Technical Appendix 2.1: Schedule of Mitigation, Good Practice, Enhancement and Monitoring

Appendix 2.1: Schedule of Mitigation, Good Practice, Enhancement and Monitoring

This appendix provides a consolidated list of mitigation, good practice, enhancement and monitoring measures which have been identified through the EIA process, and which will be implemented during construction and operation of the Proposed Development. Measures are presented on a topic-by-topic basis, reflecting the chapters of the EIA Report. Where no mitigation or monitoring measures are proposed within a chapter, or for a discrete topic being assessed within a chapter, the chapter or topic has been omitted from this appendix. It should also be noted that all design measures which have sought to reduce the significance of effects are considered to be 'embedded design mitigation' and have not been included in this appendix.

Table 1.1: Schedule of Mitigation, Good Practice, Enhancement and Monitoring

Mitigation, Good Practice, Enhancement and Monitoring Measures	
Chapter 4: Development Description	**Good Practice** Prior to the start of construction of the Proposed Development, Construction Method Statements (CMS) and a Construction Environmental Management Plan (CEMP) will be prepared, detailing measures to avoid or mitigate potential effects associated with key construction activities. The CEMP will be used to ensure that all relevant planning conditions and mitigation identified within the EIA Report to protect the environment are implemented through agreed procedures and working methods, and will be agreed with DGC, SEPA, NatureScot and other stakeholders, where appropriate. Adherence to the CEMP, as well as referenced legislation and guidance documents, will be a contractual requirement for the appointed Principal Contractor and their sub-contractors, and is likely to form part of the planning condition. The purpose of the CEMP will be to: ■ Provide a mechanism to ensure that construction methods avoid, minimise and control potentially adverse significant environmental effects, as identified in the EIA Report. ■ Ensure that good construction practices and all environmental legislation are adopted throughout the construction of the Proposed Development. ■ Provide a framework for mitigating unexpected effects during construction. ■ Provide assurance to third parties that agreed environmental performance criteria will be met. ■ Establish procedures for ensuring compliance with environmental legislation and statutory consents. ■ Detail the process for monitoring and auditing environmental performance. The CEMP will be updated when necessary to account for changes or updates to legislation and good practice methods throughout the construction phase. The CEMP will also be amended to incorporate information obtained during detailed ground investigations which will be undertaken post consent and prior to construction activities. Compliance with the CEMP (including procedures, record

Mitigation, Good Practice, Enhancement and Monitoring Measures	
	keeping, monitoring and auditing) will be overseen by a suitably qualified and experienced EnvCoW. The CEMP will contain the following non-exhaustive set of documents, which the Principal Contractor and their sub-contractors will be required to adhere to throughout the construction process: ■ A Pollution Prevention Plan (PPP); ■ A Peat Management Plan (PMP); ■ Construction Method Statements (CMS); ■ Site Waste Management Plan (SWMP); ■ Construction Traffic Management Plan (CTMP) (following the principles set out in the draft CTMP presented in **Technical Appendix 11.1: Transport Statement**); ■ Staff Travel Plan; ■ Abnormal Loads Management Plan; ■ Access Management Plan (AMP); ■ Species Protection Plan (SPP); ■ Bird Disturbance Management Plan; ■ Site Restoration Plan; and ■ Decommissioning and Reinstatement Plan. The Principal Contractor will be responsible for the continual development of the CEMP to take account of monitoring and audit results during the construction phase and changing environmental conditions and regulations. The services of other specialist advisers will be retained as appropriate, to be called on as required to advise on specific environmental issues.
Chapter 6: Cultural Heritage	**Committed Mitigation** **Preservation In-Situ** Micrositing of the Proposed Development will take into account the desirability of preservation in situ where practicable. Preservation in situ of identified heritage assets will be achieved through marking off those assets that lie within the micrositing allowance prior to commencement of construction of the Proposed Development. A possible burnt mound (2) that lies within 80 m of the proposed borrow pit and access tracks, will be marked off and avoided during construction works. Marking out will be achieved using high visibility marker posts set 5 m from the edge of the identified heritage assets and these markers will be retained for the duration of the construction phase. Assets for marking out will be identified on the ground by a qualified archaeologist using the baseline information provided in **Technical Appendix 6.1**. Marking out of the assets will be undertaken by the appointed main contractor. In the event of micrositing of infrastructure, where avoidance of heritage assets is not possible, archaeological monitoring in the form of a watching brief will be undertaken. **Evaluation / Watching Brief / Excavation**

Mitigation, Good Practice, Enhancement and Monitoring Measures	
	Taking account of the avoidance through the design of identified cultural heritage baseline within the Site, and measures adopted to ensure preservation in situ, it is assessed that there are no locations where a watching brief could be expected to encounter buried archaeological remains of currently known heritage assets. Taking account of the moderate probability of encountering undisturbed buried archaeological remains within the Site, an archaeological watching brief should be maintained during all ground disturbance works. The scope of any archaeological watching brief(s) during the construction works will be agreed through consultation with the Council in advance of development works commencing and will be set out in the Written Scheme of Investigation (WSI). Where buried remains are encountered during archaeological monitoring of groundworks, further mitigation may be required to a scope of works approved by the Council. The preferred mitigation of any archaeological find will be preservation in situ: this could be achieved by recording the locations and extents of any features identified and retaining them unexcavated beneath a geotextile membrane placed on the subsoil surface and beneath the track make up layer. Where disturbance of the remains is unavoidable (for example, where track side ditches are required) allowance will be made for the excavation of the features to a scheme to be agreed with the Council under the terms of the WSI. If significant discoveries are made during any archaeological monitoring works which are carried out, and it is not possible to preserve the discovered site or features in situ, provision will be made for the excavation where necessary, of any archaeological remains encountered. The provision will include the consequent production of written reports, on the findings, with post-excavation analysis conservation of finds and publication of the results of the works, where appropriate. **Construction Guidelines** Written guidelines, in the form of Construction Method Statements (CMS), will be issued for use by all construction contractors, outlining the need to avoid causing unnecessary damage to known heritage assets. The guidelines will set out arrangements for calling upon retained professional support in the event that buried archaeological remains of potential archaeological interest (such as building remains, human remains, artefacts, etc.) should be discovered in areas not subject to archaeological monitoring. The guidelines will make clear the legal responsibilities placed upon those who disturb artefacts or human remains.
Chapter 7: Ecology	**Good Practice** **Pre-Construction and Construction** ■ A suitably qualified Ecological Clerk of Works (ECoW) will be appointed prior to the commencement of construction to advise the Applicant and the Contractor on all ecological matters. The ECoW will be required to be present onsite during the construction phase and will carry out monitoring of works, and briefings with regards to any ecological sensitivities on the Site to the relevant staff of the Contractor and sub-contractors. ■ A SPP (outline SPP provided in **Technical Appendix 7.4**) will be implemented during the construction phase. The SPP details measures to safeguard protected species known or likely to be in the area. The SPP includes pre-construction surveys and good practice measures during construction. Pre-construction surveys will be undertaken to check for any new protected species or features in the vicinity of the construction works. The results of the pre-construction surveys will be used to update the outline SPP ahead of

Mitigation, Good Practice, Enhancement and Monitoring Measures	
	construction starting. The SPP will remain a live document to be updated as required and in agreement with the ECoW where changes to the distribution and status of protected species and features are recorded. ■ There will be a contractual management requirement for the successful Contractor to develop and implement a comprehensive, Site-specific and robust CEMP in consultation with SEPA and the planning authority. This document will detail how the successful Contractor will manage the works in accordance with all commitments and mitigation detailed in the EIA Report, the SPP, statutory consents and authorisations, and good industry practice and guidance for environmental management, including implementation of appropriate pollution prevention (particularly in relation to watercourses). **Operation** ■ In line with NatureScot best practice guidance on bats, the Proposed Development will utilise the method of reduced rotation speed whilst idling by feathering, at all wind turbines, to reduce collision risks to bats during the bat active period (April to October). Given the known presence of high collision risk bat species onsite, this measure will be put in place from the start of the operational phase of the Proposed Development, and it does not result in any loss of output. ■ Operational phase environmental management plans following relevant best practice and guidance will be in place during operation of the Proposed Development, these will for example include provisions for, but not limited to, ongoing pollution prevention control measures. **Enhancement** An Outline Biodiversity Enhancement and Management Plan (OBEMP) has been prepared and is provided in **Technical Appendix 7.5**. The OBEMP proposes a Biodiversity Enhancement Area (BEA) of approximately 24.62 ha, comprising six land parcels (A-F) (see **Figure 7.10**) within which management and enhancement works are being considered. The overall goal of the BEMP is to restore, enhance and create habitats of ecological value in these areas, which in turn will benefit existing flora and fauna as well as increase biodiversity in general. The OBEMP proposes and includes moorland restoration and enhancement measures (up to 13.01 ha) that provides more than the suggested 1:10 compensation ratio plus 10% enhancement for priority peatland habitats (at least 10.36 ha) as contained within NatureScot guidance. In summary, the overarching aims of the OHMP include the following (see **Technical Appendix 7.5** for specific objectives and management prescriptions for each): ■ Area A (12.35 ha) - Restore and enhance blanket bog habitat and improve bog habitat condition through stock management, removal of rhododendron, drain blocking (if applicable) and restoration of any erosional features such as peat haggs (if applicable). ■ Areas B, C and D (6.43 ha) - Reclaim, restore and enhance moorland habitat through a scheme of rhododendron removal and management. It is estimated that the proposals in these areas will result in the reclamation of up to approximately 2.01 ha of moorland habitats from stands of dense rhododendron where the moorland habitats have been lost, and the enhancement of up to 4.42 ha of moorland habitats where there is extensive rhododendron encroachment.

Mitigation, Good Practice, Enhancement and Monitoring Measures	
	■ Area E (3.70 ha) - Undertake a scheme of extensive rhododendron removal and management within this woodland which will be followed up with enhancement measures, such as enrichment planting with native species. ■ Area F (2.14 ha) - Undertake a scheme of rhododendron and bracken removal and management within this area which will have general beneficial effects for biodiversity. The OBEMP will be refined and developed into a final BEMP post-consent. The final BEMP will confirm the overarching Biodiversity Enhancement Area (BEA) encompassing all habitat management proposals, and any finalised management units (i.e., the refined land parcels/areas for specific habitat management proposals) therein, where the aims, objectives and management prescriptions will apply. The final BEMP will be agreed with Dumfries and Galloway Council (DGC) in consultation with NatureScot prior to the commencement of construction of the Proposed Development. **Monitoring** ■ Further protected species surveys will be undertaken, in advance of construction, in accordance with the SPP (see **Technical Appendix 7.4**). ■ Operational phase monitoring will be undertaken as part of the final BEMP, see outline proposals within **Technical Appendix 7.5**.
Chapter 8: Ornithology	**Good Practice** ■ To ensure all reasonable precautions are taken to avoid disturbance to birds and comply with environmental legislation, prior to construction the Applicant will appoint a suitably qualified Ecological Clerk of Works (ECoW) who will advise the Applicant and the Contractor on all ornithological matters (with the assistance of a suitably qualified/licenced ornithologist if required). The ECoW will be required to be present on Site during the construction period and will carry out monitoring of works and briefings with regards to any ornithological sensitivities on the Site to the relevant staff within the Contractor and subcontractors. ■ A Bird Disturbance Management Plan (BDMP) will be implemented during construction of the Proposed Development and will form part of the CEMP. The BDMP will detail measures to ensure legal compliance and safeguard breeding birds known to be in the area and will include species-specific guidance. The BDMP shall include pre-construction surveys and good practice measures during construction. Pre-construction surveys will be undertaken to check for any new breeding bird activity in the vicinity of the construction works. The ECoW will oversee the implementation of the above measures.
Chapter 9: Hydrology, Hydrogeology, Geology and Peat	**Good Practice** ■ Good practice measures will be contained within the CEMP. ■ As a minimum, the contractor will be required to follow the guidance contained in SEPA Guidance for Pollution Prevention (GPPs) and to follow SEPA's general binding rules (GBR) under the Water Environment (Controlled Activities) (Scotland) Regulations 2011, as amended (CAR Regulations). ■ Engineering activities on minor watercourses do not normally require authorisation under the SEPA CAR Regulations. However, the work will follow general good construction practice and GBR 6 and GBR 9.

Mitigation, Good Practice, Enhancement and Monitoring Measures	
	■ One of the proposed new crossings (NC4 in **Technical Appendix 9.1**) will require a simple licence under CAR. ■ Bridging solutions will be designed to avoid affecting the bed and banks of watercourses. Fording of watercourse will be avoided. Design and implementation of crossings will follow best practice. ■ During construction, temporary construction SuDS will be put in place at each watercourse crossing to ensure no sedimentation from construction works or pollution from plant or machinery can enter the watercourse. The temporary construction SuDS could be a series of settlement ponds or settlement tanks and silt fences. ■ A Construction Site Licence (CSL) will be obtained from SEPA under the CAR Regulations in advance of the construction works. This will include a Pollution Prevention Plan (PPP) to ensure that any discharges of water runoff from the Site to the water environment do not cause pollution. This will be prepared in advance of construction and authorisation from SEPA is required before construction commences. ■ Prior to construction and on completion of ground investigations and micro-siting, a site waste management plan shall be produced; including site soil and peat management good practice. Any excavated peat will be appropriately managed and re-used. This is detailed further in **Technical Appendix 9.5: Peat Management Plan**. ■ A detailed CEMP will be developed and agreed with DGC and SEPA in advance of the works. The CEMP will establish a framework to ensure that health and safety and environmental best practice are adopted throughout the works and will include: – A Surface Water Management Plan, or similar, which will detail proposed surface drainage measures to treat and deal with all the surface runoff from the Site, will be designed in accordance with SuDS principles and all best practice guides and recognised industry standards. – The approved PPP, which will detail the proposed mitigation measures to address each identified pollution risk. – A plan to monitor and plan the timing of works to avoid construction during periods of heavy rainfall. – A plan to detail emergency procedures in the event of spillages or any other breach. – A Site Waste Management Plan to detail proposals for managing the extraction and storage of waste. – A Peat Management Plan (see **Technical Appendix 9.5**). **Committed Mitigation** ■ The PPP will contain details of location specific additional mitigation for relevant infrastructure and the contractor will be legally obliged to comply with the pollution control and drainage measures agreed in the PPP and CSL. An ECoW will be present onsite during construction to monitor and assess the works and check the mitigations outlined in the PPP are adhered to and function properly. If monitoring or assessment identifies non-compliance, ineffective mitigations, or impacts beyond those predicted in the EIA Report,

Mitigation, Good Practice, Enhancement and Monitoring Measures	
	this will be raised with the Contractor who will be required to demonstrate and deliver compliance. ■ Additional mitigation and SuDS (e.g. silt fences, settlement ponds) will be installed around the following working areas, crossings and access tracks during construction to reduce the risk of sediment/silt runoff to the water environment during construction: – Watercourse crossings of the proposed and existing tracks – NC 1-4 and UC 1-4; – Buffer encroachment A – proposed new access track (if required following further investigation of the presence of the drain prior to construction); and – Buffer encroachment B – proposed new access track. ■ The bed and banks of watercourses adjacent to crossing locations will be restored immediately after construction. ■ Any excavated peat will be stored appropriately nearby and re-used as soon as possible for reinstatement purposes. ■ Further minimisation of peat landslide risk may be achieved through careful construction management and through such mitigation, landslide risks are interpreted to be negligible post-mitigation. ■ An ECoW will be on site throughout the construction to monitor the effectiveness of the good practice measures and additional mitigation measures. **Monitoring/Further Survey Requirements** ■ Monitoring of residual peat instability risks will be supported by good practice construction measures and by monitoring both during and after construction (see **Technical Appendix 9.4: Flood Risk Assessment**). ■ Satisfactory implementation of the PMP in order to mitigate peat loss / disturbance will be assured by monitoring both during and after construction (see **Technical Appendix 9.5**, Section 9.6). ■ Circa 15 peat probing points were inaccessible along a section of track near the site entrance due to dense scrub. Additional peat probing will be undertaken following scrub removal and prior to construction to ensure that the track is in an optimum location. ■ An ECoW (or equivalent) will be on site throughout the construction to monitor the effectiveness of the embedded and additional mitigation measures.
Chapter 10: Noise and Vibration	**Good Practice** ■ A range of good practice measures will be detailed in the CEMP and employed to minimise noise impacts. ■ Good site practices will be implemented to minimise effects. Section 8 of BS5228 recommends a number of simple control measures as summarised below that will be employed onsite during construction:

Mitigation, Good Practice, Enhancement and Monitoring Measures	
	– Keep local residents informed of the proposed working schedule, where appropriate, including the times and duration of any abnormally noisy activity that may cause concern; – Ensure that any extraordinary site work continuing throughout 24 hours of a day (for example, crane operations lifting components onto the tower) will be programmed, when appropriate, so that haulage vehicles will not arrive at or leave the site between 19:00 and 07:00, with the exception of abnormal loads that will be scheduled to avoid peak traffic times; – Ensure all vehicles and mechanical plant are fitted with effective exhaust silencers and be subject to programmed maintenance; – Select inherently quiet plant where appropriate - all major compressors will be 'sound reduced' models fitted with properly lined and sealed acoustic covers, which will be kept closed whenever the machines are in use; – Ensure all ancillary pneumatic percussive tools are fitted with mufflers or silencers of the type recommended by the manufacturers; – Instruct that machines are shut down between work periods or throttled down to a minimum; – Regularly maintain all equipment used on site, including maintenance related to noise emissions; – Vehicles will be loaded carefully to ensure minimal drop heights so as to minimise noise during this operation; and – Ensure all ancillary plant such as generators and pumps are positioned so as to cause minimum noise disturbance and if necessary, temporary acoustic screens or enclosures will be provided.

Mitigation, Good Practice, Enhancement and Monitoring Measures	
Chapter 11: Access, Traffic and Transport	**Committed Mitigation** **CTMP** The measures below will be implemented during construction phase through the CTMP, secured via a planning condition: ■ Agree AIL route modifications and improvements with DGC, TS and other relevant stakeholders. Works which will be required to facilitate turbine deliveries are outlined in the RSR, which is presented in Annex B of **Technical Appendix 11.1**; ■ Where possible, the detailed design process will minimise the volume of material to be imported to Site to help reduce HGV numbers; ■ A Staff Travel Plan, including transport modes to and from the worksite (including pick up and drop off times); ■ A Transport Management Plan for AIL deliveries; ■ All materials delivery lorries (dry materials) should be sheeted to reduce dust and stop spillage on public roads; ■ Specific training and disciplinary measures should be established to ensure the highest standards are maintained to prevent construction vehicles from carrying mud and debris onto the carriageway; ■ Wheel cleaning facilities may be established at the Site entrance, depending on the views of DGC; ■ Normal Site working hours will be limited to between 0700 and 1900 Monday to Friday and 0700 and 1300 on Saturdays though component delivery and turbine erection may take place outside these hours i.e. depending on when police escort is available; ■ Appropriate traffic management measures will be put in place on the A77 and B738 leading through to the Site, to avoid conflict with general traffic, subject to the agreement of DGC. Typical measures will include HGV turning and crossing signs and / or banksmen at the Site access and warning signs; ■ Provide construction updates on the project website, social media feeds and a newsletter to be distributed to residents within an agreed distance of the Site; ■ Adoption of a voluntary reduced speed limits, for example on the A77 and B738 in the vicinity of the Site access junction and at other locations to be agreed with DGC; ■ All drivers will be required to attend an induction to include: – A toolbox talk safety briefing; – The need for appropriate care and speed control; – A briefing on driver speed reduction agreements (to slow Site traffic at sensitive locations through the villages); and – Identification of the required access routes and the controls to ensure no departure from these routes. **Offsite Mitigation** ■ 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

Mitigation, Good Practice, Enhancement and Monitoring Measures	
	baseline of the condition of the road prior to any construction work commencing. This baseline will provide evidence of any change in the road condition during the construction phase. Any necessary repairs will be coordinated with DGC's roads team. Any damage caused by traffic associated with the Proposed Development during the construction period, that would be hazardous to public traffic, will be repaired immediately. ■ Damage to road infrastructure caused directly by construction traffic will be remediated, and street furniture that is removed on a temporary basis will be fully reinstated. ■ There will be a regular road condition review, and any debris and mud will be removed from the carriageway using an onsite road sweeper to ensure road safety for all road users. Furthermore, details on specific abnormal load mitigation, AIL transport management plan, staff travel plan, and outdoor access management plan can be found in **Chapter 11** of the EIA Report. **Monitoring** ■ Site entrance roads will be maintained and monitored during the construction phase and operational life of the Proposed Development. With regards to the construction phase, this will be done as part of the CTMP and will involve monitoring the Site access junction and public road network in the vicinity of the Site to ensure mud and debris from construction activities are not tracked on to the road network. Furthermore, monitoring of the public road network will be undertaken as part of the road conditions surveys, that will likely be required as part of the planning conditions attached to the consent. ■ During the operational life of the Proposed Development, regular maintenance will be undertaken to keep the Site access track drainage systems fully operational and to ensure there are no run-off issues onto the public road network.
Chapter 12: Climate Change	**Committed Mitigation** ■ An outline CTMP is provided within **Technical Appendix 11.1** and will be implemented as part of the CEMP which will ensure that traffic movements are undertaken efficiently during construction, and unnecessary journeys avoided. It is also anticipated that the CTMP will include a vehicle idling policy to ensure that vehicle engines are turned off when not in use. A Site Waste Management Plan will also be implemented as part of the CEMP to reduce materials wastage onsite.