19. Schedule of Mitigation

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19.1. Introduction

19.1.1. Best practice in EIA recommends the use of a Schedule of Environmental Commitments, which can act as a quick reference guide to the mitigation measures that the Applicant has committed to implementing and upon which the assessment of residual effects presented in this EIA Report has been based. It will be utilised by the Applicant's design team throughout development of the detailed design, and the appointed Contractors will be required to allow for, and ultimately implement, each of the measures in this schedule as a minimum.

19.1.2. **Table 19.1** presents a Schedule of Mitigation for the Proposed Varied Development, listed according to the relevant environmental topic area. Individual EIA Report chapters should be referred to for full details of the mitigation.

Table 19.1 - Schedule of Environmental Commitments

Environmental Subject Area	Mitigation	Timing
Chapter 4: Description of the Proposed Varied Development		
Micrositing	A micrositing allowance of up to 100 m in all directions is being sought in respect of each turbine and its associated infrastructure in order to address any potential difficulties which may arise in the event that pre-construction surveys identify unsuitable ground conditions or environmental constraints that could be avoided by relocation. It is proposed that the micrositing of all infrastructure will be subject to an appropriately worded planning condition.	Construction
Turbines, Turbine Foundations and Crane Hardstandings	Pre-construction site investigations will be carried out to determine foundation design specific to ground conditions.	Pre-Construction
	Confirmation of the final selected turbine dimensions to be required by planning condition and following tendering exercise	Pre-Construction
	Wind turbines will be painted semi-matt off-white with no external advertising or lettering except for statutory notices	Operation
	Detailed construction drawings with final dimensions will be provided prior to commencement once the final turbine model has been selected.	Pre-Construction
Access Tracks	Existing on-site access/forestry tracks, where possible, will be retained, re-used and upgraded (where necessary).	Pre-Construction
	Floating roads will be designed where proposed access tracks cross areas of deeper peat, should the deeper peat not be avoided by micro-siting.	Pre-Construction

	Access track alignment has been designed to minimise the overall track length, minimise the vertical alignment of the tracks, minimise the number of dead ends within the layout and avoid or minimise incursion into identified constraints such as watercourses.	Pre-Construction
	Access tracks will be formed largely of locally sourced stone and from the on-site borrow pits	Construction
	Any required improvements to public roads will be undertaken and appropriate highway safety measures will be agreed with Dumfries and Galloway Council (DGC) and Transport Scotland.	Pre-Construction
	Necessary signage and traffic control measures will be implemented throughout the construction phase as agreed.	Construction
Watercourse Crossings	All watercourse crossings will be designed in accordance with the SEPA Good Practice Guide for the Construction of River Crossings. Where culverts are required, they will be designed in accordance with the CIRIA Culvert Design and Operation Guide (C689).	Pre-Construction
	The final detailed design for water course crossings will be addressed through an appropriately worded condition and in accordance with the requirements of the Environmental Authorisations (Scotland) Regulations (EASR).	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
Temporary Construction Compounds	A detailed appraisal of the construction compound sites will be undertaken, including by the project ecologist and trial pits/bore holes to confirm the nature of the sub-strata.	Pre-Construction

	The detailed location, size and engineering properties of the construction compounds will be confirmed prior to the start of construction, after the turbine supplier and model have been confirmed.	Pre-Construction
	On completion of the construction works, all temporary structures will be removed and the compound areas restored.	Post-Construction
Substation, Battery Energy Storage System (BESS) and Cabling	Details of the final design of all components of the substation and BESS compound are proposed to be secured through an appropriately worded condition.	Pre-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 as potential volumes to be extracted from the search area.	Pre-Construction
	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 and 13.00 on Saturdays. These times have been chosen to minimise disturbance to local residents.	Construction
	Some quiet activities, for example abnormal load deliveries and the lifting of turbine components, may occur outwith the hours stated. Any construction outwith these hours will be in line with the noise limits assessed in **Chapter 14** and advance warning of any works outside the agreed working hours will be provided to DGC and local residents.	Construction
Construction Materials	Soil stripped from construction areas will be stored separately in line with best practice techniques, in particular the appropriate handling and storage of peat soils (see the outline Peat Management Plan in **Appendix 12.2**).	Construction

	Should surface water run-off or groundwater enter the excavation during construction of the turbine foundations, appropriate pumping measures away from watercourses will be implemented.	Construction
	Once installation is complete, the immediate construction area will be restored to its original profile. The soils will be replaced and reseeded where appropriate and as advised by the on-site Environmental Clerk of Works (EnvCoW).	Construction
Construction Environmental Management Plan	The Principal Contractor will produce and adhere to a CEMP, building on the outline CEMP provided as **Appendix 4.1** of the EIA Report. The CEMP shall describe how the Applicant will ensure suitable management of the following environmental issues during construction: ▪ noise and vibration; ▪ dust and air pollution; ▪ surface and ground water; ▪ ecology (including protection of habitats and species); ▪ cultural heritage; ▪ waste (construction and domestic); ▪ pollution incidence response (for both land and water); and ▪ site operations (including maintenance of the construction compound, working hours and safety of the public).	Construction
	The Contractor and/or Applicant shall consult with DGC, SEPA, NatureScot and Historic Environment Scotland (HES) on relevant aspects of the CEMP.	Construction
	The Contractor shall amend and improve the CEMP as required throughout the construction period.	Construction

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 and Construction
Public Access	Access restrictions to the site will be kept to the minimum area and minimum duration and will be focussed on where actual risks are present.	Construction
Operation and Maintenance	The Applicant will implement an Operation Environmental Management Plan (OEMP) to set out the mitigation measures described in the EIA Report. This will set out the mitigation measures described in the EIA Report and how the Applicant will manage and monitor environmental effects throughout the operation of the Proposed Varied Development.	Operation
Decommissioning	Prior to Decommissioning, a Decommissioning Environmental Management Plan (DEMP) will be produced to reflect current legislation and policy and will be agreed with relevant statutory authorities.	Decommissioning
Chapter 7: Forestry		
Compensatory Planting	The Applicant is committed to providing appropriate compensatory planting. The extent, location and composition of such planting to be agreed with Scottish Forestry, taking into account any revision to the felling and restocking plans prior to the commencement of construction.	Construction and Operation
Chapter 8: Landscape and Visual		

The primary mitigation adopted in relation to the Proposed Varied Development is embedded within the design of the Proposed Varied Development and relates to the consideration that was given to avoiding and minimising landscape and visual effects during the evolution of the Proposed Varied Development layout.		
Design (embedded mitigation)	The design rationale adopted included: ▪ avoid inconsistent turbine spacing, to minimise visual confusion and ensure a balanced / compact array from key views; ▪ avoidance of turbine placement at the highest points within the site to utilise topographic screening; ▪ a review of whether turbines of up to 220 m could be accommodated at the site in a manner which would not be out of context with the overarching characteristics of the landscape; ▪ reduction in the number of turbines from 17 to 11, to improve spacing and minimise visual confusion; ▪ 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; ▪ taking all other engineering and environmental constraints into account; and ▪ considering the layout of other structures and ancillary features of the Proposed Varied Development to utilise existing infrastructure as far as possible.	Pre-application (design)
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
Reduced Aviation Lighting Scheme	A reduced lighting scheme has been agreed with the Civil Aviation Authority (CAA) and Ministry of Defence (MoD). Mitigation has been designed into the proposed aviation lighting to reduce the intensity of the required 2000 candela steady state aviation lights in certain	Pre-application (design), Construction, and Operation

	atmospheric conditions by reducing their intensity and attenuating the amount of vertical downwards lighting in order to reduce the visual impact experienced by receptors below the lights.	
Chapter 9: Ecology		
Design (embedded mitigation)	Buffers around turbines to key habitat features have been calculated and implemented. Turbines (specifically the blade tips) will have a 50 m separation distance between higher-value bat habitats, such as riparian features and forest edges, to reduce bat-strike. Retention of existing young deciduous woodland. Avoidance of areas of bog to minimise impacts to the deeper peat deposits and limit the number of watercourse crossings.	Pre-application (design)
Habitat Fragmentation and Destruction	Implementation of CEMP. 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-application (design) and Construction
Pre-construction surveys	Pre-construction surveys for protected species; obtaining licence(s) for disturbance from NatureScot (if required).	Pre-construction
Species Protection Plan	A Species Protection Plan (SPP) will be produced and agreed prior to construction commencing and then implemented during the construction period. The SPP will detail measures to safeguard protected species known to be in the area including bats, red squirrel, otter, water vole, amphibians and reptiles	Construction

Invasive Species	A Construction Biosecurity Plan (CBP) will be written and implemented ahead of the commencement of the construction phase due to presence of North American signal crayfish within on-site watercourses.	Construction
Ecological Clerk of Works	Provision of an Ecological Clerk of Works (ECoW) to oversee the implementation of committed mitigation.	Construction
Habitat Enhancement and Management Plan	An outline Habitat Enhancement and Management Plan (HEMP) has been produced for the Proposed Varied Development, building on the outline HEMP provided as **Appendix 9.8** of the EIA Report. The aims of the outline HEMP are: ■ Blanket bog restoration; ■ Dry heath/ acid grassland mosaic creation; ■ Broadleaved woodland creation; ■ Riparian corridor enhancement; and ■ Protection fencing.	Construction and Operation
Operational monitoring	Monitoring of bat activity, along with carcass searching, will be undertaken for three years post-development to determine operational-phase bat activity, and confirm the predicted residual collision effects on bats. Feathering of turbine blades, if required.	Operation
Chapter 10: Ornithology		
Breeding Bird Disturbance	Implementation of Breeding Bird Protection Plan.	Construction
ECoW	Provision of an ECoW to oversee the implementation of committed mitigation.	Construction

Habitat Enhancement and Management Plan	Blanket bog restoration to be undertaken as part of the HEMP which of importance to a variety of bird species feeding on invertebrates, nesting habitat for upland breeding waders and foraging grounds for birds of prey. Creation of additional dry heath and acid grassland will provide prime habitat for breeding birds. Broadleaved woodland creation will provide suitable habitat for nesting and foraging birds. Fencing will be well marked to reduce collisions.	Construction and Operation
Chapter 11: Cultural Heritage		
Design (embedded mitigation)	The layout of the Proposed Varied Development maintains reciprocal intervisibility between Scheduled Monuments Craigengillan Cairn (SM2238) and Stroanfreggan Craig Fort (SM1095) with the valley of the Water of Ken. Specifically, in terms of south and south-easterly views from Craigengillan Cairn (SM2238). No additional infrastructure is proposed to encroach any further into this visibility splay as embedded in the design of the Consented Development. The nearest turbine of the Consented Development to the Craigengillan Cairn SM2238 (T9) is removed from the layout of the Proposed Varied Development.	Pre-application (design)
Written Scheme of Investigation and Archaeological Clerk of Works	Appointment of an Archaeological Clerk of Works (ACoW). Review of any micrositing proposals in relation to cultural heritage baseline. A programme and scope of archaeological monitoring, fieldwork, recording, and reporting to be outlined in a Written Scheme of Investigation (WSI) and agreed with DGC in advance of construction, a matter which the Applicant agrees can be conditioned.	Pre-construction and Construction
Protection fencing	Protection by fencing to avoid accidental physical impacts upon SM2238 Craigengillan, cairn and MDG27135 Craigengillan, burnt mound.	Construction

Enhancement	Felling and broadleaf/native species planting around Craigengillan Cairn (SM2238) to enhance its setting.	Construction and Operation
Chapter 12: Geology and Peat		
Design (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. 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)
Geotechnical risk register	A geotechnical risk register and further peat landslide hazard risk assessment (PLHRA) will be undertaken following the review of further ground investigation information. Geotechnical monitoring will be undertaken in accordance with further detailed assessments as discussed in **Appendix 12.3**.	Pre-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 flows beneath the site. The investigations within the borrow pit search areas will allow selection of specific extraction areas and avoidance of deep peat.	Pre-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 EnvCoW.	Pre-construction and Construction

Peat Management Plan	Preparation of a construction-stage Peat Management Plan (PMP), building on the outline PMP provided as **Appendix 12.2** 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
Habitat Enhancement and Management Plan	Implementation of HEMP, including blanket bog restoration.	Construction and Operation
Chapter 13: Hydrology and Hydrogeology		
Design (embedded mitigation)	All infrastructure has been sited with an objective to maintain at least a 50 m 'buffer zone' from natural watercourses and water bodies shown on 1:50,000 scale and 1:25,000 scale Ordnance Survey mapping. Where possible, infrastructure is located outside of flood zones, with the exception of watercourse crossings. The Proposed Varied Development's infrastructure has been designed to minimise the number of new watercourse crossings, and existing access tracks have been utilised where possible.	Pre-application (design)
Drainage Strategy	Implementation of a Drainage Strategy, to include trackside and cross-drainage.	Pre-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 flows beneath the site.	Pre-construction
Watercourse crossings	Detailed final design of watercourse crossings to be implemented, in accordance with good practice and the Environmental Authorisations (Scotland) Regulations (EASR).	Pre-construction and Construction

CEMP and Environmental Clerk of Works	Implementation of mitigation measures outlined in CEMP which includes committed best practice measures. This will be implemented by Principal Contractor. Best practice will be verified by on-site EnvCoW.	Pre-construction and Construction
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
Water Quality Monitoring Plan	A Water Quality Monitoring Plan (WQMP) will be prepared and agreed with DGC, in consultation with SEPA, prior to commencement of construction.	Pre-Construction, Construction and Operation
Chapter 14: Noise		
Noise from construction and decommission activities at residential receptors	Production and implementation of CEMP and CTMP.	Construction & Decommissioning
Noise from operational wind turbines at residential receptors	Setting of appropriate noise limits which the final turbine chosen for installation would have to meet. Mode management of turbines to reduce noise levels to meet agreed noise limits in certain conditions.	Pre-application and Operation
Chapter 15: Traffic and Transport		
Construction Traffic Management Plan	Implementation of CTMP.	Construction

Public Information	During the construction phase, a project website, blog or X feed (previously Twitter) will be regularly updated to provide the latest information relating to traffic movements associated with vehicles accessing the site. Information on the wind turbine convoys will be provided to local media outlets such as local papers and local radio to help assist the public.	Construction
Transport Management Plan	An Abnormal Load Transport Management Plan will be prepared to cater for all movements to and from the Proposed Varied Development site.	Construction
Abnormal Wear	Video footage of the pre-construction phase condition of the abnormal loads access route and the construction vehicles route will be recorded to provide a baseline of the condition of the road prior to any construction work commencing. Damage to road infrastructure caused directly by construction traffic will be repaired and street furniture that is removed on a temporary basis will be fully reinstated	Pre-construction and Construction
Staff Travel Plan	A Staff Travel Plan will be deployed where necessary, to manage the arrival and departure profile of staff and to encourage sustainable modes of transport, especially car-sharing.	Construction
Outdoor Access Management Plan	An Outdoor Access Management Plan (OAMP) will be developed and secured via a planning condition to manage potential interactions between construction traffic and users of paths, cycle routes and public roads	Construction
Chapter 16: Aviation		
Aviation issues associated with the operation of large cranes	Crane operations will be the subject of standard conditions for crane operations as laid down in Civil Aviation Authority (CAA) CAP1096 *'Guidance to crane users on aviation lighting and notification'.*	Construction and Decommissioning

Aviation Lighting	Each turbine will be fitted with Ministry of Defence (MoD) specification IR lighting to mitigate effects on military low flying. Reduced lighting scheme fulfilling requirements for flight safety and minimising environmental (visual) effects has been produced and approved by CAA.	Construction and Operation
Potential effect of moving turbine blades on the NATS Radars	Mitigated through the use of technical capabilities built into the radar specifically to enable wind turbine effects to be overcome.	Operation
Chapter 17: Shadow Flicker		
Shadow Flicker Nuisance	Implementation of Wind Farm Shadow Flicker Protocol.	Operation
Chapter 18: Climate Change and Carbon Balance		
N/A		