Chapter 16
Schedule of Mitigation

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16.1 Introduction

16.1.1 Best practice in Environmental Impact Assessment (EIA) recommends the use of a Draft Scheme of Mitigation, which can act as a quick reference for anyone interested in the mitigation measures which the Applicant has committed to implementing and upon which the assessment of residual effects presented within the EIA Report has been based. It will be utilised by the Applicant throughout development of the detailed design, and the appointed contactors will be required to allow for, and ultimately implement, each of the measures in the schedule as a minimum.

16.1.2 **Table 16.1** presents a Schedule of Mitigation for the Proposed Development, listed according to the relevant environmental topic area. Individual EIA Report chapters should be referred to for full details of the mitigation.

Table 16.1 – Schedule of Mitigation

Subject Area	Mitigation Measure	Timing
Chapter 3: Project Description		
Micrositing	A micrositing allowance of 100 metres (m) in all direction is being sought in respect of each turbine in order to address any potential difficulties which may arise in the event that pre-construction surveys identify unsuitable ground conditions or unforeseen environmental constraints. It is proposed the final positioning will be addressed through an appropriately worded condition.	Construction
Turbine, turbine foundations & crane hardstanding	Final turbine dimensions will be determined based upon turbine availability and procurement prior to construction.	Pre-construction
	A full ground investigation will be completed prior to construction. This will inform final foundation and crane hardstanding design.	Pre-construction
	The area above the foundations will be backfilled up to the turbine with topsoil and seeded with a native seed mix to encourage re-vegetation.	Post-construction
	Detailed construction drawings with final dimensions will be provided prior to commencement once the final turbine model has been selected.	Pre-construction
	Turbines will be painted an off-white or light grey colour with low reflectivity semi-matt finish, or similar, as agreed with the Local Planning Authority.	Operation
Solar photovoltaic modules and mounting frames	A full ground investigation will be completed prior to construction.	Pre-construction
	Final module dimensions will be determined based upon availability and procurement prior to construction.	Pre-construction
	Detailed construction drawings with final dimensions will be provided prior to commencement once the final model has been selected.	Pre-construction
Access Tracks	Existing on-site access/forestry tracks and wayleaves, where possible, will be retained, re-used and upgraded (where necessary).	Construction
	New access tracks will be made of locally sourced stone, from within South Lanarkshire or East Ayrshire, potentially from on-site borrow pits (if suitable).	Construction
	Prior to construction, any required improvements to public roads will be undertaken and appropriate highway safety measures will be agreed with South Lanarkshire Council (SLC), East Ayrshire Council	Pre-construction

Subject Area	Mitigation Measure	Timing
	(EAC) and Transport Scotland, with necessary signage or traffic control measures implemented throughout the construction phase on the agreed basis.	
Watercourse Crossings	The final solution and detailed design for all water crossings, including any potential upgrades or amendments required to existing crossings, will be addressed through an appropriately worded condition and in accordance with the requirements of the Water Environment (Controlled Activities) (Scotland) Regulations 2011 as amended.	Pre-construction
Drainage	A detailed drainage design will be undertaken and submitted to the Local Planning Authority, in consultation with the Scottish Environment Protection Agency (SEPA), for approval prior to construction.	Pre-construction
Grid connection & BESS	The detailed design of the components of the substation and Battery Energy Storage Systems (BESS) compounds will be provided prior to construction of those Proposed Development elements; it is proposed that this will be secured by an appropriately worded condition.	Pre-construction
Construction compounds & temporary laydown area	Prior to commencement of construction, a detailed appraisal of the areas will be required, including an assessment by the project ecologist and also trial pits and /or boreholes to confirm the nature of the sub-strata.	Pre-construction
	The detailed location, size and engineering properties of the construction compounds and temporary turbine laydown area will be confirmed prior to the start of construction, after the turbine supplier and model have been confirmed.	Pre-construction
	On completion of construction works, it is proposed that all temporary structures be removed and the compound areas be restored for forestry purposes.	Post-construction
Borrow pits	Detailed site investigations prior to construction will be carried out to further confirm the rock type, rock characteristics and suitability, as well potential volumes to be extracted from each search area. The final borrow pit(s) identified during the geotechnical evaluation will be defined within the Construction Environmental Management Plan (CEMP).	Pre-construction
Construction Hours	Normal construction hours will be between 07:00 and 19:00 Monday to Friday and 07:00 to 13:00 on a Saturday. During the turbine erection phase, operations may proceed round the clock to ensure that lifting processes are completed safely. Delivery of abnormal loads may be made outwith normal construction hours, as agreed with the relevant authorities.	Construction

Subject Area	Mitigation Measure	Timing
Construction Traffic	The Applicant will ensure that the vehicles will be routed as agreed with SLC, EAC, Transport Scotland and Police Scotland.	Construction
Construction Environment Management Plan	The Contractor shall produce and adhere to a CEMP. This shall be developed in consultation with the Scottish Ministers, NatureScot, SEPA, Historic Environment Scotland (HES), SLC and EAC. The Contractor shall amend and improve the CEMP as required throughout the construction and decommissioning period.	Pre-construction, Construction
	The CEMP shall describe how the Contractor will ensure suitable management of aspects including, but not limited to, the below, during construction of the Proposed Development. An Outline CEMP is included in **Appendix 3.1**: • noise and vibration; • dust and air pollution; • surface and groundwater; • ecology and ornithology (including protection of habitats and species); • forestry management; • agriculture (including protection of livestock and land); • cultural heritage; • waste (construction and domestic); • details of the size, location and volumes to be extracted from borrow pits; • pollution incidence response (for both land and water); and • site operations (including maintenance of the construction compound, working hours and safety of the public).	Pre-construction, Construction
	Prior to commencement of construction activities, a pollution prevention strategy, contained within a CEMP, will be agreed with SEPA.	Pre-construction

Subject Area	Mitigation Measure	Timing
Construction Traffic Management Plan	The Construction Traffic Management Plan (CTMP) will detail the management of traffic to and from site, including abnormal loads and daily workers commute. It shall also include mitigation for impacts to public transport, local private access and public footpaths/rights of way, cycleways and bridleways. The Contractor and/or Applicant shall amend and improve the CTMP as required throughout the construction and decommissioning period.	Pre-construction, Construction
Operation Environmental Management Plan	The Applicant will develop an Operation Environmental Management Plan (OEMP) in consultation with the Scottish Ministers, NatureScot, SEPA, SLC and EAC. The OEMP will set out how the Applicant will manage and monitor environmental effects throughout operation.	Pre-operation
Public Access	If required, a temporary diversion will be put in place for the construction period for affected core path sections, with suitable alternatives clearly signposted. It is proposed that details of temporary path diversions can be secured by an appropriately worded condition.	Construction
Chapter 5: Landscape and Visual		
The primary mitigation adopted in relation to the Proposed Development is embedded within the design of the Proposed Development and relates to the consideration that was given to avoiding and minimising landscape and visual effects during the evolution of the Proposed Development layout.		
Embedded Mitigation	The design rationale adopted included: • opportunity to develop further renewable energy development within an already productive landscape and within an established wind farm picture; • avoid inconsistent turbine spacing, to minimise visual confusion and ensure a balanced / compact array from key views; • a review of whether turbines of up to 230 m could be accommodated at the site in a manner which would not be out of context with the overarching characteristics of the landscape; • appropriate offsets from all properties and settlements maintained to ensure no property would experience an overbearing visual impact such that it became an unattractive place to live; • alignment of the Proposed Development turbines with existing wind farms ensures that the Proposed Development would appear as part of an agreeable overall array in key views; • taking all other engineering and environmental constraints into account; • considering the layout of other structures and ancillary features of the Proposed Development to utilise existing infrastructure as far as possible; and • development of a Landscape Strategy Plan for the southern development area.	Pre-application (design)

Subject Area	Mitigation Measure	Timing
Visual mitigation during operation	The turbines would be painted an off-white colour with a low reflectivity semi-matt finish (or similar as agreed with the Local Planning Authority), widely regarded to be the least intrusive in the landscape when seen against the sky in a host of weather conditions typically experienced in the UK.	Operation
Chapter 6: Ornithology		
Habitat Management and Enhancement Plan	Implementation of an extensive Habitat Management and Enhancement Plan (HMEP) which will improve current, and create new, foraging and breeding habitats for Important Ornithological Features, in particular hen harrier and breeding waders. The HMEP will also lead to improved habitats for a broad range of other species including merlin and short-eared owl.	Operation
Species Protection Plan	Given the requirement for felling of plantation forestry as part of works a bird Species Protection Plan will be implemented to prevent harm to breeding birds including species such as common crossbill as a result of these works.	Construction and Operation
Construction Environmental Management Plan and Ecological Clerk of Works	Implementation of a CEMP, including a timetable of actions; this will form part of the contract documents to ensure delivery of mitigation specified in the EIA Report. In addition, the CEMP will incorporate the provision of an Ecological Clerk of Works (ECoW) to oversee the implementation of committed mitigation.	Pre-construction and Construction
Chapter 7: Ecology		
Habitat Management and Enhancement Plan	An Outline Habitat Management and Enhancement Plan (OHMEP) has been produced for the Proposed Development (**Appendix 7.5**). The aims of the OHEMP are: • to mitigate for the effects of the Proposed Development on ecological and ornithological receptors from both the wind and solar/BESS elements; • to provide a strategy to increase the value of the biodiversity present at the Proposed Development site and within the surrounding landscape to meet the requirements of National Planning Framework 4 (NPF4); and • to substitute some (largely yet to be implemented) hen harrier enhancement areas proposed within Dungavel Forest with a long-term pilot project on a much larger area of more suitable habitat within the neighbouring Muirkirk and North Lowther Uplands Special Protection Area (SPA) and Site of Special Scientific Interest (SSSI) where hen harrier and other SPA qualifying species used to breed.	Construction and Operation
Habitat Fragmentation and Destruction	Implementation of CEMP.	Pre-application (design) and Construction

Subject Area	Mitigation Measure	Timing
	Pre-construction surveys of spawning habitat. Avoiding in-stream works during spawning and incubation periods (October to April) where spawning habitat identified upstream of the watercourse crossing. Design of new watercourse crossings to maintain connectivity.	
Pre-construction surveys	Pre-construction surveys for protected species; obtaining licence(s) for disturbance from NatureScot (if required).	Pre-construction
Embedded Mitigation	Embedded mitigation with buffers around turbines to key habitat features (bat protection zones) have calculated and implemented.	Pre-application (design)
Bat Protection Plan	Bat Protection Plan to be agreed prior to construction, additional mitigation to include monitoring and if required, feathering based on results of monitoring.	Pre-construction
ECoW	Provision of an ECoW to oversee the implementation of committed mitigation.	Construction
Chapter 8: Geology, Peat, Hydrology & Hydrogeology		
Embedded Mitigation	Embedded mitigation, including minimum buffers from watercourses, use of existing infrastructure as far as practicable, minimising requirement for watercourse crossings, siting infrastructure to minimise peat excavation requirements. Detailed final design of watercourse crossings to be implemented, in accordance with good practice and the Water Environment (Controlled Activities) (Scotland) Regulations 2011 as amended (CAR). Where it is not possible to avoid routing tracks over localised areas of deep peat, those localised stretches of track over deep peat will be floated to avoid the requirement for excavation of peat. Floating roads will be designed to ensure suitability for site traffic during construction and operation.	Pre-application (design)
Watercourse Crossings	Regulation of watercourse crossings by CAR, to include maintenance and removing any blockages.	Pre-construction and Construction
CEMP and Environmental Clerk of Works	Implementation of mitigation measures outlined in CEMP. Includes committed best practice measures. Will be implemented by Principal Contractor. Best practice will be verified by on-site Environmental Clerk of Works (EnvCoW).	Pre-construction and Construction
Pre-construction site investigations	Pre-construction site investigations will be conducted to determine the ground and groundwater conditions across the site, focusing on areas where construction is proposed to inform micrositing. The investigations will include targeted monitoring and assessment of the groundwater levels and	Pre-construction

Subject Area	Mitigation Measure	Timing
	flows beneath the site. The investigations within the borrow pit search areas will allow selection of specific extraction areas and avoidance of deep peat.	
Peat Management Plan	Preparation of a construction-stage Peat Management Plan (PMP), building on the outline PMP provided as **Appendix 8.4** of the EIA Report. Management and storage of peat in line with the PMP. Application of additional peat excavation/re-use protocol and hierarchy to minimise temporary storage time. Dewatering undertaken for as short a time as practicable.	Construction
Drainage Strategy	Implementation of a Drainage Strategy, to include trackside and cross-drainage.	Pre-construction
Habitat Management and Enhancement Plan	Implementation of HMEP, including peatland restoration with aftercare and monitoring.	Operation
Operational Environmental Management Plan	Best practice to be outlined within OEMP and implemented by operation and maintenance contractor. Implement best practice and correct storage of fuels and management plans in the event of spills.	Operation
Private Water Supplies	Advance warning of construction works will be provided to properties. Watching brief will be employed, with excavation monitored by the on-site EnvCoW. If pipework identified this will be marked and a detailed design strategy prepared, may include laying the supply pipework beneath infrastructure or redirect. A Water Quality Monitoring Plan (WQMP) will be prepared and agreed with EAC and SLC in consultation with SEPA, prior to commencement of construction. The following sampling frequency is proposed in line with updated SEPA guidance and will be fully outlined within the WQMP: • monthly for 12 months prior to construction phase works in proximity to the Private Water supply (PWS) pipework; • fortnightly during construction phase works in proximity to the PWS supply pipework; and • monthly for 12 months following construction in proximity to PWS supply pipework.	Pre-construction, Construction, Post-construction
Chapter 9: Noise & Vibration		
Construction noise	Production and implementation of CEMP and Construction Traffic Management Plan (CTMP).	Pre-construction, Construction
Operation of the wind turbines	Implementation of noise mitigation strategy (embedded mitigation).	Operation

Subject Area	Mitigation Measure	Timing
Operational of non-turbine fixed plant	Specification and location of plant such that noise limits are met at noise-sensitive receptors (embedded mitigation).	Pre-application (design), Operation
Chapter 10: Cultural Heritage		
Written Scheme of Investigation and Archaeological Clerk of Works	Appointment of an archaeological clerk of works. Preservation in situ and adoption of buffer zones around visible remains (e.g. Scheduled Monument (SM) 2848 and Asset 14), which will be fenced off or otherwise marked out during construction. Post-felling walkover surveys undertaken in the northern development area. Archaeological monitoring (watching briefs) in areas of heightened archaeological potential and the sites of surviving historic agricultural remains (Assets 6-7, 12). Mitigation to be agreed with West of Scotland Archaeology Service and detailed in a Written Scheme of Investigation.	Pre-construction and Construction
Embedded Mitigation	Embedded mitigation measures developed in consultation with HES, including: • The removal of Scoping Turbines 3 and 7 to improve intervisibility between Dungavel Cairn (SM 2848) and possible contemporary cairns to the south. • Reduction in height of Turbine 6 to 200 m to appears prominent when beheld from the Dungavel Cairn (SM 2848). • The total number of turbines reduced from 26 to 18; repositioning of remaining turbines to improve spacing between elements of the Proposed Development and open views across the site.	Pre-application (design)
Chapter 11: Traffic & Transport		
Construction Traffic Management Plan	Implementation of CTMP.	Construction and Decommissioning
Chapter 12: Aviation and Radar		
Aviation Lighting	Aviation lighting will be installed on eight of the proposed 18 turbines. The lighting requirements will be agreed with the Civil Aviation Authority (CAA), with the lights meeting the requirements set out in in Article 222 of the UK Air Navigation Order (ANO).	Construction and Operation
Radar	Mitigation measure agreed between the Applicant and National Air Traffic Services (NATS), likely in the form of using the Glasgow Terma radar to provide the infill data.	Pre-construction

Subject Area	Mitigation Measure	Timing
	Mitigation measure agreed between the Applicant and NATS, likely in the form of using the Glasgow Terma radar to provide the infill data. Application of an IFP condition (to be agreed).	Pre-construction
Chapter 13: Forestry		
Forest Plan	Implementation of Proposed Development Forest Plan in compliance with UK Forestry Standard including archaeological safeguards, phased felling and immediate restocking to address landscape considerations.	Pre-construction, Construction, Operation
	Implementation of improved tree breeding genetics to enhance timber yield and mitigate loss of commercial coniferous forest.	Construction, Operation
Compensatory Planting	Immediate replanting, phased felling, and designated retention areas, reducing long-term disruption. HMEP forest to bog peatland restoration and compensatory planting. Forest Residue Management Plan ensures appropriate use of forest residues (brash and stumps).	Construction, Operation
Chapter 14: Shadow Flicker		
Shadow Flicker Nuisance	Shadow Flicker Mitigation Protocol (if required).	Operation
Chapter 15: Glint & Glare		
Embedded Mitigation	Implementing Landscape Strategy Plan including planting/screening and, where required and appropriate, installation of temporary shade netting while vegetation is established.	Construction