

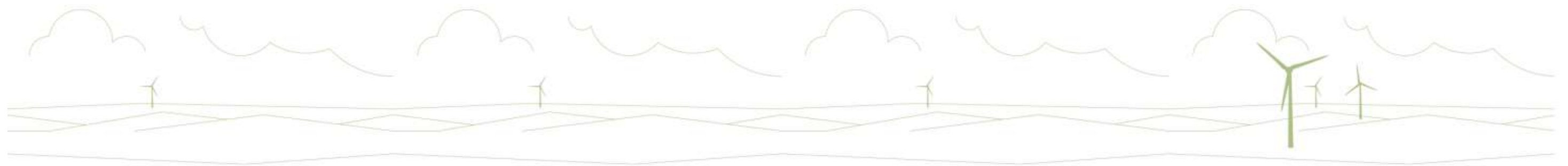


# Chapter 16

## Schedule of Commitments

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# Chapter 16

## Schedule of Commitments

### 16.1 Introduction

1. The Schedule of Commitments provides a summary of good practice, mitigation measures and commitments that have been proposed throughout the Environmental Impact Assessment (EIA) Report to prevent, reduce or offset the effects of the proposed Development on the environment.
2. Good practice and mitigation measures have been integral to the design evolution of the proposed Development as described in **Chapter 2: Site Description and Design Evolution**. A series of environmental and technical constraint break points (design reviews) were undertaken to minimise potential significant environmental impacts prior to finalising the final design of the proposed Development. Areas which were examined in depth include noise, landscape and visual constraints, peat, sensitive habitats, cultural heritage and hydrological constraints.
3. The EIA was treated as an iterative process, rather than a one-off, post-design environmental appraisal. This has allowed the findings from the EIA to be fed into the design process. Where potentially adverse environmental effects were identified through preliminary investigations as part of feasibility work, or later in the detailed EIA, consideration was given as to how the design of the proposed Development could be modified to design-out adverse environmental effects (i.e. embedded mitigation), or where this was not possible, to identify appropriate mitigation. This process is explained further in **Chapter 2: Site Description and Design Evolution**; and in technical assessment Chapters (**Chapters 7 to 15**).

### 16.2 Schedule of Commitments

4. The mitigation measures and best practice commitments in **Table 16.1** are those which would be applied prior to construction, during construction and during operation of the proposed Development. A number of these measures are embedded mitigation, achieved through adopting good working practices and by adhering to the relevant industry guidance, standards and legislation during all stages of the proposed Development.
5. Monitoring commitments, which would be applied prior to construction, during construction and during operation are detailed in **Table 16.1**.

Table 16.1: Summary of mitigation and best practice commitments

EIA Report Chapter	Subject	Project Phase	Proposed Mitigation Measure
<p><b>Chapter 3: Proposed Development</b></p>	<p>Environmental Management</p>	<p>Construction</p>	<p>Windfarm construction will be based on the adoption of good practice, supported by robust project management and the supervision of an environmental clerk of works (ECoW). Details of the good practice and the role of the ECoW is set out in the Outline Construction Environmental Management Plan (CEMP) (<b>Technical Appendix 3.1</b>). Good practice includes the adoption of Pollution Prevention Guidelines (PPGs) and replacement Guidance for Pollution Prevention (GPPs). The services of other specialist advisors would be retained as appropriate, such as an Archaeological Advisor, to be called on as required to advise on specific environmental issues. The Principal Contractor would ensure construction activities and procedures set out in the CEMP are carried out in accordance with the mitigation measures outlined in this EIA Report and any planning conditions, and this would be monitored by ScottishPower Renewables (SPR) and the ECoW.</p> <p>To ensure all mitigation measures outlined within this EIA Report are carried out onsite, contractors would be required to develop a CEMP which would form an overarching document for all Site management requirements, including:</p> <ul style="list-style-type: none"> <li>• a Traffic Management Plan (TMP);</li> <li>• a Construction Methodology Statement (CMS);</li> <li>• a Pollution Prevention Plan (PPP) (including monitoring, as appropriate);</li> <li>• a Site Waste Management Plan (SWMP); and</li> <li>• a Water Management Plan (WMP).</li> </ul> <p>The Highland Council (THC) and other stakeholders, as required, would be consulted on these documents prior to commencement of construction, and performance against the CEMP would be monitored by SPR, the ECoW and PC throughout the construction period.</p> <p>An Outline CEMP is provided as <b>Technical Appendix 3.1</b>. The purpose of this document is to supplement information within the EIA Report, demonstrating the linkages between the EIA Report, site activities, and likely planning conditions associated with any consent. A CEMP sets out the controls and processes that are to be adopted to mitigate environmental impacts throughout a project. CEMPs are generally iterative and develop throughout the construction programme.</p> <p>Typical Contents for a Site CEMP at a SPR Renewable Energy Development construction site are set out below.</p> <p><b>Purpose</b></p> <p><b>Scope</b></p> <p><b>Responsibilities for Environmental Management On-Site</b></p> <p><b>Associated Documentation</b></p> <p><b>Site Description and Environmental Sensitivities</b></p> <p><b>Environmental Management</b></p> <ul style="list-style-type: none"> <li>• Site Environmental Aspects, Risks and Opportunities</li> <li>• Surface Water Management</li> <li>• Oil and Chemical Delivery and Storage</li> <li>• Wastewater and Water Supply Monitoring and Control</li> <li>• Waste and Resource Management</li> <li>• Traffic and Transport</li> <li>• Air, Land, Noise, Vibration, Flora and Fauna</li> <li>• Environmental Incident Response</li> <li>• Method Statements and Risk Assessments</li> </ul> <p><b>Monitoring including Site inspections</b></p> <p><b>Legal Compliance</b></p> <ul style="list-style-type: none"> <li>• Planning Conditions</li> <li>• Legal Register</li> <li>• Consents</li> <li>• Best Practice Guidance</li> </ul>

EIA Report Chapter	Subject	Project Phase	Proposed Mitigation Measure
			<p><b>Training including Site Induction Reporting</b></p> <ul style="list-style-type: none"> <li>• Reporting of Environmental Incidents</li> <li>• Dealing with Public Complaints</li> <li>• Meetings</li> </ul> <p><b>Contractor Management</b></p>
<b>Chapter 7: Landscape and Visual Impact Assessment</b>	Landscape and Visual	Operation	<p>The principle means of landscape and visual mitigation is in the design of the proposed Development.</p> <p>The design of the windfarm considers the relationship between landscape character and the scale of the proposed Development including the relationship with the small-scale seaboard landscapes to the north.. By taking into account the local and wider landscape and visual receptors the design of the proposed Development minimises potential impacts on the landscape. This takes account of adjacent and nearby windfarms and those in the planning system.</p> <p>The CEMP will include good practice measures in relation to turf stripping and storage, soil handling and storage, tree felling, tree protection, restoration of construction compounds and other areas disturbed during construction and not required for operation of the proposed Development.</p> <p>We anticipate the implementation of good practice measures detailed within the CEMP being overseen by a suitably qualified and experienced Ecological Clerk of Works (ECoW).</p>
<b>Chapter 8: Ecology and Biodiversity</b>	Protected terrestrial mammals	Pre-construction	<p>There is some potential for a change in the distribution of protected terrestrial mammal species within the Site, between the completion of baseline surveys presented herein and the commencement of construction activities for the proposed Development. Pre-construction surveys for protected terrestrial mammals would therefore be undertaken, prior to the commencement of construction works and as outlined within the Outline CEMP (<b>Technical Appendix 3.1</b>).</p> <p>This would cover all areas within 250 m of the proposed Development infrastructure and associated working areas.</p> <p>The results of the pre-construction surveys would inform the need for further mitigation (if required) in respect of sensitive working practices, species protection plans (SPPs) and if there is the requirement to consult with NatureScot, in relation to protected species licencing.</p>
<b>Chapter 8: Ecology and Biodiversity</b>	Fish	Pre-construction	<p>Pollution prevention measures as part of the proposed Development's CEMP would be implemented. Scottish Environment Protection Agency (SEPA) would be consulted on the CEMP in advance of construction. These measures would ensure the protection of the water environment and the associated aquatic fauna they support.</p>
<b>Chapter 8: Ecology and Biodiversity</b>	Habitats	Construction	<p>SPR have identified opportunities to restore some areas of the Site which have been affected by historical land use (e.g. forestry and land drainage). An area of 168 ha of forestry surrounding the Philip Mains Site of Special Scientific Interest (SSSI) has been identified for habitat management with the aim of restoring the area to bog habitat.</p>
<b>Chapter 8: Ecology and Biodiversity</b>	Reptiles and Amphibians	Construction	<p>During the removal of any vegetation, vegetation management would comprise the identification/ removal of potential refugia and hibernacula if present. Where appropriate and safe to do so, potentially suitable habitats for reptiles located within construction working areas would be cut, under the supervision of the ECoW, prior to construction works commencing in that area, in order to encourage reptiles to leave the area. Suitable habitat within working areas would also be searched by the ECoW prior to construction commencing and any potentially suitable refuges would be removed. These works would take place during the active season for reptiles (typically April to October, although this is dependent upon the nature weather conditions in any one year).</p>
<b>Chapter 8: Ecology and Biodiversity</b>	Protected species (Otter and water vole, badger, squirrel, pine marten)	Construction	<p>All potentially dangerous substances or materials within the construction compound would be carefully stored to prevent them causing any harm to otters or other mammal species which may enter the compound at night. During construction, all excavations greater than 1 m depth would either be temporarily covered at night or designed to include a ramp to allow otters and other animals a means of escape should they fall in.</p>
Chapter 8: Ecology and Biodiversity	General	Construction/Operation	<p>The assessment has been undertaken under the assumption that good practice measures during the construction phase of the proposed Development will be implemented through a CEMP, to be finalised and agreed in consultation with THC and relevant consultees.</p> <p>The CEMP will include all good practice measures in relation to pollution risk, sediment management, watercourse crossings and sensitive techniques with regards construction in peatlands and near watercourses.</p> <p>Good practice measures will also include the protection of all retained habitats during construction works, habitat reinstatement measures and measures to prevent harm to faunal species including the careful storage of potentially dangerous substances or materials within construction compounds, the covering of excavations or fitting of ramps to provide a safe means of escape for wildlife.</p>

EIA Report Chapter	Subject	Project Phase	Proposed Mitigation Measure
			The implementation of good practice measures detailed within the CEMP will be overseen by an Ecological Clerk of Works (ECoW).
<b>Chapter 8: Ecology and Biodiversity</b>	Bats	Operation	The level of risk for common pipistrelle and soprano pipistrelle, which are considered to have medium population vulnerability to wind turbines, is considered to fall under 'Low/Medium Site Risk' (low for the open areas and medium for the woodland area). Embedded mitigation is proposed, which would ensure a 50 m 'stand-off' distance between blade tips tops for all turbine locations and the nearest bat habitat features. A 50 m 'stand-off' distance is considered by NatureScot to represent adequate mitigation in most, lower risk situations.
<b>Chapter 9: Ornithology</b>	Birds	Pre-construction/Construction	<p>The assessment has been undertaken under the assumption that a Bird Protection Plan (BPP), to be devised in consultation with NatureScot, would be in place prior to the onset of construction activities. The BPP will describe survey methods for the identification of sites used by protected birds and will detail protocols for the prevention, or minimisation, of disturbance to birds as a result of activities associated with the proposed Development. The BPP would be overseen by the Ecological Clerk of Works.</p> <p>The BPP will describe surveys to locate the nests or other key sites (e.g. roosts) of birds listed in Schedules 1 and 1A of the Wildlife and Countryside Act (WCA) 1981, in advance of construction works progressing within the Site. In the event that an active nest or roost of a Schedule 1 or Schedule 1A species is discovered within distances given by Whitfield et al. (2008) (or within a 500 m radius of the nest for Schedule 1 species not listed), a disturbance risk assessment will be prepared under the BPP and any measures considered necessary to safeguard the breeding attempt or roost (e.g. exclusion zones or restrictions on timing of works), would be submitted to NatureScot for agreement before recommencing work.</p>
<b>Chapter 10: Hydrology, Hydrogeology, Geology and Soils</b>	Soils and peat	Pre-construction/Construction	<p>Soil stripping would be undertaken with care and would be restricted to as small a working area as practicable. Topsoil would be removed and laid in a storage bund, up to 2 m in height, on unstripped ground adjacent to the working area. It would be attempted to retain the turf layer vegetation-side-up where possible, although ground conditions may make this challenging. Subsoils and superficial geological deposits would be removed subsequently and laid in storage bunds, also up to 2 m in height, clearly separated from the topsoil bund. Care would be taken to maintain separate bunds for separate soil types in order to preserve the soil quality.</p> <p>For work within areas of peat, acrotelmic peat (the uppermost 0.5 m) would be removed as for the topsoil. Where ground conditions allow, acrotelm vegetation will be retained in the same vertical orientation.</p> <p>The underlying catotelmic peat would be stored in bunds up to 1 m in height. Catotelmic peat is sensitive to handling, and loses its internal structure easily, so would be transported as short a distance as possible to its storage/restoration location. Excavation of catotelmic peat has been limited by careful infrastructure design.</p> <p>All soil and peat storage bunds would be left with rough, unsmoothed surfaces to minimise soil loss from rainfall erosion. Bunds on sloping ground would have sediment control measures installed near the base, on the downslope side, to collect and retain any sediment mobilised by rainfall.</p> <p>Excavated soil and peat would be used in site restoration and rehabilitation during and at the end of the construction period, in order to promote fast re-establishment of vegetation cover on worked areas and areas of bare soil or peat that are not required for the operational phase of the development. Soils and peat would be stored for as short a time as practicable, in order to minimise degradation through erosion and desiccation.</p> <p>Should prolonged periods of dry weather occur, a damping spray would be employed to maintain surface moisture on the soil and peat bunds. This would help to maintain vegetation growth in the turves and to retain the soil structure.</p> <p>Construction work would make use of current best practice guidance relating to developments in peatland areas. A risk management system, such as a geotechnical risk register, would be compiled and maintained at all stages of the project and developed as part of the post-consent detailed design works, and would be updated as new information becomes available.</p> <p>Micrositing would be used to avoid possible issues identified during ground investigation or other detailed design works. This would be assisted by additional verification of peat depths, to full depth, in any highlighted areas where construction work is required. Track drainage would be installed in accordance with published good practice documentation and would be minimised in terms of length and depth in order to minimise concentration of flows.</p> <p>Construction activities would be restricted during periods of wet weather, particularly for any work occurring within 20 m of a watercourse or within areas of identified deeper peat. Careful track design would ensure that the volume and storage timescale for excavated materials would be minimised as far as practicable during construction works.</p> <p>Vegetation cover would be re-established as quickly as possible on track and infrastructure verges and cut slopes, by re-laying of excavated peat acrotelm, to improve slope stability and provide erosion protection. Additional methods, including hydroseeding and/or use of a biodegradable geotextile, would be considered if necessary in specific areas.</p> <p>During construction members of project staff would undertake advance inspections and carry out regular monitoring for signs of peat landslide indicators. A geotechnical specialist would be on call to provide advice if required by Site conditions.</p> <p>Construction staff would be made aware of peat slide indicators and emergency procedures. Emergency procedures would include measures to be taken in the event that an incipient peat slide is detected.</p>

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Chapter 10: Hydrology, Hydrogeology, Geology and Soils	Surface watercourses and groundwater	Construction	<p>Silt fencing or appropriate alternative sediment control protection would be installed on the downhill side of excavations to prevent inadvertent discharge of silty water into or towards any site watercourse.</p> <p>All engineering works adjacent to watercourses, including access tracks and watercourse crossing structures, would have appropriate sediment control measures established prior to any groundworks.</p> <p>Vegetation would be retained along watercourse banks to act as additional protection to the watercourses.</p> <p>A water quality monitoring programme would be established. Details would be agreed with the Scottish Environmental Protection Agency (SEPA) but are anticipated to include at least the following:</p> <ul style="list-style-type: none"> <li>• Visual checks for entrained sediment; and</li> <li>• In situ measurements of pH, temperature, specific conductivity.</li> </ul> <p>In situ measurement of turbidity and dissolved oxygen may be recommended for locations with particular sensitivity, such as upstream of designated areas.</p> <p>Pre-construction monitoring would be undertaken on a monthly basis for a period of at least four months prior to any work taking place within the Development area.</p> <p>During construction, the monitoring would be undertaken by the ECoW or suitably experienced alternative individual. Any change from baseline conditions of pH and/or specific conductivity would potentially indicate an incident and additional investigation would be required in order to identify the origin of the change. The control location (WQ3) is intended to help differentiate between incidents arising within the Development area and incidents that are unrelated to the Development.</p> <p>The recommended frequency of monitoring for the different locations is monthly over a period of at least four months (see <b>Table 10.19</b>. Monitoring locations are shown in <b>Figure 10.7</b> taken from <b>Chapter 10: Hydrology, Hydrogeology Geology and Soils</b>. In all cases, monitoring will initially be visual with follow-up in situ measurements of pH, temperature and specific conductivity if any visual discolouration is identified. Laboratory sampling would be undertaken if an incident is identified, to help pin down the source.</p> <p>Groundwater monitoring boreholes would be established within the three borrow pit (BP) areas prior to any construction work beginning, to a depth at least 1 m below the deepest expected excavation. Groundwater level monitoring would be undertaken to determine whether groundwater is present within the borrow pit areas and, if it is, at what level the seasonally highest groundwater table stands. Any groundwater within the borrow pit area would be managed in line with best practice, with discharge via a settlement pond to allow any entrained sediment to be removed prior to discharge. Any required discharge licence would be obtained prior to excavation commencing.</p> <p>All works through and adjacent to wetland areas will be supervised by the ECoW .</p> <p><b>Table 10.19</b> Water quality monitoring locations and recommended monitoring frequency by phase of development</p> <table border="1"> <thead> <tr> <th>ID</th> <th>Location</th> <th>Monitoring schedule</th> </tr> </thead> <tbody> <tr> <td>WQ1</td> <td>Burn of Horsegrow adjacent to northern application boundary</td> <td><b>Baseline:</b> Monthly, min. 3 months <b>Construction:</b> Daily during all construction work at solar array; otherwise monthly.</td> </tr> <tr> <td>WQ2</td> <td>Burn of Ormigill adjacent to western application boundary</td> <td><b>Baseline:</b> Monthly, min. 3 months <b>Construction:</b> Daily during all construction work at T01; otherwise monthly.</td> </tr> <tr> <td>WQ3</td> <td>Burn of Hollandmey upstream of WC01 (control)</td> <td><b>Baseline:</b> Monthly, min. 3 months <b>Construction:</b> Daily during all construction work at T02, T05 &amp; T07; weekly during all BP operations; otherwise monthly.</td> </tr> <tr> <td>WQ4</td> <td>Link Burn downstream of WC06</td> <td><b>Baseline:</b> Monthly, min. 3 months <b>Construction:</b> Daily during all construction work at T02, T03, T05, T06, T08 &amp; T09; weekly during all BP operations; otherwise monthly.</td> </tr> <tr> <td>WQ5</td> <td>Burn of Slickly tributary near southern application boundary</td> <td><b>Baseline:</b> Monthly, min. 3 months <b>Construction:</b> Daily during all construction work at T04; otherwise monthly.</td> </tr> </tbody> </table>	ID	Location	Monitoring schedule	WQ1	Burn of Horsegrow adjacent to northern application boundary	<b>Baseline:</b> Monthly, min. 3 months <b>Construction:</b> Daily during all construction work at solar array; otherwise monthly.	WQ2	Burn of Ormigill adjacent to western application boundary	<b>Baseline:</b> Monthly, min. 3 months <b>Construction:</b> Daily during all construction work at T01; otherwise monthly.	WQ3	Burn of Hollandmey upstream of WC01 (control)	<b>Baseline:</b> Monthly, min. 3 months <b>Construction:</b> Daily during all construction work at T02, T05 & T07; weekly during all BP operations; otherwise monthly.	WQ4	Link Burn downstream of WC06	<b>Baseline:</b> Monthly, min. 3 months <b>Construction:</b> Daily during all construction work at T02, T03, T05, T06, T08 & T09; weekly during all BP operations; otherwise monthly.	WQ5	Burn of Slickly tributary near southern application boundary	<b>Baseline:</b> Monthly, min. 3 months <b>Construction:</b> Daily during all construction work at T04; otherwise monthly.
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EIA Report Chapter	Subject	Project Phase	Proposed Mitigation Measure
<b>Chapter 10: Hydrology, Hydrogeology, Geology and Soils</b>	Drainage Infrastructure	Construction	<p>Trackside drainage would be no longer or deeper than necessary to provide the required track drainage.</p> <p>Cross-drains under tracks would be installed at an appropriate frequency to mimic natural drainage patterns and to minimise concentration of flows.</p> <p>All drainage infrastructure would be designed with a capacity suitable for a rainfall intensity of a 1-in-200-year storm event plus allowance for climate change.</p> <p>Where track sections cross wetland or bog areas, cross-drainage will be provided within the track construction to ensure continuity of flow. This may take the form of a drainage layer within the track, suitably closely-spaced drainage pipes, or both as appropriate. These will be determined on a case-by-case basis to suit each individual area.</p> <p>All required licences for watercourse crossings and construction site works would be in place prior to works on site beginning.</p> <p>All long-term and temporary drainage infrastructure would be established on a running-basis ahead of excavation works. This includes temporary bunding and cut-off drains around turbine bases, hardstanding areas and borrow pits. Where possible, trackside drainage would be installed up to 100 m ahead of track construction works on a running basis.</p> <p>Temporary water control measures would be implemented as necessary adjacent to areas of larger excavation. These would include borrow pit sites and may also include turbine base excavations and hardstanding areas. These measures would take the form of temporary settlement ponds, filter drains or proprietary treatment measures such as Silt Busters. Detail would be provided within the Pollution Prevention Plan(s) required for the Construction Site Licence and suitability would be determined following appropriate onsite soil tests.</p> <p>All earthmoving activity would be restricted during periods of wet weather, particularly for work occurring within 20 m of a watercourse or within areas of peat deeper than 1.5 m, to minimise mobilisation of sediment in heavy rainfall. The 'stop' conditions provided in <b>Table 10.18, Chapter 10: Hydrology, Hydrogeology Geology and Soils</b> are recommended to guide all earthmoving activity at all stages of the project.</p> <p>Long-term drainage infrastructure would have a monitoring and maintenance programme established, to include regular visual inspection of drainage infrastructure to check for blockages, debris or damage that may impede flow. Remediation would be undertaken immediately. Routine maintenance would be scheduled where possible for dry weather.</p>
<b>Chapter 10: Hydrology, Hydrogeology, Geology and Soils</b>	Excavations	Construction	<p>Any water collecting within excavations would be pumped out prior to further work within the excavation. The water is likely to require treatment to remove suspended solids prior to discharge to ground.</p> <p>Cable trenches would be laid in disturbed trackside material. There are no areas with steep slopes within the Site, so groundwater flow along trenches is likely to be limited.</p> <p>Vegetation cover would be re-established as quickly as possible on all areas of stripped ground, once activity involving these areas is complete. This would include track verges, screening bunds, cut slopes and much of the Site during decommissioning and restoration works. Where possible this would be achieved using excavated peat acrotelm. Additional measures including hydroseeding and/or use of a biodegradable geotextile would be considered if insufficient peat turf is available and for areas of particular sensitivity that require immediate protection.</p> <p>Rock testing would be undertaken on appropriate samples from the borrow pit areas to determine its suitability for unbound track and hardstanding construction. This would include testing to determine likely degradation patterns during the lifespan of the development. Should the tests identify problems with parts of the rock within the borrow pit footprints, care would be taken to ensure that unsuitable material is not used for construction but would be retained for use in borrow pit restoration.</p> <p>Any unused or remaining unsuitable aggregate material, plus any spare rock material arising from hardstanding or track reinstatement, may be used to reinstate the borrow pits to a suitable profile prior to allowing flooding of BP1 and BP2 to form ponds.</p> <p>Only tracked or low ground pressure vehicles would be permitted access to unstripped ground.</p>
<b>Chapter 10: Hydrology, Hydrogeology, Geology and Soils</b>	Site Traffic	Construction	<p>Tracks and hardstanding areas would be monitored on a regular basis, particularly following periods of heavy or prolonged rainfall or after snow clearance. Any sections of track or hardstanding showing signs of excessive wear would be repaired as necessary with suitable rock from the borrow pit or external sources.</p> <p>All bridge structures would have appropriate splash control measures as part of their design, to prevent silty water splashing into the watercourse from vehicle movements. The splash controls would be monitored regularly to ensure they remain effective and have not become damaged in any way.</p> <p>Routine monitoring checks of project infrastructure, including track and hardstanding surfaces and all drainage infrastructure, would be undertaken on a quarterly basis throughout project operation. Monitoring would involve visiting all aspects of the infrastructure and undertaking a visual inspection to identify the following:</p> <ul style="list-style-type: none"> <li>• areas where track surfaces or hardstanding areas were showing evidence of erosion or surface damage;</li> <li>• any areas where surface water was ponding or collecting on tracks or hardstanding areas; and</li> <li>• any areas where drainage infrastructure was damaged, blocked or inadequate.</li> </ul>



EIA Report Chapter	Subject	Project Phase	Proposed Mitigation Measure
			<p>Any areas of track or hardstanding surface showing signs of damage, erosion or excessive wear would be repaired as necessary. Drainage features would be repaired, reinstated or replaced as necessary to ensure continued efficient operation.</p> <p>Site-specific mitigation, including track drainage segregation to avoid 'flushing' from excavation works, and micro-siting to avoid specific higher sensitivity areas, will be identified and established where appropriate.</p> <p>All traffic routes would be clearly demarcated, and vehicles would not be permitted access out with these areas.</p>
<p><b>Chapter 10: Hydrology, Hydrogeology, Geology and Soils</b></p>	<p>Pollution Prevention</p>	<p>Construction</p>	<p>Oil and fuel storage and handling onsite would be undertaken in compliance with SEPA's Guidance on Pollution Prevention 2 – Above ground oil storage tanks and with the Water Environment (Oil Storage) (Scotland) Regulations 2006.</p> <p>Risk assessments would be undertaken and all Hazardous Substances and Non-Hazardous Pollutants that would be used and/or stored onsite would be identified. Hazardous substances likely to be onsite include oils, fuels, hydraulic fluids and anti-freeze. No non-hazardous pollutants have been identified as likely to be used onsite. Herbicides would not be used.</p> <p>All deliveries of oils and fuels would be supervised.</p> <p>All storage tanks would be located within impermeable, bunded containers where the bund is sufficient to contain 110% of the tank's capacity. For areas containing more than one tank, the bund would be sufficient to contain 110% of the largest tank's capacity or 25% of the total capacity, whichever is the greater.</p> <p>Any valve, filter, sight gauge, vent pipe or other ancillary equipment would be located within the containment area.</p> <p>Waste oil would not be stored onsite but would be removed to dedicated storage or disposal facilities.</p> <p>Management procedures and physical measures would be put in place to deal with spillages, such as spill kits and booms.</p> <p>Maintenance procedures and checks would ensure the minimisation of leakage of fuels or oils from plant.</p> <p>Refuelling and servicing would be undertaken in a designated area or location with adequate precautions in place, such as a dedicated impermeable surface with lipped edges to contain any contaminants.</p> <p>Where vehicle maintenance is necessary in the field, owing to breakdown, additional precautions would be taken to contain contaminants, such as spill trays or absorbent mattresses.</p> <p>The access track would be designed and constructed to promote good visibility where possible and two-way access where visibility is restricted, to minimise risk of vehicle collisions.</p> <p>If required, concrete batching would take place in one designated location within the site construction compound. This location would be at least 250 m from the nearest watercourse. Protective bunding would be installed around the batching area to ensure that contaminated runoff is contained. Dedicated drainage would be installed to ensure that water from the batching area can be suitably treated to reduce alkalinity and suspended sediment load prior to discharge or removed from Site by tanker for treatment and disposal offsite.</p> <p>Site welfare facilities would include a suitably sized holding tank, which would be emptied by tanker and removed from site on an appropriate timescale for disposal at a suitably licensed facility.</p> <p>The Site Spillage and Emergency Procedures would be prominently displayed at the Site and staff would be trained in their application. The Procedures document would incorporate guidance from the relevant SEPA Guidance Notes.</p> <p>In the event of any spillage or discharge that has the potential to be harmful to or to pollute the water environment, all necessary measures would be taken to remedy the situation. These measures would include:</p> <ul style="list-style-type: none"> <li>• Identifying and stopping the source of the spillage;</li> <li>• Containing the spillage to prevent it spreading or entering watercourses by means of suitable material and equipment;</li> <li>• Absorbent materials, including materials capable of absorbing oils, would be available onsite to mop up spillages. These would be in the form of oil booms and pads and, for smaller spillages, quantities of proprietary absorbent materials.</li> <li>• Sandbags would also be readily available for use to prevent spread of spillages and create dams if appropriate.</li> </ul> <p>Where an oil/fuel spillage may have soaked into the ground, the contaminated ground would be excavated and removed from site by a licensed waste carrier to a suitable landfill facility.</p>

EIA Report Chapter	Subject	Project Phase	Proposed Mitigation Measure
			<p>The emergency contact telephone number of a specialist oil pollution control company would be displayed onsite; and sub-contractors would be made aware of the guidelines for handling of oils and fuels and of the spillage procedures at the Site.</p> <p>SEPA would be informed of any discharge or spillage that may be harmful or polluting to the water environment. Written details of the incident would be forwarded to SEPA no later than 14 days after the incident.</p>
<b>Chapter 11: Archaeology and Cultural Heritage</b>	Recording of known and potential onsite heritage assets	Construction	Appropriate mitigation would be undertaken during construction on elements of the ground works that have potential to have direct impacts on unrecorded buried archaeological remains. The scope of the mitigation works would be negotiated with THC Historic Environment Team and the agreed programme would be documented in an agreed Written Scheme of Investigation.
<b>Chapter 11: Archaeology and Cultural Heritage</b>	Mitigation of visual impacts	Operation	No significant operational effects are predicted on the setting of cultural heritage assets from the operation of the proposed Development. No mitigation is recommended.
<b>Chapter 12: Access, Traffic and Transport</b>	Construction Traffic Management Plan	Construction	<p>Temporary effects relating to an increase in general construction traffic will be minimised through the implementation of an appropriate, locally focused, construction traffic management plan (CTMP) which will seek to promote the safe and efficient transportation of components and materials to minimise congestion and disruption. This will be produced following grant of planning permission for the Development and approved in consultation with Police Scotland, THC, and Transport Scotland, as appropriate.</p> <p>The CTMP will apply to all sections of the public road network but enhanced with locally specific measures as appropriate. It will include but not be limited to:</p> <ul style="list-style-type: none"> <li>• The proposed routes for construction traffic including Abnormal Indivisible Loads( AILs);</li> <li>• The necessary agreements and timing restrictions for construction traffic;</li> <li>• Escort arrangements for AILs;</li> <li>• Route signing;</li> <li>• Details of advanced notification to the general public, warning of turbine component transport movements;</li> <li>• Arrangements for the control of dust and debris;</li> <li>• The briefing of drivers on pulling over to the side of the road at suitably safe locations to allow other road users to overtake safely;</li> <li>• Contractor speed limits;</li> <li>• Community and emergency services liaison details; and</li> <li>• Details of potential impact with timber haulage routes and mitigation</li> </ul> <p>A draft CTMP has been included as <b>Technical Appendix 12.1: Draft Construction Traffic Management Plan</b>.</p>
<b>Chapter 12: Access, Traffic and Transport</b>	Abnormal Loads	Construction	An Abnormal Loads Assessment would set out the key points and issues associated with the selected route for the abnormal loads, to verify that the route is feasible for the selected turbine delivery, subject to physical and operational mitigation works. Detailed abnormal load delivery traffic management measures would need to be identified and included in the final CTMP (or provided as stand-alone report) setting out the mitigation required to address the potential issues the Abnormal Loads Assessment might identify. Prior to the movement of abnormal loads, extensive public awareness is required to allow residents to plan and time their journeys to avoid disruption. The haulage Contractor shall remain responsible for obtaining all necessary permits from the relevant road and bridge authorities along the access route. The movement of abnormal loads will be timed to avoid periods of heavy traffic flow to minimise disruption to the public. Specific timing restrictions imposed by the police or local authority have not been determined at this stage. Through urban areas temporary parking restrictions may be necessary to guarantee a clear route for the abnormal loads, and these need to be arranged in advance through the appropriate local authority. The parking restrictions would need to be locally enforced. Due to the size of vehicles required to transport these loads, escorts would be required for the entire route to control oncoming and conflicting traffic.
<b>Chapter 12: Access, Traffic and Transport</b>	Dirt on roads	Construction	Given the length of the access track to and from the C1033 Everley-Crockster Toll Road, it is likely that the majority of loose materials will not be deposited onto the highway. Should there be evidence of this following the commencement of construction, suitable measures would be implemented within the Site to ensure materials are not transferred onto the highway, and road cleaning would take place if required to remove any deposits that are carried from the Site.
<b>Chapter 13: Noise</b>	Construction noise	Construction	<p>To reduce the potential effects of construction noise, the following types of mitigation measures are proposed:</p> <ul style="list-style-type: none"> <li>• 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 Saturdays. Turbine deliveries would only take place outside these times with the prior consent of the Council and Police Scotland. Some quieter activity (e.g. turbine installation) may occur outside the specified hours;</li> <li>• All construction activities shall adhere to good practice as set out in British Standard 5228;</li> <li>• 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;</li> <li>• Where flexibility exists, activities will be separated from residential neighbours by the maximum possible distances;</li> <li>• A CTMP will be developed to control the movement of vehicles to and from the Site, which will include activity on the minor public road included within the red line boundary; and</li> <li>• 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.</li> </ul>

EIA Report Chapter	Subject	Project Phase	Proposed Mitigation Measure
<b>Chapter 13: Noise</b>	Blasting operations	Construction	<p>The potential noise and vibration effects of blasting operations will be reduced according to the guidance set out in the relevant British Standards and PAN50 Annex D and discussed below:</p> <ul style="list-style-type: none"> <li>Blasting should take place under strictly controlled conditions with the agreement of the relevant authorities, at regular times between Mondays to Fridays, between the hours of 10:00 and 16:00. Blasting out with these times should be a matter for negotiation between the contractor and the local authorities;</li> <li>Vibration levels at the nearest sensitive properties are best controlled through onsite testing processes carried out in consultation with THC. 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 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;</li> <li>Blasting operations shall adhere to good practice as set out in BS 5228 2, and in PAN50, Annex D in order to control air overpressure; and</li> <li>A scheme will be submitted to the mineral planning authority (THC), for approval of blasting details, which will outline the mitigation measures to be adopted.</li> </ul>
<b>Chapter 13: Noise</b>	Operational noise	Operation	<p>The selection of the final turbine to be installed at the Site would be made on the basis of enabling the relevant ETSU-R -97 noise limits to be achieved at the surrounding properties. The substation and battery energy storage system should be designed such that the total rated noise level produced at the nearest property does not exceed 30 dB LAeq. This may require implementing specific mitigation measures, such as solid screening, depending on the transformer and plant used.</p>
<b>Chapter 14: Socio-Economics, Recreation and Tourism</b>	Public access	Construction	<p>Public access across the Site would need to be managed during construction for safety reasons, and recreational users may need to be excluded from parts of the Site for periods of time. Measures for ensuring public safety during construction will be set out in the ), an outline of which is provided at <b>Technical Appendix 3.1: Outline Construction Environmental Management Plan</b>. Periods of exclusion would be kept to the minimum necessary for safe working. The CEMP will set out measures to ensure that recreational users of the Site are informed of the construction work and directed into safe areas where there would be no conflict with plant and machinery.</p>
<b>Chapter 14: Socio-Economics, Recreation and Tourism</b>	Vulnerable road users	Construction	<p>The principal potential effects arising from construction relate to construction traffic affecting vulnerable users of the local highway network e.g. pedestrians and cyclists. The following measures included in the draft CTMP relate to how delivery of goods and services would be managed during construction to minimise impacts on sensitive receptors:</p> <ul style="list-style-type: none"> <li>timing restrictions for construction traffic;</li> <li>proposals for maintenance of these routes during (and attributable to) construction of the proposed Development;</li> <li>escort arrangements for AILs;</li> <li>route signing;</li> <li>details of advanced notification to the general public, warning of turbine component transport movements;</li> <li>details of informative road signage warning other users of forthcoming turbine component transport and construction traffic movements;</li> <li>arrangements for the control of dust and debris;</li> <li>timing of deliveries outside peak traffic hours;</li> <li>the briefing of drivers on pulling over to the side of the road at suitably safe locations to allow other road users to overtake safely;</li> <li>contractor speed limits;</li> <li>community and emergency services liaison details; and</li> <li>details of potential impact with timber haulage routes and mitigation.</li> </ul> <p>The proposed management measures would be further developed with locally specific measures in the final CTMP for the proposed Development.</p>
<b>Chapter 15: Other Issues</b>	Lochend Windfarm cable	Construction/Operation	<p>SPR would consult with Lochend Windfarm owners to ensure details of its precise location and depth were fully understood prior to construction. The access track would be constructed in a manner which protected the underground cable by placing a protective barrier over the cable. The design of the track in this location would also consider the loadings of vehicles in order to protect the cable.</p>
<b>Chapter 15: Other Issues</b>	Slickly Windfarm cable	Construction/Operation	<p>SPR would consult with Slickly Windfarm owners to ensure details of its precise location and depth were fully understood prior to construction. The access track would be constructed in a manner which protected the underground cable by placing a protective barrier over the cable. The design of the track in this location would also consider the loadings of vehicles in order to protect the cable.</p>
<b>Chapter 15: Other Issues</b>	Air Quality	Construction/Operation	<p>Good practice measures based on the principles in the CEMP to control the generation of dust would be employed, including:</p> <ul style="list-style-type: none"> <li>Adherence to the speed limit onsite in order to reduce the dust generated from transport onsite roads;</li> <li>Water bowsers - spraying with water to dampen dust down;</li> <li>Road sweepers – remove silt from the road surface to reduce the potential for dust on the public road, if required;</li> <li>Materials with the potential to produce dust must be stored accordingly to prevent dust generation e.g. materials stored out of the wind and covered; and</li> <li>Transport of dust generating material will be covered.</li> </ul>
<b>Chapter 15: Other Issues</b>	Aviation	Construction/Operation	<p>Perimeter turbines to be fitted with infrared lighting with an optimised flash pattern of 60 flashes per minute of 200 ms to 500 ms duration at the highest practicable point.</p> <p>Provision of the following information to the Ministry of Defence so that flying charts can be plotted with the windfarm infrastructure:</p> <ul style="list-style-type: none"> <li>The date construction starts and ends;</li> <li>The maximum height of construction equipment; and</li> </ul>

EIA Report Chapter	Subject	Project Phase	Proposed Mitigation Measure
			<ul style="list-style-type: none"> <li>The latitude and longitude of every turbine.</li> </ul>
<b>Chapter 15: Other Issues</b>	Site safety	Construction/Operation	Public access across the Site would need to be managed during construction for safety reasons, and recreational users may need to be excluded from parts of the Site for periods of time. Appropriate warning signs would be installed concerning restricted areas such as the substation compound, transformers, switchgear and metering systems. All onsite electrical cables would be buried underground with relevant signage.
<b>Chapter 15: Other Issues</b>	Forestry	Construction/Pre-operation/Operation	There would be approximately a 24.1 ha net loss of stocked woodland area as a result of the proposed Development. In order to comply with the criteria of the Scottish Government's Control of Woodland Removal Policy, compensation planting would be required. SPR is committed to providing appropriate compensatory planting which could be onsite or offsite or a combination of both options. The extent, location and composition of such planting will be agreed with Scottish Forestry, taking into account any revision to the felling and restocking plans prior to the commencement of operation of the proposed Development.

Table 16.2: Summary of monitoring commitments

EIA Report Chapter	Subject	Project Phase	Proposed Mitigation Measure
<b>Chapter 3: Proposed Development</b>	Avoid negative effects on habitats, protected species and aquatic interests	Pre-construction	To ensure all reasonable precautions are taken to avoid negative effects on habitats, protected species and aquatic interests, SPR would appoint a suitably qualified ECoW prior to the commencement of construction and they would advise SPR and the Principal Contractor on all ecological matters. The ECoW would be required to be present on the Site during the construction period and would carry out monitoring of works and briefings with regards to any ecological sensitivities on the Site to the relevant staff within the Principal Contractor and subcontractors.
<b>Chapter 3: Proposed Development</b>	Environmental Management	Construction	An ECoW would be onsite during the construction phase to monitor the implementation of the following: <ul style="list-style-type: none"> <li>TMP;</li> <li>CEMP;</li> <li>CMS</li> <li>PPP (including monitoring, as appropriate);</li> <li>SWMP; and</li> <li>WMP.</li> </ul>
<b>Chapter 3: Proposed Development</b>	Fish	Construction/Operation	Fish monitoring would be undertaken prior to and post-construction. Further details would be provided in a detailed Fish Monitoring Plan, to be produced and agreed with THC, in consultation with Caithness District Salmon Fisheries Board (CDSFB), prior to development commencing. Monitoring would involve electro-fishing, during the relevant season, in accordance with Scottish Fisheries Coordination Centre (2007). Water quality monitoring would also be undertaken, and this is described in <b>Chapter 10: Hydrology, Hydrogeology, Geology and Soils</b> .
<b>Chapter 3: Proposed Development</b>	Habitat restoration	Operation	Vegetation monitoring would be undertaken as part of the HMP, as detailed in <b>Technical Appendix 8.1: Habitats and Vegetation</b> , in order to assess the efficacy of the implemented measures.
<b>Chapter 9: Ornithology</b>	Birds	Pre-construction/Construction/Operation	No mitigation measures are proposed, and monitoring measures and post-construction monitoring will not be outlined in detail.
<b>Chapter 10: Hydrology, Hydrogeology, Geology and Soils</b>	Water Quality Monitoring	Pre-construction / Construction	<p>The catchments of the Burn of Horsegrow, Burn of Ormigill, Burn of Hollandmey, Link Burn and Burn of Slickly have been highlighted as being at risk of potential construction effects due to the nature of works within the catchments as well as the high sensitivity receptors within the catchments. Water quality monitoring before and during the construction phase would be undertaken to ensure that the tributaries of the main channels identified at risk from the proposed Development have no significant impacts to water quality and/or quantity. Monitoring would be carried out at a specified frequency (depending upon the construction phase) on these catchments.</p> <p>This monitoring would continue throughout the construction phase and immediately post construction. Monitoring would be used to allow a rapid response to any pollution incident as well as assess the impact of good practice or remedial measures. Monitoring frequency would increase during the construction phase if remedial measures to improve water quality were implemented. Water quality monitoring plans would be developed during detailed design (SEPA, THC and CDSFB would be consulted on the plan) and would be contained within the CEMP.</p> <p>The performance of the good practice measures would be kept under constant review by the water monitoring schedule, based on a comparison of data taken during construction with a baseline data set sampled prior to the construction period.</p>
<b>Chapter 11: Archaeology and Cultural Heritage</b>	Archaeological monitoring	Construction	A programme of archaeological monitoring is proposed during the construction period. The programme would involve a watching brief during the excavation or ground-breaking works that have the potential to have a direct impact on unrecorded buried archaeology and would be conducted by a professional archaeological organisation. The precise scope of any mitigation works would be developed in consultation with HES and THC Historic Environment Team and the agreed mitigation programme would be documented in an agreed Written Scheme of Investigation.

EIA Report Chapter	Subject	Project Phase	Proposed Mitigation Measure
Chapter 13: Noise	Blasting operations	Construction	Vibration levels at the nearest sensitive properties are best controlled through on-site testing processes carried out in consultation with THC. This testing 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 needed to release the requisite material. The use of onsite monitoring at neighbouring sensitive locations during the course of the 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 British Standard (BS 5228 2) and British Standard (BS 6472 2 2008);
Chapter 13: Noise	Operational noise	Operation	Noise limits specific to the proposed Development are set out in <b>Tables 19 and 20 in Technical Appendix 13.1: Environmental Noise Assessment</b> . They were determined such that compliance of the proposed Development with these noise limits would maintain the conclusion of the cumulative assessment and result in cumulative levels which do not exceed the derived ETSU-R-97 noise limits ( <b>Tables 3 to 5, Technical Appendix 13.1</b> ).
Chapter 13: Noise	Noise complaints	Operation	The selection of the final turbine to be installed at the Site would be made on the basis of enabling these derived specific noise limits to be achieved at surrounding properties, including any relevant tonality corrections. Conditions attached to the planning consent should include the requirement that, in the event of a noise complaint, noise levels resulting from the operation of the proposed Development are measured in order to demonstrate compliance with the noise limits of Tables 13 to 15, in <b>Technical Appendix 13.1: Environmental Noise Assessment</b> . Such monitoring should be done in full accordance with ETSU-R-97 and current good practice and include penalties for characteristics of the noise (if present).

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