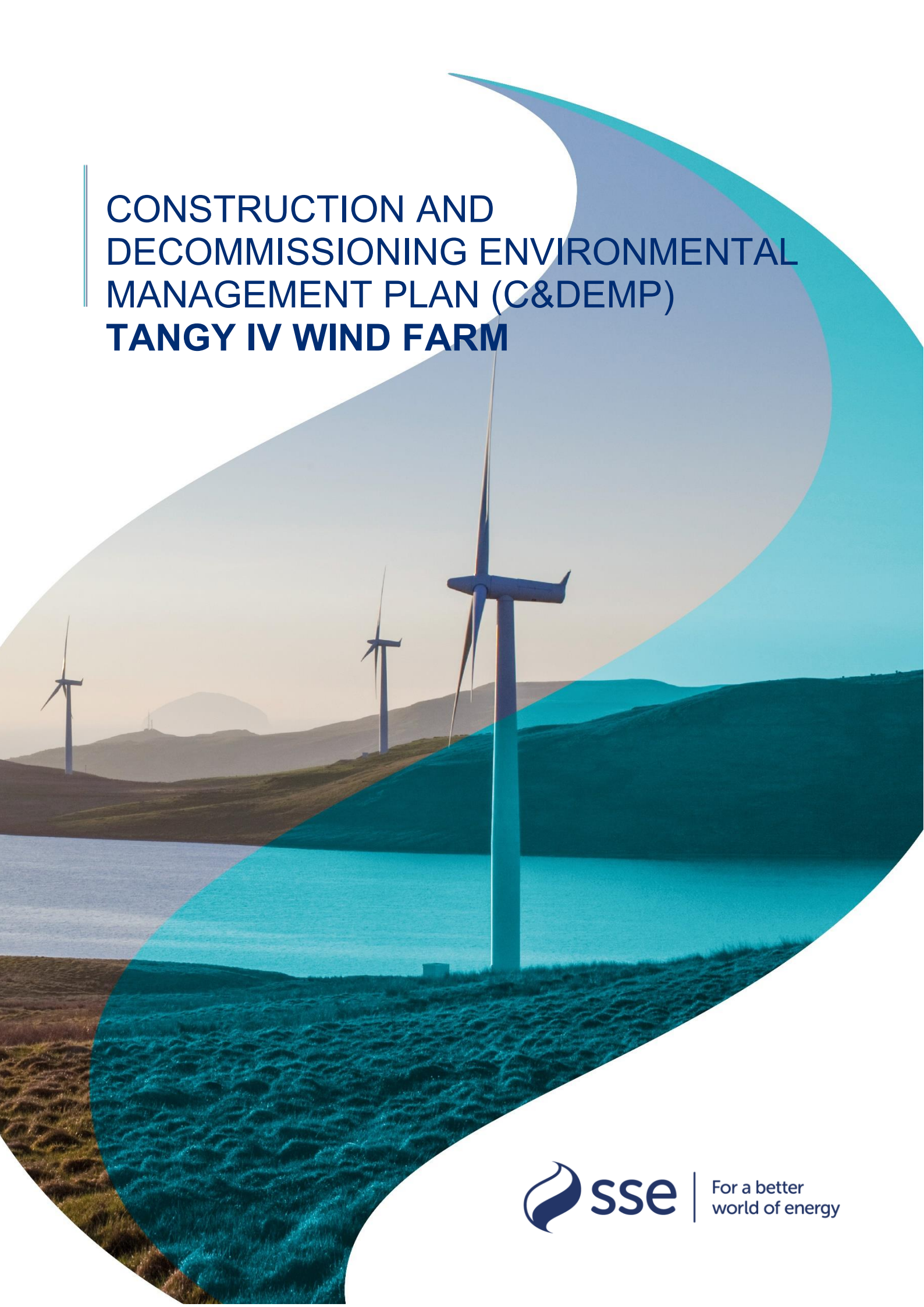


Tangy IV Wind Farm Section 36C Variation

Technical Appendix 3.7a: Construction Environment Management Plan



CONSTRUCTION AND DECOMMISSIONING ENVIRONMENTAL MANAGEMENT PLAN (C&DEMP) **TANGY IV WIND FARM**

DOCUMENT CONTROL

Document Version			
Version No.:	2.0	Date:	July 2024
Name		Position	Date
Prepared by:	Isla Davidson	Project Environment Manager	June 2024
Checked by:	Julie Bhatti	Onshore Development & Construction Environment Team Manager	June 2024
Reviewed by:	John MacKenzie	Construction Project Manager	July 2024
Comments:	Updated for satisfaction of pre-commencement conditions		

Document Revisions			
Revision No.:	2.0	Date:	July 2024
Revision Details:	Not revised		
Name		Position	Date
Prepared by:			
Checked by:			
Reviewed by:			

Document Distribution Record			
Version and Revision No.:	Document	Date of Issue	Recipient
1.0	Outline Construction Environmental Management Plan	August 2018	Outline CEMP for planning application
2.0	Construction and Decommissioning Environmental Management Plan	June 2024	For satisfaction of pre-commencement condition

Contents

Part 1 Project Description.....	1
Part 2 Project Contacts.....	3
Part 3 Construction Environmental Management Plan (CEMP)	4
1. Introduction	5
1.1. Construction and Decommissioning Environmental Management: Aims and Objectives	5
Works Contract	5
1.2. Roles, Responsibilities and Structure of the CEMP	5
Contractor's Environmental Representative	5
Environmental Authorisations	6
Contractor's Responsibility to Maintain Documentation	6
2. The Ecological Clerk of Works (ECoW)	7
2.1. Overview and Term of Appointment	7
2.2. ECoW Authority to Order a Stop	7
2.3. Review of Contractor Proposals and Monitoring Compliance	8
Review of Contractor Plans and Documentation	8
Compliance Monitoring	8
2.4. Inspection and Reporting	8
Weekly Inspection and Log	8
Monthly Report to Planning Authority	8
Environmental Data.....	9
Final Inspection and Report	9
2.5. Meetings and Briefings	9
Site Meetings.....	9
Site Briefings	9
3. Communications	10
3.1. Environmental Meetings	10
3.2. Environmental Audits	10
3.3. Provision Of Environmental Information	10
3.4. ECoW Monthly Report to Planning Authority	11
4. Site Induction and Regular Briefings	12
4.2. Toolbox Talks & Training	12
5. Environmental Incident and Emergency Response	13
5.2. Incident Recording	13
5.3. Serious Incident Reporting	14
6. Environmental Risk Management	15
6.2. Environmental Constraints Map	15
6.3. Environmental Risk Map	15
6.4. Environmental Risk Management Plans (ERMP)	15
7. CEMP Departures	17
8. Micrositing	18
9. Pollution Prevention and Mitigation Plan	19
9.1. Responsibility	19
9.2. Water Pollution Prevention Measures	19
Fuelling and Pumping Safeguards.....	20
Storage Safeguards	20
Spill Prevention	20
Silt Pollution Prevention	20
Concrete Washout	21
Flocculants	21
9.3. Dust Management Plan	21
9.4. Noise Mitigation Plan	22
Normal Working Hours.....	22

	Extraordinary Working Hours	22
	Noise and Vibration Control Measures	22
9.5.	Light Management	23
9.6.	Winter Maintenance	23
10.	Drainage	24
10.1.	Scope and Minimum Requirements	24
	Discharge of Water	24
	Permit to Pump	24
	Clean Water Diversion	24
10.2.	Access Track Drainage	24
10.3.	Peat and Soil Storage Drainage	25
11.	Water Quality and Fish Monitoring	26
11.1.	General Requirements	26
11.2.	Contractor's Visual and Field Water Quality Monitoring	26
11.3.	Fish Population Monitoring	27
11.4.	Private Water Supply Protection Plan	27
	Private Water Supplies at Potential Risk from Works	29
	Private Water Supplies Protection and Contingency of Supply	29
12.	Authorisations under CAR	31
12.2.	Construction Run-off Permit	31
12.3.	Abstraction	31
12.4.	Watercourse Crossings	31
	Temporary Water Crossings	32
	Fording or Operating Vehicle, Plant or Machinery In or Near Water	32
13.	Waste Management	33
13.2.	SWMP Development and Records Required	33
13.3.	SWMP Implementation and Monitoring	34
13.4.	Reporting to Employer	34
14.	Ecological Protection	35
14.2.	Habitat Protection Plans	35
	Sensitive Habitats	36
	Floating Track	36
14.3.	Species Protection Plans	36
	Species Licences	37
	Water Voles	37
	Individual Species Protection Plans	37
14.4.	Bird Protection Plan	37
	Greenland White-fronted Geese (important wintering population)	38
15.	Archaeological Protection	39
15.1.	Overview	39
15.2.	Archaeological Protection Measures	39
	Watching Brief	39
16.	Forestry Works	40
16.2.	Private Water Supply	40
16.3.	Ground Disturbance and Brash Mats	40
16.4.	Mulching	41
16.5.	Pollution Prevention	41
17.	Excavation, Soil Storage and Management	42
17.2.	Classification of Excavated Materials	42
17.3.	Soil Storage and Management	42
	Spoil Storage	43
	Peat Storage	43
17.4.	Peat Stability and Storage	44
17.5.	Peat Storage for Peatland Restoration	44
17.6.	Cabling Works	44
18.	Reinstatement Plan	46
18.2.	Borrow Pit Reinstatement	46

18.3. Reinstatement Materials	46
18.4. Vegetation Regeneration	47
Seeding	47
18.5. Reinstatement Monitoring	47
18.6. Peatland Restoration	48
18.7. Demobilisation.....	48
Part 4 Reference Documentation	49
Project Consent and Environmental Impact Assessment Report.....	49
SEPA.....	49
NatureScot (NS):.....	49
British Standards Institute (BSI):.....	50
CIRIA Publications:	50
Scottish Forestry/ Forestry Commission	50
Additional Relevant Guidance.....	50
Regulations	50
Part 5 Planning Conditions (Relevant to CEMP)	1
Part 6 Schedule of Construction Environmental Mitigation	11
Part 7 Appendices to CEMP.....	27
Appendix 1 Environmental Constraints Map	28
Appendix 2 SSE Incident Reporting Management and Investigation Standard (MS-SHE-010)	29
.....	29
Appendix 3 Peat Depth Plan.....	30
Appendix 4 Species Protection Plan.....	31
Badger Protection Plan	31
Bat Species Protection Plan	31
Otter Protection Plan.....	31
Pine Marten and Red Squirrel Protection Plan	31
Water Vole Protection Plan	31
Appendix 5 Bird Protection Plan	32
Appendix 6 Water Quality and Fish Monitoring Plan	33
Appendix 7 Private Water Supply Risk Assessment (Access Track)	34
Appendix 8 Archaeology Written Scheme of Investigation	35

Glossary

The following defines terms used throughout this document:

Archaeological Clerk of Works (ACoW) – The ACoW is an independent specialist appointed by the Employer. In accordance with relevant planning conditions, applicable regulations and best practice, the ACoW monitors the construction works to ensure protection of cultural heritage assets and buried archaeological remains. The ACoW provides advice to the Employer and Contractor where required. The ACoW role and associated responsibility is outlined in this document, Section 15.

Construction Runoff – Surface water runoff from construction works areas that may contain suspended solids, silt or other organic matter that requires treatment before discharging to the water environment.

Contract – Works Contract between SSE Renewables and the Contractor(s) undertaking construction and decommissioning at Tangy Wind Farm Extension.

Contractor / Principal Contractor (PC) – As defined in the Construction (Design & Management) Regulations 2015 (as amended), the Principal Contractor is appointed by SSE Renewables and has control over the construction phase of the development. There may be a number of contractors (and sub-contractors) employed by the Principal Contractor or working under their management.

Contractor's Environmental Representative – The contractors appointed environmental representative who will address site issues to ensure that the contractors' works are compliant with the CEMP. The advisor may be part of the contractor's core staff or may be outsourced to an appropriate environmental consultancy. The required credentials are set out in this CEMP.

Development – All aspects of the Tangy IV Wind Farm construction project and decommissioning of Tangy I and II Wind Farms. The commitments and mitigation outlined in the accompanying EIA Report have been transposed into the Construction and Decommissioning Environmental Management Plan (CEMP).

Ecological Clerk of Works (ECoW) – The ECoW is an independent specialist appointed by the Employer, typically with an ecological background, albeit with practical experience of broad environmental issues associated with construction. In accordance with relevant planning conditions, applicable regulations and best practice, the ECoW monitors environmental compliance and provides advice to the Employer and Contractor where required. The ECoW role and associated responsibility is outlined in this document.

EIAR - Environmental Impact Assessment Report, submitted with the wind farm planning application. This includes various environmentally related submissions and commitments to avoid, reduce and mitigate environmental effects.

Employer – The entity commissioning the construction of the wind farm and associated civil infrastructure. That is, SSE Generation Ltd. The SSE Project Manager will be the key representative of the Employer where mentioned within this document.

Environmental Risk Management Plans (ERMP) – Typically a drawing that develops the locations highlighted by the Environmental Risk Map. These plans are used to work out the best way to undertake construction activities whilst protecting the environment. It will include existing environmental data (from the Environmental Constraints Map e.g. rivers, protected species), a visual representation of planned work activities (e.g. water crossing, track construction) and the measures the Contractor will use to manage environmental impacts (e.g. cut off drainage, exclusion fencing). Further information is provided in Section 6.4.

Environmental Constraints Map – A drawing that displays relevant data from ecological surveys, archaeological findings and other sources. This data may include protected features (e.g. protected species) which require exclusion zones around them to prevent harm in accordance with law. Further information is provided in Section 6.2.

Environmental Risk Map – A drawing that highlights areas where construction activities will take place in close proximity to environmentally sensitive locations (e.g. rivers, protected habitats, protected species or archaeology). Further information is provided in Section 6.3.

Ground Water Dependent Terrestrial Ecosystem – wetlands which are ecologically critically dependent on groundwater.

Greenfield Runoff – Surface water runoff from adjacent undisturbed land that does not require treatment prior to discharging to the environment.

Planning Consent and/or Planning Conditions – Requirements set out within planning approval for the Tangy IV Wind Farm Extension development.

Pre-commencement Environmental Survey – these are surveys (typically ecological species) undertaken over the breeding season prior to the commencement of construction. They are used to advise on specific measures or authorisations that might be necessary prior to the commencement of construction (e.g. disturbance licence).

Pre-works Survey – These may also be referred to as ‘pre-checking’ or ‘pre-construction’. These are surveys (typically ecological in this CEMP) undertaken immediately prior to works (e.g. within days or a week) starting in an area. They may also be undertaken regularly during works in order to ensure that nothing has changed that might require consideration (e.g. new water vole burrow or bird nest within working area).

Reinstatement – Reinstatement works are generally undertaken during construction and aim to redress damage inflicted on the landscape as part of the construction process. Reinstatement is undertaken as soon as possible following the construction works in each area, such as the re-dressing of road and track verges and turbine bases (and other areas that may be disturbed as a result of the construction process). Re-seeding / hydro-seeding may be part of reinstatement measures where redressing proves unsuccessful. Requirements are set out in Section 18.

Restoration – Restoration works are generally defined as long-term measures aimed to restore (and in some instances improve / enhance) the ecological status of the development with regard to species and / or habitat. Restoration measures will be largely covered in the site’s Habitat Management Plan (HMP), where applicable. Re-seeding / hydro-seeding may be part of restoration works where reinstatement works are found to have been unsuccessful with regard to establishing plant growth.

Part 1 Project Description

General Project Information and Description

Project	Tangy IV Wind Farm
Location	The existing and proposed site lies approximately 12km from Campbeltown and are accessed via minor roads and farm tracks which branch North off the A83 at Drum Farm. Campbeltown Airport is approximately 7km south of the site.
Project Scope	Tangy Repowering is an onshore wind farm project to extend and repower the existing 18.7MW Tangy Wind Farm, situated on the west coast of the Kintyre Peninsula 12km from Campbeltown in Argyll and Bute. The project has consent to replace the existing 22 turbines with 16 new turbines with a tip height of 149.9m with potential for up to 96MW installed capacity. The components of the wind farm and related ancillary developments will comprise: • 16 turbines of up to 149.9m tip height; • Hardstanding areas at each turbine base with an approximate area of 1,800m²; • Three permanent meteorological masts and associated hardstand areas; • Up to two site substations; • One operations control building with parking and welfare facilities; • A total 11km of onsite access tracks with associated watercourse crossings; • Onsite underground cabling; • Temporary construction compound and laydown areas; • Temporary meteorological masts; • Temporary telecoms infrastructure; • Forest removal and subsequent replanting; • Dismantling of existing turbines and associated reinstatement; and • Up to 4 borrow pits.

Environmental Setting

The site is a combination of forestry, felled forestry and agricultural land currently used for commercial forestry, grazing and renewable electricity generation.

The highest point within the site boundary is Cnochán Gean, north-east of the existing wind farm at a height of 200m Above Ordnance Datum (AOD). In general, the elevation of the site ranges from about 90m to 200m AOD. The site slopes down to the west, south and north-west.

The site also contains several small watercourses/ burns, many of which are connected to Tangy Loch, which is approximately 230m south-east of the site boundary at its closest point.

Specific Environmental Constraints

The site is located on an upland area and comprises coniferous forest to the north and grassland to the south, although other habitats are present. There are a number of small watercourses and burns on site (e.g. Tangy Burn and Allt na Creamn).

There is no development proposed within areas designated for ecological protection at international, national or local scale. In the wider area, Tangy Loch, located adjacent to the site to the south-east, is designated as a Site of Special Scientific Interest (SSSI) and is a part of the Kintyre Goose Roosts Special Protection Area (SPA) and Ramsar site due to the presence of nationally important aquatic plant life (*Slender naiad najas flexilis*) and the Greenland White-fronted Goose (*Anser albifrons*). The

Kintyre Goose Roosts SPA and Ramsar sites, and Kintyre Goose Lochs SSSI, that cover Tangy Loch also include Lussa Loch, located approximately 1km north-west of the site.

Other designated sites in the wider area that are designated for non-ornithological features are the Machrihanish Dunes SSSI, approximately 3 km to the southwest of the site, which is designated for geomorphological features (sand dunes) and associated biological features (dune habitats and flora); and Bellochantuy and Tangy Gorges SSSI approximately 1 km southwest of the site, designated for quaternary geology and geomorphological features.

Ornithological surveys have indicated the presence, on or around the site, of Greenland white-fronted geese, greylag geese, merlin, peregrine, hen harrier, short-eared owl and herring gull.

The site is not covered by any national landscape policy designations. The North Arran National Scenic Area (NSA) is located approximately 22 km to the north-east, whilst the Knapdale and Jura NSAs are each approximately 40 km distant from the site to the north and north-west respectively.

There are no Scheduled Monuments (SM) within the site boundary. The Tangy Loch Fortified Dwelling SM sits outside the site to the south-east and Killocraw Cairns SMs are also located approximately 0.5 km to the north-west of the site boundary.

Key Documentation

- **Planning Conditions relevant to CEMP:** Part 5 Planning Conditions (Relevant to CEMP)
- **Environmental Impact Assessment:** <https://www.sserenewables.com/onshore-wind/in-development/tangy-repower/>
 - **Schedule of Mitigation relevant to CEMP:** Part 6 Schedule of Construction Environmental Mitigation
- **Environmental Constraints Drawing:** Part 7 Appendices to CEMP, Appendix 1 Environmental Constraints Map

Part 2 Project Contacts

To be completed by Employer and Contractor prior to commencement. This table will be updated and kept current by the Contractor for the duration of the Contract.

Position	Name	Phone No.	Email
SSE Renewables			
Project Manager			
Construction Site Manager			
Construction Works Package Manager			
Forestry Manager			
Environment Manager			
Operations Supervisor			
Environmental Consultants (on behalf of SSE Renewables)			
Ecological Clerk of Works (ECoW)			
Archaeological Clerk of Works (ACoW)			
Water Quality Consultant			
Principal Contractor			
Project Manager			
Site Agent			
Supervisor			
Environmental Manager			
Contractor's Environmental Representative			
Subcontractors			
Stakeholders			
PWS user TBC			
PWS user TBC			

Information to be completed following appointment of principal contractor.

Part 3 Construction Environmental Management Plan (CEMP)

1. Introduction

1.1. CONSTRUCTION AND DECOMMISSIONING ENVIRONMENTAL MANAGEMENT: AIMS AND OBJECTIVES

- 1.1.1 The principal objective of this document is to provide information on appropriate measures in the avoidance, minimisation and control of adverse environmental impact associated with the works. Furthermore, this document aims to define good practice as well as specific commitments relating to environmental protection as identified in the Environmental Impact Assessment Report (1.1). The EIA Report and Consent can be found on the SSE Renewables Website¹.
- 1.1.2 Relevant reference and guidance documentation is listed in Part 4 Reference Documentation.
- 1.1.3 An Ecological Clerk of Works (ECoW) has been appointed by the Employer to monitor compliance of ecological provisions of the CEMP over the duration of the works. This appointment and the responsibilities of the position are set out within Section 2.
- 1.1.4 This CEMP will form part of the Contractors Works Contract, as set out below, and will be read and implemented onsite in conjunction with industry best practice, published guidance documents, ground investigation report and other documents referred to within the CEMP.

Works Contract

- 1.1.5 The CEMP forms part of the Works Contract (hereafter, the Contract). The methods and principles contained herein, as well as within referenced legislative instruments and published guidance documents, are adhered to by the Contractor in developing and refining the detailed design, risk assessment and construction method statements and other plans relating to environmental management as required by the Contract.
- 1.1.6 Should the Employer or ECoW identify any failure to comply with the requirements of this document, the Contractor's own plans, requirements set out within the planning consent or the law then the Employer may stop the associated works until such time as the failure is rectified. Any associated cost or time delay incurred will be borne by the Contractor.
- 1.1.7 The Contractor submits all relevant information as detailed in this document to the Employer for acceptance in accordance with the Contract provisions. No works will commence prior to the Employer's acceptance.
- 1.1.8 Once agreed, the Employer provides the Contractor with an electronic copy of the CEMP which the Contractor maintains for the duration of the works.

1.2. ROLES, RESPONSIBILITIES AND STRUCTURE OF THE CEMP

Contractor's Environmental Representative

- 1.2.1 The Contractor is required to appoint an Environmental Representative who is appropriately competent and experienced in an environmental management in a construction setting (i.e. holds a minimum of 5 years directly relevant experience as agreed with Employer).
- 1.2.2 The Contractor demonstrates the competence of the Environmental Representative to the Employer via submission of relevant information (e.g. CV, training records, membership records) for acceptance 4 weeks prior to commencement of construction works.
- 1.2.3 To comply with the requirements set out within this CEMP, the Contractor's Environmental Representative will provide support on environmental matters to the Contractor in the

¹ <https://www.sserenewables.com/onshore/in-development/tangy-repower/>

preparation of all required pre-construction information and Environmental Risk Management Plans (as set out in Section 5.4). The named person will ensure Contractor compliance with the CEMP and all other environmental related plans, consents and licenses and will be a full-time site-based resource, unless otherwise agreed with the Employer.

Environmental Authorisations

- 1.2.4 The Contractor is responsible for ensuring all necessary consents, licences and permissions for their activities are in place in accordance with relevant legislation governing the protection of the environment prior to commencing works. Planning consent for the project has been obtained by the Employer, however the Contractor will obtain appropriate activity specific authorisations. This is anticipated to include, and may not be limited to, those set out in Section 12.

Contractor's Responsibility to Maintain Documentation

- 1.2.5 A copy of this document and related files and documents will be kept in the site offices for the duration of the site works and will be made available for review at any time. Upon completion of the construction works, the Contractor submits a complete electronic copy of the final set of information to the Employer for their records.

2. The Ecological Clerk of Works (ECoW)

2.1. OVERVIEW AND TERM OF APPOINTMENT

- 2.1.1 An ECoW was appointed in 2023 and is employed as an independent consultant by the Employer. In advance of the commencement of development, this appointment is subject to approval by the planning authority after submission of details of qualifications and experience.
- 2.1.2 The Employer will advise the planning authority as soon as reasonably practicable if, for whatever reason, the ECoW is replaced. The Employer will advise, in writing, of the identity of replacement and suitably qualified ECoW for approval by the planning authority.
- 2.1.3 The ECoW role extends for the duration of the works to construct Tangy IV Wind Farm, decommissioning and construction reinstatement works of Tangy I & II Wind Farm. The lead ECoW is able to draw on a team of appropriately qualified ECoW, ecologists, ornithologists and hydrologists with suitable experience working in comparable habitats and projects.
- 2.1.4 The ECoW Team has prepared the Species Protection Plans (Appendix 4) and Bird Protection Plans (Appendix 5). Surveys were undertaken in 2023 to advise the completion of these Plans including to establish the presence of otter, water vole, badger and other protected species. These surveys will be used to maintain the Constraints Map (Section 6.2) and inform the Contractor for update of the Environmental Risk Map (Section 6.3).
- 2.1.5 The ECoW will monitor compliance with the ecological, ornithological and hydrological commitments provided in the EIAR (and further environmental documents submitted in support of the Application), CEMP, Peat Management Plan, Habitat Management Plan, Species Protection Plans and Breeding Bird Protection Plans.
- 2.1.6 In the event of non-compliance, inadequate control, protection measures, or area of concern the ECoW will immediately inform the Employer and Contractor. This may be verbally in the first instance for urgency and followed up in writing. The Contractor will undertake action to avoid, minimise and mitigate adverse environmental effects.
- 2.1.7 The Contractor consults with the ECoW prior to undertaking specific works as detailed below and always considers ECoW advice. The ECoW ensures that records are maintained to support key decisions and advice given to the Contractor, including those set out in Section 6.
- 2.1.8 The ECoW will report findings, observations, and recommendations to the Contractor and Employer.
- 2.1.9 The ECoW assists the Employer with the supply of relevant information for compliance assessment.
- 2.1.10 The ECoW is an advisory, oversight and monitoring role. This is not a replacement or substitute for the Contractor's Environmental Representative (paragraph 1.2.1) or defers the Contractor's responsibility to implement good environmental practice.

2.2. ECOW AUTHORITY TO ORDER A STOP

- 2.2.1 Where the ECoW identifies that works being undertaken by the Contractor, that could lead to an incidence of non-compliance with the planning conditions or measures detailed in the EIA Report, CEMP or any environmental legislation, the ECoW informs the Employer at the earliest practical opportunity. On advice of the ECoW the Employer may stop the works or parts thereof as appropriate.
- 2.2.2 Works may not re-commence (following a stop as described above) unless and until the ECoW has confirmed in writing that they are satisfied that such measures have been actioned to remediate the non-compliance.

2.3. REVIEW OF CONTRACTOR PROPOSALS AND MONITORING COMPLIANCE

Review of Contractor Plans and Documentation

- 2.3.1 The ECoW is to be informed of proposed new construction areas at least two weeks in advance of proposed works. The ECoW will implement pre-works surveys and advise on control methods in accordance with Section 6 Environmental Risk Management.

Compliance Monitoring

- 2.3.2 The ECoW will monitor Contractor implementation of the ecological requirements set out within this CEMP.
- 2.3.3 Further responsibilities of the ECoW, relating to specific activities, is set out within the following sections of this document:
- Pollution prevention and mitigation, Section 9;
 - Temporary drainage requirements, Section 10 and Appendix 6 Water Quality and Fish Monitoring Plan;
 - Water crossings and water abstraction, Section 12;
 - Species and habitat protections in relation to construction activities, Section 14 and with reference to Appendix 4 Species Protection Plan and Appendix 5 Bird Protection Plan;
 - Excavation, soil and peat handling, Section 17 and with reference to Appendix 3 Peat Depth Plan and Peat Management Plan;
 - Reinstatement, Section 18

2.4. INSPECTION AND REPORTING

Weekly Inspection and Log

- 2.4.1 The ECoW conducts weekly inspection of the construction site. This will include a visual assessment of the effectiveness of environmental management (e.g. site pollution prevention measures).
- 2.4.2 The ECoW keeps a record of the following:
- pre-works or pre-clearance checking surveys (in the days running up to works initiating in an area for birds, species and habitats),
 - animal sightings and signs (including birds, in addition to other site ornithological monitoring),
 - weekly checks on the effectiveness and integrity of silt and pollution prevention measures, and
 - record of tasks carried out and written record of all verbal advice given.
- 2.4.3 The ECoW issues a weekly log of the above, updating the Environmental Constraints map (where required) and issues it to the Contractor and Employer, within three working days of the end of the week (unless otherwise agreed with the Employer). This is in addition to immediate notification in response to observations, as set out in paragraph 2.1.6.
- 2.4.4 Observations, actions, and progress on challenges raised in the ECoW weekly log will be discussed at the site meetings (paragraph 3.1).

Monthly Report to Planning Authority

- 2.4.5 The ECoW will submit a monthly report to the Planning Authority summarising works undertaken on site, compliance with conditions of the consent, the compliance/non-compliance issues identified on the day of the site visit and details of actions taken/ remedial action points (Condition 24(1)(c)). The report should be details illustrated with photos, diagrams, maps and notes as appropriate to illustrate the condition of the site and progress of construction.

Environmental Data

- 2.4.6 The ECoW maintains a GIS database of key recordings made during the construction period. Field records will use GPS technology captured into a field GIS system.

Final Inspection and Report

- 2.4.7 On completion of works the ECoW produces a final report to the Employer documenting the ecological management of the works.
- 2.4.8 The ECoW will map all areas reinstated using GIS, maintaining this record throughout the construction period and provide electronically to the Employer at handover. This will include areas identified as turves, hydro seeded, or still to be seeded within the 2 Year defect period.
- 2.4.9 The ECoW undertakes a final inspection of reinstatement, as above and, as described in Section 18.5. The ECoW establishes fixed point photography locations for future monitoring, with baseline photographs taken at handover.

2.5. MEETINGS AND BRIEFINGS

Site Meetings

- 2.5.1 The ECoW will attend the weekly site environmental meeting and highlight/comment on all ecological risks and mitigations required.

Site Briefings

- 2.5.2 The ECoW will deliver Toolbox Talks on current ecological constraints and mitigations as required. Task specific briefings will include, and not be limited to, specific controls in place to protect habitats and species such as exclusion zones.

3. Communications

3.1. ENVIRONMENTAL MEETINGS

- 3.1.1 Prior to the commencement of works, the *Employer* will convene a meeting with the relevant contractor parties to ensure full awareness of the content of the CEMP, in preparation for site set up of environmental controls and provisions and to ensure introductions to key environmental personnel for the Employer and Contractor are established.
- 3.1.2 Following mobilisation, the Contractor will convene a weekly environmental meeting with representation from SSER (Site Manager and Project Environment Manager), ECoW and Contractor Environmental Representative.
- 3.1.3 This meeting will review ongoing environmental controls and a lookahead at planned works and potential environmental risks and constraints in such areas. It will include the following reoccurring topics:
- review the effectiveness of mitigation / controls as construction progresses in the context of ecological and environmental mitigation,
 - discuss construction programme for the following week / fortnight look-ahead and agree actions on these matters,
 - Consider local weather forecast and potential implications for the above, and
 - Discuss incidents and the closure of incidents (as required).

3.2. ENVIRONMENTAL AUDITS

- 3.2.1 Audits may be completed at any time by the Employer, but at least one per quarter. These will be arranged in advance with notice provided to the Contractor from the Employer (i.e. at least one week). All completed audit forms (and records of corrective action and close outs) must be filed.
- 3.2.2 Non-compliances identified by the Employer must be addressed immediately where there is a serious risk (e.g. of pollution) or resolved within two weeks.
- 3.2.3 The Contractor (or Contractor's Environmental Representative) undertakes a programme of environmental audits to satisfy conformance with CEMP principles, including audits of their sub-contractors.

3.3. PROVISION OF ENVIRONMENTAL INFORMATION

- 3.3.1 The Contractor provides and maintains project environmental notice board(s) which are positioned to ensure that all working parties can review a notice board on a daily basis. As a minimum this will include one notice board to be placed in each compound.
- 3.3.2 The environmental notice boards are maintained by the Contractor's Environmental Representative and shall be updated at least monthly. As a minimum, the notice boards contain:
- Environmental Risk Map illustrating the location of the key risks and required exclusion zones / buffer zones and location of emergency response equipment, as required by the CEMP;
 - Key contact numbers and responsible personnel identified within the Environmental Incident and Emergency Response Plan (EIERP) (see Section 5); and
 - A copy of all regulatory authorisations (e.g. licences) relevant to the work activities being undertaken (see Paragraph 1.2.4).

3.4. ECOW MONTHLY REPORT TO PLANNING AUTHORITY

- 3.4.1 The ECoW will submit a monthly report to the Planning Authority, requirements are set out in Paragraph 2.4.5.

4. Site Induction and Regular Briefings

- 4.1.1 The Contractor ensures that all contractor employees, sub-contractors, suppliers, and other visitors to the site are made aware of the content of this document that is applicable to them. Accordingly, environmental specific induction training will be prepared by the Contractor and presented to all categories of personnel working and visiting the site.
- 4.1.2 As a minimum, the following information will be provided to all inductees:
- Identification of specific environmental risks associated with the work to be undertaken on site by the inductee, including relevant Environmental Risk Management Plans (Section 6.4).
 - Environmental Incident and Emergency Response Plan (including specific Environmental Communication Plan requirements and reporting of incidents as set out in Section 5).
 - Site induction will include contact details for all environmental personnel and instruction on the circumstances when the ECoW should be contacted, and the relevant phone number.

4.2. TOOLBOX TALKS & TRAINING

- 4.2.1 During construction, on-going reinforcement and awareness training is to be undertaken. As part of regular toolbox talks, topics set out within CEMP sections and specific environmental issues arising on site, will be discussed. Toolbox talks and training will be delivered by the Contractor or by specialist personnel onsite (e.g. ECoW, Contractor's Environmental Representative, etc.) as required.
- 4.2.2 Additional toolbox talks shall be delivered based on circumstances such as new operatives or subcontractors starting on site, occurrence of environmental incidents result of audit findings.
- 4.2.3 Specifically, the Contractor provides, as a minimum, the following environmental training prior to the start of construction and for new personnel during construction:
- Training on the effective use of spill kits (on ground and in surface waters), to be provided on a regular basis (to account for staff/subcontractor changes etc). Training to be undertaken by a suitably qualified individual; and
 - Training on silt mitigation e.g. effective installation of silt fencing etc., silt mitigation measures to relevant construction operatives.
- 4.2.4 The Contractor maintains records of all toolbox talks and training and makes these records available to the Employer where requested.

5. Environmental Incident and Emergency Response

- 5.1.1 The Contractor prepares a detailed Environmental Incident and Emergency Response Plan (EIERP) (Section 5). This must include a key contacts list (internal to the project and Employer) as well as emergency external contacts (e.g. spills contractor, SEPA Pollution Hotline, Scottish Water) to enable timely appropriate response.

5.2. INCIDENT RECORDING

- 5.2.1 An SSE Safety and Environmental Awareness Report (SEAR) is required to be completed for any potential or actual environmental incident or emergency which occurs or is noted on site.
- 5.2.2 These are to be reported by the Contractor to Employer within 30-minutes as set out within the Incident Response Plan. The plan will contain contact details for the Employer's Project Manager, Environment Manager and SHW Manager as a minimum.
- 5.2.3 The Employer will assess the significance of the incident against the thresholds provided in Figure 1 (in keeping with the requirement of SSE Incident Reporting Management and Investigation Standard in Appendix 2) and where they are breached a 30-minute report using the 24 hour reporting line.

5.2.4 Figure 1 Environmental Impact Classification

Appendix C – Environmental Impact Classification			
Impact Ranking	Permit or Licence breach	Environmental Impact - No Permit	Report to Regulator
Catastrophic	Impact of international environmental significance		
Severe	Impact of national environmental significance		
Major	Significant breach of limit (more than one gross breach - more than 20% of emission limit or >1 pH unit) Planning condition breach giving rise to formal enforcement action Prohibited activity (undertaking activity without permit) giving rise to formal enforcement action	- Damage to ecosystem over 1km (water) or 1 km² (land) - Fish kill >100 - release >10,000 litres of oil or chemicals to land - releases >100 litres of oil or chemicals to inland waters - releases >1,000 litres of oil or chemicals to offshore waters - materially discolours a watercourse over 3km - releases >50kg SF₆	Permit – Mandatory Non-Permit - Mandatory
Serious	Single gross breach (more than 20% of emission limit or >1 pH unit) of limit Frequent and repeated minor limit breach Planning condition breach giving rise to multiple complaints and/or regulatory intervention Prohibited activity (undertaking activity without permit)	- Damage to ecosystem <1km (water) or <1 km² (land) - Fish kill >10 - <100 - affects Protected Species or their habitats - releases >100 - 10,000 litres of oil or chemicals to land - releases >10 - 100 litres of oil or chemicals to inland waters - releases >100 - <1,000 litres of oil or chemicals to offshore waters - materially discolours a watercourse >100m - <3km - systematic failure of waste management systems - involves hazardous / special waste - releases >10 -50kg SF₆	Permit – Mandatory Non-Permit - Mandatory
Minor	Minor limit breach (less than 10% of the emission limit or <1 pH unit) Planning condition breach Breach of permit/licence condition not related to emission limit values	- Limited and localised damage to ecosystem <10m (water) or <10 m² (land) - Fish kill <10 - gives rise to an isolated Valid Complaint - releases >10 - <100 litres of oil or chemicals to land - releases >1 - 10 litres of oil or chemicals to inland waters - releases >10 - <100 litres of oil or chemicals to offshore waters - materially discolours a watercourse >10m – 100m - releases 5 - 10kg SF₆ - isolated waste management incident not involving special / hazardous waste - is not easily recoverable	Permit – Mandatory Non-Permit – Mandatory if oil/substance released can impact watercourse or sensitive habitat, otherwise Voluntary
Incidental		- is not classified as Minor or more severe; and - has limited material impact; and - is easily recoverable; and - does not cause Valid Complaints	Non-Permit – reporting not required
Notes Where the release of oil or chemicals is contained in an engineered bund, hard standing, contained surface water drainage system served by an interceptor (and does not enter surface waters, sea or public/municipal drainage systems), preventing the release of oil or chemicals to ground or the environment, and is fully recoverable, the impact classification can be reduced by one level. For any offshore incidents located within or in close proximity of a protected site (e.g. Special Protection Area, Special Area of Conservation, Marine Protected Area, Marine Conservation Zone), consideration should be given to the spill quantities and potential impacts on the designating features of the protected sites (e.g. seabirds, benthic habitat, marine mammals etc). In such cases the impact classification can be increased by one level. A valid complaint is a complaint from a Stakeholder leading to regulatory intervention or damage to reputation. Major environmental incidents will result in one or all of the following - major environmental impact and/or major permit breach and/or formal regulator intervention and/or potential to damage SSE's reputation.			

5.3. SERIOUS INCIDENT REPORTING

5.3.1 In the event of any serious breach of health and safety or environmental obligations relating to the development during the period of this consent, the Employer is required to provide written notification of the nature and timing of the incident to the Scottish Ministers, including confirmation of remedial measures taken and/or to be taken to rectify the breach, within 24 hours of the incident occurring.

6. Environmental Risk Management

- 6.1.1 The process of environmental information flow to advise the development is provided below.

6.2. ENVIRONMENTAL CONSTRAINTS MAP

- 6.2.1 Based on survey data collected throughout the planning and pre-commencement Development phases, the Employer has developed an Environmental Constraints Map (Appendix 1) illustrating land constraints and environmental sensitivities (e.g. protected areas, archaeology, wildlife and exclusion zones).
- 6.2.2 The Environmental Constraints Map has been advised by pre-construction surveys including information within the appendices to this document (Appendix 4 Species Protection Plan, Appendix 5 Bird Protection Plan and Appendix 8 Archaeology Written Scheme of Investigation).
- 6.2.3 The ECoW will maintain the Environmental Constraints Map, updating it with new survey data when available, e.g. throughout the ecological survey season.

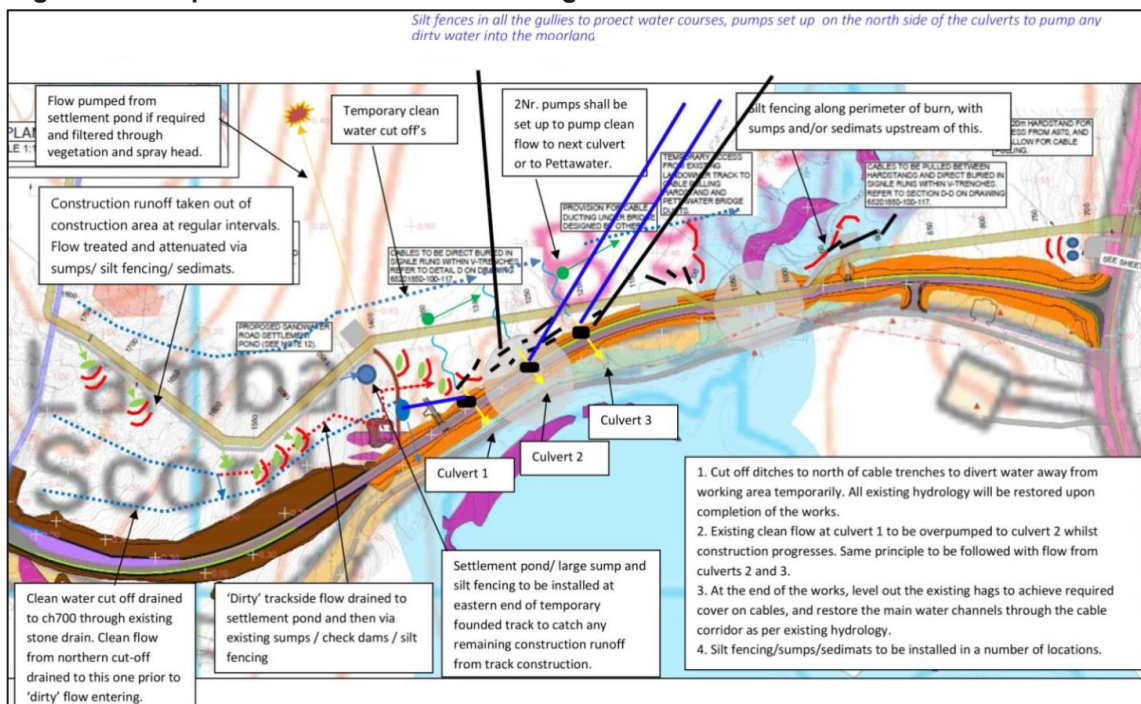
6.3. ENVIRONMENTAL RISK MAP

- 6.3.1 Using the information contained within the Environmental Constraints Map, the Contractor produces and maintains an Environmental Risk Map. This map will illustrate environmentally sensitive areas identified (within the Environmental Constraints Map) and potential sources of pollution or other hazards associated with planned construction activities in these areas. Potential hazards may include, but are not limited to; fuel handling, concrete washout areas, waste and material storage areas, works around watercourses.
- 6.3.2 The Environmental Risk Map will be updated by the Contractor in consultation with the ECoW (Section 2.1) to include any further controls or exclusion zones. In accordance with Section 4.2, any update will trigger a toolbox talk to clearly communicate the change and offer opportunity for any necessary clarifications.

6.4. ENVIRONMENTAL RISK MANAGEMENT PLANS (ERMP)

- 6.4.1 The Contractor provides and maintains Environmental Risk Management Plans (ERMPs) for specific sensitive locations defined in the Environmental Risk Map (e.g. private water supplies, species shelters or surface water) that require specific environmental safeguards. Additional relevant information such as drainage paths, habitat and exclusion areas should be included to support accurate planning of work in the context of the locations.
- 6.4.2 Prior to works in a sensitive area, the Contractor will prepare an ERMP for each location, allowing at least 10 working days for acceptance by the Employer and ECoW. The plan will contain task specific mitigation measures associated with the potential risks identified. Mitigation measures must be maintained and monitored once the plan is in place and adapted as required for any changing circumstances.
- 6.4.3 An example plan is provided in Figure 2 below.

Figure 2 Example Environmental Risk Management Plan



- 6.4.4 The Contractor will coordinate feedback from the Contractor's Environmental Representative, SSER Environmental Manager, ECoW, ACoW, and any other relevant disciplines for acceptance by the Employer.
- 6.4.5 All parties will retain copies of the agreed plans in the event of an incident and subsequent investigation by Contractor, Employer or regulator.
- 6.4.6 These plans will be used to measure the effectiveness of the mitigation installed and will be improved upon where environmental circumstances, or changes in work details, require them to be. The Contractor's Environmental Representative will monitor this. Where significant changes are required, outwith the normal evolution of the mitigation requirements, the Contractor will re-consult with the Employer.

7. CEMP Departures

- 7.1.1 During the construction of the Development, it is considered reasonable to presume that certain eventualities will partially or fully preclude the implementation of specific standards and processes outlined within the CEMP. In these events, the Contractor provides justification to the Employer via the Technical Change Control Procedure set out within the Works Contract. The Technical Query (TQ) must outline the reasons for any departure from this CEMP and detail a proposed alternative approach that does not compromise environmental protection.
- 7.1.2 Proposals must take cognisance of available guidance (including information listed in Part 4) and specific constraints set out within this CEMP and its appendices. The alternative proposals shall only be adopted following consideration and acceptance by the Employer following consultation with the ECoW where relevant.
- 7.1.3 Material changes will require consultation with the Planning Authority and relevant consultees, in accordance with micro-siting requirements (Section 8). The Contractor includes any additional requirements in the Technical Query and updated ERMP (Section 6.4) to detail how compliance with the consent shall be maintained.

8. Micrositing

- 8.1.1 Micro-siting of site infrastructure (wind turbines, masts, trenches, areas of hard standing and tracks), where ground conditions require it, will be limited to within the application site boundary and is subject to the following restrictions (reflecting Condition 9 of the planning conditions set out in Part 5 of this document):
- All wind turbines, buildings, masts, areas of hard standing and tracks shall be constructed in the locations shown on plan reference Figure 4.1c [planning application] save for the ability to vary without further recourse to the Planning Authority, the indicated position of any turbine, track, or associated infrastructure by up to 50 meters.
 - Unless otherwise agreed with the Planning Authority in consultation with NatureScot and SEPA, any micro-siting shall not encroach further into any buffer areas identified in respect of water courses, or nature conservation or historic environment interests as set out in Appendix 1 Environmental Constraints Map.
 - Any such micro-siting shall be carried out under the supervision of the ECoW, shall be informed by the Peat Management Plan and shall avoid areas of deep peat.
 - No later than one month after the date of Final Commissioning an updated site plan showing the final position of all wind turbines, buildings, masts, areas of hardstanding, tracks and associated infrastructure forming part of the Development shall be submitted to the Planning Authority. The plan shall also specify areas where micrositing has taken place and, for each instance, be accompanied by copies of the ECoW agreement (if applicable).
- 8.1.2 All micro-siting (to within the above limits) must be agreed in writing in advance by the Employer and ECoW. In addition, there may be further agreement required from the ACoW depending on the location of micrositing in relation to identified features or peat slide risk. This written record will be kept by the Employer.
- 8.1.3 Any relocation of site infrastructure beyond the limits (set out in 8.1.1 above) must be approved in writing by the planning authority, Nature Scot and SEPA. Requests for relocation beyond the limits must include relevant information developed by the Contractor and issued to the Employer, who will seek agreement with the planning authority and statutory consultees as required.

9. Pollution Prevention and Mitigation Plan

9.1. RESPONSIBILITY

- 9.1.1 The Contractor is responsible for pollution prevention for the duration of the contract and until such time as permanent measures, such as permanent drainage and silt mitigation controls, are deemed to be adequate and appropriately constructed. This responsibility will include the actions of any third party who is sub-contracted by the Contractor or otherwise involved in the project.
- 9.1.2 The contractor is responsible for the set out, formation and management of all compound and welfare areas, in compliance with this CEMP and all relevant regulations (e.g Pollution preventions, Waste Management) as specified within this section.
- 9.1.3 The Contractor is familiar with and executes works in accordance with good practice, as set out in SEPA Guidance for Pollution prevention (GPPs), Engineering Guidance, and other guideline documents (including those detailed in Part 4).
- 9.1.4 All works must be in accordance with Water Environment (Controlled Activities) (Scotland) Regulations (as amended) ("CAR"), and, where applicable, authorisations must be obtained in advance of relevant works. Anticipated activities for construction of this project are set out in Section 12.
- 9.1.5 The Contractor is responsible for ensuring that all materials ordered or brought to site listed as hazardous under the Control of Substances Hazardous to Health (COSHH) Regulations are accompanied with a hazardous information sheet and COSHH Assessment for the safe use of each substance. The Contractor complies with the COSHH Regulations. This includes appropriate containers that are secured, labelled and banded.
- 9.1.6 The Contractor must provide ERMPs (as set out in Section 6.4) that appropriately address pollution prevention good practice, including any further measures set out in this document. This CEMP forms part of the Works Contract (Section 1.1).
- 9.1.7 The Contractor ensures that all staff and subcontractors working on site will be familiar with pollution prevention and mitigation measures as detailed in this document; this includes subcontractors, Employer's direct contractors and other Employer's representatives working on the site.
- 9.1.8 Any deviations to the above will be subject to discussion with the Employer and assessed as a departure from the CEMP in keeping with Section 7.

9.2. WATER POLLUTION PREVENTION MEASURES

- 9.2.1 The following points (not exhaustive) indicate general pollution prevention measures in accordance with those highlighted within the guidelines referenced in this document and the EIA Report. Pollution Prevention measures relating to specific tasks are also detailed in the respective sections of this document.
 - Any material or substance which could cause pollution, including fuels/oils, wet cement, raw concrete or silty water will be prevented from entering groundwater, surface water drains or watercourses by the appropriate use of and appropriate placement of (temporary) silt fences, cut-off drains, silt traps and drainage to vegetated areas where appropriate.
 - Where a minimum buffer distance of 50m from surface water cannot be achieved for high risk activities (e.g. crushing, refuelling, stockpiling, use of cementitious materials), advice will be sought from the ECoW and a minimum distance will be agreed with the Employer.
 - Consider local weather conditions and patterns including rainfall and wind direction. Take this into account when planning certain activities (e.g. topsoil stripping) for appropriate control of dust and silt (e.g. silt fences).

- Any sign of failing water treatment measures or sight of silted or contaminated water entering any watercourse on site will be reported immediately (Section 5).

Fuelling and Pumping Safeguards

- External fuel delivery lorries will only be allowed as far as the main site compound where the bulk refuelling area will be equipped with an impermeable base and oil interceptor (in accordance with Guidance for Pollution Prevention, reference provided in Part 4).
- Fuel transfer / refuelling and pumping will be undertaken by specifically trained and competent staff or undertaken under competent supervision.
- During fuelling and pumping, pumps will not be left unattended at any time.
- Areas of waste oil / fuel / chemical storage and permanent refuelling will be located 50m away from watercourses or drainage paths. Where this is not possible, advice will be sought from the ECoW and a minimum distance will be agreed with the Employer.
- All refuelling and pumping will be carried out at least 50 metres from surface water. Where this buffer distance cannot be achieved a minimum distance will be agreed with the ECoW.
- Fuel pipes on plant, outlets at fuel tanks etc will be regularly checked and maintained to ensure that no drips or leaks to ground occur. Records of checks will be maintained and made available to the Employer on request.
- Irrespective of the buffer distance and location of refuelling, plant nappies will be available and used during all refuelling operations (open metal drip trays are not acceptable).

Storage Safeguards

- Storage will be secured to prevent the public or animals from gaining access.
- Storage areas will be sited on an impervious base to prevent the downward percolation of contaminants to natural soils and groundwater.
- Siting of storage will be in a manner to avoid damage from collisions or other impacts that could compromise containers.

Spill Prevention

- The Contractor's Environmental Representative carries out daily inspections of oil/fuel storage areas and plant. The frequency and responsibility for undertaking these inspections will be recorded by the Contractor and communicated to the Employer prior to commencement of the works.
- Spill kits will be available within each plant and close to identified pollution sources (e.g. fuel storage areas) or sensitive receptors (e.g. water course crossings).
- Mobile plant will not be left unattended on site beyond the working day and must be stored on intercepted hard standing overnight.
- Plant nappies will be positioned under any stationary mobile plant at the end of the working day to prevent oil contamination of the ground or surface water. In certain circumstances it may not be practicable or safe to use a plant nappy², in this case the Contractor will seek agreement with the ECoW on an appropriate approach (see Section 7).

Silt Pollution Prevention

- 9.2.2 Any silty water generated on site will ideally be settled out as much as possible through drainage mitigation measures (e.g. silt traps, settlement ponds) and channelled into suitable vegetated areas at least 50m from watercourses where possible. Where this buffer distance cannot be achieved a minimum distance will be agreed with the ECoW. Settlement must take cognisance of any protections and restrictions noted in the Environmental Risk Map and included within updated ERMP (section 6) or by the ECoW.

² For example, uneven ground where a slope would make the plant nappy ineffective or on soft/ uneven ground where it may be dangerous for an operative to reach under plant.

- 9.2.3 All stockpiled materials will be stored in designated areas and isolated from any surface drains and a minimum of 50 metres away from watercourses. Where this buffer distance cannot be achieved a minimum distance will be agreed with the ECoW. Aggregate or fine materials storage with dust or run off potential will be enclosed and screened/sheeted.

Concrete Washout

- 9.2.4 Washing out of concrete chutes on site shall only be permitted when the Contractor has provided a designated, suitably prepared washout area with signage identifying the area as suitable for concrete washout.
- 9.2.5 The concrete 'washout' in the designated area shall not be emptied into any watercourse and shall be appropriately treated or disposed of in accordance with the Site Waste Management Plan.
- 9.2.6 Tools, equipment, or materials will not be washed in watercourses. Mortar mixing and material storage areas must be away from watercourses.

Flocculants

- 9.2.7 The Contractor ensures the use of flocculants are permissible within the Construction Run-off Permit (Section 12.2) and will only utilise Employer approved (e.g. anionic) flocculants. No use of chemical flocculants will be permitted (e.g. alum based).
- 9.2.8 There will be no use of flocculants permitted to treat drainage where they have the potential to alter water chemistry. Any proposals for the use of flocculants must be agreed with the ECoW, Employer's Project Manager and SSE Environmental Manager. It is anticipated that SEPA authorisation would also be required.

9.3. DUST MANAGEMENT PLAN

- 9.3.1 The Contractor implements the following mitigation measures to minimise dust emissions during the Works:
- Local road network will be protected from mud, debris or other loose or deleterious material deposits.
 - Wheel cleaning and lorry sheeting measures will be employed as required.
 - A road sweeper will be used where required.
 - Adequate supplies of water are made available for use in dust suppression units/bowsers.
 - Tracks and hardstanding areas are kept clean and, if unsealed, are kept damp during prolonged spells of dry weather or as required to suppress dust emissions.
 - Stockpiled materials will be prevented from generating wind blown dust..
 - Borrow pit working areas are kept damp by water spraying or misting if required to suppress dust emissions.
 - Dust collection systems and / or dampening systems are used on all blast-hole drilling machines (if used).
 - Site speed limit will be enforced.
 - No burning of materials is permitted on site.
 - Dust-contaminated run-off water (e.g. arising from dust suppression) must be prevented from discharging to watercourses untreated.
- 9.3.2 The Contractor shall maintain a Dust Suppression Register measures employed on hard standings, tracks, excavation, and storage areas.
- 9.3.3 Abstraction of water is an activity regulated by SEPA, see Section 12.3.

9.4. NOISE MITIGATION PLAN

Normal Working Hours

- 9.4.1 Construction activities will be limited to the working hours of 0730 to 1900 Monday to Friday, and 0800 to 1600 on Saturday. No construction work will take place on a Sunday or on a Bank Holiday or Public Holiday.
- 9.4.2 Heavy good vehicle movement to and from the site during construction of the development shall be limited to 0700 to 1900 Monday to Friday and 0800 to 1600 on Saturdays and no vehicular access during these periods shall take place on Sundays or Bank Holidays, unless previously approved in writing by the Planning Authority.
- 9.4.3 There will be additional restrictions over the duration of goose roosting season each year, see Paragraph 14.4.5.

Extraordinary Working Hours

- 9.4.4 Any extraordinary site work would be programmed and agreed in advance with the Local Authority.

Noise and Vibration Control Measures

- 9.4.5 Due to ecological sensitivity, any works which may involve large scale noise or vibration (such as pile driving or blasting) will be undertaken only with prior consultation with the ECoW and in accordance with ecological protection plans (Section 14). This will include measures set out to protect wintering Greenland white-fronted geese (Section 14.4).
- 9.4.6 Tangy Farm is the closest property to the wind farm and access road, with Tangylee approximately 520m and Hazels Cottage approximately 720m from the nearest borrow pit.
- 9.4.7 Good site practices will be implemented by the Contractor onsite to ensure no significant adverse noise effects. Section 8 of BS5228-1:2009+A1:2014 (BSI, 2008) recommends a number of simple control measures as summarised below that would be employed onsite:
 - Keep local residents informed of the proposed working schedule, where appropriate, including the times and duration of any abnormally noisy activity that may cause concern.
 - Ensure that any extraordinary site work (for example, crane operations lifting components onto the tower) would be programmed and agreed in advance with the Local Authority.
 - Ensure all vehicles and mechanical plant are fitted with effective exhaust silencers and be subject to programmed maintenance.
 - Select inherently quiet plant where appropriate.
 - All major compressors would be 'sound reduced' models fitted with properly lined and sealed acoustic covers, which would be kept closed whenever the machines are in use.
 - Ensure all ancillary pneumatic percussive tools would be fitted with mufflers or silencers of the type recommended by the manufacturers.
 - Instruct that machines would be shut down between work periods or throttled down to a minimum.
 - Regularly maintain all equipment used on site, including maintenance related to noise emissions.
 - Vehicles would be loaded carefully to ensure minimal drop heights to minimise noise during this operation.
 - Ensure all ancillary plant such as generators and pumps would be positioned to cause minimum noise disturbance and, if necessary, temporary acoustic screens or enclosures should be provided.
- 9.4.8 Blasting operations shall adhere to good practice as set out in BS 5228-2:2009+A1:2014 and in PAN 50 Annex D Paragraph 95. Blasting will be undertaken in strictly controlled conditions with the agreement of the relevant authorities.

9.5. LIGHT MANAGEMENT

- 9.5.1 Temporary lighting must be directed away from watercourses and an unlit corridor of 30m either side of watercourses is maintained.
- 9.5.2 Compound lighting shall face inwards to reduce light pollution and impact to wildlife.

9.6. WINTER MAINTENANCE

- 9.6.1 Where clearance of snow is required, this must be undertaken mechanically and with care not to dislodge underlying road surface material.
- 9.6.2 Use of de-icers (e.g. grit/ road salt) is not recommended and will only be permitted under specific conditions where use is considered essential, in agreement with the Employer and ECoW. The application of de-icers must be localised and targeted to minimise adverse environmental effects to surrounding vegetation and prevent run-off to surface water.
- 9.6.3 De-icers are pollutants and must be stored in accordance with good practice for chemical storage. Protected from the weather and at least 50m from surface water.
- 9.6.4 The Contractor will take cognisance of the winterisation plan.

10. Drainage

10.1. SCOPE AND MINIMUM REQUIREMENTS

- 10.1.1 All temporary drainage measures are to be agreed in advance by the ECoW (Section 6) to ensure appropriate pre-works surveys and other considerations have been addressed prior to implementation.
- 10.1.2 The Contractor submits all temporary drainage designs and drawings as required to comply with conditions of the CAR, including Construction run-off Permit (see Section 9).
- 10.1.3 The Contractor undertakes maintenance of all temporary and permanent drainage solutions as and when required at a frequency at least weekly whilst the Contractor maintains a Drainage Maintenance Register and issues this to the Employer's Project Manager on a weekly basis.
- 10.1.4 The Contractor designs and constructs a drainage system including all silt mitigation measures necessary to prevent the pollution of existing drainage systems and watercourses for construction and post construction activities.
- 10.1.5 Except where necessary to facilitate the crossing of a watercourse, works will typically be undertaken out with 50m of any watercourse. Any exception to work with reduced distances must first be agreed with the ECoW.

Discharge of Water

- 10.1.6 All drainage associated with the works is not permitted to discharge directly into any existing drainage or watercourse without treatment.
- 10.1.7 The Contractor does not discharge water unless they have acceptance from the ECoW (through a permit to pump system of notification, in advance of works), and complied with the requirements of CAR. This includes the pumping of standing water from an excavation.
- 10.1.8 The Contractor does not discharge any drainage within 50m of a watercourse unless accepted otherwise by the Employer's Project Manager and the ECoW.
- 10.1.9 The construction compound and laydown area(s) are free draining with oil interceptors and contain a bunded area for maintaining vehicles and plant, or other pollution control measures, as appropriate / required to protect surface water.

Permit to Pump

- 10.1.10 A 'permit to pump' procedure will be in place prior to water being pumped from any excavation across vegetation. The Contractor seeks the ECoWs agreement prior to granting a 'permit to pump'.

Clean Water Diversion

- 10.1.11 The Contractor will ensure measures are in place ahead of phased work progression to provide clear separation of construction silty water run-off and clean green water green field run-off.
- 10.1.12 Interceptor ditches (cut off trenches) and other drainage diversion measures will be installed in advance of any excavation works. This is to collect and divert green field run-off away from construction disturbed areas.

10.2. ACCESS TRACK DRAINAGE

- 10.2.1 The Contractor provides silt traps / catch pits at the inlet of all cross drains to prevent the pipes becoming blocked and prevent erosion at the inlet points. Silt traps / catch pits are designed to allow access by gully suckers to remove silt during the operational phase of the wind farm and are designed to present no risk to wildlife, whilst permitting unrestricted water flow into the catch pit.

- 10.2.2 The Contractor erects and maintains silt fences to protect all watercourses, which may be affected. The Contractor maintains these.
- 10.2.3 All drainage channels are sufficiently wide as is practicable to allow wildlife to safely enter/exit the channel. Slope angles are a minimum of 1(v):3(h), except where the Contractor can demonstrate a more efficient design.
- 10.2.4 The Contractor provides scour / erosion protection to slow the flow of water.
- 10.2.5 The Contractor provides permanent check dams / water bars (flow barriers or dams constructed across the drainage channel) at regular intervals within drainage ditches. Check dams are required in order to reduce the velocity of water and therefore allow settlement of coarser sediment particles, as well as silt at low flow conditions. Reduction in velocity will also prevent scouring of the drainage channel itself.
- 10.2.6 Check dams are constructed of clean aggregate graded 50mm to 300mm and are embedded into the side walls and invert of the excavation by at least 100mm. The number and location of check dams is dependent on the slope gradient, flow velocity and volume of water, the minimum frequency of check dams will generally be such that the top of the downstream check dam is level with the toe of the next check dam upstream.

10.3. PEAT AND SOIL STORAGE DRAINAGE

- 10.3.1 The Contractor considers the location of any temporary peat or soil storage areas such that erosion and run-off is limited, leachate from the stored material is controlled and stability of the existing ground, particularly in peatland areas, is not affected. The Contractor also gives consideration to the impacts of poor drainage control in any areas where peat is used in reinstatement (Sections 17 and 18).
- 10.3.2 Interceptor ditches, down slope drainage collection systems, containment berms (embedded where appropriate), and appropriate drainage mitigation measures will be required as with other infrastructure described above.
- 10.3.3 The Contractor carefully selects the locations and designs the peat and other spoil storage requirements including methods for reinstatement works and incorporated drainage elements. Such design will be prepared and agreement sought from the ECoW and Employer prior to works commencing. Further peat storage requirements are provided in Section 17.

11. Water Quality and Fish Monitoring

11.1. GENERAL REQUIREMENTS

- 11.1.1 The full Water Quality and Fish Monitoring Plan (WQFMP) is set out in Appendix 6.
- 11.1.2 The Employer is undertaking monthly surface water quality monitoring and will have obtained a full year of baseline surface water quality data prior to the commencement of the works. This includes baseline surface water quality, private water supply (PWS), fish population and macroinvertebrate monitoring prior to commencement of the works. Fish and macroinvertebrate monitoring will be undertaken in accordance with Marine Scotland guidance³. Monitoring will continue over the duration of the works in order to identify any significant changes to water quality which may be attributed to the construction works.
- 11.1.3 A monthly monitoring report on the findings of the water quality monitoring exercises will be prepared and provided to the Employer and the Contractor within 2 weeks of receipt of analytical results. Fish population surveys and reporting will be undertaken annually in autumn/winter. Macroinvertebrate surveys and reporting will be undertaken at least twice per year in spring and autumn. Any important findings or environmental issue of concern observed will be reported immediately to the Employer.
- 11.1.4 Where a decrease in water quality resulting from construction works is observed the Contractor will undertake remedial measures and will bear the costs of all associated sampling and investigation. The Contractor may wish to undertake confirmatory sampling and analysis at any point during the works at their own cost.
- 11.1.5 During the main construction phase weekly visual checks of the water management features and downstream hydrological features will be undertaken by the ECoW (Section 2.4).

11.2. CONTRACTOR'S VISUAL AND FIELD WATER QUALITY MONITORING

- 11.2.1 The Contractor ensures that all personnel and visitors on site are encouraged (at site inductions) to report visual indications of changes in water quality (e.g. discolouration or other evidence of contamination) in any watercourses on site.
- 11.2.2 The Contractor undertakes daily visual inspections of the watercourses and PWS catchment areas (within 250m of source) on site. The Contractor's monitoring records will include the following minimum information:
 - Antecedent and current weather conditions.
 - Current construction activities within the vicinity and in particular up stream or up gradient of the observation point.
 - Visual assessment of water colour, turbidity, and flow rate.
 - Evidence of chemical contamination.
 - Visual evidence of silt or sediment pollution within the water column, on the bed of the watercourse/standing water body or on land upgradient to a PWS.
 - Details on any communication, corrective action and / or mitigation undertaken because of any water quality issues observed during the monitoring visit.
 - Visual monitoring records will be kept by the Contractor and made available for review by the ECoW and Employer.

³ Marine Scotland, 2021, Monitoring watercourses in relation to onshore wind farm developments: generic monitoring programme. <https://www.gov.scot/publications/monitoring-watercourses-in-relation-to-onshore-wind-farm-developments-generic-monitoring-programme/>

- 11.2.3 Where evidence of pollution is observed to the water environment, emergency response procedures will be implemented, and the incident will be reported to the Employer within 30 minutes (Section 5). Remedial measures will be implemented immediately, and details of action taken will be recorded.

11.3. FISH POPULATION MONITORING

- 11.3.1 The Employer is undertaking monitoring of fish populations and freshwater macroinvertebrates, as set out within Appendix 6 Water Quality and Fish Monitoring Plan.
- 11.3.2 The surface water and fish monitoring programme is implemented and maintained by the Employer and undertaken by an environmental consultant appointed by the Employer.

11.4. PRIVATE WATER SUPPLY PROTECTION PLAN

- 11.4.1 Quality and quantity of a potable supply must be maintained for Private Water Supplies (PWS) within the development. Private water supplies within the site boundary (or with 100m and 250m buffers overlapping the boundary) have been identified within Table 1 below, further information on their location and monitoring regime is documented within Appendix 1 Environmental Constraints Map, and Appendix 6 Water Quality and Fish Monitoring Plan.
- 11.4.2 A Private Water Supply Risk Assessment has been undertaken for the properties along the access route, Appendix 7.

Table 1 Private Water Supplies

PWS Ref and Properties Supplied	Source and Use	Distance to nearest construction works
PWS 1 Killocrow Farm(1A) Tighavullin Farm(1B)	Source is upgradient of site boundary and forestry works. No construction effects anticipated.	
PWS 2 Lagaltarve Farm (2A) Tangytavil (2B)	Collector tank located above farm house. Source may be a spring or buried collector pipes but presence and extent/ layout is not known. <u>Source location:</u> NR 66897 29383	244m from collector tank to borrow pit C search and working area. Source is likely to be within / adjacent to forestry works. Collector pipes may be closer to the borrow pit than the collector tank.
PWS 3 Am Fasgadh (3A)	The catchment of the source is not shared with the site. No construction effects anticipated.	
PWS 4 Tighnamoile (4A) Tangymoile Farm (4B)	Spring (groundwater) from tile drain above stream flowing west from windfarm. <u>Source location:</u> NR 66339 28590	792m to Borrow Pit C working area. No other activities potentially upgradient. Construction effects unlikely with mitigation measures.
PWS 5 Killarow Cottage (5A) Tangy Glen Cottages (5 properties) (5B) Maleen (5C)	Spring (groundwater) (near to Killarow Farm). Collection tank. <u>Source location:</u> NR 66536 28149	779m to Turbine 1. Upgradient of construction and decommissioning works. Construction effects unlikely with mitigation measures.

PWS Ref and Properties Supplied	Source and Use	Distance to nearest construction works
PWS 6 Killarow Farm (6A) Tigh-Na-Mara (6B)		
PWS 7 Tangy Mill (7A)	Spring (groundwater) within field next to Tangy Burn flowing from the east through the windfarm area above. <u>Source location:</u> NR 6696627691	576m to Turbine 1. Upgradient of catchment watercourse (that passes through wider construction and decommissioning area). 57m downgradient from a passing place to be constructed. Earthworks will involve fill (not excavation). Runoff from road upgrade works could infiltrate spring/ aquifer. Dry stone wall and bricked installation upgradient is anticipated to provide some protection from run-off. Significant construction effects unlikely with mitigation measures.
PWS 8 High Balevain Farmhouse (8A)	Spring (groundwater) under field on hillside NE of farmhouse. Source is buried with tank. <u>Source location:</u> NR 66906 26559	1,642m to Turbine 1. Not within wider wind farm catchment. 174m upgradient from a passing place to be constructed. No construction effects anticipated.
PWS 9 Breakachy Farmhouse (9A)	Borehole no longer in use.	
PWS 10 Drumalea Farm (10A) Drumalea Farm Cottage (10B)	Not connected to wider wind farm drainage. Upgradient of passing places and >250m distance. No construction effects anticipated.	
PWS 11 Breakachy Cottages (3 properties) (11A) High Balevain Farm (8A)	Spring(s) (groundwater) issuing from rock at top of fenced-off area to the northeast & below windfarm. <u>Source location:</u> NR 67518 27459	Not within wider wind farm catchment. 35m upgradient from a passing place to be constructed. No construction effects anticipated.
PWS 12 Tangy Windfarm (12A)	Groundwater Collector for existing wind farm welfare. Not in use due to failed quality checks. <u>Source location:</u> NR 68091 28348	255m to Turbine 2. Not at risk as not in use.

PWS Ref and Properties Supplied	Source and Use	Distance to nearest construction works
PWS 13 Tangy Farm (13A) Dalnaspidal (13B) TangyLea (13C)	Spring (groundwater) next to windfarm track north of Tangy Farm house. <u>Source location:</u> NR 68110 28340	254m to Turbine 4. Within 250m of Borrow Pit A search area. Turbine location is to be micrositied beyond 250m of the private water supply. Spring source located upgradient and tank located downgradient to track to Borrow Pit A. Careful mitigation required to protect source and collector tank.

Private Water Supplies at Potential Risk from Works

- 11.4.3 PWS 2, 7 and 13 are at increased risk due to their gradient and proximity to tracks, borrow pits and turbine bases. The groundwater areas contributing to these springs is not known precisely, however are likely to be upgradient and careful planning within 250m of a source will be necessary.
- 11.4.4 All PWS must be protected during construction, decommissioning and forestry works by the Contractor. Specific controls must be included within RAMS for agreement with the Employer's Environmental Manager and ECoW.
- 11.4.5 Information on the location of the PWS 2 collector pipes is limited as they are buried, however it is thought to be within the forest glade (Appendix 1 Environmental Constraints Map). Monitoring of the supply is being undertaken under Appendix 6 Water Quality and Fish Monitoring Plan. It is assumed that Borrow Pit C (search area) is within 250m and upgradient of this PWS.
- 11.4.6 The collection chamber at PWS 7 is located between the existing access road and Tangy Burn. The origin and extent of the groundwater spring supplying it is unknown, assumed to be upgradient to the collection chamber (. A dry-stone wall along the access road is thought to provide minor protection to the PWS source from road run-off and the planned passing place is to the end of the wall. Due to the unknown extent of the spring, there remains a risk that contaminated runoff will seep into the spring and contaminate the source.
- 11.4.7 The earthworks to construct the passing place, near to PWS 7, will be fill rather than excavation which reduces the risk to underlying groundwater. Pollution prevention measures, set out in this CEMP and Contractor RAMS, are expected to be sufficient to protect the PWS.
- 11.4.8 Micrositing will avoid turbine excavation within 250m of PWS 13.

Private Water Supplies Protection and Contingency of Supply

- 11.4.9 Implementation of the good practice measures to protect the water environment, set out within this CEMP, will also protect sources supplying PWS.
- 11.4.10 Where turbine bases are within 250m of a PWS source, they will be micrositied beyond this distance (in accordance with Section 8 Micrositing). Where other types of excavations are planned (e.g. borrow pits) then micrositing must be considered, restricting search areas and excavation to no less than 250m from PWS sources.
- 11.4.11 Should water quality trigger levels be exceeded or detrimental changes observed through daily checks (Section 11.2) or pollution incident reported by the Employer / Consultant, Contractor or residents of the properties supplied by the PWS, then works will stop within the area of potential pathway (i.e. upstream of or within 250m of PWS source) until the supply has been safeguarded.

- 11.4.12 If this is not possible, for example access to a PWS is interrupted or contamination is anticipated for longer than four hours, then an alternative potable supply of water must be provided by the Contractor.

12. Authorisations under CAR

12.1.1 The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended), or “CAR”, regulate activities which may impact the water environment. These activities are regulated by SEPA and may be undertaken in accordance with the General Binding Rules (GBR) set out in CAR or require prior authorisation. Whether or not prior authorisation is required will depend on the nature of the activity and where it falls within the thresholds set out within CAR.

12.1.2 This project is anticipated to require authorisations for Construction Run-off (i.e. for the construction site), water abstraction (e.g. for dust suppression) and engineering activities for works in water (e.g. water crossings). Requirements for these common authorisations are summarised below.

12.2. CONSTRUCTION RUN-OFF PERMIT

12.2.1 All site discharges are regulated under CAR. A Construction run-off permit will be sought by the Contractor from SEPA prior to the commencement of any operations on-site, where the GBR thresholds are exceeded. The Contractor will act as Responsible Person.

12.2.2 A Pollution Prevention Plan will be prepared by the Contractor in accordance with guidance provided by SEPA for Construction Sites and will include (not be limited to) the relevant measures set out within this CEMP. There is no requirement to issue a Pollution Prevention Plan for approval to SEPA, however the Contractor will prepare a plan prior to commencing works based on the constraints and mitigation plans.

12.2.3 SEPA advise that “For construction sites, it is best practice to have and implement site-specific plans and procedures to deliver effective construction run-off management and prevent pollution of the water environment.” To comply with this, in addition to their Pollution Prevention Plan, the Contractor will identify areas of high significant risk and prepare task specific Environmental Risk Mitigation Plans as discussed in Section 5.

12.3. ABSTRACTION

12.3.1 Where abstraction of water exceeds the General Binding Rules set out under CAR, the Contractor will obtain the necessary permissions from SEPA for the abstraction of water (e.g. for dust suppression).

12.3.2 In all cases the ECoW is consulted in advance of (and must accept prior to) abstraction of water on site (e.g. from watercourses or lochans). The ECoW carries out surveys immediately prior to activity to check for breeding birds or mammal activity in proximity to abstraction.

12.4. WATERCOURSE CROSSINGS

12.4.1 CAR authorisations for water crossing designs will be obtained by the Contractor in advance of commencement of works (paragraph 1.2.4).

12.4.2 Should the Contractor wish to vary the design or approach, set out in CAR authorisations, then they must detail any variation to agreed approach prior to commencement of the works, i.e. detailed plans for works in the vicinity of surface water. The Contractor submits these plans to the Employer and SEPA for acceptance. Approval from the Planning Authority may also be necessary, as set out in Section 7. There may be a significant delay if a licence (or change to authorisation) is required.

12.4.3 The ECoW is consulted in advance of (and must accept prior to) all temporary watercourse crossing works. The ECoW oversees surveys immediately prior to construction or upgrading to identify areas of fish and mammal activity in and around watercourses. Prior to in-channel works, where deemed necessary by the ECoW, an exclusion zone may be put in place and fish rescue undertaken.

- 12.4.4 Operating and crossing vehicles or plant within water courses (including to ford, see 12.4.10) is not permitted. Where this is unavoidable RAMS must be pre-agreed with the ECoW. It will be the responsibility of the Contractor to agree an approach with the ECoW and to provide any necessary information e.g. methodology, plan specifications and habitat protection measures.
- 12.4.5 If there is disturbance to the riverbed, anticipated by activity, then work should not be carried out during fish spawning times and fish emergence times. Key fish species to consider include salmon and trout (normally October – May) and Lamprey species (normally March – July). However, these times can vary and contact must be made with the local district salmon fishery board.

Temporary Water Crossings

- 12.4.6 Where feasible, span structures are preferred to prevent encroaching on the bed or banks of the watercourse.
- 12.4.7 All temporary crossing will comply with the General Binding Rules (primarily GBR 6) of the CAR and/or be included within the CAR authorisation for the permanent crossing.
- 12.4.8 In accordance with good practice temporary construction methods (Part 4), the most appropriate method of isolation will be identified to provide the highest level of pollution prevention.
- 12.4.9 The ECoW is consulted in advance of all temporary watercourse crossing works and must agree methodology in advance.

Fording or Operating Vehicle, Plant or Machinery In or Near Water

- 12.4.10 Fording is not permitted. In specific circumstances, where there is no alternative available, it may be pre-agreed with the ECoW to operate within water (e.g. for the purpose of placing a temporary crossing). This work must be undertaken in accordance with General Binding Rule 9, good practice (Section 9) and in consideration of the sensitivity of the watercourse (Section 12.4.5).

13. Waste Management

- 13.1.1 In accordance with best practice, the Contractor shall create and maintain a Site Waste Management Plan (SWMP). This is to manage waste effectively, reduce the amount of waste produced and collate measured waste data required by the Employer.
- 13.1.2 The SWMP will forecast and record all waste types and volumes arising from the Development. A Construction SWMP Checklist can be found on NetRegs (Part 4).
- 13.1.3 The minimum percentage rate for diversion of site wastes from landfill expected by the Employer is 85%.
- 13.1.4 The Contractor utilises only certified waste carriers / waste contractors and maintains records of these contractors (carriers, transfer station, waste recipient etc) as part of the SWMP documentation onsite.
- 13.1.5 Welfare facilities will either connect directly to the foul sewer, self-contained storage tanks or to a septic tank, subject to approval from Scottish Water and SEPA. If self-contained or septic tanks are to be used, these will be maintained and emptied on a regular basis by a suitably licensed contractor.

13.2. SWMP DEVELOPMENT AND RECORDS REQUIRED

- 13.2.1 The Contractor's SWMP shall provide details on how waste reduction shall be implemented at the site and how this will be monitored throughout the construction phase. The Contractor's nominated Environmental Representative takes responsibility for implementation and monitoring of the SWMP.
- 13.2.2 The Contractor shall include the following within the SWMP as a minimum:
 - Identification of the Employer, the Contractor; the person(s) who drafted the SWMP and the person(s) who will be responsible for its implementation, monitoring and review during and upon completion of construction works.
 - The minimum percentage rate for diversion of waste from landfill expected by the Employer or set by the Contractor (if proportion diverted is greater), measured in tonnes. (see paragraph 13.1.3)
 - Waste streams expected to arise over the duration of construction and the anticipated destination of these of wastes:
 - a description of each waste type expected to be produced in the course of the project, with the relevant European Waste Catalogue code assigned to it.
 - an estimate of the quantity (in tonnes) of each different waste streams / type of waste expected to be produced during each construction activity.
 - Identification of the waste management actions proposed for each different waste type, including reuse/recovery, recycling and disposal.
 - a written statement demonstrating what actions are to be taken to minimise the volume of each type of waste produced prior to commencement of the activity generating the waste.
 - provision of bins to segregate waste and recyclable materials within all welfare facilities in-line with the preliminary, non-exhaustive waste streams identified;
 - provision of separate, suitably robust skips for general waste and separate recyclable materials within the main site compound in-line with the preliminary, non-exhaustive waste streams identified.
 - management of expected and unexpected hazardous/special waste. i.e. provision of secure bunded containers to store waste oils / fuels / lubricants and oily rags prior to removal from site.
 - re-use of materials such as concrete formwork and reinforcement "seating" steel.

- material arising from excavation works may be reused as fill material where suitable (and not posing environmental risks).
- A site plan showing all waste disposal/recycling locations and material storage areas.
- Identification of the proposed Waste Contractor(s) and the requirements imposed on them, i.e. completion of Waste Transfer Notes (WTN)/ Consignment Notes (CN).
- WTN for all materials removed from site comprising the following information:
 - European Waste Catalogue (EWC) codes;
 - description of waste removed from site;
 - date and time waste removed from site;
 - weight (in tonnes) of waste removed from site;
 - name of Waste Contractor Operative;
 - location of waste disposal site which is to be used; and
 - weight of waste / recyclable material, i.e. waste facility will include weight bridge.
- All estimated and actual waste itemised (by waste stream as a minimum) in tonnes and the recovery rate.

13.3. SWMP IMPLEMENTATION AND MONITORING

- 13.3.1 The Contractor's Environmental Representative checks the contents of the site waste and recycling skips on a weekly basis to ensure waste is being correctly segregated. Non-compliance will be highlighted at the weekly progress meeting and appropriate actions taken e.g. a toolbox talk to all working parties.
- 13.3.2 The Contractor shall demonstrate compliance with the responsibilities outlined in Duty of Care for Waste and refers to the good practice principles detailed in A Simple Guide to Site Waste Management Plan (see Part 4).
- 13.3.3 For monitoring and auditing purposes, the Contractor's Environmental Representative implements and maintains a Waste and Recycling Record under the SWMP. As a minimum, this includes a record of all waste leaving the site, including copies of all WTN/ CN in-line with the relevant requirements. Information on the end treatment of each waste shall be collected and retained (e.g. from the Contractor's waste broker).
- 13.3.4 Waste management is monitored by the Contractor's Environmental Representative and reviewed monthly against the estimate set within the Contractor's detailed SWMP. Where necessary, changes are implemented in order to revise site activities if performance is below the set recycling target.
- 13.3.5 Waste management will be a recurring agenda item for all regular meetings as required by this document. The Contractor's Environmental Representative provides an update on the achieved percentage of recycling and any actions that are required to be implemented.

13.4. REPORTING TO EMPLOYER

- 13.4.1 A Monthly Waste Summary must be provided to the Employer's Project Manager by the fifth working day of each month. This must contain actual measured waste data for the previous calendar month, including:
- types of waste generated (summarised by EWC Code and waste description);
 - measured volume of each waste type generated (in tonnes); and
 - end treatment of each waste type (i.e. volume or percentage of each waste that is recycled, recovered/reprocessed, waste to energy or landfill).
- 13.4.2 Upon completion of works, the Site Waste Management Plan will be provided to the Employer. This will contain pre-construction estimated and actual waste itemised (by waste stream as a minimum) in tonnes and the recovery rate of each waste.

14. Ecological Protection

- 14.1.1 The Contractor is required to comply with all regulations, guidance and control measures. This includes measures set out with this CEMP, including the ecological protection plans (Section 2). Ecological Protection Plans and the Environmental Constraints Map (Section 6.2) will be updated (as required) over the course of development to continually inform the Contractor of changing environments, habitats and risks. The Contractor will take cognisance of the constraints and address mitigation through work site ERMPs (Section 6.4).
- 14.1.2 The Contractor ensures that all working parties are aware of the emergency response procedures to be followed in the event of a pollution incident (including Section 5).
- 14.1.3 Any changes to protection measures or mitigation approach must be agreed in accordance with Section 7 CEMP Departures and/or Section 6 Environmental Risk Management. This will be in partnership with the ECoW and may also include Nature Scot, SEPA and Planning Authority as applicable.
- 14.1.4 The Contractor accesses and egresses the site via the plant access routes identified, any deviation must be agreed with the ECoW and Employer.
- 14.1.5 The Contractor takes into account constraints as identified in Appendix 1 Environmental Constraints Map. These must be used in preparation of ERMPs (Section 6.4) and in briefings to working parties on site, as applicable to their role.
- 14.1.6 The Contractor reports any sightings of protected wildlife including (but not limited to) otters, water vole, hare, or breeding birds to the ECoW on the day of the sighting.
- 14.1.7 Any abstraction of water may impact breeding birds, fish or other species and therefore consultation with the ECoW must be undertaken in advance, see paragraph 12.3 of this CEMP for further information.
- 14.1.8 The following sections include additional measures specific to habitats, birds or other species.

14.2. HABITAT PROTECTION PLANS

- 14.2.1 Habitat protection may be defined as the set of measures used to minimise the risk of damage or destruction to the terrestrial and aquatic habitats of the site, including groundwater dependent terrestrial ecosystems (GWDTE), and downstream ecosystems. Further information on the protection of wetland ecosystems is provided below.
- 14.2.2 The Contractor will discuss and agree the requirement for demarcation with the ECoW and the Employer prior to commencement of any works. Buffer zones will be demarcated by the Contractor, where necessary, and confirmed with the ECoW.
- 14.2.3 The Contractor maintains a 50m buffer between working areas and watercourses where possible except at watercourse/open drain crossing points. Any buffer zones less than 50m have to be authorised by the ECoW, the minimum buffer zone is 10m.
- 14.2.4 The Contractor will restrict all works and movements as far as possible to the footprint of the planned infrastructure and turbine bases identified or as agreed with the ECoW, thus avoiding watercourse buffer zones and areas of sensitive peatland.
- 14.2.5 Where possible, the Contractor avoids works and vehicle movements in areas of wet bog and excessive peat depth. In addition, current good working practices will be applied in order to ensure stabilisation of peat.
- 14.2.6 The Contractor will use bog mats and low ground pressure plant as appropriate, especially for vehicle/plant movement in areas of deep peat where plant movement cannot be avoided.

Sensitive Habitats

- 14.2.7 Protection of sensitive habitats (through avoidance and minimisation of damage and loss) like active blanket bogs and GWDTE is required as these habitats are recognised as important under the EC Directives.
- 14.2.8 Pre-works surveys will include identification of sensitive habitats. Measures to protect the habitats, and the hydrology that sustains them, may include micro siting (Section 8) or erecting exclusion zones. This is in addition to pollution prevention and mitigation measures to protect water quality set out in Section 9.
- 14.2.9 All site working practices need to consider their possible effects on sensitive habitats and soils and mitigate significant negative effects as far as is reasonably possible.
- 14.2.10 The Contractor makes best use of excavated turf and peat as part of reinstatement procedures (see Sections 17 and 18).
- 14.2.11 Micro-siting of infrastructure and/or the configuration of the construction working areas within the Development (see Section 8 Micrositing) will seek to avoid localised ecological sensitivities wherever possible. This will include, but will not be limited to:
 - Maximising the distance of infrastructure and the associated construction working areas from watercourses.
 - Maximising the distance of infrastructure and the associated construction working areas from the M6 mire habitat (shown in Appendix 1 Environmental Constraints Map).
 - Minimising the extent of construction work within peatland (i.e. wet heath and blanket bog).

Floating Track

- 14.2.12 Where peat depth is greater than 0.5m, track construction will be of a floating design rather than a cut design, in order to minimise the disturbance to peat. Unless otherwise agreed in advance with the Project Manager.
- 14.2.13 Key guidance on floating track construction is provided in the document 'Floating Roads on Peat' with further requirements for track drainage in Section 10.2.

14.3. SPECIES PROTECTION PLANS

- 14.3.1 Detailed Species Protection Plans are provided within Appendix 4, this includes details of protection measures that will be implemented for specific sensitive species.
- 14.3.2 Species protection may be defined as the set of measures used to minimise the risk of disturbance, injury or death to species of nature conservation interest. Particular attention is paid to species protected under EC and/or UK legislation.
- 14.3.3 The following working methods and constraints shall be imposed in order to avoid harm or disturbance to species. The Contractor ensures that:
 - All working parties will be briefed through a Toolbox talk (Section 4.2) on the potential presence of any protected species, the potential for offences to occur, and the working methods to follow to ensure that the risk of disturbance due to the works is minimised;
 - Excavation and reinstatement works will take place using the minimum number of vehicles and personnel possible;
 - Wherever possible, excavation works will be completed rapidly such that trenches are left open for the least amount of time and refilled within the same day, if possible. This is to minimise the risk of animals falling into any open trenches. Any trenches left open overnight shall have a means of escape for any animals that may fall in. This will be generally achieved by including a bank of 45° slope or if this is not achievable, a ramp for animals to climb out;
 - Any temporarily exposed open pipe system shall be capped in such a way as to prevent animals gaining access, which is a particular risk when contractors are off site;

- Access to important feeding and watering sites shall be maintained, e.g. construction materials or fencing shall not obstruct existing mammal trails as far as reasonably practicable;
- Equipment and materials, including chemical storage, will be stored securely to prevent animals from gaining access;
- Where security (or other) lighting is employed, this will be directed away from any areas of scrub, hedgerow, woodland or watercourses;
- In keeping with good practice, speed limits along the access road will be restricted to 20mph to reduce the risk of accidental collisions of works traffic with animals;
- No fires will be permitted as part of the works; and
- Reduction of litter and food waste which may attract brown rats (which compete with water voles for food and habitat) will be carried out at the start and end of works, along with removal of all construction related materials periodically through the contract period.
- Where possible, watercourse crossings would be suitably designed to allow continued mammal movement along watercourses and would minimise riparian habitat loss. This would also reduce the risk of mammals crossing tracks and being involved in vehicle collisions.
- All open excavations are ramped to enable easy exit by otter and other species;
- Culvert pipes stored on site are capped, or if caps are not available, pipes are stored vertically, to prevent entrapment.
- Design of any permanent or temporary lighting is such that it is directed away from watercourses and that an unlit corridor of 30m either side of watercourses is maintained.
- To help maintain the value of watercourses present on site, all construction related materials will be removed periodically through the contract period (where appropriate) and on completion of works.
- Be aware that otter or other species may shelter in stacked pipes or beneath pallets. These features shall be inspected daily before the start of works and any temporarily exposed pipe system shall be capped when staff are off site.

Species Licences

- 14.3.4 If required, the ECoW will make relevant licence applications (e.g. licence to disturb) to NatureScot and undertake related mitigation measures in accordance with any licence obtained. Where a licence is required, the ECoW will make the application approximately 40 days prior to any works commencing to ensure the licence is in place. Where a licence needs to be expedited, the ECoW will contact NatureScot licencing directly.
- 14.3.5 The ECoW will monitor the implementation of any species and habitat protection plans, checks compliance with control measures and terms of any Licence to Disturb which might be required.

Water Voles

- 14.3.6 Where working is required within suitable habitat for water voles, vegetation may be cut back to 20cm following survey and in agreement with the ECoW. The Contractor would undertake strimming as directed within the Water Vole Protection Plan (Appendix 4),

Individual Species Protection Plans

- 14.3.7 Some species are protected by law, and it is therefore particularly important that all legislative requirements are met, and mitigation measures complied with. Species Protection Plans (SPPs) have been developed for the sensitive/ protected species that may be encountered. Individual SPPs are provided in Appendix 4 and have been collated using information from the EIAR, good practice and statutory authority guidance.

14.4. BIRD PROTECTION PLAN

- 14.4.1 A detailed Breeding Bird Protection Plan is provided within Appendix 5, this includes details of protection measures that will be implemented for specific sensitive bird species.

- 14.4.2 All bird species are protected by law. Under the Wildlife and Countryside Act 1981 (Appendix I) it is an offence to kill them or damage their nests and eggs. Species listed in Schedule 1 of the Act are specially protected, so that it is an offence merely to disturb them while nesting. However, if disturbance to the nest of any other bird species without special protection were sufficient to prevent parent birds from incubating their eggs or feeding their nestlings, so that the brood died, this could be regarded as an offence under the 1981 Act.
- 14.4.3 In accordance with the Breeding Bird Protection Plan, during bird breeding season (March to August inclusive), the ECoW will survey to locate the nests of wild birds prior to the commencement of any work. These will be carried out in advance of all construction activities and will involve a walkover of the work area for nests. Where sensitive species may be present, checks will also be made for these species out to the relevant disturbance distance, access permitting.

Greenland White-fronted Geese (important wintering population)

- 14.4.4 Geese using Tangy Loch and Lussa Loch must be protected when they visit during the winter period. Disturbance to their commuting flights and roosting must be avoided.
- 14.4.5 During construction and decommissioning all works (including vehicular movements) with the potential to cause disturbance within 1 kilometre of Tangy Loch are restricted to between the hours starting one hour after dawn to one hour before dusk during the goose roosting season 30th September to 30 April (shown in Appendix 1 Environmental Constraints Map).
- 14.4.6 A goose roost survey will be undertaken weekly between September and April to ensure there are no disturbance effects on geese using either Tangy Loch or Lussa Loch to roost and their associated commuting flights. The surveys will be undertaken by an ornithologist (as part of ECoW Team) in the vicinity of Tangy Loch and in the direction of the established flight path from Lussa Loch, at dawn and dusk. The results will be used to detail any effects on geese and inform any further mitigation measures if they are deemed to be required in light of any disturbance effects.

15. Archaeological Protection

15.1. OVERVIEW

- 15.1.1 Archaeological support will be provided by the Archaeological Clerk of Works (ACoW) appointed by the Employer in 2023. The ACoW has prepared a Written Scheme of Investigation (WSI) for the identification, preservation and recording of archaeological remains at the site. The WSI has been agreed by the West of Scotland Archaeological Service (WoSAS).
- 15.1.2 The Contractor will familiarise themselves with the contents of the WSI (Appendix 8 Archaeology Written Scheme of Investigation), Environmental Constraints Map (Appendix 1) and ensure that relevant information is communicated to staff, contractors and plant operators via the induction and toolbox talks prior to the commencement of any ground works.
- 15.1.3 Any changes to archaeological protection measures will be in partnership with the ACoW, Employer and West of Scotland Archaeology Service.

15.2. ARCHAEOLOGICAL PROTECTION MEASURES

- 15.2.1 An experienced field archaeologist will act as ACoW for the duration of the project and provide guidance and advice as required including archaeologically themed toolbox talks, microsite agreement (in accordance with Section 7.1.3) , walkover survey during deforestation works, survey location of known monuments for demarcation and fencing.
- 15.2.2 Under the direction of the ACoW, archaeologically sensitive areas will be fenced off by the Contractor using suitably robust fencing materials and will include signage indicating that the area is archaeologically sensitive. Access can only be taken into these buffer zone areas with ACoW permission and/or supervision.
- 15.2.3 The ACoW will survey, photograph and condition survey designated assets prior to onsite works and post work.
- 15.2.4 In the event of significant archaeological features and/or finds being unearthed, the ACoW will liaise with WoSAS and the Employer as to the most appropriate response in safeguarding these features either by preservation in situ, if at all feasible, or by archaeological recording.

Watching Brief

- 15.2.5 Where deemed necessary by the ACoW, a watching brief will be undertaken during ground-breaking works. The ACoW will liaise with contractors to establish where and when to be on site to conduct watching briefs on ground breaking works specifically those in areas of peat >1m and proposed borrow pits.
- 15.2.6 When subject to watching brief, the ground-breaking works will be by means of a Mechanical Digger (or equivalent) equipped with a toothless ditching bucket.

16. Forestry Works

- 16.1.1 Forestry works must comply with requirements elsewhere in this document, the Long Term Forest Plan and general good practice in regard to pollution prevention, ecological protection, archaeological protection and waste management. This section provides additional forestry specific measures that must be adhered to.
- 16.1.2 Forestry operations will be undertaken in accordance with the UK Forestry Standard published by the Forestry Commission and Forest Industry Safety Accord (FISA), including Practice Guides (e.g. Managing Forest Operations to Protect the Water Environment by Forest Research). Tree felling operations will be undertaken by a qualified tree felling/ forestry contractor and their subcontractors (if applicable).
- 16.1.3 The Forestry Contractor will liaise with the Employer, ECoW and ACoW to ensure that any environmentally sensitive features, wildlife and/or habitats have been considered prior to commencement of the works, and appropriate mitigation measures have been agreed.
- 16.1.4 The Forestry Contractor ensures that both the ECoW and ACoW are given at least 2 weeks' notice prior to each phase of felling works being undertaken. Where habitat or species protection measures are required by the ECoW (e.g. soft felling or exclusion zones) these must be adhered to (Section 14). Where archaeological protections are required by the ACoW (e.g. watching brief or exclusion zones) these must be adhered to (Section 15).
- 16.1.5 Forest removal will be mapped weekly and submitted to the Employer and ECoW to support ecological survey and the programming of habitat restoration activities.
- 16.1.6 The Long Term Forest Plan and Habitat Management Plan provides further detail on the wider felling programme and obligations. In addition, these documents set out forest felling and off-site uses of marketable timber and other products that will arise from felling activities. This complies with guidance from SEPA including Management of Forestry Waste (WST-G-027) and Use of Trees to Facilitate Development on Afforested Land (LUPS-GU27). Materials considered to be waste will continue to be controlled through the Waste Management Regulations and therefore must be recorded as part of the Contractor's Site Waste Management Plan (Section 13).

16.2. PRIVATE WATER SUPPLY

- 16.2.1 Within the Lagalgarve plantation are buried collector pipes for a private water supply (labelled 2 in Appendix 1 Environmental Constraints Map). Further information on this is provided in Section 11.4.
- 16.2.2 In addition to pollution prevention measures set out within this document, guidance specific to forestry activities near private water supplies is provided by Forestry and Water Scotland (link available in Part 4).

16.3. GROUND DISTURBANCE AND BRASH MATS

- 16.3.1 Brash mat tracks are to be used to support machinery for timber extraction. Ground disturbance (including rutting and compaction of peat) will be minimised as far as practicable.
- 16.3.2 Timber must not be stored/ stacked where the ground compaction may occur such as existing rides, glades and vegetated buffer zones. The Forestry Contractor carefully selects the locations and designs the timber stacks and other storage requirements including methods for reinstatement works and incorporated drainage elements. Such design will be prepared in consultation with the ECoW and Employer prior to works commencing.

16.4. MULCHING

- 16.4.1 Mulch arising from forestry works should be spread in a thin layer so as to allow a minimum of 25% light penetration to the ground surface (i.e. avoiding a dense or complete cover of mulch). This allows regeneration from the seeds present in the soil and prevents smothering of any existing plants.

16.5. POLLUTION PREVENTION

- 16.5.1 In addition to measures set out in Section 9, large scale machinery will not operate within 20 m of watercourses. Within these areas if felling is required, it will be undertaken manually or with small scale machinery to minimise disturbance to watercourses or water dependent habitats.
- 16.5.2 All forestry machines on site will carry an oil spill kit specially compiled for forestry operations and refuelling undertaken in accordance with requirements in Section 9.2. The Forestry Contractor provides spill kits and drip tanks to prevent pollution from fuelling operations. All plant regularly checked for fuel and oil leaks, at least once a day. Records of checks will be maintained and made available to the Employer on request.
- 16.5.3 Watercourses, drainage channels and buffer areas will remain clear of brash and timber as far as practicable, and any run-off from brash rows, brash extraction routes, and brash heaps should be managed responsibly so that it does not flow directly into watercourses. Extraction routes from each compartment should also avoid existing rides, glades, and vegetated buffer zones.

17. Excavation, Soil Storage and Management

17.1.1 In advance of each main phase of works, the Contractor (in consultation with ECoW and other specialists where required), provides a Method Statement detailing expected volumes, material classification (see 17.2 below), storage and reuse procedures for the excavated materials anticipated from that particular work area. This includes information on soil and peat types, volumes, temporary storage areas and a management / reinstatement scheme for peat reuse areas, including:

- areas subject to a watching brief by the ACoW (see Section 15);
- plans showing the details of peat/soil stripping and excavation at the site and the storage and proposed use and replacement of peat (including borrow pit areas), topsoil and subsoil; and
- a method statement setting out the measures to protect peat during excavation, storage and handling.

17.1.2 The Contractor liaises with SEPA on all aspects of waste management, if required, to ensure compliance with all appropriate regulatory controls prior to and during construction works.

17.2. CLASSIFICATION OF EXCAVATED MATERIALS

17.2.1 Classification of excavated materials depends on their status and identified re-use in reinstatement works. In order to ensure compliance with relevant waste legislation, excavated materials will require to be classified onsite. Four initial classes of excavated materials may be identified during construction:

- **Turf:** Surface layer of living vegetation and underlying fibrous subsoil.
- **Mineral Soil:** Highly variable composition, which will depend on underlying geology, depositional environment or provenance if made ground. Refer to British Soil Classification System BS5930: 1999, "Code of Practice for Site Investigations" (Table 13).
- **Upper layer of peat:** The upper layer of a peat bog in which organic matter decomposes aerobically may be fibrous or pseudo-fibrous (plant remains recognisable), spongy, of low strength although consolidated, retains integral structure and can stand unsupported when stockpiled >1m. Such material is generally found within the top 1m of peat, although may extend beyond this to depths of up to 2m depending on the degree of decomposition and degree of humification of the peat.
- **Deeper layers of peat:** In the deeper layers of peat in which organic matter decomposes anaerobically. Typically, material is unconsolidated, amorphous (recognisable plant remains absent), plastic, has high water content and low tensile strength and is unable to stand unsupported >1m when stockpiled.

17.2.2 When defining excavated materials suitability for reuse, the Contractor considers the material classes defined in Chapter 2 of the Management of Extractive Waste (Scotland) Regulations 2010. Any material that is not immediately suitable for a predetermined use without the requirement for treatment (e.g. dewatering) is classed as waste and requires to be dealt with in accordance with the Contractor's Site Waste Management Plan.

17.3. SOIL STORAGE AND MANAGEMENT

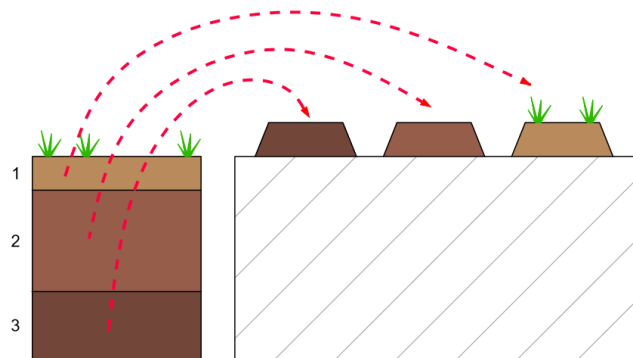
17.3.1 The Contractor creates, and maintains, an Excavation Register, which is updated weekly and details the location and extent of all open excavations and the current and original location of all stockpiled material. The Contractor makes this available to the Employer upon request.

17.3.2 The Contractor ensures works will be programmed in such a way as to minimise the amount of time excavated areas / exposed soil is left open to the elements.

17.3.3 The Contractor ensures that under all conditions, the ground surface stability is fully maintained both during and post-construction.

- 17.3.4 Distinct horizons of soil (subsoil and topsoil) or peat (catotelmic, acrotelmic and turves) will be stored in separate stockpiles, see Figure 3 Turve Excavation and Storage. The maximum permissible height for stockpiles for peat will be 1m and 2m for other soils. Stockpiles will be formed avoiding excess consolidation during placing and with naturally stable side slopes. Turves must be stored turf side up and must not be allowed to dry out.
- 17.3.5 Stripped materials will be carefully separated to keep peat and other soils apart, and stored in appropriately designed and clearly defined, separate stockpiles.

Figure 3 Turve Excavation and Storage



Spoil Storage

- 17.3.6 Where material is not required for immediate reinstatement, temporary storage may be required. To minimise handling and haulage distances, where possible excavated material will be stored local to the site of excavation and / or local to the end-use site where it is required for re-profiling, reinstatement or ecological restoration purposes (e.g. areas allocated for restoration in the Development's Habitat Management Plan). The Contractor agrees storage location(s) with the ECoW prior to commencement of main phase of works. The storage location will be subject to scrutiny against known constraints, e.g. sensitive habitats, archaeological features and areas of peat slide risk.
- 17.3.7 Temporary storage locations will be appropriately located and designed to minimise impact to sensitive habitats and species, prevent risks from material instability (particularly in peatland areas) and runoff into watercourses.
- 17.3.8 Stockpiles will be isolated from any surface drains and a minimum of 50m away from watercourses, unless otherwise agreed with the ECoW. Stockpiles will include appropriate bunding to minimise any pollution risks where required.
- 17.3.9 Where the excavated material is identified to be required elsewhere in restoration works, although re-use is not imminent, the Contractor may assess specified areas within the working borrow pit suitable temporary storage locations. The Contractor ensures that the handling of the stored material is kept to a minimum and appropriate drainage, pollution prevention and material stability measures are designed prior to the temporary deposition of the material, ensuring material is maintained in a suitable condition for future use.

Peat Storage

- 17.3.10 Requirements for peat stability are provided in Section 17.4 below. Further requirements for appropriate peat storage include:
- to minimise temporary storage where possible through immediate reuse of excavated peat (where possible)
 - where temporary storage is required, storage locations shall be as local as possible to the site of excavation or reuse.
 - Peat will not be stored for more than 6 months, and turf (including acrotelmic turf) will be placed in a permanent position after much shorter storage, to ensure rapid regeneration.

- Turves will be stored separately with vegetation facing up and watered as appropriate.
 - Peat will not be temporarily stockpiled in depths greater than 1 meter.
- 17.3.11 The Contractor employs a construction management team and plant operators of proven experience of working in comparable environments, including a working knowledge of peat management and drainage, excavation, track construction and reinstatement and restoration.
- 17.3.12 Turves should be cut with a larger excavator bucket (e.g. 1200mm or 4 foot), where practical, to increase depth/ width of turve and improve the likelihood of reinstatement success. Larger turve depths will reduce likelihood of collapse and support peat dressing (i.e. 50cm minimum depth).
- 17.3.13 The turves must not be allowed to dry out. The Contractor and the ECoW monitor (weekly during dry periods) the condition of stored turves and peat. Where desiccation is evident, as determined by the ECoW, the Contractor provides a means of irrigation to ensure the continued viability of the turves and peat.
- 17.3.14 Potential erosion and drying of peat will be mitigated through a robust drainage design, use of silt traps where required and localised protection such as cut-off trenches, settlement ponds or barriers at watercourses and crossings.
- 17.3.15 The Contractor undertakes turf and soil stripping and excavation works in accordance with best practice as described in relevant guidance documents in Part 4, in particular; Developments on Peatland: Guidance on the Assessment of Peat Volumes, Reuse of Excavated Peat and the Minimisation of Waste (2012).
- 17.3.16 During construction, excavated material will not be placed / stockpiled on peat areas such that extra loading would increase the likelihood of failure and the excavations within peat would be minimised wherever possible.

17.4. PEAT STABILITY AND STORAGE

- 17.4.1 In addition to the storage and management controls set out elsewhere in Section 17, the absence of good practice methods, and general construction activities can have a destabilising influence on peat and result in peat slides. The Peat Landslide Hazard and Risk Assessment sets out good practice and mitigation measures to address slide risks that shall be adopted in addition to measures set out within this CEMP.
- 17.4.2 In accordance with the Works Contract, the Contractor maintains a Geotechnical Register and consults, updates and maintains the Peat Landslide Hazard and Risk Assessment.

17.5. PEAT STORAGE FOR PEATLAND RESTORATION

- 17.5.1 The development is conditioned to undertake peatland restoration as part of the Habitat Management Plan. It is the projects' intention to utilise peat, not required for reinstatement purposes, as infill for hagged areas. This has been identified for peatland restoration within the Habitat Management Plan. This is proposed to minimise peat handling and bring forward restoration of degraded areas reducing the stockpiling of peat for future restoration works. This work will be considered in accordance with Section 7 CEMP Departures requiring decision making to include the Employer and ECoW prior to commencing.
- 17.5.2 Requirements set out in 18.4 Vegetation Regeneration and 18.5 Reinstatement Monitoring below also applies to areas of restored peat.

17.6. CABLING WORKS

- 17.6.1 Turbines are likely to be connected by electrical circuit 'arrays', with the output connecting to the new on-site substation. The cabling for this would be laid in trenches of varying width (depending on the number of cables) and approximately 1m in depth alongside the site access tracks where suitable, or otherwise in accordance with the requirements set out within Section 5.

- 17.6.2 These trenches would also carry earthing and communications cables.
- 17.6.3 Prior to cabling works commencing in any area (in accordance with Section 6 Environmental Risk Management) the cabling Contractor walks each cable route section and consults with the ECoW to verify any updates to Environmental Constraints maps and to identify all sensitive areas (e.g. soft ground, watercourses, watercourse crossing points, steep slopes) and all other potential constraints and sensitive receptors which may be impacted by his works.
- 17.6.4 Cable trenches will be planned and executed such that they do not remain open for any longer than one week from initial excavation to backfilling to minimise the potential for the trench to act as drain and so cause silty water wash out.
- 17.6.5 The cabling Contractor stores excavated materials in close proximity to the excavated trench, however, consideration will be given to minimising impact to sensitive habitats and species, prevent risks from material instability (particularly in peatland areas) and run off into watercourses.
- 17.6.6 Cables would be laid directly in trenches with a sand surround and then backfilled with excavated sub-soil and peat topsoil. Alternatively, cable ducts could be installed underground. Backfill materials and the cables pulled through following completion of the duct installation or cables could be installed directly into the ground by use of cable ploughs. Earthing cables and communications cables would be included in the same trench where practicable.
- 17.6.7 The cabling Contractor handles peat in accordance with measures set out above.
- 17.6.8 To maintain local hydrological conditions and hydraulic connection in sensitive habitats (e.g. near GWDTEs) mitigation may be required within the trench. This may include clay plugs/ peat bunds to prevent the trenches from becoming a preferential flow path for water flows. The number of in trench cut-offs or bunds to be installed will be proportionate to the gradient of the trench section and take into account the elevation differential to avoid excessive head on the clay plugs/peat bunds. Where wetlands with more discrete groundwater flows are intercepted (e.g. spring and flush habitats) a clay plug may be placed immediately either side of the spring or flush feature to maintain the original hydrological conditions/flows within the wetland on either side of the cable trench.
- 17.6.9 Where cable trenches cross watercourses, consideration will be given to directional drilling where possible as this offers reduced risk to the water environment and minimal reinstatement. Assessment of the risks associated with cables crossing watercourses will be undertaken in accordance with Section 6 Environmental Risk Management.

18. Reinstatement Plan

- 18.1.1 The Contractor undertakes all reinstatement works associated with the Development (in consultation with ECoW, and other specialists where required). Reinstatement works are those undertaken during construction and decommissioning to redress hardstanding areas and any damage inflicted on the landscape as part of the construction and decommissioning works. Further information on the decommissioning aspects of reinstatement is provided within Tangy I & II Decommissioning Method Statement.
- 18.1.2 Reinstatement will be carried as construction progresses at all times where possible, e.g. the timely immediate reinstatement of infrastructure verges where there is cable laying is not specified. Reinstatement will not be neglected in favour of track construction progress.

18.2. BORROW PIT REINSTATEMENT

- 18.2.1 It is expected that blasting operations will take cognisance of the eventual profiling of the borrow pit so as to best create slopes and final topography in keeping with surrounding topography.
- 18.2.2 Four weeks after the final rock recovery blast the Contractor will provide borrow pit reinstatement plans in accordance with the Borrow Pit Scheme of Works. This will include design aspects such as reinstatement material origin and classification, placement method, final ground profiles and surface dressing.
- 18.2.3 Plans will be submitted to the Employer and ECoW for agreement. No reinstatement should be undertaken prior to the agreement of the reinstatement plans.
- 18.2.4 The Contractor maintains comprehensive records of the location, depth and volumes of all materials used in reinstatement and restoration of the borrow pits, including photographic evidence.

18.3. REINSTATEMENT MATERIALS

- 18.3.1 Reinstatement of vegetation will be focused on natural regeneration utilising peat or other vegetated turves or soils stripped and stored with their relevant seed bank. To encourage stabilisation and early establishment of vegetation cover, where available, peat turves or other topsoil and vegetation turves in-keeping with the surrounding vegetation type will be used to provide a dressing for the final surface.
- 18.3.2 A layer of peat deep enough to support revegetation (300-500mm would be recommended) will be discussed with the ECoW and where the recommended depth is not achievable the Contractor will set out alternative plans, in accordance with Section 7. In all areas, prior to overlaying with retained turves or reseeded, the ECoW will monitor the depth being attained.
- 18.3.3 Where turve redressing proves unsuccessful or where turves are lacking due to prevalence of extensive erosion features and associated bare peat, re-seeding (e.g. hydroseeding) will be part of reinstatement measures (Section 18.4). Where erosion has resulted in the wholesale loss of the peat resource and exposures of mineral soil are evident, re-establishing peat horizons will be required prior to the application of seed.
- 18.3.4 Where deemed suitable, and in accordance with the Peat Management Plan, excavated peat from cut and fill sections of infrastructure will be used for redressing infrastructure embankments. No mineral soil (especially clay-rich soils) will be used for dressing the side slopes of tracks to prevent silt runoff. Considering local topography, the Contractor ensures that reinstated embankments and temporary construction features compliments surrounding landform and avoids creation of patently engineered construction edges.

18.4. VEGETATION REGENERATION

- 18.4.1 The re-use of displaced turves will be the preferred means of regenerating reinstated areas. The Contractor will take all steps to preserve stripped turves for this purpose.

Seeding

- 18.4.2 Where there is a shortage of turves, reseeded will be required. The Contractor will submit proposals for re-seeding to the Employer and ECoW for acceptance. This proposal should include seed mixes and application method including any additives (e.g. fertiliser).
- 18.4.3 The seed mix must be in keeping with the surrounding vegetation and habitat types. The Contractor's Environmental Representative should investigate the possibility of locally harvested seed supply so assuring provenance and increasing the likelihood of successful regeneration.
- 18.4.4 Seed mixes used on other SSER upland sites typically include common bent grass (*Agrostis capillaris*), wavy hair grass (*Deschampsia flexuosa*) and red fescue (*Festuca rubra*) with common heather (*Calluna vulgaris*) 500g/ha.
- 18.4.5 Hydroseeding is the most practical method of reseeded. Where required the Contractor will consider the use of a mulch (often wood pulp) to adhere the seed to the ground surface and provide short term protection/cover.
- 18.4.6 An application of phosphate fertiliser is required. This could be mixed with the seed mulch but should ideally be applied once grass germination has occurred to maximise the chances of a successful and full grass coverage. It is imperative that this phosphate fertiliser (P2O5) is a slow-release rock form, not a liquid fertiliser. It should be applied at a low rate of 20kg per hectare, evenly over all seeded areas.
- 18.4.7 The Contractor is responsible for the success of the regeneration measures, including reinstatement, re-vegetation / hydro-seeding etc. post-construction. This does not apply to peatland restoration works under the HMP, unless the contractor is contracted to carry out that work,
- 18.4.8 The Contractor will produce plans indicating where reseeded has been undertaken and the seed mix used for each area. These plans will be submitted to the Employer, ECoW and be updated as areas are seeded throughout the programme of works.

18.5. REINSTATEMENT MONITORING

- 18.5.1 Throughout the construction period the ECoW records the location of reinstatement undertaken, further detail of this duty is provided in Section 2.4.
- 18.5.2 Within three months of completion of works in any area, the ECoW inspects the Contractor's reinstatement efforts to determine satisfactory placement of sub-soil, topsoil and turves. The ECoW makes recommendation to the Employer and Contractor for additional effort, e.g. re-seeding.
- 18.5.3 The Contractor undertakes remedial works if the ECoW determines that initial reinstatement is sub-standard or unlikely to deliver required vegetation establishment within at least one growing season. Furthermore, the ECoW records any areas where bare soil/peat prevail and where preferential drainage pathways have been created or are likely to form post construction. The Contractor ensures that such areas are adequately protected from scour and sediment mobilisation that could potentially overwhelm the permanent drainage. The Contractor designs and implements appropriate protection measures.
- 18.5.4 The ECoW undertakes a final inspection of all reinstated areas at the end of the first growing season following completion of reinstatement. The Contractor undertakes remedial works within the two-year defects period if the final inspection finds that the establishment of vegetation is not satisfactory. Examples of unsatisfactory vegetation establishment may include failed turfs due to poor reinstatement practices or drying out, slow or poor natural regeneration due to inadequate topsoil / subsoil resource, or injurious weeds are evident.

18.6. PEATLAND RESTORATION

- 18.6.1 The development is conditioned to undertake peatland restoration as part of the Habitat Management Plan. It is the projects' intention to utilise peat, not required for reinstatement purposes, as infill for hagged areas identified for peatland restoration within the Habitat Management Plan. This is proposed to minimise peat handling and bring forward restoration of degraded areas reducing the stockpiling of peat for future restoration works. The Employer will work in conjunction with the Contractor to establish an agreed plan for the reuse of peat over an above what is required for reinstatement purposes.

18.7. DEMOBILISATION

- 18.7.1 Prior to completion, the Contractor removes every piece of litter or waste and cleans the site. In addition, the Contractor will reinstate (to as near original condition as possible) grassed areas and other natural vegetation, gates, fences and other property affected temporarily by the works.
- 18.7.2 Any accidental damage or other construction effects are repaired and reinstated or restored by the Contractor to the Employer's satisfaction and in accordance with the Planning Consent and any agreements with the landowners, all prior to taking over by the Employer.

Part 4 Reference Documentation

Project Consent and Environmental Impact Assessment Report

- Consent
ECU00000673 Application under the Electricity Act 1989 to Construct and Operate Tangy IV Wind Farm
Website: <https://www.energyconsents.scot/ApplicationDetails.aspx?cr=ECU00000673>
- Environmental Impact Assessment Report
Website: <https://www.sserenewables.com/onshore-wind/in-development/tangy-repower/>

SEPA

- SEPA Guidance for Pollution Prevention (GPPs) & Pollution Prevention Guidelines (PPGs):
 - GPP 1 Understanding your environmental responsibilities – good environmental practice
 - GPP 2 Above ground oil storage tanks
 - GPP 3 Use and design of oil separators in surface water drainage systems
 - GPP 4 Treatment and disposal of wastewater where there is no connection to the public foul sewer
 - GPP 5 Works and maintenance in or near water
 - GPP 6 Working on construction and demolition sites
 - GPP 8 Safe storage and disposal of used oils
 - GPP13 Vehicle washing and cleaning
 - GPP21 Pollution incident response planning
 - GPP22 Dealing with spills
 - GPP26 Safe storage - drums and intermediate bulk containers
- Developments on Peatland: Guidance on the Assessment of Peat Volumes, Reuse of Excavated Peat and the Minimisation of Waste, a joint publication by Scottish Renewables and the Scottish Environment Protection Agency, Version 1 January 2012.
- Good Practice During Wind Farm Construction, A joint publication by Scottish Renewables, Scottish Natural Heritage, Scottish Environment Protection Agency, Forestry Commission Scotland, Historic Scotland, 4th Edition 2019;
- Life Extension and Decommissioning of Onshore Wind Farms, SEPA Guidance, November 2016
- SEPA Position Statement, Culverting of Watercourses – Position Statement and Supporting Guidance, WAT-PS-06-02, June 2015
- SEPA Regulatory Position Statement, Developments on Peat, National Waste Policy Unit, 9 February 2010.
- Engineering in the Water Environment, Good Practice Guide, Construction of River Crossings, First edition, SEPA, April 2008.
- Prevention of Pollution from Civil Engineering Contracts: Special Requirements publication (SEPA, 2006)
- Duty of Care for waste, SEPA
- Management of Forestry Waste (WST-G-027), SEPA
- Use of trees to facilitate development on afforested land (LUPS-GU27), SEPA

NatureScot (NS):

- Constructed tracks in the Scottish Uplands, March 2005.
- Decommissioning and Restoration Plans for Wind Farms, Guidance, February 2016
- Floating Roads on Peat, Forestry Civil Engineering and NatureScot, August 2010.

- Research and Guidance on Restoration and Decommissioning of Onshore Wind Farms, SNH Commissioned Report No 591, 2013

British Standards Institute (BSI):

- Code of Practice for Earth Works, BS6031:2009
- Code of practice for noise and vibration control on construction and open sites. Noise, BS5228-1: 2009.
- Code of practice for the safe use of explosives in the construction industry, BS5607:2017

CIRIA Publications:

- Control of Water Pollution from Construction Sites – Guide to Good Practice (SP156)
- Control of Water Pollution from Construction Sites – Guidance for Consultants and Contractors (C532)
- Control of Water Pollution from Linear Construction Projects – Technical Guidance (C648)
- Control of Water Pollution from Linear Construction Projects – Site Guide (C649)
- Culvert Design Guide, C689, CIRIA, 2010;
- Environmental Good Practice – Site Guide (C650)
- The SUDS Manual (C753)
- Site Handbook for the Construction of SUDS (C698)

Scottish Forestry/ Forestry Commission

- Forestry Activities Near Private Water Supplies, Forestry and Water Scotland, 2018
Website: <https://www.confor.org.uk/media/247132/guidance-on-forestry-activities-near-pws-sept-2018.pdf>
- Managing Forest Operations to Protect the Water Environment, Practice Guide, Forest Research, 2019
- Tree Felling in Scotland – Getting Permission, Scottish Forestry
Website: <https://forestry.gov.scot/publications/645-tree-felling-in-scotland-getting-permission>
- UK Forestry Standard published by the Forestry Commission, 5th Edition, 2023
Website:
https://assets.publishing.service.gov.uk/media/651670336a423b0014f4c5c0/Revised_UK_Forestry_Standard_-_effective_October_2024.pdf

Additional Relevant Guidance

- WRAP (Waste & Resources Action Programme):
http://www.wrap.org.uk/construction/tools_and_guidance/site_waste_2.html
- www.wasteonline.org.uk
- www.wasteawarescotland.org.uk
- www.defra.gov.uk/Environment/waste/
- Planning Advice Note 50 Annex D The Control of Blasting at Surface Mineral Workings, Scottish Government, February 2000

Regulations

- The Waste Management (Scotland) Regulations 2011 (as amended)
- The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended) (“CAR”).
- The Water Environment (Controlled Activities) (Scotland) Regulations 2011, A Practical Guide, SEPA, (as amended)

Part 5 Planning Conditions (Relevant to CEMP)

Conditions Relevant to Tangy IV Wind Farm Construction

This section provides a list of the planning conditions relevant to the construction aspects of the CEMP, set out within the Tangy IV Wind Farm Consent⁴. It includes cross references to sections within the CEMP, addressing the condition, and to external documentation, that will also be submitted to the Planning Authority.

Condition	Cross-Reference
3. Serious Incident Reporting In the event of any breach of health and safety or breach of environmental obligations relating to the Development during the period of this consent written notification of the nature and timing of the incident shall be submitted to the Scottish Ministers within twenty four hours of the incident occurring, including confirmation of remedial measures taken and/or to be taken to rectify the breach.	5.3 Serious Incident Reporting
5. Implementation in accordance with approved plans and requirements of the Section 36 Consent The Development shall be implemented in accordance with the details specified in the Application and accompanying Environmental Impact Assessment Report dated 06 September 2018, and additional information submitted by the Company on 10th October 2018. The Company and subsequent operators shall at all times construct and operate the Development hereby permitted in accordance with the mitigation measures identified in the Environmental Impact Assessment Report and shall not omit any mitigation measures within the Environmental Impact Assessment Report.	1.1 Construction and Decommissioning Environmental Management: Aims and Objectives

⁴ Consent ECU00000673 under the Electricity Act 1989 (as amended) to Construct and Operate Tangy IV Wind Farm.

Condition

Cross-Reference

9. Wind Turbine Locations and Micro-siting

8 Micrositing

- (1) All wind turbines, buildings, masts, areas of hard standing and tracks shall be constructed in the locations shown on plan reference Figure 4.1c save for the ability to vary without further recourse to the Planning Authority, the indicated position of any turbine, track, or associated infrastructure by up to 50 meters.
- (2) Unless otherwise agreed with the Planning Authority in consultation with SNH and SEPA, any such micro-siting, permitted by part (1) of this Condition, shall not encroach further into any buffer areas identified in respect of water courses, or nature conservation or historic environment interests as set out in Chapter 9 to 13 inclusive of the Environmental Impact Assessment Report.
- (3) Any such micro-siting shall be carried out under the supervision of the Ecological Clerk of Works ("ECoW") required to be employed pursuant to Condition 24 of this permission and shall be informed by the outcome of the Peat Management Plan required pursuant to Condition 13 and shall avoid areas of deep peat.
- (4) No later than one month after the date of Final Commissioning an updated site plan showing the final position of all wind turbines, buildings, masts, areas of hardstanding, tracks and associated infrastructure forming part of the Development shall be submitted to the Planning Authority. The plan shall also specify areas where micrositing has taken place and, for each instance, be accompanied by copies of the ECoW's approval (if applicable).

10 Decommissioning Method Statement – Tangy I and Tangy II

Tangy I & II Decommissioning Method Statement

No development shall commence until an outline Decommissioning Method Statement (DMS) for the dismantling of the existing 22 wind turbines and their associated infrastructure which form part of the Tangy I and Tangy II developments and any associated ground restoration works as described as a principal operation at Chapter 5.4 of the EIA Report, is submitted and approved in writing by, the Planning Authority.

12. Construction and Environmental Plan

This document

- (1) No development, other than Site Investigatory Works, shall commence until a full site specific Construction and Environmental Management Plan (CEMP) is submitted for the written approval of the Planning Authority in consultation with SEPA and SNH. This shall provide details, mitigation measures and timetabling in respect of the following:

Condition	Cross-Reference
(a) Pollution prevention and control measures;	9 Pollution Prevention and Mitigation Plan
(b) Dust management, including cleaning of the junction between the site access and the trunk road;	9.3 Dust Management Plan
(c) Arrangements for on-site storage of fuel and other chemicals'	9.2 Water Pollution Prevention Measures
(d) SuDS design philosophy including run-off and sediment control measures including measures for the blocking of existing drains, if required;	10 Drainage
(e) Details of foul drainage arrangements;	Paragraph 13.1.5
(f) Site specific waste management proposals;	13 Waste Management
(g) Ecological monitoring over construction period including all necessary pre-construction surveys and a species protection plan to clearly identify measures to minimize risk to water vole, badger, otter, and any other protected mammal species during construction;	14 Ecological Protection
(h) Details of the methods to be adopted to reduce the effects of noise occurring during the construction period to the lowest practicable level in accordance with BS5228;	9.4 Noise Mitigation Plan
(i) Post-construction restoration/reinstatement of the working areas;	18 Reinstatement Plan
(j) Details of temporary site illumination;	9.5 Light Management
(k) Details, following SIWs, of the site specific mitigation measures based on the Watercourse and Aquatic Habitat Pollution Prevention Measures outlined in Section 10.6.10 of the EIA Report;	10 Drainage
(l) Provision of a Geotechnical Risk Register with details of updated peat landslide mitigation measures, following SIWs , to demonstrably reduce hazard rankings associated with all infrastructure;	Peat Landslide Hazard and Risk Assessment

Condition	Cross-Reference
	17.4 Peat Stability and Storage
(m) Details of proposed water crossings and engineering works in water environment vicinities; and	12.4 Watercourse Crossings
(n) Details of proposed measures during cable installation to prevent the creation of drainage runs in cable trenches.	17.6 Cabling Works
(2) The CEMP shall be adhered to throughout the construction and site restoration phases unless otherwise agreed in writing by the Planning Authority.	1.1 Construction and Decommissioning Environmental Management: Aims and Objectives
13. Peat Management Plan	Peat Management Plan
(1) No development shall commence until a detailed Peat Management Plan, addressing all areas to be disturbed by construction, has been submitted to and approved in writing by the Planning Authority in consultation with SEPA. This shall include:	
(a) Volumes, depth and location of any peat disturbed;	
(b) Details of any proposed re-use of the peat within the site, including a plan showing volumes, location and usage;	
(c) Details of any disposal of peat proposed, including volumes, detailed disposal proposals and details of how peat usage has been limited to undisturbed ground; and	
(d) Details of storage and handling of excavated peat, including a plan showing proposed storage areas;	
(2) All works on site must be undertaken in accordance with the approved Peat Management Plan unless otherwise agreed in advance in writing by the Planning Authority.	

Condition	Cross-Reference
19. Public Road Cleaning	Traffic Management Plan
Prior to the commencement of deliveries to the site, measures to ensure that all affected public roads are kept free of mud and debris arising from the development shall be agreed with the Planning Authority.	9.3 Dust Management Plan
20. Water Quality and Fish Monitoring Programme	Appendix 6 Water Quality and Fish Monitoring Plan
(1) No development shall commence until a Water Quality and Fish Monitoring Programme (WQFMP) has been submitted and approved by the Planning Authority. The WQFMP must take account of the Scottish Government's Marine Scotland Science's response and must include:	
(a) Water quality and fish monitoring programme (carried out at least 12 months prior to construction and decommissioning of the existing turbines taking place, during construction and for up to 12 months, after construction is complete, subject to survey results and in agreement with the Planning Authority and Marine Scotland); and	
(b) Mitigation measures detailed in the Environmental Impact Assessment.	
(2) Thereafter the WQFMP must be implemented in full and in accordance with the timescales set out in the plan. No changes to the WQFMP must take place unless they are with prior written approval of the Planning Authority.	
22. Construction Hours	9.4 Noise Mitigation Plan
(1) Construction work which is audible from any noise-sensitive receptor shall only take place on the site between the hours of 07.30 to 19.00 on Monday to Friday inclusive and 08.00 to 16.00 on Saturdays, with no construction work taking place on a Sunday or on a Bank Holiday or Public Holiday. Outwith these specified hours, development on the site shall be limited to turbine delivery and erection, commissioning, maintenance, dust suppression, and pouring of concrete foundations (provided that the developer retrospectively notifies the Planning Authority of the works within 24 hours if prior notification is not possible). In addition, access for security reasons, emergency responses or to effect any necessary environmental controls is permitted outwith these hours.	
(2) Movements of heavy good vehicles (HGV) to and from the site during construction of the development shall be limited to 0700 hours to 1900 hours Monday to Friday and 0800 to 1600 hours on Saturdays and no vehicular access during these periods shall take place on Sundays or Bank Holidays, unless previously approved in writing by the Planning Authority.	

Condition

Cross-Reference

23. Construction and Decommissioning Hours Within 1 Kilometre of Tangy Loch

14.4 Bird Protection Plan

During construction and decommissioning all works within 1 kilometre of Tangy Loch are restricted to between the hours starting from one hour after dawn to one hour before dusk during the goose roosting season (30 September – 30 April).

24. Ecological Clerk of Works

2 The Ecological Clerk of Works (ECoW)

- (1) No development shall commence until the Planning Authority has approved in writing the terms of appointment by the Company of an independent Ecological Clerk of Works (ECoW) in consultation with SNH and SEPA. The terms of appointment shall;
 - (a) Impose a duty to monitor compliance with the ecological and hydrological commitments provided in the EIA Report and other information lodged in support of the application, the Construction and Environmental Management Plan, and other plans approved in terms of Condition 26 ("the ECoW works");
 - (b) Require the ECoW to report to the Company's nominated construction project manager any incidences of non-compliance with the ECoW works at the earliest practical opportunity;
 - (c) Require the ECoW to submit a monthly report to the Planning Authority summarizing works undertaken on site; and
 - (d) Require the ECoW to report to the Planning Authority any serious environmental incidences resulting as a consequence of non-compliance with the ECoW works at the earliest practical opportunity.
- (2) The ECoW shall be appointed on the approved terms throughout the period from the Commencement of Development, throughout any period of construction activity and during any period of post construction restoration works approved in terms of conditions 8 and 12.

26. ECoW Works

14 Ecological Protection

No development shall commence until a pre-construction survey is carried out by the Ecological clerks of Works (ECoW), in respect of the areas to be affected by development work, to establish any presence of otter, water vole, badger and other protected mammal species. In the event of any evidence of such mammals being present, the appropriate licensing process should be concluded prior to continuing works and any measures identified in the Construction Environmental Management

Condition

Cross-Reference

Plan (CEMP) required in terms of condition 12 to safeguard this protected species should be implemented for the duration of construction activities on the site.

27. Breeding Bird Protection plan

Appendix 5 Bird Protection Plan

No development shall commence until a Breeding Bird Protection Plan is submitted to and approved in writing by the Planning Authority in consultation with SNH. Thereafter the Development shall be implemented in accordance with the duty approved plan or any subsequent variation thereof as may be approved in writing in advance by the Planning Authority.

Conditions relevant to Tangy I and Tangy II Wind Farm Decommissioning

This section provides a list of the planning conditions relevant to the decommissioning aspects of the CEMP, set out within the Tangy I Wind Farm⁵ and Tangy II Wind Farm⁶ Consents. It includes cross references to sections within the CEMP, addressing the condition, and to external documentation, that will also be submitted to the Planning Authority.

Condition

Cross-Reference

Tangy I Wind Farm Condition 2 & Tangy II Wind Farm Condition 2

Tangy I & II Decommissioning Method Statement

This planning permission shall expire on 27 August 2027. Within 18 months of 27 August 2027, unless a further planning application is submitted and approved, all wind turbines, ancillary equipment and buildings shall be dismantled and removed from the site and the land reinstated in accordance with the applicant's statement of intentions and conditions listed below, to the satisfaction of the Council as Planning Authority.

⁵ Planning Permission 21/02556/PP under the Town and Country Planning (Scotland) Act 1997 (as amended) and Town and Country Planning (Development Management Procedure) (Scotland) Regulations 2013. Variation of condition 2 of planning permission 02/01179/DET to allow continued operation for a further 6 years until 2027 at Tangy I Wind Farm.

⁶ Planning Permission 21/02555/PP under the Town and Country Planning (Scotland) Act 1997 (as amended) and Town and Country Planning (Development Management Procedure) (Scotland) Regulations 2013. Variation of condition 2 of planning permission 04/01291/DET to allow continued operation for a further 6 years until 2027 at Tangy II Wind Farm.

Tangy I Wind Farm Condition 10 & Tangy II Wind Farm Condition 7

Tangy I & II Decommissioning Method Statement

Within 6 months of the planning consent lapsing, the wind turbines shall be removed and their bases covered in soil/peat and re-seeded with appropriate vegetation. Full details of the base restoration plan shall be submitted for the prior written approval of the Council as Planning Authority, in consultation with NatureScot prior to the commencement of works.

Tangy I Wind Farm Condition 12 & Tangy II Condition 15

This document

No later than 12 months prior to the expected decommissioning of the Development, or 12 months after being directed to decommission the Development, a detailed decommissioning, restoration and aftercare plan shall be submitted for the written approval of the Planning Authority in consultation with NatureScot and SEPA. The detailed decommissioning, restoration and aftercare plan shall provide updated and detailed proposals, in accordance with the relevant guidance at that time, for the removal of the Development, the treatment of the ground surfaces, the management and timing of the works, and environment management provisions which shall include (but not be limited to):

Tangy I & II Decommissioning Method Statement

(a) A site waste management plan (dealing with all aspects of waste produced during the decommissioning, restoration and aftercare phases);	13 Waste Management
(b) Details of the formation of the construction compound, welfare facilities, any areas of hardstanding, turning areas, internal access tracks, car parking, material stockpiles, oil storage, lighting columns, and any construction compound boundary fencing;	This document
(c) A dust management plan;	9.3 Dust Management Plan
(d) Details of measures to be taken to prevent loose or deleterious material being deposited on the local road network, including wheel cleaning and lorry sheeting facilities, and measures to clean the site entrances and the adjacent local road network;	Traffic Management Plan 9.3 Dust Management Plan
(e) A pollution prevention and control method statement, including arrangements for the storage and management of oil and fuel on the site;	9 Pollution Prevention and Mitigation Plan
(f) Details of measures for soil storage and management;	17 Excavation, Soil Storage and Management

(g) A surface water and groundwater management and treatment plan, including details of the separation of clean and dirty water drains, and location of settlement lagoons for silt laden water;	10 Drainage
(h) Details of measures for sewage disposal and treatment;	Paragraph 13.1.5
(i) Temporary site illumination;	9.5 Light Management
(j) The construction of any temporary access into the site and the creation and maintenance of associated visibility splays;	Traffic Management Plan
(k) A traffic management plan (TMP) which provides for the arrangements in respect of traffic associated with the decommissioning of the Development;	Traffic Management Plan
(l) Details of watercourse crossings; and	Watercourse Crossing Schedule
(m) A species protection plan based on surveys for protected species (including birds) carried out no longer than eighteen months prior to the submission of the plan.	Appendix 4 Species Protection Plan
	Appendix 5 Bird Protection Plan
The development shall thereafter be decommissioned, the site restored and aftercare undertaken in accordance with the approved plan, unless and until otherwise agreed in writing in advance with the Planning Authority, in consultation with NatureScot and SEPA.	Tangy I & II Decommissioning Method Statement
Tangy I Wind Farm Condition 13	2 The Ecological Clerk of Works (ECoW)
No later than 12 months after being directed to decommission the Development, the operator shall submit details of the terms of appointment by the operator of an independent Environmental Clerk of Works (ECoW) throughout the decommissioning, restoration and aftercare phases of the Development to the Planning Authority for approval in consultation with NatureScot and SEPA. The ECoW shall be appointed on the approved terms throughout the decommissioning, restoration and aftercare phases of the development.	

Tangy II Wind Farm Condition 14

14.4 Bird Protection Plan

All wind farm decommissioning operations, within the application site are restricted solely to the period between one hour after dawn and one hour before dusk during the goose roosting season (30 September – 30 April) to avoid the risk of disturbance to the over-wintering population of Greenland white-fronted geese.

Part 6 Schedule of Construction Environmental Mitigation

Topic	Description	Means of Implementation/ Timing	Cross Reference
Construction Activities	Construction onsite will consist of the following principal operations: - phased forest felling to facilitate construction; - construction of additional access tracks required for the proposed development; - excavation of aggregates from on-site borrow pits for track, turbine base and hardstanding construction; - construction of temporary hard standing and temporary office and welfare facilities; - dismantling of the existing 22 turbines (Tangy I and II); - reinstatement of redundant turbine bases and access tracks; - construction of new turbine foundations; - construction of permanent crane hardstandings; - excavation of trenches and cable laying, adjacent to the access tracks; - connection of distribution and telecommunications cables; - erection and commissioning of turbines; and - reinstatement of borrow pits and the temporary construction compound areas.	Construction	
Forest Felling and Replanting	The northern part of the site includes an area of commercial plantation forest. The proposed development includes clear felling of approximately 270.5 ha of forest within the site boundary. Replanting will be carried out on site, to a keyhole design, with growth up to 10 m in height.	Construction / Operation	Long Term Forest Plan Habitat Management Plan
Forest Felling	Forest felling will be undertaken in a number of ways, including conventional harvesting and whole tree chipping or mulching for un-merchantable crops. Activities will be carried out with the use of standard forestry equipment, with merchantable timber being removed from site. Lop and top (branch wood and small dimension timber) and tree stumps would remain on site as is standard forestry practice, unless otherwise specified.	Construction	Long Term Forest Plan
Water Supply and Drainage	It will be necessary to provide a temporary borehole water supply and foul drainage and this is considered further in Chapter 12 (Surface Water).	Construction	11.4 Private Water Supply Protection Plan Paragraph 13.1.5

Topic	Description	Means of Implementation/ Timing	Cross Reference
Concrete Batching	It has been assumed that concrete batching will be undertaken off site. The vehicle movements associated with importing concrete have been taken into account in the traffic assessment in Chapter 15 (Access, Traffic and Transport) and the traffic noise assessment in Chapter 14 (Noise) in order to reflect a potential worst case scenario. However, it is possible that concrete batching could be undertaken on site, which would require a temporary concrete batching plant to be established. Should this approach be adopted, the temporary concrete batching plant would be located on the temporary construction laydown area and would require a water abstraction point from one or more of the watercourses on site.	Construction	This document Traffic Management Plan 9.4 Noise Mitigation Plan
Decomissioning of TI+II	Decommissioning and reinstatement of Tangy land II will comprise: - Removal of the 22 existing wind turbines and towers to ground level. - Reinstatement of turbine bases/foundations. - Removal of approximately 2.2km of access tracks and reinstatement of former track routes	Construction	Tangy I & II Decommissioning Method Statement
Decomissioning of TI+II	The existing 22 turbines will be decommissioned, dismantled and removed from the site in their largest component parts and transported, by public road, either to Campbeltown harbour where they will be loaded onto a suitable sea vessel, or by public road to another destination. These components may be sold on, re-used or recycled	Construction	Tangy I & II Decommissioning Method Statement
Decomissioning of TI+II	The existing reinforced concrete foundation of each tower cannot be re-used as part of the new turbine foundations and will largely be left in-situ with the top 1m of the foundation being broken down to just below ground level. Where the existing turbine foundations fall within the infrastructure for Tangy IV, the foundations will be capped using stone and where the foundation falls outside the new infrastructure, a topsoil cap will be used to reinstate the area to ground level and left to re-vegetate naturally from the indigenous vegetation	Construction	Tangy I & II Decommissioning Method Statement
Decomissioning of TI+II	Redundant tracks will be broken out and stone excavated for reuse on site as part of the construction works for Tangy IV. Tracks will be reinstated with suitable sub-soil/topsoil. Seeding may be required if suitable vegetation turfs are not available. Seed mix will be approved by the ECoW prior to reinstatement works commencing	Construction	Tangy I & II Decommissioning Method Statement
Decomissioning of TI+II	It is not proposed to re-use the existing electrical cables that are in place as part of the Tangy I and II infrastructure, however, to minimise ground and habitat disturbance it is not proposed to remove them, and they will be left in situ	Construction	Tangy I & II Decommissioning Method Statement

Topic	Description	Means of Implementation/ Timing	Cross Reference
Decommissioning of TI+II	Reinstatement will be undertaken by use of either soil material generated on site during the repowering construction works; or imported soil and topsoil (it is not currently anticipated that this would be required due to the likely availability of soil material on site).	Construction	Tangy I & II Decommissioning Method Statement
Decommissioning of TI+II	The decommissioning of turbine components with regard to disposal and/or end-use will be undertaken in line with best practice and the waste hierarchy. In order to minimise the impact on the surrounding habitats and species, and to reduce the volume of potential waste materials generated as part of the decommissioning works, the applicant proposes to remove those components and materials which will be replaced as part of the repowering works	Construction	Tangy I & II Decommissioning Method Statement
Decommissioning of TI+II	Detailed decommissioning proposals will be established and agreed with relevant authorities prior to commencement of decommissioning activities. This will take cognisance of guidance available at the time	Construction	Tangy I & II Decommissioning Method Statement
Reduce Disturbance to Geese	restrictions to vehicular movements and works with the potential to cause disturbance in the hour before dawn and the hour after dusk between 30th September and 30th April inclusive.	All Phases	Paragraph 14.4.5
Forestry Works	The forest will be clear felled and replanted to a key hole design to allow for the construction of tracks/turbine pads and clearance for the rotor swept areas (Figure 16.2). Of the 463.86 ha of woodland within the site boundary, 270.75ha would be felled. Replanting on the site will include 196.35ha of productive conifer plantation, with an additional 3.50ha of native broadleaf planting. 31.7 ha is proposed to be retained as open ground around turbines/tracks, and 30.43ha will be designed open ground	Construction	Habitat Management Plan Long Term Forest Plan
Electric Cables	All electrical cabling between the proposed turbines and the associated infrastructure will be underground in shallow trenches which would be reinstated post-construction and, in most cases, follow the proposed access tracks.	Construction	17.6 Cabling Works
Excavation	Any disturbance areas around permanent infrastructure during construction will be temporary and areas will be reinstated or restored before the construction period ends. The only excavation in these areas will be for cabling as noted above and otherwise may only be periodically used for side-casting of spoil until reinstatement.	Construction	18 Reinstatement Plan
ECOW	To ensure all reasonable precautions are taken to avoid negative effects on ornithological interests during construction and decommissioning, the developer will appoint a suitably	Construction	2 The Ecological Clerk of Works (ECoW)

Topic	Description	Means of Implementation/ Timing	Cross Reference
	qualified Ecological Clerk of Works (ECoW) prior to the commencement of construction and decommissioning and they will advise the developer and the Principal Contractor on all ornithological matters (with the assistance of a suitably qualified/licenced ornithologist if required). The ECoW will be required to be present on the site during the construction and decommissioning periods and will carry out monitoring of works and briefings with regards to any ornithological sensitivities on the site to the relevant staff within the principal contractor and subcontractors.		
BBPP	A Breeding Bird Protection Plan (BBPP) will be implemented during construction and decommissioning of the proposed development. The BBPP will detail measures to safeguard breedingbirds known to be in the area. The BBPP shall include pre-construction surveys and good practice measures during construction. Pre-construction surveys will be undertaken to check for any new breeding bird activity in the vicinity of the construction/decommissioning works.	Construction	Appendix 5 Bird Protection Plan
Reduce Disturbance to Geese	Any construction works, vehicular traffic, or other activity shall be confined to the period 07:00 to 19:00 Monday to Friday and 07:00 to 13:00 on Saturdays. Turbine deliveries would only take place outside these times with the prior consent of the local authority and police. Those activities that are unlikely to give rise to noise audible at the site boundary may continue outside of the stated hours	Construction	9.4 Noise Mitigation Plan
Disturbance to Geese	Any blasting shall be confined to Monday to Friday, between the hours of 10:00 and 16:00. Blasting on Saturday mornings shall be a matter for negotiation between contractor and the local authority	Construction	9.4 Noise Mitigation Plan
Reduce Disturbance to Geese	During construction, a goose roost survey will be undertaken weekly between September and April to ensure there are no disturbance effects on geese using either Tangy Loch or Lussa Loch to roost and their associated commuting flights. The surveys would be undertaken by an appointed ornithologist (or the ECoW if suitably qualified) in the vicinity of Tangy Loch and in the direction of the established flight path from Lussa Loch, at dawn and dusk. The results would be used to detail any effects on geese and inform any further mitigation measures if they are deemed to be required in light of any disturbance effects.	Construction	Paragraph 14.4.6
Habitat Protection Measures	The existing wind turbines and towers would be removed to ground level, with the concrete foundations left in-situ and broken down to approximately 1 m below ground level. The existing electrical cables would be left in-situ to minimise habitat disturbance. Approximately 2.2 km of access tracks would be removed and the habitat reinstated.	Construction	Outline Decommissioning Method Statement

Topic	Description	Means of Implementation/ Timing	Cross Reference
Peat Protection Measures	Where peat depth is >1 m, track construction would be of a floating design rather than a cut design, in order to minimise the disturbance to peat.	Construction	Paragraph 14.2.12
Protection of Tangy Loch SSSI	A detailed intrusive ground investigation following tree removal and prior to construction will inform relevant good practice measures to reduce peat slide risks. Such mitigation measures will be included in the CEMP	Construction	Peat Landslide Hazard and Risk Assessment 17.4 Peat Stability and Storage
Watercourse protection	All watercourses and ponds within the site boundary would have appropriate buffers, as agreed with SEPA. Exclusion zones within which construction activities would not occur, with the exception of works such as tracks crossing over watercourses, would be established and demarcated during the construction phase, where necessary. At all watercourse locations, appropriate pollution response spill kits and silt mitigation measures would be installed as described within the CEMP, in line with current good practice guidance	Construction	9 Pollution Prevention and Mitigation Plan
Watercourse protection	The risk of pollution from surface runoff to watercourses and aquatic habitats, such as Tangy Loch SSSI, would be prevented by ensuring that runoff control measures, such as interceptor drains and silt traps to assist in maintaining water quality, are in place. Additionally, interceptor drains would be used to control the flow of any runoff from operation activities	Construction / Operation	10 Drainage
Habitat Restoration	Where tracks would not be upgraded to be used in the proposed development, they would be reinstated to allow recolonisation of natural habitats.	Construction / Operation	Outline Decommissioning Method Statement
Peatland Restoration Measures	Active restoration of the peatland habitats in the ecological study area would be carried out in line with Appendix 10.6: Habitat Management Plan. Active restoration is defined here as the process of actively encouraging the regeneration of degraded peatland habitats. A total of 27.7 ha of peatland would be restored in deforested areas.	Construction / Operation	Habitat management Plan
Forest felling / Replanting	A total of 270.5 ha of coniferous plantation is required to be felled. Replanting would be to a keyhole design and would be predominantly Sitka spruce <i>Picea sitchensis</i> , selecting a slow growing provenance. This second rotation would be felled at 10 m in tree height. An area of approximately 3.50 ha of native broadleaf woodland planting is proposed to increase the biodiversity value of the site, see Appendix 10.6: Habitat Management Plan .	Construction / Operation	Habitat Management Plan Long Term Forest Plan

Topic	Description	Means of Implementation/ Timing	Cross Reference
Forest Replanting	Forestry replanting would use a minimum buffer of 50 m from the turbine blade tip (the edge of the rotor swept area) to the nearest part of any habitat feature, to avoid creating an edge habitat near the turbines that would be attractive to bats,	Construction / Operation	Long Term Forest Plan
Compensatory Planting	Compensatory planting outwith the site would also be required to account for areas designed to accommodate the proposed wind farm infrastructure (including the bat buffers) where replanting is prevented.	Construction / Operation	Habitat Management Plan Compensatory Planting Scheme
Peat Management	Following mitigation will be included in site specific CEMP. Avoidance of arisings being placed as local concentrated loads on peat slopes without first establishing the stability condition of the ground and slope system. Stockpiling on pockets of deep peat and in close proximity to steep slopes shall be avoided.	Construction	17.3 Soil Storage and Management
Peat Management	Avoidance of uncontrolled and concentrated surface water discharge onto peat slopes. All water discharged from excavations during construction phase shall be directed away from all sensitive areas and shall be managed by a suitably designed site drainage management plan.	Construction	10 Drainage 17 Excavation, Soil Storage and Management
Ground/ Excavation stability	All excavations where required shall be adequately supported to prevent collapse and the destabilising ground adjacent to excavations.	Construction	Peat Landslide Hazard and Risk Assessment
Management of surface water	Environmentally compliant drainage designs for the proposed development will form a primary control and mitigation measure for maintaining surface hydrology and shallow groundwater flow during the lifespan of the scheme. This is discussed in detail within Chapter 12 (Surface Water).	Construction / Operation	10 Drainage
Peat Management	The pre-mitigation peat hazard will be reduced to a manageable 'Significant' hazard level through routine application of control measures. These are highlighted below and discussed further within Appendix 11.1:	Construction	Peat Landslide Hazard and Risk Assessment 17.4 Peat Stability and Storage

Topic	Description	Means of Implementation/ Timing	Cross Reference
Peat Management	Undertake detailed intrusive ground investigation gathering additional basal peat contact data and where possible acquire high quality geotechnical data in order to refine and update the peat stability risk assessment.	Construction	Peat Landslide Hazard and Risk Assessment 17.4 Peat Stability and Storage
Peat Management	Maintain the hydrological regime within the local area preventing surface ponding of water on peat deposits and ensuring there is no build-up of pore pressures within the peat. No surcharge loading of peat slopes, with no overburden or temporary peat storage across any high-risk construction areas.	Construction	Peat Landslide Hazard and Risk Assessment 17.4 Peat Stability and Storage
Peat Management	Monitoring and assessment throughout pre-construction and construction phase considering the changing properties of stockpiled materials including the effects of weathering.	Construction	Peat Landslide Hazard and Risk Assessment 17.4 Peat Stability and Storage
Monitoring	Ensuring experienced geotechnical personnel throughout investigation, construction and operational monitoring.	All Phases	Peat Landslide Hazard and Risk Assessment 17.4 Peat Stability and Storage
Geotechnical Engineer	A Geotechnical Engineer will maintain a geotechnical risk register, including peat slide risks, for the duration of the construction works phase. The Geotechnical Engineer will undertake regular inspections of relevant areas and provide recommendations as required to the Principal Contractor. Details on the Geotechnical Engineer's role will be provided in the CEMP.	Construction	Peat Landslide Hazard and Risk Assessment 17.4 Peat Stability and Storage
Protection of PWS	Maintain quality and quantity of a potable supply for the users of PWS2. These are in addition to the good practice water quality protection measures included within the CEMP: Identify a long-term sustainable solution for the PWS2 (Lagaltarve Farm (2A) Tangytavil (2B*)) water supply and seek to establish the PWS users' current needs regarding water use and quantities, post-consent. The applicant will seek the PWS users' input and support for any protection or mitigation measures relating to the PWS' infrastructure and will strive to maintain, if not improve, the current PWS water quality and quantity.	Construction	11.4 Private Water Supply Protection Plan

Topic	Description	Means of Implementation/ Timing	Cross Reference
Protection of PWS	As part of good practice within the CEMP and in line with LUPS-31 on-going monitoring of the PWS2 groundwater supply will be undertaken to demonstrate whether the quality of groundwater and/or hydrological connectivity is being maintained taking cognizance of SEPA Technical Guidance Note 1: The Monitoring of Infrastructure with Excavations Less than 1m Deep within 100m of Sensitive Receptors (Groundwater Abstractions and Groundwater Dependent Terrestrial Ecosystem). Monitoring will take place before, during and after construction; with timescales to be agreed with SEPA. If required and as agreed with the PWS user, temporary water supply will be made available for use from the outset and throughout the construction period, should PWS2 be temporarily adversely affected.	All Phases	11.4 Private Water Supply Protection Plan Appendix 6 Water Quality and Fish Monitoring Plan
Protection of Cultural Heritage Assets	In some areas the proposed felling of forestry would occur in close proximity to known heritage assets. Within these areas the known heritage assets will be surveyed and fenced off under archaeological supervision prior to the commencement of forestry operations.	Construction	15 Archaeological Protection
Protection of Cultural Heritage Assets	To mitigate the potential for previously unrecorded assets to be impacted during the construction phase, an archaeological watching brief will be maintained on a representative proportion of ground-breaking works across the site. Any remains encountered will either be preserved in situ or will be recorded and removed as appropriate.	Construction	Appendix 8 Archaeology Written Scheme of Investigation
Protection of Cultural Heritage Assets	To mitigate the potential for previously unrecorded assets to be impacted during the construction phase, an archaeological watching brief will be maintained on a representative proportion of ground-breaking works associated with the construction of the proposed development. The areas to be monitored will include all areas of peat >1 m and proposed borrow pit locations, all of which are located in close proximity to known heritage assets (Sites 14, 15 and 16) assess their value and to mitigate any impact upon them either through avoidance or, if preservation in situ is not feasible, through preservation by record	Construction	Appendix 8 Archaeology Written Scheme of Investigation
Protection of Cultural Heritage Assets	Depending upon the results of any watching brief works there is the potential that further works such as excavation and post-excavation analyses could be required. Details of mitigation will be agreed in consultation with WoSAS through a Written Scheme of Investigation.	Construction	Appendix 8 Archaeology Written Scheme of Investigation
Protection of Cultural Heritage Assets	To mitigate the potential for previously unrecorded assets to be impacted during the construction phase, an archaeological watching brief will be maintained on a representative proportion of ground-breaking works across the site. Any remains encountered will either be preserved in situ or will be recorded and removed as appropriate.	Construction	Appendix 8 Archaeology Written Scheme of Investigation

Topic	Description	Means of Implementation/ Timing	Cross Reference
Noise compliance	Various mitigation methods have been suggested to reduce the effects of construction noise, the most important of these being restricting the hours of working to be from 07:00 to 19:00 from Monday to Friday and from 07:00 to 13:00 on Saturdays. Note: Amended by Condition 22	Construction	9.4 Noise Mitigation Plan
Noise compliance	To reduce the potential effects of construction noise, the following types of mitigation measures are proposed: - Those activities that may give rise to audible noise at the surrounding properties and heavy goods vehicle deliveries to the site would be limited to the hours 07:00 to 19:00 Monday to Friday and 07:00 to 13:00 on Saturdays. Turbine deliveries would only take place outside these times with the prior consent of the local authority and the Police. Those activities that are unlikely to give rise to audible noise at the site boundary may continue outside of the stated hours. Note: Amended by Condition 22 - All construction activities shall adhere to good practice as set out in BS 5228. - All equipment will be maintained in good working order and any associated noise attenuation such as engine casing and exhaust silencers shall remain fitted at all times. - Where flexibility exists, activities will be separated from residential neighbours by the maximum possible distances. - A site management regime will be developed to control the movement of vehicles to and from the proposed development site. - Construction plant capable of generating significant noise and vibration levels will be operated in a manner to restrict the duration of the higher magnitude levels.	Construction	9.4 Noise Mitigation Plan
Noise compliance	The potential noise and vibration effects of blasting operations will be reduced according to the guidance set out in the relevant British Standards PAN50 Annex D and discussed below: - Blasting should take place under strictly controlled conditions with the agreement of the relevant authorities, at regular times within the working week, that is, Monday to Friday, between the hours of 10.00 and 16.00. Blasting on Saturday mornings shall be a matter for negotiation between the contractor and the local authorities; - Vibration levels at the nearest sensitive properties are best controlled through on site testing processes carried out in consultation with the Local Authorities. This site testing based process would include the use of progressively increased minor charges to gauge ground conditions both in terms of propagation characteristics and the level of charge	Construction	9.4 Noise Mitigation Plan

Topic	Description	Means of Implementation/ Timing	Cross Reference
	needed to release the requisite material. The use of onsite monitoring at neighbouring sensitive locations during the course of this preliminary testing can then be used to define upper final charge values that will ensure vibration levels remain within the criteria set out previously, as described in BS 5228 2 and BS 6472 2 2008; Blasting operations shall adhere to good practice as set out in BS 5228 2 and in PAN50, Annex D, Paragraph 95, in order to control air overpressure.		
Deliveries	All stone required for construction of the access tracks is expected to be sourced from on-site borrow pits and processed on site.	Construction	Traffic Management Plan
Decommissioning of TI+II	The 22 existing wind turbines which comprise the Tangy I and Tangy II Wind Farms are to be removed during construction of the Development. These turbines will be dismantled and removed from site during a three month period	Construction	Outline Decommissioning Method Statement
Pedestrian Amenity	Pedestrian Amenity at Glenbarr and Rhunahaorine Primary Schools. The applicant and the appointed contractor will provide written notice to these schools in advance of concrete pouring days and indicate that there is a potential for an effect on pedestrian amenity; The applicant and their appointed contractor shall consult with these schools to identify any specific mitigation measures which might be adopted on concrete pouring days. Given the location of each of these schools on the A83, and their small size, it is reasonably possible that no staff or students walk to school. If it is established that this is the case then no mitigation measures are likely to be required.	Construction	Outdoor Access Plan or Traffic Management Plan
Badger Protection	The ECoW will use camera traps on all known badger setts, which will be checked immediately prior to any work commencing within 20 m of sett entrances and continue to a minimum of one week after the completion of works.	All Works	Appendix 4 Species Protection Plan
Badger Protection	All personnel, including contractors and subcontractors, will be briefed on the presence of the badger setts before works commence, including details of their protected status and the conditions of any licence. Copies of any licences will be held on-site with other key documentation.	All Works	4 Site Induction and Regular Briefings
Badger Protection	If any badgers are sighted during the works, all works must stop and the sighting reported to the ECoW, who will be responsible for determining when works can recommence to avoid any accidental injury or disturbance of badgers.	All Works	4 Site Induction and Regular Briefings

Topic	Description	Means of Implementation/ Timing	Cross Reference
Geotechnical Risk Management	A complete geotechnical risk management process should be utilised throughout the construction phase and amended accordingly as new information is received. (See Table 3 for specific control measures)	Construction	Peat Landslide Hazard and Risk Assessment 17.4 Peat Stability and Storage
Peat Slide Mitigation	The following mitigation measures, when incorporated into the design and construction of the project will assist in the management of the risk from peat instability during Wind farm construction: • The use of experienced and competent civil construction contractors adopting best practice methods. • Review turbine location and appropriate design where further detailed ground investigation analysis allows for a refinement of the risk assessment. • Detailed monitoring programme of geomorphology and hydrology across the critical areas as part of the construction management. This shall be focussed across all infrastructure elements where a hazard ranking of 'Significant' or higher has been identified. • Figure 11.6 and Figure 11.7; provides a detailed interpretation of the hazard zones for pre and post mitigation scenarios respectively. This information will hence be used to develop detailed construction planning and be a key driver for active risk management. • Refine the environmentally sensitive zones across the site and integrate these areas into the detailed Construction Environmental Management Plan (CEMP). • Apply conservative design parameters across the elevated hazard zones. • Produce a robust drainage design which preserves the natural hydrological regime across the proposed development. The control of silt and suspended solids shall be carefully planned to avoid detrimental environmental effects. All drainage discharges shall be under consent from the relevant SEPA control unit and performed in an environmentally compliant manner. A documented procedure shall be in place and rapid reaction strategy in place prior to the commencement of construction on peat land. This strategy shall be enacted should signs of peat movement be recorded across the proposed development. This approach requires periodic and continued monitoring of the construction process by a suitably qualified geotechnical engineer. • A detailed Construction Environmental Management Plan (CEMP) shall be produced and incorporate the conclusions of the peat stability report, continuously update the	Construction	Peat Landslide Hazard and Risk Assessment 17.4 Peat Stability and Storage 6 Environmental Risk Management 12 Authorisations under CAR Authorisations under CAR

Topic	Description	Means of Implementation/ Timing	Cross Reference
	assessment and develop appropriate mitigations to respond to the peat slide risk as development proceeds. The Geotechnical Risk Register shall be maintained as a 'live' document and updated and amended as required throughout the pre-construction and construction phase of development. (See Table 3 for specialist control measures)		
Peat Control Measures	Specialist control measures highlighted within Table 13 will need to be carefully applied to these and all proposed infrastructure locations in order to mitigate the hazard and risk, ensuring the lower acceptable residual risk. Figure 11.7 provides a clear overview of the peat stability hazard zonation for the site following application of control measures.	Construction / Operation	Peat Landslide Hazard and Risk Assessment 17.4 Peat Stability and Storage
Peat Control Measures	The preliminary geotechnical risk register for peat at the proposed development cites key control measures which will be required to reduce the risk of peat slide to residual levels. These control measures apply to the proposed turbine locations. However, there should be wider consideration of these measures across all areas of the proposed development which may be influenced by the proposed construction. This is critical where infrastructure may impact terrain and slope conditions beyond the proposed working areas.	Construction	Peat Landslide Hazard and Risk Assessment 17.4 Peat Stability and Storage
Peat Control Measures	The results of a detailed ground investigation will be assessed with respect to refining the peat stability assessment at all infrastructure locations. All pertinent control measures and mitigation measures will be revised, and their implementation supervised following the results of the ground investigation and construction design phase of works.	Construction	Peat Landslide Hazard and Risk Assessment 17.4 Peat Stability and Storage
Peat Control Measures	Continued assessment and monitoring throughout the construction phase of works and at suitable intervals post construction will be implemented to ensure the control measures are suitable and are providing adequate mitigation against peat slide	Construction / Operation	Peat Landslide Hazard and Risk Assessment 17.4 Peat Stability and Storage
CEMP Requirements	Construction practices shall be managed through the Construction Environmental Management Plan (CEMP). The CEMP will be prepared by the appointed principal contractor	Construction	This document

Topic	Description	Means of Implementation/ Timing	Cross Reference
	and reviewed by a suitably experienced geotechnical engineer who has read and understood this report. The following general recommendations are provided in line with the Good practice during Wind farm construction, (2010) guidance which should be incorporated into any future CEMP document: • Avoidance of arisings being placed as local concentrated loads on peat slopes without first establishing the stability condition of the ground and slope system. Stockpiling on areas of deep peat and in close proximity to steep slopes will be avoided. • Avoidance of uncontrolled and concentrated surface water discharge onto peat slopes as this may act as contributory factor to failure. All water discharged from excavations during construction phase will be directed away from all areas identified as susceptible to peat failure and will be managed by a suitably designed site drainage management plan. • All excavations where required will be adequately supported to prevent collapse and the destabilising peat deposits adjacent to excavations. • A system of daily reporting will be established during construction and utilised to monitor the geotechnical performance of slopes including peat, sub-soil and bedrock. This shall be implemented and undertaken by a suitable experienced and qualified geotechnical engineer. Post construction this monitoring procedure shall be curtailed to allow for annual or ad-hoc inspection or as recommended by the geotechnical engineer.		
Peat Protection Measures - Floating Track	The following control measures should be implemented as part of the design and construction of 'floating' access track: • Prevent the rupture of vegetation surface of the peat by avoiding the use of large sharp rock fill. • Prevent the overloading and subsequent shearing of the peat throughout construction and use of the 'floating' track. Prevent the collapse of integral drainage channels through ongoing monitoring and maintenance. • Monitoring of the long-term settlement of the 'floating' track, necessary to predict the effects of reducing permeability within the peat and hence increasing groundwater pressures beneath the track construction. Through ongoing monitoring additional drainage relief measures can be implemented when conditions for peat failure are predicted. • Do not position 'floating' access track on or adjacent to convex side slopes.	Construction	14.2 Habitat Protection Plans

Topic	Description	Means of Implementation/ Timing	Cross Reference
Peat Protection Measures - Cut Track	For 'Cut' track construction ...In these areas the following control measures are : - Careful excavation of peat deposits by appropriate machine excavator to limit localised peat failures which can occur on the edge of the track excavation. This is in order to prevent a minor failure triggering retrogressive peat failure affecting a larger area of peat adjacent to the track. - Temporary drainage systems followed by establishment of a permanent drainage network. Silt traps and small retaining structures may be required especially in proximity to water crossings to prevent siltation and blockage of watercourses. - Ongoing monitoring and on demand maintenance when silt traps require emptying and temporary drainage reinstated if blocking occurs. This will assist in maintaining hydrology baseline conditions. - The permanent drainage system must direct surface water flow away from the 'cut' track to prevent peat failure within the track bunds.	Construction	17.4 Peat Stability and Storage 10.2 Access Track Drainage
Drainage	All drainage management plans including any proposed drainage blocking shall be agreed with SEPA and the relevant statutory bodies prior to starting construction.	Construction	Habitat Management Plan
Borrow Pit Restoration	The restoration profile is purely indicative and will be dictated by the encountered depth of superficial overburden soils and the geotechnical suitability of this material as backfill. The depth of sub-soil overburden will be determined as part of intrusive ground investigation; - In line with the Peat Management Plan (Appendix 11.3); it is assumed that initial backfilling would be completed using superficial overburden glacial sub-soils. This material would be used to raise the base of the borrow pit to an adequate level and geometry onto which peat can be placed to achieve a final restoration profile; and - Peat material used for restoration backfill purposes will be placed to ensure the retention of the two layered acrotelm and catotelm structure. Therefore, the vegetation supporting acrotelm will be used for the final restoration profiling at surface. Separated catotelm material where suitable may be used for deeper restoration backfill providing stability criteria are satisfied. Slope stability of the borrow pits will be verified by a suitable qualified geotechnical engineer	Construction	17 Excavation, Soil Storage and Management 18 Reinstatement Plan Peat Management Plan
Borrow Pit Restoration	The borrow pit floor will be designed for a shallow gradient to allow adequate drainage away from the working area. A perimeter fence and/or adequate edge protection will be erected around each borrow pit working area, and a cut-off drain also installed. This shall reduce the	Construction	Borrow Pit Scheme of Works

Topic	Description	Means of Implementation/ Timing	Cross Reference
	surface water accumulation within the borrow pit excavation and safeguard against sediment loaded run-off.		
Community Liaison	SSE Generation and their appointed contractor will maintain close liaison with local community representatives (via the Community Liaison Forum), landowners and statutory consultees throughout the construction period. This would include circulation of information about ongoing activities and in particular those which could have potential to cause disturbance. A telephone number will be made available to the Community Liaison Forum during operational hours with access to persons with the appropriate authority to respond to calls and resolve any problems that occur. SSE Generation and their appointed contractor will liaise with the relevant local authority and community to identify major events in the area and to programme the construction works so that they not disrupt the local road network on these days. Information on proposed construction deliveries and in particular abnormal load deliveries will be communicated through the Community Liaison Forum. Additionally as the project progresses regular public notices will be given out through the project website, local newspapers and local radio.	Construction	Traffic Management Plan

Part 7 Appendices to CEMP

Appendix 1 Environmental Constraints Map

Appendix 2 SSE Incident Reporting Management and Investigation Standard (MS-SHE-010)

Appendix 3 Peat Depth Plan

Appendix 4 Species Protection Plan

Badger Protection Plan

Bat Species Protection Plan

Otter Protection Plan

Pine Marten and Red Squirrel Protection Plan

Water Vole Protection Plan

Appendix 5 Bird Protection Plan

Appendix 6 Water Quality and Fish Monitoring Plan

Appendix 7 Private Water Supply Risk Assessment (Access Track)

Appendix 8 Archaeology Written Scheme of Investigation