

Appendix 4.3: Schedule of Mitigation

1 Schedule of Mitigation

1.1 Introduction

- 1.1.1 The purpose of this appendix is to provide a summary of mitigation measures proposed throughout this Environmental Statement to prevent, reduce or offset the effects of the Development on the receiving environment.
- 1.1.2 During the construction phase these shall be detailed within, and implemented through the Construction Environmental Management Plan (CEMP). A draft CEMP is included in Appendix 4.1 of this ES.
- 1.1.3 Mitigation measures have been integral to the design evolution of the Development, as described in Chapter 3; Site Selection, Design Evolution & Alternatives of this ES. Prior to finalising the Development, a series of environmental and technical constraints exercises were undertaken to minimise potential significant environmental impacts where possible. This has included taking into account landscape and visual constraints, avoidance of sensitive habitats and micro-siting of turbines and associated infrastructure to take account of peat depth.
- 1.1.4 Table 1 provides details of those mitigation measures identified throughout the EIA process.

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Table 1 – Summary of Mitigation Measures

Topic	Issue	Mitigation Reference	Mitigation / Monitoring Measure	ES Reference	Responsibility
General	Environmental Management	G1	Prior to construction works, sensitive ecological areas, and other specific sensitive locations (e.g. watercourses) would be identified and marked out as appropriate on site by specialist advisers in order to avoid unnecessary encroachment and protect sensitive areas during construction. The contractor would ensure that no vehicle movements or other activities take place outwith the approved working area. Micrositing may be required as a result of additional constraints encountered during site works. Any micrositing would require to be agreed with the specialist advisers (e.g. the ecological clerk of works) as appropriate.	4.6.1, Appendix 4.1: draft CEMP	SSE / Contractor / ECoW
General	Environmental Management	G2	A draft Construction Environmental Management Plan (CEMP) is included in Appendix 4.1. This document includes mitigation measures proposed in the ES and would be updated with conditions of consent, and site specific construction method statements. The CEMP will provide details of Pollution Prevention measures and Site Waste Management Plans.	4.6.2 - 4.6.10, 8.8, 9.8, 13.8.1, Appendix 4.1: draft CEMP	SSE / Contractor / ECoW
General	Restoration and Reinstatement	G3	Disturbed ground would be reinstated as required using best practice techniques of vegetation and habitat reinstatement. Site restoration and reinstatement methods would be agreed with the statutory authorities prior to construction commencing and following the principles set out within the CEMP.	4.6.15 – 4.6.19, 8.8, 9.8, 15.8.8, Appendix 4.1: draft CEMP	Contractor / ECoW
General	Consultation with the local Community	G4	Consultation with the Local Community during the construction of the Development would be an important consideration. At Gordonbush Wind Farm, a community liaison group was set up providing the local community with information about key construction activities and a mechanism by which concerns from within the local community could be shared and discussed. A similar working group would be established during the construction of the Development.	4.6.20, Appendix 4.2: Lessons Learnt from Gordonbush Wind Farm	SSE
General	Working Hours	G5	Construction activities are anticipated to be between 07.00 and 19.00 hours Mondays to Fridays, and 07.00 to 14.00 hours on Saturdays between April and September. In winter months (i.e. between October and March), working hours are anticipated to be between 07:30 and 17:00 Mondays to Fridays and 07:30 and 14:00 on Saturdays. No working activities would be	4.5.3, 4.5.4, Appendix 4.1: draft CEMP	Contractor

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			<p>planned on Sundays during any period. In the event of work being required outwith these hours, e.g. abnormal load deliveries, commissioning works or emergency mitigation works, the Planning Authority will be notified prior to these works taking place, wherever possible.</p> <p>Operation of crushing equipment located within / next to borrow pits will generally be limited to 08.00 to 18.00 hours Mondays to Fridays and 08.00 to 13.00 hours Saturdays, with no operation on Sundays.</p>		
Ecology and Nature Conservation	Ecological Clerk of Works	EN1	An Ecological Clerk of Works (ECoW) would be appointed during the construction period, as required.	4.6.1, 4.6.4, 8.8.3, Appendix 4.1: draft CEMP	Contractor / ECoW
Ecology and Nature Conservation	Micro-siting	EN2	Final location of site infrastructure in or close to sensitive habitats to be micro-sited, in consultation with the ECoW to minimise impacts.	8.8.3, Appendix 4.1: draft CEMP	Contractor / ECoW
Ecology and Nature Conservation	Exclusion Zones	EN3	50m exclusion zone will be maintained between working areas, machinery and watercourses (except watercourse crossing points). Exclusion zones will be demarcated where necessary by the ECoW.	8.8.3, Appendix 4.1: draft CEMP	Contractor / ECoW
Ecology and Nature Conservation	Working Areas	EN4	Demarcation of defined working areas during construction phase to prevent unnecessary entry to and disturbance of sensitive habitats including otter and water vole habitat along the watercourses.	8.8.3, Appendix 4.1: draft CEMP	Contractor / ECoW
Ecology and Nature Conservation	Best Practice Measures	EN5	Relevant Pollution Prevention Guidelines would be followed.	8.8.3, 9.8.5, 9.8.19, 9.8.20, Appendix 4.1: draft CEMP	Contractor / ECoW
Ecology and Nature Conservation	Best Practice during construction	EN6	Adoption of best practice techniques of track and turbine base construction to ensure that drainage patterns and water quality within the Development site and environs are maintained; materials inappropriate to site geology are not used in the construction; and to minimise habitat take.	8.8.3, Appendix 4.1: draft CEMP	Contractor / ECoW
Ecology and Nature Conservation		EN7	Adoption of best practice techniques to ensure stored materials (including fuel, concrete etc.) do not contaminate soils or watercourses.	8.8.3, Appendix 4.1: draft CEMP	Contractor / ECoW

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Ecology and Nature Conservation		EN8	Adoption of best practice techniques in borrow pits to ensure any pumped drainage water is settled prior to any discharge to watercourses.	8.8.3, Appendix 4.1: draft CEMP	Contractor / ECoW
Ecology and Nature Conservation	Restoration	EN9	Early restoration of all road batters, peat mounding, turbine bases, site compounds and borrow pits to minimise effects due to soil/peat exposure and erosion and to optimise the chances of successful use of rescued live plant material. Use of plant material native to and preferably collected in the locality (including lifting and replacement of turf where timescales allow) and avoidance of fertilisers and lime.	8.8.3, Appendix 4.1: draft CEMP	Contractor / ECoW
Ecology and Nature Conservation	Pre-construction Surveys	EN10	Pre-construction otter, water vole, pine marten, wildcat, badger and reptile surveys would be undertaken within three months prior to construction works commencing (or during the suitable survey period prior to works commencing).	8.8.3, Appendix 4.1: draft CEMP	Contractor / ECoW
Ecology and Nature Conservation	Species Protocols	EN11	Site specific mammal, reptile and bird protection protocols would be produced in the CEMP.	8.8.3, Appendix 4.1: draft CEMP	Contractor / ECoW
Ecology and Nature Conservation	Potential Impacts to Reptiles	EN12	Advance of works, checks for reptiles and any necessary translocations.	8.8.3, Appendix 4.1: draft CEMP	Contractor / ECoW
Hydrology, Hydrogeology & Geology	Good Practice Measures	HHG1	Good practice measures will be applied in relation to soil/peat storage, ground stability, pollution risk, sediment management and management of surface runoff rates and volumes. These measures will form part of the CEMP.	9.8.6, Appendix 4.1: draft CEMP	Contractor / ECoW
Hydrology, Hydrogeology & Geology	Drainage Plan	HHG2	Prior to construction a site specific drainage plan would be prepared taking into account existing local drainage which may not be mapped and incorporate any specific mitigation measures.	9.8.8, Appendix 4.1: draft CEMP	Contractor / ECoW
Hydrology, Hydrogeology & Geology	Wet Weather Protocol	HHG3	A wet weather protocol would be developed and would detail procedures to be adopted by all staff during heavy rainfall. Tool box talks would be given to personnel, and the inspection and maintenance regimes of sediment and runoff control measures would be adopted during these periods.	9.8.11, Appendix 4.1: draft CEMP	Contractor / ECoW

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Hydrology, Hydrogeology & Geology	Soil Storage and Management	HHG4	Soils taken for temporary use would be stockpiled in storage bunds and replaced following completion of construction. Topsoil and subsoil would be stripped and stored separately following best practice for re-use. Permanent excavation and removal of surface soil and peat, where appropriate and agreed with landowners, would be stockpiled and respreads within the development area as construction works are completed.	9.8.13 – 9.8.14, Appendix 4.1: draft CEMP	Contractor / ECoW
Hydrology, Hydrogeology & Geology	Peat Management Plan	HHG5	A draft Peat Management Plan is included in ES Appendix 9.3. This document includes information on the peat conditions on-site, activities that will require peat excavation, identification of restoration and reinstatement options and details on the handling and storage of excavated peat	9.8.15, 15.8.8, Appendix 4.1: draft CEMP Appendix 9.3	Contractor / ECoW
Hydrology, Hydrogeology & Geology	Ground Stability	HHG6	Good construction practice to prevent peat instability within areas that contain peat deposits, as defined in the Peat Landslide Hazard Risk Assessment in ES Appendix 9.1. Detailed design and construction practices would need to take account the particular ground conditions and the specific works at each location through the construction period. An experience and qualified engineering geologist/geotechnical engineer would be appointed as a supervisor to provide advice during the setting out, micro-siting and construction phases of Development.	9.8.17 – 9.8.18, Appendix 4.1: draft CEMP, Appendix 9.1	Contractor / ECoW
Hydrology, Hydrogeology & Geology	Erosion and Sedimentation	HHG7	Good practice measures for the management of erosion and sedimentation would be carried out to ensure there is no contamination in the drainage system. Section specific drainage plans would be produced prior to construction in sensitive areas and would incorporate measures to minimise release of sediment into surface watercourses.	9.8.21, Appendix 4.1: draft CEMP	Contractor / ECoW
Hydrology, Hydrogeology & Geology	Maintenance of Existing Surface Water Flow Paths	HHG8	Best practice measures would be adopted to ensure the existing water catchment areas to the areas of highly GWDTE are maintained. During construction an ECoW would assess the effectiveness of the measures.	9.8.22, Appendix 4.1: draft CEMP, Appendix 9.2	Contractor / ECoW
Hydrology, Hydrogeology & Geology	Surface Water Runoff	HHG9	Measures would be built into the development design to ensure no increase in surface water runoff from the site. This would include the design of drainage systems, the appropriate use of Sustainable Drainage Systems (SuDS) and development of site specific drainage plans.	9.8.23, Appendix 4.1: draft CEMP	Contractor / ECoW

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Hydrology, Hydrogeology & Geology	Water Abstractions	HHG10	The location of any water supply abstractions for construction activities and to supply the Operations Building would be identified at detailed design. Should the Development receive approval, any new abstractions would be agreed with SEPA prior to commencement of construction and would comply with CAR authorisation requirements.	9.8.24, 9.8.25, Appendix 4.1: draft CEMP	Contractor / ECoW
Ornithology	Nesting Birds during Construction		Where construction is scheduled during the nesting period (March to July inclusive), the following measures to protect nesting birds would be implemented:	10.10.3 – 10.10.5, Appendix 4.1: draft CEMP	Contractor / ECoW
		O1	A pre-construction survey should be undertaken to check whether any birds are settling to nest close to proposed access tracks or construction sites, where there might be a risk of the nest being destroyed.		
		O2	Monitoring of construction sites should be undertaken throughout the nesting season, to detect birds settling to nest on areas close to construction activity.		
		O3	Postponement of construction activities which would risk disturbance or the destruction of a bird's nest, until deterrence or nest protection measures have been put in place.		
		O4	Implementation of deterrence measures within potential construction sites to move any such birds discovered at an early stage of settling or protection of any nests discovered. Measures include providing information to all construction personnel concerning the law relating to birds and actions to be taken if nesting birds were detected, use of scaring devices to move settling birds and protection of established nests and broods by marker tape.		
Ornithology	Monitoring	O5	Monitoring of breeding birds and flight activity within 500m of the turbines should be carried out in years 1, 2, 3, 5, 10 and 15 after wind farm construction.	10.11.1	ECoW / Qualified Ornithologist
Cultural Heritage	Pre-construction Survey	CH1	Prior to construction works, further investigation would be advisable of two mounds (Site 63 and Site 71) to verify their identification as field clearance mounds, and to recover any environmental and datable evidence.	11.8.1	Professional Archaeologist

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Cultural Heritage	Monitoring	CH2	Monitoring for potential sub-surface archaeological features in the vicinity of turbines 8 and 14, and their access tracks during ground breaking works. This should be done to a brief for archaeological work provided by The Highland Council Historic Environment Team.	11.9.1	Professional Archaeologist
Traffic and Transport	General Modifications	T1	A Route Survey Report has identified any modifications required for the transportation of turbine equipment in Appendix 12.1 and Appendix 12.2 of this ES. Parts of the local road network were upgraded as part of Gordonbush Wind Farm construction to accommodate associated abnormal loads traffic.	12.8.3, Appendix 12.1, Appendix 12.2	SSE / Contractor
Traffic and Transport	Road Maintenance	T2	Prior to construction works, it will be necessary to establish the current condition of the roads to establish a baseline for subsequent repairs.	12.8.6	Contractor
Traffic and Transport	Traffic Management Measures	T3	Measures would be introduced to minimise the intrusive effects of construction related traffic such as police escort, regulated site working hours, warning and speed control signs in agreement with the roads authority, along with the establishment of a construction liaison committee.	12.8.7 (see also Mitigation Reference 4)	SSE / Contractor
Traffic and Transport	Traffic Management	T4	A Traffic Management Plan, detailing ways to reduce the impact of construction traffic, would be developed.	4.6.5, 12.8.8	SSE / Contractor
Traffic and Transport	Monitoring	T5	Mud and debris on the surrounding road network would be monitored and inspections of the mitigation work would be undertaken on a regular basis to confirm measures are proving effective at reducing effects. Where necessary, mitigation measures would be reviewed and amended.	12.9.1, Appendix 4.1: draft CEMP	SSE / Contractor
Noise	Best Practice during Construction	N1	<p>During construction works the following mitigation measures would be undertaken:</p> <p>All activities that may give rise to audible noise at surrounding properties and heavy goods vehicles to the site would be limited to the hours 07:00-19:00 Monday to Friday and 07:00-13:00 on Saturdays, with no activities on a Sunday. Winter hours may be reduced further (see Mitigation Reference G5).</p> <p>All construction activities shall adhere to good practice set out in BS 5228.</p>	13.8.1 – 13.8.3, Appendix 4.1: draft CEMP	SSE / Contractor

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			<p>All equipment will be maintained in good working order and any associated noise attenuation such as engine casing and exhaust silencers will remain fitted at all times.</p> <p>Where flexibility exists, activities will be separated from residential neighbours by the maximum possible distances.</p> <p>A management scheme will be developed to control the movement of vehicles to and from the Development.</p> <p>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 wherever practical.</p>		
Noise	Turbine Selection	N2	The selection of final wind turbine to be installed at the Development would be made on the basis of enabling the relevant ETSU-R-97 noise limits to be achieved at the surrounding properties.	4.3.3, 13.8.4	SSE
Noise	Monitoring	N3	In the event of a noise complaint, noise levels resulting from the operation of the wind farm would be measured in order to demonstrate compliance with the conditioned noise limits. This should be done in accordance with ETSU-R-97 and include penalties for any tonal characteristics of the noise (if present).	13.9.1	SSE
Other Issues	Aviation Lighting	OI1	The Applicant would agree a suitable aviation lighting scheme with the Ministry of Defence (MOD).	15.4.16	SSE
Other Issues	Ice Throw	OI2	To avoid or reduce the risk of ice throw, increased awareness would be provided to service crews and the associated risks, along with providing notices at access points alerting members of the public of the risks under certain conditions.	15.6.9	SSE / Contractor
Other Issues	Dust	OI3	Measures to control dust would be put in place and are considered in the draft CEMP.	15.7.6, Appendix 4.1	SSE / Contractor