, herring gull, and European shag <i>Phalacrocorax aristotelis</i> .	18.01 km southeast.
Ythan estuary, Sands of Forvie and Meikle Loch.	SPA.	Qualifying interest features include: Sandwich tern, common tern <i>Sterna hirundo</i> , little tern <i>Sternula albifrons</i> (Annex 1 species); migratory species pink-footed goose (migratory); and in excess of 20,000 individual waterfowl including pink-footed goose, eider <i>Somateria mollissima</i> , redshank <i>Tringa totanus</i> and lapwing <i>Vanellus vanellus</i> .	19.16 km southeast.
Ythan estuary and Meikle Loch.	Ramsar.	Qualifying features of ornithological interest include populations of common tern, little tern, eider, redshank, Sandwich tern, and pink-footed goose.	19.16 km southeast.

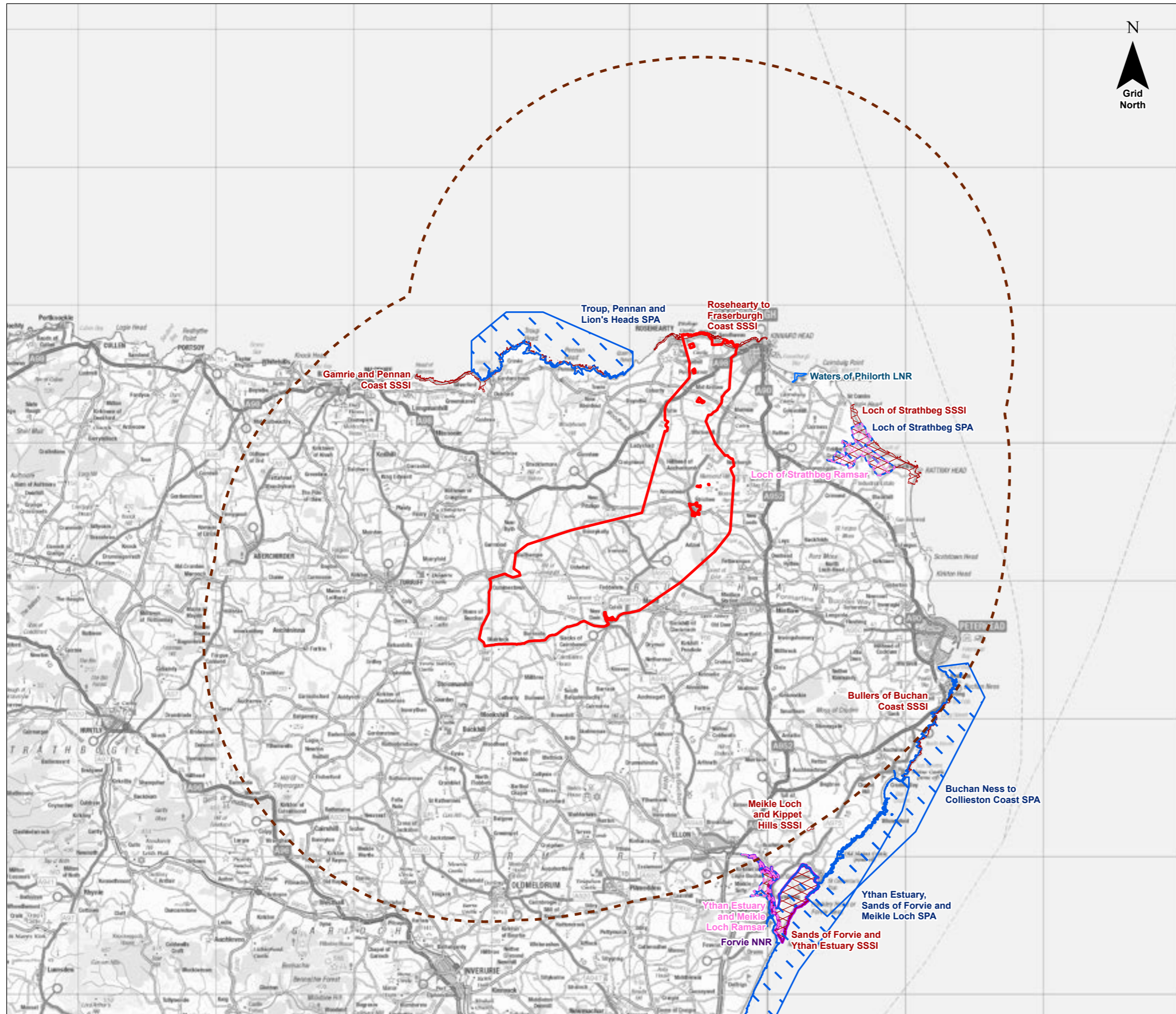
Site Name	Designation	Reason for Designation	Distance/Direction from Onshore Scoping Area
<b>National Importance - Statutory (ornithological, within 20 km)</b>			
Rosehearty to Fraserburgh Coast	SSSI	The site supports large numbers of passage and wintering seaduck and waders and is notified for supporting non-breeding populations of turnstone <i>Arenaria interpres</i> , purple sandpiper <i>Calidris maritima</i> , eider and curlew <i>Numenius arquata</i> .	0.00 km north.
Gamrie to Pennan Coast.	SSSI.	This site is notified for supporting large breeding colonies of seabirds of international importance, including guillemot, kittiwake, razorbill <i>Alca torda</i> , fulmar, puffin <i>Fratercula arctica</i> and shag, herring gull and great black-backed gull <i>Larus marinus</i> . The site also holds the largest colony of gannet <i>Morus bassanus</i> on the Scottish mainland.	4.83 km northwest.
Loch of Strathbeg.	SSSI.	This site is one of the most important sites for passage and wintering wildfowl in Britain. It is notified for supporting non-breeding populations of whooper swan, greylag goose and pink-footed goose. It also supports nationally important concentrations of goldeneye.  In addition to passage and wintering birds, the site is also notified for the breeding bird assemblage that it supports.	6.76 km east.
Sands of Forvie and Ythan estuary.	SSSI.	Notified features of ornithological interest include: a breeding bird assemblage of Arctic tern <i>Sterna paradisaea</i> , common tern, little tern, Sandwich tern and eider; and non-breeding populations of pink footed goose and eider.	19.44 km south, southeast.
Forvie.	NNR.	This reserve covers almost 1,000 ha of sand dunes and dune heath and supports a rich variety of wildlife, especially birds. This includes a breeding colony of eiders, four species of breeding tern and a wealth of wildfowl and waders.	19.46 km south, southeast.
Bullers of Buchan Coast.	SSSI.	This site is formed of sea cliffs that support a colony of breeding seabirds of international importance. Notified features include kittiwake, guillemot, and shag, as well supporting herring gull, fulmar, razorbill, and puffin.	19.57 km east, southeast.
Meikle Loch and Kippit Hills.	SSSI.	Notified ornithological features of this site include non-breeding greylag goose and pink footed goose.	19.93 km southeast.
<b>Local Importance - Statutory (ornithological, within 20 km)</b>			
Waters of Philorth.	LNR.	The Waters of Philorth Local Nature Reserve incorporates the estuary of the River Philorth and the sand dune complex, of which is part of the larger Fraserburgh Bay sand dune system. There are also areas of reed bed, salt marsh and mud flats associated with the estuary. These habitats are known to support a diversity of bird life resulting from the range of habitats present.	4.49 km north east.

# Stromar Offshore Wind Farm

## Figure 8.2

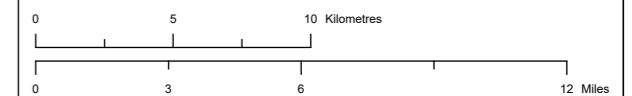
### Statutory Designated Sites of Ornithological Interest within 20 km

- Legend
- Onshore Scoping Area
  - Onshore Scoping Area 20 km Buffer
  - Ramsar
  - Special Protection Area (SPA)
  - Site of Special Scientific Interest (SSSI)
  - National Nature Reserve (NNR)
  - Local Nature Reserve (LNR)



Coordinate System: British National Grid

Scale @ A3 : 1:275,000



Rev	Description	Date
A	First Draft	22/08/2023
B	Second Draft	09/11/2023
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Doc. Report : Onshore Scoping Report  
 Doc. Title : Statutory Designated within 20km  
 Doc. No : 404.V64554.00001.0020.0  
 Doc. No of Pages : 1  
 Created by : PW  
 Checked by : SH  
 Approved by : MF



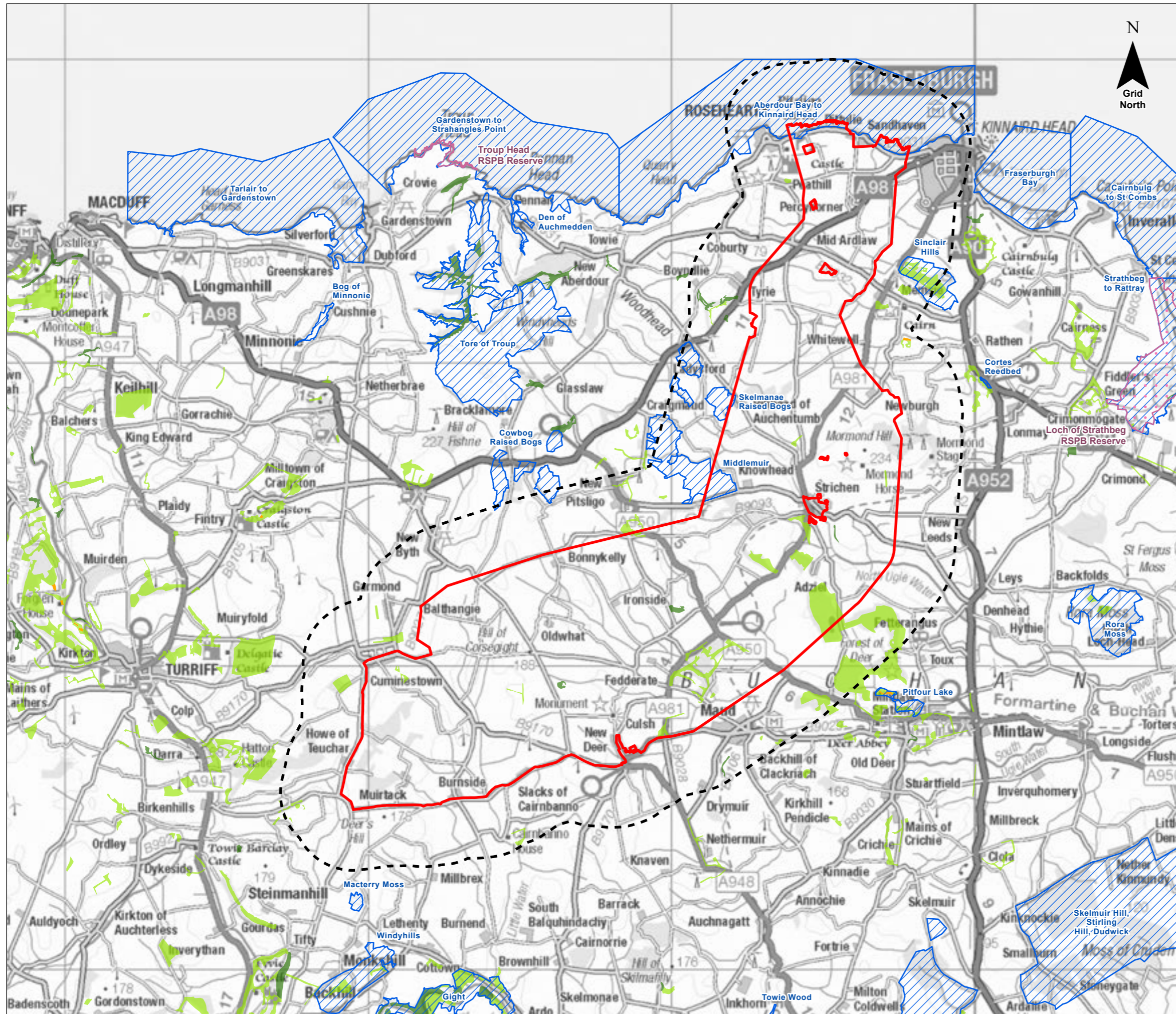
**Non-statutory Designated Sites**

8.4.3 **Figure 8.3** illustrates non-statutory designated sites and other sites of nature conservation importance within 2 km of the Onshore Scoping Area. A total of five LNCS were identified within 2 km of the Onshore Scoping Area, for which a summary of each is provided in **Table 8.6**.

**Table 8.6:** *Non-statutory Designated Sites within 2 km*

Site Name	Designation	Interest features	Distance and Direction from Onshore Scoping Area
Aberdour Bay to Kinnaird Head.	LNCS.	High sea cliffs, sandy bays, wave cut platforms, rocky shores, intertidal mud and sand flats. The site is also importance for supporting populations of overwintering birds.	0 km north (directly adjacent to the Onshore Scoping Area).
Sinclair Hills.	LNCS.	Geological interest features with small areas of botanical interest.	0.67 km east.
Middlemuir.	Proposed LNCS.	This site forms an extensive peatland site, which although degraded from past peat cutting, does support a good diversity of peatland and wetland habitats and has potential for restoration. Strong and diverse ornithological interest including breeding waders.	0.0 km (within the Onshore Scoping Area).
Skelmanae Raised Bogs	LNCS.	A series of three lowland raised bogs at Red Moss of Blackrigg, Auchmacleddie and Prattshaugh. Much of the peat has been cut over but some patches of primary bog remain, and the sites remain quite wet.	0.0 km (within the Onshore Scoping Area)
Cowbog raised bogs.	LNCS.	Series of four lowland raised peat bogs at Cowbog, Corthie Moss, Cowieshall and Cairnywhing. All have been cut over in the past but retain some areas of primary peat. Good diversity of peatland and wetland.	1.6 km north.

**Stromar Offshore Wind Farm**  
**Figure 8.3**  
**Non-Statutory Designated Sites and Ancient Woodland Within 2 km**



- Legend**
- Onshore Scoping Area
  - Onshore Scoping Area 2 km Buffer
  - RSPB Reserve
  - Local Nature Conservation Site
- Ancient Woodland**
- Ancient (of Semi-Natural Origin)
  - Long-Established (of Plantation Origin)
  - Other (on Roy map)



Coordinate System: British National Grid  
 Scale @ A3 : 1:125,000

Rev	Description	Date
A	First Draft	22/08/2023
B	Second Draft	09/11/2023
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Doc. Report : Onshore Scoping Report  
 Doc. Title : Non-statutory Designated Sites and AW  
 Doc. No : 404.V64554.00001.0019.0  
 Doc. No of Pages : 1  
 Created by : PW  
 Checked by : SH  
 Approved by : MF



### *Other Sites of Nature Conservation Importance*

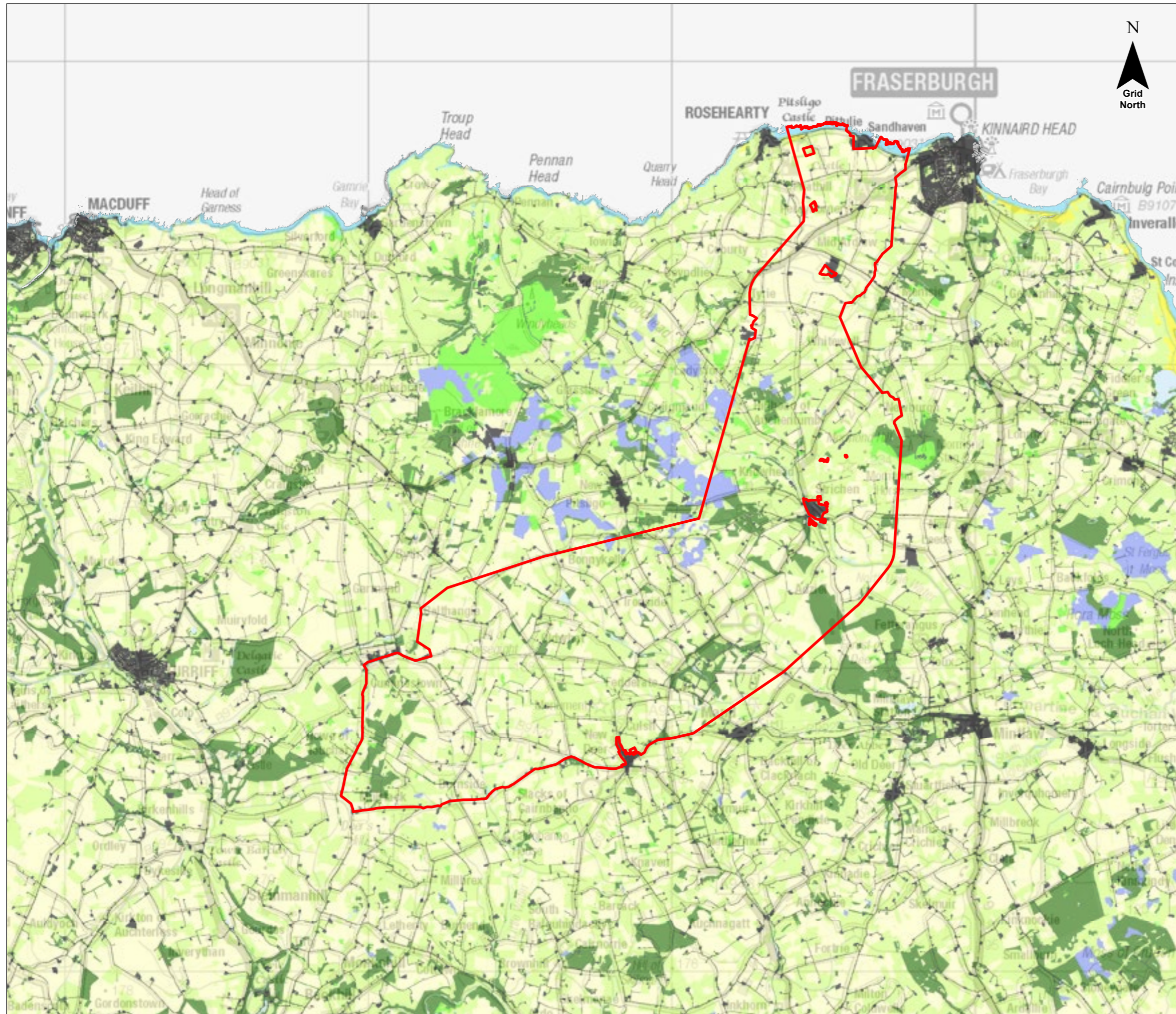
- 8.4.4 Several stands of woodland listed within the AWI are present within the Onshore Scoping Area and surrounding 2 km buffer (**Figure 8.3**). These stands are a form of ancient woodland classified as 'long-established woodlands of plantation origin', whereby they have been interpreted as plantation from maps of 1750 or 1820 and have been continuously wooded since these dates. Many long-established plantation woodlands have developed semi-natural characteristics, especially the oldest ones, and can be just as rich as semi-natural ancient woodland.

### *Habitats*

- 8.4.5 **Figure 8.4** illustrates habitats considered to be present within the Onshore Scoping Area, for which data were obtained through the Habitat Map of Scotland (HabMoS) European Union Nature Information System (EUNIS) Land Cover map layer<sup>12</sup>. Data indicates that habitats within the Onshore Scoping Area are predominantly agricultural and managed grassland, with pockets of woodland and inland surface water throughout. There are also discrete parcels of heathland and mire habitat known to be present. Along the coastline, the landscape comprises a mixture of urban development, coastal, and marine habitat.

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<sup>12</sup> Information relating to the Habitat Map of Scotland is available at: <https://www.nature.scot/landscapes-and-habitats/habitat-map-scotland>. Note that following consultation with NatureScot, it has been agreed that the 2012 EUNIS habitat coding system will be applied to the Proposed Onshore Development (as illustrated in **Figure 8.4**)



**Stromar Offshore Wind Farm**  
**Figure 8.4**  
**HabMoS Land Cover**  
**Classification**

- Legend**
- Onshore Scoping Area
- Habitat Map of Scotland - EUNIS 2015 Land Cover**
- A - Marine Habitat
  - B - Coastal Habitat
  - C - Inland Surface Water
  - D - Mires, Bogs and Fens
  - E - Grasslands and Lands Dominated by Forbs, Mosses or Lichens
  - F - Heathland, Scrub and Tundra
  - G - Woodland, Forest and Other Wooded Land
  - I - Regularly or Recently Cultivated Agricultural, Horticultural and Domestic Habitats
  - J - Constructed, Industrial and Other Artificial Habitats



Coordinate System: British National Grid  
 Scale @ A3 : 1:125,000

0 2 4 Kilometres  
 0 1.25 2.5 5 Miles

Rev	Description	Date
A	First Draft	22/08/2023
B	Second Draft	08/11/2023
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Doc. Report : Onshore Scoping Report  
 Doc. Title : HabMoS Land Cover Classification  
 Doc. No : 404.V64554.00001.0037.1  
 Doc. No of Pages : 1  
 Created by : SH  
 Checked by : JO  
 Approved by : MF





### ***Protected, Notable, and Legally Controlled Species***

8.4.6 Based on data records obtained from NESBReC (for which a search of the Onshore Scoping Area and associated 2 km boundary for observations recorded within the last 15 years [2009 – 2023] was conducted), habitats within the study area are considered to support a range of protected or otherwise notable species. Species identified are summarised below, with full details provided in **Appendix 8.1**.

#### *Mammals*

- Bats *Chiroptera* - data returned indicated use of the Onshore Scoping Area and associated 2 km boundary by several bat species, including common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus*, unidentified *Pipistrellus species*, Leislers bat *Nyctalus leisleri* and brown long-eared bat *Plecotus auritus*;
- Otter *Lutra lutra* - a total of 17 records of otter were returned;
- Water vole *Avicola amphibius* - five water vole records were returned;
- Badger *Meles meles* - a total of 48 badger records were returned. While details of every record were not available, at least 16 were related to badger setts and 17 to road casualties;
- Red squirrel *Sciurus vulgaris* - a total of 59 red squirrel records were returned, several of which relate to live observations and dreys; and
- Pine marten *Martes martes* – five records of pine marten were returned.

#### *Reptiles*

8.4.7 The data search returned no reptile records within 2 km of the Onshore Scoping Area.

#### *Amphibians*

8.4.8 A total of 11 records of common toad *Bufo bufo* were returned within 2 km of the Onshore Scoping Area through the data search. No other records relating to amphibian species (such as great crested newt *Triturus cristatus*) were returned as part of the data search.

#### *Invertebrates*

8.4.9 Numerous invertebrate records were returned, including 24 species listed as species of principal importance for biodiversity conservation within SBL, as detailed in **Appendix 8.1**.

#### *Birds*

8.4.10 The desk study data identified 7,387 records of protected, or otherwise notable bird species within 2 km of the Onshore Scoping Area within the last 15 years. This includes Schedule 1 species listed under the WCA, numerous red and amber listed BoCC species, and those defined within the SBL as species of principal importance for biodiversity conservation in Scotland.

8.4.11 For full details relating to ornithological data records, please refer to **Appendix 8.1**.

8.4.12 The records include the following species which are qualifying species for the internationally designated sites within the Onshore Scoping Area and surrounding 20 km buffer:

- Barnacle goose;
- Common tern;
- Curlew;
- Eider;
- Gannet;
- Goldeneye;
- Greater black-backed gull;
- Guillemot;
- Herring gull;
- Kittiwake;
- Lapwing;
- Pink-footed goose;
- Puffin;
- Purple sandpiper;
- Razorbill;
- Redshank;
- Sandwich tern;
- Shag;
- Teal;
- Turnstone; and
- Whooper swan

#### *Flora*

- 8.4.13 Data supplied by NESBReC highlighted several plant species records of local importance within 2 km of the Onshore Scoping Area, as listed within **Appendix 8.1**. This includes three species listed within the SBL as principal importance for biodiversity conservation, and four locally important species as defined within NE LBAP.

#### *Invasive non-native plant species*

- 8.4.14 Species listed within Schedule 9 of the WCA recorded within 2 km of the Onshore Scoping Area include:

- Rhododendron *Rhododendron ponticum*;
- Giant hogweed *Heracleum mantagazzianum*;
- Japanese knotweed *Reynoutria japonica*; and
- Himalayan balsam *Impatiens glandulifera*.

- 8.4.15 Other notable plants recorded that are considered invasive (however are not listed within Schedule 9 of the WCA) include:

- Himalayan knotweed *Persicaria wallichii*;
- Lesser knotweed *Persicaria campanulate*; and
- White butterbur *Petasites albus*.

#### *Future Baseline*

- 8.4.16 With reference to guidance provided by NatureScot (2018a) (formally SNH) and CIEEM (2018), the significant effects of a development should be considered in the context of changes that will occur regardless of whether the development goes ahead or not. Evaluating the future baseline considers information about the likely future use of an area in the absence of the development, incorporating aspects such as changes in land management, climate change, and variation in species population trends.

8.4.17 The majority of the Onshore Scoping Area is formed of agricultural land managed for crops and livestock grazing, with smaller parcels of woodland, inland surface water, heath and mire habitat throughout. In the absence of the Proposed Onshore Development, the area is likely to remain largely unchanged, comprising a similar distribution of broad habitat types (formed primarily of agricultural land), with trends in protected and/or notable species populations within the area likely to remain largely unchanged.

8.4.18 Long term climate change is however predicted to result in complex changes to biodiversity. For example, it may influence vegetation communities present within the area, the distribution and abundance of protected or notable species that utilise an area or provide opportunities for new species to colonise certain areas (of which may include non-native species). However, the extent of such change cannot be accurately predicted at this time. In the absence of any detailed, quantifiable information it has been assumed that in the absence of the Proposed Onshore Development the ecological condition of the area is unlikely to change significantly over the next 30 years, however potential remains for negative trends in habitat loss/degradation and species declines to occur.

## 8.5 Commitments

8.5.1 The Developer has committed to adopt a series of design commitments (primary commitments) at this scoping stage to avoid and (where avoidance is not possible) reduce the potential for effects on the environment. Further best practice measures (tertiary commitments) are embedded as an inherent aspect of the EIA process.

8.5.2 Those scoping commitments of relevance to ecology and ornithology are identified in **Table 8.7** below. Full details on each of these commitments can be found in the Onshore Commitments Register in **Appendix 3.2** of this Onshore Scoping Report.

**Table 8.7:** *Relevant Commitments to Ecology and Ornithology*

ID	Commitment	How this commitment will be secured
<b>Primary commitments</b>		
C-ONS-001	Location of onshore infrastructure (including any associated temporary working areas) will avoid designated nature conservation sites of international, national and local importance.	General location of Proposed Onshore Development to be approved through grant of Planning Permission in Principle (PPP) consent. Final location (including any micrositing allowance) to be approved through Approval of Matters Specified in Conditions (AMSC) consent.
C-ONS-004	The OnECC and OnGCC will be buried underground for their entire length. Following reinstatement, the only above ground structures related to the OnECC and OnGCC will be link box lids where there are joints in the cable. These will typically take the form of a set of manhole covers surrounded by a small post and rail fenced enclosure.	Location and design of the OnECC and OnGCC, including any permanent above ground structures, to be approved through AMSC consent.

ID	Commitment	How this commitment will be secured
C-ONS-008	For any works taking place near watercourses, a buffer of 50 m will be applied where possible (with the exception of watercourse crossings, which would be minimised). Where other constraints mean this is not possible, a justification would be provided in the EIA and additional mitigation measures to safeguard the water environment will be undertaken in accordance with SEPA guidance and in line with the requirements of the Controlled Activities Regulations (CAR) to prevent or reduce adverse effects to the watercourse.	Planning Condition attached to PPP consent requiring CEMP to be submitted and approved by Aberdeenshire Council.
<b>Tertiary commitments</b>		
C-ONS-009	Production and compliance with a Construction Environmental Management Plan (CEMP). An Outline CEMP will be produced and included alongside the Onshore EIA to support the PPP application. A detailed CEMP will then be submitted to Aberdeenshire Council for approval (in consultation with NatureScot and Scottish Environment Protection Agency (SEPA)) prior to construction of the development. The CEMP will then be implemented to avoid, minimise or mitigate effects on the environment during the construction phase.	Planning Condition attached to PPP consent requiring CEMP to be submitted and approved by Aberdeenshire Council.
C-ONS-010	Core working hours for the construction of the Proposed Onshore Development will be Monday to Saturday from 07:00 to 19:00hrs. Activities carried out during mobilisation and maintenance will not generate significant noise levels (such as piling, or other such noisy activities). In circumstances outside of core working practices, specific works may have to be undertaken outside the core working hours. Aberdeenshire Council will be informed in writing.	Planning Condition attached to PPP consent.
C-ONS-012	A Dust and Air Quality Management Plan within the CEMP will include detailed best practice measures as described in Institute of Air Quality Management (IAQM) Guidance to effectively control and/or mitigate the release of dust emissions arising from construction activities on human and ecological receptors, and a complaint investigation and resolution procedure.	Planning Condition attached to PPP consent requiring CEMP to be submitted and approved by Aberdeenshire Council.

ID	Commitment	How this commitment will be secured
C-ONS-015	<p>Refuelling of machinery will be undertaken within designated areas where spillages can be easily contained. Machinery will be routinely checked to ensure it is in good working condition. Any tanks and associated pipe work containing oils and fuels will be double skinned and be provided with intermediate leak detection equipment. Areas at risk of spillage, such as vehicle maintenance areas and hazardous substance stores (including fuel, oils and chemicals) will be bunded and carefully sited to minimise the risk of hazardous substances entering soils, groundwater, drainage systems or local watercourses. Additionally the bunded areas will have impermeable bases to limit the potential for migration of contaminants into potential receptors following any leakage/spillage. Bunds used will store fuel, oil etc. to have a 110% capacity. Excavated material will be placed in such a way as to avoid any disturbance of areas near to the banks of watercourses and any spillage into the local earth/water environment. Construction materials will be managed in such a way as to effectively minimise the risk posed to the environment. All plant machinery and vehicles will be maintained in a good condition to reduce the risk of fuel leaks. Consultation with SEPA to be ongoing throughout the construction period to promote best practice and to implement proposed mitigation measures.</p>	<p>Planning Condition attached to PPP consent requiring CEMP to be submitted and approved by Aberdeenshire Council.</p>
C-ONS-019	<p>A Pollution Prevention and Management Plan would be developed. This will detail a pollution control strategy to be implemented in accordance with Controlled Activities Regulations (CAR) licence regulations, incorporating measures for protecting ground and surface water during construction and operational phases. Details on appropriate fuel and chemical storage will be provided, along with measures associated with water abstraction and incident response procedures.</p>	<p>Planning Condition attached to PPP consent requiring CEMP to be submitted and approved by Aberdeenshire Council.</p>
C-ONS-022	<p>Production and compliance with a Construction Traffic Management Plan (CTMP) outlining the mechanisms for managing the movement of construction related traffic. The CTMP will be developed post-consent and submitted for the approval of Aberdeenshire Council in consultation with relevant parties.</p>	<p>Planning Condition attached to PPP consent requiring CTMP to be submitted and approved by Aberdeenshire Council.</p>
C-ONS-024	<p>An Outline Biodiversity Restoration and Enhancement Plan (BREP) will be provided as part of the planning application process to detail the proposed biodiversity enhancements. A detailed BREP would subsequently be produced and agreed post consent/pre-construction phase.</p>	<p>Planning Condition attached to PPP consent requiring detailed BREP to be submitted and approved by Aberdeenshire Council.</p>
C-ONS-025	<p>All construction works to be undertaken under the guidance of an Environmental Clerk of Works (EnvCoW). The EnvCoW's scope of work shall include monitoring compliance with the mitigation measures within the EIAR and any planning conditions.</p>	<p>Planning Condition attached to PPP consent requiring appointment of an EnvCoW in consultation with Aberdeenshire Council.</p>

ID	Commitment	How this commitment will be secured
C-ONS-029	Where the Proposed Onshore Development is not required for electricity transmission purposes beyond the operational life of the Project, the onshore components would be decommissioned, and the land reinstated. Details of the decommissioning and restoration scheme shall be submitted to Aberdeenshire Council within 24 months of the permanent cessation of electricity generation.	Planning Condition attached to PPP consent required approval of decommissioning and site restoration plan.

8.5.3 As a result of the commitment to implement these measures, the measures are considered inherently part of the design of the Proposed Onshore Development and have therefore been included in the scoping assessment presented in **Section 8.7** of this Chapter.

8.5.4 It is expected that additional primary commitments will be identified as the layout and design of the Proposed Onshore Development is refined and developed. These will take into account any consultation feedback received.

8.5.5 The requirement for any additional secondary commitments to prevent, reduce or offset any remaining significant adverse effects of the Proposed Onshore Development will be developed throughout the EIA process dependent on the significance of the effects upon ecological and ornithological features.

8.5.6 At this stage, we anticipate that additional commitments may include:

- Avoid or minimise loss/disturbance of key habitat features identified as supporting important breeding or wintering bird species through the RPSS process.
- Larger watercourses to be crossed by Horizontal Directional Drilling (HDD) or other trenchless technology, where possible. Where impractical, crossings would be established through open cut methods, during which mitigation will be employed to maintain the flow of the watercourse. Main rivers will not be temporarily dammed and/or rerouted.
- The design process for the OnECC and OnGCC will seek to implement measures to avoid fragmentation of woodland and sensitive habitat where possible, through application of HDD, or other trenchless techniques, and use of existing breaks in land use.
- Vegetation to be retained as far as possible. Any required vegetation removal will be carried out in accordance with best practice and programmed to avoid breeding bird season, where possible. Should removal be required during the bird breeding season, vegetation will be checked for nests by a suitably qualified ecologist prior to commencing.
- Landscape features (field boundaries, walls, hedges, trees, shrubs and other vegetation) along the OnECC and OnGCC routes to be retained where possible. Where not possible, the width of hedge and vegetation removal to be limited, and replacement and compensatory landscaping to be provided where necessary.
- A programme of field investigation to be undertaken to identify the location of private and licensed water supplies, and in consultation with the project hydrologists areas of water sensitive habitats (including groundwater dependent terrestrial ecosystems (GWDTEs)) will be identified as design constraints.

- For species identified as present, or potentially present, within the study area during baseline surveys, there may be a requirement to develop relevant Species Protection Plans for the Proposed Onshore Development. The Species Protection Plans would consider the potential impact of the Proposed Onshore Development on protected and/or notable species, describe how such impacts will be mitigated or compensated, and identify the circumstances in which a licence from NatureScot may be required. This commitment would be secured in the form of a Planning Condition attached to the PPP consent, for which a Species Protection Plan would be submitted to, and approved by, Aberdeenshire Council prior to works commencing.

## 8.6 Biodiversity Enhancement

8.6.1 Ørsted have set the ambition that all new renewable energy projects commissioned from 2030 onwards should deliver a net-positive biodiversity impact, for which includes this Project. A Net Positive Impact (NPI) (or net gain) occurs when the totality of the biodiversity impact, including through measures taken to offset the residual impact of a development project, exceeds the loss, thereby creating an overall benefit.

8.6.2 The EIA, CEMP and aligned documents will provide key inputs to the NPI process for biodiversity, for example by providing the environmental baseline against which progress towards our ambition will be measured; identifying priority biodiversity features at the Project level that will be the focus of the NPI commitment; and helping to quantify project impacts on priority biodiversity features to guide the development of compensatory measures.

- Desktop screening, expert interviews and early and broad stakeholder consultation will be undertaken with a focus on environmental enhancement opportunities in order to develop a long-list of options to benefit species and enhance ecosystems in and around the Proposed Onshore Development, this exercise will seek to compile a broad 'long-list' of such opportunities that could be delivered in partnership with various local organisations.
- Once the long-list has been formulated, a set of ranking criteria will be developed in order to shortlist these – these criteria will be guided by results of the EIA and site characteristics, and then discussed and agreed with key stakeholders. Once agreed, these ranking criteria to shortlist them to ensure that they are feasible and can link to project impacts, and that they will provide the best ecological outcomes.
- The approach to delivering NPI for biodiversity for the Proposed Onshore Development will be captured in a Biodiversity Restoration and Enhancement Plan (BREP) – a live document which will be updated post-construction to ensure that it is reflecting the most recent data, as well as ensuring that the monitoring plans are current and allows for updates to proposed enhancement measures based on the results of monitoring, as necessary.

8.6.3 It is proposed to follow the mitigation hierarchy by avoiding, minimising impacts and restoring and enhancing habitats to provide an overall positive biodiversity impact through measures that accord with NPF4 Policy 3, ALDP Policy P1.7 and Ørsted's biodiversity ambition. Measures may commence in the construction phase with the overall gains considered to be most relevant to the operation phase (depending on the measure and feature). NPF4 and local planning policy, along with continued stakeholder engagement, will define the approach to be taken to evidence biodiversity enhancement and restoration and identify opportunities that are proportionate and appropriate to the Proposed Onshore Development.

## 8.7 Scoping of Impacts

- 8.7.1 The Impacts Register (**Appendix 3.3**) sets out the proposed assessment of the potential effects of the Proposed Onshore Development on the environment, including ecology and ornithology, at the scoping stage of the EIA. It identifies all potential impacts and provides an assessment on whether or not it is considered that they have (or do not have) the potential to result in a LSE. A summary assessment of the potential impacts on ecology and ornithology is provided in **Table 8.8**.
- 8.7.2 The assessment in the Impacts Register and **Table 8.8** has been based upon a combination of:
- The maximum development parameters of the Proposed Onshore Development at this scoping stage;
  - The commitments identified in **Table 8.7** and the Onshore Commitment Register in **Appendix 3.2**;
  - The level of understanding of the baseline environment at this scoping stage;
  - The existing evidence base;
  - Relevant legislation and policy; and
  - The professional judgement and experience of the qualified ecological and ornithological specialists.
- 8.7.3 In accordance with the proportionate EIA approach (see **Section 5.2** and **Appendix 3.1**), for this scoping stage of the EIA process, the Impacts Register and **Table 8.8** categorises likely significance of effect as follows:
- **LSE identified at scoping stage without secondary commitments** – the impact will be subject to detailed assessment and scoped in to the EIAR;
  - **Possible LSE identified at scoping stage without secondary commitments** – however it may become clear post scoping that the impact does not require detailed assessment in the EIAR. The impact will be scoped in at scoping stage, however further evidence will be brought forward post scoping to agree with consultees the specific treatment of the impact in the EIAR.
  - **No LSE identified at scoping stage** – the impact will be scoped out of assessment in the EIAR.
- 8.7.4 Where it is agreed that potential effects can be scoped out of the EIAR, it is confirmed that these would still be presented within the Impacts Register within the EIAR with an explanation provided as to why it has been agreed it can be scoped out.



Table 8.8: Scoping Assessment for Ecology and Ornithology

Potential Effect	Project Element					Commitment(s)	Scoping Status			Proposed Approach to Assessment, including Description of any New Evidence Required
	Landfall	OnECC	OnGCC	OnSS	OnRCS		LSE	Possible LSE	No LSE	
<b>Construction</b>										
Direct loss and temporary and/or permanent damage to sensitive habitats and notable plant species. This also includes impacts relating to changes in hydrological connectivity of mire habitats, or airborne pollution (i.e., dust).	✓	✓	✓	✓	✓	C-ONS-008 C-ONS-012 C-ONS-015 C-ONS-019 C-ONS-029		✓		Scoped in at scoping. Further evidence to be provided post-scoping: <ul style="list-style-type: none"> <li>• UKHab survey results required to inform location of any sensitive habitat types in relation to proposed infrastructure and any avoidance/ mitigation measures that may be needed;</li> <li>• Full details of proposed infrastructure locations required to calculate habitat loss as a result of the Proposed Onshore Development; and</li> <li>• Potential effects of airborne pollution to be defined and addressed in terms of sensitive ecological features (habitats).</li> </ul>
Temporary and/or permanent direct and/or indirect impacts to groundwater flows and chemistry affecting potential groundwater dependent terrestrial ecosystems (GWDTEs).	✓	✓	✓	✓	✓	C-ONS-015 C-ONS-019 C-ONS-025		✓		Scoped in at scoping. Further evidence to be provided post-scoping: <ul style="list-style-type: none"> <li>• Information on vegetation communities present within the survey area, particularly those that may represent potential GWDTEs; and</li> <li>• Information on proposed infrastructure locations including access routes.</li> </ul>

Potential Effect	Project Element					Commitment(s)	Scoping Status			Proposed Approach to Assessment, including Description of any New Evidence Required
	Landfall	OnECC	OnGCC	OnSS	OnRCS		LSE	Possible LSE	No LSE	
Temporary disturbance to legally protected and/or notable species through direct/indirect impact of noise/vibrations (plant/machinery), human presence and artificial light.	✓	✓	✓	✓	✓	C-ONS-008 C-ONS-025		✓		Scoped in at scoping. Further evidence to be provided post-scoping: <ul style="list-style-type: none"> <li>Targeted surveys for protected and notable species, carried out in areas of suitable habitat identified during the Preliminary Ecological Appraisal walkover. The targeted surveys will assist in determining presence/ likely absence of protected/notable fauna in relation to the Proposed Onshore Development; and</li> <li>Information on proposed infrastructure locations, including access routes, required to ascertain potential disturbance effects on protected and/ or notable species.</li> </ul>
Direct and/or indirect temporary and/or permanent damage to/loss of habitat used for the purpose of resting, commuting and foraging by protected/notable fauna.	✓	✓	✓	✓	✓	C-ONS-001 C-ONS-008 C-ONS-015 C-ONS-019 C-ONS-025		✓		Scoped in at scoping. Further evidence to be provided post-scoping: <ul style="list-style-type: none"> <li>Targeted surveys for protected and notable fauna carried out in areas of suitable habitat identified during the Preliminary Ecological Appraisal walkover. The targeted surveys will assist in determining presence/ likely absence of protected fauna and habitats that they utilise; and</li> <li>Information on proposed infrastructure locations, including access routes, required to ascertain potential for loss or damage to habitat used by protected and/or notable fauna.</li> </ul>

Potential Effect	Project Element					Commitment(s)	Scoping Status			Proposed Approach to Assessment, including Description of any New Evidence Required
	Landfall	OnECC	OnGCC	OnSS	OnRCS		LSE	Possible LSE	No LSE	
Direct injury/mortality of protected and/or notable fauna from works and collision with vehicular traffic.	✓	✓	✓	✓	✓	C-ONS-022		✓		Scoped in at scoping. Further evidence to be provided post-scoping: <ul style="list-style-type: none"> <li>Targeted surveys for protected and notable fauna carried out in areas of suitable habitat identified during the Preliminary Ecological Appraisal walkover. The targeted surveys will assist in determining presence/ likely absence of protected fauna and habitats that they utilise; and</li> <li>Information on proposed infrastructure locations, including access routes, required to ascertain potential for direct effects (injury/mortality) to protected and/or notable species.</li> </ul>
Temporary direct/indirect disturbance or displacement of commuting and foraging fauna species (e.g. otter, bats, and marine mammals) as a result of noise and artificial light.	✓	✓	✓	✓	✓	C-ONS-010		✓		Scoped in at scoping. Further evidence to be provided post-scoping: <ul style="list-style-type: none"> <li>Targeted surveys for protected/notable species activity to obtain information on species presence/ potential absence, and habitats utilised by such species; and</li> <li>Information on proposed infrastructure locations, including access routes, required to ascertain potential for disturbance and displacement to protected and/ or notable species.</li> </ul>
Temporary and/ or permanent damage in the form of sedimentation or pollution of watercourses/waterbodies/coastal environment to the MLWS (e.g., through ground excavation, spills/leaks, and movement of vehicular traffic), leading to impacts to aquatic species and/or hydrologically connected designated sites.	✓	✓	✓	✓	✓	C-ONS-008 C-ONS-015 C-ONS-019		✓		Scoped in at scoping. Further evidence to be provided post-scoping: <ul style="list-style-type: none"> <li>Information on proposed infrastructure locations including access routes, proximity to watercourses and watercourse crossing points.</li> </ul>

Potential Effect	Project Element					Commitment(s)	Scoping Status			Proposed Approach to Assessment, including Description of any New Evidence Required
	Landfall	OnECC	OnGCC	OnSS	OnRCS		LSE	Possible LSE	No LSE	
<b>Operation and Maintenance</b>										
Temporary and/or permanent disturbance/displacement of legally protected or notable fauna within the vicinity of the Proposed Onshore Development through direct/indirect impact of noise/vibrations (plant/machinery), human presence and artificial light during operational maintenance activities.				✓	✓	C-ONS-010		✓		Scoped in at scoping stage for OnSS and OnRCS only. Further evidence to be provided post-scoping: <ul style="list-style-type: none"> <li>Field survey data relating to habitat types and associated protected species suitability within 100 m all proposed infrastructure;</li> <li>Establish proximity to sensitive ecological features;</li> <li>Details of proposed maintenance tasks (and any associated lighting) that will be required during the operational phase, to establish potential effects on protected/notable fauna; and</li> <li>Identify machinery and regularity of vehicles visiting site to undertake routine maintenance operations.</li> </ul>
Direct injury/mortality of protected and/or notable fauna associated with works and vehicle movements (e.g., vehicle collision during maintenance/operational tasks).				✓	✓	-		✓		Scoped in at scoping stage for OnSS and OnRCS only. Further evidence to be provided post-scoping: <ul style="list-style-type: none"> <li>Information on proposed infrastructure locations including access routes, proximity to watercourses, watercourse crossing points and woodland habitat;</li> <li>Details of proposed maintenance tasks that will be required at OnSS and OnRCS during the operational phase, to establish potential effects on protected/notable fauna; and</li> <li>Avoidance and mitigation will be defined through the EIA process.</li> </ul>
Positive impacts including enhanced and/or restored habitats and biodiversity, including habitats not impacted by the Proposed Onshore Development.	✓	✓	✓	✓	✓	-		✓		Scoped in for detailed assessment and development of an oBREP that corresponds with requirements of NPF4 and ALDP policy. The oBREP will be submitted with the EIAR.

Potential Effect	Project Element					Commitment(s)	Scoping Status			Proposed Approach to Assessment, including Description of any New Evidence Required
	Landfall	OnECC	OnGCC	OnSS	OnRCS		LSE	Possible LSE	No LSE	
Decommissioning										
Decommissioning of the Proposed Onshore Development.	✓	✓	✓	✓	✓	C-ONS-029		✓		Scoped in however the effects associated with the construction phase can be considered to be representative of reasonable worst-case decommissioning effects, and therefore no separate assessment of the decommissioning phase is proposed for ecology and ornithology in the EIAR.

## 8.8 Potential Cumulative Effects with Proposed Offshore Development

8.8.1 There is the potential for cumulative effects with the Proposed Offshore Development during the construction phase. This will likely be of particular relevance to intertidal and coastal habitats and species using these areas. The EclA will consider any impacts associated with the Proposed Offshore Development which could cause LSE cumulative effects with the Proposed Onshore Development.

## 8.9 Potential Cumulative Effects with Other Projects

8.9.1 A review of other existing and proposed projects near the Proposed Onshore Development will be undertaken and potential impacts on ecological and ornithological features will be assessed to identify potential cumulative impacts. In accordance with **Chapter 5: EIA Methodology** of this Onshore Scoping Report, the cumulative effects assessment for the Proposed Onshore Development will consider any other developments that are under construction, consented but not yet built or are the subject of valid planning or consent applications.

8.9.2 Potential cumulative impacts that may arise on ecological and ornithological features during the construction phase of the Proposed Onshore Development include all possible LSE's identified within **Table 8.8**.

8.9.3 Potential cumulative impacts that may arise on ecological and ornithological features during the O&M phase of the Proposed Onshore Development are yet to be determined and it is not yet possible to quantify or identify at this early scoping stage.

## 8.10 Proposed Approach to the EIA

### *EIA Study Area*

8.10.1 The study area for the ecological and ornithological impact assessment in the Onshore EIAR will be defined following the refinement of the layout and design of the Proposed Onshore Development.

8.10.2 The study area for potential cumulative effects will consider ecological connectivity, considering habitats within approximately 10 km and species-specific home ranges. Given that indirect effects of habitat degradation may however extend wider for effects on air quality (e.g., dust) and aquatic features (e.g., sedimentation and contamination), the relevant pathways of effect/screening parameters will also be considered in the study area for cumulative effects.

8.10.3 For aquatic features, potential cumulative effects are only likely to be significant for other developments located relatively close by (i.e. within 5 km) and within the same hydrological sub-catchments, unless their home range or potential likely significant effect necessitates adoption of a more wider-ranging assessment parameter (species and geographically specific).

8.10.4 For ornithological features, the impacts of a development on any species population can be assessed at a number of scales, ranging from the very local (e.g., on the development site, designated site, etc.); at a regional scale, such as a Natural Heritage Zone (NHZ); and at a national (i.e., Scottish) scale. The Onshore EIAR will consider potential cumulative effects based on species-specific core foraging ranges, within both the breeding and non-breeding seasons, using relevant published guidance (e.g., SNH 2016). Potential cumulative effects are only likely

to be significant up to 20 km (the maximum foraging distance for pink-footed goose and greylag goose during the winter).

### Additional Data Sources

- 8.10.5 In addition to data sources used to inform this Onshore Scoping Report, additional field data required to inform the ecological and ornithological baseline for EIA are listed in **Table 8.9**.
- 8.10.6 It should be noted that the search area for field surveys described in **Table 8.9** will not capture the entire Onshore Scoping Area. Instead, surveys will focus on a smaller area as refinement of the Proposed Onshore Development develops, allowing for a more targeted survey programme to inform the EIA.

**Table 8.9: Additional Baseline Data Sources for EIAR**

Source	Summary	Survey Area	Survey Period
Preliminary Ecological Appraisal (PEA).	UKHab (with conversion to EUNIS); Habitat Condition Assessment; and details of habitat suitability for protected and notable species.  Information obtained through techniques above would identify the requirement for further targeted habitat or species-specific surveys, as listed below.	Proposed OnECC, OnGCC, OnSS, OnRCS and associated 100 m buffer around each.	September – December 2023.  The survey period associated with the OnSS will be confirmed following refinement of proposed infrastructure location (likely January - March 2024).
National Vegetation Classification (NVC).	Annex I habitats, SBL habitats, and potential GWDTEs.	NVC surveys will be carried out within 250 m of the Proposed Onshore Development, at locations where Annex 1 habitat, habitats of principle importance for biodiversity conservation, or potential GWDTEs are identified through the UKHab survey.	April – September 2024.
Protected Species.	Information regarding presence/potential absence of: bats; otter; water vole; badger; red squirrel; pine marten; and incidental observations of other protected and/or notable species (e.g. reptiles and amphibians).	Surveys will be conducted within 100 m of the Proposed Onshore Development. The survey area will be extended to up to 250 m upstream and downstream of watercourses with suitability to support otter and water vole for which the Proposed Onshore Development intersects.	January – October 2024.
Freshwater fish.	Fish habitat survey to assess suitability of watercourses to support freshwater fish, including salmon <i>Salmo salar</i> , trout <i>Salmo trutta</i> , freshwater pearl mussel <i>Margaritifera margaritifera</i> and lamprey species.	Survey scope to be confirmed following further refinement of the layout and design of the Proposed Onshore Development and consultation with NatureScot and the local fisheries boards/trusts/Marine Science Scotland.	April – October 2024.

Source	Summary	Survey Area	Survey Period
Wintering bird survey (landfall locations).	Information regarding wintering bird presence and behaviour within and around the proposed landfall locations.	Surveys conducted within and including a 500 m buffer of the proposed landfall locations. Seven locations surveyed in 2022/23, reduced to three locations in 2023/24.	October 2022 – March 2023. October 2023 – March 2024.
Wintering wildfowl survey (inland).	Information regarding presence and behaviour of wildfowl species including geese, swans and other notable species.	Targeted surveys to be conducted within the proposed OnECC and OnSS search area(s).	October 2023 – March 2024.
Breeding Bird survey (landfall locations).	Information regarding breeding birds presence within and around the proposed landfall locations, including species subject to enhanced legal protection and species of conservation concern.	Surveys conducted within and including a 500 m buffer of the proposed landfall locations.	April – June 2023. April – June 2024.
Breeding Bird survey (inland)	Information regarding breeding birds presence within the proposed OnECC, OnSS and OnRCS search area(s), including species subject to enhanced legal protection and species of conservation concern.	Targeted surveys to be conducted within the proposed OnECC, OnSS and OnRCS search area(s).	April – June 2024.

### **Desk Based Assessment**

- 8.10.7 The desk-based assessment carried out to inform this Onshore Scoping Report will be used to inform the context for field survey design and provide baseline information for the onshore Habitat Regulations Appraisal (HRA) Screening exercise (Ørsted, 2023b).

### **Field Surveys**

#### **Ecological Field Surveys**

- 8.10.8 The proposed ecological field survey area will incorporate the footprint of the Proposed Onshore Development (including any associated temporary working areas) and appropriate buffers. The buffers vary for each ecological feature concerned, based on relevant guidelines. For each field method identified below, the survey area will extend 100 m beyond the footprint of the Proposed Onshore Development.
- 8.10.9 In the event that access permissions to survey private land within the Proposed Onshore Development site cannot be obtained, broad habitat types will be mapped through a review of aerial imagery, and where possible, from publicly accessible land. Assumptions on species presence and habitat condition would be made based on the mode (most frequently recorded) species and habitat condition for the same habitat type within the survey area.

#### **UK Habitat Classification Survey**

- 8.10.10 UK Habitat Classification Survey (UKHab) is a habitat classification system that is used for rapidly recording terrestrial, freshwater, and coastal habitats across the UK. The system has been



designed to build on existing habitat mapping techniques and enable integration with other classification systems, including Phase 1 Habitat Survey, National Vegetation Classification (NVC), and European Union Nature Information Systems (EUNIS).

- 8.10.11 The UKHab survey will be conducted according to the methods described in the UK Habitat Classification user manual, whereby habitats present within the ecological field survey area (including those of conservation concern) would be recorded and mapped onto digital tablet devices. During the survey, habitat types will be recorded to a minimum detail of Level 4 within the UKHab primary habitat hierarchy system (a requirement for calculation of Biodiversity Units using the Defra Biodiversity Metric), where possible.
- 8.10.12 Target notes will also be recorded to describe any notable features such as flushes, areas with habitat disturbance, habitats too small to map, or invasive non-native species.
- 8.10.13 The proposed UKHab survey approach has been presented to, and agreed with, Aberdeenshire Council and NatureScot. In accordance with NatureScot requirements, habitat types recorded during the UKHab survey will also be converted to the 2012 European Nature Information System (EUNIS) habitat classification system<sup>13</sup>.

#### Habitat Condition Assessment

- 8.10.14 Habitat Condition Assessment is a means of measuring variation in the quality of areas of the same habitat type across defined areas of land. This process considers a habitats key physical characteristics and ability to support typical flora and fauna.
- 8.10.15 The Habitat Condition Assessment will be carried out in conjunction with the UKHab survey, through which the quality of habitats would be measured using standardised habitat condition assessment criteria contained within the Defra Biodiversity Metric. The baseline condition scores obtained could then be used to calculate a biodiversity value for the study area. It is noted that use of the Defra Biodiversity Metric is not a legal or planning requirement in Scotland and the adopted approach for evidencing biodiversity enhancements will be agreed in due course.

#### Habitat Suitability Assessment – Protected and/or Notable Species

- 8.10.16 An assessment of the suitability of habitats within the study area to support protected or notable species (including badger, red squirrel, otter, water vole, pine marten and reptiles) will be carried out in conjunction with the UKHab survey.
- 8.10.17 This assessment would also incorporate a walkover of the survey area to observe, assess and record any habitats suitable for bats to commute and forage, using criteria outlined in the Bat Conservation Trust Guidelines. The suitability of potential roosting resource for bats will also be considered as part of the study. Note however, at this stage, the assessment of roost suitability would be high level only, recording stands of woodland with potential roost suitability as opposed

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<sup>13</sup> Email correspondence from NatureScot, dated 01 August 2023, confirmed that the EUNIS system has been taken forward as the standard habitat classification system for terrestrial habitat data and mapping in Scotland. As such, all habitat surveys should also include corresponding EUNIS classifications in accordance with the *Manual of terrestrial and EUNIS habitats in Scotland*. Available online at <https://www.nature.scot/doc/naturescot-commissioned-report-766-manual-terrestrial-eunis-habitats-scotland>.

to completing a detailed Ground Level Tree Assessment (GLTA) of each individual tree within the survey area. This assessment will in turn inform the requirement for more detailed surveys as part of the Phase 2 fieldwork scheduled for 2024.

#### River Condition Assessment

- 8.10.18 For the purposes of a Biodiversity Net Gain (BNG) assessment, a Modular River Physical survey (MoRPh) survey and River Type desk study will likely be required for each watercourse within the boundary of the Proposed Onshore Development and surrounding 10 m buffer. The River Condition Assessment (RCA) would be carried during 2024 by an RCA qualified ecologist in accordance with relevant guidelines. Each RCA survey would cover a minimum of 20% of the watercourse length within, or in proximity to, the boundary of the Proposed Onshore Development.
- 8.10.19 The surveys will inform a RCA of each watercourse both pre- and post- construction, with the aim of recording overall BNG as a result of the Proposed Onshore Development.

#### Protected and Notable Species Surveys

- 8.10.20 Surveys to establish the presence/ likely absence of protected species (badger *Meles meles*, red squirrel *Sciurus vulgaris*, pine marten *Martes martes*, otter *Lutra lutra*, and water vole *Avicola amphibious*) will be carried out during 2024 in areas of suitable habitat that may be impacted by the Proposed Onshore Development (as identified during the 2023/24 habitat suitability assessment).
- 8.10.21 Incidental sightings of other protected or notable species, such as reptiles or invasive non-native species, would also be recorded in target note format.
- 8.10.22 The field survey methodologies will follow best practice guidance of relevance to each species being assessed (i.e. Scottish Badgers, 2018; NatureScot, 2020; Strachan *et al.*, 2011; and Bang and Dahlstom, 2006).
- 8.10.23 Given the lack of desk study data pertaining to great crested newt returned, and that the geographic location of the Onshore Scoping Area is generally considered unsuitable for such species<sup>14</sup>, further field survey work associated with great crested newt is not considered necessary at this stage. If, following consultation with NatureScot, a requirement to consider great crested newt further is raised, this species will be scoped into the EIA.

#### Bat Surveys

- 8.10.24 Following completion of the initial 2023/24 habitat suitability assessment, survey requirements relating to bats would likely include:
- A GLTA of individual trees and woodland blocks situated within 100 m of the Proposed Onshore Development, identified as potentially having features suitable for support roosting bats. Should trees with moderate or high roost suitability be identified during the GLTA, the

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<sup>14</sup> The suitability of geographic locations within the UK to support populations of great crested newt is defined in Amphibian and Reptile Groups of the UK (2010) *Great Crested Newt Habitat Suitability Index*. ARG UK Advice Note 5. Available online at <https://www.arguk.org/info-advice/advice-notes/9-great-crested-newt-habitat-suitability-index-arg-advice-note-5/file>

requirement for follow up aerial inspection or emergence/ re-entry surveys will be highlighted at an early stage;

- A Preliminary Roost Assessment (PRA) of structures within 100 m of the Proposed Onshore Development identified as potentially having features with suitability support roosting and hibernating bats. Should structures with roost suitability be identified during the PRA, the requirement for follow up emergence/ re-entry surveys will be highlighted; and
- Bat activity surveys (in the form of walked activity transects and static detector surveys) to identify bat species utilising the area and associated levels of activity.

8.10.25 Bat survey work would be planned and carried out in accordance with guidance provided in Collins (2023) and NatureScot *et al.*, (2021).

#### Fish Surveys

8.10.26 All areas that may be directly (e.g. watercourse crossings) or indirectly (e.g. sediment run-off) affected by the Proposed Onshore Development, and appropriate buffers up and downstream, will be subject to a fish habitat survey. The survey will be conducted in accordance with the Scottish Fisheries Coordination Centre (SFCC) method (SFCC, 2007). It will inform the likelihood of the presence of salmonids, eels, freshwater pearl mussel and other protected and/or notable species and any requirement for further species-specific surveys.

#### Ornithological Field Surveys

##### Wintering Bird Survey (Landfall Locations)

8.10.27 To achieve two years of wintering bird data, surveys were commenced in October 2022 at seven potential landfalls, which would support a connection point at New Deer 2. These were undertaken at seven potential locations whilst the grid connection location was not determined (selection process in progress). A second year of surveys is underway (commenced in October 2023) at two locations (whilst selections process continuing). Targeted surveys are for wintering waterbirds (other notable species, including priority species, are also recorded). Methods are based on an enhanced WeBS Core Counts 'look-see' methodology (Bibby *et al.* 2000), whereby a predefined area (in this case the landfall area plus a 500 m buffer) is counted through the tide. Each location is surveyed for six hours per month during October to March. The area surveyed includes the intertidal zone and inland fields which may be used for roosting. All surveys take place during daylight hours, with intertidal surveys covering low to high tide (or vice versa) on each visit.

##### Breeding Bird Survey

8.10.28 Breeding bird surveys were commenced at two potential landfall locations in 2023, with a second year of surveys programmed for 2024. Breeding bird surveys for the remainder of the Proposed Onshore Development are programmed for 2024. Targeted surveys for breeding birds (Gilbert *et al.* 1998) within a minimum of 100 m of the landfall area, and up to 250 m of the remainder of the Proposed Onshore Development, where (i) specially protected species could occur i.e. those listed on Schedule 1 of the Wildlife and Countryside Act, as amended, and those listed in Annex 1 of the EC Birds Directive; (ii) wetland, scrub and woodland habitats potentially supporting sensitive and declining species, such as breeding waders or notable wildfowl, could occur; and

(iii) permanent above ground infrastructure will be built. Monthly visits will be undertaken from April to early July 2024 inclusive.

8.10.29 On completion of 2024 surveys, an assessment will report reviewed survey data to inform the requirements, if any, for further breeding bird surveys in 2025. This report will be shared with key stakeholders (i.e., NatureScot and Aberdeenshire Council).

#### Wintering Wildfowl Surveys (OnECC, OnGCC, OnSS and OnRCS)

8.10.30 As above, targeted surveys are for wintering waterbirds, in particular geese and swans. Other notable species, including priority species, are also recorded. Methods are based on a combination of the enhanced WeBS Core Counts 'look-see' methodology (Bibby *et al.*, 2000), the goose feeding distribution survey methodology (SNH 2017) and goose roost surveys (Gilbert *et al.*, 1998) within up to 2 km. Surveys are targeted at areas identified through desk study (via sources listed in **Table 8.4**) as potentially important for foraging and roosting wildfowl.

#### Consultation

8.10.31 Further post-scoping consultation will include:

- Landowner and stakeholder (NatureScot and Aberdeenshire Council) consultation to establish on and off-site compensatory and enhancement areas required to satisfy the provisions of national and local planning policy;
- Engagement with NatureScot and Aberdeenshire Council to discuss and agree an appropriate method for quantifying biodiversity net gain associated with the Proposed Onshore Development;
- Engagement with NatureScot, Marine Science Scotland and the local fisheries trust to discuss and agree survey scope for freshwater fish; and
- Stakeholder consultation to agree level of assessment required for impacts currently identified as possible-LSE within **Table 8.8** once further evidence and project information available.

#### Assessment Methodology

8.10.32 The evaluation of ecological and ornithological features and the assessment of LSE on terrestrial ecology and ornithology will be based on the methodology set out in Chartered Institute of Ecology and Environmental Management (CIEEM) 'Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine' (CIEEM, 2018 - updated 2022). The CIEEM guidelines are widely regarded as industry best practice. It is noted that these differ in places from the generic methodology set out in **Chapter 5: EIA Methodology**.

#### Identification of Important Ecological Features

8.10.33 In accordance with the CIEEM guidelines, only ecological features (habitats, species, ecosystems and their functions/processes) which are considered to be important and potentially affected by a proposed development should be subject to detailed assessment. It is not necessary to carry out detailed assessment of features that are sufficiently widespread, unthreatened and resilient to impacts from a development and will remain viable and sustainable. The EclA will therefore only assess features of at least local importance or above. Effects on ecological features of less than

local importance are considered unlikely to be significant in legal or policy terms and therefore will not be subject to detailed assessment.

8.10.34 Ecological features should be considered within a defined geographical context. For the EclA, the following frame of reference will be applied:

- International;
- National (Scotland);
- Regional (North East Scotland);
- County (Aberdeenshire);
- Local (within approximately 5 km); and
- Less than local.

8.10.35 For designated sites, importance will reflect the geographic context of the designation. For example, a SSSI would normally be considered nationally important.

8.10.36 To accord with CIEEM guidelines, the value of habitats will be measured against published selection criteria and other relevant data where available. Examples of relevant criteria include Annex 1 of the Habitats Directive, habitats defined within the Scottish Biodiversity List (SBL) as being of principle importance for biodiversity conservation, and those listed as priority habitats within North East Scotland Local Biodiversity Action Plan (NE LBAP).

8.10.37 In assigning a level of value to a species, it is necessary to consider its distribution and status, including a consideration of trends based on available historical records. Reference will therefore be made to published lists and criteria where available. Examples of relevant lists and criteria include: species of European conservation importance (as listed on Annexes II, IV and V of the Habitats Directive); species of national importance (as listed on Schedule 2 of the Habitats Regulations); species defined within the SBL as principal importance for biodiversity in Scotland; and priority species listed on the NE LBAP. For birds, where appropriate, the value of species populations will be determined using the standard '1% criterion' method (Drewitt *et al.*, 2023)<sup>15</sup>.

### **Impact Assessment**

8.10.38 The EclA process will involve the following steps:

- Identifying and characterising impacts;
- Incorporating measures to avoid and mitigate (reduce) these impacts;
- Assessing the significance of any residual effects after secondary mitigation;
- Identifying appropriate compensation measures to offset significant residual effects (if required); and

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<sup>15</sup> Using the standard '1% criterion' method, the presence of greater than 1% of the international population of a species is considered internationally important; greater than 1% of the national population is considered nationally important; etc. Using the same principle, any species present in numbers representing greater than 1% of the relevant designated site population is considered to represent a significant proportion of that site's population.

- Identifying opportunities for ecological enhancement.

8.10.39 In accordance with CIEEM guidelines, when describing ecological impacts, reference will be made to the following characteristics, as appropriate:

- Positive or negative (i.e., whether the impact improves or reduces the quality of the environment);
- Extent (i.e., the spatial or geographical area over which the impact/effect may occur);
- Magnitude (i.e., the size, amount, intensity or volume of an impact, which should be quantified, where possible);
- Duration (i.e., the time period over which the impact may occur, both in terms of the activity itself and the resulting effect, which may be different);
- Frequency and timing (i.e., the number of times an activity occurs); and
- Reversibility (an irreversible effect is one from which recovery is not possible within a reasonable timescale, a reversible effect is one from which recovery is possible, e.g., via the use of mitigation measures).

8.10.40 Both direct and indirect impacts will be considered. Direct ecological impacts are changes that are directly attributable to a defined action, e.g., the physical loss of habitat during the construction process. Indirect ecological impacts are attributable to an action, but which affect ecological resources through effects on an intermediary ecosystem, process, or features, e.g., the interruption of a watercourse, which, in the absence of mitigation, could lead to the drying out of downstream habitats.

#### ***Significance of Effect***

8.10.41 In accordance with CIEEM (2018), a 'significant effect' is an effect that either supports or undermines biodiversity conservation objectives for 'important ecological features<sup>16</sup>' for biodiversity in general. The effect is sufficiently important to require assessment and reporting so that the decision maker is adequately informed as to the environmental consequences of permitting a project. Conservation objectives may be specific (e.g., for a designated site) or broad (e.g. national / local nature conservation policy) or more wide-ranging (enhancement of biodiversity). Effects can be considered significant at a wide range of scales, from international to local. For example, a significant effect on a SSSI is likely to be of national significance whilst a significant effect on a regionally important population of a species is likely to be of regional significance. In some circumstances the scale of significance of an effect may also differ from the geographic context in which the feature is considered important.

8.10.42 Paragraphs 5.29 – 5.34 of the CIEEM guidelines cover how significant effects are determined. To summarise:

- For designated sites – effects may be significant if they are likely to undermine the conservation objectives of the site; or positively or negatively affect the conservation status

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<sup>16</sup> Ecological features can be important for a variety of reasons, and may relate, for example, to the quantity or extent of designated sites or habitats, to habitat/species rarity, to the extent to which they are threatened throughout their range, or to the rate of decline.

of species or habitats for which the site is designated; or may affect the condition of the site or its interest/qualifying features.

- For ecosystems – effects may be significant if the project is likely to result in a change in ecosystem structure and function. Consideration should be given as to whether any processes or key characteristics will be removed or changed, if there will be an effect on the nature, extent, structure and function of component habitats or if there is an effect on the average population size and viability of component species.
- For habitats and species – consideration of conservation status is important for evaluating the effects of impacts on individual habitats and species and assessing their significance. Conservation status is defined as follows:
  - Habitats – conservation status is determined by the sum of the influences acting on the habitat that may affect its extent, structure and functions, as well as its distribution and its typical species within a given geographical area; and
  - Species – conservation status is determined by the sum of influences acting on the species concerned that may affect its abundance and distribution within a given geographical area.

#### ***Avoidance, Mitigation, Compensation, and Enhancement***

8.10.43 A sequential process will be adopted to avoid, mitigate, and compensate for ecological impacts. This is often referred to as the ‘mitigation hierarchy’.

8.10.44 It is important for the EIA to clearly differentiate between avoidance, mitigation, compensation and enhancement and these terms are defined here as follows:

- Avoidance is used where an impact has been avoided, e.g., through changes in scheme design;
- Mitigation is used to refer to measures to reduce or remedy a specific negative impact in situ (also referred to as ‘commitments’ in **Table 8.7**);
- Compensation describes measures taken to offset residual effects, i.e. where mitigation in situ is not possible; and
- Enhancement is the provision of new benefits for biodiversity that are additional to those provided as part of mitigation or compensation measures, although they can be complimentary.

8.10.45 Mitigation, compensation and enhancement measures will be developed, as appropriate, and details provided in the EclA Report. The primary form of mitigation will be avoidance by design (as highlighted under ‘primary commitments’ in **Table 8.7**) e.g., the avoidance, where possible, of sensitive habitats. A range of ‘standard’ good practice measures would also be embedded in the project and implemented during construction to avoid and reduce impacts (described as ‘tertiary commitments’ in **Table 8.7**).

## **8.11 Scoping Questions**

8.11.1 The following Scoping Questions are designed to focus the scoping exercise and inform the Scoping Opinion:

- Do you agree with data sources utilised to inform this Onshore Scoping Report and future EIA chapter?
- Do you agree with the approach to data collection and identification of baseline ecological and ornithological conditions?
- Do you agree with the methods that will be applied to carry out the EclA?
- Are there any developments or infrastructure schemes which should be taken into account when considering potential beneficial and adverse cumulative impacts?



## 9 Landscape and Visual

### 9.1 Introduction

9.1.1 This Chapter of the Onshore Scoping Report identifies the Landscape and Visual receptors of relevance to the Proposed Onshore Development and considers the potential effects from the construction, O&M and decommissioning of the Proposed Onshore Development landward of Mean Low Water Springs (MLWS). This Chapter also sets out the proposed approach to assessing the potential effects of the Proposed Onshore Development on landscape character and visual amenity through a Landscape and Visual Impact Assessment (LVIA), as part of the Onshore EIAR.

9.1.2 The LVIA will consider direct and indirect effects on landscape fabric, landscape character, and the implications for designated landscapes, and cumulative effects. It will examine and assess the nature and extent of effects arising from the introduction of the Proposed Onshore Development during all phases of the development.

9.1.3 This Chapter should be read alongside the following other Chapters of this Onshore Scoping Report:

- **Chapter 8: Ecology, Biodiversity and Nature Conservation;**
- **Chapter 10: Cultural Heritage;** and
- **Chapter 15: Socioeconomics, Tourism and Recreation.**

9.1.4 It should also be read alongside the following Chapters of the Offshore Scoping Report (Ørsted, 2023a), which consider the potential effects of the Proposed Offshore Development:

- **Chapter 17: Seascape, Landscape and Visual Impact.**

### 9.2 Legislation, Policy and Guidance

9.2.1 In addition to those described in **Chapter 2: Planning and Policy Context** of this Onshore Scoping Report, the legislation, policy and guidance identified in **Table 9.1** will be taken into account during the assessment of Landscape and Visual effects.

**Table 9.1: Relevant Legislation Policy and Guidance**

Title	Source
<b>Legislation</b>	
The Town and Country Planning (Environmental Impact Assessment) Regulations 2017	<a href="https://www.legislation.gov.uk/ukxi/2017/571/contents">https://www.legislation.gov.uk/ukxi/2017/571/contents</a>
<b>Policy</b>	
National Planning Framework 4 (NPF4) (2023a)	<a href="https://www.gov.scot/publications/national-planning-framework-4/">https://www.gov.scot/publications/national-planning-framework-4/</a>
Aberdeenshire Local Development Plan (ALDP) (2023a)	<a href="https://www.aberdeenshire.gov.uk/planning/plans-and-policies/ldp-2023/">https://www.aberdeenshire.gov.uk/planning/plans-and-policies/ldp-2023/</a>

Title	Source
Aberdeenshire Special Landscape Areas (Appendix 13 of the Aberdeenshire Local Development Plan (2023c))	<a href="https://www.aberdeenshire.gov.uk/planning/plans-and-policies/ldp-2023/">https://www.aberdeenshire.gov.uk/planning/plans-and-policies/ldp-2023/</a>
<b>Guidance</b>	
Landscape Institute and the Institute of Environmental Management and Assessment (2013), Guidelines for Landscape and Visual Impact Assessment, Third Edition (GLVIA3)	Published book
Countryside Agency and SNH (2002), Landscape Character Assessment: Guidance for England and Scotland	<a href="https://digital.nls.uk/pubs/e-monographs/2020/216649977.23.pdf">https://digital.nls.uk/pubs/e-monographs/2020/216649977.23.pdf</a>
Landscape Institute (2019a) Visual Representation of Development Proposals – Technical Guidance Note 06/19	<a href="https://www.landscapeinstitute.org/visualisation/">https://www.landscapeinstitute.org/visualisation/</a>
Landscape Institute (2019b), Residential Visual Amenity Assessment (RVAA) – Technical Guidance Note 02/19	<a href="https://www.landscapeinstitute.org/technical-resource/rvaa/">https://www.landscapeinstitute.org/technical-resource/rvaa/</a>
SNH (2018c) Environmental Impact Assessment Handbook, Appendix 2: Landscape and Visual Impact Assessment, Version 5	<a href="https://www.nature.scot/sites/default/files/2018-05/Publication%202018%20-%20Environmental%20Impact%20Assessment%20Handbook%20V5.pdf">https://www.nature.scot/sites/default/files/2018-05/Publication%202018%20-%20Environmental%20Impact%20Assessment%20Handbook%20V5.pdf</a>

9.2.2 Relevant policies within National Planning Framework 4 (NPF4) and the Aberdeenshire Local Development Plan 2023 (ALDP) and their policy intent are identified in **Table 9.2** and **Table 9.3**, respectively.

**Table 9.2:** *Relevant National Planning Policies in NPF4*

NPF4 Policy	Policy Intent
Policy 4: Natural places	To protect, restore and enhance natural assets making best use of nature-based solutions.
Policy 6: Forestry woodlands and trees	To protect and expand forests, woodland and trees.
Policy 7: Historic assets and places	To protect and enhance historic environment assets and places, and to enable positive change as a catalyst for the regeneration of places.
Policy 11: Energy	To encourage, promote and facilitate all forms of renewable energy development onshore and offshore. Policy 11 (e) requires that project design and mitigation will require to demonstrate, amongst other matters, how impacts are addressed on (ii) significant landscape and visual impacts, recognising that such impacts are to be expected for some forms of renewable energy. It states that where impacts are localised and/or appropriate design mitigation has been applied, they will generally be considered to be acceptable.
Policy 14: Design quality and place	To encourage, promote and facilitate well designed development that makes successful places by taking a design-led approach and applying the Place Principle.

NPF4 Policy	Policy Intent
Policy 29: Rural development	To encourage rural economic activity, innovation and diversification whilst ensuring that the distinctive character of the rural area and the service function of small towns, natural assets and cultural heritage are safeguarded and enhanced.

**Table 9.3:** Relevant Local Development Plan Policies in ALDP

ALDP Policy	Policy Intent
Policy R1: Special Rural Areas	To restrict development in order to safeguard the special nature of the green belt and coastal zone.
Policy E2: Landscape	To ensure that Special Landscape Areas are protected from inappropriate development and to ensure that impacts upon landscape character are acceptable.
Policy E3: Forestry and Woodland	To protect and enhance Aberdeenshire’s forests and native and semi-natural woodland areas.
Policy HE2: Protecting Historic, Cultural and Conservation Areas	To preserve or enhance the character or appearance of a conservation area and inventory garden and designed landscape.
C2: Renewable Energy	To support renewable energy developments, but with recognition of the need to take account of any effects on [inter alia] communities and landscape and visual aspects.

### 9.3 Scoping Study Area

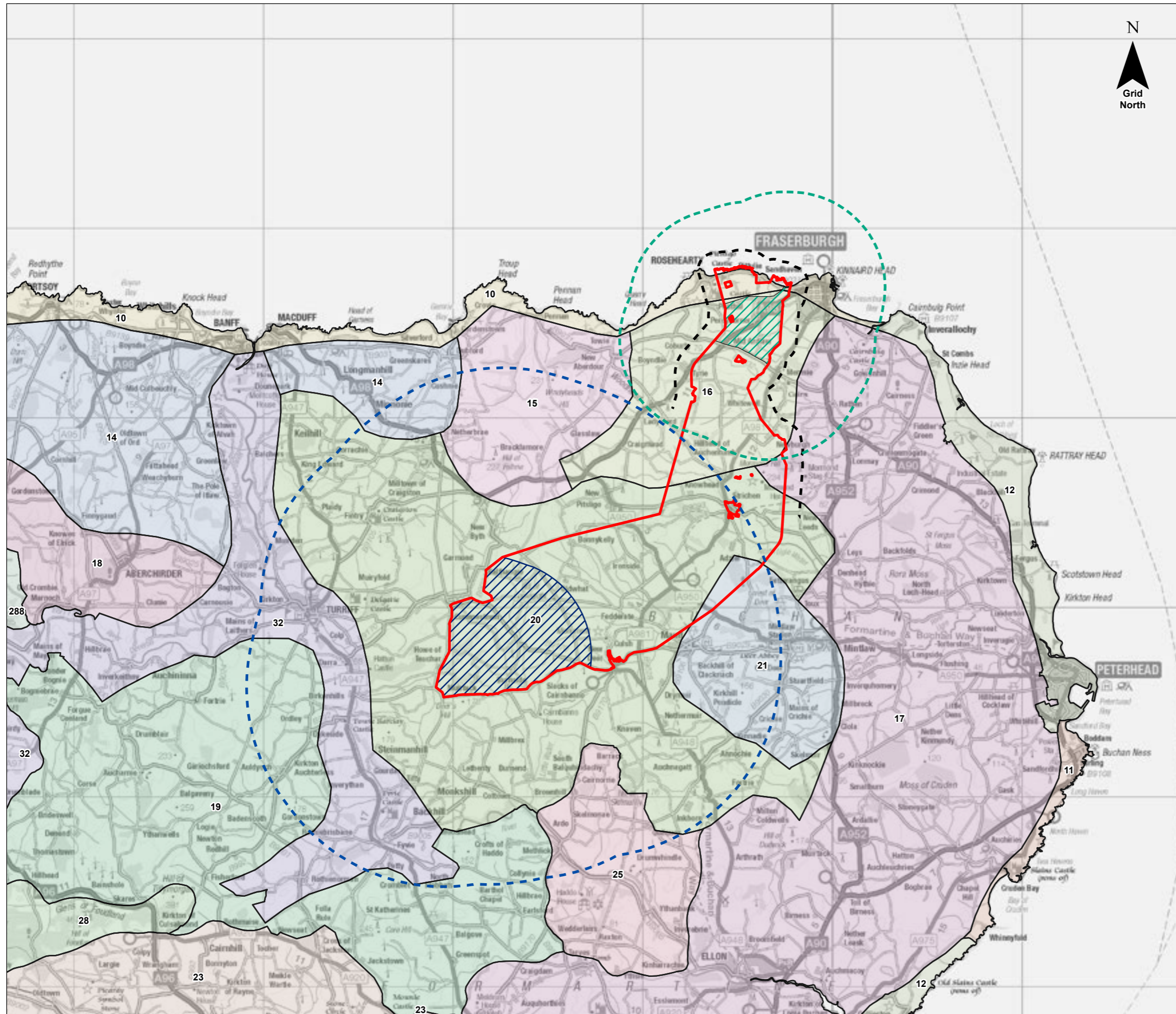
9.3.1 For the purposes of this scoping assessment, the Onshore Scoping Study Area for Landscape and Visual is defined as the Onshore Scoping Area, (as shown in **Figure 9.1**) and associated additional buffers relevant to each of the different infrastructure elements of the Proposed Onshore Development as follows:

- OnECC and OnGCC: an additional 1 km buffer around the Onshore Scoping Area;
- OnRCS: an additional 5 km buffer around the OnRCS Area of Search; and
- OnSS: an additional 10 km buffer around the OnSS Area of Search.

9.3.2 The extent of the Onshore Scoping Study Area for this scoping assessment is based on a precautionary approach and covers a wider area than anticipated to seek to ensure all potential key receptors are considered.

# Stromar Offshore Wind Farm

## Figure 9.1 Landscape Character



### Legend

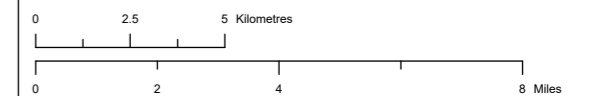
- Onshore Scoping Area
- Onshore Scoping Area 1 km Buffer
- Onshore Substation (OnSS) Area of Search
- Proposed OnSS Area of Search 10 km Buffer
- Proposed Onshore Reactive Compensation Station (OnRCS) Area of Search
- Proposed OnRCS Area of Search 5 km Buffer

### Landscape Character Assessment

- 10: Cliffs and Rocky Coast - Aberdeenshire
- 11: Fragmented Rocky Coast
- 12: Beaches, Dunes and Links - Aberdeenshire
- 14: Gently Undulating Coastal Farmland
- 15: Broad Ridges and Valleys
- 16: Coastal Farmland with Ridges and Valleys
- 17: Coastal Agricultural Plain - Aberdeenshire
- 18: Low Hills and Basins
- 19: Farmed Rolling Ridges and Hills
- 20: Undulating Agricultural Heartland
- 21: Farmland and Wooded Policies
- 23: Farmed Basin - Aberdeenshire
- 25: Farmed Strath - Aberdeenshire
- 28: Outlying Hills & Ridges
- 32: Farmed and Wooded River Valleys
- 288: Upland Farmland

Coordinate System: British National Grid

Scale @ A3 : 1:200,000



Rev	Description	Date
A	First Draft	22/08/2023
B	Second Draft	15/12/2023
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Doc. Report : Onshore Scoping Report  
 Doc. Title : Landscape Character Drawing  
 Doc. No : 404.V64554.00001.0052.1  
 Created by : PW  
 Checked by : SH  
 Approved by : MF



## 9.4 Baseline Environment

### Data Sources

9.4.1 To describe the Landscape and Visual baseline within the Onshore Scoping Study Area in this Chapter, the data sources identified in **Table 9.4** have been used. These data sources will also be used to inform the baseline characterisation for the LVIA in the Onshore EIAR, along with the additional data sources identified in **Section 9.9**.

**Table 9.4:** Onshore Scoping Study Area Baseline Data Sources

Source	Summary	Coverage of Onshore Scoping Study Area
Ordnance Survey.	Ordnance Survey mapping, indicating the locations of potential visual receptors including settlements, residential properties, Sustrans National Cycle Route, long distance paths and tourist and recreational activities.	Whole of Onshore Scoping Study Area.
Aerial imagery	Aerial photography from online sources e.g. Google Earth/Google Maps and Bing.com	Whole of Onshore Scoping Study Area.
NatureScot.	Digital map-based national LCA (published 2019).	Whole of Onshore Scoping Study Area.
Aberdeenshire Council.	Aberdeenshire Council, Aberdeenshire Special Landscape Areas (Appendix 13 of the Aberdeenshire Local Development Plan (2023c)). Location and extent of Core Paths.	Whole of Onshore Scoping Study Area.
Historic Environment Scotland.	Citations for Gardens and Designed Landscapes (GDL).	Whole of Onshore Scoping Study Area.
Scotways	Mapping, data and details related to Core Paths, Heritage Paths and Rights of Way.	Whole of Onshore Scoping Study Area.
<a href="https://www.walkhighlands.co.uk/">https://www.walkhighlands.co.uk/</a>	Long distance walking routes within Scotland.	Whole of Onshore Scoping Study Area.

### Description of Baseline Environment

9.4.2 The Onshore Scoping Study Area is largely an undulating, rural, agricultural landscape. The coastline in the north of the Onshore Scoping Study Area is low lying, with a rocky foreshore backed by gently rising grassland. The elevation ranges from sea level at the coast, rising gently inland to the south to approximately 40 m Above Ordnance Datum (AOD) to the southeast of Fraserburgh. This differs from other parts of the nearby coastline in Aberdeenshire, where there are high headlands and sheer cliffs. Further to the south and southwest, the landform generally rises and becomes more undulating, notable high points include Waughton Hill at 234 m AOD (part of Mormond Hill) in the eastern part of the Onshore Scoping Study Area and the Hill of Fisherie at 227 m AOD to the north of New Byth.

- 9.4.3 There are multiple small watercourses within the Onshore Scoping Study Area, flowing along the bases of relatively broad, shallow valleys. Examples of such watercourses include the Water of Tyrie, North Ugie Water, Little Water and Idoch Water.
- 9.4.4 There are several blocks of woodland within the Onshore Scoping Study Area. These typically comprise relatively small blocks of coniferous forestry, together with smaller areas of mixed or deciduous woodland. These blocks of forestry or woodlands frequently have quite hard linear edges and there are mixed ages of trees, with areas of felled and recently planted trees, together with mature woodlands. Areas of woodland are also associated with Gardens and Designed Landscapes (GDLs), including Hatton Castle and Fyvie Castle. In addition, there are shelterbelts within the Onshore Scoping Study Area, typically associated with roads and farms.
- 9.4.5 Built development within the Onshore Scoping Study Area is typically sparse and dispersed. It predominately comprises dispersed farms, together with individual and small clusters of houses alongside the road network. There are also several settlements, including Cuminestown, New Deer, Maud and Turriff. The coastal settlements of Fraserburgh, Rosehearty and Sandhaven are located in the vicinity of the proposed landfall location(s).

#### ***Landscape Character***

- 9.4.6 A large proportion of the Onshore Scoping Study Area comprises the Undulating Agricultural Heartland Landscape Character Type (LCT) 20 as defined in the NatureScot National Character Assessment, which is an extensive area of gently undulating farmland lying at the core of north-eastern Aberdeenshire, as shown on **Figure 9.1**. The northern part of the Onshore Scoping Study Area, closer to the coastline largely comprises the Coastal Farmland with Ridges and Valleys LCT 16 and Cliffs and Rocky Coast – Aberdeenshire LCT 10.
- 9.4.7 The key characteristics of the Undulating Agricultural Heartland LCT comprise:
- *“Gently undulating, rolling landform of low hills and ridges, with broad shallow valleys.*
  - *Smoothly rounded terrain.*
  - *Large fields.*
  - *Occasional beech and thorn hedges, with stone dykes more common in parts.*
  - *Generally sparse woodland cover, with broadleaf trees concentrated in shelterbelts along ridges, and around farms. Larger coniferous forests occur in some areas, and estate policies and occasional beech shelterbelts also occur.*
  - *A well settled landscape with a number of small settlements including historic planned fermtowns, castles and designed landscapes.*
  - *Frequent, regularly dispersed medium-sized farms, with pockets of smaller farms and crofts.*
  - *Open, expansive character with views to landmark hills; the Culsh monument above New Deer is a key landmark feature.”*
- 9.4.8 The key characteristics of the Coastal Farmland with Ridges and Valleys LCT comprise:
- *“Pattern of low ridges and broad shallow valleys.*
  - *Pockets of more complex landform in the Boyndie area.*

- *Mormond Hill, on the south-eastern boundary of this Landscape Character Type, forms a prominent backdrop and key landmark feature with diverse vegetation cover.*
- *Small neat undulating pastures close to parts of the coast.*
- *Scarcity of woodland, with only occasional shelterbelts and semi-natural woodland in wetter areas.*
- *Moss and rough grassland in broader basins, fringed mainly with willow scrub and birch.*
- *Widely scattered small farms, linked by minor roads, with buildings sited on drier small hillocks.*
- *Communication infrastructure on some higher ridges and hills.*
- *Proximity of the coast perceived in the strong sense of openness, lightness and space.”*

9.4.9 The key characteristics of the Cliffs and Rocky Coast – Aberdeenshire LCT comprise:

- *“Fragmented coastline featuring caves, numerous jagged islets and arches.*
- *Raised beaches, some with distinctive small former fishing villages.*
- *Colonisation of every available sheltered area by short creeping grasses and wind-pruned gorse.*
- *Deep rocky ravines cut by small water courses (known locally as dens) with lush vegetation.*
- *Farmland extending to cliff edges.*
- *Historic towns, often where rivers join the sea.*
- *Lighthouses, and ruined castles and coastal churches occur infrequently along the coast and form landmark features seen from roads and coastal footpaths.*
- *Absence of development along more remote stretches of coast.”*

9.4.10 Whilst the above characteristics for Cliffs and Rocky Coast – Aberdeenshire LCT defined in the published landscape character assessment are as set out above, the land within the Onshore Scoping Area differs from these comprising a relatively settled section of low lying coastline.

9.4.11 The wider Onshore Scoping Study Area also includes several other LCTs:

- Gently Undulating Coastal Farmland LCT 14;
- Broad Ridges and Valleys LCT 15;
- Coastal Agricultural Plain – Aberdeenshire LCT 17;
- Farmed Rolling Ridges and Hills LCT 19;
- Farmland and Wooded Policies LCT 21;
- Farmed Strath – Aberdeenshire LCT 25; and
- Farmed and Wooded River Valleys LCT 32.

### ***Landscape Designations***

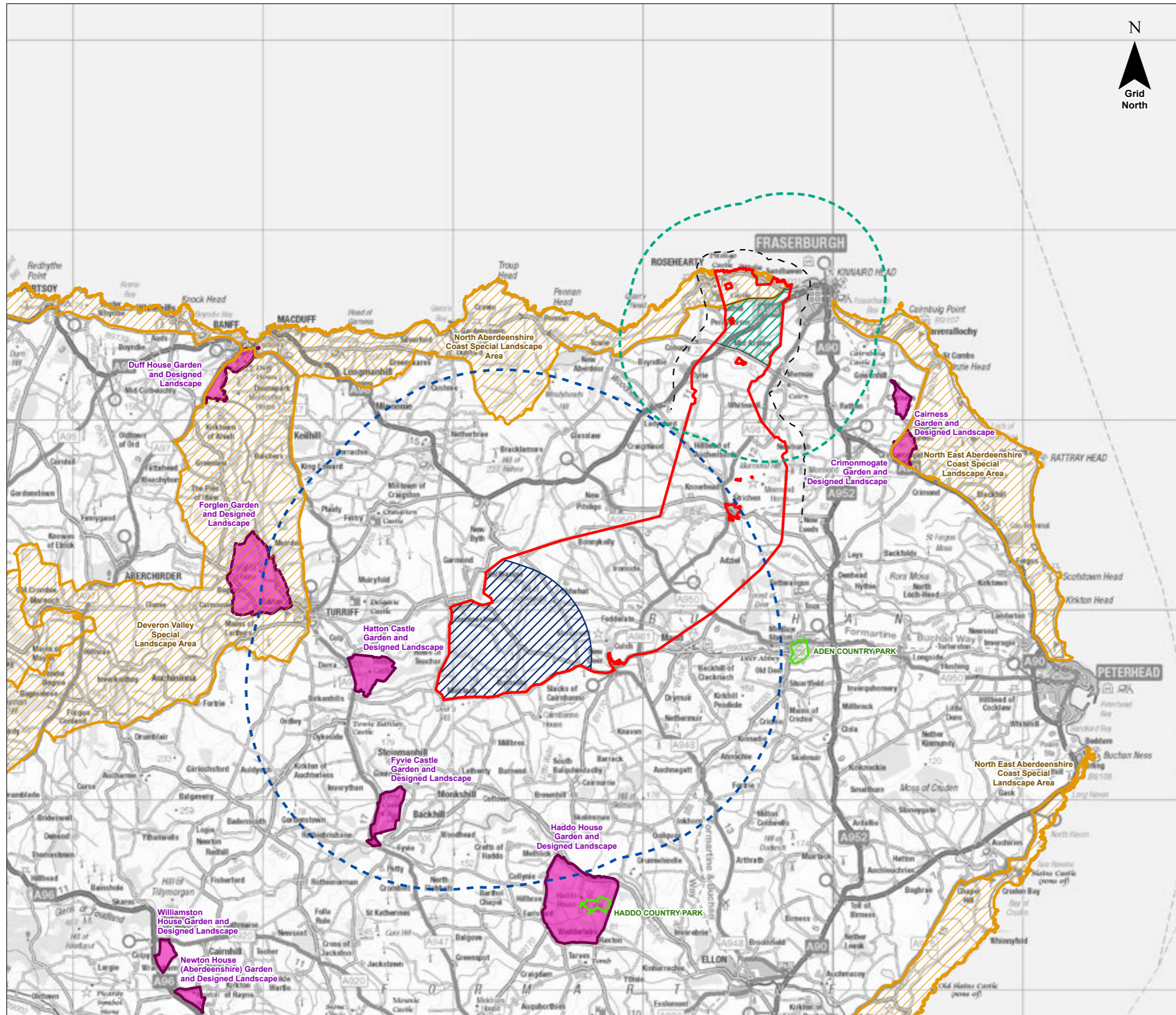
9.4.12 The location and extents of landscape designations which occur within the Onshore Scoping Study Area are shown in **Figure 9.2**.

- 9.4.13 There are no National Parks, National Scenic Areas or Wild Land Areas within the Onshore Scoping Study Area. No nationally designated Garden and Designed Landscape (GDL) lie within the Onshore Scoping Area itself. However, four GDLs lie within the wider Onshore Scoping Study Area: Hatton Castle, Fyvie Castle, Haddo House and Forglen.
- 9.4.14 At a local level, the North Aberdeenshire Coast Special Landscape Area (SLA) overlaps with the northern part of the Onshore Scoping Area. In addition, part of the Deveron Valley SLA overlaps with the western fringes of the wider Onshore Scoping Study Area.



# Stromar Offshore Wind Farm

## Figure 9.2 Landscape Designations



### Legend

- Onshore Scoping Area
- Onshore Scoping Area 1 km Buffer
- Onshore Substation (OnSS) Area of Search
- Proposed OnSS Area of Search 10 km Buffer
- Proposed Onshore Reactive Compensation Station (OnRCS) Area of Search
- Proposed OnRCS Area of Search 5 km Buffer
- Inventory of Garden And Designed Landscapes
- Special Landscape Area (SLA)
- Country Park



Coordinate System: British National Grid

Scale @ A3 : 1:200,000



Rev	Description	Date
A	First Draft	22/08/2023
B	Second Draft	15/12/2023
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Doc. Report : Onshore Scoping Report  
 Doc. Title : Landscape Designations  
 Doc. No : 404.V64554.00001.0034.1  
 Created by : PW  
 Checked by : SH  
 Approved by : MF



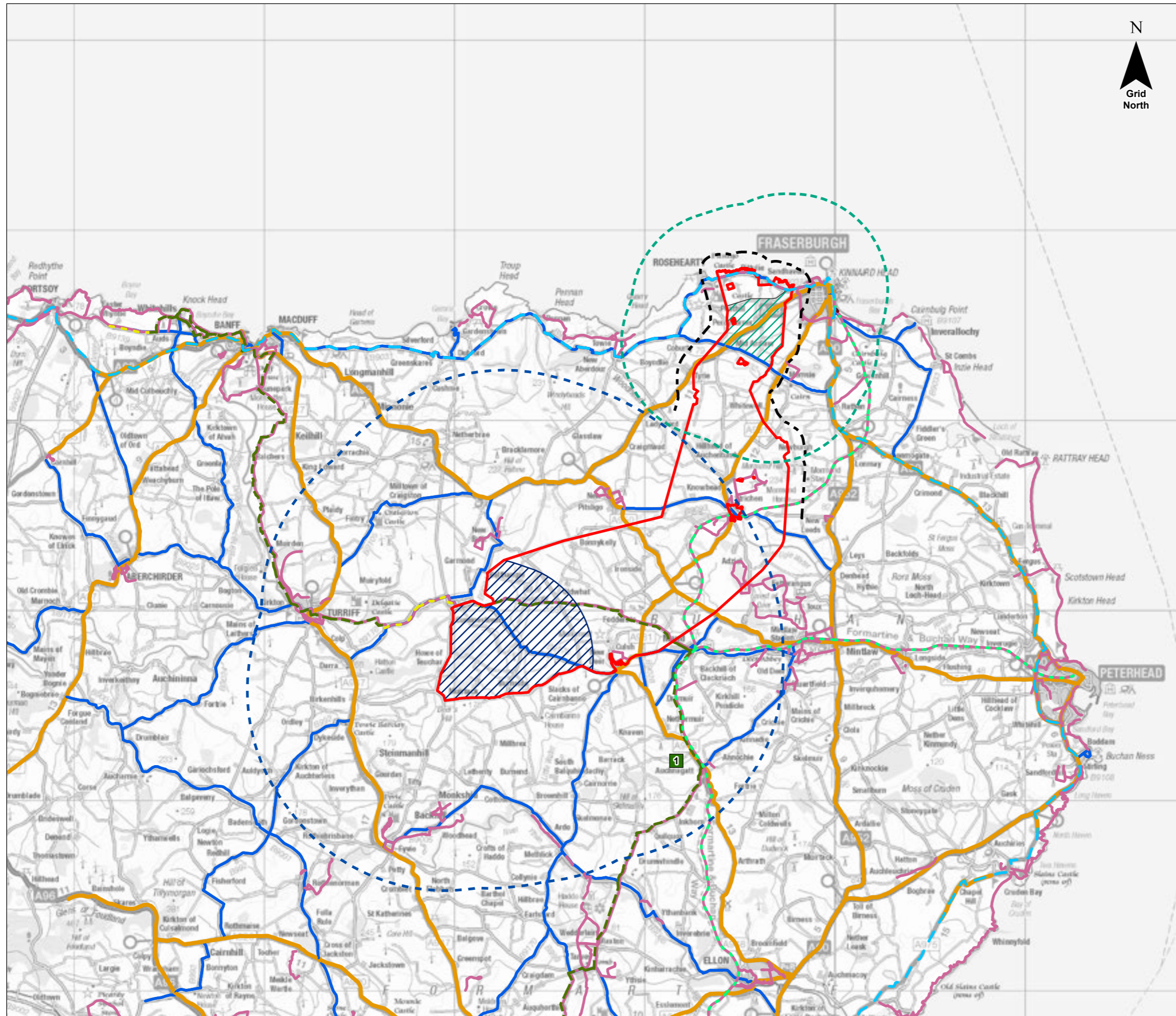
## Visual Context

### Potential Visual Receptors

- 9.4.15 The landscape within the Onshore Scoping Study Area contains a wide range of visual receptors. **Figure 9.3** shows a range of visual receptors, with additional receptors within settlements identified on the base map. Key potential visual receptors include residents, users of Core Paths, visitors to local/tourist attractions and users of transport infrastructure including roads and railways. In the context of residential properties, key considerations are likely to include the residents within larger settlements such as Fraserburgh, Sandhaven, Rosehearty, Strichen, Maud, New Deer, Cuminestown and Turriff. This selection of settlements is not exhaustive and those considered in the LVIA will be refined as the details of the Proposed Onshore Development are refined and confirmed. In addition, there are numerous dispersed farms, individual properties and clusters of properties within the Onshore Scoping Study Area.
- 9.4.16 There are numerous Core Paths within the Onshore Scoping Study Area. These include the Formartine and Buchan Way long distance route, which was opened in the 1990s and extends from Dyce to Fraserburgh, with a spur between Maud and Peterhead. Much of the Formartine and Buchan Way is located outside the Landscape and Visual study area. However, a section of this route does enter in the vicinity of Maud and Strichen.
- 9.4.17 Sustrans National Cycle Network (NCN) Route 1, which extends from Dover to the north of Scotland is routed through the Onshore Scoping Study Area. NCN Route 1 follows a disused railway to the south of Maud, and then a combination on minor roads and the B9170 between Maud, Cuminestown and Turriff.
- 9.4.18 Tourist attractions and focal points within the local landscape will be considered as part of the LVIA, such as Haddo House, Fyvie Castle and the Culsh monument to the north of New Deer, which is also marked as a viewpoint on Ordnance Survey maps.
- 9.4.19 There are numerous roads within the Onshore Scoping Study Area. Primary roads include the A98, A947, A950 and A981. Secondary roads include the B9005, B9027, B9031, B9032, B9093 and B9170. In addition, there are numerous minor roads connecting settlements, farms and dispersed properties.
- 9.4.20 The B9031 along the north coast, and crossing the northern part of the Onshore Scoping Study Area forms part of the North East 250 tourist route. It is described by Visit Scotland as follows:
- “The North East 250 explores everything for which Scotland is famous in a unique Scottish road trip taking you through the whisky distilleries of Speyside, the spectacular mountain passes of the Cairngorms National Park, the famous castles of Royal Deeside, the Granite City of Aberdeen, the rugged North Sea coastline to the east, and the picturesque seaside villages of the Moray Firth Coast.”*

# Stromar Offshore Wind Farm

## Figure 9.3 Key Visual Receptors



- Legend**
- Onshore Scoping Area
  - Onshore Scoping Area 1 km Buffer
  - Onshore Substation (OnSS) Area of Search
  - Proposed OnSS Area of Search 10 km Buffer
  - Proposed Onshore Reactive Compensation Station (OnRCS) Area of Search
  - Proposed OnRCS Area of Search 5 km Buffer
  - National Cycle Network (Labelled with Route Number)
  - Reclassified Cycle Route
  - Primary Road
  - Secondary Road
  - Railway Route
  - Corepath
  - Formartine and Buchan Way
  - North East 250



Coordinate System: British National Grid  
 Scale @ A3 : 1:200,000

Rev	Description	Date
A	First Draft	22/08/2023
B	Second Draft	15/12/2023
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Doc. Report : Onshore Scoping Report  
 Doc. Title : Key Visual Receptors  
 Doc. No : 404.V64554.00001.0035.1  
 Created by : PW  
 Checked by : SH  
 Approved by : MF



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### *Future Baseline*

- 9.4.21 The baseline character of the landscape in the Onshore Scoping Study Area is likely to change in the future as a result of the effects of climate change, land use policy, environmental improvements and development pressures, regardless of whether the Proposed Onshore Development progresses to construction or not.
- 9.4.22 A range of policies impact on the management of the landscape, ranging from international obligations, national policy and regulation, through to community strategies and development frameworks. Landscape planning policies covering the coastal landscape within the Onshore Scoping Study Area, such as the North Aberdeenshire Coast SLA, generally seek to conserve and enhance the natural beauty of the area, while recognising the need to adapt to inevitable change over time, particularly in such a dynamic coastal landscape shaped by coastal processes, and the need to respond to development pressures that reflect the changing needs of society.
- 9.4.23 There is overwhelming evidence that global climate change, influenced by the human use of fossil fuels, raw materials and intensive agriculture, is occurring (IPCC, 2014). Any notable change in climate is likely to present potential changes to the coastline of the Onshore Scoping Study Area in a variety of ways. The legislative framework already exists to ensure that no net loss of internationally important habitat occurs, but there remains a need to increase understanding of the potential effects of climate change on the characteristic landscapes of the Onshore Scoping Study Area and to develop longer term strategies that will mitigate any adverse effects of climate change.
- 9.4.24 Linked with climate change, coastal erosion is likely to result in change to the baseline context, with the potential for this to occur within the operational life of the Proposed Onshore Development. Much of the coastline within the Onshore Scoping Study Area is low lying. Parts of this may be lost or changed as result of coastal erosion.
- 9.4.25 Further development pressures which may change the baseline conditions, include suburbanisation and increased tourist development influences, particularly around the coastal landscapes, established coastal towns and larger settlements within the Onshore Scoping Study Area, and have the potential to increase the developed influence and reduce perceived naturalness of the landscape and coastline.

## **9.5 Commitments**

- 9.5.1 The Developer has committed to adopt a series of design commitments (primary commitments) at this scoping stage to avoid and (where avoidance is not possible) reduce the potential for effects on the environment. Further best practice measures (tertiary commitments) are embedded as an inherent aspect of the EIA process.
- 9.5.2 Those scoping commitments of relevance to Landscape and Visual are identified in **Table 9.5**. Full details on each of these commitments can be found in the Onshore Commitments Register in **Appendix 3.2** of this Onshore Scoping Report.

Table 9.5: Relevant Commitments to Landscape and Visual

ID	Commitment	How this commitment will be secured
<b>Primary commitments</b>		
C-ONS-003	There will be no permanent High Voltage infrastructure installed above surface within 200 m of residential properties and sub surface infrastructure (including the OnECC and OnGCC) within 50 m of residential properties.	Location and design of Proposed Onshore Development to be approved through grant of PPP consent. Final design to be approved through AMSC consent.
C-ONS-004	The OnECC and OnGCC will be buried underground for their entire length. Following reinstatement, the only above ground structures related to the OnECC and OnGCC will be link box lids where there are joints in the cable. These will typically take the form of a set of manhole covers surrounded by a small post and rail fenced enclosure.	Location and design of the OnECC and OnGCC, including any permanent above ground structures, to be approved through AMSC consent.
<b>Tertiary commitments</b>		
C-ONS-029	Where the Proposed Onshore Development is not required for electricity transmission purposes beyond the operational life of the Project, the onshore components would be decommissioned, and the land reinstated. Details of the decommissioning and restoration scheme shall be submitted to Aberdeenshire Council within 24 months of the permanent cessation of electricity generation.	Planning Condition attached to PPP consent required approval of decommissioning and site restoration plan.

9.5.3 As a result of the commitment to implement these measures, this mitigation is considered inherently part of the design of the Proposed Onshore Development and has, therefore, been included in the scoping assessment presented in **Section 9.6** of this Chapter.

9.5.4 It is expected that additional primary commitments will be identified as the layout and design of the Proposed Onshore Development is refined and developed. These will take into account any consultation feedback received.

9.5.5 The requirement for any additional secondary commitments to prevent, reduce or offset any remaining significant adverse effects of the Proposed Onshore Development will be developed throughout the EIA process dependent on the significance of effect upon Landscape and Visual receptors.

9.5.6 At this stage, we anticipate that the additional commitments may include:

- The location for the OnSS and OnRCS will take into consideration the surrounding landscape character, designations and visual amenity as a design principle in their site selection process and design.
- The project design process for the OnECC and OnGCC will seek to implement measures to avoid fragmentation of woodland and sensitive habitat where possible, through application of HDD, or other trenchless techniques, and use of existing breaks in land use.

- Landscape features (field boundaries, walls, hedges, trees, shrubs and other vegetation) along the OnECC and OnGCC routes to be retained where possible. Where it is not possible to retain them, the width of hedge and vegetation removed to be limited. Where it is not possible to avoid removal, replacement and compensatory landscaping to be provided where necessary.
- A Landscape Management Plan for the OnSS and OnRCS to be submitted for the approval of Aberdeenshire Council prior to the commencement of development. Potential mitigation measures to be considered within the plan may include earth bunding and landscape planting to help minimise potential Landscape and Visual effects. Mitigation landscape planting will be designed to enhance local landscape character, reflect historic landscape character where appropriate, increase biodiversity and habitat connectivity, and maximise the screening effect in relation to key visual receptors.
- To further help minimise potential Landscape and Visual effects, the Landscape Management Plan for the OnSS and RCS would consider mitigations factored into the design of the onshore infrastructure, including decluttering external features, treatment of exterior finishes, the placement and finish of the fencing, limiting the need for external lighting where possible and the use of sensors to avoid continuous lighting.

## 9.6 Scoping of Impacts

- 9.6.1 The Impacts Register (**Appendix 3.3**) sets out the proposed assessment of the potential effects of the Proposed Onshore Development on the environment, including Landscape and Visual, at the scoping stage of the EIA. It identifies all potential impacts and provides an assessment on whether or not it is considered that they have (or do not have) the potential to result in a LSE. A summary assessment of the potential impacts on Landscape and Visual receptors is provided in **Table 9.6**.
- 9.6.2 The assessment in the Impacts Register and **Table 9.6** has been based upon a combination of:
- The maximum development parameters of the Proposed Onshore Development at this scoping stage;
  - The commitments identified in **Table 9.5** and the Onshore Commitment Register in **Appendix 3.2**;
  - The level of understanding of the baseline environment at this scoping stage;
  - The existing evidence base;
  - Relevant legislation and policy; and
  - The professional judgement and experience of the qualified LVIA assessment specialists.
- 9.6.3 In accordance with the proportionate EIA approach (see **Section 5.2** and **Appendix 3.1**), for this scoping stage of the EIA process, the Impacts Register and **Table 9.6** categorises likely significance of effect as follows:
- **LSE identified at scoping stage without secondary commitments** – the impact will be subject to detailed assessment and scoped in to the EIAR;
  - **Possible LSE identified at scoping stage without secondary commitments** – however it may become clear post scoping that the impact does not require detailed assessment in the EIAR. The impact will be scoped in at scoping stage, however further evidence will be

brought forward post scoping to agree with consultees the specific treatment of the impact in the EIAR.

- **No LSE identified at scoping stage** – the impact will be scoped out of assessment in the EIAR.

9.6.4 Where it is agreed that potential effects can be scoped out of the EIAR, it is confirmed that these would still be presented within the Impacts Register within the EIAR with an explanation provided as to why it has been agreed it can be scoped out.

Table 9.6: Scoping Assessment for Landscape and Visual

Potential Effect	Project Element					Commitment(s)	Scoping Status			Proposed Approach to Assessment, including Description of any New Evidence Required
	Landfall	OnECC	OnGCC	OnSS	OnRCS		LSE	Possible LSE	No LSE	
<b>Construction</b>										
Temporary loss of landscape features and changes to landscape character.	✓	✓	✓	✓	✓	C-ONS-004	✓			Scoped in at scoping stage. Further information to be provided post-scoping: <ul style="list-style-type: none"> <li>• Detail of the proposed Landfall, OnECC, OnGCC, OnSS and OnRCS;</li> <li>• Information on proposed locations of temporary construction compounds;</li> <li>• Information on expected vehicle movements (LGVs and HGVs) associated with the construction phase; and</li> <li>• Consultation with Aberdeenshire Council’s landscape officer to agree level of assessment required.</li> </ul>
Temporary change to views and visual amenity during construction.	✓	✓	✓	✓	✓	C-ONS-003	✓			Scoped in for detailed assessment in the EIAR in accordance with GLVIA3. Further information to be provided post-scoping: <ul style="list-style-type: none"> <li>• Detail of the proposed Landfall, OnECC, OnGCC, OnSS and OnRCS;</li> <li>• Information on proposed locations of temporary construction compounds;</li> <li>• Information on expected vehicle movements (LGVs and HGVs) associated with the construction phase; and</li> <li>• Consultation with Aberdeenshire Council’s landscape officer to agree level of assessment required.</li> </ul>



Potential Effect	Project Element					Commitment(s)	Scoping Status			Proposed Approach to Assessment, including Description of any New Evidence Required
	Landfall	OnECC	OnGCC	OnSS	OnRCS		LSE	Possible LSE	No LSE	
<b>Operation and Maintenance</b>										
Permanent loss of landscape features and changes to landscape character and changes to quality of designated landscape.				✓	✓	C-ONS-004	✓			Scoped in for OnSS and OnRCS only for detailed assessment in the EIAR in accordance with GLVIA3. Further information to be provided post-scoping: <ul style="list-style-type: none"> <li>• Detail of the proposed OnSS and OnRCS; and</li> <li>• Consultation with Aberdeenshire Council's landscape officer to agree level of assessment required.</li> </ul>
Permanent change to views and visual amenity.				✓	✓	C-ONS-003 C-ONS-004	✓			Scoped in for OnSS and OnRCS only for detailed assessment in the EIAR in accordance with GLVIA3. Further information to be provided post-scoping: <ul style="list-style-type: none"> <li>• Detail of the proposed, OnSS and OnRCS; and</li> <li>• Consultation with Aberdeenshire Council's landscape officer to agree level of assessment required.</li> </ul>
<b>Decommissioning</b>										
Temporary loss of/disturbance to landscape features and changes to landscape character.	✓	✓	✓	✓	✓	C-ONS-029	✓			Scoped in, however the effects associated with the construction phase can be considered to be representative of reasonable worst-case decommissioning effects, and therefore no separate assessment of the decommissioning phase is proposed for Landscape and Visual receptors in the EIAR.
Temporary change to views and visual amenity during decommissioning.	✓	✓	✓	✓	✓	C-ONS-029	✓			Scoped in, however the effects associated with the construction phase can be considered to be representative of reasonable worst-case decommissioning effects, and therefore no separate assessment of the decommissioning phase is proposed for Landscape and Visual receptors in the EIAR.

## 9.7 Potential Cumulative Effects with Proposed Offshore Development

9.7.1 Potential cumulative effects with the Proposed Offshore Development works during the construction phase may include:

- Seascape/Landscape and Visual effects associated with the landfall/OnECC and offshore export cable cables; and/or
- Landscape and Visual effects associated with the landfall/OnECC and offshore RCS, if an offshore RCS forms part of the Proposed Onshore Development rather than an OnRCS.

9.7.2 There is not considered to be the potential for the Proposed Offshore Development to cause cumulative Landscape and Visual effects with the Proposed Onshore Development during the O&M phase.

## 9.8 Potential Cumulative Effects with Other Projects

9.8.1 A review of other existing and proposed projects near the Proposed Onshore Development will be undertaken and potential impacts on Landscape and Visual receptors will be assessed to identify potential cumulative impacts. In accordance with **Chapter 5: EIA Methodology** of this Onshore Scoping Report, the cumulative effects assessment for the Proposed Onshore Development will consider any other developments that are under construction, consented but not yet built or are the subject of valid planning or consent applications.

9.8.2 It is considered that the most likely cumulative Landscape and Visual effects would be during the O&M phase associated with other grid transmission and infrastructure projects. The final scope of the cumulative effects assessment will be agreed with Aberdeenshire Council following refinement of the Proposed Onshore Development and identification of the other projects considered to have potential for cumulative effects interactions with the Proposed Onshore Development.

## 9.9 Proposed Approach to the EIA

### *LVIA Study Area*

9.9.1 The study area for the LVIA assessment in the Onshore EIAR (including the cumulative LVIA) will be defined following the refinement of the layout and design of the Proposed Onshore Development.

9.9.2 Once the exact location of all elements of the Proposed Onshore Development are determined, a detailed study area for the EIAR will be refined to focus on the potential significant Landscape and Visual effects, which will be defined as the 'LVIA Study Area'. Significant effects on Landscape and Visual receptors beyond the Onshore Scoping Study Area are considered unlikely, although this will be reviewed once the design details of both the OnSS and OnRCS are refined.

9.9.3 At this stage the exact locations of the proposed OnSS and OnRCS are not known, however they will be within the Areas of Search within the Onshore Scoping Area as shown in **Figure 9.1**, **Figure 9.2** and **Figure 9.3**. The finalised LVIA Study Area and assessment for the EIAR will be appropriate to both the confirmed scale and locations of the permanent infrastructure. The approach that will be taken will be precautionary and based on a maximum design scenario.

- 9.9.4 A Zone of Theoretical Visibility (ZTV) will be used to confirm the LVIA Study Area for the EIAR once further details of the OnSS and OnRCS have been defined. The ZTV will assist in identifying which Landscape and Visual receptors require consideration in the LVIA, and which can be scoped out because they are unlikely to be significantly affected.

### ***Additional Data Sources***

- 9.9.5 In addition to the data sources used to inform this Onshore Scoping Report, additional desk and field data required to inform the LVIA in the Onshore EIAR is discussed below.

### ***ZTVs***

- 9.9.6 ZTVs will be prepared to identify key landscape visual receptors relevant to the Proposed Onshore Development. The ZTVs, combined with field survey, will also be used to identify potential viewpoints for inclusion in the LVIA.

### ***Desk Based Assessment***

- 9.9.7 Desk-based studies will include review of landscape and seascape character assessments, Ordnance Survey Mapping, aerial imagery and the ZTVs, to identify receptors that may be affected by the Proposed Onshore Development and produce written descriptions of their key characteristics and value. Published information on relevant designations within the LVIA Study Area will be reviewed and used to inform the assessment judgements. Information on potential visual receptors will also be reviewed as part of the desk based assessment. This will include analysis of mapping for the LVIA Study Area, with particular reference made to the ZTVs that are prepared to ensure relevant visual receptors are scoped into or out of the LVIA. This will build on the desk based assessment undertaken as part of the preparation of this Chapter of the Onshore Scoping Report.

### ***Field Surveys***

- 9.9.8 The LVIA will be informed by field survey work undertaken within the LVIA Study Area. This will include surveys to verify the ZTV from terrestrial LCAs, micro-siting of viewpoint locations, panoramic baseline photography and visual assessment survey from all representative viewpoints.
- 9.9.9 Viewpoint photography will be captured in accordance with relevant guidance. It is anticipated that the key relevant guidance will be the Landscape Institute's guidance document: Visual Representation of Development Proposals – Technical Guidance Note 06/19 (Landscape Institute, 2019a). The principles contained within this guidance are also consistent with NatureScot's guidance document: Visual Representation of Wind Farms (SNH (now NatureScot), February 2017).
- 9.9.10 Viewpoints for inclusion in the LVIA will be selected to reflect varying distances, directions and elevations relative to the Proposed Onshore Development. In addition, the viewpoints will be selected to represent a range of views and viewer types; including settlements, transport routes, recreational routes, main visitor locations, landscape character areas/landscape character types and landscape designations. The context of views currently experienced by visual receptor locations will be described in the viewpoint assessment. In order to keep the LVIA focused, a proportionate approach would be taken to the scope of the assessment and associated figures. It would not be feasible to illustrate all relevant receptors within the LVIA Study Area in the EIAR

and it is important to carefully select viewpoints that provide a representative selection. Stakeholder feedback on the viewpoint selection will be helpful in defining the scope of the LVIA.

### **Consultation**

- 9.9.11 Consultation will be undertaken with the landscape officer from Aberdeenshire Council and with NatureScot to agree the LVIA study area, viewpoint locations, and other projects to be considered in the cumulative impact assessment. These discussions would also be used to inform the layout and design of the Proposed Onshore Development (in particular the OnSS and the OnRCS) as well as any landscape proposals, including measures that contribute to visual screening. A summary of how any issues raised and design advice provided have been considered and addressed will be included in the Onshore EIAR.

### **Assessment Methodology**

- 9.9.12 The approach to the LVIA will be based on the principles set out in the guidance listed in **Section 9.2**, primarily GLVIA3 (Landscape Institute and the Institute of Environmental Management and Assessment, 2013). Landscape and Visual effects will be considered separately. The objective of the LVIA is to predict the likely significant effects on the Landscape and Visual resource. In line with the 2017 EIA Regulations, the LVIA effects are assessed to be either significant or not significant. GLVIA3 states that the nature of Landscape and Visual receptors, commonly referred to as their sensitivity, should be assessed in terms of the susceptibility of the receptor to change and the value attached to the existing landscape or views. The magnitude of change should be assessed in terms of the size and scale, geographical extent, duration and reversibility of the effect. These aspects will all be considered together, to form a judgement regarding the overall significance of Landscape and Visual effects.
- 9.9.13 The nature of effect relates to whether the effects of the Proposed Onshore Development would be adverse, neutral or beneficial. GLVIA3 states that in paragraph 3.22 that: *“thought must be given to whether the likely significant effects... are judged to be positive (beneficial) or negative (adverse) in their consequences for landscape or for views and visual amenity.”*
- 9.9.14 GLVIA3, however, does not provide an indication as to how that may be determined in practice. As such the nature of effect is therefore one that requires interpretation and reasoned professional judgement taking an appropriate and proportionate approach to the LVIA.
- 9.9.15 A precautionary approach will be taken which assumes that the potential for significant Landscape and Visual effects will be weighted on the negative side of the planning balance, although positive or neutral effects may arise in certain situations for instance where a development could enable the restoration of landscape features or elements that have been lost because of other changes.
- 9.9.16 The assessment of effects will be categorised into effects on Landscape and Visual receptors as well as cumulative effects. Where the LVIA identifies that an aspect of the Proposed Onshore Development is likely to give rise to an adverse significant effect, additional secondary commitments will be identified to seek to further prevent, reduce or offset these adverse effects. At this point the impact will be reassessed, considering the additional secondary commitments, to determine the residual effect.

### ***Approach to Assessment of Landscape Effects***

- 9.9.17 Physical effects will be restricted to direct effects on the existing fabric of the landscape. This category of effect covers landscape elements/features forming part of the landscape character which may be directly and physically affected by the Proposed Onshore Development. Such elements/features may include, for instance, existing woodland, hedgerows, grassland agricultural land or landform.
- 9.9.18 Predicted changes to the physical landscape and landscape character within the LVIA Study Area will also be identified. The assessment of landscape effects will take account of the sensitivity of the landscape, and any value placed on the landscape through formal designation or other indicators. The significance of landscape effects will be determined in relation to the magnitude of change to the landscape.

### ***Approach to Assessment of Visual Effects***

- 9.9.19 Visual effects are experienced by people (visual receptors) at different locations across the LVIA Study Area, including at static locations (for example from settlements or promoted viewpoints) and transitional locations (such as sequential views experienced from routes including roads, footpaths and cycle routes). Visual receptors are the people who will be affected by changes in views at these places, and they are usually grouped by what they are doing at those locations (for example residents, motorists, recreational users etc.). Assessment viewpoints will be identified and agreed with stakeholders to represent the key groups of sensitive visual receptors that may be affected by the Proposed Onshore Development.
- 9.9.20 Visual effects resulting from the Proposed Onshore Development will be considered within the context of the existing baseline conditions, including operational and under construction developments where relevant. The assessment of visual effects arising from the introduction of the Proposed Onshore Development will be informed by the analysis of ZTVs, field studies and consideration of changes in views from representative viewpoints.
- 9.9.21 A key part of the LVIA will be the viewpoint assessment, which comprises the identification of specific and representative locations for detailed assessment. The viewpoint assessment will include capturing and presenting viewpoint photography for each location and the preparation of visualisations to illustrate the Proposed Onshore Development. The visualisations will comprise a combination of wireline visualisations and photomontages to illustrate the predicted appearance of the OnSS and OnRCS in relation to baseline landscape. These visualisations will be prepared based on a precautionary approach, applying the maximum design scenario.
- 9.9.22 The Residential Visual Amenity Assessment (RVAA) in the locality of the OnSS and OnRCS will be based on a combination of published Landscape Institute guidance and SLR's previous experience of undertaking such studies, with the conclusions based on professional judgement. These judgements will be underpinned by the visual information including wirelines, photography, aerial photos and site visits from publicly accessible locations. The RVAA for the Proposed Onshore Development will be limited to the OnSS and OnRCS as it is these elements that are most likely to have potential effects that will be applicable to the RVAA. Based on the Landscape Institute Technical Guidance Note it may be applicable to consider residential properties within an area extending up to 2 km from the OnSS and OnRCS as part of the RVAA. However, this is

likely to concentrate on a smaller area surrounding the proposed structures and would be refined through agreement with Aberdeenshire Council.

#### ***Assessment Criteria and Assignment of Significance***

- 9.9.23 The EIA will follow the general approach outlined in **Chapter 5: EIA Methodology** of this Onshore Scoping Report. The following subsections propose the approach to defining the sensitivity of the Landscape and Visual receptors, the magnitude of the potential impacts and the significance of these effects. It should be noted that significant effects need not be unacceptable or irreversible.
- 9.9.24 The evaluation of sensitivity will take account of the value and susceptibility of the receptor to the Proposed Onshore Development. This is combined with an assessment of the magnitude of change which takes account of the size and scale of the proposed change. By combining assessments of sensitivity and magnitude of change, a level of landscape or visual effect can be evaluated and determined. The resulting level of effect will be described in terms of whether it is predicted to be significant or not significant, and the geographical extent, duration and the type of effect will be described as either direct or indirect; temporary or permanent (reversible); cumulative; and beneficial, neutral or adverse.
- 9.9.25 The assessment will also consider potential cumulative effects of the onshore and offshore elements of the Project, as well as the cumulative effects likely to result from other similar proposed developments.
- 9.9.26 In each case an appropriate and proportionate level of assessment will be undertaken and agreed through future post-scoping consultation. The level of assessment may be 'simple' (requiring desk-based data analysis) or 'detailed' (requiring site surveys and investigations in addition to desk-based analysis).
- 9.9.27 The LVIA will involve a combination of quantitative and qualitative assessment and wherever possible a consensus of professional opinion will be sought through consultation, internal peer review, and the adoption of a systematic, impartial, and professional approach.
- 9.9.28 The matrix presented in **Table 9.7** will be used as a guide to illustrate the LVIA process, helping to inform the threshold of significance when combining sensitivity and magnitude to assess significance. In line with the emphasis placed in GLVIA3 upon the application of professional judgement, an overly mechanistic reliance upon a matrix is avoided through the provision of clear and accessible narrative explanations of the rationale underlying the assessment made for each Landscape and Visual receptor.
- 9.9.29 The significance of the effect on each seascape/landscape character and visual receptor is dependent on all of the factors considered in the sensitivity of the receptor and the magnitude of change resulting from the Proposed Onshore Development. Factors which influence levels of sensitivity and magnitude of change assessed will be set out in a detailed methodology. Judgements on sensitivity and magnitude of change will be combined to arrive at an overall assessment as to whether the Proposed Onshore Development will have an effect that is significant or not significant on each Landscape and Visual receptor.
- 9.9.30 Significant Landscape and Visual effects are highlighted in bold and shaded dark blue in **Table 9.7**. They relate to all those effects that result in a 'Major' or a 'Major/Moderate' level of effect.

The white/un-shaded cells are not significant, however in some circumstances, ‘Moderate’ levels of effect (shaded light blue) do have the potential, subject to the assessor’s opinion, to be considered as significant and these exceptions will be explained as part of the assessment where they occur.

9.9.31 In instances where there would be no effect, the magnitude will be recorded as ‘zero’ or ‘none’ and the level of effect as ‘none’.

**Table 9.7: Proposed Matrix to Determine the Significance of Effects**

Level of Effect		Magnitude of change					
		Negligible	Low	Medium-low	Medium	Medium-high	High
Sensitivity of receptor	Low	Negligible (not significant)	Negligible (not significant)	Minor/negligible (Not significant)	Minor (Not significant)	Moderate/minor (Not significant)	Moderate/minor (Not significant)
	Medium-low	Negligible (not significant)	Minor/negligible (Not significant)	Minor (Not significant)	Moderate/minor (Not significant)	Moderate (potentially significant)	Moderate (potentially significant)
	Medium	Minor/negligible (Not significant)	Minor (Not significant)	Moderate/minor (Not significant)	Moderate (potentially significant)	Moderate (potentially significant)	Major/moderate (Significant)
	Medium-high	Minor (Not significant)	Moderate/minor (Not significant)	Moderate (potentially significant)	Moderate (potentially significant)	Major/moderate (Significant)	Major (Significant)
	High	Minor (Not significant)	Moderate/minor (Not significant)	Moderate (potentially significant)	Major/moderate (Significant)	Major (Significant)	Major (Significant)

## 9.10 Scoping Questions

9.10.1 The following Scoping Question are designed to focus the scoping exercise and inform the Scoping Opinion:

- Do you agree that all relevant legislation, policy and guidance documents have been identified for the LVIA, or are there any additional legislation, policy and guidance documents that should be considered?
- Do you agree with the indicative LVIA Study Area used in this Chapter and the proposed approach to refining this for the LVIA?

- Do you agree with the data sources which are suggested for the LVIA, or are there any additional data and information sources that should be considered?
- Do you agree that all designated landscapes have been identified, noting that these will be refined once the location, layout and design of the Proposed Onshore Development is known?
- Are there any particular viewpoints we could consider, within the designated landscapes, or from specific recreational locations, noting that further consultation will be undertaken as the details of the Proposed Onshore Development are refined?
- Do you agree with the proposed commitments and anticipated additional secondary mitigation measures?
- Do you agree that all key receptors and impacts have been identified for the LVIA, noting that further consultation will be undertaken once the details of the Proposed Onshore Development are more refined?
- Do you agree with the impacts proposed to be scoped out of the LVIA?
- Do you agree with the approach for cumulative effects assessment?
- Do you agree with the approach to analysis and assessment that will inform the EIA?



## 10 Cultural Heritage

### 10.1 Introduction

- 10.1.1 This Chapter of the Onshore Scoping Report identifies Cultural Heritage receptors and considers the potential effects on them that may result from the construction, O&M and decommissioning of the Proposed Onshore Development. The proposed assessment methodology for the archaeological and cultural heritage impact assessment for the Onshore EIAR is also presented. Designated cultural heritage assets within the Onshore Scoping Area are outlined, with further information on designated and non-designated assets to be obtained once the location, scale and design of the Proposed Onshore Development have been refined and the study areas for the assessment have been agreed upon with consultees.
- 10.1.2 The ‘cultural heritage’ of an area comprises archaeological sites such as, but not limited to Scheduled Monuments (SM), historic buildings, Inventoried Gardens and Designed Landscapes (GDLs), Inventoried Battlefields and other historic environment features such as Conservation Areas. Alongside its inherent values, the ‘setting’ of an asset may also contribute to its cultural heritage significance.
- 10.1.3 This Chapter should be read alongside **Chapter 9: Landscape and Visual** of the Onshore Scoping Report. It should also be read alongside **Chapter 16: Marine Archaeology and Cultural Heritage** of the Offshore Scoping Report (Orsted, 2023a), which considers the potential effects of the Proposed Offshore Development.

### 10.2 Legislation, Policy and Guidance

- 10.2.1 In addition to those described in **Chapter 2: Planning and Policy Context** of this Onshore Scoping Report, the legislation, policy and guidance identified in **Table 10.1** will be taken into account during the assessment of effects on Cultural Heritage.

**Table 10.1: Relevant Legislation Policy and Guidance**

Title	Source
<b>Legislation</b>	
The Ancient Monuments and Archaeological Areas Act 1979	<a href="https://www.legislation.gov.uk/ukpga/1979/46">https://www.legislation.gov.uk/ukpga/1979/46</a>
The Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997	<a href="https://www.legislation.gov.uk/ukpga/1997/9/contents">https://www.legislation.gov.uk/ukpga/1997/9/contents</a>
The Historic Environment (Amendment) (Scotland) Act 2011	<a href="https://www.legislation.gov.uk/asp/2011/3/contents">https://www.legislation.gov.uk/asp/2011/3/contents</a>
Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017	<a href="https://www.legislation.gov.uk/ssi/2017/102/made/data.pdf">https://www.legislation.gov.uk/ssi/2017/102/made/data.pdf</a>
<b>Policy</b>	
Aberdeenshire Local Development Plan (ALDP) 2023	<a href="https://www.aberdeenshire.gov.uk/planning/plans-and-policies/ldp-2023/">https://www.aberdeenshire.gov.uk/planning/plans-and-policies/ldp-2023/</a>

Title	Source
National Planning Framework 4 (NPF4) (Scottish Government, 2023a)	<a href="https://www.gov.scot/publications/national-planning-framework-4/">https://www.gov.scot/publications/national-planning-framework-4/</a>
Our Past, Our Future (HES, 2023)	<a href="https://www.historicenvironment.scot/archives-and-research/publications/publication/?publicationId=79204155-9eb2-4d29-ab14-aff200ec2801">https://www.historicenvironment.scot/archives-and-research/publications/publication/?publicationId=79204155-9eb2-4d29-ab14-aff200ec2801</a>
Historic Environment Policy for Scotland (HEPS) (HES, 2019)	<a href="https://www.historicenvironment.scot/advice-and-support/planning-and-guidance/historic-environment-policy-for-scotland-heps/">https://www.historicenvironment.scot/advice-and-support/planning-and-guidance/historic-environment-policy-for-scotland-heps/</a>
<b>Guidance</b>	
Guidance on Managing Change in the Historic Environment: Setting (HES, 2020)	<a href="https://www.historicenvironment.scot/archives-and-research/publications/publication/?publicationId=80b7c0a0-584b-4625-b1fd-a60b009c2549#:~:text=This%20guidance%20note%20sets%20out,battlefields%2C%20Historic%20Marine%20Protected%20Areas">https://www.historicenvironment.scot/archives-and-research/publications/publication/?publicationId=80b7c0a0-584b-4625-b1fd-a60b009c2549#:~:text=This%20guidance%20note%20sets%20out,battlefields%2C%20Historic%20Marine%20Protected%20Areas</a>
Planning Advice Note 2/2011: Planning and Archaeology (Scottish Government, 2011)	<a href="https://www.gov.scot/binaries/content/documents/govscot/publications/advice-and-guidance/2011/07/pan-2-2011-planning-archaeology/documents/pan2_2011-planning-archaeology-pdf/pan2_2011-planning-archaeology-pdf/govscot%3Adocument/PAN2_2011%2BPlanning%2Band%2Barchaeology.pdf">https://www.gov.scot/binaries/content/documents/govscot/publications/advice-and-guidance/2011/07/pan-2-2011-planning-archaeology/documents/pan2_2011-planning-archaeology-pdf/pan2_2011-planning-archaeology-pdf/govscot%3Adocument/PAN2_2011%2BPlanning%2Band%2Barchaeology.pdf</a>
A Guide to Climate Change Impact: On Scotland's Historic Environment (HES, 2019)	<a href="https://www.historicenvironment.scot/archives-and-research/publications/publication/?publicationId=843d0c97-d3f4-4510-acd3-aadf0118bf82">https://www.historicenvironment.scot/archives-and-research/publications/publication/?publicationId=843d0c97-d3f4-4510-acd3-aadf0118bf82</a>
Environmental Impact Assessment Handbook (SNH and HES, 2019)	<a href="https://www.historicenvironment.scot/archives-and-research/publications/publication/?publicationId=6ed33b65-9df1-4a2f-acbb-a8e800a592c0">https://www.historicenvironment.scot/archives-and-research/publications/publication/?publicationId=6ed33b65-9df1-4a2f-acbb-a8e800a592c0</a>
Standard and Guidance for Historic Environment Desk Based Assessment (Chartered Institute for Archaeologists, 2017)	<a href="https://www.archaeologists.net/sites/default/files/CIfAS%26GDBA_4.pdf">https://www.archaeologists.net/sites/default/files/CIfAS%26GDBA_4.pdf</a>

10.2.2 Relevant policies within National Planning Framework 4 (NPF4) and the Aberdeenshire Local Development Plan 2023 (ALDP) and their policy intent are identified in **Table 10.2** Table 6.2 and **Table 10.3**, respectively.

**Table 10.2:** Relevant National Planning Policies in NPF4

NPF4 Policy	Policy Intent
Policy 7: Historic assets and places	To protect and enhance historic environment assets and places, and to enable positive change as a catalyst for the regeneration of places.
Policy 11: Energy	To encourage, promote and facilitate all forms of renewable energy development onshore and offshore. Requires that project design and mitigation will need to demonstrate how a range of impacts are addressed including, inter alia, impacts on the historic environment.

Table 10.3: Relevant Local Development Plan Policies in ALDP

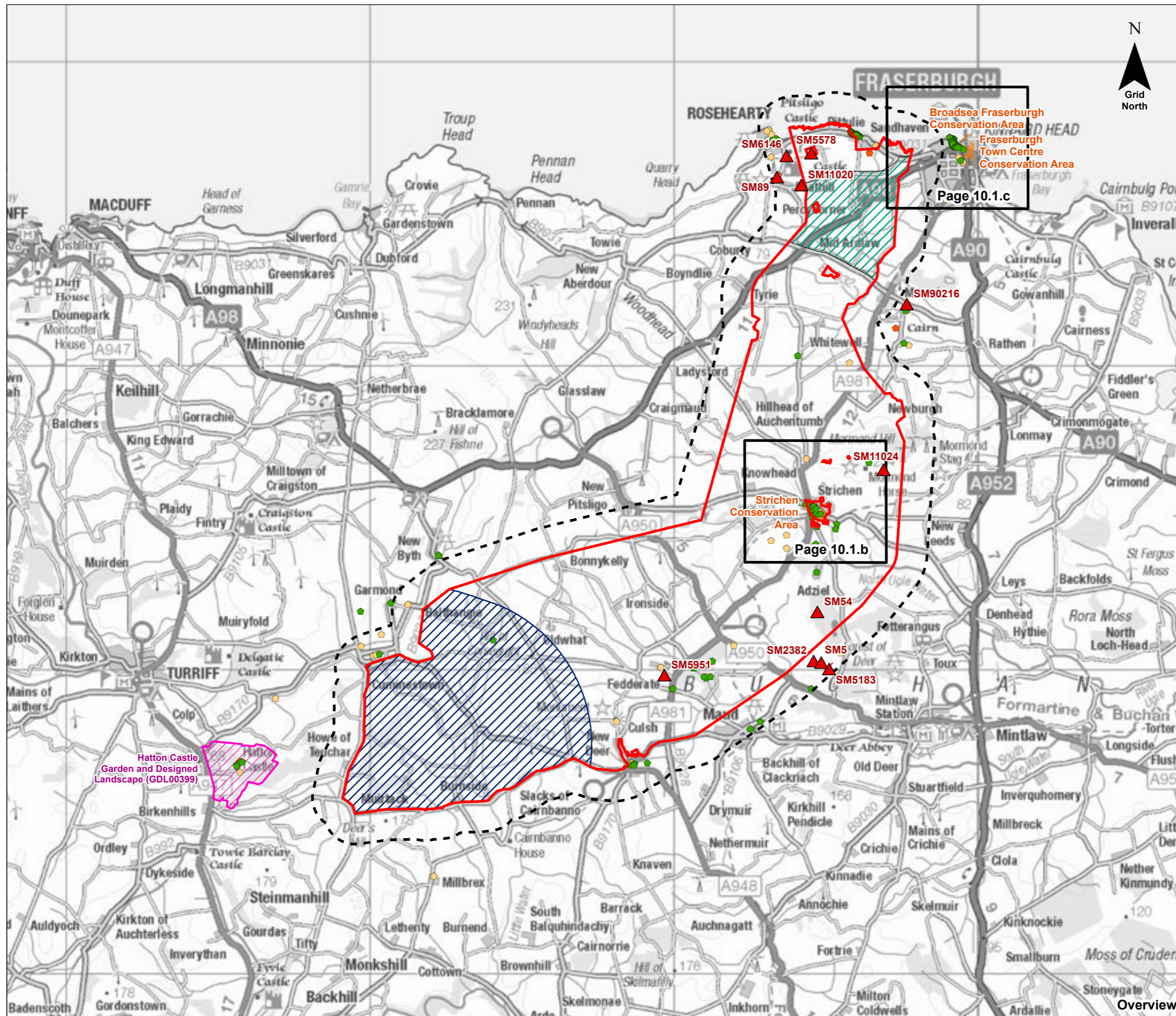
ALDP Policy	Policy Intent
Policy HE1: Protecting Listed Buildings, Scheduled Monuments and Archaeological Sites	To resist development that would have an adverse impact on the character, integrity, or setting of listed buildings, or scheduled monuments, or other archaeological sites. If an adverse impact is unavoidable, it should be minimised or justified.
Policy HE2: Protecting Historic, Cultural and Conservation Areas	To protect historic, cultural and conservation areas. These areas include Battlefields and Inventory Gardens and Designed Landscapes. This protection applies both to developments within the areas and proposals outwith these areas which would affect their character, appearance, or setting.

### 10.3 Scoping Study Area

- 10.3.1 Following guidance from Appendix 1, Paragraph 27 of the EIA Handbook (NatureScot and HES, 2018), the proposed study areas for the archaeological and cultural heritage assessment are based on professional experience of similar projects and the likely potential impacts upon assets.
- 10.3.2 For the purposes of this scoping assessment, the Onshore Scoping Study Area for archaeology and cultural heritage is defined as the Onshore Scoping Area as shown in **Figure 10.1a-c**.

# Stromar Offshore Wind Farm

## Figure 10.1.a Cultural Heritage Designated Assets

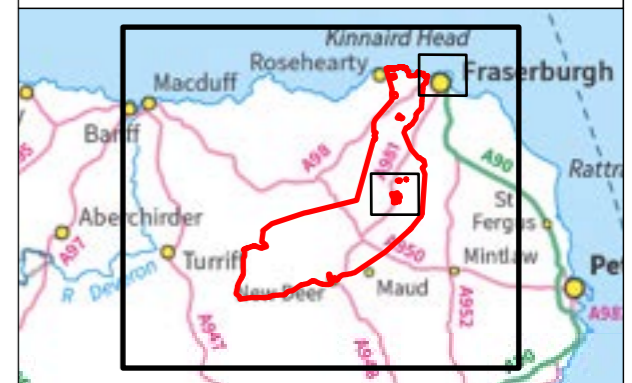


**Legend**

- Onshore Scoping Area
- Onshore Scoping Area 1 km Buffer
- Onshore Substation (OnSS) Area of Search
- Proposed Onshore Reactive Compensation Station (OnRCS) Area of Search
- Scheduled Monument
- ▲ Scheduled Monument Centre Point
- Inventory Garden and Designed Landscape
- Conservation Area

**Listed Building (Category)**

- A
- B
- C



Coordinate System: British National Grid  
 Scale @ A3 : 1:125,000

Rev	Description	Date
A	First Draft	22/08/2023
B	Second Draft	15/12/2023
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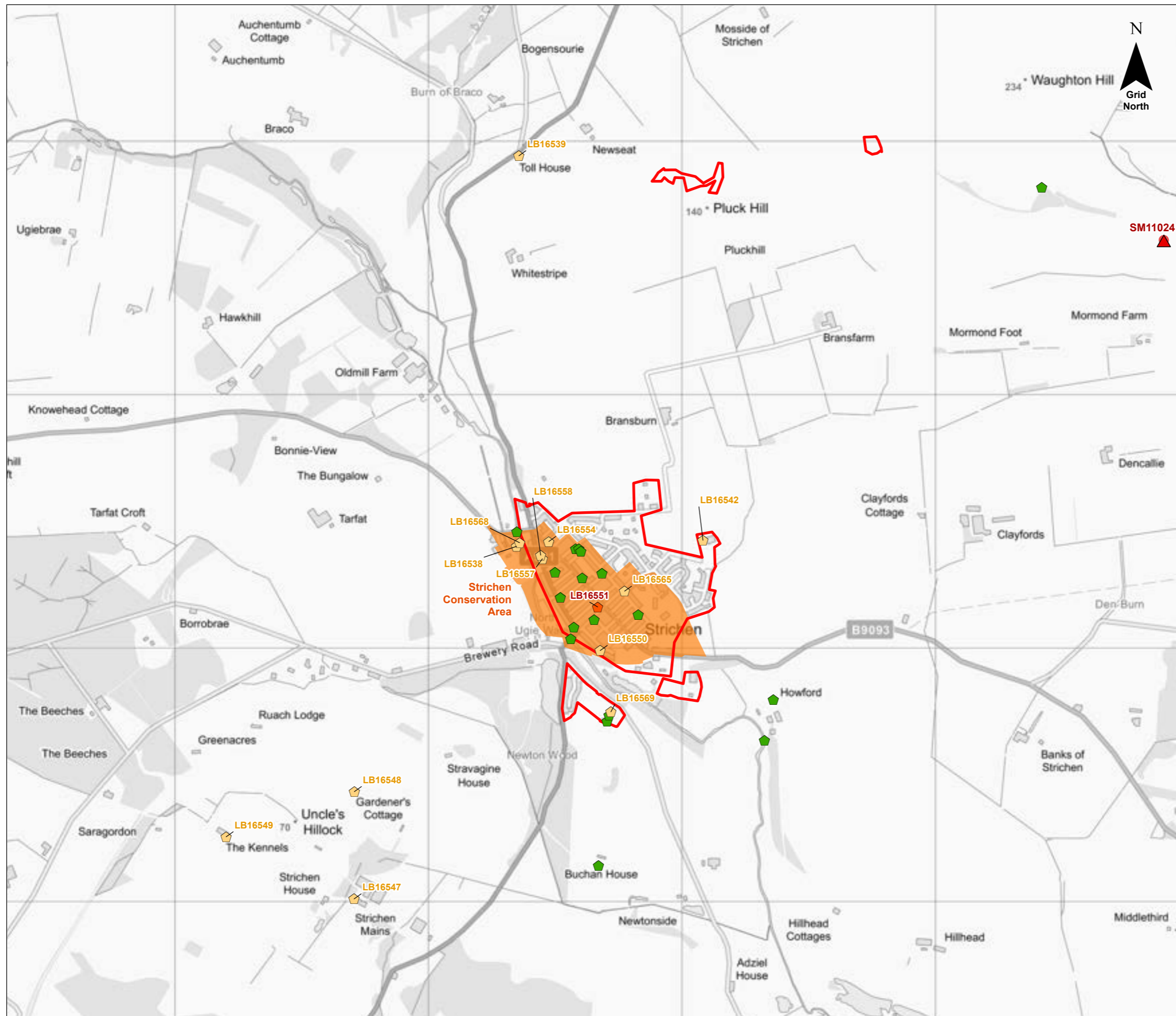
Doc. Report : Onshore Scoping Report  
 Doc. Title : Cultural Heritage Designated Assets  
 Doc. No : 404.V64554.00001.0030.2  
 Doc. No of Pages : 3  
 Created by : PW  
 Checked by : SH  
 Approved by : MF



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# Stromar Offshore Wind Farm

## Figure 10.1.b Cultural Heritage Designated Assets



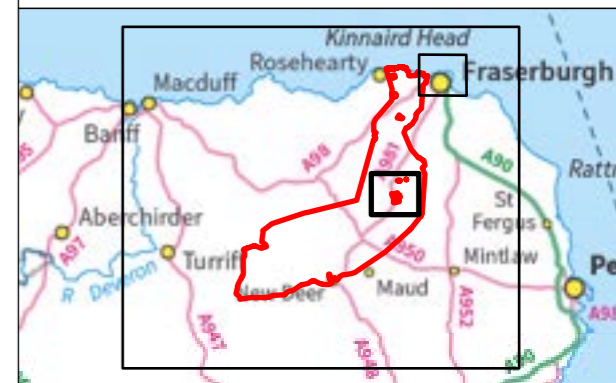
**Legend**

- Onshore Scoping Area
- Scheduled Monument
- ▲ Scheduled Monument Centre Point
- Conservation Area

**Listed Building (Category)**

- ◆ A
- ◆ B
- ◆ C

Note: Strichen excluded from Onshore Scoping Area. Full extent of Onshore Scoping Area shown on Figure 10.1.a



Coordinate System: British National Grid  
Scale @ A3 : 1:15,000

Rev	Description	Date
A	First Draft	22/08/2023
B	Second Draft	15/12/2023
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Doc. Report : Onshore Scoping Report  
 Doc. Title : Cultural Heritage Designated Assets  
 Doc. No : 404.V64554.00001.0030.2  
 Doc. No of Pages : 3  
 Created by : PW  
 Checked by : SH  
 Approved by : MF



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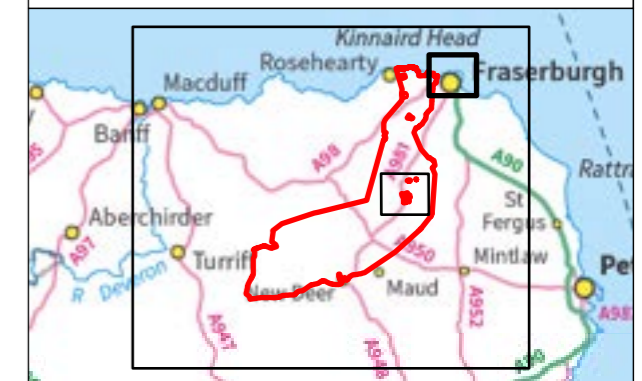
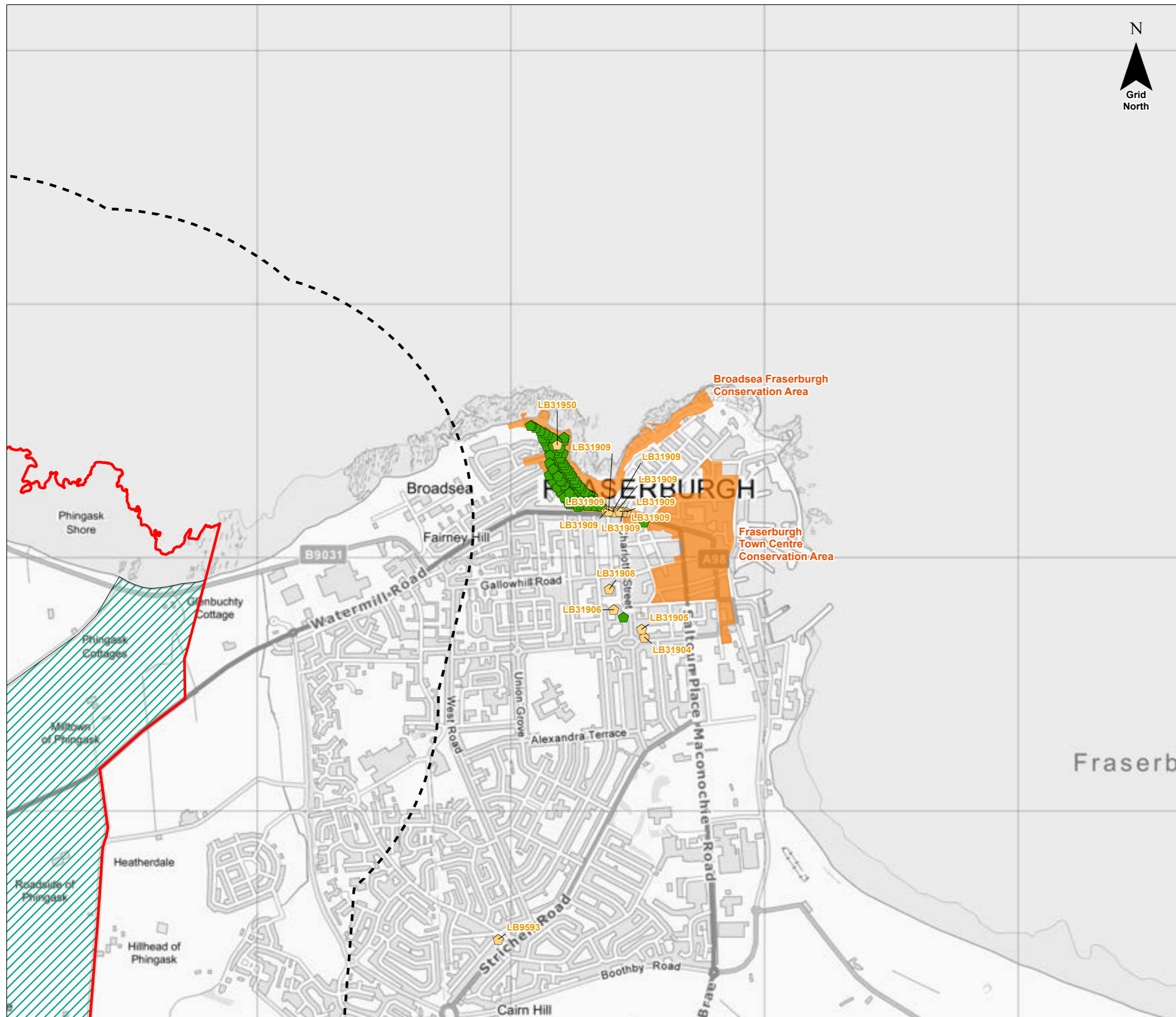
# Stromar Offshore Wind Farm

## Figure 10.1.c Cultural Heritage Designated Assets



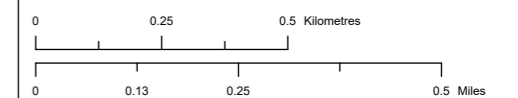
### Legend

- Onshore Scoping Area
  - Onshore Scoping Area 1 km Buffer
  - Proposed Onshore Reactive Compensation Station (OnRCS) Area of Search
  - Conservation Area
- Listed Building (Category)
- ◆ B
  - ◆ C



Coordinate System: British National Grid

Scale @ A3 : 1:15,000



Rev	Description	Date
A	First Draft	22/08/2023
B	Second Draft	15/12/2023
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Doc. Report : Onshore Scoping Report  
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 Doc. No of Pages : 3  
 Created by : PW  
 Checked by : SH  
 Approved by : MF



## 10.4 Baseline Environment

### Data Sources

10.4.1 To describe the Cultural Heritage baseline within the Onshore Scoping Area in this Chapter, the data sources identified in **Table 10.4** have been used. These data sources will also be used to inform the baseline characterisation for Cultural Heritage in the EIAR, along with the additional data sources identified in **Table 10.7**.

**Table 10.4: Onshore Scoping Area Baseline Data Sources**

Subject	Author Summary	Source	Coverage of Onshore Scoping Area
Designated cultural heritage assets (except conservation areas)	The database of Historic Environment Scotland (HES)	HES digital data download	Entire Onshore Scoping Area
Conservation Areas	Aberdeenshire Council Archaeological Service	HES digital data download	Entire Onshore Scoping Area
Non-Designated cultural heritage assets	Data held by Aberdeenshire Council Archaeological Service and displayed on Pastmap.	Digital data shown on Pastmap website	Entire Onshore Scoping Area
Historic Mapping	National Library of Scotland	National Library of Scotland Website	Entire Onshore Scoping Area

### Description of Baseline Environment

10.4.2 Within the Onshore Scoping Area, there are 36 designated cultural heritage assets. These can be found in **Appendix 10.1**. Assets of national significance<sup>17</sup> are:

- Fedderate Castle SM5951;
- White Cow Wood, stone circle SM54;
- Mormond Hill, cairn 410m NNE of Mormond Farm (SM11024); and
- Pittendrum House (Category A Listed Building (LB) LB15914).

10.4.3 The locations of the identified designated heritage assets of national significance are shown in **Figure 10.1**, and a full list is provided in the accompanying **Appendix 10.1** (Aberdeenshire Council Archaeological Service (ACAS), 2023) (National Library of Scotland, 2023).

10.4.4 An initial high-level review of Pastmap (HES, 2023) has identified several HER entries within the Onshore Scoping Area, as well as the Strichen Conservation Area (**Figure 10.1.b**).

<sup>17</sup> Assets of national significance are defined in **Table 10.8** of this Chapter and include Scheduled Monuments, Category A Listed Buildings, Gardens and Designed Landscapes and Inventory Battlefields.

**Future Baseline**

- 10.4.5 If the Proposed Onshore Development were not to proceed, there would likely be no change to the baseline condition of the various heritage assets and features that presently survive within the Onshore Scoping Area.
- 10.4.6 As per ‘A Guide to Climate Change Impacts On Scotland’s Historic Environment’ (Historic Environment Scotland, 2019a), peat is classed as a cultural heritage resource due to its formation during the Bronze Age as mass deforestation occurred. Due to the anaerobic conditions under which peat is formed, it is often seen as a ‘window’ into the paleo-environment. The potential presence of peat across the site, as detailed in **Chapter 6: Geology and Ground Conditions**, means there is a possibility for environmental or organic deposits to survive. Climate change could affect naturally formed peat deposits leading to the destruction of paleoenvironmental evidence. This might result in the loss of previously unrecorded heritage assets.
- 10.4.7 Other impacts of climate change on buried remains might result from increased rainfall and fluctuating temperatures, with the sequence and frequency of natural soil saturation and desiccation changing the preservative conditions. This might result in damage or loss of organic artefacts. For upstanding remains, such change has the potential to result in increased water penetration, which may then cause/accelerate erosion/decay of historic fabric.

**10.5 Commitments**

- 10.5.1 The Developer has committed to adopt a series of design commitments (primary commitments) at this scoping stage to avoid and (where avoidance is not possible) reduce the potential for effects on the environment. Further best practice measures (tertiary commitments) are embedded as an inherent aspect of the EIA process.
- 10.5.2 Those scoping commitments of relevance to Cultural Heritage are identified in **Table 10.5** below. Full details on each of these commitments can be found in the Onshore Commitments Register in **Appendix 3.2** of this Onshore Scoping Report.

**Table 10.5: Relevant Commitments to Cultural Heritage**

ID	Commitment	How this commitment will be secured
<b>Primary Commitment</b>		
C-ONS-004	The OnECC and OnGCC will be buried underground for their entire length. Following reinstatement, the only above ground structures related to the OnECC and OnGCC will be link box lids where there are joints in the cable. These will typically take the form of a set of manhole covers surrounded by a small post and rail fenced enclosure.	Location and design of the OnECC and OnGCC, including any permanent above ground structures, to be approved through AMSC consent.
C-ONS-006	No development or construction works to take place within 100 m of a Scheduled Monument or Category A listed building	Planning condition attached to PPP or AMSC consent restricting works within 100 m of any Scheduled Monument or a Category A listed building.



ID	Commitment	How this commitment will be secured
<b>Tertiary Commitments</b>		
C-ONS-009	Production and compliance with a Construction Environmental Management Plan (CEMP). An Outline CEMP will be produced and included alongside the EIAR to support the planning permission in principle application. A detailed CEMP will then be submitted to Aberdeenshire Council for approval (in consultation with NatureScot and Scottish Environment Protection Agency (SEPA)) prior to construction of the development. The CEMP will then be implemented to avoid, minimise or mitigate effects on the environment during the construction phase.	Planning Condition attached to PPP consent requiring CEMP to be submitted and approved by Aberdeenshire Council.
C-ONS-029	Where the Proposed Onshore Development is not required for electricity transmission purposes beyond the operational life of the Project, the onshore components would be decommissioned, and the land reinstated. Details of the decommissioning and restoration scheme shall be submitted to Aberdeenshire Council within 24 months of the permanent cessation of electricity generation.	Planning Condition attached to PPP consent required approval of decommissioning and site restoration plan.

10.5.3 As a result of the commitment to implement these measures, this mitigation is considered inherently part of the design of the Proposed Onshore Development and has, therefore, been included in the scoping assessment presented in **Table 10.6** of this Chapter.

10.5.4 It is expected that additional primary commitments will be identified as the layout and design of the Proposed Onshore Development is refined and developed. These will take into account any consultation feedback received.

10.5.5 The requirement for any additional secondary commitments to prevent, reduce or offset any remaining significant adverse effects of the Proposed Onshore Development will be developed throughout the EIA process dependent on the significance of effect upon Cultural Heritage receptors.

10.5.6 At this stage, we anticipate that the additional commitments may include:

- Areas of archaeological constraint will be avoided where possible. Consultation with Historic Environment Scotland and Aberdeenshire Council Archaeology Service will identify areas where avoidance is necessary or preferred. Avoidance could be through altering the route corridor or utilising HDD. Additional areas may be identified through additional baseline assessment.
- A programme of archaeological works to be undertaken post-consent and prior to the commencement of any development, including recording where avoidance of sites or features is not feasible, secured by a Written Scheme of Investigation. Any archaeological mitigation (excavation, evaluation, watching briefs) shall be done in accordance with a

Written Scheme of Investigation (WSI) that will be agreed with Aberdeenshire Council Archaeological Service (ACAS) prior to any ground investigation works.

## 10.6 Scoping of Impacts

10.6.1 The Impacts Register (**Appendix 3.3**) sets out the proposed assessment of the potential effects of the Proposed Onshore Development on the environment, including Cultural Heritage, at the scoping stage of the EIA. It identifies all potential impacts and provides an assessment on whether or not it is considered that they have (or do not have) the potential to result in a LSE. A summary assessment of the potential impacts on Cultural Heritage is provided in **Table 10.6**.

10.6.2 The assessment in the Impacts Register and **Table 10.6** has been based upon a combination of:

- The maximum development parameters of the Proposed Onshore Development at this scoping stage;
- The commitments identified in **Table 10.5** and the Onshore Commitment Register in **Appendix 3.2**;
- The level of understanding of the baseline environment at this scoping stage;
- The existing evidence base;
- Relevant legislation and policy; and
- The professional judgement and experience of the qualified Cultural Heritage specialists.

10.6.3 In accordance with the proportionate EIA approach (**Section 5.2** and **Appendix 3.1**), for this scoping stage of the EIA process, the Impacts Register and **Table 10.6** categorises the likely significance of effect as follows:

- **LSE identified at scoping stage without secondary commitments** – the impact will be subject to detailed assessment and scoped in to the EIAR;
- **Possible LSE identified at scoping stage without secondary commitments** – however it may become clear post scoping that the impact does not require detailed assessment in the EIAR. The impact will be scoped in at scoping stage, however further evidence will be brought forward post scoping to agree with consultees the specific treatment of the impact in the EIAR.
- **No LSE identified at scoping stage** – the impact will be scoped out of assessment in the EIAR.

10.6.4 Where it is agreed that potential effects can be scoped out of the EIAR, it is confirmed that these would still be presented within the Impacts Register within the EIAR with an explanation provided as to why it has been agreed it can be scoped out.

Table 10.6: Scoping Assessment for Cultural Heritage

Potential Effect	Project Element					Commitment(s)	Scoping Status			Proposed Approach to Assessment, including Description of any New Evidence Required
	Landfall	OnECC	OnGCC	OnSS	OnRCS		LSE	Possible LSE	No LSE	
<b>Construction</b>										
Direct and Indirect Physical Impact on Known Non-Designated Cultural Heritage Assets.	✓	✓	✓	✓	✓	C-ONS-004 C-ONS-009		✓		Scoped in at the scoping stage. Further evidence to be provided post-scoping: <ul style="list-style-type: none"> <li>Detail of the proposed Landfall, OnECC, OnGCC, OnSS and OnRCS location(s) including any associated temporary working areas; and</li> <li>HER data to be purchased from ACAS once the above project information is available.</li> </ul>
Direct and Indirect Physical Impact on Known Designated Cultural Heritage Assets.	✓	✓	✓	✓	✓	C-ONS-006			✓	Scoped out subject to the adoption of C-ONS-0006. Further evidence of proposed groundbreaking works will be needed to ensure adherence to 100 m buffers. Evidence of this embedded mitigation will be provided in the EIAR.
Direct Physical Impact on previously unrecorded Cultural Heritage Assets.	✓	✓	✓	✓	✓	C-ONS-004 C-ONS-009		✓		Scoped in at the scoping stage. Further evidence to be provided post-scoping: <ul style="list-style-type: none"> <li>Detail of the proposed Landfall, OnECC, OnGCC, OnSS and OnRCS location(s) including any associated temporary working areas; and</li> <li>HER data to be purchased from ACAS once the above project information is available.</li> </ul>
Impact on the setting of Designated Cultural Heritage Assets.	✓	✓	✓	✓	✓	C-ONS-004			✓	Scoped Out. The impacts on the setting on any designated cultural heritage assets due to the construction phase are anticipated to be fully reversible and not significant. Therefore they are scoped out of further assessment.

Potential Effect	Project Element					Commitment(s)	Scoping Status			Proposed Approach to Assessment, including Description of any New Evidence Required
	Landfall	OnECC	OnGCC	OnSS	OnRCS		LSE	Possible LSE	No LSE	
<b>Operation and Maintenance</b>										
Impact on the setting of Designated Cultural Heritage Assets.	✓	✓	✓	✓	✓	C-ONS-004		✓		<p>Scoped in at the scoping stage.</p> <p>Assets to be carried forward for full assessment will depend on the final location, layout and design of the Proposed Onshore Development. A ZTV will be produced following final design. Assets to be scoped in for assessment will be agreed through consultation with HES and ACAS.</p> <p>It is considered that impacts on setting and cumulative impacts of the OnECC on Category B and C Listed Buildings can be scoped out in relation to cultural heritage due to their less than national importance. As per best practice guidance within NatureScot and HES (2019b), Category C Listed Buildings are of local rather than national or regional importance, unless in the opinion of an assessor the designation should be higher.</p> <p>It is also considered that any assets that fall outwith the ZTV for the OnSS (and their approaches also fall outwith the ZTV) can be scoped out of the EIAR.</p>
Impact on the setting of Regionally significant Cultural Heritage assets as specified by ACAS.	✓	✓	✓	✓	✓	C-ONS-004		✓		<p>Scoped in at the scoping stage.</p> <p>Assets to be assessed on the EIAR will depend on the final location and design details of the Proposed Onshore Development and agreed through consultation with ACAS. A ZTV will be produced for those Scoped In.</p>
Direct and Indirect Physical Impacts on Non-Designated Cultural Heritage Assets as a Result of Future Maintenance Works.	✓	✓	✓	✓	✓	C-ONS-009		✓		<p>Scoped in at the scoping stage.</p> <p>Further evidence to be provided post-scoping:</p> <ul style="list-style-type: none"> <li>Information on proposed groundbreaking works; and</li> <li>Historic Environment Record Data to be purchased from ACAS.</li> </ul>

Potential Effect	Project Element					Commitment(s)	Scoping Status			Proposed Approach to Assessment, including Description of any New Evidence Required
	Landfall	OnECC	OnGCC	OnSS	OnRCS		LSE	Possible LSE	No LSE	
Decommissioning										
Decommissioning of the Proposed Onshore Development.	✓	✓	✓	✓	✓	C-ONS-029		✓		Scoped in however the effects associated with the construction phase can be considered to be representative of reasonable worst-case decommissioning effects, and therefore no separate assessment of the decommissioning phase is proposed for Cultural Heritage in the EIAR.

## 10.7 Potential Cumulative Effects with Proposed Offshore Development

10.7.1 There is a direct overlap in jurisdictions of consenting and regulatory regimes within the intertidal area between MHWS and MLWS. The Proposed Offshore Development works below MHWS will therefore take place alongside the Proposed Onshore Development works at the intertidal area at landfall. There is therefore the potential for cumulative effects resulting from the onshore and offshore works of the Project in this area. Potential cumulative effects with the Proposed Offshore Development works during the construction phase would be assessed as part of the EIAR Chapter.

10.7.2 Due to the distance of the offshore wind turbine generators from the Proposed Onshore Development, there is not considered to be the potential for the Proposed Offshore Development to cause cumulative impacts on setting with the Proposed Onshore Development during the O&M phase.

## 10.8 Potential Cumulative Effects with Other Projects

10.8.1 A review of other existing and proposed projects near the Proposed Onshore Development will be undertaken and potential impacts on Cultural Heritage receptors will be assessed to identify potential cumulative impacts. In accordance with **Chapter 5: EIA Methodology** of this Onshore Scoping Report, the cumulative effects assessment for the Proposed Onshore Development will consider any other developments that are under construction, consented but not yet built or are the subject of valid planning or consent applications.

10.8.2 Cumulative effects relating to Cultural Heritage receptors are most likely to be limited to effects on the settings of assets during the O&M phase. The assessment will consider the potential for the cumulative effects arising from the addition of the Proposed Onshore Development (in particular the OnSS and OnRCS) to other cumulative developments upon the setting of heritage assets during this phase.

## 10.9 Proposed Approach to the EIA

### *EIA Study Area*

10.9.1 Following guidance in Appendix 1 Paragraph 27 of the EIA Handbook (NatureScot and HES, 2018) the Onshore EIA Study Areas for the archaeological and cultural heritage assessment in the Onshore EIAR will be based on professional experience of similar projects and the likely potential impacts upon assets.

10.9.2 The Onshore EIA Study Areas will be defined following the refinement of the layout and design of the Proposed Onshore Development. The following additional buffers relevant to each of the different infrastructure elements are proposed based upon the current maximum design parameters presented in **Chapter 3: Proposed Development Description**:

- OnECC and OnGCC: an additional 1 km buffer around the preferred route; and
- OnRCS and OnSS: an additional 2 km buffer around the preferred sites.

- 10.9.3 A Zone of Theoretical Visibility (ZTV) will be used to confirm the Onshore EIA Study Areas once further details of the OnSS and OnRCS have been defined. The ZTV will assist in identifying which designated Cultural Heritage assets require detailed consideration in the Onshore EIAR.

### **Additional Data Sources**

- 10.9.4 In addition to the data sources used to inform this Onshore Scoping Report, additional desk and field data required to inform the archaeological and cultural heritage assessment in the Onshore EIAR is identified in **Table 10.7** and discussed below.

**Table 10.7: Additional Baseline Data Sources for EIAR**

<b>Subject</b>	<b>Summary</b>	<b>Location</b>
Non-designated Cultural Heritage Assets	Data held by Aberdeenshire Council Archaeological Service Historic Environment Record (HER)	Digital data supplied as download
Historic Environment Information	Canmore online database curated by Historic Environment Scotland	Digital data supplied as download and online database
	Unpublished reports	Various
	Published works of synthesis	Various
Aerial photography	HES	HES database Canmore and National Collection of Aerial Photograph (NCAP) (online)
Historic Land-Use Assessment	HES	Online
Current OS maps	Ordnance Survey	Licence acquired for project
Condition of recorded cultural heritage assets	Field inspection	To be conducted by SLR Consulting.
Setting of cultural heritage assets	Field inspection within EIA Study Areas and other specified assets from areas of public access.	To be conducted by SLR Consulting.

### **Desk-based Assessment**

- 10.9.5 A desk-based assessment will be undertaken of the Cultural Heritage baseline conditions within the EIA Study Areas. This desk-based assessment will follow the 'Standard and Guidance for Historic Environment Desk-Based Assessment' provided by the Chartered Institute for Archaeologists (2020). The desk-based assessment will be undertaken once the locations of all the onshore components of the Proposed Onshore Development have been confirmed and the extent of the EIA Study Areas agreed.

### **Field Surveys**

- 10.9.6 A targeted site inspection will be carried out in relation to those recorded assets likely to be impacted by the Proposed Onshore Development. This walk-over survey would aim to establish the condition of any recorded assets and identify the potential for the existence of additional assets not currently recorded.

10.9.7 Asset mapping would also be compared with the ZTV and satellite imagery to identify designated heritage assets for which the Proposed Onshore Development might cause impacts in relation to their setting. This would be followed by a detailed analysis of those sites identified as potentially sensitive to such impacts, which would include a visit to each site as part of the assessment.

### ***Consultation***

10.9.8 Consultation will be undertaken with HES and ACAS to agree the EIA Study Areas for each of the onshore components of the Proposed Onshore Development, assets within their respective remits to be scoped in, other projects to be considered in the cumulative impact assessment and the methods of assessment to be employed.

10.9.9 As per ACAS's remit, consultation will be undertaken with them regarding identifying further designated heritage assets of regional and local significance, and any undesignated assets they consider to be of higher significance.

### ***Assessment Methodology***

10.9.10 The Proposed Onshore Development has the potential to result in impacts upon the significance of cultural heritage assets where it changes their baseline condition of either the asset itself or its setting; it being noted that change does not necessarily result in an impact.

10.9.11 Following the guidance of the Environmental Impact Assessment Handbook (SNH and HES, 2018), the archaeological and cultural heritage assessment in the Onshore EIAR will identify impacts and effects as either direct or indirect, adverse or beneficial, and short-term, long-term or permanent. The definition of impact to be used is described below:

- Direct (physical) impacts: occur where the physical fabric of the asset is removed or damaged, or where it is preserved or conserved, as a direct result of the Proposed Onshore Development. Such impacts are most likely to occur during the construction phase and are most likely to be permanent.
- Indirect (physical) impacts: occur where the fabric of an asset, or buried archaeological remains, is removed or damaged, or where it is preserved or conserved, as an indirect result of the proposal, even though the asset may lie some distance from the Proposed Onshore Development. Such impacts are most likely to occur during the construction phase and are most likely to be permanent.
- Setting impacts: result from the proposal causing change within the setting of a heritage asset that affects its cultural significance or the way in which it is understood, appreciated, and experienced. Such impacts are generally, but not exclusively, visual, occurring directly as a result of the appearance of the Proposed Onshore Development in the surroundings of the asset. Setting impacts may also relate to other senses or factors, such as noise, odour or emissions, or historical relationships that do not relate entirely to intervisibility, such as historic patterns of land-use and related historic features. Such impacts may occur at any stage of the Proposed Onshore Development's lifespan and may be permanent, reversible, or temporary.
- Cumulative impacts: can relate to the physical fabric or setting of assets. They may arise as a result of impact interactions, either of different impacts of the Proposed Onshore Development itself, or additive impacts resulting from incremental changes caused by the



Proposed Onshore Development together with other projects already in the planning system or allocated in a Local Development Plan.

10.9.12 Assessment will be undertaken separately for direct impacts and indirect impacts. The magnitude of both beneficial and adverse impact will be assessed according to scale of impact, from very high to neutral/none. The overall significance of effect will cross reference the importance of the asset and the magnitude of impact.

10.9.13 Impacts on the setting and therefore the significance of cultural heritage assets will be identified and assessed with reference to Managing Change in the Historic Environment: Setting (HES 2020) and the guidance set out by SNH and HES (2018). Assessment of any impacts on the setting of cultural heritage assets will be carried out in the following stages:

- Initial consideration of intervisibility and other factors leading to the identification of potentially affected assets;
- Assessment of the cultural heritage significance of potentially affected assets;
- Assessment of the contribution of setting to the cultural heritage significance of those assets;
- Assessment of the extent to which change to any contributing aspects of the settings of those assets, as a result of the Proposed Onshore Development, would affect their cultural heritage significance (magnitude of impact); and
- Determination of the significance of any identified effects.

10.9.14 The settings assessment will be assisted by the ZTVs to be produced for the OnSS and OnRCS. The ZTV calculation will map the predicted degree of visibility of the OnSS and OnRCS from all points within a proportionate, defined study area around the site, and following LVIA ZTV best practice guidelines.

#### ***Assessment Criteria and Assignment of Significance***

10.9.15 The EIA will follow the general approach outlined in **Chapter 5: EIA Methodology** of this Onshore Scoping Report. The following subsections propose the approach to defining the sensitivity of the Cultural Heritage receptors, the magnitude of the potential impacts and the significance of these effects. It should be noted that significant effects are not restricted to non-reversible impacts.

10.9.16 The categories of cultural heritage significance to be referenced throughout the EIAR are presented in **Table 10.8**, which will ensure consistency in the exercise of professional judgment and provide a degree of transparency for others in evaluating the conclusions drawn.

10.9.17 The significance categories have been defined regarding designation, status and grading. For undesignated assets, consideration will be given to their inherent heritage interest, as well as their intrinsic, contextual, and associative characteristics as defined below:

- Intrinsic: those inherent to the monument (e.g., archaeological interest, research potential, or condition);
- Contextual: those relating to the cultural heritage assets place in the landscape and in the body of existing knowledge (e.g., rarity either within Scotland or a particular region, relationship to assets of the same date or style within its vicinity and their value as a group, or its relationship with its wider landscape and setting); and

- Associative characteristics: the associations of the cultural heritage asset (e.g., historic or cultural connections).

10.9.18 In relation to these non-designated assets, the EIAR will assess:

- The inherent capability of an asset to contribute to historical knowledge and understanding;
- The character of their structural, decorative, and field characteristics as determined from the HER and Canmore records and/or site visits;
- The contribution of an asset to their class of monument, or the diminution of that class should an asset be lost; and
- How a site relates to people, practices, events, and/or historical or social movements.

10.9.19 Where ACAS have stated the significance of the non-designated heritage asset within the HER, it will be taken into account where appropriate.

**Table 10.8: Criteria for Establishing Cultural Heritage Significance of Assets**

Cultural Heritage Significance	Criteria
Highest	Sites of international importance, such as World Heritage Sites.
High	Site of National importance, including: <ul style="list-style-type: none"> <li>• Scheduled Monuments;</li> <li>• Category A Listed Buildings;</li> <li>• GDLs included on the national inventory;</li> <li>• Designated Battlefields; and</li> <li>• Non-designated assets of equivalent significance.</li> </ul>
Medium	Sites of Regional/local importance, including: <ul style="list-style-type: none"> <li>• Category B and C Listed Buildings;</li> <li>• Some Conservation Areas; and</li> <li>• Non-designated assets of equivalent significance.</li> </ul>
Low	Sites of minor importance or with little of the asset remaining to justify a higher importance.
None	Sites that are of no heritage significance.
Unknown	Further information is required to assess the significance of these assets.

10.9.20 Determining the magnitude of any likely impacts will include consideration of the nature of the activities proposed during the construction, operation and decommissioning of the Proposed Onshore Development.

10.9.21 Changes could potentially include direct change (e.g. ground disturbance), and indirect change (e.g. change to setting); this latter might include visual change, as well as noise, vibration, smell, dust, traffic movements etc. Impacts may be beneficial or adverse, and may be short-term, long term or permanent. The magnitude of any impacts will be assessed using professional judgment, with reference to the criteria set out in **Table 10.9**.

**Table 10.9: Criteria for Assessing Magnitude of Impact**

Magnitude of Impact	Explanatory Criteria
High Beneficial	The development would considerably enhance the cultural heritage significance of the affected asset, or the ability to understand, appreciate and experience it.
Medium Beneficial	The development would enhance, to a clearly discernible extent, the cultural heritage significance of the affected asset, or the ability to understand, appreciate and experience it.
Low Beneficial	The development would enhance, to a minor extent, the cultural heritage significance of the affected asset, or the ability to understand, appreciate and experience it.
Very Low Beneficial	The development would enhance, to a very minor extent, the cultural heritage significance of the affected asset, or the ability understand, appreciate and experience it.
Neutral/None	The development would not affect the cultural heritage significance of the affected asset, or the ability to understand, appreciate and experience it.
Very Low Adverse	The development would erode, to a very minor extent, the cultural heritage significance of the affected asset, or the ability to understand, appreciate and experience it. This level of indirect effect would not be considered to affect the integrity of the asset's setting.
Low Adverse	The development would erode, to a minor extent, the cultural heritage significance of the affected asset, or the ability to understand, appreciate and experience it. This level of indirect effect would rarely be considered to affect the integrity of the asset's setting.
Medium Adverse	The development would erode, to a clearly discernible extent, the cultural heritage significance of the affected asset, or the ability to understand, appreciate and experience it. This level of indirect effect might be considered to affect the integrity of the asset's setting.
High Adverse	The development would considerably erode the cultural heritage significance of the affected asset, or the ability to understand, appreciate and experience it. This level of indirect effect would probably be considered to affect the integrity of the asset's setting.

10.9.22 The proposed significance categories, and the criteria used in their determination, are presented in **Table 10.10**.

**Table 10.10: Significance of Effect Categories**

Effect	Criteria
Major	Severe harm or enhancement, such as total loss of significance of the asset or of the integrity of its setting, or exceptional improvement of the cultural heritage significance of the asset and/or the ability to understand, appreciate and experience it.
Moderate	Harm or enhancement, such as the introduction or removal of an element that would affect the cultural heritage significance of the asset and the ability to understand, appreciate and experience it to a clearly discernible extent.
Minor	Harm or enhancement to the asset's cultural heritage significance and/or to the ability to understand, appreciate and experience it to a modest extent, such that the majority of the asset's inherent interests and aspects of setting would be preserved.
Very Minor	Harm or enhancement to the asset's cultural heritage significance and/or to the ability to understand, appreciate and experience it, that is barely discernible.

Effect	Criteria
Neutral/Nil	The development would not affect the cultural heritage significance of the asset and/or the ability to understand, appreciate and experience it, or would have harmful and enhancing effects of equal magnitude.

10.9.23 **Table 10.11** provides a matrix that relates the Cultural Heritage significance of the asset to the magnitude of impact on its significance, to produce the overall level of effect. This assessment will be undertaken separately for direct effects and indirect effects, the latter being principally concerned with effects resulting from change to the setting of heritage assets.

**Table 10.11: Assessment of Significance of Effect**

Magnitude of Impact	Cultural Heritage Significance (excluding unknown)			
	Highest	High	Medium	Low
High beneficial	Major	Major	Moderate	Minor
Medium beneficial	Major	Moderate	Minor	Very Minor
Low beneficial	Moderate	Minor	Very Minor	Very Minor
Very low beneficial	Minor	Very Minor	Negligible	Negligible
Neutral/None	Neutral/Nil	Neutral/Nil	Neutral/Nil	Neutral/Nil
Very low adverse	Minor	Very Minor	Negligible	Negligible
Low adverse	Moderate	Minor	Very Minor	Very Minor
Medium adverse	Major	Moderate	Minor	Very Minor
High adverse	Major	Major	Moderate	Minor

### **Mitigation**

10.9.24 Where potential adverse effects on cultural heritage assets are identified, the requirement for any additional mitigation measures to prevent, reduce and/or, where possible, offset these effects will be proposed. Potential mitigation measures can be discussed to minimise or offset direct, indirect and settings impacts. Any mitigation strategy will be agreed with ACAS in the form of a Written Scheme of Investigation (WSI).

10.9.25 Any design modifications or secondary mitigation works required would be proportionate to the scale of potential impacts.

### **Residual Impact**

10.9.26 Residual impacts are those that remain even after the implementation of suitable mitigation measures. Residual impacts will be identified, and the level of those residual impacts defined with reference to **Table 10.9** and **Table 10.10**. The significance of those residual impacts for the purposes of EIA would then be defined as either 'Significant' or 'Not Significant'.

### ***Significance of Impact***

- 10.9.27 Professional judgment will be used in the determination of whether any effects are 'Significant' or 'Not Significant' for the purposes of EIA.
- 10.9.28 With reference to the matrix presented in **Table 10.11**, any impacts identified as 'Major' within the matrix would almost certainly be considered 'Significant', while any impacts identified as 'Moderate' within the matrix may still be considered 'Significant'.
- 10.9.29 A clear statement will be made as to whether any identified impacts are 'Significant' or 'Not Significant' within the EIAR.

## **10.10 Scoping Questions**

- 10.10.1 The following Scoping Questions are designed to focus the scoping exercise and inform the Scoping Opinion:
- Do you agree that all relevant legislation, policy and guidance documents have been identified for the onshore archaeology and cultural heritage assessment, or are there any additional legislation, policy or guidance documents that should also be considered?
  - Do you agree that the proposed data sources identified are sufficient to inform the onshore archaeology and heritage baseline for the EIAR?
  - Do you agree with the proposed study areas?
  - Do you agree with the proposed approach to the assessment?
  - Do you agree with the proposed impacts to be scoped out of the assessment?
  - Do you agree with the proposed commitments?
  - At this stage, do consultees have any comment on the necessity for predetermination field evaluation?

## 11 Land Use and Agriculture

### 11.1 Introduction

11.1.1 This Chapter of the Onshore Scoping Report considers the potential effects from the construction, O&M, and decommissioning of the Proposed Onshore Development on Land Use and Agriculture landward of Mean Low Water Springs (MLWS). It also identifies the proposed scope of the assessment methodology to be used in the Onshore EIAR.

11.1.2 This Chapter should be read alongside the following Chapters of the Onshore Scoping Report:

- **Chapter 6: Geology and Ground Conditions;**
- **Chapter 7: Hydrology and Flood Risk;**
- **Chapter 8: Ecology, Biodiversity and Nature Conservation;**
- **Chapter 12: Traffic and Transport; and**
- **Chapter 15: Socioeconomics, Tourism and Recreation.**

### 11.2 Legislation, Policy and Guidance

11.2.1 In addition to those described in **Chapter 2: Planning and Policy Context** of this Onshore Scoping Report, the legislation, policy and guidance identified in **Table 11.1** will be taken into account during the assessment of effects on Land Use and Agriculture.

**Table 11.1: Relevant Legislation Policy and Guidance**

Title	Source
<b>Legislation</b>	
Land Reform (Scotland) Act 2016	<a href="https://www.legislation.gov.uk/ukpga/2016/12/section-1">Land Reform (Scotland) Act 2016 (legislation.gov.uk)</a>
Community Empowerment (Scotland) Act 2015	<a href="https://www.legislation.gov.uk/ukpga/2015/12/section-1">Community Empowerment (Scotland) Act 2015 (legislation.gov.uk)</a>
The Town and Country Planning (Environmental Impact Assessment) Regulations 2017	<a href="https://www.legislation.gov.uk/uksi/2017/571/contents">https://www.legislation.gov.uk/uksi/2017/571/contents</a>
<b>Policy</b>	
National Planning Framework 4 (NPF4)	<a href="https://www.gov.scot/publications/national-planning-framework-4/">https://www.gov.scot/publications/national-planning-framework-4/</a>
Scotland's Third Land Use Strategy 2021-2026	<a href="https://www.gov.scot/publications/scotlands-third-land-use-strategy-2021-2026-getting-best-land/pdf">scotlands-third-land-use-strategy-2021-2026-getting-best-land.pdf (www.gov.scot)</a>
Scottish Rural Development Programme	<a href="https://www.gov.scot/publications/srdp-programme-document-domestic-jan-2021/pdf">SRDP+Programme+Document+%28Domestic%29+Jan+2021.pdf (www.gov.scot)</a>
A Future Strategy for Scottish Agriculture 2018	<a href="https://www.gov.scot/publications/a-future-strategy-for-scottish-agriculture-2018/pdf">A Future Strategy for Scottish Agriculture: Final Report by the Scottish Government's Agriculture Champions (www.gov.scot)</a>
Scottish Government's forthcoming Just Transition Plan for Land Use and Agriculture	<a href="https://www.gov.scot/publications/just-transition-land-use-and-agriculture/pdf">Just Transition - Land Use and Agriculture (www.gov.scot)</a>

Title	Source
Scotland's Third Land Use Strategy 2021-2026	<a href="https://www.gov.scot/resources/consultations-petitions/uploads/scotlands-third-land-use-strategy-2021-2026-getting-best-land.pdf">scotlands-third-land-use-strategy-2021-2026-getting-best-land.pdf (www.gov.scot)</a>
Scotland's Forestry Strategy 2019-2029	<a href="https://www.gov.scot/resources/consultations-petitions/uploads/scotland-s-forestry-strategy-2019-2029.pdf">Scotland's Forestry Strategy 2019-2029 (www.gov.scot)</a>
The Scottish Soil Framework 2009	<a href="https://www.gov.scot/resources/consultations-petitions/uploads/the-scottish-soil-framework-2009.pdf">The Scottish Soil Framework (www.gov.scot)</a>
Aberdeenshire Local Development Plan (ALDP)	<a href="https://www.aberdeenshire.gov.uk/planning/plans-and-policies/ldp-2023/">https://www.aberdeenshire.gov.uk/planning/plans-and-policies/ldp-2023/</a>
Aberdeenshire Forestry and Woodland Strategy 2023	<a href="https://www.aberdeenshire.gov.uk/planning/plans-and-policies/forestry-woodland-strategy-2023/">PA2023-01 - Planning Advice - Aberdeenshire-forest-and-woodland-strategy-2021</a>
Agriculture in Aberdeenshire: looking to the future 2008	<a href="https://www.aberdeenshire.gov.uk/planning/plans-and-policies/agriculture-in-aberdeenshire-2008/">agriculture in aberdeenshire summary.pdf</a>
The Land Based Sector in NE Scotland 2016	<a href="https://www.aberdeenshire.gov.uk/planning/plans-and-policies/land-based-sector-2016/">facing-the-future-main-report.pdf (aberdeenshire.gov.uk)</a>
<b>Guidance</b>	
A New Perspective on Land and Soil in Environmental Impact Assessment 2022	<a href="https://www.socenv.org.uk/resources/publications/a-new-perspective-on-land-and-soil-in-environmental-impact-assessment-2022/">IEMA Guidance   A New Perspective on Land and Soil in Environmental Impact Assessment   Society for the Environment (socenv.org.uk)</a>
LA 112 Population and Human Health (National Highways 2020)	<a href="https://www.standardsforhighways.co.uk/la-112-population-and-human-health/">LA 112 - Population and human health (standardsforhighways.co.uk)</a>
Environmental Impact Assessment Handbook (version 5) 2018	<a href="https://www.historicenvironment.scot/resources/publications/environmental-impact-assessment-handbook-2018/">Environmental Impact Assessment Handbook   Hist Env Scotland (historicenvironment.scot)</a>

11.2.2 Relevant policies within National Planning Framework 4 (NPF4) and the Aberdeenshire Local Development Plan 2023 (ALDP) and their policy intent are identified in **Table 11.2** and **Table 11.3**, respectively.

**Table 11.2: Relevant National Planning Policies in NPF4**

NPF4 Policy	Policy Intent
Policy 5: Soils	To protect and minimise disturbance to soils, including prime agricultural land. Development of essential infrastructure and generation of energy from renewable sources will only be supported where the layout and design minimises the amount of protected land required.
Policy 6: Forestry, Woodland and Trees	Protection of ancient woodlands, and against adverse impacts on native woodlands. Avoidance of the fragmentation or severance of woodland habitats, unless appropriate mitigation measures are identified and implemented in line with the mitigation hierarchy.
Policy 10: Coastal development	Sets out the conditions for developing on coastal areas where a developed coastal area does not result in the need for further coastal protection measures and is anticipated to be supportable in the long-term, taking into account projected climate change.

**Table 11.3:** *Relevant Local Development Plan Policies in ALDP*

ALDP Policy	Policy Intent
Policy PR1: Protecting Important Resources	Developments will not be supported where they have an adverse impact on prime agricultural land and open space unless there is a clear public benefit that outweighs such impacts.
Policy PR2: Reserving and Protecting Important Development Sites	Sets out the protection for allocated sites, and community land and assets.

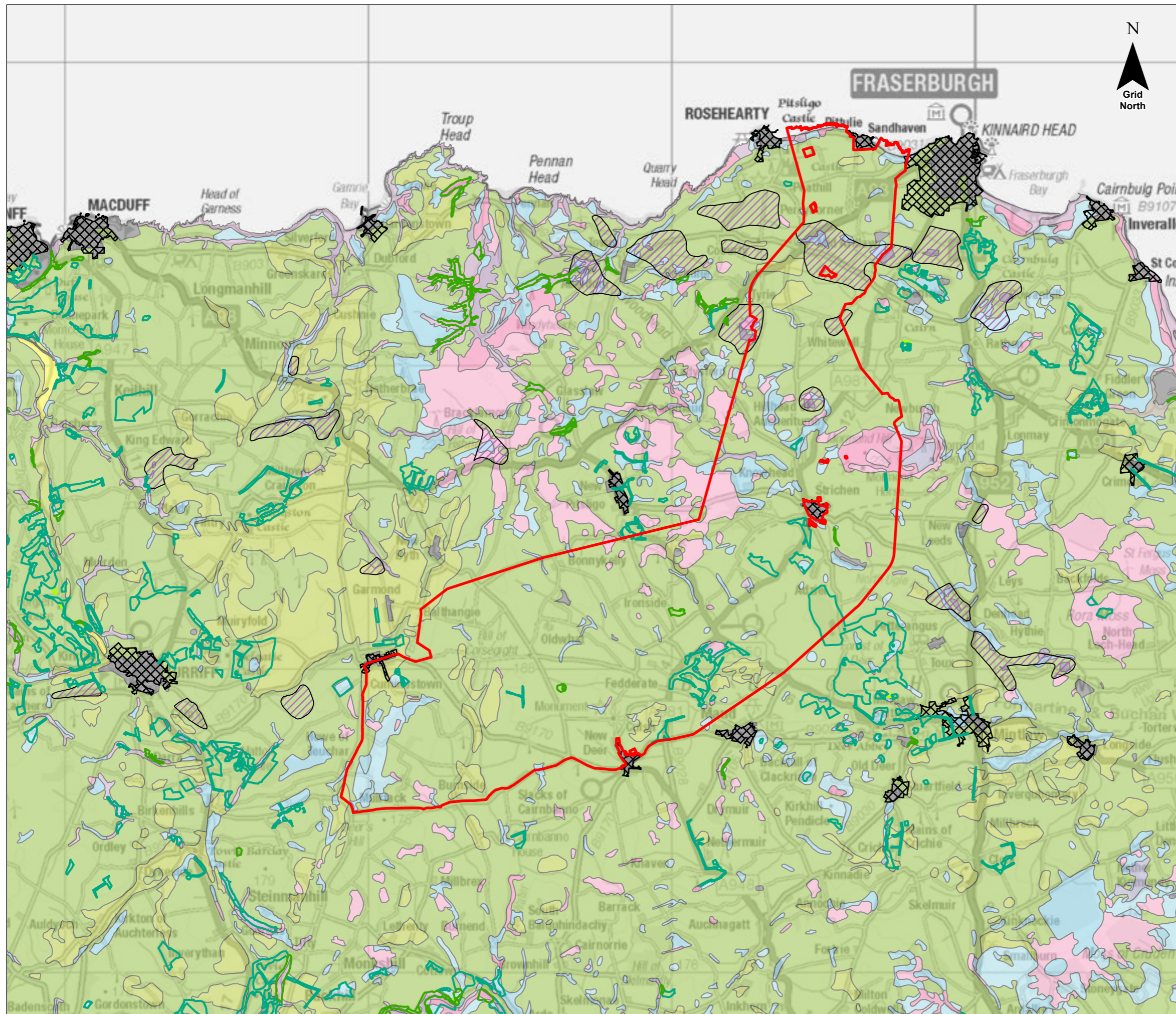
### 11.3 Scoping Study Area

11.3.1 For the purposes of this scoping assessment, the Onshore Scoping Study Area for Land Use and Agriculture is defined as the Onshore Scoping Area as shown in **Figure 11.1**.



# Stromar Offshore Wind Farm

## Figure 11.1 Land Capability for Agriculture



**Legend**

- Onshore Scoping Area
- Settlement Boundary
- LDP23: Minerals - Areas of Search

**Land Capability For Agriculture Grade**

- 2 - Land capable of producing a wide range of crops.
- 3.1 - Land capable of producing consistently high yields of a narrow range of crops and/or moderate yields of a wider range. Short grass leys are common.
- 3.2 - Land capable of average production though high yields of barley, oats and grass can be obtained. Grass leys are common.
- 4.1 - Land capable of producing a narrow range of crops, primarily grassland with short arable breaks of forage crops and cereal.
- 4.2 - Land capable of producing a narrow range of crops, primarily on grassland with short arable breaks of forage crops.
- 5.2 - Land capable of use as improved grassland. Few problems with pasture establishment but may be difficult to maintain.
- 5.3 - Land capable of use as improved grassland; sward establishment presents no difficulties but physical limitations can cause maintenance problems.
- 6.1 - Land capable of use as rough grazings with a high proportion of palatable plants.
- 6.2 - Land capable of use as rough grazings with moderate quality plants.
- 6.3 - Land capable of use as rough grazings with low quality plants.
- 7 - Land of very limited agricultural value.
- Urban

**Ancient Woodland Antiquity Type**

- Ancient (of Semi-natural Origin)
- Long-Established (of Plantation Origin)
- Other (on Roy Map)



Coordinate System: British National Grid  
 Scale @ A3 : 1:125,000

Rev	Description	Date
A	First Draft	22/08/2023
B	Second Draft	09/11/2023
C	Third Draft	12/12/2023
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Doc. Report : Onshore Scoping Report  
 Doc. Title : Land Use Study Area and ALC  
 Doc. No : 404.V64554.00001.0036.2  
 Doc. No of Pages : 1  
 Created by : JCS  
 Checked by : SH  
 Approved by : MF

## 11.4 Baseline Environment

### *Baseline Environment Data Sources*

11.4.1 To describe the Land Use and Agriculture baseline within the Onshore Scoping Study Area in this Chapter, the data sources identified in **Table 11.4** have been used. These data sources will also be used to inform the baseline characterisation for Land Use and Agriculture in the EIAR, along with the additional data sources identified in **Section 11.9**.

**Table 11.4:** *Onshore Scoping Study Area Baseline Data Sources*

Source	Summary	Coverage of Onshore Scoping Study Area
Aberdeenshire Local Development Plan 2023: open data	Mapping and data related to the policies and allocated sites identified in the ALDP.	Full Study Area
Aberdeenshire open data	Mapping and data related to local Core Paths and cycle paths	Full Study Area
Crown Estate Mapping	Mapping of ScotWind proposed offshore windfarms	Full Study Area
Forest Research	National inventory of woodland and trees – Scotland	Full Study Area
Google	Satellite imagery	Full Study Area
National Grid ESO	Mapping of proposed infrastructure works	Full Study Area
NatureScot	The Ancient Woodland Inventory	Full Study Area
OS mapping	Background terrestrial mapping	Full Study Area
Soil Survey of Scotland Staff	Mapping and data related to the capability of agricultural land	Full Study Area
Space Intelligence	Land cover mapping and data	Full Study Area

### *Description of Baseline Environment*

#### *Agriculture and Soils*

11.4.2 As shown on **Figure 11.1**, the Land Capability for Agriculture (LCA) maps identify that 96.54% of land within the Onshore Scoping Study Area is classified as Class 3.2, which is described as 'Land capable of average production though high yields of barley, oats and grass can be obtained. Grass leys are common' (Soil Survey of Scotland Staff, 1984-87). Class 3.2 is considered to be 'Mixed Agriculture' (Classes 3.2 to 4.2) and is not considered to be prime agricultural land (Classes 1 to 3.1). Other classes of agricultural land present within the Onshore Scoping Study Area are as follows:

- Class 3.1 – 2.07%;
- Class 4.1 – 0.34%;

- Class 4.2 – 0.36%;
- Class 5.2 – 0.15%;
- Class 5.3 – 0.53%;
- Classes 6.1, 6.2 and 6.3 – 0.01%; and
- Urban – 0.1%.

11.4.3 As shown, the Onshore Scoping Study Area contains Class 3.1 but does not include the two highest classes, Classes 1 and 2<sup>18</sup>. Further studies would be needed to understand the extent of the coverage of prime agricultural land within the EIA Study Area for the Land Use and Agriculture assessment in the EIAR, as well as its accordance with ALDP Policy PR1 (Aberdeenshire Council, 2023a) and NPF4 Policy 5(b), which further specifies that lower agricultural land qualities which are culturally or locally important should be recognised in decision making (The Scottish Government, 2023a). A full breakdown of the LCA classes is given in **Appendix 11.1**. Although referenced for use in both local and national policy, the limitations of the LCA maps are noted, both in terms of the changes in land since the surveys were initially undertaken and the strategic 1:50,000 scale of the maps, which may not accurately distinguish between the classes at a field level. As the layout and design of the Proposed Onshore Development becomes more refined, the presence of prime agricultural land within the EIA Study Area will be further explored and any impacts confirmed.

#### *Forestry*

11.4.4 The Onshore Scoping Study Area includes several areas of forestry, including young trees and commercial plantations, as well as areas of recently felled woodland. As detailed in **Chapter 8: Ecology, Biodiversity and Nature Conservation**, there are also several areas of ancient woodland throughout the Onshore Scoping Study Area, with more predominant clusters around Memsie and larger clusters south of Strichen.

11.4.5 As shown on **Figure 11.1**, there are three areas of ancient woodland which is 'of semi-natural origin' within the Onshore Scoping Study Area, accounting for approximately 16.24 hectares (ha) in total, or approximately 0.1% of the total Onshore Scoping Study Area. There are a further 14 areas of ancient woodland identified as 'long established of plantation origin', comprising 299.34 ha in total, or 1.89% of the Onshore Scoping Study Area.

11.4.6 Combined, ancient woodland constitutes 1.99% of the Onshore Scoping Study Area, comprising 315.58 ha. No areas of ancient woodland from the 'Roy maps' were identified within the Onshore Scoping Study Area.

#### *Employment and Housing Land*

11.4.7 'Opportunity Sites' are areas of land allocated within the ALDP for employment and/or housing development (Aberdeenshire Council, 2023a). The 'Opportunity Sites' for housing development are associated with the named settlements throughout the Onshore Scoping Study Area (Fraserburgh, Rosehearty and Strichen), whilst the only area of Existing Employment Land

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<sup>18</sup> Agricultural land identified as being Class 1, 2 or 3.1 in the land capability classification for agriculture developed by Macaulay Land Use Research Institute (now the James Hutton Institute) is classified as being prime agricultural land.

present within the Onshore Scoping Study Area is to the west of Fraserburgh. Fraserburgh is also identified in the ALDP as a focus town for regeneration.

**Mineral Resources**

11.4.8 The Onshore Scoping Study Area includes several areas identified as Areas of Search for Minerals (Sand and Gravel Reserves) in the ALDP. These are located at Memsie West and Tarwathie near Strichen.

**Future Baseline**

11.4.9 The baseline environment is not static and will exhibit some degree of change over time, with or without the Proposed Onshore Development in place. Therefore, when undertaking impact assessments, it will be necessary to place any potential impacts in the context of the envelope of change that might occur naturally over the lifetime of the Proposed Onshore Development. This future baseline will be defined for the purposes of the EIAR.

**11.5 Commitments**

11.5.1 The Developer has committed to adopt a series of design commitments (primary commitments) at this scoping stage to avoid and (where avoidance is not possible) reduce the potential for effects on the environment. Further best practice measures (tertiary commitment) are embedded as an inherent aspect of the EIA process.

11.5.2 Those scoping commitments of relevance to Land Use and Agriculture are identified in **Table 11.5** below. Full details on each of these commitments can be found in the Onshore Commitments Register in **Appendix 3.2** of this Onshore Scoping Report.

**Table 11.5: Relevant Commitments to Land Use and Agriculture**

ID	Commitment	How this commitment will be secured
<b>Primary Commitments</b>		
C-ONS-002	The onshore cable duct installation strategy (if ducts are used) is proposed to be conducted in a sectionalised approach in order to minimise impacts. Construction teams would work on a sectional approach (approximately 600-1500 m) and once the cable ducts have been installed, the section would be backfilled and the top soil replaced before moving onto the next section. This would minimise the amount of land being worked on at any one time and would also minimise the duration of works on any given section of the route.	Planning condition attached to PPP or AMSC consent requiring approval of a Construction Method Statement.
C-ONS-004	The OnECC and OnGCC will be buried underground for their entire length. Following reinstatement, the only above ground structures related to the OnECC and OnGCC will be link box lids where there are joints in the cable. These will typically take the form of a set of manhole covers surrounded by a small post and rail fenced enclosure.	Location and design of the OnECC and OnGCC, including any permanent above ground structures, to be approved through AMSC consent.

ID	Commitment	How this commitment will be secured
<b>Tertiary Commitments</b>		
C-ONS-009	Production and compliance with a Construction Environmental Management Plan (CEMP). An Outline CEMP will be produced and included alongside the Onshore EIAR to support the PPP application. A detailed CEMP will then be submitted to Aberdeenshire Council for approval (in consultation with NatureScot and Scottish Environment Protection Agency (SEPA)) prior to construction of the development. The CEMP will then be implemented to avoid, minimise or mitigate effects on the environment during the construction phase.	Planning Condition attached to PPP consent requiring CEMP to be submitted and approved by Aberdeenshire Council.
C-ONS-016	A Soil Management Plan (SMP) will be submitted and agreed with Aberdeenshire Council prior to the commencement of development to ensure that soil resources are managed in accordance with best practice. During construction, all soils to be excavated, handled, stored and reinstated in accordance with the approved SMP.	Planning Condition attached to PPP consent required CEMP to be submitted and approved by Aberdeenshire Council.
C-ONS-017	Post-construction all temporary working areas will be reinstated to pre-existing conditions as far as reasonably practical in line with Defra 2009 Construction Code of Practice for the Sustainable Use of Soils on Construction Sites PB13298 or latest relevant available guidance.	Planning Condition attached to PPP or AMSC consent requiring approval of a scheme for the reinstatement of all temporary working areas following completion of construction.
C-ONS-018	In areas subject to vehicle and heavy plant movement the topsoil and subsoil will be stripped and stored on site within the temporary working corridor. The topsoil and subsoil will be stored in separate stockpiles and post-construction these working areas will be reinstated to pre-existing condition as far as reasonably practical in line with Defra 2009 Construction Code of Practice for the Sustainable Use of Soils on Construction Sites PB13298 and The Scottish Soil Framework.	Planning Condition attached to PPP consent requiring CEMP to be submitted and approved by Aberdeenshire Council.
C-ONS-019	A Pollution Prevention and Management Plan would be developed. This will detail a pollution control strategy to be implemented in accordance with Controlled Activities Regulations (CAR) licence regulations, incorporating measures for protecting ground and surface water during construction and operational phases. Details on appropriate fuel and chemical storage will be provided, along with measures associated with water abstraction and incident response procedures.	Planning Condition attached to PPP consent requiring CEMP to be submitted and approved by Aberdeenshire Council.
C-ONS-029	Where the Proposed Onshore Development is not required for electricity transmission purposes beyond the operational life of the Project, the onshore components would be decommissioned, and the land reinstated. Details of the decommissioning and restoration scheme shall be submitted to Aberdeenshire Council within 24 months of the permanent cessation of electricity generation.	Planning Condition attached to PPP consent required approval of decommissioning and site restoration plan.

- 11.5.3 As a result of the commitment to implement these measures, this mitigation is considered inherently part of the design of the Proposed Onshore Development and has, therefore, been included in the scoping assessment presented in **Section 11.6** of this Chapter.
- 11.5.4 It is expected that additional primary commitments will be identified as the layout and design of the Proposed Onshore Development is refined and developed. These will take into account any consultation feedback received.
- 11.5.5 The requirement for any additional secondary commitments to prevent, reduce or offset any remaining significant adverse effects of the Proposed Onshore Development will be developed throughout the EIA process dependent on the significance of effect upon Land Use and Agriculture receptors.
- 11.5.6 At this stage, we anticipate that additional commitments may include:
- The location of onshore infrastructure (including any associated working areas) will seek to avoid or minimise loss/disturbance of prime agricultural land.
  - Routeing of the OnECC and OnGCC to avoid third-party infrastructure where practicable. Where crossings of third party infrastructure are required, these will be progressed via consultation with asset operators.
  - The project design process for the OnECC and OnGCC will seek to implement measures to avoid fragmentation of woodland and sensitive habitat where possible, through application of HDD, or other trenchless techniques, and use of existing breaks in land use.
  - Landscape features (field boundaries, walls, hedges, trees, shrubs and other vegetation) along the OnECC and OnGCC routes to be retained where possible. Where it is not possible to retain them, the width of hedge and vegetation removed to be limited. Where it is not possible to avoid removal, replacement and compensatory landscaping to be provided where necessary.

## 11.6 Scoping of Impacts

- 11.6.1 The Impacts Register (**Appendix 3.3**) sets out the proposed assessment of the potential effects of the Proposed Onshore Development on the environment, including Land Use and Agriculture, at the scoping stage of the EIA. It identifies all potential impacts and provides an assessment on whether or not it is considered that they have (or do not have) the potential to result in a LSE. A summary assessment of the potential impacts on Land Use and Agriculture is provided in **Table 11.6**.
- 11.6.2 The assessment in the Impacts Register and **Table 11.6** has been based upon a combination of:
- The maximum development parameters of the Proposed Onshore Development at this scoping stage;
  - The commitments identified in **Table 11.5** and the Onshore Commitment Register in **Appendix 3.2**;
  - The level of understanding of the baseline environment at this scoping stage;
  - The existing evidence base;

- Relevant legislation and policy; and
- The professional judgement and experience of the qualified Land Use and Agriculture specialists.

11.6.3 In accordance with the proportionate EIA approach (see **Chapter 5: EIA Methodology**), for this scoping stage of the EIA process, the Impacts Register and **Table 11.6** categorises likely significance of effect as follows:

- **LSE identified at scoping stage without secondary commitments** – the impact will be subject to detailed assessment and scoped in to the EIAR;
- **Possible LSE identified at scoping stage without secondary commitments** – however it may become clear post scoping that the impact does not require detailed assessment in the EIAR. The impact will be scoped in at scoping stage, however further evidence will be brought forward post scoping to agree with consultees the specific treatment of the impact in the EIAR.
- **No LSE identified at scoping stage** – the impact will be scoped out of assessment in the EIAR.

11.6.4 Where it is agreed that potential effects can be scoped out of the EIAR, it is confirmed that these would still be presented within the Impacts Register within the EIAR with an explanation provided as to why it has been agreed it can be scoped out.

Table 11.6: Scoping Assessment for Land Use and Agriculture

Potential Effect	Project Element					Commitment(s)	Scoping Status			Proposed Approach to Assessment, including Description of any New Evidence Required
	Landfall	OnECC	OnGCC	OnSS	OnRCS		LSE	Possible LSE	No LSE	
<b>Construction</b>										
Temporary loss of agricultural land, leading to reduced agricultural productivity.		✓	✓	✓	✓	C-ONS-002 C-ONS-009 C-ONS-016 C-ONS-017 C-ONS-018		✓		Scoped in at scoping except for landfall. Further evidence to be provided post-scoping: <ul style="list-style-type: none"> <li>Review of the LCA Classes within the footprint of the Proposed Onshore Development once layout and design refined;</li> <li>Establishing the extent of prime agricultural land impacted by the Proposed Onshore Development; and</li> <li>Consultation with Aberdeenshire Council on the extent of impacts and appropriateness of the commitments as mitigation measures.</li> </ul> Impacts at the landfall are scoped out due to no agricultural land being present in this area.
Temporary disruption to allocated housing and/or employment land.	✓	✓			✓	C-ONS-002		✓		Scoped in at scoping for landfall, OnECC and OnGCC only. Further evidence to be provided post-scoping: <ul style="list-style-type: none"> <li>Review of the current baseline sensitivities against the potential impacts once layout and design of the Proposed Onshore Development has been refined;</li> <li>Confirmation of the extent of potential disruption by the Proposed Onshore Development on a physical and temporal scale; and</li> <li>Consultation with Aberdeenshire Council on the extent of impacts and appropriateness of the commitments as mitigation measures.</li> </ul> Impacts to the OnSS and OnGCC are scoped out due to the OnSS (and associated OnGCC) being permanent infrastructure, which would result in permanent impacts, not temporary.



Potential Effect	Project Element					Commitment(s)	Scoping Status			Proposed Approach to Assessment, including Description of any New Evidence Required
	Landfall	OnECC	OnGCC	OnSS	OnRCS		LSE	Possible LSE	No LSE	
The removal, segregation, fragmentation and/or adversely impacting areas of forestry.		✓	✓	✓	✓	-		✓		<p>Scoped in at scoping except for landfall.</p> <p>Further evidence to be provided post-scoping:</p> <ul style="list-style-type: none"> <li>Review against potential impacts once layout and design of Proposed Onshore Development has been refined;</li> <li>Impacts to forestry/woodland habitats to be assessed in <b>Chapter 8: Ecology, Biodiversity and Nature Conservation</b>; and</li> <li>Impacts related to the removal of commercial forestry to be assessed in <b>Chapter 15: Socioeconomics, Tourism and Recreation</b>.</li> </ul> <p>Impacts at landfall are scoped out due to no forestry being located at these coastal areas.</p>
Potential transmission of agricultural pests and diseases	✓	✓	✓	✓	✓	C-ONS-002 C-ONS-016 C-ONS-017		✓		<p>Scoped in at scoping.</p> <p>Further evidence to be provided post-scoping:</p> <ul style="list-style-type: none"> <li>Desktop review of invasive species, pests and disease prevalent within the EIA Study Area;</li> <li>Agreement on methods proposed within SMP to reduce the spread of potentially invasive species and disease;</li> <li>Review of the current baseline sensitivities against the potential impacts provided with project specific data; and</li> <li>Consultation with Aberdeenshire Council on the extent of impacts and appropriateness of the commitments as mitigation measures.</li> </ul>
Groundbreaking activities disrupting existing underground utilities such as cables and pipelines.	✓	✓	✓	✓	✓	C-ONS-005		✓		<p>Scoped in at scoping.</p> <p>Further evidence to be provided post-scoping:</p> <ul style="list-style-type: none"> <li>Baseline data search of utilities infrastructure once layout and design of the Proposed Onshore Development has been refined.</li> </ul>

Potential Effect	Project Element					Commitment(s)	Scoping Status			Proposed Approach to Assessment, including Description of any New Evidence Required
	Landfall	OnECC	OnGCC	OnSS	OnRCS		LSE	Possible LSE	No LSE	
<b>Operation and Maintenance</b>										
Permanent loss of agricultural land (for the lifetime of the Proposed Onshore Development).				✓	✓	C-ONS-004		✓		Scoped in at scoping for OnSS and OnRCS only. Further evidence to be provided post-scoping: <ul style="list-style-type: none"> <li>Review against potential impacts once layout and design of Proposed Onshore Development has been refined;</li> <li>Confirmation of the extent of Prime Agricultural Land impacted by the Proposed Onshore Development; and</li> <li>Consultation with Aberdeenshire Council on the extent of impacts and appropriateness of the commitments as mitigation measures.</li> </ul> Impacts at the landfall, OnECC and OnGCC are scoped out, due to these being temporary construction impacts and will be reinstated for the operational phase.
Loss of agricultural productivity resulting from the operational presence of the landfall, OnECC and OnGCC.	✓	✓	✓			C-ONS-004			✓	Scoped out at scoping. The construction stage impacts from the ECC/GCC/landfall would be appropriately mitigated by the reinstatement of land in line with the proposed commitments. The cables would be buried, therefore, no operational impacts from the presence of the landfall, OnECC and OnGCC would lead to a loss of agricultural yield productivity in the operations and maintenance phase of the Proposed Onshore Development. Impacts on the OnSS and OnRCS are addressed above, regarding permanent infrastructure.
<b>Decommissioning</b>										
Decommissioning of the Proposed Onshore Development.	✓	✓	✓	✓	✓	C-ONS-029		✓		Scoped in, however the effects associated with the construction phase can be considered to be representative of reasonable worst-case decommissioning effects, and therefore no separate assessment of the decommissioning phase is proposed for Land Use and Agriculture in the EIAR.

## 11.7 Potential Cumulative Effects with Proposed Offshore Development

11.7.1 There is not considered to be the potential for the Proposed Offshore Development to cause cumulative effects with the Proposed Onshore Development on Land Use and Agriculture receptors.

## 11.8 Potential Cumulative Effects with Other Projects

11.8.1 A review of other existing and proposed projects near the Proposed Onshore Development will be undertaken and potential impacts on Land Use and Agriculture receptors will be assessed to identify potential cumulative impacts. In accordance with **Chapter 5: EIA Methodology** of this Onshore Scoping Report, the cumulative effects assessment for the Proposed Onshore Development will consider any other developments that are under construction, consented but not yet built or are the subject of valid planning or consent applications.

11.8.2 Potential cumulative impacts that may arise on Land Use and Agriculture receptors during the construction phase would be broadly in line with those of the Proposed Onshore Development singularly, however, may result in an:

- Increased temporal scale of the temporary impacts to receptors;
- Increased spatial scale of the temporary impacts to receptors; and
- Increased magnitude of the impacts to receptors as a result of one or both of the above impacts.

11.8.3 Potential cumulative impacts that may arise on Land Use and Agriculture receptors during the O&M phase of the Proposed Onshore Development may include:

- An increased temporary or permanent loss of agricultural land.

## 11.9 Proposed Approach to the EIA

### *EIA Study Area*

11.9.1 The EIA Study Area for the Land Use and Agriculture impact assessment in the Onshore EIAR will be defined following the refinement of the layout and design of the Proposed Onshore Development.

### *Additional Data Sources*

11.9.2 The following additional data sources in **Table 11.7** will be used to inform the Land Use and Agriculture assessment in the EIAR, once the EIA Study Area has been defined.

Table 11.7: Additional Baseline Data Sources for EIAR

Source	Summary
Environmental Information Request (EIR)	EIR to Aberdeenshire Council Contaminated Land Officer for any environmental information, related to <b>Chapter 6: Geology and Ground Conditions</b> , may also have information related to the quality and/or usage of land.
Land Referencing Data	Data obtained from the contracted land agents of the Project related to parcels of land, ownership and usage of the land as part of their ongoing land referencing efforts may also be of value in understanding the land use within the footprint of the Proposed Onshore Development.

#### **Desk Based Assessment**

11.9.3 An initial desk assessment will be undertaken to determine and confirm the Land Use and Agriculture baseline within the EIA Study Area. This will comprise reviewing publicly available information on current land uses and identifying sensitive receptors for further assessment, as well as confirming those, through consultation with Aberdeenshire Council, which can be scoped out of the EIAR.

#### **Field Surveys**

11.9.4 A walkover survey of the EIA Study Area would be undertaken if receptors identified in the desk-based assessment require confirmation and/or greater information to better understand their sensitivity. If undertaken, the walkover survey would be conducted in close liaison with the project geologists, hydrologists and ecologists.

#### **Consultation**

11.9.5 As discussed in **Table 11.6**, consultation will be undertaken following the refinement of the layout and design of the Proposed Onshore Development. It is proposed that Aberdeenshire Council, landowners and local stakeholders are to be consulted.

#### **Assessment Methodology**

11.9.6 The general approach of the Land Use and Agriculture assessment in the EIAR would follow the guidance outlined in **Chapter 5: EIA Methodology**. There are no standards or technical guidelines that set out a preferred methodology for assessing and evaluating effects on Land Use and Agriculture within the context of an EIAR, however, there are methodologies which are commonly used and accepted.

11.9.7 As the Land Use and Agriculture baseline of the Proposed Onshore Development (see **Section 11.4**) is identified as being predominately agricultural land, the most appropriate methodology for assessment is the Institute of Environmental Management and Assessment's (IEMA) latest agricultural land and soil guidance, 'A New Perspective on Land and Soil in Environmental Impact Assessment' (IEMA, 2020), which differentiates between areas of agricultural land dependant on their LCA Class.

**Assessment Criteria and Assignment of Significance**

- 11.9.8 The EIA will follow the general approach outlined in **Chapter 5: EIA Methodology** of this Onshore Scoping Report. The following tables outline the proposed approach to defining the sensitivity of the Land Use and Agriculture receptors, the magnitude of the potential impacts and the significance of these effects. It should be noted that significant effects need not be unacceptable or irreversible.
- 11.9.9 Examples of the levels of receptors sensitivities which will be used in the Land Use and Agriculture assessment are summarised on **Table 11.8**, where a receptor could be placed within more than one category of sensitivity, professional judgement will be applied to determine which category is appropriate.

**Table 11.8: Proposed Sensitivity of Receptors**

Receptor Sensitivity	Definition ( <i>Typical Descriptions</i> )
Very High	<p>Very high importance and rarity, international scale and very limited potential for substitution.</p> <p>This sensitivity would include:</p> <ul style="list-style-type: none"> <li>• LCA Classes 1 and 2 agricultural land - Land capable of producing a very wide to wide range of crops;</li> <li>• Ancient Woodland;</li> <li>• Existing housing and land allocated for housing exceeding 5 ha and/or over 150 homes; and</li> <li>• Existing employment sites (excluding agriculture) and land allocated for employment exceeding 5 ha.</li> </ul>
High	<p>High importance and rarity, national level and limited potential for substitution.</p> <p>This sensitivity would include:</p> <ul style="list-style-type: none"> <li>• LCA Class 3.1 agricultural land - land capable of producing consistently high yields of a narrow range of crops and/or moderate yields of a wider range;</li> <li>• Existing housing and land allocated for housing covering 1-5 ha and/or 30-150 homes; and</li> <li>• Existing employment sites (excluding agriculture) and land allocated for employment covering 1-5 ha.</li> </ul>
Medium	<p>Medium importance and rarity, district or regional level, limited potential for substitution.</p> <p>This sensitivity would include:</p> <ul style="list-style-type: none"> <li>• LCA Class 3.2 agricultural land - land capable of average production though high yields of barley, oats and grass can be obtained;</li> <li>• Existing housing and land allocated for housing covering less than 1 ha and/or less than 30 houses; and/or</li> <li>• Existing employment sites (excluding agriculture) and land allocated for employment covering less than 1 ha.</li> </ul>

Receptor Sensitivity	Definition ( <i>Typical Descriptions</i> )
Low	<p>Low importance and rarity, local level.</p> <p>This sensitivity would include:</p> <ul style="list-style-type: none"> <li>• LCA Classes 4 to 7 agricultural land - land capable of producing a narrow range of crops to land of very limited agricultural value;</li> <li>• Proposed Onshore Development on unallocated sites providing housing with planning permission/in the planning process; and</li> <li>• Proposed Onshore Development on unallocated sites providing employment with planning permission/in the planning process.</li> </ul>
Negligible	<p>Very low importance and rarity, local level.</p> <p>As for low sensitivity, but with only indirect, tenuous, and unproven links between sources of impact and identified receptors. This sensitivity could include:</p> <ul style="list-style-type: none"> <li>• Non-agricultural land;</li> <li>• Non-designated land; and/or</li> <li>• Undeveloped land.</li> </ul>

11.9.10 The magnitude of potential impacts upon Land Use and Agriculture is determined by defining the impact on the resource, as summarised in **Table 11.9**. This approach uses the term “beneficial” for an advantageous or positive impact on a Land Use and Agriculture receptor or “adverse” for a detrimental or negative impact on a Land Use and Agriculture receptor.

**Table 11.9: Proposed Magnitude of Impacts**

Magnitude	Description ( <i>Typical Description</i> )
Major	<p><b>Adverse</b></p> <p>Permanent, irreversible loss of agricultural land (including permanent sealing or land quality downgrading) or loss of soil-related features of agricultural land, as advised by other topic specialists in the EIA team, over an area of more than 20 ha.</p> <p>Loss of resource and/or quality and integrity of resource.</p> <p>Severe damage to key characteristics, features or elements. e.g. direct acquisition and demolition of buildings and direct development on receptor.</p>
	<p><b>Beneficial</b></p> <p>Potential for permanent improvement due to remediation or restoration over an area of more than 20 ha.</p>
Moderate	<p><b>Adverse</b></p> <p>Permanent, irreversible loss of agricultural land or loss of soil-related features of agricultural land, as advised by other topic specialists in the EIA team, over an area of between 5 and 20 ha.</p> <p>Partial loss of/damage to key characteristics, features or elements, e.g. partial removal or substantial amendment to access or acquisition of land compromising viability of property, businesses, community assets or agricultural holdings.</p>
	<p><b>Beneficial</b></p> <p>Potential for improvement of resource quality due to remediation or restoration over an area of between 5 and 20 ha.</p>

Magnitude	Description ( <i>Typical Description</i> )
Minor	<p><b>Adverse</b></p> <p>Permanent, irreversible loss of agricultural land or loss of soil-related features of agricultural land, as advised by other topic specialists in the EIA team, over an area of less than 5 ha.</p> <p>Temporary, reversible loss of an area of agricultural land or soil-related features of agricultural land, as advised by other topic specialists in the EIA team.</p>
	<p><b>Beneficial</b></p> <p>Potential for permanent improvement of resource quality due to remediation or restoration over an area of less than 5 ha.</p> <p>Temporary improvement to one or more of a receptor's key characteristics, functions or features due to remediation or restoration or off-site improvement.</p> <p>Temporary gain in soil-related features of agricultural land, as advised by other topic specialists in the EIA team.</p>
Negligible	<p><b>Adverse</b></p> <p>No discernible loss of agricultural land or reduction of soil-related features of agricultural land, that restrict current or proposed land use.</p> <p>Very minor loss or detrimental alteration to one or more characteristics, features or elements. e.g. acquisition of non-operational land or buildings not directly affecting the viability of property, businesses, community assets or agricultural holdings.</p>
	<p><b>Beneficial</b></p> <p>No discernible improvement of agricultural land or soil-related features of agricultural land.</p>
No change	<p>No loss or alteration of characteristics, features or elements.</p> <p>No observable adverse or beneficial impacts.</p>

- 11.9.11 The determining of the significance of an effect is based on IEMA guidance (2022), which notes that not all impacts and receptors will fit within a pre-defined matrix and, as such, should not replace professional judgement within the context of the EIA. Where an effect is classified as 'Major' or 'Substantial', it is likely to result in a significant effect, however, where an effect is classified as 'Moderate', this could be considered a significant effect but should always be subject to professional judgement and interpretation, particularly where the sensitivity or impact magnitude levels are not clear, overlap between categories or the impact is intermittent.
- 11.9.12 The significance of effects matrix shown on **Table 11.10**, therefore, provides a guide to decision making but is not a substitute for professional judgement.

Table 11.10: Proposed Matrix to Determine the Significance of Effects

Significance of Effect		Magnitude of Impact			
		Negligible	Minor	Moderate	Major
Sensitivity of Receptor	Low	Negligible (Not Significant)	Negligible or Minor (Not Significant)	Minor (Not Significant)	Minor (Not Significant) or Moderate (Significant)
	Medium	Negligible (Not Significant)	Minor (Not Significant)	Moderate (Significant)	Moderate (Significant) or Major (Significant)
	High	Negligible (Not Significant)	Minor (Not Significant) or Moderate (Significant)	Moderate (Significant) or Major (Significant)	Major (Significant) or Substantial (Significant)
	Very High	Negligible (Not Significant)	Moderate (Significant) or Major (Significant)	Major (Significant) or Substantial (Significant)	Substantial (Significant)

11.9.13 Some of the significance of effects on **Table 11.10** include two different levels, such as ‘Minor (Not Significant)’ and ‘Moderate (Significant)’. If this occurs in the EIAR, professional judgement will determine the level of effect and significance.

## 11.10 Scoping Questions

11.10.1 The following Scoping Question are designed to focus the scoping exercise and inform the Scoping Opinion:

- Do consultees agree that the relevant legislation, policy and guidance for the Land Use and Agriculture assessment have been covered, and if not, are there any additional documents that should be considered?
- Do consultees agree with the coverage of the baseline?
- Do consultees agree that the scope and scale of the study area is appropriate?
- Do consultees agree with the proposed methodology?
- Do consultees agree with the potential impacts that have been highlighted to be assessed?
- Do consultees agree with the impacts which have been scoped out of the assessment?
- Do consultees agree with the proposed commitments?



## 12 Traffic and Transport

### 12.1 Introduction

12.1.1 This Chapter of the Onshore Scoping Report considers the potential effects from the construction, O&M, and decommissioning of the Proposed Onshore Development on communities along access routes, any Core Paths and Rights of Way (RoW), and potential disruption to users of the Local Road Network (LRN) and Trunk Road Network (TRN). It also identifies the proposed scope of the assessment methodology to be used in the Onshore EIAR.

12.1.2 This Chapter should be read alongside the following Chapters of the Onshore Scoping Report:

- **Chapter 13: Noise and Vibration;**
- **Chapter 14: Air Quality;** and
- **Chapter 15: Socioeconomics, Tourism and Recreation.**

### 12.2 Legislation, Policy and Guidance

12.2.1 In addition to those described in **Chapter 2: Planning and Policy Context** of this Onshore Scoping Report, the legislation, policy and guidance identified in **Table 12.1** will be taken into account during the assessment of effects on Traffic and Transport.

**Table 12.1: Relevant Legislation Policy and Guidance**

Title	Source
Legislation	
Roads (Scotland) Act 1984	<a href="https://www.legislation.gov.uk/ukpga/1984/54/contents">https://www.legislation.gov.uk/ukpga/1984/54/contents</a>
Policy	
Aberdeenshire Local Development Plan (ALDP)	<a href="https://www.aberdeenshire.gov.uk/planning/plans-and-policies/ldp-2023/">https://www.aberdeenshire.gov.uk/planning/plans-and-policies/ldp-2023/</a>
Nestrans Regional Transport Strategy (2021) – North East of Scotland	<a href="https://www.nestrans.org.uk/wp-content/uploads/2021/12/Nestrans-RTS_PUBLISHED.pdf">https://www.nestrans.org.uk/wp-content/uploads/2021/12/Nestrans-RTS_PUBLISHED.pdf</a>
Aberdeenshire Local Transport Strategy (2012)	<a href="https://www.aberdeenshire.gov.uk/media/2374/2012finalts.pdf">https://www.aberdeenshire.gov.uk/media/2374/2012finalts.pdf</a>

Title	Source
Guidance	
Institution of Highways and Transportation (IHT), Guidelines for Traffic Impact Assessment (IHT, 1994);	<a href="https://trid.trb.org/view/422947">https://trid.trb.org/view/422947</a>
Institute of Environmental Management and Assessment (IEMA) Guidelines: (2023), Environmental Assessment of Traffic and Movements (referred to as 'the IEMA Guidelines or GEATM');	<a href="https://www.iema.net/resources/blog/2023/07/12/new-iema-guidance-environmental-assessment-of-traffic-and-movement">https://www.iema.net/resources/blog/2023/07/12/new-iema-guidance-environmental-assessment-of-traffic-and-movement</a>
Nestrans Regional Transport Strategy (RTS);	<a href="https://www.nestrans.org.uk/wp-content/uploads/2021/12/Nestrans-RTS_PUBLISHED.pdf">https://www.nestrans.org.uk/wp-content/uploads/2021/12/Nestrans-RTS_PUBLISHED.pdf</a>
Transport Scotland Transport Assessment Guidance (Transport Scotland, 2012);	<a href="https://www.transport.gov.scot/media/4589/planning_reform_-_dpmtag_-_development_management_dpmtag_ref_17_-_transport_assessment_guidance_final_-_june_2012.pdf">https://www.transport.gov.scot/media/4589/planning_reform_-_dpmtag_-_development_management_dpmtag_ref_17_-_transport_assessment_guidance_final_-_june_2012.pdf</a>
The Scottish Government Planning Advice Note (PAN) 75 – Planning for Transport;	<a href="https://www.gov.scot/publications/planning-advice-note-pan-75-planning-transport/">https://www.gov.scot/publications/planning-advice-note-pan-75-planning-transport/</a>
Scottish Government, NESAs Manual, DMRB, Volume 15, Economic Assessment of Road Schemes in Scotland (Scottish Government, 2005); and	<a href="https://www.transport.gov.scot/media/9746/a77mayboletransportstudy-dmrb-stage2-report-chapter6-trafficandeconomicassessment.pdf">https://www.transport.gov.scot/media/9746/a77mayboletransportstudy-dmrb-stage2-report-chapter6-trafficandeconomicassessment.pdf</a>
The Royal Society for the Prevention of Accidents (ROSPA) Road Safety Engineering Manual (ROSPA, 2007).	<a href="https://www.thenbs.com/PublicationIndex/documents/details?Pub=RoSPA&amp;DocID=297335">https://www.thenbs.com/PublicationIndex/documents/details?Pub=RoSPA&amp;DocID=297335</a>

12.2.2 Relevant policies within National Planning Framework 4 (NPF4) and the Aberdeenshire Local Development Plan 2023 (ALDP) and their policy intent are identified in **Table 12.2** and **Table 12.3** respectively.

**Table 12.2:** *Relevant National Planning Policies in NPF4*

NPF4 Policy	Policy Intent
Policy 11: Energy	To encourage, promote and facilitate all forms of renewable energy development onshore and offshore. Policy 11 (e) requires that project design and mitigation will require to demonstrate, amongst other matters, how impacts are addressed on (vi) road traffic and on adjacent trunk roads, including during construction.
Policy 13: Sustainable Transport	To encourage, promote and facilitate developments that prioritise walking, wheeling, cycling and public transport for everyday travel and reduce the need to travel unsustainably.

**Table 12.3:** *Relevant Local Development Plan Policies in ALDP*

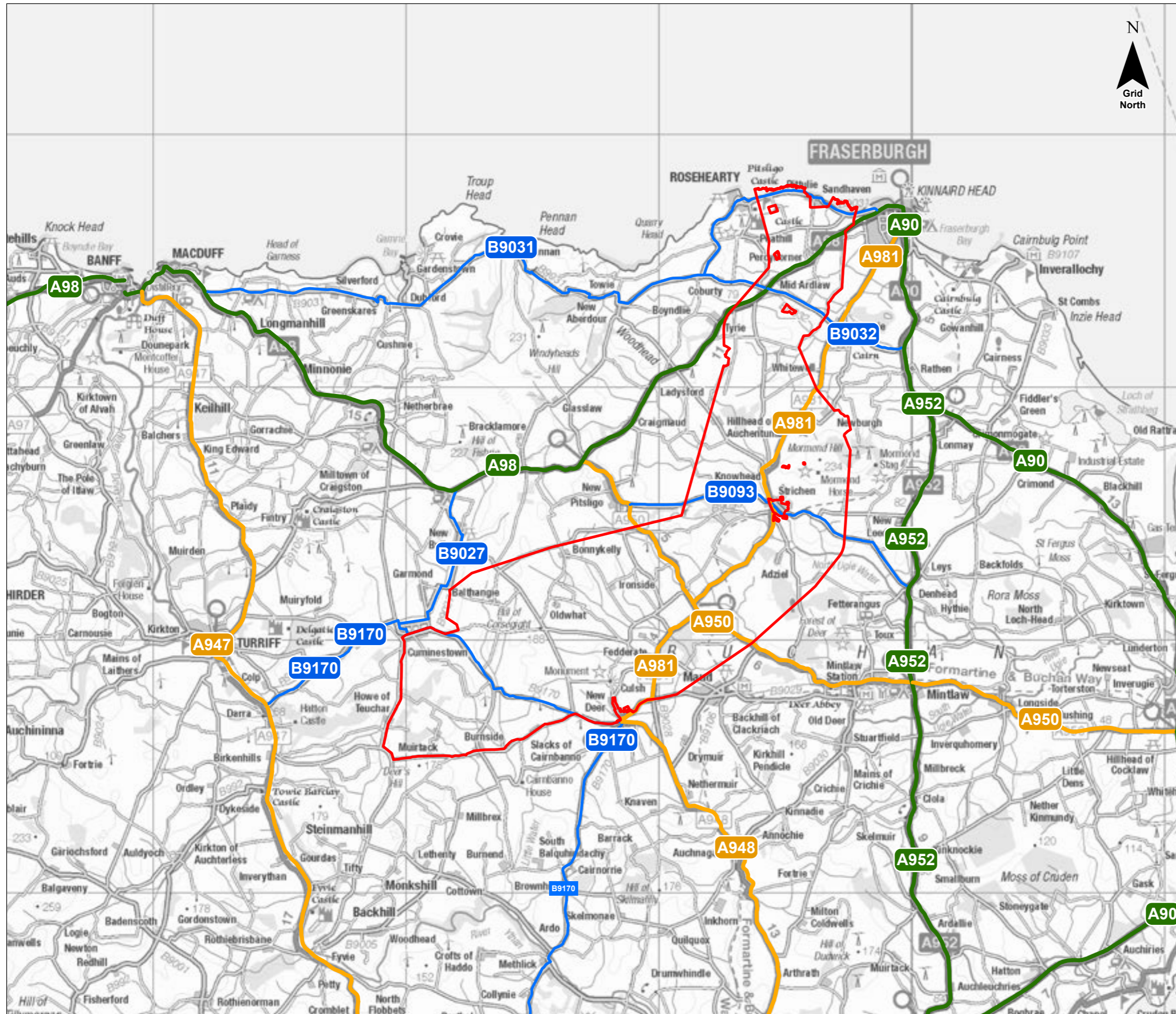
ALDP Policy	Policy Intent
Policy C2: Renewable Energy	To assess and support renewable energy development which are in appropriate sites and of the appropriate design. It provides that assessment of the acceptability of developments will take account of, amongst other matters, effects on road traffic.

## 12.3 Scoping Study Area

12.3.1 For the purposes of this scoping assessment, the Onshore Scoping Study Area is defined as the Onshore Scoping Area as shown in **Figure 12.1**.

# Stromar Offshore Wind Farm

## Figure 12.1 Key Transport Infrastructure



### Legend

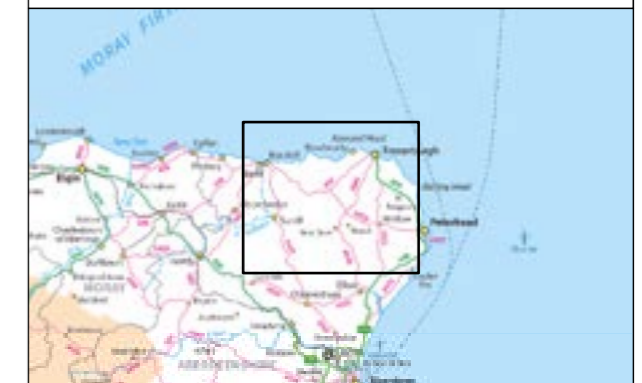
Onshore Scoping Area

### Key Transport Infrastructure

Strategic A Road

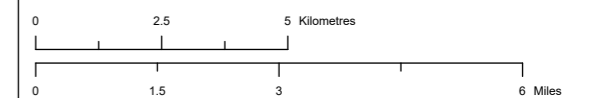
Other A Road

B Road



Coordinate System: British National Grid

Scale @ A3 : 1:150,000



Rev	Description	Date
A	First Draft	22/08/2023
B	Second Draft	15/12/2023
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Doc. Report : Onshore Scoping Report  
 Doc. Title : Key Infrastructure  
 Doc. No : 404.V64554.00001.0047.1  
 Doc. No of Pages : 1  
 Created by : PW  
 Checked by : SH  
 Approved by : MF



## 12.4 Baseline Environment

12.4.1 This section provides a high-level summary of the Traffic and Transport baseline environment in the Onshore Scoping Area, including:

- Highway Network (LRN and TRN);
- Public Transport Network;
- Maritime Transport; and
- Core Paths and RoW.

12.4.2 A detailed review of the Traffic and Transport baseline environment will be undertaken to identify:

- The preferred vehicular access routes between the TRN and the construction site accesses for the Proposed Onshore Development;
- The roads that are likely to be crossed by the Proposed Onshore Development using open trenching methods or using Horizontal Directional Drilling (HDD)/other trenchless techniques;
- The public transport services serving construction sites; and
- Any Core Paths and RoW that will be affected (directly and indirectly) by construction activity.

### Data Sources

12.4.3 To describe the Traffic and Transport baseline within the Onshore Scoping Study Area in this Chapter, the data sources identified in **Table 12.4** have been used. These data sources will also be used to inform the baseline characterisation for Traffic and Transport in the EIAR, along with the additional data sources identified in **Section 12.9**.

**Table 12.4: Onshore Scoping Study Area Baseline Data Sources**

Source	Summary	Coverage of Onshore Scoping Study Area
Department for Transport (DfT)	Traffic flow data on the LRN and TRN <sup>19</sup>	National, providing full coverage of the Onshore Scoping Study Area.
Transport Scotland	Traffic flow data on the TRN <sup>20</sup>	National, providing full coverage of the Onshore Scoping Study Area.
Aberdeenshire Council	Details of the existing bus networks (through Traveline Scotland) Personal Injury Accident (PIA) data. Core Paths Plans/National Cycle Network (NCN) Aberdeenshire Council may also hold baseline traffic data.	Local, providing full coverage of the Onshore Scoping Study Area.

<sup>19</sup> <https://roadtraffic.dft.gov.uk/>

<sup>20</sup> <https://ts.drakewell.com/>

Source	Summary	Coverage of Onshore Scoping Study Area
Scotways	Details of any RoW <sup>21</sup>	National, providing full coverage of the Onshore Scoping Study Area.
Crashmap	Online database for PIA data <sup>22</sup> .	National, providing full coverage of the Onshore Scoping Study Area.

## Description of Baseline Environment

### Highway Network

12.4.4 As shown in **Figure 12.1**, the main vehicular access routes serving the Onshore Scoping Study Area are:

- A981 – runs through the Onshore Scoping Study Area between Fraserburgh and Maud, with vehicle movements into/from the Onshore Scoping Study Area, south through the A948 and other directions through other roads;
- A98 – vehicle movements to and from the west (Banff, A96);
- A950 – crosses the Onshore Scoping Study Area from the east to the west, connecting the A981 with the A98 to/from the west, and the A90, the A952 and Peterhead from/to the east;
- A952 – vehicle movements to and from the south (A90, Aberdeen), accessing the Onshore Scoping Study Area via the A950 and the B9032;
- A90 – a key highway in Scotland, vehicle movements from the south (from/to Aberdeen). A large majority of Heavy Goods Vehicle (HGV) and Light Goods Vehicle (LGV) traffic will travel to the area via this road (and then use any of the roads listed above);
- A947 – an alternative for vehicle movements from the south, as the route is shorter than the A90, but the carriageway is narrower, hence vehicular speeds would be lower (from/to Aberdeen);
- B9031 – vehicles accessing the northern section of the Onshore Scoping Study Area from/to the west (Banff, A98, A96);
- B9032 – vehicles from the B9031, A98 and the A90 avoiding driving through Fraserburgh town centre;
- B9170 – vehicle movement to and from the A947 (Turriff, Aberdeen) and the A948 (Ellon, A90, Aberdeen); and
- B9027 and B9093 – vehicles to/from the Onshore Scoping Study Area from the surrounding 'A' roads.

<sup>21</sup> <https://scotways.com/crow>

<sup>22</sup> <https://www.crashmap.co.uk/>

### ***Public Transport***

- 12.4.5 There is a rural bus network (Stagecoach and Watermill Coaches) serving much of the Onshore Scoping Study Area.
- 12.4.6 Routes 68, 270, 452 and X68 connect Fraserburgh and Strichen through the A981, with several stops available on-route. A combined frequency of one service per hour is available on this corridor. Between Strichen and Maud, only one service per day per direction (452) is available.
- 12.4.7 In addition, bus 270 links Strichen and New Pitsligo (two or three buses per day per direction), then continuing to Fraserburgh but through the A98. Service 271 connects Fraserburgh and New Pitsligo through the A98 and the B9031 (a service per day per direction).
- 12.4.8 There are no railway lines within the Onshore Scoping Study Area.

### ***Maritime Transport***

- 12.4.9 Construction materials could either be sourced locally or brought to Aberdeenshire by sea or road. It has been assumed that materials brought by sea (if required) would be offloaded and travel on the A90 to the Proposed Onshore Development.

### ***Core Paths and Rights of Way***

- 12.4.10 There are a number of RoW and Core Paths throughout the Onshore Scoping Study Area. An online Core Paths Plan is available on the Aberdeenshire Council website<sup>23</sup>. This also shows the National Cycle Network (NCN) Route 1d crosses the Onshore Scoping Study Area between Maud and Turriff.
- 12.4.11 A long-distance footpath (the Formartine and Buchan Way) passes through the Onshore Scoping Study Area.

### ***Baseline Traffic Flows***

- 12.4.12 Traffic flow data for the road sections that may be affected by the Proposed Onshore Development has been obtained from count point data available from the DfT. The Annual Average Daily Flow (AADF) data collected from different points for 2022 (either manual counts or extrapolations using previous years' data) have been used as a traffic flow baseline for the Proposed Onshore Development in this Onshore Scoping Report, as shown on **Table 12.5**.

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<sup>23</sup> [Core Paths Plan Maps - Aberdeenshire Council](#)

Table 12.5: 2022 DfT AADT Data on the TRN and LRN within the Onshore Scoping Study Area

ID Count Point	Pedal Cycles	Two Wheeled Motor Vehicles	Cars and Taxis	Buses and Coaches	LGVs	HGVs	All Motor Vehicles
<b>A981</b>							
78585	11	7	2,898	67	455	22	3,449
1194	4	3	2,091	58	554	27	2,732
31009	1	7	1068	41	345	65	1,526
11007	0	0	719	10	363	89	1181
41009	1	23	837	9	315	93	1,277
21004	1	13	1,777	20	647	162	2,620
<b>A948</b>							
1180	0	6	528	12	236	75	856
50860	0	23	1,209	13	353	124	1,723
<b>A950</b>							
1181	1	10	942	7	524	148	1,631
50859	1	14	1,856	16	838	231	2,956
20990	0	34	1,324	14	626	234	2,232
<b>A90</b>							
40776	49	22	3,212	66	722	65	4,087
80036	68	71	4,759	56	2,121	298	7,304
78586	0	12	4,869	89	1,561	494	7,024
<b>A98</b>							
78587	34	23	5,936	86	1,513	132	7,689
91248	0	9	1,539	49	759	293	2,650
<b>B9170</b>							
804729*	5	16	1,781	27	475	66	2,365
811574	15	14	955	10	255	43	1,277
983081*	3	3	1,181	11	340	146	1,681



ID Count Point	Pedal Cycles	Two Wheeled Motor Vehicles	Cars and Taxis	Buses and Coaches	LGVs	HGVs	All Motor Vehicles
<b>A952</b>							
20852	1	27	3,061	63	984	402	4,536
<b>Main Street at New Deer</b>							
806170	22	9	704	6	196	16	931
<b>Kirk Brae at Cuminestown</b>							
805855	7	2	120	0	22	0	144
<b>Henry Lane at Maud</b>							
811570*	13	0	122	0	19	2	143
<b>Unnamed Road to the south of Elen Park</b>							
804802*	0	0	2	0	3	0	5

\*refers to 2019 datasets

12.4.13 Furthermore, Transport Scotland's National Traffic Data System traffic counter database holds data for a count point within the Onshore Scoping Study Area in 2023, on the A90 to the south of Fraserburgh. **Table 12.6** shows the AADT and percentage of HGVs.

**Table 12.6:** 2023 TS AADT, HGV and Speed Data on the A90 within the Onshore Scoping Area

ID Count Point	AADT	% of HGVs
000000000530	7,159	5.9

### Accident Review

12.4.14 The history of personal injury accidents (PIAs) which occurred along the most likely construction vehicle access routes to the Onshore Scoping Study Area was examined using Crashmap, between 2018 and 2022. This website provides details of the location and severity of traffic incidents occurring on UK roads, with severity divided into three categories: slight, serious, and fatal.

12.4.15 The accidents recorded within the Onshore Scoping Study Area are presented in **Table 12.7**. Each road has been subdivided into different sections and then the number of accidents on each section has been included.

Table 12.7: 2018-2022 Crashmap Accident Data on the LRN and TRN within the Onshore Scoping Study Area

Section Start	Section End	Length (km)	Slight	Serious	Fatal	Total
<b>A981</b>						
A90	B9032	4.8	0	2	0	2
B9032	B9093	8	2	0	0	2
B9093	A950	5.6	2	1	1	4
A950	B9029	4.3	1	0	0	1
B9029	A948	1.6	1	0	0	1
<b>A948</b>						
A981	B9028	1.9	1	0	0	1
B9028	B9030	5.5	1	3	0	4
<b>A950</b>						
A98	B9093	2.8	2	1	0	3
B9093	A981 S	5.4	1	2	1	4
A981 S	B9106	2.8	0	0	0	0
B9106	B9030	4.5	2	0	0	2
<b>A90</b>						
High Street	A981	0.7	2	1	0	3
A981	S Harbour Road	1	1	0	0	1
S Harbour Road	B9032	4.1	1	1	0	2
B9032	A952	2.4	2	2	0	4
<b>A98</b>						
High Street	Boothby Road	1.6	1	1	0	2
Boothby Road	B9032	4.8	3	1	0	4
B9032	Unnamed Road to Hillhead	5.1	0	0	1	1
Unnamed Road to Hillhead	A950	5.5	0	0	0	0
A950	B9027	5.5	1	0	0	1

Section Start	Section End	Length (km)	Slight	Serious	Fatal	Total
<b>B9170</b>						
A947	B9027	8.1	1	1	0	2
B9027	A981	9.1	1	1	0	2
<b>B9093</b>						
A950	A981	5.8	0	0	0	0
A981	A952	7	1	0	0	1
<b>B9031</b>						
Pitsligo Street	A98	5.8	1	2	0	3
<b>B9027</b>						
A98	B9170	6.7	0	0	0	0
<b>Unnamed Road to Maryhill</b>						
B9170	B9005	8.8	0	0	0	0
<b>B9029</b>						
A981	B9106	2.8	1	1	0	2
B9106	B9030	5.7	1	0	0	1
<b>Unnamed Road</b>						
B9027	B9170	8.1	0	1	0	1

### ***Future Baseline***

12.4.16 If the Proposed Onshore Development was not implemented then it is likely that there would be no significant changes to the Traffic and Transport situation within the Onshore Scoping Study Area, other than changes to background traffic as a result of general traffic growth and any committed developments.

## **12.5 Commitments**

12.5.1 The Developer has committed to adopt a series of design commitments (primary commitments) at this scoping stage to avoid and (where avoidance is not possible) reduce the potential for effects on the environment. Further best practice measures (tertiary commitment) are embedded as an inherent aspect of the EIA process.

12.5.2 Those scoping commitments of relevance to Traffic and Transport are identified in **Table 12.8** below. Full details on each of these commitments can be found in the Onshore Commitments Register in **Appendix 3.2** of this Onshore Scoping Report.

Table 12.8: Relevant Commitments to Traffic and Transport

ID	Commitment	How this commitment will be secured
<b>Primary Commitments</b>		
C-ONS-002	The onshore cable duct installation strategy (if ducts are used) is proposed to be conducted in a sectionalised approach in order to minimise impacts. Construction teams would work on a sectional approach (approximately 600-1500 m) and once the cable ducts have been installed, the section would be backfilled and the top soil replaced before moving onto the next section. This would minimise the amount of land being worked on at any one time and would also minimise the duration of works on any given section of the route.	Planning condition attached to PPP or AMSC consent requiring approval of a Construction Method Statement.
C-ONS-007	Suitable access points and appropriate locations for ancillary works will be identified as part of Project refinement. All access/egress shall be formed and constructed in accordance with the Design Manual for Roads and Bridges or Aberdeenshire Council Roads Standards as appropriate and as approved in writing by Aberdeenshire Council in consultation with Transport Scotland.	Planning condition attached to PPP or AMSC consent requiring design of all access/egress points to be agreed with Aberdeenshire Council.
<b>Tertiary Commitments</b>		
C-ONS-009	Production and compliance with a Construction Environmental Management Plan (CEMP). An Outline CEMP will be produced and included alongside the Onshore EIAR to support the PPP application. A detailed CEMP will then be submitted to Aberdeenshire Council for approval (in consultation with NatureScot and Scottish Environment Protection Agency (SEPA)) prior to construction of the development. The CEMP will then be implemented to avoid, minimise or mitigate effects on the environment during the construction phase.	Planning Condition attached to PPP consent requiring CEMP to be submitted and approved by Aberdeenshire Council.
C-ONS-011	An Access Management Plan (AMP) will be developed in conjunction with Aberdeenshire Council and through consultation with local stakeholders. Where public access will be temporarily disrupted during construction, a suitable diversion which minimises the length of path affected will be put in place along with the display of signage at each end of the route where the route is diverted.	Planning Condition attached to PPP consent requiring AMP to be submitted and approved by Aberdeenshire Council.

ID	Commitment	How this commitment will be secured
C-ONS-022	Production and compliance with a Construction Traffic Management Plan (CTMP) outlining the mechanisms for managing the movement of construction related traffic. The CTMP will be developed post-consent and submitted for the approval of Aberdeenshire Council in consultation with relevant parties.	Planning Condition attached to PPP consent requiring CTMP to be submitted and approved by Aberdeenshire Council.
C-ONS-023	Development of, and adherence to a Travel Plan to endeavour to minimise the impact of vehicle movements associated with construction workers, including the promotion of public transport and car sharing.	Planning Condition attached to PPP consent requiring Travel Plan to be submitted and approved by Aberdeenshire Council.
C-ONS-029	Where the Proposed Onshore Development is not required for electricity transmission purposes beyond the operational life of the Project, the onshore components would be decommissioned, and the land reinstated. Details of the decommissioning and restoration scheme shall be submitted to Aberdeenshire Council within 24 months of the permanent cessation of electricity generation.	Planning Condition attached to PPP consent required approval of decommissioning and site restoration plan.

12.5.3 As a result of the commitment to implement these measures, this mitigation is considered inherently part of the design of the Proposed Onshore Development and has therefore been included in the scoping assessment presented in **Table 12.9** of this Chapter.

12.5.4 It is expected that additional primary commitments will be identified as the layout and design of the Proposed Onshore Development is refined and developed. These will take into account any consultation feedback received.

12.5.5 The requirement for any additional secondary commitments to prevent, reduce or offset any remaining significant adverse effects of the Proposed Onshore Development will be developed throughout the EIA process dependent on the significance of effect upon Traffic and Transport receptors.

12.5.6 At this stage, we anticipate that the additional commitments may include:

- A series of temporary construction compounds with direct access onto the LRN. This minimises construction movements and conflict with other traffic (especially vulnerable road users) in gaining access to the LRN. The majority of LGV and HGV movements would be to and from these sites. The location of these is to be determined upon selection of the preferred route of the OnECC and OnGCC and the preferred location of the OnSS and OnRCS.
- Haul routes along the LRN would be identified and agreed with stakeholders between these temporary construction compounds and the TRN.
- Key roads (this will be assessed based on the importance of the road and the impacts on driver delay and the feasibility of using open trenching with single lane closures) will be crossed underneath by HDD or other trenchless technology where technically practical.

- Optimising the length of on-site haul roads wherever practicable, to minimise construction vehicles on the highway network.

## 12.6 Scoping of Impacts

12.6.1 The Impacts Register (**Appendix 3.3**) sets out the proposed assessment of the potential effects of the Proposed Onshore Development on the environment, including Traffic and Transport, at the scoping stage of the EIA. It identifies all potential impacts and provides an assessment on whether or not it is considered that they have (or do not have) the potential to result in a LSE). A summary assessment of the potential impacts on Traffic and Transport is provided in **Table 12.9**.

12.6.2 The assessment in the Impacts Register and **Table 12.9** has been based upon a combination of:

- The maximum development parameters of the Proposed Onshore Development at this scoping stage;
- The commitments identified in **Table 12.8** and the Onshore Commitment Register (**Appendix 3.2**);
- The level of understanding of the baseline environment at this scoping stage;
- The existing evidence base;
- Relevant legislation and policy; and
- The professional judgement and experience of the qualified transport planning specialists.

12.6.3 In accordance with the proportionate EIA approach (see **Section 5.2** and **Appendix 3.1**), for this scoping stage of the EIA process, the Impacts Register and **Table 12.9** categorises likely significance of effect as follows:

- **LSE identified at scoping stage without secondary commitments** – the impact will be subject to detailed assessment and scoped in to the EIAR;
- **Possible LSE identified at scoping stage without secondary commitments** – however it may become clear post scoping that the impact does not require detailed assessment in the EIAR. The impact will be scoped in at scoping stage, however further evidence will be brought forward post scoping to agree with consultees the specific treatment of the impact in the EIAR.
- **No LSE identified at scoping stage** – the impact will be scoped out of assessment in the EIAR.

12.6.4 Where it is agreed that potential effects can be scoped out of the EIAR, it is confirmed that these would still be presented within the Impacts Register within the EIAR with an explanation provided as to why it has been agreed it can be scoped out.

Table 12.9: Scoping Assessment for Traffic and Transport

Potential Effect	Project Element					Commitment(s)	Scoping Status			Proposed Approach to Assessment, including Description of any New Evidence Required
	Landfall	OnECC	OnGCC	OnSS	OnRCS		LSE	Possible LSE	No LSE	
<b>Construction</b>										
The potential delays to existing drivers and their potential severance from other areas.	✓	✓	✓	✓	✓	-		✓		Scoped in at scoping stage. Further evidence and assessment required including: <ul style="list-style-type: none"> <li>Existing traffic counts and traffic patterns including timing, peaks, and distribution of movements;</li> <li>Expected vehicle movements data (LGVs, HGVs and abnormal loads) associated with the construction phase;</li> <li>Proposed locations of temporary construction compounds and routing for all construction vehicles; and</li> <li>Consultation with Aberdeenshire Council's Roads Department to agree scoped in/out and the level of assessment.</li> </ul>
The potential severance to communities.	✓	✓	✓	✓	✓	C-ONS-022		✓		Scoped in at scoping stage in accordance with IEMA Guidelines: Environmental Assessment of Traffic and Movement (GEATM) using AADT percentage and direct effects of the proposal. Further evidence and assessment required including: <ul style="list-style-type: none"> <li>Existing traffic counts and traffic patterns including vehicles speeds, timing, peaks, and distribution of movements;</li> <li>Identification of communities susceptible to severance;</li> <li>Information on expected vehicle movements (LGVs, HGVs and abnormal loads) associated with the construction phase; and</li> <li>Consultation with Aberdeenshire Council's Roads Department to agree whether scoped in/scoped out and level of assessment required.</li> </ul>

Potential Effect	Project Element					Commitment(s)	Scoping Status			Proposed Approach to Assessment, including Description of any New Evidence Required
	Landfall	OnECC	OnGCC	OnSS	OnRCS		LSE	Possible LSE	No LSE	
The potential effect on the pleasantness of a non-motorised journey, including the fear and intimidation created by all moving objects.	✓	✓	✓	✓	✓	C-ONS-022 C-ONS-023	✓			Scoped in for detailed assessment in the EIAR in accordance with GEATM using the weighting system propounded by Crompton and Gilbert (1976).
The potential effect on users of the road, particularly pedestrians/cyclists.	✓	✓	✓	✓	✓	C-ONS-023	✓			Scoped in for road safety review and assessment of haul routes in EIAR.
The potential effect of users of RoW/Core Paths.	✓	✓	✓	✓	✓	C-ONS-011		✓		Scoped in for detailed assessment in the EIAR in accordance with the criteria set out in DMRB LA112 and professional judgement.  Inclusion is dependent on whether the Proposed Onshore Development will directly impact a RoW/Core Path.
<b>O&amp;M</b>										
Maintenance related vehicle trips.				✓	✓	C-ONS-023		✓		Scoped in at scoping stage for OnSS and OnRCS only.  Operational impacts for these elements on the Proposed Onshore Development are expected to be limited with minimal traffic movements. The inclusion for detailed assessment will depend on the staffing numbers still to be confirmed.
<b>Decommissioning</b>										
Decommissioning of the Proposed Onshore Development.	✓	✓	✓	✓	✓	C-ONS-029		✓		Scoped in, however the effects associated with the construction phase can be considered to be representative of reasonable worst-case decommissioning effects, and therefore it is expected that impacts from decommissioning phase will be less than for construction.



## 12.7 Potential Cumulative Effects with Proposed Offshore Development

12.7.1 Potential cumulative Traffic and Transport effects during the construction phase may include the movement of materials and staff associated with the Proposed Offshore Development works and resulting vehicle movements combined with the Proposed Onshore Development works in the same area.

## 12.8 Potential Cumulative Effects with Other Projects

12.8.1 A review of other existing and proposed projects near the Proposed Onshore Development will be undertaken and potential impacts on Traffic and Transport receptors will be assessed to identify potential cumulative impacts. In accordance with **Chapter 5: EIA Methodology** of this Onshore Scoping Report, the cumulative effects assessment for the Proposed Onshore Development will consider any other developments that are under construction, consented but not yet built or are the subject of valid planning or consent applications.

12.8.2 Potential cumulative impacts that may arise on Traffic and Transport receptors during each stage of the Proposed Onshore Development would see a possible intensification of those impacts associated with the construction of the Proposed Onshore Development.

12.8.3 The construction vehicle movements forecast within the study area associated with the construction of any other projects that may coincide with the construction phase of the Proposed Onshore Development will be considered.

12.8.4 The relevant vehicle flows of identified cumulative projects will be added to the forecast vehicular flows for the Proposed Onshore Development and the same approach for assessing each of the impacts identified in **Table 12.9** will be undertaken to identify the likely cumulative impact.

## 12.9 Proposed Approach to the EIA

### *EIA Study Area*

12.9.1 The EIA Study Area for the transport impact assessment in the Onshore EIAR will be defined following the refinement and identification of the layout and design of the Proposed Onshore Development. The EIA Study Areas for each of the onshore elements will be discussed and agreement sought with Aberdeenshire Council and Transport Scotland.

12.9.2 The EIA Study Area will include the highway network that is forecast to be used by construction traffic for the Proposed Onshore Development between the TRN or from where the construction workforce may reside and the proposed construction access locations. It will include the public transport routes that serve the Proposed Onshore Development and the Core Paths and RoW that would cross it.

### *Additional Data*

12.9.3 The following existing data will be used to inform the Traffic and Transport impact assessment in the Onshore EIAR once the EIA Study Area has been refined:

- Details of extant permissions (committed development) and associated traffic flows on the LRN and TRN in the Onshore Scoping Area; and

- Details of sensitive receptors (such as junctions operating over capacity, district centres, hospitals, schools, leisure facilities etc.)

12.9.4 The following additional new data will also be obtained to inform the Onshore EIAR assessment:

- Automatic Traffic Count (ATC) data on highway links (Classified, 24-hour, seven-day counts, including speeds).

### ***Assessment Methodology***

12.9.5 The assessment of impacts arising from the Proposed Onshore Development on Traffic and Transport will utilise project-specific and publicly available data and will be augmented by consultation during the EIA phase. Baseline traffic flow conditions on routes within the EIA Study Area will be established. This is likely to be in the form of Automatic Traffic Counts (ATCs) on key links/crossings and junction turn counts at key junctions or where new or temporary junctions are formed. Aberdeenshire Council and Transport Scotland will be consulted in defining the Traffic and Transport EIA Study Area and the extent of any traffic survey data required for the EIAR.

12.9.6 Consideration will be given to the full extent of the Proposed Onshore Development and its component parts, including construction programme, the anticipated number and type of vehicles (including abnormal loads) that will be generated at each stage of construction. Taking account of expected equipment and material sources, the routes to site shall be clearly identified, as well as a schedule of likely access and egress points to and from the adopted road network.

12.9.7 As part of the EIA process, consultation will be undertaken with key stakeholders including Aberdeenshire Council and Transport Scotland. The views and information gathered from these consultations will be used to help shape the layout and design of the Proposed Onshore Development and ensure that wherever possible adverse effects on people and the natural environment have been avoided or reduced, and where possible benefits have been delivered.

12.9.8 The assessment of potential traffic impacts will be undertaken with reference to the following key guidance documents:

- Transport Scotland – Transport Assessment Guidance. This contains overarching principles on Travel Plans, Transport Assessments and Statements;
- IEMA Guidelines: Environmental Assessment of Traffic and Movement (GEATM). This contains the principal guidelines for the assessment of the environmental impacts of road traffic associated with new developments. GEATM was published by the Institute of Environmental Assessment in July 2023, replacing the previous Guidance for Environmental Assessment of Road Traffic from January 1993. The guidance provides a framework for the assessment of traffic borne environmental impacts, such as pedestrian severance and amenity, driver delay, accidents and safety; and noise, vibration and air quality; and
- Design Manual for Roads and Bridges (DMRB) LA112 Population and Human Health, National Highways (2019) gives guidance on assessing a scheme's impact on the journeys which people make in its locality. It considers journeys made by people as pedestrians (including ramblers), cyclists and equestrians.

12.9.9 The Transport Scotland guidance sets out how the transport impacts of a development on the highway and public transport networks should be assessed within a Transport Assessment and,

should include measures to promote sustainable travel through the preparation of a Travel Plan and identify mitigation measures to address any impacts.

12.9.10 In terms of the assessment of the associated environmental impacts of a development, GEATM states that to determine the scale and extent of the assessment, and the level of effect a development will have on the surrounding road network, the following two ‘rules’ should be followed:

- Rule 1 – Include highway links where traffic flows will increase by more than 30% (or the number of HGVs will increase by more than 30%); and
- Rule 2 – Include any other specifically sensitive areas but without considering links where traffic flows have changed by less than 10% unless there are significant changes in the composition of traffic (e.g. a large increase in the number of HGVs).

12.9.11 Rules 1 and 2 are used as a screening tool to determine whether or not a full assessment of effects on routes within the EIA Study Area is required as a result of intensification of road traffic. Where anticipated construction traffic volumes are not greater than 30% (or 10% at sensitive locations), a detailed assessment of effects is not necessary, as set out in **Table 12.9**.

12.9.12 The significance of likely effects will then be determined by the consideration of the sensitivity of receptors to change, taking account of the specific issues relating to the EIA Study Area, and then the magnitude of that change, as set out in **Table 12.10**.

**Assessment Criteria and Assignment of Significance**

12.9.13 The EIA will follow the general approach outlined in **Chapter 5: EIA Methodology** of this Onshore Scoping Report. The following subsections propose the approach to defining the sensitivity of the Traffic and Transport receptors, the magnitude of the potential impacts and the significance of these effects. It should be noted that significant effects need not be unacceptable or irreversible.

12.9.14 Each receptor has been assessed individually to determine its sensitivity and the criteria used to define sensitivity are shown in **Table 12.10**.

**Table 12.10: Proposed Sensitivity of Receptors**

Receptor Sensitivity	Definition (Typical Descriptions)
Very High	Very high importance and rarity, international scale and very limited potential for substitution.
High	High importance and rarity, national scale, and limited potential for substitution.
Medium	Medium or high importance and rarity, regional scale, limited potential for substitution.
Low	Low or medium importance and rarity, local scale.
Negligible	Very low importance and rarity, local scale.

12.9.15 The magnitude of an impact is based on a range of factors. Definitions of the magnitude criteria to be adopted as part of the assessment are provided in **Table 12.11**.

Table 12.11: Proposed Magnitude of Impacts

Magnitude	Description (Typical Description)
Major	<b>Adverse</b> Loss of resource and/or quality and integrity of resource; severe damage to key characteristics, features or elements.
	<b>Beneficial</b> Large scale or major improvement of resource quality; extensive restoration; major improvement of attribute quality.
Moderate	<b>Adverse</b> Loss of resource, but not adversely affecting the integrity; partial loss of/damage to key characteristics, features or elements.
	<b>Beneficial</b> Benefit to, or addition of, key characteristics, features or elements; improvement of attribute quality.
Minor	<b>Adverse</b> Some measurable change in attributes, quality or vulnerability; minor loss of, or alteration to, one (maybe more) key characteristics, features or elements.
	<b>Beneficial</b> Minor benefit to, or addition of, one (maybe more) key characteristics, features or elements; some beneficial impact on attribute or a reduced risk of negative impact occurring.
Negligible	<b>Adverse</b> Very minor loss or detrimental alteration to one or more characteristics, features or elements.
	<b>Beneficial</b> Very minor benefit to or positive addition of one or more characteristics, features or elements.
No change	No loss or alteration of characteristics, features or elements; no observable impact in either direction.

12.9.16 Sensitivity and magnitude of change, as assessed under the criteria detailed above, will then be considered collectively to determine the significance of effect as described in **Table 12.12**.

Table 12.12: Proposed Matrix to Determine the Significance of Effects

Significance of Effect		Magnitude of Impact			
		Negligible	Minor	Moderate	Major
Sensitivity of Receptor	Low	Negligible (Not Significant)	Negligible (Not Significant) or Minor (Not Significant)	Minor (Not Significant)	Minor (Not Significant) or Moderate (Significant)
	Medium	Negligible (Not Significant)	Minor (Not Significant)	Moderate (Significant)	Moderate (Significant) or Major (Significant)
	High	Negligible (Not Significant)	Minor (Not Significant) or Moderate (Significant)	Moderate (Significant) or Major (Significant)	Major (Significant) or Substantial (Significant)
	Very High	Negligible (Not Significant)	Moderate (Significant) or Major (Significant)	Major (Significant) or Substantial (Significant)	Substantial (Significant)

## 12.10 Scoping Questions

12.10.1 The following Scoping Questions are designed to focus the scoping exercise and inform the Scoping Opinion:

- Do you agree that all relevant legislation, policy and guidance documents have been identified for the Traffic and Transport assessment, or are there any additional legislation, policy and guidance documents that should be considered?
- Do you agree with the data sources which are suggested for the assessment of Traffic and Transport, or are there any additional data and information sources that should be considered?
- Do you agree with the potential impacts that are scoped in as set out in **Table 12.9**?
- For those impacts scoped in in **Table 12.9**, do you agree that the methods described are sufficient to inform a robust impact assessment?
- Do you agree that the impacts described in **Table 12.9** can be scoped out?
- Do you agree that the commitments described provide a suitable means for managing and mitigating the potential effects of the Proposed Onshore Development on Traffic and Transport receptors?
- Do you have any specific requirements for the Traffic and Transport modelling methodology?
- Do you agree with the approach to analysis and assessment that will inform the EIA?

## 13 Noise and Vibration

### 13.1 Introduction

13.1.1 This Chapter of the Onshore Scoping Report considers the potential effects from the construction, O&M, and decommissioning of the Proposed Onshore Development as a result of Noise and Vibration impacts, landward of Mean Low Water Springs (MLWS). It also identifies the proposed scope of the assessment methodologies to be used in the Onshore EIAR.

13.1.2 This Chapter should be read alongside the following Chapters of the Onshore Scoping Report:

- **Chapter 8: Ecology, Biodiversity and Nature Conservation;** and
- **Chapter 12: Traffic and Transport.**

### 13.2 Legislation, Policy and Guidance

13.2.1 In addition to those described in **Chapter 2: Planning and Policy Context** of this Onshore Scoping Report, the legislation, policy and guidance identified in **Table 13.1** will be taken into account during the assessment of effects from Noise and Vibration.

**Table 13.1: Relevant Legislation Policy and Guidance**

Title	Source
<b>Legislation</b>	
The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations (2017)	<a href="https://www.legislation.gov.uk/ssi/2017/102/contents">https://www.legislation.gov.uk/ssi/2017/102/contents</a>
Environmental Noise (Scotland) Regulations (2006)	<a href="https://www.legislation.gov.uk/ssi/2006/465/contents">https://www.legislation.gov.uk/ssi/2006/465/contents</a>
<b>Policy</b>	
National Planning Framework 4 (2023)	<a href="https://www.gov.scot/publications/national-planning-framework-4/">https://www.gov.scot/publications/national-planning-framework-4/</a>
Aberdeenshire Local Development Plan (2023)	<a href="https://www.aberdeenshire.gov.uk/planning/plans-and-policies/ldp-2023/">https://www.aberdeenshire.gov.uk/planning/plans-and-policies/ldp-2023/</a>
<b>Guidance</b>	
Planning Advice Note 1/2011: planning and noise (2011)	<a href="https://www.gov.scot/publications/planning-advice-note-1-2011-planning-noise/">https://www.gov.scot/publications/planning-advice-note-1-2011-planning-noise/</a>
BS4142:2014+A1:2019 Methods for rating and assessing industrial and commercial sound.	British Standards Institution (2019). <a href="https://knowledge.bsigroup.com/products/methods-for-rating-and-assessing-industrial-and-commercial-sound?version=standard">https://knowledge.bsigroup.com/products/methods-for-rating-and-assessing-industrial-and-commercial-sound?version=standard</a>

Title	Source
BS5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites –Part 1: Noise and Part 2 Vibration	British Standards Institution (2014). <a href="https://knowledge.bsigroup.com/products/code-of-practice-for-noise-and-vibration-control-on-construction-and-open-sites-noise?version=standard">https://knowledge.bsigroup.com/products/code-of-practice-for-noise-and-vibration-control-on-construction-and-open-sites-noise?version=standard</a> <a href="https://knowledge.bsigroup.com/products/code-of-practice-for-noise-and-vibration-control-on-construction-and-open-sites-vibration?version=standard">https://knowledge.bsigroup.com/products/code-of-practice-for-noise-and-vibration-control-on-construction-and-open-sites-vibration?version=standard</a>
BS7445-1:2003 Description and measurement of environmental noise – Part 1 Guide to quantities and procedures.	British Standards Institution (2003). <a href="https://knowledge.bsigroup.com/products/description-and-measurement-of-environmental-noise-guide-to-quantities-and-procedures-1?version=standard">https://knowledge.bsigroup.com/products/description-and-measurement-of-environmental-noise-guide-to-quantities-and-procedures-1?version=standard</a>
Guidelines for Environmental Noise Impact Assessment	The Institute of Environmental Management and Assessment (IEMA) (2014). <a href="https://www.iema.net/download-document/236678">https://www.iema.net/download-document/236678</a>
Calculation of Road Traffic Noise (CRTN)	The former Department of Transport and Welsh Office memorandum (1998). Calculation of Road Traffic Noise (CRTN - ISBN 0 11 550847 3)
Groundborne vibration caused by mechanised construction works, TRL report 429. Wokingham: TRL	Hiller D. M. And Crabb G. I (2000). <a href="#">TRL   Groundborne vibration caused by mechanised construction works</a>
AQTAG09 (Guidance on the effects of industrial noise on wildlife)	Air Quality Technical Advisory Group 09 (2006). Ormerod, L., Goodlad, N. and Horton, K. (2005). AQTAG09 – Guidance on the Effects of Industrial Noise on Wildlife. Air Quality Technical Advisory Group.
Design Manual for Roads and Bridges (DMRB) LA111 Noise and Vibration	Standards for Highways (2020). <a href="https://www.standardsforhighways.co.uk/tses/attachments/cc8cfc7-c235-4052-8d32-d5398796b364">https://www.standardsforhighways.co.uk/tses/attachments/cc8cfc7-c235-4052-8d32-d5398796b364</a>
ISO9613-2 Acoustics – Attenuation of sound during propagation outdoors – General method of calculation	International Organisation for Standardisation (1996). <a href="#">ISO 9613-2:1996 - Acoustics — Attenuation of sound during propagation outdoors — Part 2: General method of calculation</a>

13.2.2 Relevant policies within National Planning Framework 4 (NPF4) and the Aberdeenshire Local Development Plan 2023 (ALDP) and their policy intent are identified in **Table 13.2** and **Table 13.3**, respectively.

Table 13.2: Relevant National Planning Policies in NPF4

NPF4 Policy	Policy Intent
Policy 11: Energy	To encourage, promote and facilitate all forms of renewable energy development onshore and offshore. Policy 11 (e) requires that project design and mitigation will require to demonstrate, amongst other matters, how impacts are addressed on (i) communities and individual dwellings, including, residential amenity, visual impact, noise and shadow flicker.
Policy 23: Health and Safety	To protect people and places from environmental harm, mitigate risks and encourage, promote and facilitate development that improves health and wellbeing.  Paragraph (e) states that development proposals that are likely to raise unacceptable noise issues will not be supported. It continues that the agent of change principle applies to noise sensitive development and provides that a Noise Impact Assessment may be required where the nature of the proposal or its location suggests that significant effects are likely.

Table 13.3: Relevant Local Development Plan Policies in ALDP

ALDP Policy	Policy Intent
Policy C2: Renewable Energy	To support renewable energy developments, but with recognition of the need to take account of any effects on [inter alia] communities.
Policy P4: Hazardous and Potentially Polluting Development and Contaminated Land	Provides that Aberdeenshire Council will refuse developments that could create a significant nuisance or present an unacceptable danger to the public or environment. Provides that where a noise impact assessment indicates that a proposed development could have a significant detrimental impact on noise levels that appropriate mitigation measures must be provided.

### 13.3 Scoping Study Area

13.3.1 Scoping Study Area For the purposes of this scoping assessment, the Onshore Scoping Study Area for Noise and Vibration is defined as the Onshore Scoping Area as shown in **Figure 13.1**.

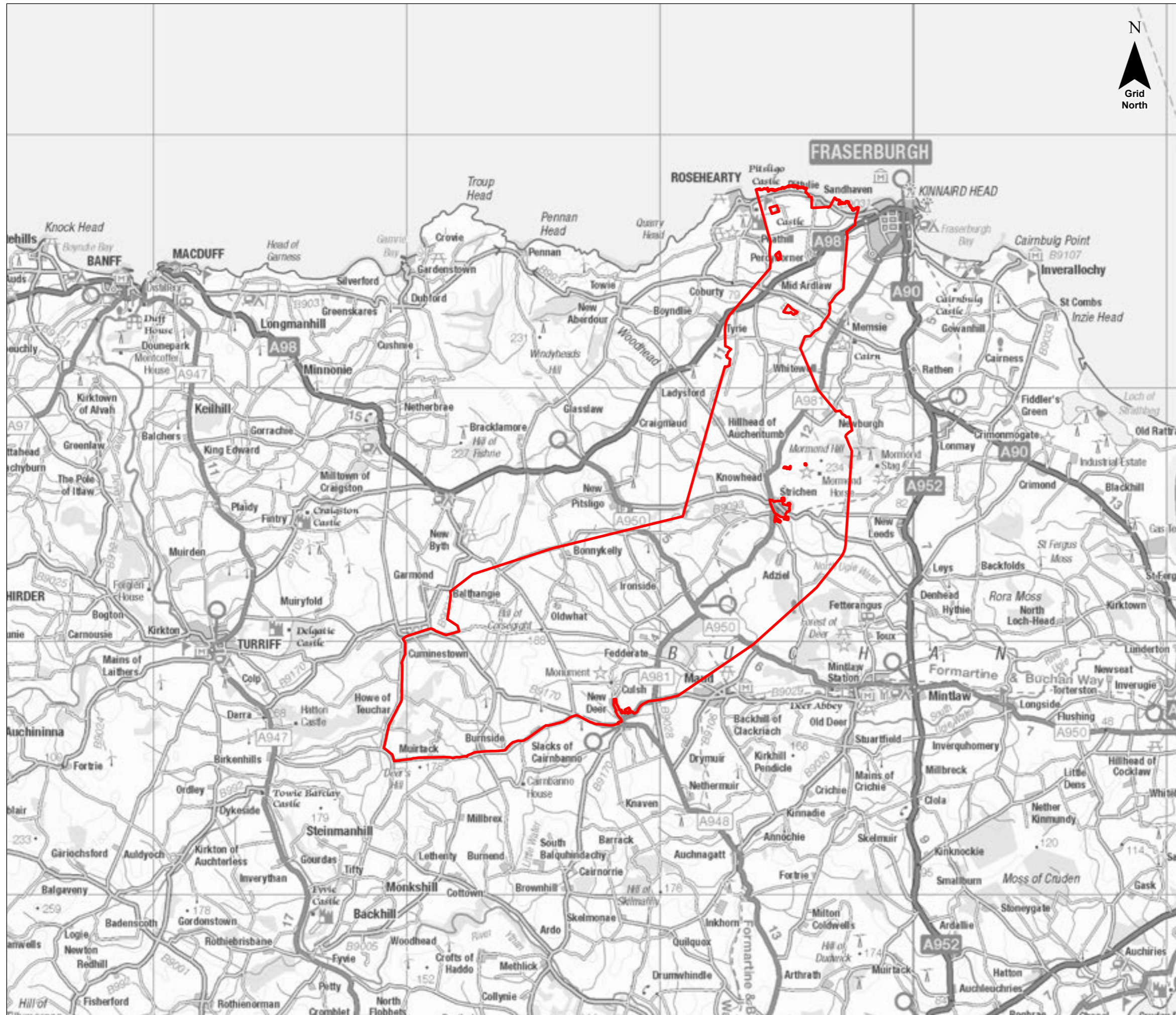
13.3.2 With regards to Noise and Vibration the potential sensitive receptors would include:

- Residential properties;
- Educational facilities;
- Places of worship;
- Commercial offices; and
- Ecological receptors (i.e., SSSI, SAC, SPAs).



# Stromar Offshore Wind Farm

## Figure 13.1 Onshore Scoping Area

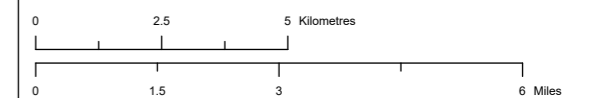


Legend  
 Onshore Scoping Area



Coordinate System: British National Grid

Scale @ A3 : 1:150,000



Rev	Description	Date
A	First Draft	22/08/2023
B	Second Draft	09/11/2023
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Doc. Report : Onshore Scoping Report  
 Doc. Title : Onshore Scoping Area  
 Doc. No : 404.V64554.00001.0050.0  
 Doc. No of Pages : 1  
 Created by : PW  
 Checked by : SH  
 Approved by : MF



## 13.4 Baseline Environment

### *Data Sources*

13.4.1 To describe the Noise and Vibration baseline within the Onshore Scoping Study Area in this Chapter, the data sources identified in **Table 13.4** have been used. These data sources will also be used to inform the baseline characterisation for Noise and Vibration in the Onshore EIAR, along with the additional data sources identified in **Section 13.9**.

**Table 13.4:** *Onshore Scoping Study Area Baseline Data Sources*

Source	Summary	Coverage of Onshore Scoping Study Area
Goggle Maps Aerial Photography. Local Authority Local Plans.	Location of noise sources, and sensitive receptors within the onshore scoping area.	Full coverage of Onshore Scoping Study Area.
OS Mapping	Vector Mapping	Full coverage of Onshore Scoping Study Area.
Environmental Agency Light Detection and Ranging (LiDAR) Data (Open License)	Topography Data	Full coverage of Onshore Scoping Study Area.

### *Description of Baseline Environment*

13.4.2 No baseline sound monitoring has been undertaken to date, however a general overview of anticipated baseline noise conditions within the Onshore Scoping Study Area is described below.

13.4.3 Most of the Onshore Scoping Study Area is rural in nature, and therefore the noise environment is expected to be mostly characterised by 'natural' sources, such as wind-disturbed vegetation and foliage, birds, farm animals, water courses and, towards the coast, water movements.

13.4.4 In proximity to roads, in particular the A98, A950 and A981, an increasing contribution of road traffic is likely, although this will likely decrease across the diurnal cycle.

13.4.5 The localised contribution of noise from commercial agricultural and industrial activities are also considered likely.

13.4.6 The Onshore Scoping Study Area includes the outskirts of Fraserburgh as well as smaller settlements such as Sandhaven and Strichen, which are urban or suburban in nature, and will therefore experience an increased dominance of traffic noise and other human-generated noise sources. Other settlements such as Maud, Cuminestown and Rosehearty lie outwith but in proximity to the Onshore Scoping Area.

### *Future Baseline*

13.4.7 As noted above, a large proportion of the Onshore Scoping Study Area is rural in nature and as such significant levels of general or domestic development are anticipated to be unlikely. The future baseline over the lifetime of the Proposed Onshore Development would therefore be expected to be largely similar to the current baseline.

## 13.5 Commitments

13.5.1 The Developer has committed to adopt a series of design commitments (primary commitments) at this scoping stage to avoid and (where avoidance is not possible) reduce the potential for effects on the environment. Further best practice measures (tertiary commitments) are embedded as an inherent aspect of the EIA process.

13.5.2 Those scoping commitments of relevance to Noise and Vibration are identified in **Table 13.5** below. Full details on each of these commitments can be found in the Onshore Commitments Register in **Appendix 3.2** of this Onshore Scoping Report.

**Table 13.5:** *Relevant Commitments to Noise and Vibration*

ID	Commitment	How this commitment will be secured
<b>Tertiary Commitments</b>		
C-ONS-009	Production and compliance with a Construction Environmental Management Plan (CEMP). An Outline CEMP will be produced and included alongside the Environmental Impact Assessment Report (EIAR) to support the planning permission in principle application. A detailed CEMP will then be submitted to Aberdeenshire Council for approval (in consultation with NatureScot and Scottish Environment Protection Agency (SEPA)) prior to construction of the development. The CEMP will then be implemented to avoid, minimise or mitigate effects on the environment during the construction phase.	Planning Condition attached to PPP consent requiring CEMP to be submitted and approved by Aberdeenshire Council.
C-ONS-010	Core working hours for the construction of the Proposed Onshore Development will be Monday to Saturday from 07:00 to 19:00 hrs. Activities carried out during mobilisation and maintenance will not generate significant noise levels (such as piling, or other such noisy activities). In circumstances outside of core working practices, specific works may have to be undertaken outside the core working hours. Aberdeenshire Council will be informed in writing.	Planning Condition attached to PPP consent.

ID	Commitment	How this commitment will be secured
C-ONS-014	The construction works would use Best Practicable Means (BPM) to limit the impacts of noise at sensitive receptors. These measures would be set out in a construction Noise and Vibration Management Plan (NVMP) within the CEMP, which will include the hours of operation for construction related activities, detailed measures for the mitigation of construction noise and vibration and a routine noise monitoring and complaint investigation and resolution procedure.	Planning Condition attached to PPP consent required CEMP to be submitted and approved by Aberdeenshire Council.
C-ONS-022	Production and compliance with a Construction Traffic Management Plan (CTMP) outlining the mechanisms for managing the movement of construction related traffic. The CTMP will be developed post-consent and submitted for the approval of Aberdeenshire Council in consultation with relevant parties.	Planning Condition attached to PPP consent requiring CTMP to be submitted and approved by Aberdeenshire Council.
C-ONS-029	Where the Proposed Onshore Development is not required for electricity transmission purposes beyond the operational life of the Project, the onshore components would be decommissioned, and the land reinstated. Details of the decommissioning and restoration scheme shall be submitted to Aberdeenshire Council within 24 months of the permanent cessation of electricity generation.	Planning Condition attached to PPP consent required approval of decommissioning and site restoration plan.

- 13.5.3 As a result of the commitment to implement these measures, this mitigation is considered inherently part of the design of the Proposed Onshore Development and has, therefore, been included in the scoping assessment presented in **Section 13.6** of this Chapter.
- 13.5.4 It is expected that additional primary commitments will be identified as the layout and design of the Proposed Onshore Development is refined and developed. These will take into account any consultation feedback received.
- 13.5.5 The requirement for any additional secondary commitments to prevent, reduce or offset any remaining significant adverse effects of the Proposed Onshore Development will be developed throughout the EIA process dependent on the significance of effect upon key noise sensitive receptors.
- 13.5.6 At this stage, we anticipate that the additional commitments may include:
- The detailed design of the OnSS and OnRCS, which will be the subject of a future planning application for the approval of matters specified in conditions, will incorporate measures to control noise based on final plant selections. This could include selection of quiet plant, noise control measures for the plant such as enclosures or attenuation, the use of acoustic screening or bunds.

## 13.6 Scoping of Impacts

- 13.6.1 The Impacts Register (**Appendix 3.3**) sets out the proposed assessment of the potential effects of the Proposed Onshore Development on the surround, including those because of construction and operational Noise and Vibration, at the scoping stage of the EIA. It identifies all potential impacts and provides an assessment on whether or not it is considered that they have (or do not have) the potential to result in a LSE. A summary assessment of the potential impacts on Noise and Vibration is provided in **Table 13.6**.
- 13.6.2 The assessment in the Impacts Register and **Table 13.6** has been based upon a combination of:
- The maximum development parameters of the Proposed Onshore Development at this scoping stage;
  - The commitments identified in **Table 13.5** and the Onshore Commitment Register in **Appendix 3.2**;
  - The level of understanding of the baseline environment at this scoping stage;
  - The existing evidence base;
  - Relevant legislation and policy; and
  - The professional judgement and experience of the qualified Noise and Vibration specialists.
- 13.6.3 In accordance with the proportionate EIA approach (see **Section 5.2** and **Appendix 3.1**), for this scoping stage of the EIA process, the Impacts Register and **Table 13.6** categorises likely significance of effect as follows:
- **LSE identified at scoping stage without secondary commitments** – the impact will be subject to detailed assessment and scoped in to the EIAR;
  - **Possible LSE identified at scoping stage without secondary commitments** – however it may become clear post scoping that the impact does not require detailed assessment in the EIAR. The impact will be scoped in at scoping stage, however further evidence will be brought forward post scoping to agree with consultees the specific treatment of the impact in the EIAR.
  - **No LSE identified at scoping stage** – the impact will be scoped out of assessment in the EIAR.
- 13.6.4 Where it is agreed that potential effects can be scoped out of the Onshore EIAR, it is confirmed that these would still be presented within the Impacts Register within the EIAR with an explanation provided as to why it has been agreed it can be scoped out.

Table 13.6: Scoping Assessment for Noise and Vibration

Potential Effect	Project Element					Commitment(s)	Scoping Status			Proposed Approach to Assessment, including Description of any New Evidence Required
	Landfall	OnECC	OnGCC	OnSS	OnRCS		LSE	Possible LSE	No LSE	
<b>Construction</b>										
Temporary noise from onshore cable route installation (excluding HDD works).		✓	✓			C-ONS-009 C-ONS-010 C-ONS-014	✓			Scoped in – to be assessed in EIAR. No further baseline data required.
Temporary noise from onshore HDD works.	✓	✓	✓			C-ONS-009 C-ONS-010 C-ONS-014	✓			Scoped in – to be assessed in EIAR. No further baseline data required.
Temporary vibration from onshore HDD works.	✓	✓	✓			C-ONS-009 C-ONS-010 C-ONS-014	✓			Scoped in – to be assessed in EIAR. No further baseline data required.
Temporary noise from landfall construction and cable installation (excluding HDD).	✓					C-ONS-009 C-ONS-010 C-ONS-014	✓			Scoped in – to be assessed in EIAR. No further baseline data required.
Temporary vibration at landfall from onshore cofferdam (if required).	✓					C-ONS-009 C-ONS-010 C-ONS-014		✓		Scoped in at scoping stage. Impact to be assessed in EIAR depending on confirmation of the inclusion of a cofferdam within the Proposed Onshore Development. No further baseline data required.

Potential Effect	Project Element					Commitment(s)	Scoping Status			Proposed Approach to Assessment, including Description of any New Evidence Required
	Landfall	OnECC	OnGCC	OnSS	OnRCS		LSE	Possible LSE	No LSE	
Temporary noise from OnSS and OnRCS construction.				✓	✓	C-ONS-009 C-ONS-010 C-ONS-014	✓			Scoped in – to be assessed in EIAR. Baseline survey to be undertaken at receptor locations located close to the OnSS and OnRCS.
Temporary vibration from piling operations associated with OnSS and OnRCS foundations.				✓	✓	C-ONS-009 C-ONS-010 C-ONS-014	✓			Scoped in – to be assessed in EIAR. No further baseline data required.
Temporary noise from all construction traffic.	✓	✓	✓	✓	✓	C-ONS-009 C-ONS-010 C-ONS-014 C-ONS-022	✓			Scoped in – to be assessed in EIAR. No further baseline data required, other than inputs from the Traffic and Transport assessment.
<b>Operation and Maintenance</b>										
Permanent operational noise impact from the OnSS and OnRCS.				✓	✓	-	✓			Scoped in – to be assessed in EIAR for principal airborne noise generating sources. Baseline survey to be undertaken at receptor locations located close to the OnSS and OnRCS. Detailed assessment and indicative identification of any required mitigation in the EIAR in accordance with 'BS4142:2014+A1:2019 Methods for rating and assessing industrial and commercial sound'.

Potential Effect	Project Element					Commitment(s)	Scoping Status			Proposed Approach to Assessment, including Description of any New Evidence Required
	Landfall	OnECC	OnGCC	OnSS	OnRCS		LSE	Possible LSE	No LSE	
Permanent vibration effects arising from the operation of the OnSS and OnRCS.				✓	✓	-			✓	<p>Scoped out of EIAR.</p> <p>Vibration would be of a very low magnitude.</p> <p>It is therefore considered unlikely that the OnSS and OnRCS will lead to any significant operational vibration effects.</p> <p>Evidence of any vibration measures (if warranted) implemented in detailed design.</p>
Permanent operational Noise and Vibration effects arising from the operation of the OnECC and OnGCC.		✓	✓			-			✓	<p>Scoped out of EIAR.</p> <p>As the cables will be buried, they would not produce perceptible levels of noise or vibration, even when energised.</p> <p>The operation of the underground cables will therefore not lead to any significant Noise and Vibration effects.</p>
<b>Decommissioning</b>										
Decommissioning of the Proposed Onshore Development.	✓	✓	✓	✓	✓	C-ONS-029		✓		<p>Scoped in, however the effects associated with the construction phase can be considered to be representative of reasonable worst-case decommissioning effects, and therefore no separate assessment of the decommissioning phase is proposed for Noise and Vibration in the EIAR.</p>



### 13.7 Potential Cumulative Effects with Proposed Offshore Development

13.7.1 There is a direct overlap in jurisdictions of consenting and regulatory regimes within the intertidal area between MHWS and MLWS. Proposed Offshore Development works below MHWS will therefore take place alongside onshore Project work at the intertidal area at landfall. There is therefore the potential for cumulative Noise and Vibration effects resulting from the onshore and offshore works of the Project in this area.

13.7.2 Beyond Landfall, no significant potential cumulative effects with the Proposed Offshore Development (i.e. the Array) during the construction or operational phase would occur given their separation distance from the onshore works.

### 13.8 Potential Cumulative Effects with Other Projects

13.8.1 A review of other existing and proposed developments near the Proposed Onshore Development will be undertaken and potential impacts on NSRs will be assessed to identify cumulative impacts. In accordance with **Chapter 5: EIA Methodology** of this Onshore Scoping Report, the cumulative effects assessment for the Proposed Onshore Development will consider any other developments that are under construction, consented but not yet built or are the subject of valid planning or consent applications.

13.8.2 Potential cumulative impacts that may arise on Noise and Vibration sensitive receptors during the construction phase of the Proposed Onshore Development may include:

- Construction noise impacts resulting from other nearby developments. This is relevant where a project would be expected to be built concurrently with the construction timeframe for the Proposed Onshore Development and potentially therefore have the same receptors impacted simultaneously. Where information is available the construction noise impact would be considered for both developments cumulatively.

13.8.3 Potential cumulative impacts that may arise on Noise and Vibration sensitive receptors during the O&M phase of the Proposed Onshore Development may include:

- Permanent operational noise from other significant infrastructure development in the surround. Public information would be reviewed on any permitted developments of significant size and any design limits proposed where a cumulative operational noise impact could be an expected outcome.

13.8.4 It is anticipated that suitably designed and therefore well controlled mechanical services and plant design will likely mitigate O&M noise impacts from the outset from both developments and thus cumulative operational Noise and Vibration impacts are anticipated to be minimal, subject to further review.

### 13.9 Proposed Approach to the EIA

13.9.1 The assessment will be conducted in accordance with 'The Guidelines for Environmental Noise Impact Assessment', produced by the Institute of Environmental Management and Assessment (IEMA), and published in October 2014.

13.9.2 The guidelines address the key principles of noise impact assessment and are applicable to all

development proposals where noise effects are likely to occur. The guidelines provide specific support on how noise impact assessments fit within the EIA process, they cover:

- How to scope a noise assessment;
- Issues to be considered when defining the baseline noise environment;
- Prediction of changes in noise levels as a result of implementing development proposals; and
- Definition and evaluation of the significance of the effect of changes in noise levels.

13.9.3 In addition to the above reference will also be made to the Scottish Government’s ‘Planning Advice Note (PAN) 1/2011 Planning and Noise’ which provides advice on the role of the planning system in helping to prevent and limit the adverse effects of noise.

**EIA Study Area**

13.9.4 Upon finalisation of the Proposed Onshore Development, the EIA Study Area for the Noise and Vibration assessment in the EIAR will be defined following the refinement of the layout and design of the development.

**Additional Data Sources**

13.9.5 In addition to the data sources used to inform this Onshore Scoping Report, additional desk and field data required to inform the Noise and Vibration Assessment in the Onshore EIAR is identified in **Table 13.7** and discussed below.

**Table 13.7: Additional Baseline Data Sources for EIAR**

Source	Summary
Proposed Baseline Noise Survey	Baseline Noise Data, captured at locations agreed at consultation stage as representative of key sensitive receptors within the EIA Study Area.

**Desk Based Assessment**

13.9.6 It is envisaged that the assessment of construction noise associated with the landfall, OnECC, and OnGCC would be based on fixed noise limits contained in BS5228:2009+A1:2014, ‘Code of Practice for Noise and Vibration Control on Construction and Open Sites Part 1: Noise and Part 2: Vibration’. Thus, impacts from all aspects of construction are largely assessed against fixed limits provided within the above guidance.

13.9.7 Similarly fixed guideline noise level limits sourced from industry guidance in **Table 13.1** will be referenced in respect to ecological receptors.

**Field Surveys**

13.9.8 A baseline sound survey would be undertaken at the identified NSRs located in close proximity to the chosen OnSS and OnRCS locations.

13.9.9 As a minimum the surveys will be undertaken during suitable weather conditions over a 96-hour period to include a weekend. The measured noise data will be used to derive ambient and

background sound levels for both daytime and night-time periods. The surveys and data screening will be in accordance with the requirements of British Standard BS 4142:2014+A1:2019 'Methods for rating and assessing industrial and commercial sound' and British Standard 7445:1991 'Description and measurement of environmental noise Part 2: Guide to the acquisition of data pertinent to land use'.

### **Consultation**

- 13.9.10 Consultation would be undertaken with Aberdeenshire Council to determine their views and requirements for the assessment. Agreement would be reached regarding the closest potential noise sensitive receptors (NSRs) and the proposed survey methodology.

### **Assessment Methodology**

- 13.9.11 A summary of the relevant British Standards and Guidance which inform the assessment methodology summarised within this Chapter is given below.

#### **BS5228-1:2009+A1:2014 Part 1: Noise**

- 13.9.12 The impact of construction noise from both onshore and offshore sources upon residential receptors will be determined with reference to BS5228:2009+A1:2014 Part 1.
- 13.9.13 'BS5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Part 1: Noise' sets out a methodology for predicting noise levels arising from a wide variety of construction and related activities and contains tables of sound power levels generated by a wide variety of mobile and fixed plant equipment.
- 13.9.14 Compliance with BS5228-1:2009+A1:2014 is expected as a minimum standard when assessing the impact of construction noise upon the existing noise environment at nearby sensitive receptors.
- 13.9.15 Noise levels generated by construction operations and experienced at local receptors will depend upon a number of variables, the most significant of which are likely to be:
- The amount of noise generated by plant and equipment being used at the development site, generally expressed as a sound power level;
  - The periods of operation of the plant at the development site, known as the "on-time";
  - The distance between the noise source and the receptor, known as the "stand-off"; and
  - The attenuation due to ground absorption or barrier screening effects; and reflections of noise due to the presence of hard vertical faces such as walls.
- 13.9.16 BS5228-1:2009+A1:2014 gives several examples of acceptable noise limits for construction or demolition noise. For this assessment, as baseline noise data is available, it is proposed that the ABC method will be used to determine the threshold value at the receptor locations.
- 13.9.17 Under the ABC method, a threshold value noise level is determined by establishing the existing ambient noise level at each location. This measured ambient noise level is then rounded to the nearest whole 5 dB(A) and the threshold noise value for each receptor is then established from Table E.1 of BS5228-1:2009+A1:2014. This threshold value is the LAeq,T noise level that should not be exceeded at the receptor location by operations at the site.

13.9.18 If the threshold value is exceeded, then the effect of construction noise upon nearby receptors may be significant. BS5228-1:2009+A1:2014 states that the significance of the effect will depend upon “other project- specific factors, such as the number of receptors affected and the duration and character of the impact.” Professional judgement will be used to determine whether an effect is considered to be significant, and commentary explaining the reasons for this judgement will be provided. In accordance with this method, the threshold noise levels for a potentially significant effect are as detailed in **Table 13.8**.

**Table 13.8: Construction Noise Residential Receptors – Example Threshold Values**

Assessment Category and Threshold Value Period	Threshold Category (dB L <sub>Aeq</sub> )		
	Category A <sup>24</sup>	Category B <sup>25</sup>	Category C <sup>26</sup>
Night-time (23:00 – 07:00)	45	50	55
Evening and Weekends (see below) <sup>27</sup>	55	60	65
Daytime (07:00 – 19:00) and Saturdays (07:00 - 13:00)	65	70	75

13.9.19 Note that the targets in **Table 13.8** are considered to be noise level limits externally at the closest noise sensitive window. They are not considered as internal noise targets within the relevant building.

***BS5228-1:2009+A1:2014 Part 2: Vibration***

13.9.20 The impact of construction vibration from onshore sources, upon residential receptors will be determined with reference to BS5228:2009+A1:2014 Part 2.

13.9.21 BS5228:2009+A1:2014 ‘Code of practice for noise and vibration control on construction and open sites – Part 2: Vibration’ gives recommendations for basic methods of vibration control relating to construction and open sites where work activities/operations generate significant vibration levels.

13.9.22 The majority of people are known to be very sensitive to vibration, the threshold of perception being typically in the peak particle velocity (PPV) range of between 0.14 mms<sup>-1</sup> and 0.30 mms<sup>-1</sup>. Vibration levels above these values can cause disturbance. BS5228-2:2009+A1:2014 provides guidance on the effects of vibration shown in **Table 13.9**.

<sup>24</sup> Category A: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are less than these values.

<sup>25</sup> Category B: threshold values to use when the ambient noise levels (when rounded to the nearest 5 dB) are the same as category A values.

<sup>26</sup> Category C: threshold values to use when the ambient noise levels (when rounded to the nearest 5 dB) are higher than category A values.

<sup>27</sup> 19:01 – 23:00 weekdays, 13:01 – 23:00 Saturdays and 07:01 – 23:00 Sundays.

Table 13.9: Risk of Complaints from Vibration

Vibration Level (mms <sup>-1</sup> )	Risk
0.14	Vibration might be just perceptible in the most sensitive situations for most vibration frequencies associated with construction. At lower frequencies, people are less sensitive to vibration.
0.30	Vibration might be just perceptible in residential environments.
1.0	It is likely that vibration of this level in residential environments will cause complaint but can be tolerated if prior warning and explanation has been given to residents
10.0	Vibration is likely to be intolerable for any more than a very brief exposure to this level.

13.9.23 High vibration levels generally arise from “heavy” construction works such as piling, deep excavation, dynamic ground compaction or drilling.

13.9.24 Annex E of BS 5228-2:2009+A1:2014 contains empirical formulae derived by Hiller and Crabb (2000) from field measurements relating to resultant peak particle velocity (PPV), with a number of other parameters for vibratory compaction, dynamic compaction, percussive and vibratory piling, the vibration of stone columns and tunnel boring operations. These prediction equations are based on the energy approach. Use of these empirical formulae enables resultant PPV to be predicted and for some activities (vibratory compaction, vibratory piling and vibrated stone columns) they can provide an indicator of the probability of these levels of PPV being exceeded.

13.9.25 The empirical equations for predicting construction-related vibration provide estimates in terms of PPV. Therefore, the consequences of predicted levels in terms of human perception and disturbance can be established through direct comparison with the BS 5228-2:2009+A1:2014 guidance vibration levels shown in **Table 13.9**.

#### **BS4142:2014+A1:2019**

13.9.26 The impact of operational noise from the OnSS and OnRCS on residential receptors will be determined with reference to BS4142:2014+A1:2019.

13.9.27 BS4142:2014+A1:2019 ‘Methods for rating and assessing industrial and commercial sound’ is intended to be used to assess the potential adverse impact of sound, of an industrial and/or commercial nature, at nearby sensitive receptor locations within the context of the existing sound environment.

13.9.28 Where the specific sound contains tonality, impulsivity and/or other sound characteristics, corrections should be applied depending on the perceptibility. For tonality, a correction of either 0, 2, 4 or 6 dB should be added; for impulsivity, a correction of either 0, 3, 6 or 9 dB should be added and if the sound contains specific sound features which are neither tonal nor impulsive a penalty of 3 dB should be added.

13.9.29 In addition, if the sound contains identifiable operational and non- operational periods that are readily distinguishable against the existing sound environment, a further correction of 3 dB may be applied.

- 13.9.30 The assessment of impacts contained in BS4142:2014+A1:2019 is undertaken by comparing the sound rating level, i.e. the specific sound level of the source plus any character corrections, to the measured representative background sound level immediately outside the sensitive receptor location. Consideration is then given to the context of the existing sound environment at the sensitive receptor location to assess the potential impact.
- 13.9.31 Once an initial estimate of the impact is determined, by subtracting the measured background sound level from the rating sound level, BS4142:2014+A1:2019 states that the following should be considered whereby typically, the greater the difference, the greater the magnitude of the impact:
- A difference of around +10 dB or more is likely to be an indication of a significant adverse impact, depending on the context;
  - A difference of around +5 dB is likely to be an indication of an adverse impact, depending on the context; and
  - The lower the rating level is relative to the measured background sound level, the less likely it is that the specific sound source will have an adverse impact or a significant adverse impact. It is an indication that the specific sound source has a low impact when the rating level does not exceed the background sound level, depending on the context.
- 13.9.32 BS4142:2014+A1:2019 notes that:
- “Those that result from additive impacts caused by other past, present or reasonably foreseeable actions together with the plan, programme or project itself and synergistic effects (in combination) which arise from the reaction between impacts of a development plan, programme or project on different aspects of the environment.”*
- 13.9.33 BS4142:2014+A1:2019 outlines guidance for the consideration of the context of the potential impact, including consideration of the existing residual sound levels, location and/or absolute sound levels.
- World Health Organisation**
- 13.9.34 The World Health Organisation 2018 Environmental Noise Guidelines for the European Region, published in 2018, do not cover industrial noise. However, the previous 1999 Community Noise Guidelines remain valid for industrial noise, i.e. *“... all CNG indoor guideline values and any values not covered by the current guidelines (such as industrial noise and shopping areas) should remain valid”*.
- 13.9.35 The 1999 guidelines are therefore still valid when referring to external daytime (07:00 – 23:00) ambient noise level limits, with an upper limit of 55 dB  $L_{Aeq,16hour}$  considered acceptable. External night-time (23:00 – 07:00) level of 45 dB  $L_{Aeq,8hour}$  is when sleep disturbance, with windows open, starts to occur.
- 13.9.36 The 2018 guidelines also *“complement”* the WHO Night Noise Guidelines from 2009.
- 13.9.37 The WHO Night Noise Guidelines 2009 define effect thresholds or *“lowest observed adverse health effect levels”* for both immediate physiological reactions during sleep and long-term adverse health effects. The Guidelines state:

- An  $L_{\text{night}}$ , outside level of less than 30 dB(A): No effects expected to occur;
- An  $L_{\text{night}}$ , outside level of 40 dB(A): Adverse effects start to occur;
- $L_{\text{night}}$ , outside 40 dB is equivalent to the lowest observed adverse effect level (LOAEL) for night noise; and
- An  $L_{\text{night}}$ , outside level of 55 dB(A): Adverse effects such as sleep disturbance are likely and occur frequently.

### **Guidelines for Environmental Noise Impact Assessment**

- 13.9.38 The IEMA 'Guidelines for Environmental Noise Impact Assessment', Version 1.2 published in November 2014, addresses the key principles of a noise impact assessment and are applicable to *"all development proposals where noise effects are likely to occur"* and *"are relevant to all types of projects, regardless of size"*.
- 13.9.39 The guidelines provide specific support on how noise impact assessments fit within the EIA process but can also apply to developments which do not require an EIA. They cover:
- How to scope a noise assessment;
  - Issues to be considered when defining the baseline noise environment;
  - Prediction of changes in noise levels as a result of implementing development proposals; and
  - Definition and evaluation of the significance of the effect of changes in noise levels.

### **Calculation of Road traffic Noise (CRTN)**

- 13.9.40 The former Department of Transport and Welsh Office memorandum 'Calculation of Road Traffic Noise' (CRTN) published in 1988 sets out standard methods and procedures to predict and measure road traffic noise. These procedures were primarily intended to enable entitlement under the Noise Insulation Regulations 1975 to be determined, but they also provide guidance appropriate to the calculation of traffic noise for more general applications, for example haul routes.
- 13.9.41 Road traffic noise is predicted and measured in terms of a statistical measure. Termed the  $L_{A10}$ , this measure of noise is equivalent to the noise level exceeded for 10% of the measurement period. Most legislation that refers to road traffic noise uses this noise index over an 18-hour period, from 06:00 hours to 00:00 hours.
- 13.9.42 However, the methodology presented in CRTN cannot be used, as the standard states that the calculation algorithms presented in the guidance are not reliable when traffic flows are less than 50 movements per hour.
- 13.9.43 Therefore, the haul route methodology presented in BS5228- 1:2009+A1:2014 will be used when predicting noise levels from construction traffic associated with the development proposals.

### **Construction Noise and Vibration Impacts**

- 13.9.44 Construction Noise and Vibration assessments will be undertaken for the landfall area, the OnECC, the OnGCC, the OnSS and OnRCS.

- 13.9.45 The assessments will be undertaken in conjunction with BS5228:2009+A1:2014, 'Code of Practice for Noise and Vibration Control on Construction and Open Sites Part 1 Noise and Part 2 Vibration'.
- 13.9.46 Construction noise limits will be set at the identified NSRs in conjunction with the measured baseline levels and the ABC Method contained in BS5228:2009+A1:2014.
- 13.9.47 Construction noise levels will be predicted at the identified NSRs using the Cadna/A noise modelling software and the calculation algorithms contained in BS5228:2009+A1:2014, Part 1 and assessed against the specified limits.
- 13.9.48 The assessment will include consideration of noise from the construction activities, including the use of plant and machinery, construction delivery traffic and excavation works at each of the landfall(s), OnECC, OnGCC, OnSS and OnRCS areas. In addition, drilling activities will be included.
- 13.9.49 Construction related traffic using the local road network will be assessed in accordance with the Design Manual for Roads and Bridges (DMRB). The assessment undertaken will include all roads where it is anticipated that noise levels may change from construction traffic.
- 13.9.50 For each link, the Basic Noise Level (BNL) will be established for the "With Construction Traffic" and "Without Construction Traffic" scenarios. The BNL is the  $L_{A10, T}$  dB noise level at 10 m from the kerb of the road assessed.
- 13.9.51 The BNL results for each link will be tabulated and the impact and significance would be determined accordingly.
- 13.9.52 It is noted that DMRB has since been superseded by 'LA 111 – Noise and Vibration'; however, as the calculations associated with the assessment will be undertaken in conjunction with CRTN and the impact significance contained within LA 111 is identical to the one contained within DMRB, thus this method remains valid.
- 13.9.53 In addition LA 111 references the use of CRTN methodologies to undertake the required calculations.
- 13.9.54 Where any adverse impacts are identified, specific mitigation measures, a suite of measures, or further design refinement will be proposed for consideration.

#### **Operational Noise**

- 13.9.55 Noise generated by the OnSS and OnRCS will be predicted at the nearest residential NSRs using the Cadna/A noise modelling software and the methodology in ISO 9613-2:1996, 'Acoustics – Attenuation of Sound during Propagation Outdoors', and assessed at any identified residential receptors in accordance with BS4142:2014+A1:2019 ('Methods for Rating and Assessing Industrial and Commercial Sound'), whereby sound levels associated with the operation of the OnSS and OnRCS will be compared to measured daytime and night-time background and, where applicable, the absolute sound levels at the closest noise sensitive receptors when identified.
- 13.9.56 A subjective opinion of the potential acoustic features will be included, and this considers corrections for tonal, impulsive and/or intermittent characteristics.



- 13.9.57 The results of the assessment will be used to determine whether noise levels generated by the operation of the OnSS and OnRCS would lead to adverse impacts at the nearest NSRs.
- 13.9.58 With regards to any identified commercial receptors, noise levels from the OnSS and OnRCS will be predicted at the nearest NSRs using the Cadna/A noise modelling software and the methodology in ISO 9613-2:1996, 'Acoustics – Attenuation of Sound during Propagation Outdoors', and assessed at any identified commercial receptors in accordance with The Institute of Environmental Management and Assessment (IEMA) 'Guidelines for Environmental Noise Impact Assessment'.
- 13.9.59 The assessments will indicate whether additional mitigation is required to reduce any identified impacts.
- 13.9.60 As with construction noise, where adverse impacts are identified, specific mitigation measures will be detailed.

**Assessment Criteria and Assignment of Significance**

- 13.9.61 The EIA will follow the general approach outlined in **Chapter 5: EIA Methodology** of this Onshore Scoping Report. The following subsections propose the approach to defining the sensitivity of the Noise and Vibration receptors, the magnitude of the potential impacts and the significance of these effects. It should be noted that significant effects need not be unacceptable or irreversible.
- 13.9.62 The criteria for the construction and operational Noise and Vibration assessments and the associated assignment of significance is outlined in **Table 13.15** to **Table 13.17**.

**Construction Noise Impact Magnitude**

- 13.9.63 The impact of construction noise upon existing residential receptors will be determined with reference to the ABC method presented in BS5228- 1:2009+A1:2014. The impact of construction noise upon existing residential receptors is as detailed in **Table 13.10**.

**Table 13.10: Construction Noise Impact Magnitude**

Impact Magnitude	Exceedance in the $L_{Aeq,T}$ Noise Level of Threshold Category
Major	Exceedance of ABC Threshold Value by greater than 5 dB.
Moderate	Exceedance of ABC Threshold Value by more than 2 dB and up to 5 dB.
Minor	Threshold value exceeded by 2 dB or less.
Negligible	Threshold value not exceeded.

**Construction Traffic Noise Impact Magnitude**

- 13.9.64 The impact of the change in noise level will be determined with reference to the classification of magnitude of impacts used in short-term traffic noise assessments presented in the DMRB 'Volume 11 Section 3 Part 7 Noise and Vibration' and is shown in **Table 13.11**.

**Table 13.11: Construction Traffic Noise Impact Magnitude**

Impact Magnitude	Description
Major	Change in $L_{A10, 18 \text{ hour}}$ noise level of 5.0 dB or more.
Moderate	Change in $L_{A10, 18 \text{ hour}}$ noise level between 3.0 and 4.9 dB.
Minor	Change in $L_{A10, 18 \text{ hour}}$ noise level between 1.0 and 2.9 dB.
Negligible	No change in $L_{A10, 18 \text{ hour}}$ noise level, or change up to 0.9 dB.

*Construction Vibration Impact Magnitude*

13.9.65 The impact of construction vibration upon existing residential receptors will be determined with reference to BS5228-2:2009+A1:2014. The impact of construction vibration upon residential receptors is as detailed in **Table 13.12**.

**Table 13.12: Construction Vibration Noise Impact Magnitude**

Impact Magnitude	Description
Major	10.0 $\text{mms}^{-1}$ or more.
Moderate	Between 1.0 to 9.9 $\text{mms}^{-1}$ .
Minor	Between 0.3 to 0.9 $\text{mms}^{-1}$ .
Negligible	Between 0.01 and 0.3 $\text{mms}^{-1}$ .

*Operational Noise Impact Magnitude*

**Residential Receptors**

13.9.66 The impact of operational noise from the OnSS and OnRCS upon existing residential receptors will be determined with reference to BS4142:2014+A1:2019 and absolute noise levels recommended by the World Health Organisation.

13.9.67 The impact of operational noise upon existing residential receptors is detailed in **Table 13.13**.

**Table 13.13: Operational Noise Impact Magnitude- Residential Receptors**

Impact Magnitude	Description
Major	Rating level is 10 dB(A) or more above the background sound level, or change in ambient noise level (L <sub>Aeq</sub> ) of 10 dB or more.
Moderate	Rating level is between 6 and 9 dB(A) above the background sound level, or change in ambient noise level (L <sub>Aeq</sub> ) of between 6 and 9 dB.
Minor	Rating level is between 1 and 5 dB(A) above the background sound level, or change in ambient noise level (L <sub>Aeq</sub> ) of between 1 and 5 dB.
Negligible	Rating level is equal to or below the background sound level, or no change in ambient noise level (L <sub>Aeq</sub> ).

**Commercial Receptors**

13.9.68 The impact of operational noise from the OnSS and OnRCS upon existing commercial receptors will be determined with reference to the IEMA guidelines.

13.9.69 Based on Table 7-10 within the guidelines, the impact of operational noise upon existing commercial receptors is detailed in **Table 13.14**.

**Table 13.14: Operational Noise Impact Magnitude- Commercial Receptors**

Impact Magnitude	Description
Major	Change in ambient sound level (L <sub>Aeq,T</sub> ) of 10 dB or more.
Moderate	Change in ambient sound level (L <sub>Aeq,T</sub> ) between 5.0 and 9.9 dB.
Minor	Change in ambient sound level (L <sub>Aeq,T</sub> ) between 3 and 4.9 dB.
Negligible	No change in ambient sound level (L <sub>Aeq,T</sub> ), or change up to 2.9 dB

*Sensitivity of The Environment.*

13.9.70 The sensitivity/importance of the environment is defined in **Table 13.15**. The sensitivity/importance of the receptor is a major consideration within the assessment and will be used to inform the significance of effect.

**Table 13.15: Proposed Sensitivity of Receptors**

Receptor Sensitivity/Importance	Description/Reason
Very High	Residential properties (night-time), schools and healthcare building (daytime).
High	Residential properties (daytime), leisure facilities, SAC, SPA, SSSI (or similar areas of special interest).
Medium	Offices and other non-noise producing employment areas.
Low	Industrial areas.

*Overall Magnitude of Impact*

13.9.71 The overall magnitude of impact is defined in **Table 13.16**. The impact magnitude categories outlined below will be used to inform the significance of effect, as shown in **Table 13.17**.

**Table 13.16: Proposed Magnitude of Impacts**

Magnitude	Description (Typical Description)
Major	Fundamental, permanent/irreversible changes over the whole receptor, and/or fundamental alteration to key characteristics or features of the particular receptors character or distinctiveness.
Moderate	Considerable, permanent/irreversible changes over the majority of the receptor, and/or discernible alteration to key characteristics or features of the particular receptors character or distinctiveness.
Minor	Discernible, temporary (throughout project duration) change over a minority of the receptor, and/or limited but discernible alteration to key characteristics or features of the particular receptors character or distinctiveness.
Negligible	Discernible, temporary (for part of the project duration) change, or barely discernible change for any length of time, over a small area of the receptor, and/or slight alteration to key characteristics or features of the particular receptor's character or distinctiveness.

13.9.72 Sensitivity of the receptor and magnitude of impact have then been considered collectively to determine the potential effect and its significance.

13.9.73 The collective assessment represents a 'considered assessment' by the assessor, based on the likely sensitivity of the receptor to the change (e.g. is a receptor present which would be affected by the change), and then the magnitude of that change.

13.9.74 **Table 13.17** is used as a guide to determine the level of effect; major and moderate effects are 'significant' in EIA terms. In general terms effects considered to be minor or negligible are considered 'not significant' in EIA terms.

13.9.75 It is considered that the Proposed Onshore Development would not lead to any beneficial Noise and Vibration effects; therefore, this has not been considered within **Table 13.17**.

13.9.76 Assessment of the level of effect is qualitative and reliant on professional experience,

interpretation and judgement. The matrix should therefore be viewed as a framework to aid understanding of how a judgement has been reached, rather than as a prescriptive, formulaic tool.

**Table 13.17: Proposed Matrix to Determine the Significance of Effects**

Significance of Effect		Magnitude of Impact			
		Negligible	Minor	Moderate	Major
Sensitivity of Receptor	Low	Negligible (Not significant)	Negligible or Minor (Not Significant)	Minor (Not Significant)	Minor (Not Significant) or Moderate (Significant)
	Medium	Negligible (Not significant)	Minor (Not Significant)	Moderate (Significant)	Moderate (Significant) or Major (Significant)
	High	Negligible (Not significant)	Minor (Not Significant) or Moderate (Significant)	Moderate (Significant) or Major (Significant)	Major (Significant) or Substantial (Significant)
	Very High	Negligible (Not significant)	Moderate (Significant) or Major (Significant)	Major (Significant) or Substantial (Significant)	Substantial (Significant)

### 13.10 Scoping Questions

13.10.1 Specific questions relating to the scope of the Noise and Vibration assessment are detailed below:

- Do you agree that the proposed surveys will be sufficient to inform the onshore noise baseline for the Proposed Onshore Development and Onshore EIAR, subject to further consultation with Aberdeenshire Council on locations once the layout and design of the Proposed Onshore Development has been refined?
- Have all potential impacts resulting from the Proposed Onshore Development been identified for the Noise and Vibration sensitive receptors to the satisfaction of Aberdeenshire Council?
- For those impacts scoped in, do you agree that the methods described are sufficient to inform a robust impact assessment?
- Do you agree that the commitment measures described provide a suitable means for managing and mitigating the potential effects of the Proposed Onshore Development on Noise and Vibration sensitive receptors?
- Do you have any specific additional requirements for the Noise and Vibration modelling methodology and assessment proposed?

## 14 Air Quality

### 14.1 Introduction

14.1.1 This Chapter of the Onshore Scoping Report considers the potential effects from the construction, O&M, and decommissioning of the Proposed Onshore Development on Air Quality landward of Mean Low Water Springs (MLWS). It also identifies the proposed scope of the assessment methodology to be used in the Onshore EIAR.

14.1.2 This Chapter should be read alongside the following Chapters of the Onshore Scoping Report:

- **Chapter 8: Ecology, Biodiversity and Nature Conservation;** and
- **Chapter 12: Traffic and Transport.**

### 14.2 Legislation, Policy and Guidance

14.2.1 In addition to those described in **Chapter 2: Planning and Policy Context** of this Onshore Scoping Report, the legislation, policy and guidance identified in **Table 14.1** will be taken into account during the assessment of effects on Air Quality.

**Table 14.1: Relevant Legislation Policy and Guidance**

Title	Source
<b>Legislation</b>	
The Air Quality (Scotland) Regulations 2000	<a href="https://www.legislation.gov.uk/ssi/2000/97/contents/made">https://www.legislation.gov.uk/ssi/2000/97/contents/made</a>
Air Quality (Scotland) Amendment Regulations 2016	<a href="https://www.legislation.gov.uk/ssi/2016/162/contents/made">https://www.legislation.gov.uk/ssi/2016/162/contents/made</a>
Air Quality Standards (Scotland) Regulations 2010	<a href="https://www.legislation.gov.uk/ssi/2010/204/contents/made">https://www.legislation.gov.uk/ssi/2010/204/contents/made</a>
The Environment (Miscellaneous Amendments) (EU Exit) Regulations 2020	<a href="https://www.legislation.gov.uk/uksi/2020/1313/contents/made">https://www.legislation.gov.uk/uksi/2020/1313/contents/made</a>
Environment Act 2021	<a href="https://www.legislation.gov.uk/ukpga/2021/30/contents/enacted">https://www.legislation.gov.uk/ukpga/2021/30/contents/enacted</a>
The Town and Country Planning (Environmental Impact Assessment) Regulations 2017	<a href="https://www.legislation.gov.uk/uksi/2017/571/contents">https://www.legislation.gov.uk/uksi/2017/571/contents</a>
<b>Policy</b>	
National Planning Framework 4 (NPF4)	<a href="https://www.gov.scot/publications/national-planning-framework-4/">https://www.gov.scot/publications/national-planning-framework-4/</a>
Aberdeenshire Local Development Plan (ALDP)	<a href="https://www.aberdeenshire.gov.uk/planning/plans-and-policies/ldp-2023/">https://www.aberdeenshire.gov.uk/planning/plans-and-policies/ldp-2023/</a>
<b>Guidance</b>	
Delivering Cleaner Air for Scotland, Development Planning and Development Management Guidance	<a href="https://www.ep-scotland.org.uk/wp-content/uploads/2015/04/DeliveringCleanerAirForScotland-18012017.pdf">https://www.ep-scotland.org.uk/wp-content/uploads/2015/04/DeliveringCleanerAirForScotland-18012017.pdf</a>

Title	Source
Guidance on the Assessment of Dust from Demolition and Construction	<a href="https://iaqm.co.uk/wp-content/uploads/2013/02/Construction-dust-2023-BG-v6-amendments.pdf">https://iaqm.co.uk/wp-content/uploads/2013/02/Construction-dust-2023-BG-v6-amendments.pdf</a>
A Guide to the Assessment of Air Quality Impacts on Designated Nature Conservation Sites	<a href="https://iaqm.co.uk/text/guidance/air-quality-impacts-on-nature-sites-2019.pdf">https://iaqm.co.uk/text/guidance/air-quality-impacts-on-nature-sites-2019.pdf</a>
Local Air Quality Management (LAQM) Technical Guidance (TG22)	<a href="https://iaqm.defra.gov.uk/wp-content/uploads/2022/08/LAQM-TG22-August-22-v1.0.pdf">https://iaqm.defra.gov.uk/wp-content/uploads/2022/08/LAQM-TG22-August-22-v1.0.pdf</a>
Design Manual for Roads and Bridges LA105 Air Quality	<a href="https://www.standardsforhighways.co.uk/tses/attachments/10191621-07df-44a3-892e-c1d5c7a28d90?inline=true">https://www.standardsforhighways.co.uk/tses/attachments/10191621-07df-44a3-892e-c1d5c7a28d90?inline=true</a>

- 14.2.2 The Air Quality Standards (Scotland) Regulations 2010 (AQSR) transpose both the EU Ambient Air Quality Directive (2008/50/EC), and the Fourth Daughter Directive (2004/107/EC) within Scottish legislation, in order to align and mirror European obligations. The AQSR includes Limit Values which are legally binding ambient concentration thresholds which, however, are only applicable at specific locations (Schedule 1: AQSR).
- 14.2.3 The responsibility of achieving the AQSR (and European equivalent Directives) is a national obligation for Central Government who undertake assessments on an annual basis. Local Authorities have no statutory obligation to achieve the AQSR or the European equivalent Directives.
- 14.2.4 In regard to local obligations, Part IV of the Environment Act 1995 established the system of LAQM for Local Authorities to regularly review and assess the air quality within their respective administrative areas.
- 14.2.5 The Air Quality (Scotland) Regulations 2000 provide the statutory basis for the Air Quality Objectives Local Authorities must adhere to under LAQM in Scotland. Fine particulate matter (PM<sub>2.5</sub>) was introduced in 2016.
- 14.2.6 The Air Quality Objectives apply at locations where members of the public are regularly present and might reasonably be expected to be exposed to pollutant concentrations over the relevant averaging period (referred to as 'relevant exposure').
- 14.2.7 Where any of the prescribed Air Quality Objectives are not likely to be achieved, the authority must designate an Air Quality Management Area (AQMA). For each AQMA, the local authority is required to prepare an Air Quality Action Plan (AQAP), which details measures the authority intends to introduce to deliver improvements in local air quality and achieve compliance.
- 14.2.8 Of particular importance to local authorities is the 2022 LAQM Technical Guidance (LAQM.TG22) prepared by the Scottish Government (Scottish Government, 2022a). LAQM.TG22 provides the delivery framework for air quality management across Scotland for local authorities and summarises the Air Quality Objectives operable within Scotland for the protection of public health and the environment.

- 14.2.9 Relevant policies within National Planning Framework 4 (NPF4) and the Aberdeenshire Local Development Plan 2023 (ALDP) and their policy intent are identified in **Table 14.2** and **Table 14.3**, respectively.

**Table 14.2:** *Relevant National Planning Policies in NPF4*

NPF4 Policy	Policy Intent
Policy 23: Health and Safety	To protect people and places from environmental harm, mitigate risks and encourage, promote and facilitate development that improves health and wellbeing.

**Table 14.3:** *Relevant Local Development Plan Policies in ALDP*

ALDP Policy	Policy Intent
Policy P4: Hazardous and Potentially Polluting Developments and Contaminated Land	To ensure new development does not cause significant pollution or present an unacceptable danger to the public or the environment.
Policy PR1: Air Quality	To ensure new development do not have a significant adverse impact on air quality and that appropriate mitigation to minimise any adverse effects are provided and implemented.

### 14.3 Scoping Study Area

- 14.3.1 For the purposes of the Air Quality Onshore EIAR, the EIA Study Areas will be defined in relation to each assessment proposed (**Section 14.6**) – with the use of distance impact screening thresholds prescribed within guidance. Identification of the Air Quality EIA Study Areas cannot be defined at this stage, as it is dependent on detailed project data (e.g. dust activities, transport data).
- 14.3.2 For the purposes of scoping, baseline conditions have been considered in relation to the Onshore Scoping Area, where available. The Onshore Scoping Area therefore represents the Onshore Scoping Study Area for Air Quality and is shown in **Figure 14.1** and **Figure 14.2**.

### 14.4 Baseline Environment

#### *Data Sources*

- 14.4.1 To describe the Air Quality baseline within the Onshore Scoping Study Area in this Chapter, the data sources identified in **Table 14.4** have been used. These data sources will also be used to inform the baseline characterisation for Air Quality in the EIAR, along with the additional data sources identified in **Section 14.9**.
- 14.4.2 The characterisation of the receiving environment will be undertaken using the latest publicly available data sources not affected by the COVID-19 pandemic. Pollutant concentrations monitored during this period are expected to be atypical, and not representative of the local environment.
- 14.4.3 No project specific Air Quality surveys are proposed presently as it is assumed that baseline air quality data as obtained from publicly available sources will be sufficient for the purposes of



characterising the onshore receiving environment. This is also considered proportionate to the nature of the proposed screening assessment. Despite this, the suitability of these datasets will be reviewed throughout the EIA lifecycle and following receipt of project design information (e.g. road traffic movements), in conjunction with statutory consultees.

**Table 14.4: Onshore Scoping Area Baseline Data Sources**

Source	Summary	Coverage of Onshore Scoping Area
Scottish Government's Mapped Background Concentration Estimates	Nationwide model of background air quality concentration projections (2018-2030) predicted at a 1 km grid square resolution over Scotland, managed by the Scottish Government.	National coverage
Automatic Urban and Rural Network (AURN)	Automatic monitoring network spanning the UK centrally managed by Department of Environment, Food and Regional Affairs (Defra) and Devolved Administrations.	National coverage
Aberdeenshire Council Air Quality Annual Progress Report (APR)	LAQM annual reporting outcomes associated with air quality pollution monitoring conducted by Aberdeenshire Council, in fulfilment of the Environment Act.	Regional coverage
Pollution Climate Mapping (PCM) Model	A collection of air quality models which provides annual mean nitrogen dioxide (NO <sub>2</sub> ) concentration projections (2018-2030) for major roads across the UK.	National coverage

## Description of Baseline Environment

### Baseline Review

- 14.4.4 The Scottish Government mapped background concentration estimates cover the Onshore Scoping Study Area at a 1 km grid square resolution.
- 14.4.5 Local monitoring is undertaken by Aberdeenshire Council across their administrative area, at roadside locations within towns (e.g., Peterhead, Oldmeldrum and Ellon) located greater than 15 km from the Onshore Scoping Study Area. These are associated with Aberdeenshire Council's LAQM 2019 monitoring network and monitor NO<sub>2</sub>. No monitoring is undertaken within the Onshore Scoping Study Area; this suggests the area is not sensitive. Local monitors within 20 km of the Onshore Scoping Study Area are illustrated in **Figure 14.1**.
- 14.4.6 The PCM model covers road links within Fraserburgh adjacent to the Onshore Scoping Study Area. This includes the A98 – Watermill Road (ID: 80207858), less than 500 m from the Onshore Scoping Study Area. Annual mean NO<sub>2</sub> concentrations reported for key roads in the area are well below the Air Quality Objective (40 µg/m<sup>3</sup>).
- 14.4.7 The nearest AURN monitor is located over 30 km from the Onshore Scoping Study Area within Aberdeen and is therefore unlikely to be representative of baseline conditions within the considered Air Quality study areas given the separation distance.
- 14.4.8 The Onshore Scoping Study Area is located wholly within Aberdeenshire Council's jurisdiction. Aberdeenshire Council do not presently have any AQMA declared for exceedances of air quality

objectives at sensitive human receptor locations. The nearest AQMA is located within Aberdeen city centre, approximately 34 km from the Onshore Scoping Study Area. The Onshore Scoping Study Area is not sensitive to air quality, with respect to human health.

14.4.9 Sensitive air quality areas will be given due consideration within the development of the Construction Traffic Management Plan (CTMP) to minimise interactions upon the receiving environment with respect to road traffic emissions generated by construction vehicle movements.

14.4.10 These baseline datasets are illustrated in **Figure 14.1**.

# Stromar Offshore Wind Farm

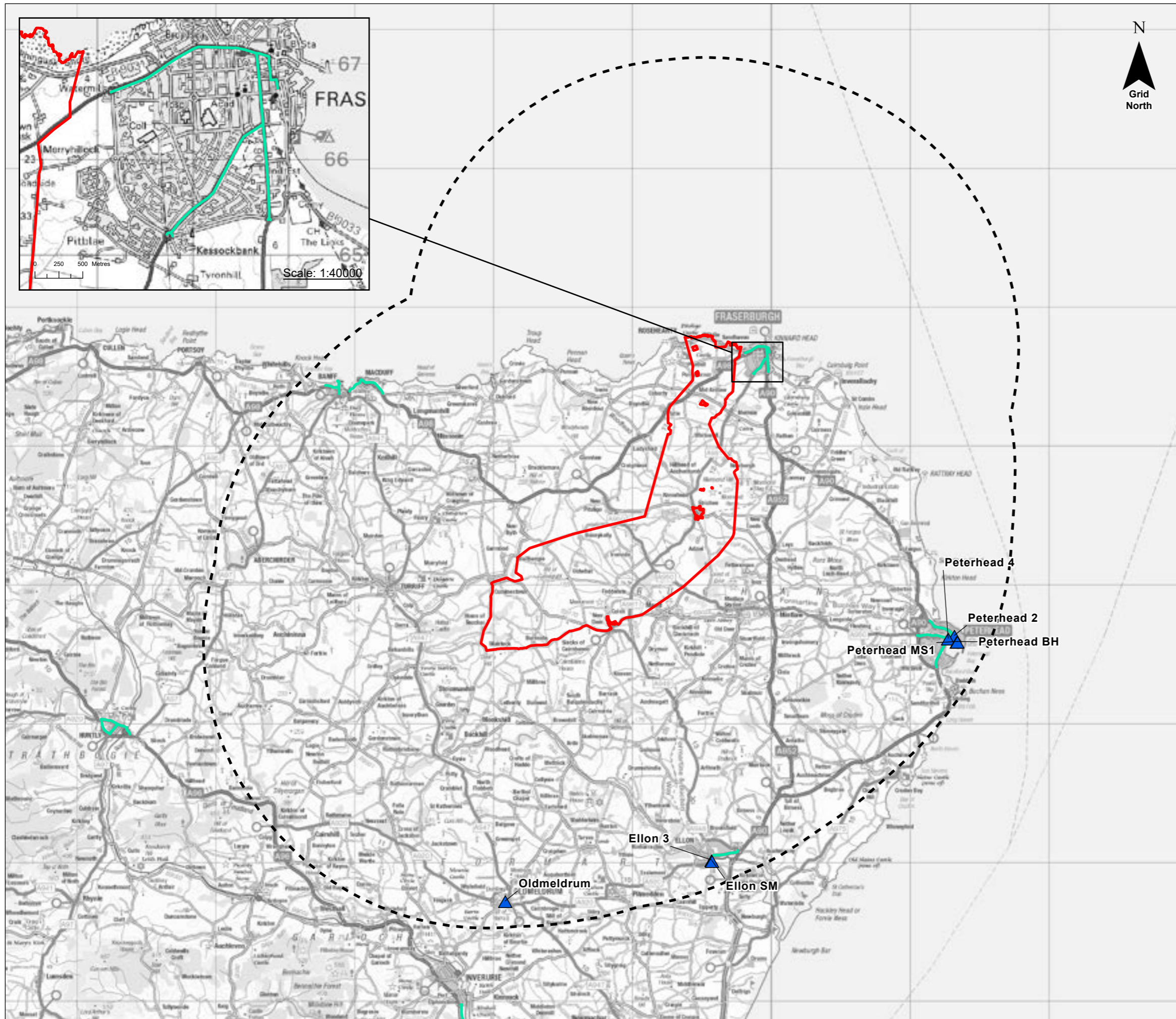
## Figure 14.1

### Baseline Environment

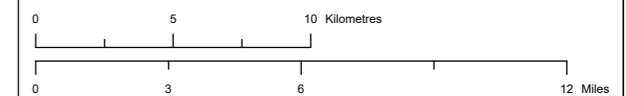
### Air Quality Data

#### Legend

- Onshore Scoping Area
- Onshore Scoping Area 20 km Buffer
- ▲ Local Monitoring Location
- Pollution Climate Mapping (PCM) Modelled Link



Coordinate System: British National Grid  
Scale @ A3 : 1:275,000



Rev	Description	Date
A	First Draft	22/08/2023
B	Second Draft	23/11/2023
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Doc. Report : Onshore Scoping Report  
Doc. Title : Baseline Environment  
Doc. No : 404.V64554.00001.0032.1  
Doc. No of Pages : 1  
Created by : PW  
Checked by : SH  
Approved by : MF



#### ***Sensitive Human Receptors***

- 14.4.11 As the locations of the onshore working areas for the Proposed Onshore Development are yet to be defined, identification of specific sensitive human receptors has not been undertaken.
- 14.4.12 Potential sensitive human receptors in relation to Air Quality effects associated with the Proposed Onshore Development (e.g. road traffic and construction dust emissions) are primarily anticipated to be residential receptor locations and other sensitive land uses (e.g. schools, hospitals and care homes).
- 14.4.13 Identification of receptors will be undertaken for each assessment (**Section 14.6**), in accordance with prevailing guidance.

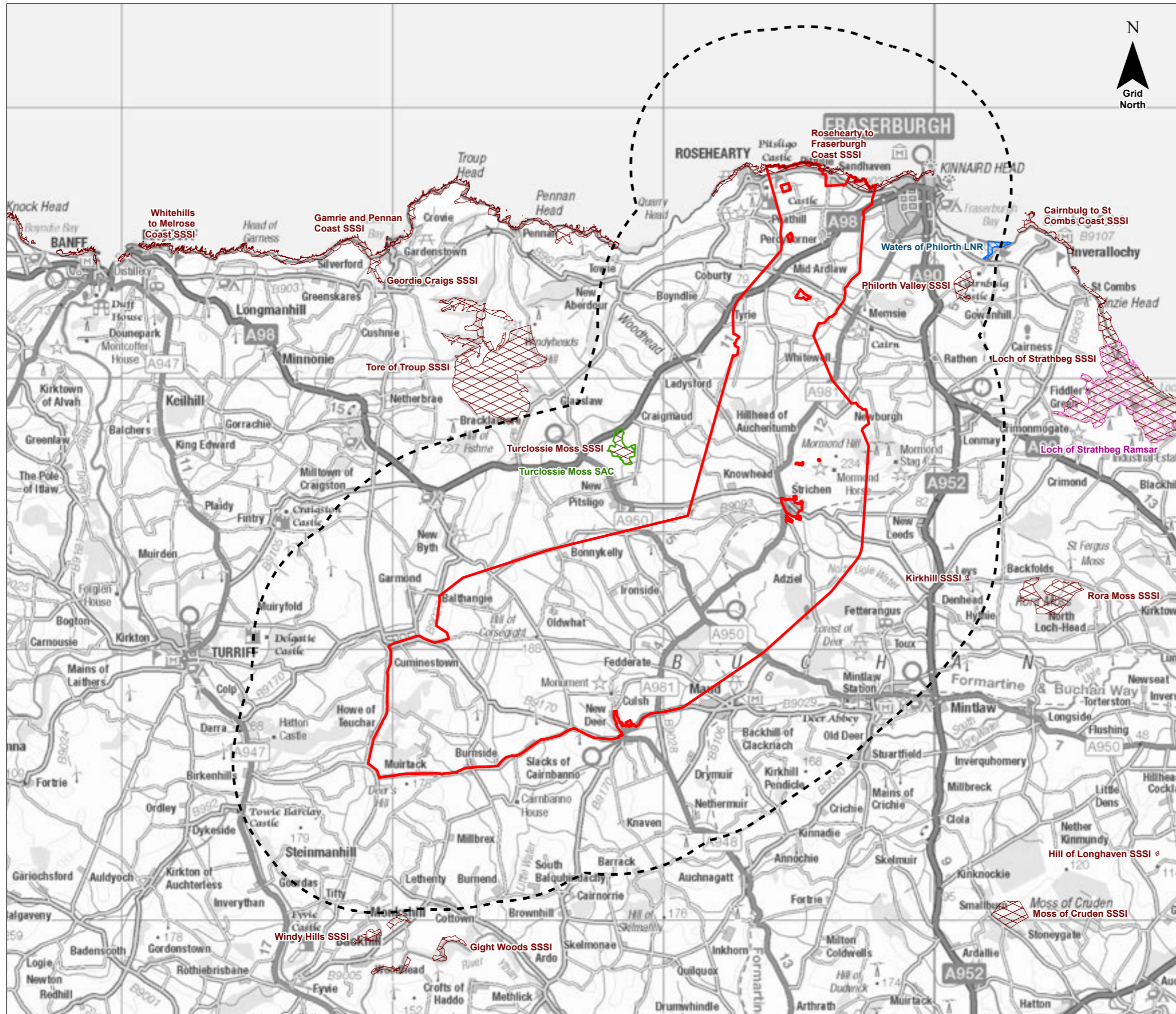
#### ***Designated Ecological Sites***

- 14.4.14 There are several designated ecological sites located within and adjacent to the Onshore Scoping Study Area. These consist of Rosehearty to Fraserburgh Coast Site of Special Scientific Interest (SSSI) and a large number of Ancient Woodland (AW) sites.
- 14.4.15 A summary of the designations within the Onshore Scoping Area and surrounding area is illustrated in **Figure 14.2**. This does not represent a complete nor exhaustive illustration of designations. A large number of AW sites are present within and adjacent to the Onshore Scoping Study Area and would be given due consideration within the Air Quality Onshore EIAR, where relevant (e.g. construction dust and/or road traffic emissions assessment).

# Stromar Offshore Wind Farm

## Figure 14.2

### Baseline Environment Ecological Designations



- Legend**
- Onshore Scoping Area
  - Onshore Scoping Area 5 km Buffer
  - Special Area of Conservation (SAC)
  - Ramsar
  - Site of Special Scientific Interest (SSSI)
  - Local Nature Reserve (LNR)



Coordinate System: British National Grid  
 Scale @ A3 : 1:140,000

Rev	Description	Date
A	First Draft	22/08/2023
B	Second Draft	09/11/2023
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Doc. Report : Onshore Scoping Report  
 Doc. Title : Ecological Designations  
 Doc. No : 404.V64554.00001.0033.1  
 Doc. No of Pages : 1  
 Created by : PW  
 Checked by : SH  
 Approved by : MF



### Future Baseline

- 14.4.16 Baseline Air Quality conditions are expected to evolve during the interim period, prior to construction commencing.
- 14.4.17 Air quality is expected to improve in future years, with the introduction of low emission vehicles and more tighter emission standards, as well as the recent enforcement of local and national policy and initiatives (e.g. Cleaner Air for Scotland 2 - Towards a Better Place for Everyone). With the introduction of these initiatives and cleaner technologies, pollutant concentrations reported locally are expected to reduce.
- 14.4.18 Local air quality projections are available (**Table 14.4**) to consider future baseline conditions; these will be examined in the Air Quality Onshore EIAR.

## 14.5 Commitments

- 14.5.1 The Developer has committed to adopt a series of design commitments (primary commitments) at this scoping stage to avoid and (where avoidance is not possible) reduce the potential for effects on the environment. Further best practice measures (tertiary commitments) are embedded as an inherent aspect of the EIA process.
- 14.5.2 Those scoping commitments of relevance to Air Quality are identified in **Table 14.5** below. Full details on each of these commitments can be found in the Onshore Commitments Register in **Appendix 3.2** of this Onshore Scoping Report.

**Table 14.5:** Relevant Commitments to Air Quality

ID	Commitment	How this commitment will be secured
<b>Tertiary Commitments</b>		
C-ONS-009	Production and compliance with a Construction Environmental Management Plan (CEMP). An Outline CEMP will be produced and included alongside the EIAR to support the planning permission in principle application. A detailed CEMP will then be submitted to the Planning Authority for approval (in consultation with NatureScot and SEPA) prior to construction of the development. The CEMP will then be implemented to avoid, minimise or mitigate effects on the environment during the construction phase.	Planning Condition attached to PPP consent requiring CEMP to be submitted and approved by Aberdeenshire Council.
C-ONS-012	A Dust and Air Quality Management Plan within the CEMP will include detailed best practice measures as described in IAQM guidance for the mitigation of dust arising from construction activities and a complaint investigation and resolution procedure.	Planning Condition attached to PPP consent requiring CEMP to be submitted and approved by Aberdeenshire Council.
C-ONS-013	The CEMP will include measures relating to the control of emissions from Non-Road Mobile Machinery (NRMM), including the type, quantity and use of the NRMM.	Planning Condition attached to PPP consent requiring CEMP to be submitted and approved by Aberdeenshire Council.

ID	Commitment	How this commitment will be secured
C-ONS-022	Production and compliance with a Construction Traffic Management Plan (CTMP) outlining the mechanisms for managing the movement of construction related traffic. The CTMP will be developed post-consent and submitted for the approval of Aberdeenshire Council in consultation with relevant parties.	Planning Condition attached to PPP consent requiring CTMP to be submitted and approved by Aberdeenshire Council.
C-ONS-023	Development of, and adherence to a Travel Plan to endeavour to minimise the impact of vehicle movements associated with construction workers, including the promotion of public transport and car sharing.	Planning Condition attached to PPP consent requiring Travel Plan to be submitted and approved by Aberdeenshire Council.
C-ONS-029	Where the Proposed Onshore Development is not required for electricity transmission purposes beyond the operational life of the Project, the onshore components would be decommissioned, and the land reinstated. Details of the decommissioning and restoration scheme shall be submitted to Aberdeenshire Council within 24 months of the permanent cessation of electricity generation.	Planning Condition attached to PPP consent required approval of decommissioning and site restoration plan.

14.5.3 As a result of the commitment to implement these measures, this mitigation is considered inherently part of the design of the Proposed Onshore Development and has, therefore, been included in the assessment presented in **Section 14.6** of this Chapter.

14.5.4 It is expected that additional primary commitments will be identified as the layout and design of the Proposed Onshore Development is refined and developed. These will take into account any consultation feedback received.

14.5.5 The requirement for any additional secondary commitments to prevent, reduce or offset any remaining significant adverse effects of the Proposed Onshore Development will be developed throughout the EIA process dependent on the significance of effect upon Air Quality receptors.

## 14.6 Scoping of Impacts

14.6.1 The Impacts Register (**Appendix 3.3**) sets out the proposed assessment of the potential effects of the Proposed Onshore Development on the environment, including Air Quality, at the scoping stage of the EIA. It identifies all potential impacts and provides an assessment on whether or not it is considered that they have (or do not have) the potential to result in a LSE. A summary assessment of the potential impacts on Air Quality is provided in **Table 14.6**.

14.6.2 The assessment in the Impacts Register and **Table 14.6** has been based upon a combination of:

- The maximum development parameters of the Proposed Onshore Development at this scoping stage;
- The commitments identified in **Table 14.5** and the Commitment Register in **Appendix 3.2**;
- The level of understanding of the baseline environment at this scoping stage;
- The existing evidence base;

- Relevant legislation and policy; and
- The professional judgement and experience of the qualified Air Quality specialists.

14.6.3 In accordance with the proportionate EIA approach (see **Section 5.2** and **Appendix 3.1**), for this scoping stage of the EIA process, the Impacts Register and **Table 14.6** categorises likely significance of effect as follows:

- **LSE identified at scoping stage without secondary commitments** – the impact will be subject to detailed assessment and scoped in to the EIAR;
- **Possible LSE identified at scoping stage without secondary commitments** – however it may become clear post scoping that the impact does not require detailed assessment in the EIAR. The impact will be scoped in at scoping stage, however further evidence will be brought forward post scoping to agree with consultees the specific treatment of the impact in the EIAR.
- **No LSE identified at scoping stage** – the impact will be scoped out of assessment in the EIAR.

14.6.4 Where it is agreed that potential effects can be scoped out of the EIAR, it is confirmed that these would still be presented within the Impacts Register within the EIAR with an explanation provided as to why it has been agreed it can be scoped out.



Table 14.6: Scoping Assessment for Air Quality

Potential Effect	Project Element					Commitment(s)	Scoping Status			Proposed Approach to Assessment, including Description of any New Evidence Required
	Landfall	OnECC	OnGCC	OnSS	OnRCS		LSE	Possible LSE	No LSE	
<b>Construction</b>										
Dust and particulate matter (PM <sub>10</sub> ) generated from temporary construction activities on both human and ecological receptors.	✓	✓	✓	✓	✓	C-ONS-009 C-ONS-012		✓		<p>Scoped in at scoping stage.</p> <p>Potential Air Quality impacts arising from dust generated from onshore construction activities will be assessed qualitatively in accordance with IAQM guidance (IAQM, 2023).</p> <p>The outcomes of this exercise will be used to inform appropriate mitigation requirements to render residual effects as not significant. These measures will be included within the Onshore EIAR – and secured within the Dust and Air Quality Management Plan (CEMP).</p>
Temporary construction-generated road traffic volumes on human receptors.	✓	✓	✓	✓	✓	C-ONS-022 C-ONS-023		✓		<p>Scoped in at scoping stage.</p> <p>A screening assessment of road traffic movements generated by onshore construction activities will be conducted in accordance with the procedure prescribed within the 2017 EPS and Royal Town Planning Institute Scotland (RTPIS) guidance document (EPS &amp; RTPIS, 2017). This will be supplemented with screening principles prescribed within LA 105 (Transport Scotland, 2019).</p> <p>The outcomes of this assessment will determine whether impacts at human receptors can be considered insignificant, or whether further detailed assessment is required.</p> <p>Traffic data used for the purposes of the assessment will be based upon analysis undertaken and presented as part of <b>Chapter 12: Traffic and Transport</b>.</p> <p>The proposed approach and assessment outcomes will be communicated to Aberdeenshire Council Environmental Health (<b>Section 14.9</b>).</p>

Potential Effect	Project Element					Commitment(s)	Scoping Status			Proposed Approach to Assessment, including Description of any New Evidence Required
	Landfall	OnECC	OnGCC	OnSS	OnRCS		LSE	Possible LSE	No LSE	
Temporary construction-generated road traffic volumes on ecological receptors.	✓	✓	✓	✓	✓	C-ONS-022 C-ONS-023		✓		<p>Scoped in at scoping stage.</p> <p>A screening assessment of road traffic movements generated by onshore construction activities will be conducted in accordance with the procedure prescribed within the 2020 IAQM guidance document (IAQM, 2020).</p> <p>The outcomes of this assessment will determine whether impacts at ecological receptors can be considered insignificant, or whether further detailed assessment is required.</p> <p>Traffic data used for the purposes of the assessment will be based upon analysis undertaken and presented as part of <b>Chapter 12: Traffic and Transport</b>.</p> <p>The proposed approach and assessment outcomes will be communicated to NatureScot (<b>Section 14.9</b>).</p>

Potential Effect	Project Element					Commitment(s)	Scoping Status			Proposed Approach to Assessment, including Description of any New Evidence Required
	Landfall	OnECC	OnGCC	OnSS	OnRCS		LSE	Possible LSE	No LSE	
Emissions generated from operation of NRMM during the construction phase.	✓	✓	✓	✓	✓	C-ONS-009 C-ONS-012 C-ONS-013			✓	<p>Scoped Out.</p> <p>An assessment of NRMM is scoped out from assessment, as following the Scottish Government’s technical guidance (Scottish Government, 2022a), providing suitable controls are applied, emissions generated from NRMM are unlikely to contribute to a significant effect upon local air quality.</p> <p>Appropriate measures, as documented within the Scottish Government’s technical guidance, will be included within a CEMP to ensure their implementation.</p> <p>Examples are presented below:</p> <ul style="list-style-type: none"> <li>All NRMM should comply with the appropriate NRMM standards;</li> <li>All NRMM should be fitted with abatement plant (e.g. Diesel Particulate Filters conforming to defined and demonstrated filtration efficiency (load/duty cycle permitting));</li> <li>Implementation of fuel conservation measures including instructions to throttle down or switch off idle construction equipment; switch off the engines of trucks while they are waiting to access the site and while they are being loaded or unloaded, require that equipment is properly maintained to support efficient fuel consumption; and</li> <li>Impose and signpost a maximum-speed-limit on surfaced (e.g. 15 mph) and unsurfaced haul roads and work areas (e.g. 10 mph).</li> </ul>

Potential Effect	Project Element					Commitment(s)	Scoping Status			Proposed Approach to Assessment, including Description of any New Evidence Required
	Landfall	OnECC	OnGCC	OnSS	OnRCS		LSE	Possible LSE	No LSE	
<b>Operation and Maintenance</b>										
Operational phase traffic movements.	✓	✓	✓	✓	✓	-			✓	<p>Scoped Out.</p> <p>Operational phase onshore activities will be limited to maintenance activities, expected to be intermittent/infrequent in comparison to construction activities (which will be assessed in full).</p> <p>Recent involvement in similar projects indicates approximately four to eight operational traffic movements per day, during an annual testing period. Given the low number of movements, Air Quality impacts arising as a result of anticipated operational activities are believed to be negligible.</p>
Operational phase generated emissions from NRMM.	✓	✓	✓	✓	✓	-			✓	<p>Scoped Out.</p> <p>NRMM use in the O&amp;M phase would be limited to maintenance activities only. Associated emissions would be small scale and for a limited duration only.</p> <p>Given this, potential impacts on receptors are considered negligible.</p> <p>Operational phase offshore vessel movements are expected to be intermittent/infrequent in comparison to construction activities. Furthermore, they will be limited to maintenance activities at the Array Area - located 50 km from the coast (at the closest location).</p> <p>Given this, potential impacts on onshore receptors are considered negligible.</p>
<b>Decommissioning</b>										
Decommissioning of the Proposed Onshore Development.	✓	✓	✓	✓	✓	C-ONS-029		✓		<p>Scoped in, however the effects associated with the construction phase can be considered to be representative of reasonable worst-case decommissioning effects, and therefore no separate assessment of the decommissioning phase is proposed for Air Quality in the EIAR.</p>

## 14.7 Potential Cumulative Effects with Proposed Offshore Development

- 14.7.1 There is a direct overlap in jurisdictions of consenting and regulatory regimes within the intertidal area between the MHWS and MLWS. The Proposed Offshore Development works below MHWS will therefore take place alongside Proposed Onshore Development works at the intertidal area at landfall. There is therefore the potential for cumulative effects resulting from the onshore and offshore works of the Project in this area.
- 14.7.2 Potential cumulative effects with the Proposed Offshore Development works during the construction phase may include:
- Dust/PM<sub>10</sub> emissions associated with the construction of the Proposed Offshore Development; and
  - Emissions generated from offshore vessel movements during the construction phase.
- 14.7.3 Given the distance to the Proposed Offshore Development, impacts associated with dust/PM<sub>10</sub> emissions generated from offshore construction works on the Air Quality Onshore Scoping Area are considered to be insignificant.
- 14.7.4 Impacts associated with emissions generated from vessel movements are proposed to be scoped out as will have an insignificant effect on the Air Quality Onshore Scoping Area (no LSE) as the Offshore Array Area will be located over 50 km from the coast (at the closest location).
- 14.7.5 It is recognised that vessels may be used to facilitate the installation, maintenance and decommissioning of cabling infrastructure at landfall – which may interact with onshore receptors. Despite this, offshore vessel movements associated with construction activities of the Project would represent a small number of overall vessel traffic in the North Sea, therefore accounting for a small proportion of emissions.
- 14.7.6 Furthermore, the North Sea is an Emission Control Area (ECA), whereby strict controls to minimise emissions from shipping are implemented in line with The International Convention for the Prevention of Pollution from Ships (MARPOL), specifically Annex VI Prevention of Air Pollution from Ships.
- 14.7.7 Given the above, potential impacts on onshore receptors are considered to be insignificant.
- 14.7.8 No further consideration of cumulative effects associated with Proposed Offshore Development works are considered necessary.

## 14.8 Potential Cumulative Effects with Other Projects

- 14.8.1 A review of other existing and proposed projects near the Proposed Onshore Development will be undertaken and potential impacts on Air Quality receptors will be assessed to identify potential cumulative impacts. In accordance with **Chapter 5: EIA Methodology** of this Onshore Scoping Report, the cumulative effects assessment for the Proposed Onshore Development will consider any other developments that are under construction, consented but not yet built or are the subject of valid planning or consent applications.

- 14.8.2 Potential cumulative impacts that may arise on Air Quality receptors during the construction phase of the Proposed Onshore Development may include:
- Dust/PM<sub>10</sub> emissions associated with surrounding construction activities; and
  - Pollutant emissions associated with road traffic movements generated by other local developments.
- 14.8.3 With respect to construction dust, all schemes which are locally considered to pose a risk of cumulative effects will have had to undertake a construction dust assessment separately relating to their own site activities and associated risks. This would take into account the recommendation to use best practice mitigation to ensure residual effects are not significant.
- 14.8.4 IAQM guidance (IAQM, 2023) states that, with the implementation of the recommended mitigation, effects will not be significant. As such, it is not anticipated at this stage that there would be significant cumulative effects associated with construction phase dust emissions. However, this will be reviewed for the purposes of EIAR upon clarification of the extent of cumulative developments to consider, in conjunction with statutory consultees.
- 14.8.5 Consideration will be given to cumulative impacts for the purposes of the construction road traffic screening assessment, where necessary and required by guidance.
- 14.8.6 At present, this will be limited to the assessment of international ecological designations for the purposes of facilitating an cumulative assessment prior to screening out effects in isolation, as required by IAQM guidance (IAQM, 2020). This will involve the consideration of vehicle movements generated by relevant committed developments in addition to construction vehicle movements generated by the Proposed Onshore Development along the extent of the affected road network for screening. Datasets used to fulfil this cumulative screening assessment will be consistent with analysis undertaken as part of the **Chapter 12: Traffic and Transport**.
- 14.8.7 Consistent with guidance, screening of projected road traffic vehicle movements associated with the Proposed Onshore Development for all other receptor types will be undertaken in isolation.
- 14.8.8 As per **Table 14.6**, impacts associated with the O&M phase have been scoped out from assessment – based on their perceived insignificance. Potential cumulative effects are considered not significant. No further consideration of cumulative effects associated are necessary.

## 14.9 Proposed Approach to the EIA

### *EIA Study Area*

- 14.9.1 For the purposes of the Air Quality Onshore EIAR, the EIA Study Areas will be defined in relation to each assessment proposed (**Section 14.6**) – with the use of distance impact screening thresholds prescribed within guidance. Identification of the Air Quality EIA Study Areas cannot be defined at this stage, as it is dependent on detailed project data (e.g. dust activities, transport data).
- 14.9.2 The EIA Study Areas will be reviewed throughout the EIA lifecycle upon refinement of the Proposed Onshore Development, following the identification of environmental/engineering

constraints and/or feedback from consultees. This is expected to result in a reduction in the size of the study area. Refinements to the proposed study areas, and consequential impacts on receptors, will be fully evaluated and communicated to statutory consultees. Further information on the proposed consultation programme is detailed in **Section 14.9**.

**Table 14.7:** *Additional Baseline Data Sources for EIAR*

Source	Summary
Developer	Construction phase road traffic volumes, and associated distribution on the local road network to inform the road traffic screening assessment. This will be based upon analysis undertaken and presented as part of <b>Chapter 12: Traffic and Transport</b> .
Developer	Details of construction activities (e.g. areas, methods, timescales and equipment) to inform the construction dust assessment. This will be based upon information presented as part of <b>Chapter 3: Proposed Development Description</b> .

#### **Desk Based Assessment**

14.9.3 All assessment techniques proposed to be undertaken to inform the EIAR will be desk-based.

#### **Field Surveys**

14.9.4 As discussed in **Section 14.4**, publicly available data will be used to characterise the baseline environment. This is considered proportionate to the nature of the proposed screening assessment. No field surveys are therefore proposed.

#### **Consultation**

14.9.5 Consultation with statutory consultees will be conducted throughout the EIA lifecycle, upon receipt of project data to refine the approach to the Air Quality Onshore EIAR.

14.9.6 Consultation will be conducted once the Air Quality Onshore EIAR Study Areas and the extent of potential interactions with the environment are understood. This is subject to the receipt of construction activities (e.g. orientation and distribution of road traffic movements) from the Developer – which is not currently available at this early design stage.

14.9.7 This is likely to comprise the issuance of technical notes to Aberdeenshire Council Environmental Health and NatureScot detailing the methodology of the Air Quality assessment and outcomes with respect to human and ecological receptors, where relevant.

#### **Assessment Methodology**

14.9.8 Potential Air Quality impacts arising from dust generated from onshore construction activities will be assessed qualitatively in accordance with IAQM guidance (IAQM, 2023).

14.9.9 The likely unmitigated dust emission magnitude associated with four activities (demolition, earthworks, construction and trackout) is assessed in conjunction with the sensitivity of the surrounding area to determine the risk of impact for each activity. These sensitivities are:

- Annoyance due to dust soiling;
- The risk of health effects due to an increase in exposure to PM<sub>10</sub>; and

- Harm to ecological receptors.

- 14.9.10 The risk of impact is then used to determine proportionate mitigation requirements, whereby through effective application, residual effects are considered to be not significant in terms of the EIA regulations. These measures will be contained within the Dust and Air Quality Management Plan within the CEMP.
- 14.9.11 For the assessment of road traffic emissions, an initial screening exercise will be conducted. This will comprise the consideration of projected road traffic volumes generated by the Proposed Onshore Development on the public road network. The outcomes of this assessment will determine whether impacts at human and ecological receptors can be considered insignificant, or whether further detailed assessment is required.
- 14.9.12 For the assessment of human health impacts, the screening procedure outlined within the 2017 EPS and RTPIS guidance document will be used (EPS & RTPIS, 2017). This will be supplemented with screening principles prescribed within LA 105 (Transport Scotland, 2019).
- 14.9.13 For the assessment of sensitive ecosystems, the screening procedure outlined within the 2020 IAQM guidance document will be used (IAQM, 2020).
- 14.9.14 Potential road traffic impacts associated with construction activities on sensitive human receptors will initially be screened, in accordance with EPS and RTPIS (EPS & RTPIS, 2017) and LA 105 (Transport Scotland, 2019) guidance.
- 14.9.15 Traffic data used to inform this screening assessment will be consistent with the analysis undertaken and presented in **Chapter 12: Traffic and Transport**. The screening assessment will consider all proposed construction scenarios where relevant.

#### ***Assessment Criteria and Assignment of Significance***

- 14.9.16 The EIA will follow the general approach outlined in **Chapter 5: EIA Methodology** of this Onshore Scoping Report. The following sections provide a description of the assessment criteria and assessment methodologies that are proposed to be used to assess Air Quality. These are derived from best practice guidance documents.
- 14.9.17 The purpose of the IAQM construction dust assessment is to consider effects following the application of mitigation (secured as a primary commitment).
- 14.9.18 The IAQM construction dust assessment methodology provides a framework to identify risks associated with construction dust on both human and ecological receptors, and assign an appropriate level of dust control and mitigation. This risk is based on a relationship between the anticipated dust emission magnitude and the sensitivity of the surrounding area. These will be defined with use of criteria provided within the IAQM construction guidance.
- 14.9.19 Following determination of these risks, mitigation is recommended, which will be contained within a Dust and Air Quality Management Plan (CEMP) and is therefore considered inherently part of the design of the Proposed Onshore Development. Following application of these controls, effects are considered not significant in terms of the EIA regulations.



- 14.9.20 Potential road traffic impacts associated with construction activities on sensitive human receptors will initially be screened, in accordance with EPS and RTPIS (EPS & RTPIS, 2017) and LA 105 (Transport Scotland, 2019) guidance.
- 14.9.21 This comprises a two-staged screening procedure to identify whether further assessment with respect to onshore construction traffic flows is required. If none of the criteria are met, then a detailed impact assessment is consequently not required, and effects on human receptors are considered to be insignificant and can be screened out of further consideration.
- 14.9.22 The proposed screening procedure is as follows:
- Stage 1: Comparison of onshore construction traffic flows with reference to EPS and RTPIS thresholds to determine the extent of the affected road network:
    - Within or adjacent to an AQMA:
      - A change of Light-Duty Vehicle (LDV) flows of more than 100 Annual Average Daily Traffic (AADT); and/or
      - A change of Heavy-Duty Vehicle (HDV) flows of more than 25 AADT.
    - Outside of an AQMA:
      - A change of LDV flows of more than 500 AADT; and/or
      - A change of HDV flows of more than 100 AADT.
  - Stage 2: Spatial review with use of satellite imagery to determine whether relevant exposure exists within 200 m of the affected road network (Transport Scotland, 2019).
- 14.9.23 In the event that impacts cannot be screened out, dispersion modelling will be undertaken to understand changes relative to the appropriate Air Quality Objectives. This is not presently proposed; initial preference is to undertake a screening assessment to determine the extent of affected areas (if applicable). If required, the technicalities of the dispersion modelling assessment will be agreed with the relevant statutory consultees.
- 14.9.24 Potential road traffic impacts associated with onshore construction works on sensitive ecological habitats will initially be screened in accordance with IAQM guidance (IAQM, 2020).
- 14.9.25 This initially comprises a screening assessment to indicate whether onshore construction activities are likely to generate either greater than 1,000 (and/or greater than 200 HDV) AADT movements on a road link within 200 m of a sensitive qualifying ecological feature or result in a change greater than 1% of a Critical Level and/or Critical Load.
- 14.9.26 For the purposes of assessing impacts on sensitive qualifying internationally designated ecological sites (e.g. SAC and SPA), screening will be undertaken together with other projects and plans. This follows relevant legislation (e.g. the Habitats Regulations) and takes into account relevant case law. However, when assessing impacts on national and/or local ecological designations, vehicle movements generated by construction activities will be assessed in isolation (i.e. project alone). This is reflective of the level of protection afforded to these sites within legislation.

- 14.9.27 The outcomes of the road traffic emissions ecological screening assessment will determine whether impacts could result in a LSE on the assessed ecological feature (either alone, or together in the context of international sites), and indicate where further detailed assessment is required via use of dispersion modelling.
- 14.9.28 In the event that impacts cannot be screened out, dispersion modelling will be undertaken to understand changes relative to the appropriate Critical Loads and Levels. This is not presently proposed; initial preference is to undertake a screening assessment to determine the extent of affected areas (if applicable).
- 14.9.29 If required, the technicalities of the dispersion modelling assessment will be agreed with the relevant statutory consultees.

## 14.10 Scoping Questions

- 14.10.1 The following specific questions are provided to help frame the consultees scoping opinion in relation to Air Quality:
- Do you agree that all relevant legislation, policy and guidance documents have been identified for the Air Quality assessment in the Onshore EIAR, or are there any additional legislation, policy and guidance documents that should be considered?
  - Based on the design information available, do you agree that the data sources identified are initially sufficient to inform the onshore Air Quality baseline for the Onshore EIAR?
  - Do you agree with the outcomes of the scoping exercise presented in **Table 14.6**?
  - For those impacts scoped in **Table 14.6**, do you agree and/or have any specific requirements for the assessment methodology?
  - Do you agree that cumulative screening for the purposes of the proposed road traffic screening assessment will only be undertaken in relation to international ecological designations?
  - Do you agree that the commitments measures described provide a suitable means for managing and mitigating the potential effects of the Proposed Onshore Development on sensitive onshore Air Quality receptors?

## 15 Socioeconomics, Tourism and Recreation

### 15.1 Introduction

15.1.1 This Chapter of the Onshore Scoping Report identifies the elements of Socio-Economics, Tourism and Recreation relevant to the Project (as a whole), and considers the potential impacts arising from its construction, O&M, and decommissioning phases. This includes both onshore and offshore activity, supporting this Onshore Scoping Report and the separate Offshore Scoping Report (Ørsted, 2023a).

15.1.2 The key impacts that will be covered in this Chapter include:

- Increase in employment and Gross Value Added (GVA);
- Economic activity associated with onshore elements in Aberdeenshire;
- Demographic changes;
- Changes to housing demand;
- Changes to other local public and private services;
- Socio-cultural impacts;
- Changes to visitor behaviour;
- Changes to onshore recreation;
- Changes to commercial fisheries; and
- Changes to shipping and marine recreation.

15.1.3 This Chapter should be read alongside the following Chapters of the Onshore Scoping Report, which consider the potential effects of the Proposed Onshore Development landward of Mean High Low Springs (MLWS):

- **Chapter 9: Landscape and Visual;**
- **Chapter 11: Land Use and Agriculture;** and
- **Chapter 12: Traffic and Transport.**

15.1.4 It should also be read alongside the following Chapters of the Offshore Scoping Report (Ørsted, 2023a), which consider the potential effects of the Proposed Offshore Development seaward of Mean High Water Springs (MHWS):

- **Chapter 13: Commercial Fisheries;**
- **Chapter 14: Shipping and Navigation;**
- **Chapter 17: Seascape, Landscape and Visual Impact;** and
- **Chapter 20: Other Human Activities.**

### 15.2 Scoping Study Area

15.2.1 While the majority of the Project is located offshore, for most of the socio-economic effects the relevant study areas will be onshore, since the organisations, individuals and communities that

might be affected by the offshore activities are based in onshore communities, including coastal communities.

15.2.2 The socio-economic study areas for the assessment of effects on employment and economy will be defined in line with the guidance on identification of 'local areas' for offshore developments published by the Scottish Government (Scottish Government, 2022c). This guidance identified six principles for identifying local study areas for offshore development:

- Principle 1 (Dual Geographies): The local area for the supply chain and investment impacts should be separate from the local area(s) for wider socio-economic impacts, including tourism and recreation;
- Principle 2 (Appropriate Impacts): The appropriate impacts for assessments should be identified before defining the local areas;
- Principle 3 (Epicentres): The local areas should include all the epicentres of the appropriate impacts;
- Principle 4 (Accountability): The local areas used in the assessment should comprise pre-existing economic or political geographies (community councils, local authorities, development agencies) to enhance accountability;
- Principle 5 (Understandable): The local areas should be defined so that they are understandable to the communities they describe; and
- Principle 6 (Connected Geography): The local area for the supply chain and investment impacts should consist of connected (including coastal) pre-existing economic or political geographies.

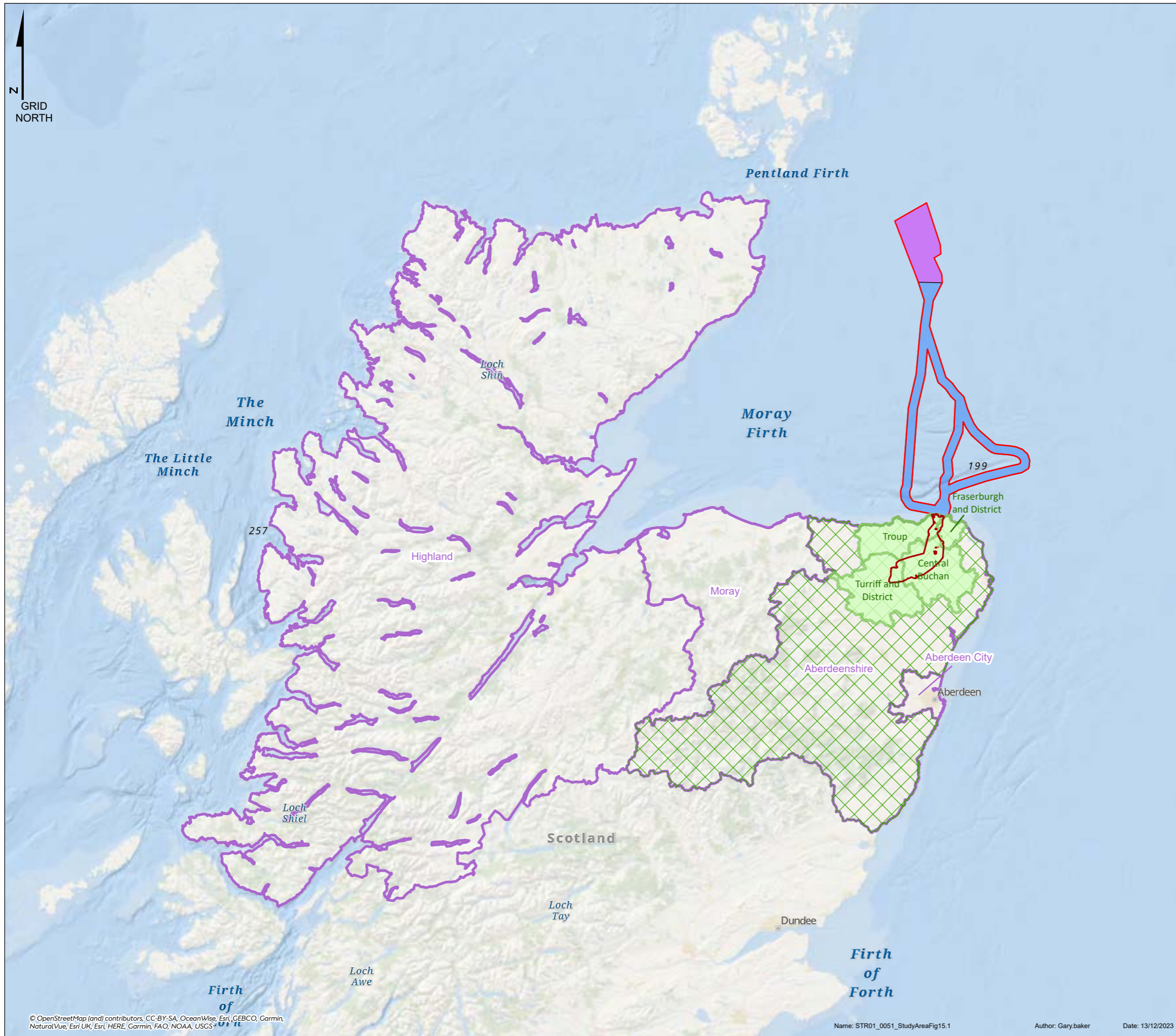
15.2.3 This assessment will cover the combined impacts associated with the onshore and offshore elements of the Project.

15.2.4 The epicentres of impact for the onshore elements, such as landfall, OnECC, OnRCS, OnSS and OnGCC will be in Aberdeenshire, with the landfall near Fraserburgh. Therefore, it is possible to apply the 'local areas' guidance to the onshore elements of the Project. The socio-economic assessment of the onshore elements of the Project will focus on the local authority of Aberdeenshire.

15.2.5 The epicentres of impact associated with the offshore elements of the Project will include the locations of the key construction and O&M ports, the location of any supply chain hubs or any locations on land with visibility of the offshore infrastructure. However, the Array Area will be located approximately 50 km east of Wick and this is beyond the range of normal visibility (White Consultants, 2020). Therefore, the visibility of the offshore infrastructure is not anticipated to be considered an epicentre of impacts. At this stage the port locations or supply chain hubs have not been defined and therefore a 'local area' for the combined elements of the Project, including offshore, has not been defined in this Onshore Scoping Report. A 'local area' for the socio-economic impact assessment will be defined within the EIAR if more details on the potential port locations are known.

15.2.6 The socio-economic effects for the combined onshore and offshore elements of the Project will be assessed at the level of Scottish and UK economies.

- 15.2.7 For tourism and recreation, the main focus will be sensitive receptors onshore that may be impacted by the development, construction, O&M and decommissioning of the onshore and offshore elements of the Project. Given the distance from shore, it is anticipated that there will be limited effects associated with visibility from the Array and therefore any potential changes to behaviour would be expected to arise due to increased activity at ports and harbours or due to the construction and/or O&M of onshore assets such as the landfall.
- 15.2.8 A Tourism and Recreation Study Area (TRSA) has been identified based on the following electoral wards where onshore infrastructure is proposed:
- Fraserburgh and District;
  - Troup;
  - Central Buchan; and
  - Turriff and District.
- 15.2.9 The TRSA is presented in **Figure 15.1**.
- 15.2.10 There is the potential for marine tourism and recreation to be impacted by the construction and decommissioning of the offshore cable route, near the proposed landfall location in Aberdeenshire. These could occur if the vessels used during construction impede on the ability of marine recreation users to pursue these activities, including recreational sailing or sea angling.
- 15.2.11 More local study areas, which are expected to include the electoral wards around the chosen port(s) will be defined when more information is known about the proposed construction and O&M bases associated with the Project.



**Stroma Offshore Wind Farm**  
**Figure 15.1**  
**Tourism and Recreation**  
**Study Area**

- Legend**
- Offshore Project Boundary
  - Array Area
  - Offshore Export Cable Corridor Study Area
  - Onshore Scoping Boundary
  - North Scotland
  - Aberdeenshire Council
  - Tourism and Recreation Study Area (TRSA)



Coordinate System: ETRS 1989 UTM Zone 30N

Vertical Reference: LAT Scale @ A3 : 1:1,250,000

0 5 10 20 30 40 50 60 Kilometers

0 2.5 5 10 15 20 25 30 Nautical Miles

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 Created by : GJB  
 Checked by : AC  
 Approved by : GB



### 15.3 Baseline Environment

- 15.3.1 For the purposes of this Chapter (and to inform the subsequent EIAR), a desk-based review of existing and known activities was undertaken using data sources presented within **Table 15.1**, to understand the Socio-Economic, Tourism and Recreation baseline environment.
- 15.3.2 For most cases the data sources apply at the UK, Scotland and local authority level, including Aberdeenshire where the onshore assets will be located. In some cases, data sources also apply to electoral wards, which have been used to determine the TRSA.

**Table 15.1: Key Sources of Socio-Economics, Tourism and Recreation Data**

Source, Author and Year	Summary	Coverage of the Study Area	Data Quality
<b>Socio-Economics</b>			
National Records of Scotland (2022), Mid-2021 Population Estimates Scotland	Population estimates, broken down by age.	Covers Scotland and each of its local authorities.	Annual publication. Will be updated prior to assessment.
National Records of Scotland (2022), 2012-based Principal Population Projections	Population projections for Scotland	Covers Scotland.	Biannual publication. Will likely be updated prior to assessment and include local authority data
National Records of Scotland (2020), 2018-based Principal Population Projections	Population projections for Scotland and each of its 32 local authorities, broken down by age.	Covers Scotland and each of its local authorities.	Biannual publication. Current latest estimates of local authority projections in Scotland.
Office for National Statistics (ONS) (2020), Principal Populations 2018-Based	Population projections for the UK as a whole, broken down by age.	Covers the UK as a whole.	Latest data from ONS. Will likely be updated prior to assessment to be 2020 based projections.
ONS (2023a) Annual Survey of Hours and Earnings 2022	Provides average and median residential and workplace earning.	Covers the UK, Scotland and local authorities.	Annual publication. Will be updated prior to assessment.
ONS (2023b), Business Register and Employment Survey 2021	Provides a breakdown of employment by sector.	Covers the UK, Scotland, local authorities and electoral wards.	Annual publication. Will be updated prior to assessment.
ONS (2023c), Annual Population Survey 2022	Provides statistics on characteristics of populations, including economic activity rate and unemployment rate	Covers the UK, Scotland and local authorities.	Annual publication. Will be updated prior to assessment.
Offshore Wind Industry Council (OWIC) (2023), Offshore Wind Skills Intelligence Report	Provides information on the existing offshore wind labour force across the UK as well as the skills that are expected to be needed up to 2030.	Covers the UK and individual regions across Scotland.	Annual publication. Will be updated prior to assessment.

Source, Author and Year	Summary	Coverage of the Study Area	Data Quality
Offshore Renewable Energy Catapult (2020), The Offshore Wind O&M Opportunity	Discusses the potential opportunities in offshore wind by 2030, with a detailed breakdown of annual spending and associated opportunities in the UK.	Considers opportunities in the UK.	Single publication. Unlikely to be updated prior to assessment but may be supplemented by other studies.
UK Government (2020), The Offshore Wind Sector Deal	Sets out the economic opportunities associated with offshore wind, including UK Government targets on the share of UK content.	Applies to the UK.	Single publication. Unlikely to be updated prior to assessment but may be supplemented by other studies.
Scottish Government (2018), National Performance Framework	Sets out a framework for what a successful country would look like, providing a range of measures to assess a proposed project against.	Applies to Scotland.	Single publication. May be updated prior to assessment to reflect ongoing work to update the National Performance Framework.
Scottish Government (2022b), National Strategy for Economic Transformation	Sets out the priorities for the Scottish economy, as well as how to achieve a wellbeing economy.	Applies to Scotland.	Single publication. Unlikely to be updated prior to assessment but may be superseded by another strategy.
Scottish Government (2023), National Planning Framework 4	Establishes a framework for spatial priorities in Scotland.	Applies to Scotland.	Single publication. Unlikely to be updated prior to assessment as there is typically 5 – 10 years between revisions.
Scottish Government (2020), Offshore Wind Policy Statement	Sets out the Scottish Government's ambitions for the future of offshore wind in Scotland.	Applies to Scotland.	Single publication. Unlikely to be updated prior to assessment but may be superseded by another strategy.
<b>Tourism and Recreation</b>			
Kantar TNS (2020a), Great Britain Day Visitor 2019	Annual publication of domestic day visits by number and value, with 2019 as the latest year not affected by Covid-19. May be updated prior to drafting the EIA.	Covers UK, Scotland and local authorities.	Annual publication. May be updated prior to the assessment. However, tourism data for 2020 – 2021 will need to be treated with caution due to the impact of Covid-19 on the tourism sector.
Kantar TNS (2020b), Great Britain Tourism Survey 2019	Annual publication of domestic overnight tourism visits and nights by number, value and purpose, with 2019 as the latest year not affected by Covid-19. May be updated prior to drafting the EIA.	Covers UK, Scotland and local authorities.	Annual publication. May be updated prior to the assessment. However, tourism data for 2020 – 2021 will need to be treated with caution due to the impact of Covid-19 on the tourism sector.



Source, Author and Year	Summary	Coverage of the Study Area	Data Quality
ONS (2020b), International Passenger Survey	Annual publication of international overnight tourism visits and nights by number, value and purpose, with 2019 as the latest year not affected by Covid-19. May be updated prior to drafting the EIA.	Covers UK, Scotland and selected regions, such as Grampian.	Annual publication. May be updated prior to the assessment. However, tourism data for 2020 – 2021 will need to be treated with caution due to the impact of Covid-19 on the tourism sector.
Scottish Government (2022c), Annual Growth Sector Statistics	Provides economic statistics, such as employment and GVA, on growth sectors identified by the Scottish Government, including sustainable tourism	Covers Scotland and its local authorities.	Annual publication. May be updated prior to the assessment. However, tourism data for 2020 – 2021 will need to be treated with caution due to the impact of Covid-19 on the tourism sector.
VisitScotland (2020), Grampian Factsheet 2019	Provides an overview of tourism in the northeast of Scotland, including the top visitor attractions.	Covers Aberdeenshire, Aberdeen City and Moray.	Single publication. May be updated prior to the assessment but there is no publication schedule for the regional factsheets.

15.3.3 The socio-economic baseline is presented for the three geographic areas that socio-economic impacts will be assessed:

- Aberdeenshire;
- Scotland; and
- the UK (or Great Britain if data for Northern Ireland is not available).

15.3.4 The tourism and recreation baseline is presented for the TRSA and compared with the wider Aberdeenshire and Scottish tourism performance.

### **Socio-Economic Baseline**

#### **Population**

15.3.5 The population of Aberdeenshire in 2021 was estimated to be 262,700 (National Records of Scotland, 2022a). This is equivalent to 5% of the total population of Scotland. The population of Aberdeenshire is relatively younger than the rest of Scotland with a greater share (19%) of the population that are aged under 16. The data for populations of Aberdeenshire, Scotland and the UK are presented in **Table 15.2**.

Table 15.2: Population, 2021 (National Records of Scotland, 2022a)

Population demographic	Aberdeenshire	Scotland	Great Britain
Total	262,700	5,479,900	65,121,700
Under 16	19%	17%	18%
16 – 64	61%	64%	63%
65 and over	20%	20%	19%

15.3.6 Between 2001 and 2021, the population of Aberdeenshire grew by 16%, compared to an 8% growth across Scotland as a whole. This was the sixth greatest level of population growth out of the 32 local authorities in Scotland.

### Population Projections

15.3.7 The population of Aberdeenshire is projected to grow by 2% between 2021 and 2043 (National Records of Scotland, 2022b). This aligns with the projected population growth of Scotland as a whole, which is also projected to increase by 2% in this period. All of this population growth is projected to come from those aged 65 and over. It is projected that this demographic will increase by 17,500 in Aberdeenshire in this time period and by over 315,000 in Scotland. The working age population of Aberdeenshire is expected to decrease by 7,200 in the same period, while in Scotland it is projected to decrease by over 130,000. The predicted populations are presented below in **Table 15.3**.

Table 15.3: Population Projections, 2021 – 2043

Population demographic	Aberdeenshire		Scotland		Great Britain	
	2021	2043	2021	2043	2021	2043
Total	262,700	267,796	5,479,900	5,574,819	65,121,700	70,628,081
Under 16	19%	16%	17%	15%	18%	17%
16 – 64	61%	57%	64%	60%	63%	59%
65 and over	20%	27%	20%	25%	19%	24%

### Economic Activity

15.3.8 **Table 15.4** shows the economic activity indicators of Aberdeenshire, Scotland and Great Britain in 2022 (ONS, 2023c). The economic activity rate in Aberdeenshire is 82%, this is higher than both Scotland (77%) and Great Britain (78%). The unemployment rate is higher in Aberdeenshire at 5%, compared to 3% in Scotland and 4% across Great Britain.

15.3.9 In Aberdeenshire, the median annual gross income for full time workers was £34,825, which is 5% more than the average for Scotland and 7% more than the average for Great Britain (ONS, 2023a).

Table 15.4: Economic Activity, 2022

Economic Performance Metric	Aberdeenshire	Scotland	Great Britain
Economic Activity Rate	82%	77%	78%
Unemployment Rate	5%	3%	4%
Median Annual Full Time Income (resident)	£34,825	£33,311	£32,447

### Industrial Structure

- 15.3.10 There were 112,500 people employed within Aberdeenshire in 2022, this accounts for 4% of the total employment within Scotland. The labour market in Aberdeenshire is closely linked to the economy of Aberdeen City. In 2011, it was estimated that 41,000 residents of Aberdeenshire worked within Aberdeen City, this was equivalent to approximately one third of the employed residents of Aberdeenshire.
- 15.3.11 As shown in **Table 15.5**, the sector that employs most people in Aberdeenshire are the wholesale and retail trades (ONS, 2023b). This sector accounts for 14% of employment, similar to Scotland and Great Britain.
- 15.3.12 The sectors that are most relevant when assessing the potential activities related to the development and construction of the Project are:
- Manufacturing;
  - Construction; and
  - Professional, scientific and technical activities.
- 15.3.13 Manufacturing makes up a greater proportion of employment in Aberdeenshire (12%) compared with the wider Scottish economy (ONS, 2023b). However, the largest component of the manufacturing sector in Aberdeenshire is the manufacture of food products, which employs 4,750 people and accounts for 5% of all jobs in the area. Across Great Britain and Scotland, this sector employs an average of 1%.
- 15.3.14 The construction sector in Aberdeenshire is relatively larger than in the wider Scottish or Great British economies (ONS, 2023b). It accounts for 8% of employment in Aberdeenshire, compared to 6% in Scotland and 5% across Great Britain. This is equivalent to approximately 8,900 people and includes civil engineering, construction of buildings and specialised construction activities, such as plumbers and electricians.
- 15.3.15 The professional, scientific and technical activities sector is also relatively stronger in Aberdeenshire than the wider economy and accounts for 9% of employment, compared to 6% across the UK. Within this, Aberdeenshire is particularly strong in architectural and engineering services, which accounts for 6% of all jobs in the area. This expertise is linked with the Oil and Gas (O&G) cluster in the northeast of Scotland.

**Table 15.5: Industrial Structure, 2022 (ONS, 2023b)**

Sector	Aberdeenshire	Scotland	Great Britain
Wholesale and retail trade; repair of motor vehicles and motorcycles	14%	14%	14%
Manufacturing	12%	7%	7%
Agriculture, forestry and fishing	11%	3%	2%
Professional, scientific and technical activities	9%	6%	9%
Human health and social work activities	9%	15%	13%
Construction	8%	6%	5%
Education	8%	8%	8%
Accommodation and food service activities	6%	7%	7%
Administrative and support service activities	5%	8%	9%
Transportation and storage	4%	4%	5%
Mining and quarrying	3%	1%	0%
Public administration and defence; compulsory social security	3%	6%	4%
Arts, entertainment and recreation	2%	2%	2%
Other service activities	1%	2%	2%
Information and communication	1%	3%	4%
Real estate activities	1%	2%	2%
Water supply; sewerage, waste management and remediation activities	1%	1%	1%
Electricity, gas, steam and air conditioning supply	1%	1%	0%
Financial and insurance activities	1%	3%	3%
Activities of households as employers; undifferentiated goods-and services-producing activities of households for own use	0%	0%	0%
Activities of extraterritorial organisations and bodies	0%	0%	0%
Total	112,500	2,617,000	31,360,000

### ***Socio-Economic Summary***

- 15.3.16 The economy of Aberdeenshire has performed better than the wider Scottish economy in recent years. This is reflected by the higher levels of population growth that the area has seen and the higher levels of pay. The economy is closely integrated with that of Aberdeen City and forms part of the O&G cluster that serves the North Sea. As a result of this expertise, the area is well placed to benefit from supply chain opportunities associated with the offshore wind sector. It is also well placed to benefit from opportunities associated with the onshore elements of the Project, particularly around construction and professional services.
- 15.3.17 The long-term trends that will change the socio-economic baseline of Aberdeenshire are similar to those across the rest of Scotland. The population is not projected to grow at the same level as it has in previous decades and all of this growth is projected to come from those aged 65 or over. The working age population is projected to decline. New opportunities and drivers of economic growth will be required to mitigate against this projection.

### ***Tourism and Recreation Baseline***

- 15.3.18 The tourism and recreation baseline outlines the scale of the tourism economy in Aberdeenshire, compared with Scotland and the UK, and identifies key attractions in the area. This includes an overview of visitor numbers and their spend and key attractions within the TRSA. If known, the tourism baseline will be augmented with local visitor attractions and other data related to the construction and operational port(s).

### ***Visits and Spend of Tourists***

- 15.3.19 A range of statistics are available on tourism visitor numbers and visitor spend in Aberdeenshire and Scotland, including the Great Britain Day Visitor Survey (Kantar TNS, 2020a), the Great Britain Tourism Survey (Kantar TNS, 2020b) and the International Passenger Survey (ONS, 2020b), which are averages over a 3-year period (2017-2019). These are not available at the level of electoral wards and therefore no visitor data is available for the TRSA, though data for Aberdeenshire has been included. However, data on employment and business activity is available for the TRSA and provides an alternative baseline source for estimating the scale of tourism activity in the area.
- 15.3.20 In 2019, there were 10 million visitors to Aberdeenshire, which accounted for 6.2% of all visits in Scotland, with visitor spending equal to £276 million, or 2.5% of all Scottish visitor spending. Spend per visitor is significantly higher across Scotland compared to Aberdeenshire due to the relatively low number of overnight visitors, which typically have higher levels of average spending. Overnight domestic visitors accounted for 19% of total tourism spend in Aberdeenshire, compared to 28% across Scotland.
- 15.3.21 The data for tourist and visitor spend in Aberdeenshire, Scotland and the UK is presented in **Table 15.6**.

Table 15.6: Visits and Visitor Spending, 2019

Visits/Spend	Aberdeenshire	Scotland	UK
<b>Visits (Million)</b>			
Day Visitors	9	145	1,795
Domestic Overnight	<1	12	1,212
International Overnight	<1	4	40
Total	10	161	1,957
<b>Spend (£ million)</b>			
Day Visitors	193	5,186	58,623
Domestic Overnight	52	2,989	24,099
International Overnight	32	1,538	27,413
Total	276	10,714	110,135

### Tourism Employment

15.3.22 Sustainable tourism is a growth sector defined by the Scottish Government which includes tourism related industries such as accommodation, food and beverage services and the operation of museums and similar attractions. There are around 1,250 people employed in sustainable tourism in the TRSA, which is equivalent to 6.2% of total employment in the area (ONS, 2023b). This is a lower proportion than for Aberdeenshire (7.1%), Scotland (8.0%) and Great Britain (7.8%). Sustainable tourism employment data is presented in **Table 15.7**.

Table 15.7: Sustainable Tourism Employment, 2021

Attraction	TRSA	Aberdeenshire	Scotland	Great Britain
Tourism Employment	1,250	8,000	209,000	2,445,000
Total Employment	19,950	112,750	2,616,000	31,360,000
Share of total employment	6.2%	7.1%	8.0%	7.8%

Note. Employment for Northern Ireland is not reported, so figures are reported for Great Britain.

### Local Tourism and Recreation Attractions

15.3.23 VisitScotland provides a database of visitor attractions in Scotland (VisitScotland, 2023), which was supplemented by a search of Google Maps and VisitAberdeenshire (VisitAberdeenshire, 2023). On this basis, 14 attractions were identified within around 5 km of the Onshore Scoping Area, beyond which it is unlikely that there would be any significant effects (**Table 15.4**). Only one of the attractions identified (Fyvie Castle) was listed among the top ten visitor attractions in Grampian (VisitScotland, 2019). These local tourism and recreation attractions are presented in **Table 15.8**.

15.3.24 As the layout and design of the Proposed Onshore Development is refined during the EIA process, it is anticipated that the area within 5 km will be smaller and some visitor attractions that have been identified may be excluded.

**Table 15.8: Tourism and Recreation Study Area Attractions**

Attraction	Description	Distance from Proposed Onshore Development
Brucklay Park Alpacas	A farm north of Maud that offers alpaca-related activities.	Within
Rosehearty Beach	A sandy beach that is used for walking, swimming and wind-surfing.	Within
Rosehearty Community Boat Club	A community boating club.	Within
Rosehearty Golf Club	A local golf club to the southeast of Rosehearty.	Within
Waulkmill Menagerie	A menagerie of animals near New Deer.	Within
Dalgatie Castle	Castle originally constructed in 1030.	1 km
George Watt Surf School	Water sports centre offering surfing classes from Fraserburgh.	1 km
Museum of Scottish Lighthouses	A museum in Fraserburgh that is set in Kinnaird Head Lighthouse, Scotland's first.	1 km
Fraserburgh Golf Club	A local golf club to the southeast of Fraserburgh.	2 km
Aden Country Park	A country park in Old Deer that includes the Aberdeenshire Museum of Farming.	3 km
Deer Abbey	A ruined Cistercian Monastery near Old Deer.	3 km
Rhuallan Raptors	Falconry centre near Mintlaw featuring educational talks, flying displays and hunting trips.	4 km
Fyvie Castle	A 13 <sup>th</sup> century castle with extensive grounds, managed by the National Trust for Scotland.	5 km
Turriff Golf Club	Eighteen-hole golf course which hosts events and competitions.	5 km

15.3.25 In addition to tourism attractions there are also a number of recreational trails that are within the Onshore Scoping Area. These include the Formartine and Buchan Way, a 53-mile-long distance route that begins in Dyce, passes through Maud and then branches off to either Fraserburgh (where it passes through the Onshore Scoping Boundary) or Peterhead. In addition, National Cycle Route 1d passes through the Onshore Scoping Area near Maud.

15.3.26 There are a number of core paths within the Onshore Scoping Area which are likely to be used by local walkers, including:

- 7LD.01.10, 7LD.01.09 and 117.01 along the beach between Fraserburgh and Rosehearty;
- 115.01 near Rosehearty;
- 106.04 on the outskirts of Fraserburgh;
- 109.01 in Memsie;
- 218.01-04 near Strichen;
- 205.04 near Adziel; and
- 211.01 near New Deer.

15.3.27 No sea cliff climbing was identified within the boundary of the Onshore Scoping Area at the landfall.

#### ***Tourism and Recreation Baseline Summary***

15.3.28 Tourism plays a role in the economy of the TRSA, though it employs relatively fewer people than elsewhere in Aberdeenshire and Scotland. A small number of attractions have been identified within the Onshore Scoping Area, though this number is likely to reduce as the layout and design of the Proposed Onshore Development is refined.

#### ***Strategic Overview***

##### ***National Performance Framework***

15.3.29 Scotland's National Performance Framework (Scottish Government, 2018), first published in 2018, sets out the ambitions of the Scottish Government across a range of economic, social and environmental factors. The framework includes 'increased wellbeing' as part of its purpose and combined measurement of how well Scotland is doing in economic terms with a broader range of wellbeing measures. The National Performance Framework is designed to give a more rounded view of economic performance and progress towards achieving sustainable and inclusive economic growth and wellbeing across Scotland.

15.3.30 The aims for Scotland set out in the National Performance Framework are:

- *"Create a more successful country;*
- *Give opportunities to all people living in Scotland;*
- *Increase the wellbeing of people living in Scotland;*
- *Create sustainable and inclusive growth; and*
- *Reduce inequalities and give equal importance to economic, environmental and social progress."*

##### ***National Planning Framework***

15.3.31 In 2023, the Scottish Government published the NPF4 (Scottish Government, 2023), which set out Scotland's spatial strategy to 2045. It affirms the importance of Scotland's transition to a net



zero economy through green investment and green jobs, with wind energy highlighted as playing a significant role in the coming years. It states that renewable energy developments will only be supported where they maximise net economic impact, including local and community socio-economic benefits, such as employment, associated business and supply chain opportunities. The NPF4 also specifically highlights the role of the North East, including Aberdeenshire, in achieving a Just Transition to net zero.

#### ***National Strategy for Economic Transformation***

15.3.32 In March 2022, the Scottish Government released the National Strategy for Economic Transformation (Scottish Government, 2022b), which set out its ambition for Scotland's economy over the next 10 years. The Scottish Government's vision is to create a wellbeing economy where society thrives across economic, social and environment dimensions, which delivers prosperity for all Scotland's people and places. Of particular importance is the ambition to be greener, with a just transition to net zero, a nature-positive economy and a rebuilding of natural capital.

15.3.33 A key longer-term challenge identified in the strategy is to address deep-seated regional inequality, which includes rural and island areas that face problems such as a declining labour supply, poorer access to infrastructure and housing. The transition to net zero presents a further challenge of delivering positive employment, revenue and community benefits.

15.3.34 To deliver its vision and address the economy's challenges, five programmes of action have been identified (with a sixth priority of creating a culture of delivery), including:

- Establishing Scotland as a world-class entrepreneurial nation;
- Strengthening Scotland's position in new markets and industries, generating new, well-paid jobs from a just transition to net zero;
- Making Scotland's businesses, industries, regions, communities and public services more productive and innovative;
- Ensuring that people have the skills they need to meet the demands of the economy, and that employers invest in their skilled employees; and
- Reorienting the economy towards wellbeing and fair work.

15.3.35 The strategy notes that Scotland has substantial energy potential and that it has developed a growing green industrial base. This provides a strong foundation for securing new market opportunities arising from the transition to net zero, for example in the hydrogen economy and in the decarbonisation of heating systems, where Scotland may be able to secure first-mover advantage and will need continuing investment and support. Renewable energy also has a role to play in supporting productive businesses and regions across Scotland.

#### ***Offshore Wind Policy Statement***

15.3.36 The Scottish Government's 2020 Offshore Wind Policy Statement (Scottish Government, 2020) highlights the substantial potential of Scotland's waters for offshore wind and the importance of the sector in the transition to net zero.

15.3.37 When the policy statement was published in October 2020 the ScotWind leasing round was expected to lead to an additional 11 GW of offshore wind capacity by 2030, generating substantial

economic impacts in Scotland's offshore wind supply chain. In contrast, the ScotWind leasing round is now expected to lead to an additional 25 GW of offshore wind capacity (The Crown Estate Scotland, 2022), with economic opportunities related to floating offshore.

#### ***UK Government Offshore Wind Sector Deal***

- 15.3.38 The UK Government's Offshore Wind Sector Deal (UK Government, 2020) aims to ensure that UK companies can benefit from the opportunities presented by the expansion of the offshore wind sector, enhancing the competitiveness of UK firms internationally and sustaining the UK's role as a global leader in offshore wind generation, as outlined in the offshore wind sector deal. Offshore wind is also expected to play a significant role in the transition to net zero, creating green jobs as part of the net zero, build back greener agenda.

#### ***Regional Economic Strategy: Securing the Future of the Northeast Economy***

- 15.3.39 In 2015, Opportunity North-East, in collaboration with Aberdeen City Council and Aberdeenshire Council, published a regional economic strategy for the northeast, which aimed to present a 20-year vision for the wellbeing of the region and its people (Opportunity North East, 2015).
- 15.3.40 Building on the then Scottish Government's economic strategy (Scottish Government, 2015) and the decline in the price of oil, the strategy envisions a stronger, more diverse economy and centres the four principles of investment in infrastructure, innovation, inclusive economic growth and internationalisation. Key sectors that were identified include the energy sector (including renewables and hydrogen), tourism, food and drink and fisheries and agriculture.
- 15.3.41 Offshore wind has gained increasing prominence more recently, including in the Aberdeen City Region Deal (Aberdeen City Region, 2022). Investments of over £300 million have been made in the Net Zero Technology Centre, which focuses on reducing emissions (including in the O&G sector), the deployment of offshore wind and integration of the new energy system. A further £350 million has been invested in the Aberdeen South Harbour, which is intended to play a significant role in offshore wind and maximising the benefits of ScotWind.

#### ***Aberdeenshire Local Development Plan***

- 15.3.42 In January 2023, Aberdeenshire Council adopted the Aberdeenshire Local Development Plan (ALDP) (Aberdeenshire Council, 2023), which sets out the policies that will be used for determining planning applications up to 2031. These policies include those which are relevant to Socio-Economics, Tourism and Recreation and those specific to the development of renewable energy projects. In particular, the ALDP aims to:
- Take on the challenges of sustainable development and climate change; and
  - Increase and diversify the economy.
- 15.3.43 Policy C2 within the ALDP specifically outlines the approach to renewable energy projects. It states that the assessment of the acceptability of such developments will consider any effects on socio-economic aspects of the project and effects on tourism and recreation assets.

## **15.4 Commitments**

- 15.4.1 The Project has adopted commitments (primary design principles inherent as part of the Project, installation techniques and engineering designs/modifications) as part of the pre-application

phase to eliminate and/or reduce LSE arising from a number of impacts (as far as possible). These are outlined in **Appendix 3.2** of this Onshore Scoping Report. Further commitments (adoption of best practice guidance), referred to as tertiary commitments are embedded as an inherent aspect of the EIA process. Secondary commitments are incorporated to reduce LSE to environmentally acceptable levels following initial assessment, i.e., so that residual effects are reduced to environmentally acceptable levels.

- 15.4.2 The commitments adopted by the Project in relation to socioeconomics, tourism and recreation are presented in **Table 15.9**. The full list of commitments can be found in **Appendix 3.2** of this Onshore Scoping Report and **Appendix A** of the Offshore Scoping Report.
- 15.4.3 As part of the ScotWind bidding process, the Developer provided a Supply Chain Development Statement (SCDS), which outlines a commitment scenario and an ambition scenario for the share of supply chain content that will be sourced from Scotland in the development and construction phase, as well as in the first six years of operation. This will be refined over time as the Project is progressed and local content options are explored.
- 15.4.4 The Developer has engaged proactively with and participates in a scheme to encourage the supply chain in Scotland, including securing Memoranda of Understanding with several ports and engaging with enterprise organisations, including Scottish Enterprise and Highlands and Islands Enterprise, to develop a sustainable Scottish supply chain. This supply chain engagement includes proactive membership of:
- Deepwind Cluster;
  - The Strategic Investment Model Group;
  - Aberdeen Renewable Energy Group;
  - Scottish Offshore Wind Energy Council (SOWEC);
  - The Coalition for Wind Industry Circularity; and
  - Scottish Renewables.
- 15.4.5 The Developer has also supported efforts to upskill and re-skill Scotland's existing workforce. This includes engaging with PowerHouse floating wind research centre and the SOWEC skills workstream. The Developer will also explore community benefit and community ownership.
- 15.4.6 The requirement and feasibility of any additional commitments will be dependent on the significance of the effects upon socio-economics, recreation and tourism receptors and will be consulted upon with statutory consultees throughout the EIA process.

Table 15.9: Relevant Commitments to Socio-Economics, Tourism and Recreation Receptors

Commitment Code	Commitment Measure
<b>Offshore</b>	
C-OFF-17	Cable burial risk assessment (CBRA) surveys will be undertaken. Where sufficient burial is not achievable, suitable implementation and monitoring or cable protection will be developed.
C-OFF-27	Fisheries Liaison and procedures will adhere to the latest relevant available best practice guidance in the event of interactions between fishing activities and the Project.
C-OFF-29	A Fisheries Management and Mitigation Strategy (FMMS) will be implemented, detailing the strategy for fisheries consultation throughout the Project timeline.
C-OFF-42	A Vessel Management Plan (VMP) will be developed, which will detail the types and numbers of vessels involved in the Project work.
C-OFF-62	Utilisation of local contractors for onshore and offshore construction work where possible, to support the Scottish Supply Chain.
<b>Onshore</b>	
C-ONS-027	An Access Management Plan (AMP) will be developed to be included in the wider CEMP in conjunction with Aberdeenshire Council and through consultation with local stakeholders. Where public access will be temporarily disrupted during construction, a suitable diversion which minimises the length of path affected will be put in place along with the display of signage at each end of the route where the route is diverted.
C-ONS-036	Production and compliance with a Construction Traffic Management Plan (CTMP) outlining the mechanisms for managing the movement of construction related traffic. The CTMP will be developed post-consent and submitted for the approval of Aberdeenshire Council in consultation with relevant parties.

15.4.7 As a result of the commitment to implement these measures, and to align with various standard sectoral practices and procedures, the embedded commitments are considered inherently part of the design of the Project and have, therefore, been included in the assessment presented in **Section 15.5**.

## 15.5 Scoping of Impacts

15.5.1 Potential impact pathways relevant to Socio-Economics, Tourism and Recreation which may occur during the construction, O&M, or decommissioning phases of the Project have been identified in **Table 15.10**.

Table 15.10: Scoping Assessment for Socio-Economics, Tourism and Recreation

Potential Effect	Project Element						Commitment(s)	Scoping Status			Proposed Approach to Assessment, including Description of any New Evidence Required
	Landfall	OnECC	OnGCC	OnSS	OnRCS	Offshore		LSE	Possible LSE	No LSE	
<b>Construction</b>											
Increase in employment and GVA.	✓	✓	✓	✓	✓	✓	C-OFF-08	✓			The construction of Project will require expenditure with companies in each of the study areas. This will support employment and generate GVA, including impacts associated with spending in the wider supply chain (indirect effects) and spending by staff (induced effects).
Economic activity associated with onshore elements in Aberdeenshire	✓	✓	✓	✓	✓		C-OFF-08	✓			The construction of the onshore elements of the Project will require spending in Aberdeenshire. This will support employment and generate GVA, including impacts associated with spending in the wider supply chain (indirect effects) and spending by staff (induced effects).
Demographic changes.	✓	✓	✓	✓	✓	✓	-	✓			The impacts of demographic changes will be assessed as far as possible, including the scale of any impact and its potential to be significant. If ports have been determined by the time of the assessment, it will be possible to be more definitive on the likely significance of these impacts.
Changes to housing demand.	✓	✓	✓	✓	✓	✓	-	✓			The impacts of demographic changes and the implications for housing demand will be assessed as far as possible, including the scale of any impact and its potential to be significant. This will include the potential demand for temporary accommodation from transient workers. If ports have been determined by the time of the assessment, it will be possible to be more definitive on the likely significance of these impacts.
Changes to other local public and private services.	✓	✓	✓	✓	✓	✓	-	✓			The impacts of demographic changes and the implications for demand on local public and private services will be assessed as far as possible, including the scale of any impact and its potential to be significant. If ports have been determined by the time of the assessment, it will be possible to be more definitive on the likely significance of these impacts.

Potential Effect	Project Element						Commitment(s)	Scoping Status			Proposed Approach to Assessment, including Description of any New Evidence Required
	Landfall	OnECC	OnGCC	OnSS	OnRCS	Offshore		LSE	Possible LSE	No LSE	
Socio-cultural impacts.	✓	✓	✓	✓	✓	✓	-			✓	The potential socio-cultural impacts, including changes to community character or image and quality of life, will require primary stakeholder engagement in the communities around the key epicentres of impact. To avoid survey fatigue and ensure meaningful interactions, this engagement will occur post consent as decisions are made regarding the location of key activities, such as ports. These impacts have therefore been Scoped Out of the assessment.  All relevant commitments are presented in <b>Appendix 3.2</b> .
Changes to visitor behaviour.	✓	✓	✓	✓	✓	✓	-	✓			Potential changes to visitor behaviour may arise from changes to onshore activity associated with the construction of the Project, including onshore grid connection and increased activity at ports and harbours.
Changes to onshore recreation.	✓	✓	✓	✓	✓	✓	C-ONS-036 C-ONS-027	✓			Potential disruption to onshore recreational assets, such as walking and cycling trails, golf courses, beaches and surfing, may reduce recreational opportunities.
Changes to commercial fisheries.						✓	C-OFF-33 C-OFF-20	✓			Potential disruption to the commercial fishing sector leading to changes in economic activity in the sector.
Changes to shipping and marine recreation.						✓	C-OFF-46	✓			Changes to economic activity as a result of the construction of the Project may impact activity in the shipping and marine recreation sectors.
<b>Operation and Maintenance</b>											
Increase in employment and GVA.	✓	✓	✓	✓	✓	✓	C-OFF-08	✓			O&M will require expenditure with companies and organisations in each of the study areas, supporting employment and generating GVA.

Potential Effect	Project Element						Commitment(s)	Scoping Status			Proposed Approach to Assessment, including Description of any New Evidence Required
	Landfall	OnECC	OnGCC	OnSS	OnRCS	Offshore		LSE	Possible LSE	No LSE	
Economic activity associated with onshore elements in Aberdeenshire	✓	✓	✓	✓	✓		C-OFF-08	✓			The O&M of the onshore elements of the Project will require spending in Aberdeenshire supporting employment and generating GVA.
Demographic changes.	✓	✓	✓	✓	✓	✓	-	✓			The impacts of demographic changes will be assessed as far as possible, including the scale of any impact and its potential to be significant. If ports have been determined by the time of the assessment, it will be possible to be more definitive on the likely significance of these impacts.
Changes to housing demand.	✓	✓	✓	✓	✓	✓	-	✓			The impacts of demographic changes and the implications for housing demand will be assessed as far as possible, including the scale of any impact and its potential to be significant. If ports have been determined by the time of the assessment, it will be possible to be more definitive on the likely significance of these impacts.
Changes to other local public and private services.	✓	✓	✓	✓	✓	✓	-	✓			The impacts of demographic changes and the implications for demand on local public and private services will be assessed as far as possible, including the scale of any impact and its potential to be significant. If ports have been determined by the time of the assessment, it will be possible to be more definitive on the likely significance of these impacts.
Socio-cultural impacts	✓	✓	✓	✓	✓	✓	-			✓	The potential socio-cultural impacts, including changes to community character or image and quality of life, will require primary stakeholder engagement in the communities around the key epicentres of impact. To avoid survey fatigue and ensure meaningful interactions, this engagement will occur post consent as decisions are made regarding the location of key activities, such as ports. These impacts have therefore been Scoped Out of the assessment.  All relevant commitments are presented in <b>Appendix 3.2</b> .
Changes to visitor behaviour.	✓	✓	✓	✓	✓	✓	-	✓			Potential changes to visitor behaviour may arise from changes to onshore activity associated with the O&M of the Project, such as increased activity at ports and harbours, or changes to seascape and visual impact.

Potential Effect	Project Element						Commitment(s)	Scoping Status			Proposed Approach to Assessment, including Description of any New Evidence Required
	Landfall	OnECC	OnGCC	OnSS	OnRCS	Offshore		LSE	Possible LSE	No LSE	
Changes to onshore recreation.	✓	✓	✓	✓	✓	✓	-	✓			Potential disruption to onshore recreational activities, such as walking and cycling trails, golf courses, beaches and surfing, may reduce recreational opportunities.
Changes to commercial fisheries.						✓	C-OFF-31 C-OFF-33 C-OFF-20	✓			Potential disruption to the commercial fishing sector leading to changes in economic activity in the sector.
Changes to shipping and marine recreation.						✓	C-OFF-46	✓			Changes to economic activity as a result of the operation of the Project may impact activity in the shipping and marine recreation sectors.
<b>Decommissioning</b>											
Increase in employment and GVA.	✓	✓	✓	✓	✓	✓	-	✓			Decommissioning will require expenditure with companies and organisations in each of the study areas, supporting employment and generating GVA.
Economic activity associated with onshore elements in Aberdeenshire	✓	✓	✓	✓	✓		-	✓			The decommissioning of the onshore elements of the Project will require spending in Aberdeenshire supporting employment and generating GVA.



Potential Effect	Project Element						Commitment(s)	Scoping Status			Proposed Approach to Assessment, including Description of any New Evidence Required
	Landfall	OnECC	OnGCC	OnSS	OnRCS	Offshore		LSE	Possible LSE	No LSE	
Changes to visitor behaviour.	✓	✓	✓	✓	✓	✓	-			✓	<p>Potential changes to visitor behaviour may arise from changes to onshore activity associated with decommissioning of the Project, such as increased activity at ports, harbours and the onshore infrastructure, or changes to seascape and visual impact. However, the locations, methods and approach to decommissioning is unlikely to be known at this stage and the tourism sector baseline has the potential to change significantly between now and the time of decommissioning. The significance of any effect will also be determined by the location of ports used in the decommissioning. This has been Scoped Out as a meaningful assessment will not be possible until the port location(s) are known.</p> <p>All relevant commitments are presented in <b>Appendix 3.2</b>.</p>
Demographic changes.	✓	✓	✓	✓	✓	✓	-	✓			<p>The impacts of demographic changes will be assessed as far as possible, including the scale of any impact and its potential to be significant. If ports have been determined by the time of the assessment, it will be possible to be more definitive on the likely significance of these impacts.</p>
Changes to housing demand.	✓	✓	✓	✓	✓	✓	-	✓			<p>The impacts of demographic changes and the implications for housing demand will be assessed as far as possible, including the scale of any impact and its potential to be significant. If ports have been determined by the time of the assessment, it will be possible to be more definitive on the likely significance of these impacts.</p>
Changes to other local public and private services.	✓	✓	✓	✓	✓	✓	-	✓			<p>The impacts of demographic changes and the implications for demand on local public and private services will be assessed as far as possible, including the scale of any impact and its potential to be significant. If ports have been determined by the time of the assessment, it will be possible to be more definitive on the likely significance of these impacts.</p>
Changes to onshore recreation.	✓	✓	✓	✓	✓	✓	-	✓			<p>Potential disruption to onshore recreational assets, such as walking and cycling trails, golf courses, beaches and surfing, and sea cliff climbing, may reduce recreational opportunities.</p>

Potential Effect	Project Element						Commitment(s)	Scoping Status			Proposed Approach to Assessment, including Description of any New Evidence Required
	Landfall	OnECC	OnGCC	OnSS	OnRCS	Offshore		LSE	Possible LSE	No LSE	
Socio-cultural impacts	✓	✓	✓	✓	✓	✓	-			✓	The potential socio-cultural impacts, including changes to community character or image and quality of life, will require primary stakeholder engagement in the communities around the key epicentres of impact. To avoid survey fatigue and ensure meaningful interactions, this engagement will occur post consent as decisions are made regarding the location of key activities, such as ports. These impacts have therefore been Scoped Out of the assessment.  All relevant commitments are presented in <b>Appendix 3.2</b> .
Changes to commercial fisheries.						✓	-	✓			Potential disruption to the commercial fishing sector leading to changes in economic activity in the sector.
Changes to shipping and marine recreation.						✓	-	✓			Changes to economic activity as a result of decommissioning the Project may impact activity in the shipping and marine recreation sectors.

## 15.6 Potential Cumulative Effects

- 15.6.1 The process by which potential cumulative impacts will be assessed is described in **Chapter 5: EIA Methodology**. For Socio-Economics, Tourism and Recreation, cumulative interactions may occur with other ScotWind projects and other large capital projects.
- 15.6.2 There is the potential for the impacts identified in **Table 15.10** to interact with other projects particularly other offshore wind farms being developed as part of the ScotWind and INTOG leasing rounds, and other significant capital projects in the area. Cumulatively, the development of the ScotWind projects is expected to represent a substantial increase in demand at the Scottish level for the industries that will be involved in the construction of these projects.
- 15.6.3 As one of potentially many offshore wind projects, the Project will contribute to the cumulative case for potential local or inward investment by making it more financially attractive to set up new manufacturing and fabrication facilities in Scotland, as opposed to relying on overseas facilities that may have higher transportation costs. Consideration will also be given to the cumulative effects on port facilities during both construction and O&M phases.
- 15.6.4 The decommissioning timetable of other capital projects, particularly offshore wind projects, is not known at this stage, and the main constraint on this activity will be the port infrastructure. The baseline assessment of port capabilities and constraints is likely to change over time as port invest in new facilities to need the decommissioning demand. Therefore, cumulative decommissioning impacts will not be considered in the Socio-Economics, Tourism and Recreation assessment in the Onshore EIAR.
- 15.6.5 The Socio-Economics, Tourism and Recreation Chapter of the Onshore and Offshore EIAR will consider the most recent publicly available parameters for each of the projects, plans and activities in line with the methodology outlined in **Chapter 5: EIA Methodology**.

## 15.7 Potential Transboundary Impacts

- 15.7.1 The following transboundary impacts have been identified as potential occurrences resulting from activities associated with the Project construction, O&M, and decommissioning:
- Socio-economic impacts taking place outside of the UK, relating to non-UK supply chain during the construction, operation and decommissioning phases. These will be imports from outside of the UK, and are expected to be positive in nature; and
  - Impacts on commercial fisheries and other marine users based outside of the UK during construction, operation and decommissioning.

## 15.8 Proposed Approach to the EIA

### *Additional Data Sources*

- 15.8.1 A more detailed literature review will be developed for the EIAR, building upon the high-level outline provided within this Chapter. This may include more recent information published by the ONS, National Records of Scotland and Scotland's Census, and any other post-scoping reports which are expected to be published before the drafting of the Onshore and Offshore EIARs.

### ***Guidance***

15.8.2 In addition to the approach and guidance outlined in **Chapter 5: EIA Methodology**, the assessment of Socio-Economic, Tourism and Recreation receptors will also comply with the following guidance documents where they are specific to this topic:

- Marine Scotland (2022a) General Advice for Socio-Economic Impact Assessment, Marine Analytical Unit;
- Marine Scotland (2022b) Defining 'Local Areas' for assessing impacts of offshore renewables and other marine developments: Guidance Principles; and
- His Majesty's (HM) Treasury (2022), Green Book: Appraisal and Evaluation in Central Government.

15.8.3 In addition, the Scottish Government is in the process of developing guidance on the assessment of the socio-economic impacts of offshore wind energy projects. It is expected that this shall be published prior to the submission of the Onshore and Offshore EIARs. This guidance will be considered, and it is assumed that it shall build on current best practice.

### ***Consultation***

15.8.4 In order to fully understand the baseline and the potential impacts associated with the Project, key stakeholders such as Aberdeenshire Council, Scottish Enterprise and Opportunity North East will be consulted. Additional consultees may be identified as the Project progresses and based on comments in the Onshore and Offshore Scoping Opinions. The Developer will also engage with relevant communities through public consultation events.

### ***Assessment Methodology***

15.8.5 The Onshore EIAR will follow the general proportionate EIA approach outlined in **Chapter 5: EIA Methodology** of this Onshore Scoping Report.

### ***Economic Impact Methodology***

15.8.6 To assess the socio-economic effects of the Project the focus will be on the direct and indirect (supply chain) effects, in line with the UK Offshore Wind Sector Deal (UK Government, 2020). In addition to this, the assessment shall also consider the induced effects, which are the effects of staff spending and the economic impact that this subsequent increase in demand stimulates).

15.8.7 The economic impacts will be considered for each study area and will be reported in terms of:

- GVA: this is a measure of economic value added by an organisation, industry or region and is typically estimated by subtracting the non-staff operational costs from the turnover of an organisation;
- Years of Employment: this is a measure of employment which is equivalent to one person being employed for a year and is typically used when considering short to medium term employment impacts, such as those associated with the construction phase of the Project; and

- Jobs: this is a measure of employment which considers the headcount employment in an organisation or industry. This measure is used when considering long term impacts such as the jobs supported during the O&M phase of the Project.

15.8.8 The socio-economic assessment will consider the lowest, realistic levels of expenditure associated with the Project, since that would represent the 'worst case' scenario in terms of the expected positive socio-economic effects. This will take account of the 'Commitment' scenario in the SCDS submitted as part of the ScotWind leasing process, though may be revised to reflect subsequent revisions of the SCDS which will take account of any changes or development in the local supply chain.

15.8.9 The impact assessment will take account of deadweight, leakage, displacement and substitution. Sensitivity analysis will also be undertaken to account for risk, uncertainty and optimism bias, where they could have implications for the economic impacts.

15.8.10 The offshore elements will include the construction and installation of floating foundations and Wind Turbine Generators, the Offshore Substations and the construction and installation of new inter-array and interconnector cabling. The onshore elements will include construction and installation of the landfall, OnECC, OnRCS, OnSS and OnGCC. The analysis for the Project will cover three phases:

- Development and construction;
- O&M; and
- Decommissioning.

15.8.11 The impacts during the construction phase will be based on the actual expenditure that has occurred to date as well as the planned expenditure associated with this phase. In addition to the total impact over the period, the assessment will also consider the timings of impacts during this phase to understand the peaks and troughs of this activity.

15.8.12 The impacts during the O&M phase for the Project will be based on projected operational (including maintenance) expenditure.

15.8.13 In instances where impacts are expected to occur over several years, such as the O&M phase or the decommissioning phase, a discount rate will be applied. This allows impacts that occur sooner to be valued more highly than impacts that occur in the future, a concept known as time preference. In this instance a discount rate of 3.5% will be chosen, which is in line with the UK Government's Green Book (UK Government, 2022). On this basis it is expected that the decommissioning phase impacts will be substantially lower than for the construction phase.

## 15.9 Scoping Questions

15.9.1 The follow Scoping Questions refer to the Socio-Economics, Tourism and Recreation Chapter and are designed to inform the Scoping Opinion and focus the Scoping exercise, including:

- Do you agree with the study areas defined for Socio-Economics, Tourism and Recreation?
- Do you agree with the use of data listed in **Section 15.3**, and the additional data listed in **Section 15.8**, being used to inform the Onshore EIAR?

- Are there any further data sources or guidance documents that should be considered?
- Do you agree that all receptors, pathways, and potential impacts related to Socio-Economics, Tourism and Recreation have been identified?
- Do you agree with the scoping in and scoping out of impact pathways in relation to Socio-Economics, Tourism and Recreation (as presented in **Table 15.10**)?
- Do you agree with the assessment of transboundary effects in relation to Socio-Economics, Tourism and Recreation?
- Do you agree with the assessment of cumulative effects in relation to Socio-Economics, Tourism and Recreation?
- Do you agree with the proposed assessment methodology for Socio-Economics, Tourism and Recreation?
- Do you agree on the suitability of the proposed commitments to reduce or eliminate LSE relevant to Socio-Economics, Tourism and Recreation?

## 16 Other Considerations

### 16.1 Introduction

16.1.1 This Chapter covers other topics that have been considered during the preparation of this Onshore Scoping Report for which no standalone Chapter is proposed in the Onshore EIAR or which it is proposed to scope out of the EIAR.

### 16.2 Human Health

16.2.1 The key potential impacts on human health as a result of the Proposed Onshore Development are likely to be due to:

- Nuisance related to noise and vibration;
- Impacts to visual amenity impacting health and wellbeing; and
- Health effects as a result of electromagnetic fields (EMFs).

16.2.2 Human health effects as a result noise and vibration and impacts to visual amenity will be assessed within appropriate environmental topic Chapters in the Onshore EIAR.

16.2.3 EMFs will be generated by the Proposed Onshore Development during operation from both onshore cable circuits and from electrical equipment within the OnSS. As the proposed OnSS will be designed and operated in accordance with all relevant health and safety legislation and the public<sup>28</sup> and occupational<sup>29</sup> exposure guidelines for EMF and given that it will be located away from potential human health receptors as part of the RPSS exercise, no adverse human health effects in relation to exposure to EMF from the OnSS are expected.

16.2.4 The cables within the OnECC and the OnGCC will also be designed to comply with the maximum exposure limits stated in the public exposure guidelines for EMF<sup>5</sup>. Furthermore, as the cables will be buried underground and will also be sited away from potential human health receptors as part of the RPSS, it is expected they will be significantly below the recommend limits. No adverse human health effects in relation to exposure to EMF from the OnECC and OnGCC are expected.

16.2.5 It is therefore proposed that a standalone Chapter addressing human health will not be required within the Onshore EIAR for the Proposed Onshore Development, with any potential human health effects being assessed within the other environmental topic Chapters where relevant, e.g. noise or traffic and transport.

### 16.3 Major Accidents or Disasters

16.3.1 Potential impacts to environmental receptors as a result of major accidents and disasters from the Proposed Onshore Development would be mitigated for through adherence to best practices and legislative requirements, including:

- Construction (Design and Management) (CDM) Regulations 2015, which places specific duties on clients, designers and contractors so that health and safety is taken into account

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<sup>28</sup> For public EMF exposure: International Commission on Non-Ionizing Radiation Protection (ICNIRP) 1998

<sup>29</sup> For occupational EMF exposure: Control of Electromagnetic Fields at Work Regulations (CEMFAW) 2016

throughout the lifetime of a construction project from its inception to its subsequent decommissioning and removal. Under the CDM Regulations, designers have to avoid foreseeable risks so far as is reasonably practicable;

- Health and Safety at Work etc. Act 1974, which places general duties on employers, people in control of premises, manufacturers and employees. The overriding principle is that foreseeable risks to persons in workplaces shall be reduced so far as is reasonably practicable and that adequate evidence shall be produced to demonstrate that this has been done;
- The Electricity at Work Regulations 1989, which requires precautions to be taken against the risk of death or personal injury from electricity in work activities;
- The Town and Country Planning (Hazardous Substances) (Scotland) Regulations 2015, which require that hazardous substance consent is required for the presence of certain hazardous substances at, or above, controlled quantities specified; and
- The Control of Major Accident Hazards (COMAH) Regulations 2015, which aim to prevent and mitigate the effects of major accidents involving dangerous substances which can cause serious damage/harm to people or the environment.

16.3.2 It is considered that adhering to these safe systems of work will ensure the avoidance of major accidents and disasters risk as a result of the Proposed Onshore Development during the construction, operational and decommissioning phases without the need for secondary mitigation in most circumstances.

16.3.3 The key potential hazard for the Proposed Onshore Development is likely to be the risk of fire from the OnSS. Such fire risks would be controlled through adoption of good design and application of standard operating procedures, including for example regular maintenance to check for all potential health and safety risks. With the adoption of such measures, it is anticipated that the risk of fires would be minimised to an acceptable level.

16.3.4 The Onshore Scoping Area is not in a location which is susceptible to natural disasters or extreme weather. Where appropriate however, the likely risks to the Proposed Onshore Development in relation to potential areas of vulnerability will be addressed as part of the EIA. For example, potential flood risks and procedures for working in areas of flooding will be established and considered as part of hydrology Chapter of the Onshore EIAR.

16.3.5 Accidental events such as the potential for spillages of fuels and chemicals, and how the risk of these events will be minimised, will also be discussed in the relevant Chapters (e.g. hydrology, hydrogeology and ecology) of the Onshore EIAR.

16.3.6 Overall, no likely significant major accidents and disasters effects are anticipated as a result of the Proposed Onshore Development given the mitigation that would be in place. Therefore, subject to feedback received on this Onshore Scoping Report, it is intended to scope this topic out of the Onshore EIAR.

## 16.4 Climate and Climate Change

16.4.1 The key potential impacts of the Proposed Onshore Development relating to climatic factors are likely to be:



- Climate change adaption: the vulnerability of the Proposed Onshore Development to future climate change impacts, or changes in the sensitivity or resilience of receptors due to climate change that in turn influence the significance of other environmental effects of the development on these receptors; and
- Emissions reductions: the contribution of the Proposed Onshore Development to climate change as a result of greenhouse gas (GHG) emissions emitted during the construction, operation, and decommissioning phases.

16.4.2 Each environmental topic Chapter of the Onshore EIAR will include a subheading under baseline conditions to allow for consideration of the likely consequences of climate change for baseline conditions/assessments. The latest UK climate change projections will be used to inform this. The primary potential vulnerability of the Proposed Onshore Development to climate change would be from flooding, which will be fully addressed in the hydrology and flood risk assessment. Vulnerability/risk of the Proposed Onshore Development from climate change will therefore be integrated into the environmental topic Chapters of the Onshore EIAR and a separate standalone Chapter on climate change resilience is not therefore proposed.

16.4.3 With regard to GHG emissions, the primary emission sources would be associated with the construction phase of the Proposed Onshore Development from the extraction of raw materials, manufacturing and fabrication of materials/components and transportation to site as well as the emissions associated with construction processes on site (such as fuel/energy use in site plant, and construction waste management). Decommissioning stage GHG impacts would be very unlikely to exceed construction stage impacts as the carbon intensity of the activity is likely to be substantially lower than in the present day and many of the materials used in the Proposed Onshore Development will be recyclable.

16.4.4 Certain commitments identified in **Table 16.1** have been adopted for the Proposed Onshore Development which would reduce the potential for increased GHG emissions during construction.

**Table 16.1: Relevant Commitments to GHG emissions**

ID	Commitment	How this commitment will be secured
<b>Tertiary commitments</b>		
C-ONS-022	Production and compliance with a Construction Traffic Management Plan (CTMP) outlining the mechanisms for managing the movement of construction related traffic. The CTMP will be developed post-consent and submitted for the approval of Aberdeenshire Council in consultation with relevant parties.	Planning Condition attached to PPP consent requiring CTMP to be submitted and approved by Aberdeenshire Council.
C-ONS-037	Development of, and adherence to a Travel Plan to endeavour to minimise the impact of vehicle movements associated with construction workers, including the promotion of public transport and car sharing.	Planning condition attached to PPP consent.

- 16.4.5 Once constructed, GHG emissions associated with the operational and maintenance phase of the Proposed Onshore Development are likely to be negligible. However, the Proposed Onshore Development will facilitate the connection of the renewable electricity generated by the Project to the national electricity transmission network. This would result in a reduction of GHG emissions through the displacement of electricity that would otherwise have included equivalent fossil fuel generated power. Assessment of these GHG emissions savings would be detailed in the carbon balance assessment in the Offshore EIAR, with reference to the conclusions of the assessment provided in the Project Description Chapter of the Onshore EIAR and in the Planning Statement.
- 16.4.6 Overall, no significant residual GHG emissions are anticipated as a result of the Proposed Onshore Development over the lifetime of the development. Any increases in GHG emissions which occur as a result of the construction of the Proposed Onshore Development would be vastly outweighed by the GHG savings provided by the offshore renewable electricity generation which it would facilitate. Therefore, subject to feedback received on this Onshore Scoping Report, it is intended to scope out a standalone assessment of GHG emissions from the Proposed Onshore Development from the Onshore EIAR. However, any design measures to reduce embodied carbon and ensure energy efficiency will be reported upon on in the Project Description Chapter of the Onshore EIAR.

## 16.5 Production of Waste

- 16.5.1 The Proposed Onshore Development will adopt good construction and management practices to ensure that waste (an inevitable consequence associated with the construction and decommissioning phases of the development) is minimised as far as practicable. This will include reusing site-won excavated materials, primarily associated with cable trenching, as far as possible. Where material is unsuitable for reuse, for example, contaminated soils, these will be appropriately managed.
- 16.5.2 The CEMP will detail how it is proposed to manage construction waste. It will seek to ensure as far as is reasonably practicable that construction waste is re-used, recycled or recovered and to generally increase resource efficiency. Details of the measures that will be contained within the CEMP will be outlined within the Onshore EIAR. Therefore, subject to feedback received on this Onshore Scoping Report, it is intended to scope out a standalone Chapter addressing the production of waste and materials from the Proposed Onshore Development from the Onshore EIAR.

## 16.6 Scoping Questions

- 16.6.1 The following Scoping Question are designed to focus the scoping exercise and inform the Scoping Opinion:
- Do consultees agree with the topics proposed to be scoped out/not considered in a standalone assessment in the Onshore EIAR?

## 17 Summary of Onshore EIA Scoping

### 17.1 Summary of Impacts and Commitments

17.1.1 A summary of the environmental impacts that will potentially occur during construction, O&M, and decommissioning phases of the Proposed Onshore Development is presented within **Appendix 3.3: Impacts Register**. This Impacts Register captures all of the potential impacts that have been identified within this Onshore Scoping Report and will be treated as a 'live document' and updated throughout the EIA process. Additional potential impacts that are identified in the forthcoming Scoping Opinion or during consultation will be included in this Impacts Register and tracked through the EIA process.

17.1.2 Each topic Chapter within this Onshore Scoping Report has made reference to primary commitments that have been made as part of the project design process or tertiary mitigation measures. This mitigation that the Developer has committed to adopt at this Scoping stage for the Proposed Onshore Development is presented within **Appendix 3.2: Onshore Commitments Register**, with relevance to each environmental topic indicated. This Onshore Commitments Register will be treated as a 'live' document, which will be updated and developed further as the EIA progress (incorporating feedback from stakeholder consultation).

### 17.2 Proposed Content and Structure of the Onshore EIAR

17.2.1 The findings of the EIA for the Proposed Onshore Development will be reported in an Onshore EIAR which will be submitted in support of the PPP application to Aberdeenshire Council. **Table 17.1** identifies the proposed content and structure of the Onshore EIAR.

*Table 17.1: Draft Content and Structure of the Onshore EIAR*

<b>Volume 1: Non-Technical Summary</b>	
<b>Volume 2: Written Statement</b>	
<b>Chapter 1</b>	Introduction
<b>Chapter 2</b>	Project Description
<b>Chapter 3</b>	Site Selection and Alternatives Considered
<b>Chapter 4</b>	Environmental Assessment Methodology
<b>Chapter 5</b>	Consultation
<b>Chapter 6</b>	Geology and Ground Conditions
<b>Chapter 7</b>	Hydrology and Flood Risk
<b>Chapter 8</b>	Ecology, Biodiversity and Nature Conservation
<b>Chapter 9</b>	Landscape and Visual
<b>Chapter 10</b>	Cultural Heritage
<b>Chapter 11</b>	Land Use and Agriculture

<b>Chapter 12</b>	Traffic and Transport
<b>Chapter 13</b>	Noise and Vibration
<b>Chapter 14</b>	Air Quality
<b>Chapter 15</b>	Socioeconomics, Tourism and Recreation
<b>Chapter 16</b>	Inter-related Effects
<b>Chapter 17</b>	Summary of Effects and Final Commitments Register
<b>Volume 3: Figures</b>	
Including all figures and drawings to accompany the main text.	
<b>Volume 4: Appendices</b>	
Including reports forming technical appendices to the main text. It is anticipated that these will include, amongst other documents, the following management plans:	
<ul style="list-style-type: none"> <li>• Outline Construction Environmental Management Plan (CEMP);</li> <li>• Outline Construction Traffic Management Plan (CTMP);</li> <li>• Outline Landscape Management Plan (LMP); and</li> <li>• Outline Biodiversity Restoration and Enhancement Plan (BREP).</li> </ul>	

## 17.3 Next Steps

- 17.3.1 The Developer welcomes your views and opinions on the Proposed Onshore Development and this Onshore Scoping Report. Should any further information be required in order that a full EIA Scoping Opinion can be provided we would be happy to provide further information and/or discuss and further requirements.

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## **Appendix 3.1: Position Paper on Proportionate EIA**

# Stromar Offshore Wind Farm

## Proportionate Environmental Impact Assessment Approach

Date: 18 October 2023

Document Number: 08410243\_A

Revision: A

Classification: Public



### Revision History

Rev.	Prepared By	Checked by	Approved by	Description	Date
A	Shepherd & Wedderburn LLP	Orsted	Orsted	First draft for consultee review	16.10.2023

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# 1 Purpose of this Position Paper

## 1.1 Background

1.1.1 This Position Paper has been prepared by the Stromar Offshore Wind Farm Project (the “Project”) to inform the Scottish Government Marine Directorate, Aberdeenshire Council and NatureScot of the Project’s approach in relation to the environmental impact assessments (EIA) for the Stromar Offshore Wind Farm consent applications.

1.1.2 This paper considers opportunities to deliver a “proportionate EIA” in support of the Project’s applications for consent for the offshore infrastructure under Section 36 of the Electricity Act 1989; applications for marine licences; and applications for planning permission for the onshore infrastructure under the Town and Country Planning (Scotland) Act 1997.

## 1.2 Institute of Environmental Management and Assessment Strategy

1.2.1 As noted by the Institute of Environmental Management and Assessment (IEMA)<sup>1</sup> delivering proportionate EIA is a key opportunity for the UK planning and consenting system and developers seeking to take projects forward:

*“...the drive for improved quality in EIA, combined with the UK’s evidence-based and precautionary approach, has led to substantial challenges for the future of practice. The increased complexity of multi-faceted decisions and the wider range of stakeholders who seek transparency and clear audit trails, has further compounded the problems. The combined impact of the above good intentions has often led to individual EIAs being too broadly scoped and their related Environmental Statement (ES) to be overly long and cumbersome.”*

1.2.2 IEMA goes on to note that one result of these disproportionate approaches is that matters that may be most important to design, decision-making and consent conditions can be lost amidst excessive detail on less material matters.

1.2.3 IEMA identifies four themes that are relevant in achieving proportionate EIA.

- Enhancing People: so that those involved in EIA have the skills, knowledge and confidence to avoid an overly precautionary approach.
- Improving Scoping: to generate a more consistently focussed approach to this critical activity throughout the EIA process.
- Sharing Responsibility: recognising that disproportionate EIA is driven by many factors and that enabling proportionate assessment will require collaborative actions that work towards a shared goal.
- Embracing Innovation and Digital: modernising EIA to deliver effective and efficient assessment and reporting that adds value to projects and their interaction with the environment.

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1 IEMA - Delivering Proportionate EIA

- 1.2.4 In addition, in separate guidance ('Guide to Shaping Quality Development' (2015)<sup>2</sup>), IEMA suggests that "environmentally informed design and inclusion of mitigation (primary and tertiary) as part of the design process" can help to provide a more proportionate EIAR.

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2 IEMA Guidance Documents EIA Guide to Shaping Quality Development V6.pdf (iaia.org)

## 2 Legislative Requirements

- 2.1.1 It is important that the approach to EIA is demonstrably compliant with legal and consenting requirements under the relevant legislation and guidance. The purpose of the EIA Regulations and the European EIA Directive<sup>3</sup> they transpose is to ensure an assessment of the likely significant effects ('LSE') of a proposed development on the environment is carried out in order to inform decision-making around that particular development.
- 2.1.2 The UK courts have confirmed on numerous occasions in cases concerning the adequacy of an ES/EIAR that it does not need to contain every scrap of environmental information<sup>4</sup>; instead it need only cover the 'likely significant effects'<sup>5</sup>.
- 2.1.3 This focus has been sharpened by amendments made to the EIA Directive in 2014. For example, the word 'significant' has been inserted into Article 3 so it now reads:

*"The environmental impact assessment shall identify, describe and assess in an appropriate manner, in the light of each individual case...the direct and indirect significant effects of a project on the following factors..."*

- 2.1.4 This focus is also reflected in the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017, the Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017, and the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017, in particular the definition of Environmental Impact Assessment Report in those regulations<sup>6</sup>, which, read together with Schedule 4 of each of those sets of regulations set the minimum required content of the EIA Report, clearly frame the required (minimum) content by reference to LSE<sup>7</sup>. It is further evident in relation to information the Scottish Ministers/the planning authority are entitled to request from applicants to ensure an adequate EIA Report. That extends to:

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<sup>3</sup> Directive 2011/92/EU as amended by Directive 2014/52/EU

<sup>4</sup> R v Cornwall County Council, ex parte Hardy [2001] Env LR 473

<sup>5</sup> Humber Sea Terminal Limited v Secretary of State for Transport [2005] EWHC 1289

<sup>6</sup> Regulation 5 of the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017, Regulation 6 of the Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017, and Regulation 5 of the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017

<sup>7</sup> Previously the EIA Directive and EIA Regulations also referred to the "main effects" or the "environmental effects". Similar changes have been made in the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017 and the Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017.

*" supplementary information about any matter mentioned in schedule 4 which in the opinion of the Scottish Ministers is directly relevant to reaching a reasoned conclusion on the significant effects of the development on the environment ... <sup>8</sup>"*

- 2.1.5 To reach a 'reasoned conclusion', the Scottish Ministers/planning authority will need to be satisfied that the effects identified as significant in the EIA Report are all of the LSE and that there are no material omissions.
- 2.1.6 In conclusion, there is no obligation to report negligible or minor effects on the environment under the EIA Regulations. An EIA Report which focusses exclusively or mainly on the LSE on the environment meets the requirements of the EIA Regulations.

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<sup>8</sup> Regulation 19, Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017. Equivalent provisions are found in Regulation 26 of the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017 and Regulation 21 of the Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017.

### **3 Scottish Government Guidance and Advice**

- 3.1.1 The table below provides a summary of guidance and advice in Scotland that includes references to the level of detail for documents required for an EIA Report.

Guidance and Advice	Detail
<b>Scottish Specific Guidance</b>	
<p>Scottish Planning Circular 1/2017</p>	<p>This Circular is relevant to EIA in the context of the Scottish town and country planning regime. As noted from the below excerpt, it is supportive of an approach to EIA that is accessible to the reader; provides the information reasonably required for identifying “significant effects”; and is based on the scoping opinion (if any). It does also acknowledge that impacts of little or no significance may be included but need only brief treatment to confirm they have been considered.</p> <p>“It is the applicant’s responsibility to prepare the EIA report. There is no statutory provision as to the form of an EIA report but it must constitute a ‘single and accessible compilation’. (Berkeley v SSETR (2000) WLR 21/7/2000 p420). It must contain at least the information specified in Regulation 5 and any additional information specified in Schedule 4 of the 2017 Regulations (reproduced in Annex B to this Circular) which is relevant to the specific characteristics of a particular development and to the environmental features likely to be affected. It is emphasised that the requirement is to include the information that may reasonably be required for reaching a reasoned conclusion on the significant effects of the project on the environment, taking into account current knowledge and methods of assessment. Other impacts may be of little or no significance for the particular development in question and, if included in the EIA report, will need only very brief treatment to indicate that their possible relevance has been considered. Where a scoping opinion has been adopted or a scoping direction issued, (see paragraph 98) the EIA report must be based on that opinion or direction.” (emphasis added)</p>
<p>Scottish Planning Advice Note 1/2013</p>	<p>Although now slightly dated, the Planning Advice Note on EIA also encourages a concise EIA Report highlighting key issues relevant to decision making.</p> <p>“5.4 The EIA Report is the applicant’s statement on the project, its likely significant environmental effects, and the measures proposed to mitigate adverse effects. The EIA Report is the main output of the EIA procedure and it follows that an EIA Report which is poorly written, and excessively long, can reduce the overall value of EIA to decision-makers [4] . In addition to ensuring compliance with schedule 4 of the EIA Regulations - and to improve transparency - developers and their agents have a responsibility to produce EIA Reports which are;</p> <p>Clear &amp; concise - the EIA Report should contain a clear analysis of the significant areas of impact. It should highlight key issues relevant to the decision and present them in a non-promotional way which can be understood by all. Technical appendices should be cross-referenced where relevant and proposed mitigation measures should be clearly sign-posted.</p> <p>Consistent - the EIA Report should be internally consistent and technical terms ( e.g. degrees of significance) should be clearly defined.</p> <p>Proportionate - the EIA Report should not be overly long and should make use of annexes for technical data and information where appropriate.</p> <p>5.5 The Non-Technical Summary (see paragraph 4.22 above) should also reflect - in an accurate and balanced way - the key information contained in the EIA Report. It should be written in language which is understandable to the general public.” (emphasis added)</p>



<p>Guidance for applicants on using the design envelope for applications under section 36 of the Electricity Act 1989, June 2022</p>	<p>This guidance is dated June 2022 and is joint Energy Consents Unit and Marine Scotland (now Marine Directorate) guidance relevant to section 36 applications. It establishes the acceptance of the design envelope approach to EIA in Scotland and sets principles for its use.</p> <p>Paragraph 2.2 “Applicants must demonstrate that the likely significant environmental effects of the proposal have been properly assessed, and proposals require to be clearly defined and sufficiently detailed to enable determination of an application.”</p> <p>Paragraph 3.6:</p> <p>“The parameters established for the proposed development must be sufficiently defined to enable a proper assessment of the likely significant environmental effects and to allow for the identification of mitigation, if necessary, within a range of possibilities;”</p> <p>“The assessments in the EIA report should be consistent with the clearly defined parameters and ensure a robust assessment of the likely significant effects;”</p> <p>Paragraph 5.3 states that where flexibility is sought through a design envelope approach, the EIAR should “ensure that the approach taken in the assessment is not overly complex, as this may impede the understanding of the assessment and the finding of likely significant effects - fewer options and variations make the EIA report easier to understand.”</p> <p>Paragraph 5.4 states that where the applicant chooses the design envelope approach using a parameters-led assessment to establish the worst case scenario, the applicant should:</p> <p>“ensure that the assessment of the worst case scenario(s) addresses impacts which may not be significant on their own but could become significant when they inter-relate with other impacts alone or cumulatively with impacts from other developments (including those identified in other assessments of the relevant descriptions of the environment (identified in accordance with the EIA Regulations));” and</p> <p>“ensure that the potential cumulative impacts with other developments are carefully identified such that the likely significant effects can be shown to have been identified and assessed against the appropriate baseline.”</p>
<p>Proposed Revisions to Consenting and Licensing Guidance for Offshore Renewable Energy Applicants, February 2023</p>	<p>In this paper, the Scottish Government Marine Directorate (at the time Marine Scotland) sought views from stakeholders on proposed revisions to the existing guidance.</p> <p>“18.1 In order to align with EIA legislation, advice will be provided on the aspects that should be covered in an EIA and which aspects fall outwith the scope of the EIA Regulations. Aspects that do not fall under the scope of the EIA Regulations will still require the same level of detail in the assessment of likely significant effects to enable determination of the application. It is envisaged that the EIA and non-EIA information would be provided at the same time e.g., at scoping and application.”</p> <p>At section 2, the paper confirms that the Scottish Government intends to produce a webpage covering guidance on EIA “grouped into key stages, e.g. screening, scoping and reporting etc”.</p>

3.1.2 The guidance is therefore consistent and supportive of a proportionate EIA approach in which only the LSE are subject to a detailed assessment and reporting in the EIA Report.

## 4 Approach to Proportionate EIA

### 4.1 Proposed Approach

4.1.1 The Project has considered the ways by which the EIA could be streamlined and developed in a proportionate manner, in line with the IEMA themes, and applicable legislation and guidance.

4.1.2 Along the IEMA theme of “Improving Scoping”, the Project proposes that the scoping and pre-application stages could be used to achieve greater proportionality through the following approach:

4.1.2.1 Providing a comprehensive scoping report to allow the Scottish Ministers/planning authority and consultees to fully consider matters and to allow a scoping opinion to be produced on the scope and level of detail of information to be provided in the EIA report.

4.1.2.2 In the period up to the application being submitted, more evidence will become available in relation to the Project and its likely impacts, including survey results, and the project description and parameters will be refined. Emerging evidence and refinements to the project may allow for refinement of the treatment of certain matters, beyond those already scoped out at scoping stage. It is proposed that in the scoping report, the Project categorises likely significance of effects as follows:

- I. LSE without secondary mitigation – the impact will be subject to detailed assessment and scoped in to the EIAR;
- II. Possible LSE without secondary mitigation, however it may become clear post-scoping stage that the impact does not require detailed assessment in the EIAR – the impact will be scoped in at the scoping stage, with a clear process proposed within the scoping report to determine the treatment of the specific topic within the EIAR; and
- III. No LSE identified at scoping stage – the impact will be scoped out.

4.1.2.3 The Scottish Ministers/planning authority will then review the scoping report and consult on it.

4.1.2.4 In addition to the binary scoping in and out of particular impacts (and the detail of assessment methodologies), it is proposed that the scoping report proposes appropriate mechanisms to refine assessment requirements post issue, which, if agreed, could then be set out in the scoping opinion. This would relate to particular impacts identified in the scoping report as having “possible LSE” at the point of scoping and could be based on clear processes proposed in the scoping report including relevant criteria and required consultation.

4.1.2.5 Post-scoping opinion and pre-application, the Project would propose to continue to engage with the Scottish Ministers/planning authority and consultees as relevant in order to confirm areas where a refined assessment in the EIAR may be suitable. In the case of the section 36 application for the offshore infrastructure this may include pre-EIAR validation workshops with relevant consultees, where outcomes, including areas where no further assessment in the EIAR is required, would be minuted. In the case of the planning application for the onshore infrastructure, this could include discussion of these matters at the gate check meeting which forms part of Aberdeenshire Council’s priority determination service – at this meeting, any

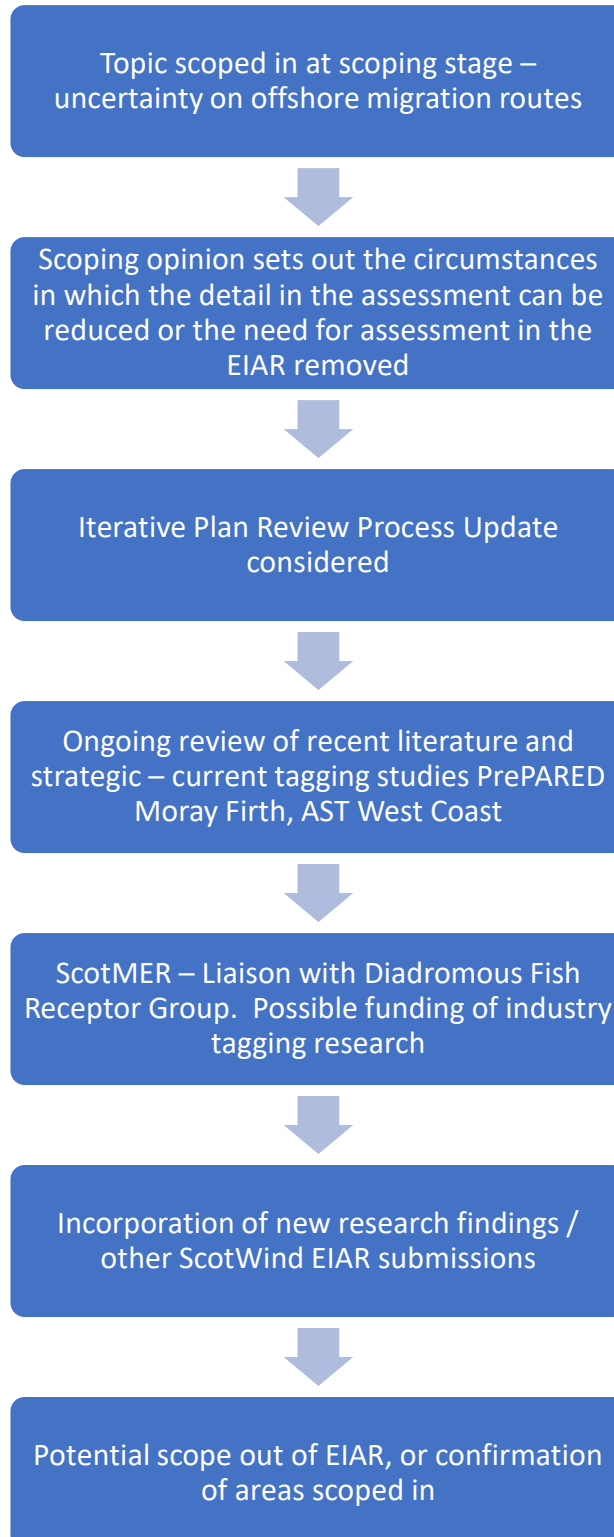
refinements to EIA assessment could be agreed with Aberdeenshire Council and documented in writing.

- 4.1.2.6 The EIA should be based on the best and most recent evidence. The EIA will be submitted at application stage, reflecting the scoping opinion and further agreements/decisions with stakeholders and consultees through post-scoping consultation and workshops. An explanation of how the scoping opinion mechanisms have been applied, including the relevant post scoping evidence which has been gathered, and the level of assessment therefore undertaken (if any), will be set out in the impacts register, which will be an appendix to the EIA Report (see 4.3.3 below in relation to the impacts register).
- 4.1.3 **In order to achieve this proportionate approach to EIA, it is proposed that the scoping opinion expressly states that it will be possible to undertake refinement of certain areas for assessment as further evidence becomes available and the Project parameters are finalised through further consultation.**
- 4.1.4 It will also be important to establish a detailed process for post scoping discussions/agreements and for these to be documented formally. We would be happy to discuss details of this process with the Marine Directorate, Aberdeenshire Council and NatureScot, and any other key consultees considered relevant.

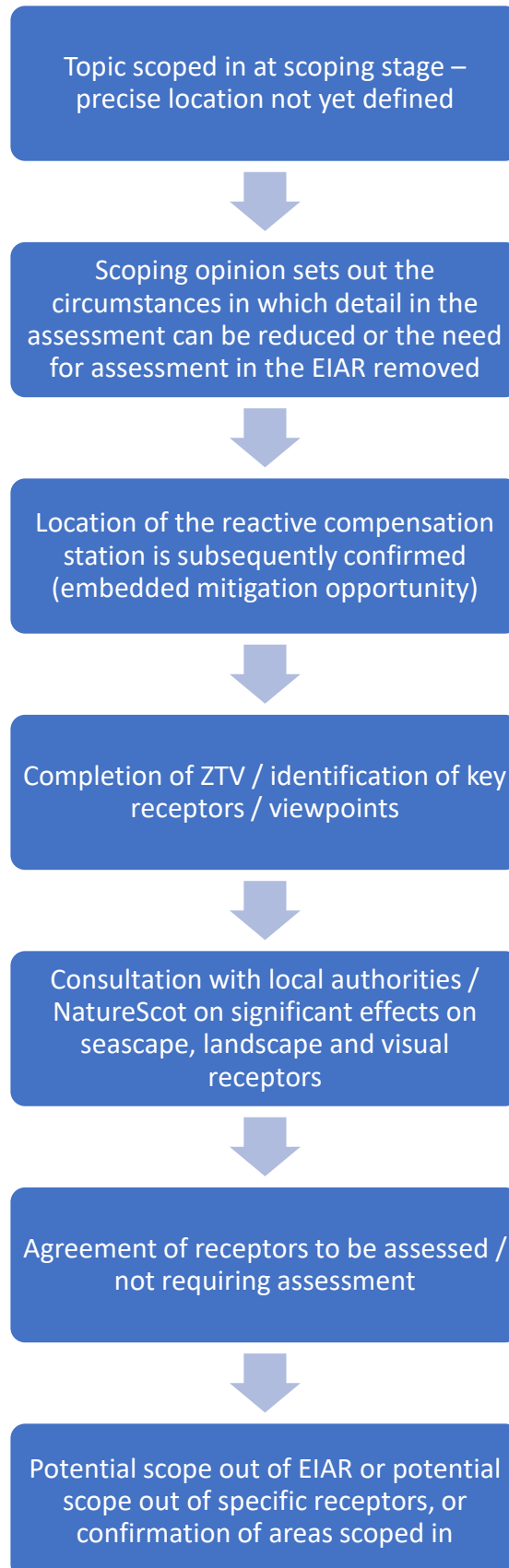
## 4.2 Indicative Examples

4.2.1 The Project has set out two indicative examples below of areas where there may be opportunities for proportionate EIA through the above approach:

### *Migratory Fish/Electromagnetic Fields/Noise*



***Seascape Visual Impact Assessment for Reactive Compensation Station***



### 4.3 Documents to deliver Proportionate EIA

4.3.1 It is proposed that a proportionate EIA can be assisted through the use of three key documents:

- An impacts register;
- A commitments register; and
- An application document register.

4.3.2 The function of each of these documents is set out below.

4.3.3 **Impacts Register:** the impacts register lists all potential impacts identified as part of the Project development, construction, operations and decommissioning. This document is updated throughout the scoping and pre-application phase of the project. It will then be annexed to the EIA Report. This register would identify impacts in the following categories:

4.3.3.1 Impacts which have an LSE without secondary mitigation, and will therefore be subject to detailed assessment and scoped in to the EIAR (see 4.1.2.2 (I.) above);

4.3.3.2 Impacts which at scoping stage had a possible LSE without secondary mitigation, and which as a result of the process at 4.1.2.2 above, were then subsequently agreed not to require detailed assessment in the EIAR (see 4.1.2.2 (II.) above); and

4.3.3.3 Impacts where no LSE is identified at scoping stage and will therefore be scoped out (see 4.1.2.2 (III.) above).

4.3.4 The Impacts Register would explain any further refinement to assessment approach utilising further information and mechanisms built into the scoping opinion. Additionally, this register captures a summary of mitigation and commitments considered and presented, relative to each impact. This register provides for stakeholders to view all project impacts in one place, along with their scoping status, mitigation and decision on final assessment.

4.3.5 An example Impacts Register is available at: [Impacts Register Example](#)

4.3.6 **Commitments Register:** throughout project development the Project will make commitments to mitigate, where possible, against the impacts identified in the Impacts Register. These commitments will be logged and detailed within the Commitments Register, which will serve as the repository for all project commitments and will be annexed to the EIA Report. The Commitments Register will also include enhancement measures. This register will outline each commitment, the activity and project phase it relates to, the relevant environmental receptor, and details how the commitment will be secured within the relevant application documents. Commitments are classified mitigation measures in accordance with the IEMA 'Guide to Shaping Quality Development' (IEMA, 2016) definitions, as follows:

- Primary (inherent) mitigation are measures that form an intrinsic part of the design that are described in the design evolution narrative and included within the project description e.g. reducing infrastructure heights to reduce visual impact;

- Secondary (foreseeable) mitigation: those measures that require further activity in order to achieve the anticipated outcome, e.g. development of the optimal reinstatement measures for restoring a disturbed sensitive natural habitat; and
- Tertiary (inexorable): are measures which will be required regardless of the EIA process as they are imposed e.g. as a result of legislative requirements and/or standard industry practices e.g. via a Code of Construction Practice or similar.

4.3.7 An example Commitments Register is available at: [Commitment Register Example](#)

4.3.8 Application Document Register: the document register will list all of the documents comprising the application for consent. The register should be used in conjunction with the Commitments Register to easily identify those documents that secure each commitment made by the project. It will be annexed to the EIA Report. By employing the use of the Impacts Register to present all potential project impacts, the EIAR chapters can be used to focus on those impacts expected to result in a LSE. This supports decision makers and stakeholders review of the project impacts and ensures that matters that may be most important to design, decision-making and consent conditions are not lost amidst excessive detail on less material matters.

4.3.9 An example **Application Document Register** is available at: [Application Document Register Example](#)

4.3.10 Finally, it is suggested that the form, function and inter-relationships between the registers will be presented to consultees and stakeholders via the pre-EIAR submission workshops and meetings referred to in paragraph 4.1.2 above.

## Appendix 3.2: Onshore Commitments Register



# **Stromar Offshore Wind Farm**

Proposed Onshore Development

## **Environmental Impact Assessment: Scoping Report**

**Appendix 3.2: Onshore Commitments Register**

## Contents

- |                                |   |
|--------------------------------|---|
| <b>1 Glossary and Acronyms</b> | Presents defined terms and acronyms used within the Onshore Commitments Register.   |
| <b>2 Relevant Documents</b>    | Provides a list of the relevant additional documents required to secure commitments, for example outline plans and management strategies. |
| <b>3 Overview</b>              | Provides an overview of the Onshore Commitments Register and how to use it.   |
| <b>4 Commitments Register</b>  | A Register of all Proposed Onshore Development Commitments.   |

# 1. Glossary and Acronyms

## Glossary

Term	Definition
Approval of Matters Specified in Conditions (AMSC)	The second stage of a Planning Permission in Principle (PPP) application under the Town and Country Planning (Scotland) Act 1997 when the approval, consent or agreement of the Planning Authority for any detailed aspects of the development is sought.
Commitment	A term used interchangeably with mitigation and enhancement measures. Commitments are Embedded Mitigation Measures. The purpose of Commitments is to reduce and/or eliminate Likely Significant Effect (LSE), in EIA terms.
Developer	Stromar Offshore Wind Farm Limited. A consortium comprising Ørsted, Renantis, and BlueFloat Energy.
Embedded Commitment	Primary (design) and tertiary (inherent) measures that are included in the design of the Project.
Enhancement Commitment	Commitments made by the Project to provide broader environmental enhancement that Stromar seek to deliver across a range of environmental aspects. Enhancement commitments are not required to mitigate environmental impacts of the Project.
Onshore Grid Connection Cable Corridor (OnGCC)	The temporary working corridor within which the Onshore Grid Connection Cables will be laid.
Horizontal Directional Drilling (HDD)	A method of cable installation where the cable is drilled beneath a feature without the need for trenching.
Landfall	The location (from Mean Low Water Springs) where the Offshore Export Cables will interface with and are connected to the Onshore Export Cables at a transition joint bay.
Mitigation Commitment	Commitments made by the project to reduce or eliminate environmental impacts including avoidance, best practice and design commitments, which are classified into primary or tertiary measures in accordance with the IEMA 'Guide to Shaping Quality Development' (2015) definitions. Mitigation commitments are embedded within the assessment at the relevant point in the EIA (eg. at Scoping or EIAR).
Onshore Export Cables	The cables running from the transition joint bay at landfall to the Onshore Substation.
Onshore Export Cable Corridor (OnECC)	The temporary working corridor within which the Onshore Export Cables will be laid. This will typically be approximately 100 m wide, though may be wider in areas where additional temporary working areas for watercourse and infrastructure/utilities crossings are required. This corridor will contain up to three cable trenches plus temporary soil storage areas, a temporary haul road and temporary drainage arrangements.
Onshore Grid Connection Cable Corridor (OnGCC)	The temporary working corridor within which the Grid Connection Cables will be laid.
Onshore Substation/Converter Station (OnSS)	Comprises a compound containing the electrical components for transforming the power supplied from Stromar to 400 kV and to adjust the power quality and power factor, as required to meet the UK System-Operator Code for supply to the national electricity transmission network. If a HVDC system is used the Onshore Substation will also house equipment to convert the power from HVDC to HVAC.
Planning Permission In Principle (PPP)	An alternative consenting route under Section 59 of the Town and Country Planning (Scotland) Act 1997 which separates the consideration of matters of principle for a proposed development from the final detailed design of the development. The permission in principle consent route has two application stages: the first stage (the permission in principle application) seeks to establish whether a site is suitable in principle and is granted subject to conditions requiring the approval of certain matters before the development can commence; and the second stage (the approval of matters specific in conditions application) when the details of these outstanding matters are subsequently submitted for approval.
Primary Commitment	Measures that form an intrinsic part of the design that are described in the design evolution narrative and included within the project description e.g. reducing development heights to reduce visual impact.
Project	Stromar Offshore Wind Farm.
Proposed Onshore Development	The onshore Project elements to which the Onshore Scoping Report relates.
Secondary Commitment	Measures that require further activity in order to achieve the anticipated outcome, e.g. development of the optimal reinstatement measures for restoring a disturbed sensitive natural habitat.
Tertiary Commitment	Measures which will be required regardless of the EIA process as they are imposed e.g. as a result of legislative requirements and/or standard industry practices e.g. via a Construction Environmental Management Plan (CEMP), Code of Construction Practice (CoCP) or similar.
Onshore Reactive Compensation Station (OnRCS)	Due to the cable length a Reactive Compensation Station is required to compensate for reactive power losses and to ensure the efficiency of the power transmission. This could be on or offshore.

## Acronyms

Acronym	Definition
ACAS	Aberdeenshire Council Archaeological Service
AMP	Access Management Plan
AMSC	Approval of Matters Specified in Conditions
BPM	Best Practicable Means
BPP	Bird Protection Plan
BREP	Biodiversity Restoration and Enhancement Plan
CAR	Controlled Activities Regulations
CEMP	Construction Environmental Management Plan
CoCP	Code of Construction Practice
CTMP	Construction Traffic Management Plan
EIAR	Environmental Impact Assessment Report
EnvCoW	Environmental Clerk of Works
GHG	Greenhouse Gases
HDD	Horizontal Directional Drilling
HES	Historic Environment Scotland
MHWS	Mean High Water Springs
MLWS	Mean Low Water Springs
NVMP	Noise and Vibration Management Plan
OnECC	Onshore Export Cable Corridor
OnGCC	Onshore Grid Connection Cable Corridor
OnRCS	Onshore Reactive Compensation Station
OnSS	Onshore Substation/Converter Station
PPE	Personal Protective Equipment
PPP	Planning Permission in Principle
RPSS	Route Planning and Site Selection
SEPA	Scottish Environment Protection Agency
SMP	Soil Management Plan
SPP	Species Protection Plan
SSEN	Scottish and Southern Electricity Networks
S, T & R	Socioeconomics, Tourism and Recreation
UXO	Unexploded Ordnance
WSI	Written Scheme of Investigation



### 3. Overview

The Developer will adopt a number of Primary, Secondary and Tertiary Commitments (see glossary for definitions) as part of the EIA process in order to avoid or reduce impacts where possible.

This Appendix details all Commitments that the Developer has committed to adopt at this Scoping Stage for the Proposed Onshore Development and provides details of how it is anticipated these Commitments are to be secured. A list of documents which are relevant to these Commitments and it is anticipated will be submitted in support of the Planning Permission in Principle (PPP) application for the Proposed Onshore Development is set out in Section 2.

This Commitments Register is intended to be a live document and will be developed and updated throughout the route planning and site selection (RPSS), EIA and pre-application consultation process. A list of Commitments that the Developer has committed to at Application Stage will then be included in a final Commitments Register in the EIA Report (EIAR) in support of the PPP application.

The following tables provides an overview of the information contained within the Commitment Register.

**Table 1: Commitment Register (Section 4) Explained**

<b>Commitment Reference</b>	Each Commitment has a unique ID assigned to it to enable consultees to easily track the evolution of commitments throughout the development of the Project.
<b>Commitment Stage</b>	Relates to the stage of the Project when the Commitment was made.
<b>Mitigation / Enhancement</b>	Identifies whether the commitment is a Mitigation Commitment or Enhancement Commitment (see Glossary).
<b>Type</b>	Details whether the Commitment is Primary, Secondary, Tertiary or Enhancement (see Glossary).
<b>Commitment</b>	Details the Commitment made by the Project.
<b>Project Phase</b>	Details the Project phase the commitment is relevant to (e.g. construction).
<b>Project Element</b>	Details the Project ecomponent the commitment is relevant to (e.g. onshore substation).
<b>Onshore Topic relevance</b>	Details the onshore EIA topics which the Commitment is relevant to. The user can filter by topic to allow all Commitments relevant to a specific topic to be seen. The Commitment will also be detailed within the identified Chapters of the Onshore Scoping Report.
<b>How will the Commitment be secured?</b>	Details the mechanism for how the Commitment is to be legally secured (for example through inclusion of a consent condition).
<b>When will the Commitment be implemented?</b>	Where Commitments are secured though a management Strategy or Plan (for example the Code of Construction Practice) this column provides details in relation to the timing for final approval of the Strategy or Plan.
<b>Relevant Application Documents</b>	Where Commitments are to be secured though a Plan, this colum identifies the relevant Plan. An overview of outline plans which will be submitted in support of the PPP application can be found in Section 2 of this Onshore Commitments Register

Commitment Reference	Commitment Stage	Type	Commitment	Project Phase	Project Element					Onshore Topic of Relevance										How will the Commitment be secured?	When will the Commitment be implemented?	Which document is/will the commitment be secured in?	
					OnECC	OnGCC	Landfall	OnSS	OnRCS	Geology	Hydrology	Ecology	LVA	Cultural Heritage	Land Use	Traffic	Noise	Air Quality	S, T & R				GHG / CC
C-ONS-001	Scoping	Primary	Location of onshore infrastructure (including any associated temporary working areas) will avoid designated nature conservation sites of international, national and local importance.	Construction	X	X	X	X	X			X									General location of Proposed Onshore Development to be approved through grant of Planning Permission in Principle (PPP) consent. Final location (including any micro-siting allowance) to be approved through Approval of Matters Specified in Conditions (AMSC) consent.	-	-
C-ONS-002	Scoping	Primary	The onshore cable duct installation strategy (if ducts are used) is proposed to be conducted in a sectionalised approach in order to minimise impacts. Construction teams would work on a sectional approach (approximately 600-1500 m) and once the cable ducts have been installed, the section would be backfilled and the top soil replaced before moving onto the next section. This would minimise the amount of land being worked on at any one time and would also minimise the duration of works on any given section of the route.	Construction	X	X				X					X						Planning condition attached to PPP or AMSC consent requiring approval of a Construction Method Statement.	Pre-construction	Construction Method Statement
C-ONS-003	Scoping	Primary	There will be no permanent High Voltage infrastructure installed above surface within 200 m of residential properties and sub surface infrastructure (including the OnECC and OnGCC) within 50 m of residential properties.	Construction, Operation	X	X	X	X	X				X				X				Location and design of Proposed Onshore Development to be approved through grant of PPP consent. Final design to be approved through AMSC consent.	-	-
C-ONS-004	Scoping	Primary	The OnECC and OnGCC will be buried underground for their entire length. Following reinstatement, the only above ground structures related to the OnECC and OnGCC will be link box lids where there are joints in the cable. These will typically take the form of a set of manhole covers surrounded by a small post and rail fenced enclosure.	Operation	X	X						X	X	X	X				X		Location and design of the OnECC and OnGCC, including any permanent above ground structures, to be approved through AMSC consent.	-	-
C-ONS-005	Scoping	Primary	The location of the OnSS and OnRCS will avoid areas of known flood risk.	Construction, Operation				X	X	X											General location of OnSS and OnRCS to be approved through grant of PPP consent.	-	-
C-ONS-006	Scoping	Primary	No development or construction works to take place within 100 m of a Scheduled Monument or Category A listed building	Construction	X	X	X	X	X					X							Planning condition attached to PPP or AMSC consent restricting works within 100m of any Scheduled Monument or Category A listed building.	Pre-construction	-
C-ONS-007	Scoping	Primary	Suitable access points and appropriate locations for ancillary works will be identified as part of Project refinement. All access/egress shall be formed and constructed in accordance with the Design Manual for Roads and Bridges or Aberdeenshire Council Roads Standards as appropriate and as approved in writing by Aberdeenshire Council in consultation with Transport Scotland.	Construction, Operation	X	X	X	X	X							X					Planning condition attached to PPP or AMSC consent requiring design of all access/egress points to be agreed with Aberdeenshire Council.	Pre-construction	Access junction design
C-ONS-008	Scoping	Primary / Tertiary	For any works taking place near watercourses, a buffer of 50 m will be applied where possible (with the exception of watercourse crossings, which would be minimised). Where other constraints mean this is not possible, a justification would be provided in the EIA and additional mitigation measures to safeguard the water environment will be undertaken in accordance with SEPA guidance and in line with the requirements of the Controlled Activities Regulations (CAR) to prevent or reduce adverse effects to the watercourse.	Construction	X	X	X	X	X	X	X										Planning Condition attached to PPP consent requiring CEMP to be submitted and approved by Aberdeenshire Council.	Pre-construction	CEMP (Pollution Prevention & Mitigation)
C-ONS-009	Scoping	Tertiary	Production and compliance with a Construction Environmental Management Plan (CEMP). An Outline CEMP will be produced and included alongside the Onshore EIA to support the PPP application. A detailed CEMP will then be submitted to Aberdeenshire Council for approval (in consultation with NatureScot and Scottish Environment Protection Agency (SEPA)) prior to construction of the development. The CEMP will then be implemented to avoid, minimise or mitigate effects on the environment during the construction phase.	Construction	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Planning Condition attached to PPP consent requiring CEMP to be submitted and approved by Aberdeenshire Council.	Pre-construction	CEMP
C-ONS-010	Scoping	Tertiary	Core working hours for the construction of the Proposed Onshore Development will be Monday to Saturday from 07:00 to 19:00hrs. Activities carried out during mobilisation and maintenance will not generate significant noise levels (such as piling, or other such noisy activities). In circumstances outside of core working practices, specific works may have to be undertaken outside the core working hours. Aberdeenshire Council will be informed in writing.	Construction	X	X	X	X	X		X						X		X		Planning Condition attached to PPP consent.	-	-

Commitment Reference	Commitment Stage	Type	Commitment	Project Phase	Project Element					Onshore Topic of Relevance										How will the Commitment be secured?	When will the Commitment be implemented?	Which document is/will the commitment be secured in?				
					OnECC	OnGCC	Landfall	OnSS	OnRCS	Geology	Hydrology	Ecology	LVI/A	Cultural Heritage	Land Use	Traffic	Noise	Air Quality	S, T & R				GHG / CC			
C-ONS-011	Scoping	Tertiary	An Access Management Plan (AMP) will be developed in conjunction with Aberdeenshire Council and through consultation with local stakeholders. Where public access will be temporarily disrupted during construction, a suitable diversion which minimises the length of path affected will be put in place along with the display of signage at each end of the route where the route is diverted.	Construction	X	X	X	X	X														Planning Condition attached to PPP consent requiring AMP to be submitted and approved by Aberdeenshire Council.	Pre-construction	AMP	
C-ONS-012	Scoping	Tertiary	A Dust and Air Quality Management Plan within the CEMP will include detailed best practice measures as described in Institute of Air Quality Management (IAQM) Guidance to effectively control and/or mitigate the release of dust emissions arising from construction activities on human and ecological receptors, and a complaint investigation and resolution procedure.	Construction	X	X	X	X	X			X											Planning Condition attached to PPP consent requiring CEMP to be submitted and approved by Aberdeenshire Council.	Pre-construction	CEMP (Dust and Air Quality Management Plan)	
C-ONS-013	Scoping	Tertiary	The CEMP will include measures relating to the control of emissions from Non-Road Mobile Machinery (NRRM), including the type, quantity and use of the NRRM.	Construction	X	X	X	X	X														Planning Condition attached to PPP consent requiring CEMP to be submitted and approved by Aberdeenshire Council.	Pre-construction	CEMP (Dust and Air Quality Management Plan)	
C-ONS-014	Scoping	Tertiary	The construction works would use Best Practicable Means (BPM) to limit the impacts of noise at sensitive receptors. These measures would be set out in a construction Noise and Vibration Management Plan (NVMP) within the CEMP, which will include the hours of operation for construction related activities, detailed measures for the mitigation of construction noise and vibration and a routine noise monitoring and complaint investigation and resolution procedure.	Construction	X	X	X	X	X														Planning Condition attached to PPP consent required CEMP to be submitted and approved by Aberdeenshire Council.	Pre-construction	CEMP (Noise and Vibration Management Plan)	
C-ONS-015	Scoping	Tertiary	Refuelling of machinery will be undertaken within designated areas where spillages can be easily contained. Machinery will be routinely checked to ensure it is in good working condition. Any tanks and associated pipe work containing oils and fuels will be double skinned and be provided with intermediate leak detection equipment. Areas at risk of spillage, such as vehicle maintenance areas and hazardous substance stores (including fuel, oils and chemicals) will be bunded and carefully sited to minimise the risk of hazardous substances entering soils, groundwater, drainage systems or local watercourses. Additionally the bunded areas will have impermeable bases to limit the potential for migration of contaminants into potential receptors following any leakage/spillage. Bunds used will store fuel, oil etc. to have a 110% capacity. Excavated material will be placed in such a way as to avoid any disturbance of areas near to the banks of watercourses and any spillage into the local earth/water environment. Construction materials will be managed in such a way as to effectively minimise the risk posed to the environment. All plant machinery and vehicles will be maintained in a good condition to reduce the risk of fuel leaks. Consultation with SEPA to be ongoing throughout the construction period to promote best practice and to implement proposed mitigation measures.	Construction, Operation, Decommissioning	X	X	X	X	X	X	X	X												Planning Condition attached to PPP consent requiring CEMP to be submitted and approved by Aberdeenshire Council.	Pre-construction	CEMP (Pollution Prevention & Mitigation)
C-ONS-016	Scoping	Tertiary	A Soil Management Plan (SMP) will be submitted and agreed with Aberdeenshire Council prior to the commencement of development to ensure that soil resources are managed in accordance with best practice. During construction, all soils to be excavated, handled, stored and reinstated in accordance with the approved SMP.	Construction	X	X	X	X	X	X													Planning Condition attached to PPP consent required CEMP to be submitted and approved by Aberdeenshire Council.	Pre-construction	CEMP (Soil Management Plan)	
C-ONS-017	Scoping	Tertiary	Post-construction all temporary working areas will be reinstated to pre-existing conditions as far as reasonably practical in line with DEFRA 2009 Construction Code of Practice for the Sustainable Use of Soils on Construction Sites PB13298 or latest relevant available guidance.	Construction	X	X	X	X	X	X	X												Planning Condition attached to PPP or AMSC consent requiring approval of a scheme for the reinstatement of all temporary working areas following completion of construction.	Pre-construction	Reinstatement scheme.	
C-ONS-018	Scoping	Tertiary	In areas subject to vehicle and heavy plant movement the topsoil and subsoil will be stripped and stored on site within the temporary working corridor. The topsoil and subsoil will be stored in separate stockpiles and post-construction these working areas will be reinstated to pre-existing condition as far as reasonably practical in line with DEFRA 2009 Construction Code of Practice for the Sustainable Use of Soils on Construction Sites PB13298 and The Scottish Soil Framework.	Construction	X	X				X													Planning Condition attached to PPP consent requiring CEMP to be submitted and approved by Aberdeenshire Council.	Pre-construction	CEMP (Soil Management Plan)	
C-ONS-019	Scoping	Tertiary	A Pollution Prevention and Management Plan would be developed. This will detail a pollution control strategy to be implemented in accordance with Controlled Activities Regulations (CAR) licence regulations, incorporating measures for protecting ground and surface water during construction and operational phases. Details on appropriate fuel and chemical storage will be provided, along with measures associated with water abstraction and incident response procedures.	Construction, Operation	X	X	X	X	X	X	X	X											Planning Condition attached to PPP consent requiring CEMP to be submitted and approved by Aberdeenshire Council.	Pre-construction	CEMP (Pollution Prevention & Mitigation)	
C-ONS-020	Scoping	Tertiary	Potential risks to human health from any encountered (unexpected) ground contamination will be avoided by the use of appropriate Personal Protective Equipment (PPE) and by adopting appropriate working practices.	Construction	X	X	X	X	X	X													Planning Condition attached to PPP consent required CEMP to be submitted and approved by Aberdeenshire Council.	Pre-construction	CEMP (Pollution Prevention & Mitigation)	

Commitment Reference	Commitment Stage	Type	Commitment	Project Phase	Project Element					Onshore Topic of Relevance										How will the Commitment be secured?	When will the Commitment be implemented?	Which document is/will the commitment be secured in?		
					OnECC	OnGCC	Landfall	OnSS	OnRCS	Geology	Hydrology	Ecology	LVI/A	Cultural Heritage	Land Use	Traffic	Noise	Air Quality	S, T & R				GHG / CC	
C-ONS-021	Scoping	Tertiary	Any contamination encountered during the construction phase would be subject to appropriate risk assessment and if necessary, either removed, treated and/or mitigated as part of the Project.	Construction	X	X	X	X	X	X												Planning Condition attached to PPP consent required CEMP to be submitted and approved by Aberdeenshire Council.	Pre-construction	CEMP (Pollution Prevention & Mitigation)
C-ONS-022	Scoping	Tertiary	Production and compliance with a Construction Traffic Management Plan (CTMP) outlining the mechanisms for managing the movement of construction related traffic. The CTMP will be developed post-consent and submitted for the approval of Aberdeenshire Council in consultation with relevant parties.	Construction	X	X	X	X	X							X	X	X		X	X	Planning Condition attached to PPP consent requiring CTMP to be submitted and approved by Aberdeenshire Council.	Pre-construction	CTMP
C-ONS-023	Scoping	Tertiary	Development of, and adherence to a Travel Plan to endeavour to minimise the impact of vehicle movements associated with construction workers, including the promotion of public transport and car sharing.	Construction	X	X	X	X	X							X					X	Planning Condition attached to PPP consent requiring Travel Plan to be submitted and approved by Aberdeenshire Council.	Pre-construction	Travel Plan
C-ONS-024	Scoping	Tertiary	An Outline Biodiversity Restoration and Enhancement Plan (BREP) will be provided as part of the planning application process to detail the proposed biodiversity enhancements. A detailed BREP would subsequently be produced and agreed post consent/pre-construction phase.	Construction, Operation	X	X	X	X	X			X										Planning Condition attached to PPP consent requiring detailed BREP to be submitted and approved by Aberdeenshire Council.	Pre-construction	BREP
C-ONS-025	Scoping	Tertiary	All construction works to be undertaken under the guidance of an Environmental Clerk of Works (EnvCoW). The EnvCoW's scope of work shall include monitoring compliance with the mitigation measures within the EIAR and any planning conditions.	Construction	X	X	X	X	X		X	X				X						Planning Condition attached to PPP consent requiring appointment of an EnvCOW in consultation with Aberdeenshire Council.	-	-
C-ONS-026	Scoping	Tertiary	Drainage works to be constructed to relevant statutory guidance and approved via consultation with Aberdeenshire Council and SEPA prior to the commencement of construction.	Construction, Operation	X	X	X	X	X		X											Detailed design to be approved through AMSC consent.	-	-
C-ONS-027	Scoping	Tertiary	The surface drainage network would be designed to minimise the surface water discharge rate, such that it does not exceed the higher of; the peak run-off rate in it's greenfield condition, or the maximum discharge rate set by Scottish Water.	Construction, Operation	X	X	X	X	X		X	X										Detailed design to be approved through AMSC consent.	-	-
C-ONS-028	Scoping	Tertiary	Areas of required hardstanding (temporary and permanent) will benefit from a positive drainage system and sustainable drainage systems (SuDS), which will be incorporated into the detailed design so that incident rainfall is collected and treated prior to discharge.	Construction, Operation	X	X	X	X	X		X											Detailed design to be approved through AMSC consent.	-	-
C-ONS-029	Scoping	Tertiary	Where the Proposed Onshore Development is not required for electricity transmission purposes beyond the operational life of the Project, the onshore components would be decommissioned, and the land reinstated. Details of the decommissioning and restoration scheme shall be submitted to Aberdeenshire Council within 24 months of the permanent cessation of electricity generation.	Decommissioning	X	X	X	X	X	X	X	X	X			X					X	Planning Condition attached to PPP consent required approval of decommissioning and site restoration plan.	Pre-decommissioning	Decommissioning Plan



## Appendix 3.3: Onshore Impacts Register

# **Stromar Offshore Wind Farm**

Proposed Onshore Development

## **Environmental Impact Assessment: Scoping Report**

**Appendix 3.3: Onshore Impacts Register**

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10	Air Quality
11	Socio Economics, Tourism and Recreation
12	Other Considerations

# 1. Impacts Register Explained - Examples

Description					Table 1.	
Impact Background					Likely Significant Effect at Scoping (LSE, Possible LSE, No LSE)	Approach to Assessment
ID	Project Element	Project Phase	Project Activity and Impact	Commitments		
Unique ID for each impact which can be used to refer between those impacts in the Onshore Scoping Report/EIAR and those in the Impact Register.	Identifies that part of the Project where the impact is anticipated to arise.  Onshore this may include landfall, Onshore Export Cable Corridor (OnECC), Onshore Grid Connection Cable Corridor (OnGCC), Onshore Substation/Converter Station (OnSS) and Onshore Reactive Compensation Station (OnRCS).  'Proposed Onshore Development' includes all of these onshore elements.  'Proposed Offshore Development' includes all offshore elements of the Project.	Identifies the phase of the Proposed Onshore Development when the impact is anticipated to arise - i.e. construction, operation and maintenance (O&M) or decommissioning.	The impact and the activity that the impact arises from.	Commitments that are relevant to reduce and/or eliminate Likely Significant Effects (LSE). Primary (Design) or Tertiary (Inherent) are commitments that are embedded within the assessment at the relevant point in the EIA. Secondary commitments are incorporated to reduce LSE to acceptable levels following assessment.  <b>Scoping impacts in the Impacts Register are identified after the application of the primary/tertiary commitments that the Developer has committed to adopt at scoping stage. These commitments are detailed in the Commitments Register within Appendix 3.2 of the Onshore Scoping Report.</b>	Results of the Proportionate EIA approach to scoping assessment.  LSE without secondary commitments - impact will be subject to a detailed assessment and scoped in to the EIAR.  Possible LSE without secondary commitments - impacts may be subject to detailed or simple assessment in the EIAR.  No LSE without secondary mitigation - impact will be excluded from further assessment and scoped out of the EIAR.	Present a summary/justification of the proposed approach to assessment.  If LSE concluded - outline the detailed assessment to be undertaken.  Identify the further evidence or information that would be used post-scoping to determine and agree with consultees the level of assessment needed in the EIAR.  No LSE concluded - provide justification for why impact is proposed to be scoped out.
I-O-01	OnSS	Operation	Permanent operational noise impact from the OnSS and OnRCS.	N/A	<b>No likely significant effect identified at scoping - scoped out</b>	<b>Scoped out of EIAR.</b>  <i>Vibration would be of a very low magnitude. It is therefore considered unlikely that the OnSS and OnRCS will lead to any significant operational vibration effects. Evidence of any vibration measures (if warranted) implemented in detailed design.</i>

**Table 1. Key to Project position at EIA Scoping**

	Likely significant effect without secondary mitigation - Detailed assessment (scoped in to EIAR)
	Possible likely significant effect without secondary mitigation - Level of assessment needed in EIAR to be agreed post scoping (scoped in to EIAR at scoping stage)
	No likely significant effect identified at scoping - No further assessment (Scoped Out of EIAR)

**Key to Project position at EIA Scoping - Explained**

Scoped in at scoping for full assessment in the EIAR, and presented in impact register.  
Assessment of impact/justification will be presented in the EIAR and/or impact register.  
The impact will not be included in the EIAR, but will be presented in the impact register.

## 2. Geology & Ground Conditions

Impact Background				
ID	Project Element	Project Phase	Project Activity and Impact	Commitments
GEO1	Proposed Onshore Development	Construction	Impact on geology.	N/A
GEO2	Proposed Onshore Development	Construction	Impact on peatland and carbon rich soils.	N/A
GEO3	Proposed Onshore Development	Construction	Impact on mineral resources.	N/A
GEO4	Proposed Onshore Development	Construction	Impact on contaminated land.	C-ONS-021
GEO5	Proposed Onshore Development	Construction	Impact on surface sediments through structural deterioration erosion.	C-ONS-016 C-ONS-017 C-ONS-018

EIA Scoping	
Likely Significant Effect at Scoping (LSE, Possible LSE, No LSE)	Approach to Assessment
LSE	Scoped in for detailed assessment in the EIAR: •Data review to include identification of geological SSSI and GCR Sites. Areas of geological importance will be identified and assessed within the EIAR.
Possible LSE	Scoped in at scoping. Further evidence to be provided post-scoping: •Baseline data review to include identification of priority peatland habitat once the study area is defined following the refinement of the location, routing and design of the Proposed Onshore Development; and •Areas of priority peatland will be identified, and their locations described. If peat and carbon rich soils are identified within the area of the Proposed Onshore Development and cannot be avoided then a Peat Management Plan (PMP) will be produced to ensure peat and carbon rich soils are protected and ensure minimal disturbance to these soils in accordance with NPF4.
Possible LSE	Scoped in at scoping. Further evidence to be provided post-scoping: •Baseline data review to include identification of safeguarded mineral resources once the study area is defined following the refinement of the location, routing and design of the Proposed Onshore Development. Areas of mineral resources will be identified and their locations described.
Possible LSE	Scoped in at scoping. Further evidence to be provided post-scoping: •Baseline data review to include production of a Preliminary Land Quality Risk Assessment (PLQRA), once the study area is defined following the refinement of the location, routing and design of the Proposed Onshore Development, to identify any significant potential pollutant linkages from the development. The commitment proposed will reduce the potential for effects on the environment from any unexpected encountered contaminated land.
No LSE	Scoped out. The commitments proposed will reduce the potential for effects on surface sediments from the Proposed Onshore Development and therefore the proposed commitments will ensure there are no LSEs.

## 2. Geology & Ground Conditions

Impact Background				
ID	Project Element	Project Phase	Project Activity and Impact	Commitments
GEO6	Proposed Onshore Development	Construction	Impact on agricultural soils.	C-ONS-016 C-ONS-018
GEO7	Proposed Onshore Development	Construction	Impact on soil quality.	C-ONS-019
GEO8	Proposed Onshore Development	Construction	Impact on Unexploded Ordnance (UXO).	N/A
GEO9	Proposed Onshore Development	Construction	Impact to construction workers from contaminated soils.	C-ONS-020
GEO10	Proposed Onshore Development	Operation	Impact on soil quality.	C-ONS-019
GEO11	Landfall; OnECC; OnGCC.	Operation	Impact on ground conditions through heating impacts.	N/A
GEO12	Proposed Onshore Development	Decommissioning	Decommissioning of the Proposed Onshore Development.	C-ONS-029

EIA Scoping	
Likely Significant Effect at Scoping (LSE, Possible LSE, No LSE)	Approach to Assessment
No LSE	Scoped out. The construction of the Proposed Onshore Development will be carried out in a controlled and considered manner so as not to have any long term impact upon agricultural soils and their quality. The commitments proposed will reduce the potential for effects on agricultural soils from the Proposed Onshore Development and therefore the proposed commitments will ensure there are no LSE.
No LSE	Scoped out. The commitment proposed will reduce the potential for effects on soil quality from the Proposed Onshore Development and will ensure there are no LSE.
Possible LSE	Scoped in at scoping. Further evidence to be provided post-scoping: •UXO desk study once the location, routing and design of the Proposed Onshore Development has been identified.
No LSE	Scoped out. The commitment proposed will reduce the potential for effects on human health from any encountered contaminated land and will ensure there are no LSE.
No LSE	Scoped out. The commitment proposed will reduce the potential for effects on soil quality from the Proposed Onshore Development and will ensure there are no LSE.
No LSE	Scoped out. Detailed design of the cable corridors will be carried out to mitigate against heating impacts once the Proposed Onshore Development is refined and the exact ground conditions of the OnECC and OnGCC are known. It is therefore considered unlikely that the Proposed Onshore Development will lead to any significant heating effects.
Possible LSE	Scoped in however the effects associated with the construction phase can be considered to be representative of reasonable worst-case decommissioning effects, and therefore no separate assessment of the decommissioning phase is proposed for Ground Conditions and Geology in the EIAR.

### 3. Hydrology and Flood Risk

Impact Background				
ID	Project Element	Project Phase	Project Activity and Impact	Commitments
HYD1	Proposed Onshore Development	Construction	Impacts on surface water and groundwater quality from pollution from fuel, oil, concrete, or other hazardous substances.	C-ONS-008 C-ONS-009 C-ONS-015 C-ONS-019
HYD2	Proposed Onshore Development	Construction	Discharge of sediment-laden runoff to drainage system and watercourses.	C-ONS-008 C-ONS-009 C-ONS-028
HYD3	Proposed Onshore Development	Construction	Increased flood risk to areas downstream through increased surface run-off.	C-ONS-005 C-ONS-008 C-ONS-026 C-ONS-027 C-ONS-028
HYD4	Proposed Onshore Development	Construction	Changes in groundwater levels from dewatering excavations.	C-ONS-009

EIA Scoping	
Likely Significant Effect at Scoping (LSE, Possible LSE, No LSE)	Approach to Assessment
No LSE	Scoped out. Subject to adoption of CEMP, Pollution Prevention and Management Plan and other best practice construction measures, no LSE is anticipated as a result of the Proposed Onshore Development. It is also proposed to scope out site specific water quality monitoring as water quality data is published by SEPA and can be used to characterise baseline conditions.
No LSE	Scoped out. Subject to adoption of CEMP, and other best practice construction measures, no LSE is anticipated as a result of the Proposed Onshore Development.
Possible LSE	Scoped in at scoping. Subject to appropriate site design and commitments no LSE is anticipated as a result of the Proposed Onshore Development. Further evidence to be provided post scoping include: •Simple screening of potential flood sources which will be presented in the EIAR; •A flood risk and drainage impact assessment, which will include sizing of required water attenuation features, for the OnSS and OnRCS only; and •A schedule of watercourse crossings for the proposed track and cable route will be presented as a technical appendix in the EIAR. It is proposed to scope out the following: •A detailed flood risk assessment for the Landfall, OnECC and OnGCC as published mapping confirms that most of the Onshore Scoping Study Area is not identified as being at flood risk; and •A geomorphological assessment of water features, however as part of the proposed baseline surveys photographs and records of key existing or baseline water features will be recorded and presented in the EIAR.
Possible LSE	Scoped in at scoping stage. Subject to appropriate site design and commitments no LSE is anticipated as a result of the Proposed Onshore Development. Further evidence to be provided post scoping and to include site surveys to identify public and private water supply sources and potential areas of GWDTE.

### 3. Hydrology and Flood Risk

Impact Background				
ID	Project Element	Project Phase	Project Activity and Impact	Commitments
HYD5	Proposed Onshore Development	Construction	Potential change of groundwater flow paths and water contribution to areas of GWDTEs.	C-ONS-025
HYD6	Proposed Onshore Development	Construction	Potential pollution impacts to public and private water supplies, including DWPAs.	N/A
HYD7	Proposed Onshore Development	Operation	Adverse changes to surface water flow paths, watercourse discharge rates and volumes, and alteration of watercourse geomorphology.	C-ONS-009 C-ONS-028
HYD8	Proposed Onshore Development	Operation	As a result of an alteration of groundwater and surface water flow paths, an adverse effect on water abstractions and water dependent habitat.	N/A
HYD9	Proposed Onshore Development	Operation	An adverse effect on surface water or groundwater quality from pollution, fuel, oil, concrete, or other hazardous substances from site traffic associated with maintenance activities.	C-ONS-008 C-ONS-009 C-ONS-015 C-ONS-025

EIA Scoping	
Likely Significant Effect at Scoping (LSE, Possible LSE, No LSE)	Approach to Assessment
Possible LSE	Scoped in at scoping stage. Field works will be completed as part of the EIA which will include details on NVC mapping and potential areas of GWDTE. An assessment of potential GWDTEs will be included in the EIAR. Dewatering calculations for proposed temporary dewatering features, such as cable trenches and transition joint bays will be scoped out of the assessment, unless water dependant habitat is identified within 250 m of the Proposed Onshore Development in accordance with SEPA guidance (LUPS-GU31).
Possible LSE	Scoped in at scoping stage. Consultation with Aberdeenshire Council and field works will be completed as part of the EIA which will confirm the location of public and private water supplies. An assessment of potential effects on private and public water supplies will be included in the EIAR. Dewatering calculations for proposed temporary dewatering features, such as cable trenches and transition joint bays will be scoped out of the assessment, unless groundwater abstractions are identified within 250 m of the Proposed Onshore Development in accordance with SEPA guidance (LUPS-GU31).
No LSE	Scoped out. Subject to adoption of CEMP, and other best practice measures, no LSE is anticipated as a result of the Proposed Onshore Development.
Possible LSE	Scoped in at scoping. Consultation with Aberdeenshire Council and field works will be completed as part of the EIA which will confirm the location of public and private water supplies. An assessment of potential effects on potential areas of GWDTE and private and public water supplies will be included in the EIAR.
No LSE	Scoped out. Subject to adoption of CEMP, and other best practice construction measures, no LSE is anticipated as a result of the Proposed Onshore Development.



### 3. Hydrology and Flood Risk

Impact Background				
ID	Project Element	Project Phase	Project Activity and Impact	Commitments
HYD10	Proposed Onshore Development	Operation	Increased flood risk through increased surface water runoff from new permanent impermeable areas and retained watercourse crossings.	C-ONS-005 C-ONS-008 C-ONS-026 C-ONS-027 C-ONS-028
HYD11	Proposed Onshore Development	Decommissioning	Decommissioning of the Proposed Onshore Development.	C-ONS-029

EIA Scoping	
Likely Significant Effect at Scoping (LSE, Possible LSE, No LSE)	Approach to Assessment
Possible LSE	<p>Subject to appropriate site design and commitments no LSE is anticipated as a result of the Proposed Onshore Development. Further evidence to be provided post scoping include:</p> <ul style="list-style-type: none"> <li>•Simple screening of potential flood sources which will be presented in the EIAR;</li> <li>•A flood risk and drainage impact assessment, which will include sizing of required water attenuation features, for the OnSS and OnRCS only; and</li> <li>•A schedule of watercourse crossings for the proposed track and cable route will be presented as a technical appendix in the EIAR.</li> </ul> <p>It is proposed to scope out the following:</p> <ul style="list-style-type: none"> <li>•A detailed flood risk assessment for the Landfall, OnECC and OnGCC as published mapping confirms that most of the Onshore Scoping Study Area is not identified as being at flood risk; and</li> <li>•A geomorphological assessment of water features as part of the proposed baseline surveys, photographs and records of key existing or baseline water features will be recorded and presented in the EIAR; and</li> <li>•Increase of flood risk caused by blockages to flow during operation and maintenance of the Proposed Onshore Development. Any required watercourse crossings would be subject to routine maintenance.</li> </ul>
Possible LSE	<p>Scoped in however the effects associated with the construction phase can be considered to be representative of reasonable worst-case decommissioning effects, and therefore no separate assessment of the decommissioning phase is proposed for Hydrology and Flood Risk in the EIAR.</p>

## 4. Ecology, Biodiversity and Nature Conservation

Impact Background				
ID	Project Element	Project Phase	Project Activity and Impact	Commitments
ECO1	Proposed Onshore Development	Construction	Direct loss and temporary and/or permanent damage to sensitive habitats and notable plant species. This also includes impacts relating to changes in hydrological connectivity of mire habitats, or airborne pollution (i.e., dust).	C-ONS-008 C-ONS-012 C-ONS-015 C-ONS-019 C-ONS-029
ECO2	Proposed Onshore Development	Construction	Temporary and/or permanent direct and/or indirect impacts to groundwater flows and chemistry affecting potential groundwater dependent terrestrial ecosystems (GWDTEs).	C-ONS-015 C-ONS-019 C-ONS-025
ECO3	Proposed Onshore Development	Construction	Temporary disturbance to legally protected and/or notable species through direct/indirect impact of noise/vibrations (plant/machinery), human presence and artificial light.	C-ONS-008 C-ONS-025
ECO4	Proposed Onshore Development	Construction	Direct and/or indirect temporary and/or permanent damage to/loss of habitat used for the purpose of resting, commuting and foraging by protected/notable fauna.	C-ONS-001 C-ONS-008 C-ONS-015 C-ONS-019 C-ONS-025

EIA Scoping	
Likely Significant Effect at Scoping (LSE, Possible LSE, No LSE)	Approach to Assessment
Possible LSE	Scoped in at scoping. Further evidence to be provided post-scoping: •UKHab survey results required to inform location of any sensitive habitat types in relation to proposed infrastructure and any avoidance/ mitigation measures that may be needed; •Full details of proposed infrastructure locations required to calculate habitat loss as a result of the Proposed Onshore Development; and •Potential effects of airborne pollution to be defined and addressed in terms of sensitive ecological features (habitats).
Possible LSE	Scoped in at scoping. Further evidence to be provided post-scoping: •Information on vegetation communities present within the survey area, particularly those that may represent potential GWDTEs; and •Information on proposed infrastructure locations including access routes.
Possible LSE	Scoped in at scoping. Further evidence to be provided post-scoping: •Targeted surveys for protected and notable species, carried out in areas of suitable habitat identified during the Preliminary Ecological Appraisal walkover. The targeted surveys will assist in determining presence/ likely absence of protected/notable fauna in relation to the Proposed Onshore Development; and •Information on proposed infrastructure locations, including access routes, required to ascertain potential disturbance effects on protected and/ or notable species.
Possible LSE	Scoped in at scoping. Further evidence to be provided post-scoping: •Targeted surveys for protected and notable fauna carried out in areas of suitable habitat identified during the Preliminary Ecological Appraisal walkover. The targeted surveys will assist in determining presence/ likely absence of protected fauna and habitats that they utilise; and •Information on proposed infrastructure locations, including access routes, required to ascertain potential for loss or damage to habitat used by protected and/or notable fauna.

## 4. Ecology, Biodiversity and Nature Conservation

Impact Background				
ID	Project Element	Project Phase	Project Activity and Impact	Commitments
ECO5	Proposed Onshore Development	Construction	Direct injury/mortality of protected and/or notable fauna from works and collision with vehicular traffic.	C-ONS-022
ECO6	Proposed Onshore Development	Construction	Temporary direct/indirect disturbance or displacement of commuting and foraging fauna species (e.g. otter, bats, and marine mammals) as a result of noise and artificial light.	C-ONS-010
ECO7	Proposed Onshore Development	Construction	Temporary and/ or permanent damage in the form of sedimentation or pollution of watercourses/waterbodies/coastal environment to the MLWS (e.g., through ground excavation, spills/leaks, and movement of vehicular traffic), leading to impacts to aquatic species and/or hydrologically connected	C-ONS-008 C-ONS-015 C-ONS-019
ECO8	OnSS; OnRCS.	Operation	Temporary and/or permanent disturbance/displacement of legally protected or notable fauna within the vicinity of the Proposed Onshore Development through direct/indirect impact of noise/vibrations (plant/machinery), human presence and artificial light during operational maintenance activities.	C-ONS-010

EIA Scoping	
Likely Significant Effect at Scoping (LSE, Possible LSE, No LSE)	Approach to Assessment
Possible LSE	Scoped in at scoping. Further evidence to be provided post-scoping: •Targeted surveys for protected and notable fauna carried out in areas of suitable habitat identified during the Preliminary Ecological Appraisal walkover. The targeted surveys will assist in determining presence/ likely absence of protected fauna and habitats that they utilise; and •Information on proposed infrastructure locations, including access routes, required to ascertain potential for direct effects (injury/mortality) to protected and/or notable species.
Possible LSE	Scoped in at scoping. Further evidence to be provided post-scoping: •Targeted surveys for protected/notable species activity to obtain information on species presence/ potential absence, and habitats utilised by such species; and •Information on proposed infrastructure locations, including access routes, required to ascertain potential for disturbance and displacement to protected and/ or notable species.
Possible LSE	Scoped in at scoping. Further evidence to be provided post-scoping: •Information on proposed infrastructure locations including access routes, proximity to watercourses and watercourse crossing points.
Possible LSE	Scoped in at scoping stage for OnSS and OnRCS only. Further evidence to be provided post-scoping: •Field survey data relating to habitat types and associated protected species suitability within 100 m all proposed infrastructure; •Establish proximity to sensitive ecological features; •Details of proposed maintenance tasks (and any associated lighting) that will be required during the operational phase, to establish potential effects on protected/notable fauna; and •Identify machinery and regularity of vehicles visiting site to undertake routine maintenance operations.

## 4. Ecology, Biodiversity and Nature Conservation

Impact Background				
ID	Project Element	Project Phase	Project Activity and Impact	Commitments
ECO9	OnSS; OnRCS.	Operation	Direct injury/mortality of protected and/or notable fauna associated with works and vehicle movements (e.g., vehicle collision during maintenance/operational tasks).	N/A
ECO10	Proposed Onshore Development	Operation	Positive impacts including enhanced and/or restored habitats and biodiversity, including habitats not impacted by the Proposed Onshore Development.	N/A
ECO11	Proposed Onshore Development	Decommissioning	Decommissioning of the Proposed Onshore Development.	C-ONS-029

EIA Scoping	
Likely Significant Effect at Scoping (LSE, Possible LSE, No LSE)	Approach to Assessment
Possible LSE	Scoped in at scoping stage for OnSS and OnRCS only. Further evidence to be provided post-scoping: <ul style="list-style-type: none"> <li>•Information on proposed infrastructure locations including access routes, proximity to watercourses, watercourse crossing points and woodland habitat;</li> <li>•Details of proposed maintenance tasks that will be required at OnSS and OnRCS during the operational phase, to establish potential effects on protected/notable fauna; and</li> <li>•Avoidance and mitigation will be defined through the EIA process.</li> </ul>
LSE	Scoped in for detailed assessment and development of an oBREP that corresponds with requirements of NPF4 and ALDP policy. The oBREP will be submitted with the EIAR.
Possible LSE	Scoped in however the effects associated with the construction phase can be considered to be representative of reasonable worst-case decommissioning effects, and therefore no separate assessment of the decommissioning phase is proposed for ecology and ornithology in the EIAR.

## 5. Landscape and Visual

Impact Background				
ID	Project Element	Project Phase	Project Activity and Impact	Commitments
LVIA1	Proposed Onshore Development	Construction	Temporary loss of landscape features and changes to landscape character.	C-ONS-004
LVIA2	Proposed Onshore Development	Construction	Temporary change to views and visual amenity during construction.	C-ONS-003
LVIA3	OnSS; OnRCS	Operation	Permanent loss of landscape features and changes to landscape character and changes to quality of designated landscape.	C-ONS-004
LVIA4	OnSS; OnRCS	Operation	Permanent change to views and visual amenity.	C-ONS-003 C-ONS-004
LVIA5	Proposed Onshore Development	Decommissioning	Temporary loss of/disturbance to landscape features and changes to landscape character.	C-ONS-029

EIA Scoping	
Likely Significant Effect at Scoping (LSE, Possible LSE, No LSE)	Approach to Assessment
LSE	Scoped in at scoping stage. Further information to be provided post-scoping: •Detail of the proposed Landfall, OnECC, OnGCC, OnSS and OnRCS; •Information on proposed locations of temporary construction compounds; •Information on expected vehicle movements (LGVs and HGVs) associated with the construction phase; and •Consultation with Aberdeenshire Council's landscape officer to agree level of assessment required.
LSE	Scoped in for detailed assessment in the EIAR in accordance with GLVIA3. Further information to be provided post-scoping: •Detail of the proposed Landfall, OnECC, OnGCC, OnSS and OnRCS; •Information on proposed locations of temporary construction compounds; •Information on expected vehicle movements (LGVs and HGVs) associated with the construction phase; and •Consultation with Aberdeenshire Council's landscape officer to agree level of assessment required.
LSE	Scoped in for OnSS and OnRCS only for detailed assessment in the EIAR in accordance with GLVIA3. Further information to be provided post-scoping: •Detail of the proposed OnSS and OnRCS; and •Consultation with Aberdeenshire Council's landscape officer to agree level of assessment required.
LSE	Scoped in for OnSS and OnRCS only for detailed assessment in the EIAR in accordance with GLVIA3. Further information to be provided post-scoping: •Detail of the proposed, OnSS and OnRCS; and •Consultation with Aberdeenshire Council's landscape officer to agree level of assessment required.
LSE	Scoped in, however the effects associated with the construction phase can be considered to be representative of reasonable worst-case decommissioning effects, and therefore no separate assessment of the decommissioning phase is proposed for Landscape and Visual receptors in the EIAR.

## 5. Landscape and Visual

Impact Background				
ID	Project Element	Project Phase	Project Activity and Impact	Commitments
LVIA6	Proposed Development	Decommissioning	Temporary change to views and visual amenity during decommissioning.	C-ONS-029

EIA Scoping	
Likely Significant Effect at Scoping (LSE, Possible LSE, No LSE)	Approach to Assessment
LSE	Scoped in, however the effects associated with the construction phase can be considered to be representative of reasonable worst-case decommissioning effects, and therefore no separate assessment of the decommissioning phase is proposed for Landscape and Visual receptors in the EIAR.

## 6. Cultural Heritage

Impact Background				
ID	Project Element	Project Phase	Project Activity and Impact	Commitments
ACH1	Construction	Proposed Onshore Development	Direct and Indirect Physical Impact on Known Non-Designated Cultural Heritage Assets.	C-ONS-004 C-ONS-009
ACH2	Construction	Proposed Onshore Development	Direct and Indirect Physical Impact on Known Designated Cultural Heritage Assets.	C-ONS-006
ACH3	Construction	Proposed Onshore Development	Direct Physical Impact on previously unrecorded Cultural Heritage Assets.	C-ONS-004 C-ONS-009
ACH4	Construction	Proposed Onshore Development	Impact on the setting of Designated Cultural Heritage Assets.	C-ONS-004
ACH5	Operational	Proposed Onshore Development	Impact on the setting of Designated Cultural Heritage Assets.	C-ONS-004

EIA Scoping	
Likely Significant Effect at Scoping (LSE, Possible LSE, No LSE)	Approach to Assessment
Possible LSE	Scoped in at the scoping stage. Further evidence to be provided post-scoping: •Detail of the proposed Landfall, OnECC, OnGCC, OnSS and OnRCS location(s) including any associated temporary working areas; and •HER data to be purchased from ACAS once the above project information is available.
No LSE	Scoped out subject to the adoption of C-ONS-0006. Further evidence of proposed groundbreaking works will be needed to ensure adherence to 100 m buffers. Evidence of this embedded mitigation will be provided in the EIAR.
Possible LSE	Scoped in at the scoping stage. Further evidence to be provided post-scoping: •Detail of the proposed Landfall, OnECC, OnGCC, OnSS and OnRCS location(s) including any associated temporary working areas; and •HER data to be purchased from ACAS once the above project information is available.
No LSE	Scoped Out. The impacts on the setting on any designated cultural heritage assets due to the construction phase are anticipated to be fully reversible and not significant. Therefore they are scoped out of further assessment.
Possible LSE	Scoped in at the scoping stage. Assets to be carried forward for full assessment will depend on the final location, layout and design of the Proposed Onshore Development. A ZTV will be produced following final design. Assets to be scoped in for assessment will be agreed through consultation with HES and ACAS. It is considered that impacts on setting and cumulative impacts of the OnECC on Category B and C Listed Buildings can be scoped out in relation to cultural heritage due to their less than national importance. As per best practice guidance within NatureScot and HES (2019b), Category C Listed Buildings are of local rather than national or regional importance, unless in the opinion of an assessor the designation should be higher. It is also considered that any assets that fall outwith the ZTV for the OnSS (and their approaches also fall outwith the ZTV) can be scoped out of the EIAR.

## 6. Cultural Heritage

Impact Background				
ID	Project Element	Project Phase	Project Activity and Impact	Commitments
ACH6	Operational	Proposed Onshore Development	Impact on the setting of Regionally significant Cultural Heritage assets as specified by ACAS.	C-ONS-004
ACH7	Operational	Proposed Onshore Development	Direct and Indirect Physical Impacts on Non-Designated Cultural Heritage Assets as a Result of Future Maintenance Works.	C-ONS-009
ACH8	Decommissioning	Proposed Onshore Development	Decommissioning of the Proposed Onshore Development.	C-ONS-029

EIA Scoping	
Likely Significant Effect at Scoping (LSE, Possible LSE, No LSE)	Approach to Assessment
Possible LSE	Scoped in at the scoping stage. Assets to be assessed on the EIAR will depend on the final location and design details of the Proposed Onshore Development and agreed through consultation with ACAS. A ZTV will be produced for those scoped in.
Possible LSE	Scoped in at the scoping stage. Further evidence to be provided post-scoping: <ul style="list-style-type: none"> <li>•Information on proposed groundbreaking works; and</li> <li>•Historic Environment Record Data to be purchased from ACAS.</li> </ul>
Possible LSE	Scoped in however the effects associated with the construction phase can be considered to be representative of reasonable worst-case decommissioning effects, and therefore no separate assessment of the decommissioning phase is proposed for Cultural Heritage in the EIAR.



## 7. Land Use and Agriculture

Impact Background				
ID	Project Element	Project Phase	Project Activity and Impact	Commitments
LUA1	OnECC; OnGCC; OnSS; OnRCS.	Construction	Temporary loss of agricultural land, leading to reduced agricultural productivity.	C-ONS-002 C-ONS-009 C-ONS-016 C-ONS-017 C-ONS-018
LUA2	Landfall; OnECC; OnRCS	Construction	Temporary disruption to allocated housing and/or employment land.	C-ONS-002
LUA3	OnECC; OnGCC; OnSS; OnRCS.	Construction	The removal, segregation, fragmentation and/or adversely impacting areas of forestry.	N/A

EIA Scoping	
Likely Significant Effect at Scoping (LSE, Possible LSE, No LSE)	Approach to Assessment
Possible LSE	Scoped in at scoping except for landfall. Further evidence to be provided post-scoping: •Review of the LCA Classes within the footprint of the Proposed Onshore Development once layout and design refined; •Establishing the extent of prime agricultural land impacted by the Proposed Onshore Development; and •Consultation with Aberdeenshire Council on the extent of impacts and appropriateness of the commitments as mitigation measures. Impacts at the landfall are scoped out due to no agricultural land being present in this area.
Possible LSE	Scoped in at scoping for landfall, OnECC and OnGCC only. Further evidence to be provided post-scoping: •Review of the current baseline sensitivities against the potential impacts once layout and design of the Proposed Onshore Development has been refined; •Confirmation of the extent of potential disruption by the Proposed Onshore Development on a physical and temporal scale; and •Consultation with Aberdeenshire Council on the extent of impacts and appropriateness of the commitments as mitigation measures. Impacts to the OnSS and OnGCC are scoped out due to the OnSS (and associated OnGCC) being permanent infrastructure, which would result in permanent impacts, not temporary.
Possible LSE	Scoped in at scoping except for landfall. Further evidence to be provided post-scoping: •Review against potential impacts once layout and design of Proposed Onshore Development has been refined; •Impacts to forestry/woodland habitats to be assessed in <b>Chapter 8: Ecology, Biodiversity and Nature Conservation</b> ; and •Impacts related to the removal of commercial forestry to be assessed in <b>Chapter 15: Socio-Economics, Tourism and Recreation</b> . Impacts at landfall are scoped out due to no forestry being located at these coastal areas.

## 7. Land Use and Agriculture

Impact Background				
ID	Project Element	Project Phase	Project Activity and Impact	Commitments
LUA4	Proposed Onshore Development	Construction	Potential transmission of agricultural pests and diseases	C-ONS-002 C-ONS-016 C-ONS-017
LUA5	Proposed Onshore Development	Construction	Groundbreaking activities disrupting existing underground utilities such as cables and pipelines.	C-ONS-005
LUA6	OnSS; OnRCS.	Operation	Permanent loss of agricultural land (for the lifetime of the Proposed Onshore Development).	C-ONS-004
LUA7	Landfall; OnECC; OnGCC	Operation	Loss of agricultural productivity resulting from the operational presence of the landfall, OnECC and OnGCC.	C-ONS-004

EIA Scoping	
Likely Significant Effect at Scoping (LSE, Possible LSE, No LSE)	Approach to Assessment
Possible LSE	Scoped in at scoping. Further evidence to be provided post-scoping: •Desktop review of invasive species, pests and disease prevalent within the EIA Study Area; •Agreement on methods proposed within SMP to reduce the spread of potentially invasive species and disease; •Review of the current baseline sensitivities against the potential impacts provided with project specific data; and •Consultation with Aberdeenshire Council on the extent of impacts and appropriateness of the commitments as mitigation measures.
Possible LSE	Scoped in at scoping. Further evidence to be provided post-scoping: •Baseline data search of utilities infrastructure once layout and design of the Proposed Onshore Development has been refined.
Possible LSE	Scoped in at scoping for OnSS and OnRCS only. Further evidence to be provided post-scoping: •Review against potential impacts once layout and design of Proposed Onshore Development has been refined; •Confirmation of the extent of Prime Agricultural Land impacted by the Proposed Onshore Development; and •Consultation with Aberdeenshire Council on the extent of impacts and appropriateness of the commitments as mitigation measures. Impacts at the landfall, OnECC and OnGCC are scoped out, due to these being temporary construction impacts and will be reinstated for the operational phase.
No LSE	Scoped out at scoping. The construction stage impacts from the ECC/GCC/landfall would be appropriately mitigated by the reinstatement of land in line with the proposed commitments. The cables would be buried, therefore, no operational impacts from the presence of the landfall, OnECC and OnGCC would lead to a loss of agricultural yield productivity in the operations and maintenance phase of the Proposed Onshore Development. Impacts on the OnSS and OnRCS are addressed above, regarding permanent infrastructure.

## 7. Land Use and Agriculture

Impact Background				
ID	Project Element	Project Phase	Project Activity and Impact	Commitments
LUA8	Proposed Onshore Development	Decommissioning	Decommissioning of the Proposed Onshore Development.	C-ONS-029

EIA Scoping	
Likely Significant Effect at Scoping (LSE, Possible LSE, No LSE)	Approach to Assessment
Possible LSE	Scoped in, however the effects associated with the construction phase can be considered to be representative of reasonable worst-case decommissioning effects, and therefore no separate assessment of the decommissioning phase is proposed for Land Use and Agriculture in the EIAR.

## 8. Traffic and Transport

Impact Background				
ID	Project Element	Project Phase	Project Activity and Impact	Commitments
TRT1	Proposed Onshore Development	Construction	The potential delays to existing drivers and their potential severance from other areas.	N/A
TRT2	Proposed Onshore Development	Construction	The potential severance to communities.	C-ONS-022
TRT3	Proposed Onshore Development	Construction	The potential effect on the pleasantness of a non-motorised journey, including the fear and intimidation created by all moving objects.	C-ONS-022 C-ONS-023
TRT4	Proposed Onshore Development	Construction	The potential effect on users of the road, particularly pedestrians/cyclists.	C-ONS-023
TRT5	Proposed Onshore Development	Construction	The potential effect of users of RoW/Core Paths.	C-ONS-011

EIA Scoping	
Likely Significant Effect at Scoping (LSE, Possible LSE, No LSE)	Approach to Assessment
Possible LSE	Scoped in at scoping stage. Further evidence and assessment required including: •Existing traffic counts and traffic patterns including timing, peaks, and distribution of movements; •Expected vehicle movements data (LGVs, HGVs and abnormal loads) associated with the construction phase; •Proposed locations of temporary construction compounds and routing for all construction vehicles; and •Consultation with Aberdeenshire Council's Roads Department to agree scoping in/out and the level of assessment.
Possible LSE	Scoped in at scoping stage in accordance with IEMA Guidelines: Environmental Assessment of Traffic and Movement (GEATM) using AADT percentage and direct effects of the proposal. Further evidence and assessment required including: •Existing traffic counts and traffic patterns including vehicles speeds, timing, peaks, and distribution of movements; •Identification of communities susceptible to severance; •Information on expected vehicle movements (LGVs, HGVs and abnormal loads) associated with the construction phase; and •Consultation with Aberdeenshire Council's Roads Department to agree whether scoping in/scoped out and level of assessment required.
LSE	Scoped in for detailed assessment in the EIAR in accordance with GEATM using the weighting system propounded by Crompton and Gilbert (1976).
LSE	Scoped in for road safety review and assessment of haul routes in EIAR.
Possible LSE	Scoped in for detailed assessment in the EIAR in accordance with the criteria set out in DMRB LA112 and professional judgement. Inclusion is dependent on whether the Proposed Onshore Development will directly impact a RoW/Core Path.

## 8. Traffic and Transport

Impact Background				
ID	Project Element	Project Phase	Project Activity and Impact	Commitments
TRT6	OnSS; OnRCS	Operation	Maintenance related vehicle trips.	C-ONS-023
TRT7	Proposed Onshore Development	Decommissioning	Decommissioning of the Proposed Onshore Development.	C-ONS-029

EIA Scoping	
Likely Significant Effect at Scoping (LSE, Possible LSE, No LSE)	Approach to Assessment
Possible LSE	Scoped in at scoping stage for OnSS and OnRCS only. Operational impacts for these elements on the Proposed Onshore Development are expected to be limited with minimal traffic movements. The inclusion for detailed assessment will depend on the staffing numbers still to be confirmed.
Possible LSE	Scoped in, however the effects associated with the construction phase can be considered to be representative of reasonable worst-case decommissioning effects, and therefore it is expected that impacts from decommissioning phase will be less than for construction.

## 9. Noise and Vibration

Impact Background				
ID	Project Element	Project Phase	Project Activity and Impact	Commitments
NAV1	Construction	OnECC; OnGCC	Temporary noise from onshore cable route installation (excluding HDD works).	C-ONS-009 C-ONS-010 C-ONS-014
NAV2	Construction	Landfall; OnECC; OnGCC	Temporary noise from onshore HDD works.	C-ONS-009 C-ONS-010 C-ONS-014
NAV3	Construction	Landfall; OnECC; OnGCC	Temporary vibration from onshore HDD works.	C-ONS-009 C-ONS-010 C-ONS-014
NAV4	Construction	Landfall	Temporary noise from landfall construction and cable installation (excluding HDD).	C-ONS-009 C-ONS-010 C-ONS-014
NAV5	Construction	Landfall	Temporary vibration at landfall from onshore cofferdam (if required).	C-ONS-009 C-ONS-010 C-ONS-014
NAV6	Construction	OnSS; OnRCS	Temporary noise from OnSS and OnRCS construction.	C-ONS-009 C-ONS-010 C-ONS-014
NAV7	Construction	OnSS; OnRCS	Temporary vibration from piling operations associated with OnSS and OnRCS foundations.	C-ONS-009 C-ONS-010 C-ONS-014
NAV8	Construction	Proposed Onshore Development	Temporary noise from all construction traffic.	C-ONS-009 C-ONS-010 C-ONS-014 C-ONS-022
NAV9	Operational	OnSS; OnRCS	Permanent operational noise impact from the OnSS and OnRCS.	N/A
NAV10	Operational	OnSS; OnRCS	Permanent vibration effects arising from the operation of the OnSS and OnRCS.	N/A

EIA Scoping	
Likely Significant Effect at Scoping (LSE, Possible LSE, No LSE)	Approach to Assessment
LSE	Scoped in – to be assessed in EIAR. No further baseline data required.
LSE	Scoped in – to be assessed in EIAR. No further baseline data required.
LSE	Scoped in – to be assessed in EIAR. No further baseline data required.
LSE	Scoped in – to be assessed in EIAR. No further baseline data required.
Possible LSE	Scoped in at scoping stage. Impact to be assessed in EIAR depending on confirmation of the inclusion of a cofferdam within the Proposed Onshore Development. No further baseline data required.
LSE	Scoped in – to be assessed in EIAR. Baseline survey to be undertaken at receptor locations located close to the OnSS and OnRCS.
LSE	Scoped in – to be assessed in EIAR. No further baseline data required.
LSE	Scoped in – to be assessed in EIAR. No further baseline data required, other than inputs from the Traffic and Transport assessment.
LSE	Scoped in – to be assessed in EIAR for principal airborne noise generating sources. Baseline survey to be undertaken at receptor locations located close to the OnSS and OnRCS. Detailed assessment and indicative identification of any required mitigation in the EIAR in accordance with 'BS4142:2014+A1:2019 Methods for rating and assessing industrial and commercial sound'.
No LSE	Scoped out of EIAR. Vibration would be of a very low magnitude. It is therefore considered unlikely that the OnSS and OnRCS will lead to any significant operational vibration effects. Evidence of any vibration measures (if warranted) implemented in detailed design.

## 9. Noise and Vibration

Impact Background				
ID	Project Element	Project Phase	Project Activity and Impact	Commitments
NAV12	Operational	OnECC; OnGCC	Permanent operational Noise and Vibration effects arising from the operation of the OnECC and OnGCC.	N/A
NAV13	Decommissioning	Proposed Onshore Development	Decommissioning of the Proposed Onshore Development.	C-ONS-029

EIA Scoping	
Likely Significant Effect at Scoping (LSE, Possible LSE, No LSE)	Approach to Assessment
No LSE	Scoped out of EIAR. As the cables will be buried, they would not produce perceptible levels of noise or vibration, even when energised. The operation of the underground cables will therefore not lead to any significant Noise and Vibration effects.
Possible LSE	Scoped in, however the effects associated with the construction phase can be considered to be representative of reasonable worst-case decommissioning effects, and therefore no separate assessment of the decommissioning phase is proposed for Noise and Vibration in the EIAR.

## 10. Air Quality

Impact Background				
ID	Project Element	Project Phase	Project Activity and Impact	Commitments
AIQ1	Proposed Onshore Development	Construction	Dust and particulate matter (PM <sub>10</sub> ) generated from temporary construction activities on both human and ecological receptors.	C-ONS-009 C-ONS-012
AIQ2	Proposed Onshore Development	Construction	Temporary construction-generated road traffic volumes on human receptors.	C-ONS-022 C-ONS-023
AIQ3	Proposed Onshore Development	Construction	Temporary construction-generated road traffic volumes on ecological receptors.	C-ONS-022 C-ONS-023

EIA Scoping	
Likely Significant Effect at Scoping (LSE, Possible LSE, No LSE)	Approach to Assessment
Possible LSE	<p>Scoped in at scoping stage.</p> <p>Potential Air Quality impacts arising from dust generated from onshore construction activities will be assessed qualitatively in accordance with IAQM guidance (IAQM, 2023).</p> <p>The outcomes of this exercise will be used to inform appropriate mitigation requirements to render residual effects as not significant. These measures will be included within the Onshore EIAR – and secured within the Dust and Air Quality Management Plan (CEMP).</p>
Possible LSE	<p>Scoped in at scoping stage.</p> <p>A screening assessment of road traffic movements generated by onshore construction activities will be conducted in accordance with the procedure prescribed within the 2017 EPS and RTPIS guidance document (EPS &amp; RTPIS, 2017). This will be supplemented with screening principles prescribed within LA 105 (Transport Scotland, 2019).</p> <p>The outcomes of this assessment will determine whether impacts at human receptors can be considered insignificant, or whether further detailed assessment is required.</p> <p>Traffic data used for the purposes of the assessment will be based upon analysis undertaken and presented as part of <b>Chapter 12: Traffic and Transport</b>.</p> <p>The proposed approach and assessment outcomes will be communicated to Aberdeenshire Council Environmental Health (<b>Section 14.9</b>).</p>
Possible LSE	<p>Scoped in at scoping stage.</p> <p>A screening assessment of road traffic movements generated by onshore construction activities will be conducted in accordance with the procedure prescribed within the 2020 IAQM guidance document (IAQM, 2020).</p> <p>The outcomes of this assessment will determine whether impacts at ecological receptors can be considered insignificant, or whether further detailed assessment is required.</p> <p>Traffic data used for the purposes of the assessment will be based upon analysis undertaken and presented as part of <b>Chapter 12: Traffic and Transport</b>.</p> <p>The proposed approach and assessment outcomes will be communicated to NatureScot (<b>Section 14.9</b>).</p>



## 10. Air Quality

Impact Background				
ID	Project Element	Project Phase	Project Activity and Impact	Commitments
AIQ4	Proposed Onshore Development	Construction	Emissions generated from operation of NRMM during the construction phase.	C-ONS-009 C-ONS-012 C-ONS-013
AIQ5	Proposed Onshore Development	Operation	Operational phase traffic movements.	N/A
AIQ6	Proposed Onshore Development	Operation	Operational phase generated emissions from NRMM.	N/A

EIA Scoping	
Likely Significant Effect at Scoping (LSE, Possible LSE, No LSE)	Approach to Assessment
No LSE	<p>Scoped Out.</p> <p>An assessment of NRMM is scoped out from assessment, as following the Scottish Government's technical guidance (Scottish Government, 2022), providing suitable controls are applied, emissions generated from NRMM are unlikely to contribute to a significant effect upon local air quality.</p> <p>Appropriate measures, as documented within the Scottish Government's technical guidance, will be included within a CEMP to ensure their implementation.</p> <p>Examples are presented below:</p> <ul style="list-style-type: none"> <li>•All NRMM should comply with the appropriate NRMM standards;</li> <li>•All NRMM should be fitted with abatement plant (e.g. Diesel Particulate Filters conforming to defined and demonstrated filtration efficiency (load/duty cycle permitting));</li> <li>•Implementation of fuel conservation measures including instructions to throttle down or switch off idle construction equipment; switch off the engines of trucks while they are waiting to access the site and while they are being loaded or unloaded, require that equipment is properly maintained to support efficient fuel consumption; and</li> <li>•Impose and signpost a maximum-speed-limit on surfaced (e.g. 15 mph) and unsurfaced haul roads and work areas (e.g. 10 mph).</li> </ul>
No LSE	<p>Scoped Out.</p> <p>Operational phase onshore activities will be limited to maintenance activities, expected to be intermittent/infrequent in comparison to construction activities (which will be assessed in full).</p> <p>Recent involvement in similar projects indicates approximately four to eight operational traffic movements per day, during an annual testing period. Given the low number of movements, Air Quality impacts arising as a result of anticipated operational activities are believed to be negligible.</p>
No LSE	<p>Scoped Out.</p> <p>NRMM use in the O&amp;M phase would be limited to maintenance activities only. Associated emissions would be small scale and for a limited duration only.</p> <p>Given this, potential impacts on receptors are considered negligible.</p> <p>Operational phase offshore vessel movements are expected to be intermittent/infrequent in comparison to construction activities.</p> <p>Furthermore, they will be limited to maintenance activities at the Array Area - located 50 km from the coast (at the closest location).</p> <p>Given this, potential impacts on onshore receptors are considered negligible.</p>

## 10. Air Quality

Impact Background				
ID	Project Element	Project Phase	Project Activity and Impact	Commitments
AIQ7	Proposed Onshore Development	Decommissioning	Decommissioning of the Proposed Onshore Development.	C-ONS-029

EIA Scoping	
Likely Significant Effect at Scoping (LSE, Possible LSE, No LSE)	Approach to Assessment
Possible LSE	Scoped in, however the effects associated with the construction phase can be considered to be representative of reasonable worst-case decommissioning effects, and therefore no separate assessment of the decommissioning phase is proposed for Air Quality in the EIAR.

## 11. Socio-Economics, Tourism and Recreation

Impact Background				
ID	Project Element	Project Phase	Project Activity and Impact	Commitments
STR1	Proposed Onshore and Offshore Development	Construction	Increase in employment and Gross Value Added (GVA).	C-OFF-08
STR2	Proposed Onshore Development	Construction	Economic activity associated with onshore elements in Aberdeenshire	C-OFF-08
STR3	Proposed Onshore and Offshore Development	Construction	Demographic changes.	N/A
STR4	Proposed Onshore and Offshore Development	Construction	Changes to housing demand.	N/A
STR5	Proposed Onshore and Offshore Development	Construction	Changes to other local public and private services.	N/A
STR6	Proposed Onshore and Offshore Development	Construction	Socio-cultural impacts.	N/A

EIA Scoping	
Likely Significant Effect at Scoping (LSE, Possible LSE, No LSE)	Approach to Assessment
LSE	The construction of the Project will require expenditure with companies in each of the study areas. This will support employment and generate GVA, including impacts associated with spending in the wider supply chain (indirect effects) and spending by staff (induced effects).
LSE	The construction of the onshore elements of the Project will require spending in Aberdeenshire. This will support employment and generate GVA, including impacts associated with spending in the wider supply chain (indirect effects) and spending by staff (induced effects).
LSE	The impacts of demographic changes will be assessed as far as possible, including the scale of any impact and its potential to be significant. If ports have been determined by the time of the assessment, it will be possible to be more definitive on the likely significance of these impacts.
LSE	The impacts of demographic changes and the implications for housing demand will be assessed as far as possible, including the scale of any impact and its potential to be significant. This will include the potential demand for temporary accommodation from transient workers. If ports have been determined by the time of the assessment, it will be possible to be more definitive on the likely significance of these impacts.
LSE	The impacts of demographic changes and the implications for demand on local public and private services will be assessed as far as possible, including the scale of any impact and its potential to be significant. If ports have been determined by the time of the assessment, it will be possible to be more definitive on the likely significance of these impacts.
No LSE	The potential socio-cultural impacts, including changes to community character or image and quality of life, will require primary stakeholder engagement in the communities around the key epicentres of impact. To avoid survey fatigue and ensure meaningful interactions, this engagement will occur post consent as decisions are made regarding the location of key activities, such as ports. These impacts have therefore been Scoped Out of the assessment.

## 11. Socio-Economics, Tourism and Recreation

Impact Background				
ID	Project Element	Project Phase	Project Activity and Impact	Commitments
STR7	Proposed Onshore and Offshore Development	Construction	Changes to visitor behaviour.	N/A
STR8	Proposed Onshore and Offshore Development	Construction	Changes to onshore recreation	C-ONS-011
STR9	Proposed Offshore Development	Construction	Changes to commercial fisheries.	C-OFF-020 C-OFF-033
STR10	Proposed Offshore Development	Construction	Changes to shipping and marine recreation.	C-OFF-46
STR11	Proposed Onshore and Offshore Development	Operation	Increase in employment and GVA.	C-OFF-008
STR12	Proposed Onshore Development	Operation	Economic activity associated with onshore elements in Aberdeenshire	C-OFF-008
STR13	Proposed Onshore and Offshore Development	Operation	Demographic changes.	N/A
STR14	Proposed Onshore and Offshore Development	Operation	Changes to housing demand.	N/A

EIA Scoping	
Likely Significant Effect at Scoping (LSE, Possible LSE, No LSE)	Approach to Assessment
LSE	Potential changes to visitor behaviour may arise from changes to onshore activity associated with the construction of the Proposed Onshore and Offshore Development, including onshore grid connection and increased activity at ports and harbours.
LSE	Potential disruption to onshore recreational assets, such as walking and cycling trails, golf courses, beaches and surfing, may reduce recreational opportunities.
LSE	Potential disruption to the commercial fishing sector leading to changes in economic activity in the sector.
LSE	Changes to economic activity as a result of the construction of the Proposed Offshore Development may impact activity in the shipping and marine recreation sectors.
LSE	O&M will require expenditure with companies and organisations in each of the study areas, supporting employment and generating GVA.
LSE	The O&M of the Proposed Onshore Development will require spending in Aberdeenshire supporting employment and generating GVA.
LSE	The impacts of demographic changes will be assessed as far as possible, including the scale of any impact and its potential to be significant. If ports have been determined by the time of the assessment, it will be possible to be more definitive on the likely significance of these impacts.
LSE	The impacts of demographic changes and the implications for housing demand will be assessed as far as possible, including the scale of any impact and its potential to be significant. If ports have been determined by the time of the assessment, it will be possible to be more definitive on the likely significance of these impacts.

## 11. Socio-Economics, Tourism and Recreation

Impact Background				
ID	Project Element	Project Phase	Project Activity and Impact	Commitments
STR15	Proposed Onshore and Offshore Development	Operation	Changes to other local public and private services.	N/A
STR16	Proposed Onshore and Offshore Development	Operation	Socio-cultural impacts	N/A
STR17	Proposed Onshore and Offshore Development	Operation	Changes to visitor behaviour.	N/A
STR18	Proposed Onshore and Offshore Development	Operation	Changes to onshore recreation.	N/A
STR19	Proposed Offshore Development	Operation	Changes to commercial fisheries.	C-OFF-20 C-OFF-31 C-OFF-33
STR20	Proposed Offshore Development	Operation	Changes to shipping and marine recreation.	C-OFF-46
STR21	Proposed Onshore and Offshore Development	Decommissioning	Increase in employment and GVA.	N/A
STR22	Proposed Onshore Development	Decommissioning	Economic activity associated with onshore elements in Aberdeenshire	N/A

EIA Scoping	
Likely Significant Effect at Scoping (LSE, Possible LSE, No LSE)	Approach to Assessment
LSE	The impacts of demographic changes and the implications for demand on local public and private services will be assessed as far as possible, including the scale of any impact and its potential to be significant. If ports have been determined by the time of the assessment, it will be possible to be more definitive on the likely significance of these impacts.
No LSE	The potential socio-cultural impacts, including changes to community character or image and quality of life, will require primary stakeholder engagement in the communities around the key epicentres of impact. To avoid survey fatigue and ensure meaningful interactions, this engagement will occur post consent as decisions are made regarding the location of key activities, such as ports. These impacts have therefore been Scoped Out of the assessment.
LSE	Potential changes to visitor behaviour may arise from changes to onshore activity associated with the O&M of the Proposed Offshore Development, such as increased activity at ports and harbours, or changes to seascape and visual impact.
LSE	Potential disruption to onshore recreational activities, such as walking and cycling trails, golf courses, beaches and surfing, may reduce recreational opportunities.
LSE	Potential disruption to the commercial fishing sector leading to changes in economic activity in the sector.
LSE	Changes to economic activity as a result of the operation of the Proposed Development may impact activity in the shipping and marine recreation sectors.
LSE	Decommissioning will require expenditure with companies and organisations in each of the study areas, supporting employment and generating GVA.
LSE	The decommissioning of the onshore elements of the Proposed Development will require spending in Aberdeenshire supporting employment and generating GVA.

## 11. Socio-Economics, Tourism and Recreation

Impact Background				
ID	Project Element	Project Phase	Project Activity and Impact	Commitments
STR23	Proposed Onshore and Offshore Development	Decommissioning	Changes to visitor behaviour.	N/A
STR24	Proposed Onshore and Offshore Development	Decommissioning	Demographic changes.	N/A
STR25	Proposed Onshore and Offshore Development	Decommissioning	Changes to housing demand.	N/A
STR26	Proposed Onshore and Offshore Development	Decommissioning	Changes to other local public and private services.	N/A
STR27	Proposed Onshore and Offshore Development	Decommissioning	Changes to onshore recreation.	N/A

EIA Scoping	
Likely Significant Effect at Scoping (LSE, Possible LSE, No LSE)	Approach to Assessment
No LSE	Potential changes to visitor behaviour may arise from changes to onshore activity associated with decommissioning of the Proposed Development, such as increased activity at ports, harbours and the onshore infrastructure, or changes to seascape and visual impact. However, the locations, methods and approach to decommissioning is unlikely to be known at this stage and the tourism sector baseline has the potential to change significantly between now and the time of decommissioning. The significance of any effect will also be determined by the location of ports used in the decommissioning. This has been Scoped Out as a meaningful assessment will not be possible until the port location(s) are known.
LSE	The impacts of demographic changes will be assessed as far as possible, including the scale of any impact and its potential to be significant. If ports have been determined by the time of the assessment, it will be possible to be more definitive on the likely significance of these impacts.
LSE	The impacts of demographic changes and the implications for housing demand will be assessed as far as possible, including the scale of any impact and its potential to be significant. If ports have been determined by the time of the assessment, it will be possible to be more definitive on the likely significance of these impacts.
LSE	The impacts of demographic changes and the implications for demand on local public and private services will be assessed as far as possible, including the scale of any impact and its potential to be significant. If ports have been determined by the time of the assessment, it will be possible to be more definitive on the likely significance of these impacts.
LSE	Potential disruption to onshore recreational assets, such as walking and cycling trails, golf courses, beaches and surfing, and sea cliff climbing, may reduce recreational opportunities.

## 11. Socio-Economics, Tourism and Recreation

Impact Background				
ID	Project Element	Project Phase	Project Activity and Impact	Commitments
STR28	Proposed Onshore and Offshore Development	Decommissioning	Socio-cultural impacts	N/A
STR29	Proposed Offshore Development	Decommissioning	Changes to commercial fisheries.	N/A
STR30	Proposed Offshore Development	Decommissioning	Changes to shipping and marine recreation.	N/A

EIA Scoping	
Likely Significant Effect at Scoping (LSE, Possible LSE, No LSE)	Approach to Assessment
No LSE	The potential socio-cultural impacts, including changes to community character or image and quality of life, will require primary stakeholder engagement in the communities around the key epicentres of impact. To avoid survey fatigue and ensure meaningful interactions, this engagement will occur post consent as decisions are made regarding the location of key activities, such as ports. These impacts have therefore been Scoped Out of the assessment.
LSE	Potential disruption to the commercial fishing sector leading to changes in economic activity in the sector.
LSE	Changes to economic activity as a result of decommissioning the Proposed Offshore Development may impact activity in the shipping and marine recreation sectors.

## 12. Other considerations

Impact Background				
ID	Project Element	Project Phase	Project Activity and Impact	Commitments
OTC1	OnECC and OnGCC	Operation	Human health - potential exposure to electromagnetic fields (EMF)	N/A
OTC2	Proposed Onshore Development	Construction, Operation and Decommissioning	Risk of major accidents and disasters	N/A

EIA Scoping	
Likely Significant Effect at Scoping (LSE, Possible LSE, No LSE)	Approach to Assessment
No LSE	<p>Scoped out of EIAR.</p> <p>Cables within the OnECC and the OnGCC will also be designed to comply with the maximum exposure limits stated in the public exposure guidelines for EMF. Furthermore, as the cables will be buried underground and will also be sited away from potential human health receptors as part of the RPSS, it is expected they will be significantly below the recommend limits. No adverse human health effects in relation to exposure to EMF from the OnECC and OnGCC are expected.</p>
No LSE	<p>Scoped out of EIAR.</p> <p>Potential impacts to environmental receptors as a result of major accidents and disasters from the Proposed Onshore Development would be mitigated for through adherence to best practices and legislative requirements, including Construction (Design and Management) (CDM) Regulations 2015; Health and Safety at Work etc. Act 1974; Electricity at Work Regulations 1989; the Town and Country Planning (Hazardous Substances) (Scotland) Regulations 2015; and the Control of Major Accident Hazards (COMAH) Regulations 2015.</p>



## **Appendix 8.1: Protected, Notable, and Legally Controlled Species Records**

**Table 8.10: Protected, Notable, and Legally Controlled Species Recorded within 2 km of the Onshore Scoping Area in the Last 15-Years (2009 – 2023)**

Species/Genus	Number of Records	Protection Status
<b>Terrestrial Mammals</b>		
Otter <i>Lutra lutra</i>	17	EPS
Water vole <i>Arvicola amphibius</i>	5	WCA, SBL
Badger <i>Meles meles</i>	48	PBA
Pine Marten <i>Martes martes</i>	5	WCA, SBL
Red squirrel <i>Sciurus vulgaris</i>	59	WCA, SBL
Bats <i>Chiroptera</i>	8	EPS
Pipistrelle bat species <i>Pipistrellus spp.</i>	2	EPS
Common pipistrelle <i>Pipistrellus pipistrellus</i>	10	EPS
Soprano pipistrelle <i>Pipistrellus pygmaeus</i>	12	EPS
Brown long-eared bat <i>Plecotus auritus</i>	1	EPS
Leislars bat <i>Nyctalus leisleri</i>	1	EPS
Wildcat <i>Felis silvestris</i>	1	EPS
Brown hare <i>Lepus europaeus</i>	47	SBL
Hedgehog <i>Erinaceus europaeus</i>	8	SBL
Eurasian water shrew <i>Neomys fodiens</i>	2	NE LBAP
<b>Amphibians</b>		
Common toad <i>Bufo bufo</i>	11	SBL
<b>Invertebrates</b>		
Autumnal rustic <i>Eugnorisma glareosa</i>	3	SBL
Broom moth <i>Ceramica pisi</i>	1	SBL
Brown-spot pinion <i>Agrochola litura</i>	15	SBL
Centre-barred sallow <i>Atethmia centrago</i>	2	SBL
Crescent <i>Celaena leucostigma</i>	1	SBL
Double dart <i>Graphiphora augur</i>	9	SBL
Dusky brocade <i>Apamea remissa</i>	16	SBL

Species/Genus	Number of Records	Protection Status
Garden dart <i>Euxoa nigricans</i>	1	SBL
Garden tiger <i>Arctia caja</i>	22	SBL
Ghost moth <i>Hepialus humuli</i>	4	SBL
Grey dagger <i>Acronicta psi</i>	4	SBL
Large wainscot <i>Rhizedra lutosa</i>	1	SBL
Latticed heath <i>Chiasmia clathrata</i>	3	SBL
Rosy minor <i>Litoligia literosa</i>	4	SBL
Rosy rustic <i>Hydraecia micacea</i>	25	SBL
Rustic <i>Hoplodrina blanda</i>	1	SBL
Sallow <i>Cirrhia icteritia</i>	7	SBL
Shaded broad-bar <i>Scotopteryx chenopodiata</i>	9	SBL
Small heath <i>Coenonympha pamphilus</i>	2	SBL
Small pearl-bordered fritillary <i>Boloria selene</i>	1	SBL
Small phoenix <i>Ecliptopera silaceata</i>	12	SBL
Small square-spot <i>Diarsia rubi</i>	23	SBL
Streak <i>Chesias legatella</i>	6	SBL
White ermine <i>Spilosoma lubricipeda</i>	21	SBL
<b>Flora</b>		
Charlock <i>Sinapis arvensis</i>	1	SBL
Heath cudweed <i>Gnaphalium sylvaticum</i>	2	SBL
Wild pansy <i>Viola tricolor</i>	8	SBL
Common yellow-sedge <i>Carex viridula subsp. oedocarpa</i>	1	NE LBAP
Hedge bedstraw <i>Galium mollugo</i>	1	NE LBAP
Lesser marshwort <i>Apium inundatum</i>	1	NE LBAP
Variegated horsetail <i>Equisetum variegatum</i>	2	NE LBAP
Giant hogweed <i>Heracleum mantegazzianum</i>	40	INNS
Himalayan balsam <i>Impatiens glandulifera</i>	14	INNS

Species/Genus	Number of Records	Protection Status
Himalayan knotweed <i>Persicaria wallichii</i>	2	INNS
Japanese knotweed <i>Fallopia japonica</i>	18	INNS
Lesser knotweed <i>Persicaria campanulata</i>	1	INNS
Rhododendron <i>Rhododendron ponticum</i>	22	INNS
White butterbur <i>Petasites albus</i>	6	INNS
<b>Birds</b>		
Arctic skua <i>Stercorarius parasiticus</i>	19	BoCC Red; SBL
Barn owl <i>Tyto alba</i>	10	WCA Schedule 1; SBL
Barnacle goose <i>Branta leucopsis</i>	6	Annex I; BoCC Amber; SBL
Bar-tailed godwit <i>Limosa lapponica</i>	18	Annex I; BoCC Amber; SBL
Bean goose <i>Anser fabalis</i>	2	BoCC Amber; SBL
Black guillemot <i>Cepphus grylle</i>	102	BoCC Amber
Black-headed gull <i>Chroicocephalus ridibundus</i>	162	BoCC Amber; SBL
Black redstart <i>Phoenicurus ochrurus</i>	43	WCA Schedule 1; BoCC Amber
Black-throated diver <i>Gavia arctica</i>	2	Annex I; WCA Schedule 1; BoCC Amber; SBL
Brambling <i>Fringilla montifringilla</i>	9	WCA Schedule 1; SBL
Brent goose <i>Branta bernicla</i> (inc. dark-bellied brent goose <i>Branta bernicla subsp. bernicla</i> )	5	BoCC Amber; SBL
Bullfinch <i>Pyrrhula pyrrhula</i>	25	BoCC Amber; SBL
Common crane <i>Grus grus</i>	11	BoCC Amber
Common gull <i>Larus canus</i>	89	BoCC Amber
Common scoter <i>Melanitta nigra</i>	5	WCA Schedule 1; BoCC Red; SBL
Common tern <i>Sterna hirundo</i>	3	Annex I; BoCC Amber; SBL
Corn bunting <i>Emberiza calandra</i>	36	BoCC Red; SBL
Cuckoo <i>Cuculus canorus</i>	9	BoCC Red; SBL
Curlew <i>Numenius arquata</i>	189	BoCC Red; SBL
Curlew sandpiper <i>Calidris ferruginea</i>	11	BoCC Amber
Dipper <i>Cinclus cinclus</i>	18	BoCC Amber

Species/Genus	Number of Records	Protection Status
Dunlin <i>Calidris alpina</i>	49	BoCC Red; SBL
Dunnock <i>Prunella modularis</i>	242	BoCC Amber; SBL
Eider <i>Somateria mollissima</i>	156	BoCC Amber
Fieldfare <i>Turdus pilaris</i>	43	WCA Schedule 1, BoCC Red
Gadwall <i>Mareca strepera</i>	2	BoCC Amber
Gannet <i>Morus bassanus</i>	62	BoCC Amber
Glaucous gull <i>Larus hyperboreus</i>	24	BoCC Amber
Golden plover <i>Pluvialis apricaria</i>	18	Annex I; SBL
Goldeneye <i>Bucephala clangula</i>	69	WCA Schedule 1.2; BoCC Red
Grasshopper Warbler <i>Locustella naevia</i>	6	BoCC Red; SBL
Great black-backed gull <i>Larus marinus</i>	194	BoCC Amber
Great northern diver <i>Gavia immer</i>	17	Annex I; WCA Schedule 1; BoCC Amber; SBL
Great skua <i>Stercorarius skua</i>	24	BoCC Amber
Great white egret <i>Ardea alba</i>	2	BoCC Amber
Green sandpiper <i>Tringa ochropus</i>	2	WCA Schedule 1; BoCC Amber; SBL
Greenfinch <i>Chloris chloris</i>	158	BoCC Red
Greenshank <i>Tringa nebularia</i>	6	WCA Schedule 1; BoCC Amber
Grey partridge <i>Perdix perdix</i>	32	BoCC Red; SBL
Grey plover <i>Pluvialis squatarola</i>	18	BoCC Amber
Grey wagtail <i>Motacilla cinerea</i>	18	BoCC Amber
Greylag goose <i>Anser anser</i>	37	BoCC Amber
Guillemot <i>Uria aalge</i>	18	BoCC Amber
Hen harrier <i>Circus cyaneus</i>	4	Annex I; WCA Schedule 1; BoCC Red; SBL
Herring gull <i>Larus argentatus</i>	92	BoCC Red; SBL
Hooded crow <i>Corvus cornix</i>	55	SBL
House martin <i>Delichon urbicum</i>	111	BoCC Red
House sparrow <i>Passer domesticus</i>	543	BoCC Red; SBL

Species/Genus	Number of Records	Protection Status
Iceland gull <i>Larus glaucooides</i>	51	BoCC Amber
Kestrel <i>Falco tinnunculus</i>	70	BoCC Amber; SBL
Kingfisher <i>Alcedo atthis</i>	2	Annex I; WCA Schedule 1; SBL
Kittiwake <i>Rissa tridactyla</i>	18	BoCC Red
Knot <i>Calidris canutus</i>	6	BoCC Amber
Lapwing <i>Vanellus vanellus</i>	67	BoCC Red; SBL
Lesser black-backed gull <i>Larus fuscus</i>	20	BoCC Amber
Lesser redpoll <i>Acanthis cabaret</i>	15	BoCC Red; SBL
Linnet <i>Linaria cannabina</i>	97	BoCC Red; SBL
Long-tailed duck <i>Clangula hyemalis</i>	10	WCA Schedule 1; BoCC Red
Mallard <i>Anas platyrhynchos</i>	202	BoCC Amber
Manx shearwater <i>Puffinus puffinus</i>	17	BoCC Amber; SBL
Marsh harrier <i>Circus aeruginosus</i>	1	Annex I; WCA Schedule 1; BoCC Amber; SBL
Meadow pipit <i>Anthus pratensis</i>	112	BoCC Amber
Mediterranean gull <i>Ichthyaeetus melanocephalus</i>	72	WCA Schedule 1; BoCC Amber
Merlin <i>Falco columbarius</i>	18	Annex I; WCA Schedule 1; BoCC Red; SBL
Mistle thrush <i>Turdus viscivorus</i>	24	BoCC Red
Moorhen <i>Gallinula chloropus</i>	42	BoCC Amber
Osprey <i>Pandion haliaetus</i>	8	Annex I; WCA Schedule 1; BoCC Amber; SBL
Oystercatcher <i>Haematopus ostralegus</i>	236	BoCC Amber
Peregrine <i>Falco peregrinus</i>	32	Annex I; WCA Schedule 1; SBL
Pink-footed goose <i>Anser brachyrhynchus</i>	41	BoCC Amber
Puffin <i>Fratercula arctica</i>	11	BoCC Red
Purple sandpiper <i>Calidris maritima</i>	48	WCA Schedule 1; BoCC Red; SBL
Quail <i>Coturnix coturnix</i>	7	WCA Schedule 1; BoCC Amber
Razorbill <i>Alca torda</i>	7	BoCC Amber

Species/Genus	Number of Records	Protection Status
Red-backed shrike <i>Lanius collurio</i>	1	Annex I; WCA Schedule 1; BoCC Red; SBL
Red-breasted merganser <i>Mergus serrator</i>	18	BoCC Amber
Red-necked grebe <i>Podiceps grisegena</i>	2	BoCC Red; SBL
Redshank <i>Tringa totanus</i>	148	BoCC Amber
Red-throated diver <i>Gavia stellata</i>	17	Annex I; WCA Schedule 1; SBL
Reed bunting <i>Emberiza schoeniclus</i>	60	BoCC Amber; SBL
Ring ouzel <i>Turdus torquatus</i>	1	BoCC Red; SBL
Ringed plover <i>Charadrius hiaticula</i>	48	BoCC Red
Sanderling <i>Calidris alba</i>	11	BoCC Amber
Sandwich tern <i>Sterna sandvicensis</i>	11	Annex I; BoCC Amber
Scaup <i>Aythya marila</i>	1	WCA Schedule 1; BoCC Red; SBL
Sedge warbler <i>Acrocephalus schoenobaenus</i>	75	BoCC Amber
Shag <i>Gulosus aristotelis</i>	143	BoCC Red
Shelduck <i>Tadorna tadorna</i>	10	BoCC Amber
Short-eared owl <i>Asio flammeus</i>	5	Annex I; BoCC Amber; SBL
Shoveler <i>Spatula clypeata</i>	8	BoCC Amber
Siskin <i>Spinus spinus</i>	27	SBL
Skylark <i>Alauda arvensis</i>	346	BoCC Red; SBL
Slavonian grebe <i>Podiceps auritus</i>	2	Annex I; WCA Schedule 1; SBL
Snipe <i>Gallinago gallinago</i>	30	BoCC Amber
Snow bunting <i>Plectrophenax nivalis</i>	17	WCA Schedule 1; BoCC Amber; SBL
Sparrowhawk <i>Accipiter nisus</i>	58	BoCC Amber
Song thrush <i>Turdus philomelos</i>	88	BoCC Amber; SBL
Spotted Flycatcher <i>Muscicapa striata</i>	7	BoCC Red; SBL
Starling <i>Sturnus vulgaris</i>	536	BoCC Red; SBL
Stock dove <i>Columba oenas</i>	6	BoCC Amber
Storm petrel <i>Hydrobates pelagicus</i>	3	Annex I; BoCC Amber; SBL

Species/Genus	Number of Records	Protection Status
Swift <i>Apus apus</i>	63	BoCC Red; SBL
Tawny owl <i>Strix aluco</i>	11	BoCC Amber
Teal <i>Anas crecca</i>	22	BoCC Amber
Tree sparrow <i>Passer montanus</i>	95	BoCC Red; SBL
Turnstone <i>Arenaria interpres</i>	96	BoCC Amber
Turtle dove <i>Streptopelia turtur</i>	1	BoCC Red; SBL
Twite <i>Linaria flavirostris</i>	7	BoCC Red; SBL
Velvet scoter <i>Melanitta fusca</i>	3	WCA Schedule 1; BoCC Red
Wheatear <i>Oenanthe oenanthe</i>	31	BoCC Amber
Whimbrel <i>Numenius phaeopus</i>	6	WCA Schedule 1; BoCC Red
White-tailed eagle <i>Haliaeetus albicilla</i>	1	Annex I; WCA Schedule 1; BoCC Amber; SBL
Whooper swan <i>Cygnus cygnus</i>	29	Annex I; WCA Schedule 1; BoCC Amber; SBL
Wigeon <i>Mareca penelope</i>	77	BoCC Amber
Willow warbler <i>Phylloscopus trochilus</i>	93	BoCC Amber
Woodcock <i>Scolopax rusticola</i>	7	BoCC Red; SBL
Woodpigeon <i>Columba palumbus</i>	479	BoCC Amber
Wren <i>Troglodytes troglodytes</i>	294	BoCC Amber
Yellowhammer <i>Emberiza citrinella</i>	383	BoCC Red
<p>Table notes:</p> <p><b>EPS</b> – European Protected Species listed with Schedule 2 of the Habitats Regulations; <b>WCA</b> – Wildlife and Countryside Act 1981 (as amended); <b>PBA</b> – Protection of Badgers Act, 1992; <b>SBL</b> – Scottish Biodiversity List; <b>NE LBAP</b> – North East Scotland Local Biodiversity Action Plan; <b>INNS</b> – Invasive non-native species; <b>Annex I</b> – Species listed within the EC Birds Directive; <b>BoCC</b> – Listed in Birds of Conservation Concern 5 (Red or Amber).</p>		



## **Appendix 10.1: Designated Cultural Heritage Assets**

Table 10.12: Designated Cultural Heritage Assets within the Onshore Scoping Study Area

Designation Reference	Designation Title	Designation Type	Category
GDL00399	Hatton Castle	Garden and Designed Landscape	N/A
SM5951	Fedderate Castle	Scheduled Monument	N/A
SM5578	Pittulie Castle	Scheduled Monument	N/A
SM90216	Cairn of Memsie	Scheduled Monument	N/A
SM54	White Cow Wood, stone circle	Scheduled Monument	N/A
LB15914	Pittendrum, Mains of Pittendrum house	Listed Building	A
LB16146	House of Memsie	Listed Building	A
LB16551	Town House, High Street and Bridge Street	Listed Building	A
LB15885	Sandhaven, Main Street, Sandhaven Mill	Listed Building	B
LB16107	Manse of Monquhitter, Cuminestown including garden walls.	Listed Building	B
LB16108	Millfield House.	Listed Building	B
LB16110	Auchry House, dovecot.	Listed Building	B
LB16111	Auchry House, lodge.	Listed Building	B
LB16122	Monquhitter Parish Church, Cuminestown	Listed Building	B
LB16123	Monument to William Cumine (Gulielmi coming') of Auchry Monquhitter churchyard.	Listed Building	B
LB16149	Brucklay Castle, east lodge, gatepiers and balustraded dwarf walls.	Listed Building	B
LB16152	New Deer Parish Church (St Kane)	Listed Building	B

Designation Reference	Designation Title	Designation Type	Category
LB16156	Hill of Culsh (Dingwall Fordyce) monument.	Listed Building	B
LB16159	Mains of Fedderate; farmhouse (2 houses).	Listed Building	B
LB16159	Mains of Fedderate; farmhouse (2 houses).	Listed Building	B
LB16430	Idoch Fovecot Idoch farm	Listed Building	B
LB16538	Mill of Strichen	Listed Building	B
LB16539	Bogensourie cottage	Listed Building	B
LB16540	Techmuiry house and offices	Listed Building	B
LB16542	Burnshangie farmhouse and walled garden.	Listed Building	B
LB16547	Strichen House, stableblock, (barnyards of Strichen) Strichen Mains.	Listed Building	B
LB16548	Strichen House, doocot.	Listed Building	B
LB16549	Strichen House, kennels cottage	Listed Building	B
LB16550	Mart House Market Street	Listed Building	B
LB16554	Holmwood, High Street	Listed Building	B
LB16557	Library house, Water Street	Listed Building	B
LB16558	Anderson and Woodman Institute, Water Street.	Listed Building	B
LB16565	Northcote, North Street	Listed Building	B
LB16568	Old bridge over Ugie Water at Mill of Strichen	Listed Building	B
LB16569	Original parish church of Strichen, south aisle	Listed Building	B

Designation Reference	Designation Title	Designation Type	Category
LB19780	Brucklay Castle, west quadrangle of stable-block.	Listed Building	B
LB49992	Brucklay Castle, walled garden including gates and railings	Listed Building	B
LB15878	Pittulie, 55, 56 High Street	Listed Building	C
LB15878	Pittulie, 55, 56 High Street	Listed Building	C
LB15879	Pittulie, 57 High Street	Listed Building	C
LB15890	Pittulie, 8 High Street	Listed Building	C
LB15891	Pittulie, 12 High Street	Listed Building	C
LB15892	Pittulie, 13 High Street	Listed Building	C
LB15893	Pittulie, 15 High Street	Listed Building	C
LB15894	Pittulie, 20 High Street	Listed Building	C
LB15895	Pittulie, 21 High Street	Listed Building	C
LB15896	Pittulie, 24 High Street	Listed Building	C
LB15897	Pittulie, 25 High Street	Listed Building	C
LB15898	Pittulie, 27 High Street	Listed Building	C
LB15899	Pittulie, 29 High Street, house and store	Listed Building	C
LB15899	Pittulie, 29 High Street, house and store	Listed Building	C
LB15900	Pittulie, 34 High Street	Listed Building	C
LB16106	Monquhitter Churchyard	Listed Building	C

Designation Reference	Designation Title	Designation Type	Category
LB16109	Balthangie Cottage.	Listed Building	C
LB16112	Everton of Auchry, farmhouse.	Listed Building	C
LB16150	Brucklay Castle, kennels, (excluding kennels cottage).	Listed Building	C
LB16153	God's Acre (churchyard of Deer).	Listed Building	C
LB16154	St. Kane's manse sundial.	Listed Building	C
LB16155	10, 11 Gladstone Terrace, New Deer.	Listed Building	C
LB16157	Mill of Auchreddie.	Listed Building	C
LB16161	Brucklay Castle, bridge over water of Fedderate.	Listed Building	C
LB16449	Burn of Marno, farmhouse	Listed Building	C
LB16541	Hunter's Lodge, Mormond Hill	Listed Building	C
LB16543	Howford, old farmhouse	Listed Building	C
LB16544	"Roman" bridge, Howford, over north Ugie water.	Listed Building	C
LB16545	Adziel House	Listed Building	C
LB16552	75, 77 High Street Strichen	Listed Building	C
LB16555	Dairy (Gordon) High Street	Listed Building	C
LB16556	23, 25 Water Street	Listed Building	C
LB16559	Mormond Hotel, Water Street at w. Corner with Bridge Street	Listed Building	C
LB16560	25 Bridge Street and s. Gibson's shop	Listed Building	C

Designation Reference	Designation Title	Designation Type	Category
LB16561	All Saint's Episcopal Church, West Street	Listed Building	C
LB16562	All Saints' Episcopal Church, hall and schoolhouse, North Street	Listed Building	C
LB16563	40, 42 North Street	Listed Building	C
LB16564	2 North Street	Listed Building	C
LB16566	Bridge over north Ugie Water (a 981) at s.w. End of Bridge Street	Listed Building	C
LB16567	Bridge over north Ugie Water on b 9093	Listed Building	C
LB16570	Former parish church of Strichen	Listed Building	C
LB16571	Old parish church graveyard	Listed Building	C
LB16572	Manse of Strichen	Listed Building	C
LB19777	Old hall buildings, Garmond.	Listed Building	C
LB49988	Brucklay Castle	Listed Building	C
LB49989	Brucklay Castle, bridges to west and south walled garden	Listed Building	C
LB49989	Brucklay Castle, bridges to west and south walled garden	Listed Building	C
LB49990	Brucklay Castle, private burial ground with obelisk	Listed Building	C
LB49991	Brucklay Castle, quadrant walls and gatepiers at west lodge	Listed Building	C
LB49993	Brucklay Castle, west lodge	Listed Building	C

## **Appendix 11.1: Land Capability for Agriculture Classes**

Table 11.11: LCA Classes (Soil Survey of Scotland Staff, 1984-87)

Agriculture Class	Description
Class 1	Land capable of producing a very wide range of crops.
Class 2	Land capable of producing a wide range of crops.
Class 3.1	Land capable of producing consistently high yields of a narrow range of crops and/or moderate yields of a wider range. Short grass leys are common.
Class 3.2	Land capable of average production though high yields of barley, oats and grass can be obtained. Grass leys are common.
Class 4.1	Land capable of producing a narrow range of crops, primarily grassland with short arable breaks of forage crops and cereal.
Class 4.2	Land capable of producing a narrow range of crops, primarily on grassland with short arable breaks of forage crops.
Class 5.1	Land capable of use as improved grassland. Few problems with pasture establishment and maintenance and potential high yields.
Class 5.2	Land capable of use as improved grassland. Few problems with pasture establishment but may be difficult to maintain.
Class 5.3	Land capable of use as improved grassland. Pasture deteriorates quickly.
Class 6.1	Land capable of use as rough grazing with a high proportion of palatable plants.
Class 6.2	Land capable of use as rough grazing with moderate quality plants.
Class 6.3	Land capable of use as rough grazing with low quality plants.
Class 7	Land of very limited agricultural value.
Urban	Urban land.