18. SCHEDULE OF MITIGATION & MONITORING

All mitigation and monitoring measures implemented onsite for the Existing Development are set out in the relevant preceding chapters of this rEIAR.

All mitigation which was implemented during the pre-commencement and construction of the Existing Development are presented in Table 18-1 below. The mitigation measures have been grouped together according to their rEIAR Chapter.

Emergency response measures followed by environmental remedial works were implemented onsite following the November 2020 Peat Slide event. The immediate response to the peat slide included the implementation of the Emergency Response Plan as set out in the 2019 CEMP for the Permitted Development followed by the construction of 3 no barrage walls, as well as water and sediment management elements. All emergency works undertaken onsite were supervised by on-site engineers Ionic Consulting (now AFRY). Refer to Section 4.4.3 of Chapter 4 Description for further information regarding the emergency response works. The emergency measures implemented onsite following the November 2020 Peat Slide are detailed in Table 18-2.

Monitoring measures that were implemented during the construction of the Existing Development are documented in Chapters 5 to 16 of this rEIAR and in the relevant appendices to this rEIAR. Proposed monitoring measures relating to the construction of the Prospective Development and the operation of the Subject Development are set out in the accompanying EIAR.

18.1 rEIAR Mitigation Measures

Table 18-1 Schedule of Mitigation

Ref. No.	Reference Heading	Reference Location	Mitigation Measure Implemented	Audit Result	Action undertaken
Pre-Construction Measures Implemented on-site					
rEIAR Chapter 4 – Description of the Existing Development					
MM1	Environmental Management Plan	rEIAR Chapter 4 - Section 4.7.1	› Prior to the commencement of construction, a Construction and Environmental Management Plan (CEMP) was prepared and agreed with the Local Authority. A copy of the CEMP which was in place during the construction of the Existing Development is included in Appendix 4-4 of this rEIAR. The CEMP provided the environmental management framework which was adhered to during the pre-commencement and construction phases of the Existing Development and was prepared in conjunction with the 2017 EIAR, NIS and Conditions Compliance Statement of the permitted Meenbog Wind Farm. › The CEMP set out the key environmental considerations considered by the contractor during construction. The CEMP included details of drainage, peat and spoil management, waste management, and lists all the mitigation and monitoring measures that were to be followed onsite. › The contractor was contractually obliged to comply with all such measures.		
MM2	Waste Management	rEIAR Chapter 4 - Section 4.7.6	› The 2019 CEMP for the Permitted Development, provided a waste management plan (WMP) which outlined the best practice procedures during the construction of the Existing Development. The WMP outlined the methods of waste prevention and minimisation by recycling, recovery and reuse at each stage of construction of the Existing Development. Disposal of waste was undertaken as a last resort. › Prior to the commencement of the construction works for the Existing Development, a Construction Waste Manager was appointed by the Contractor. The Construction Waste Manager was in charge of the implementation of the objectives of the plan, ensuring that all hired waste contractors had the necessary permits/licenses and authorisations and that the waste management hierarchy was adhered to. The Construction Waste Manager had the authority to ensure everyone working on the Wind Farm Site adhered to the management plan.		
MM3	Drainage Design	rEIAR Chapter 4 - Section 4.5 & 4.5.2	› Prior to the commencement of the Existing Development, drainage management systems were put in place in accordance with the 2017 EIAR and the 2019 CEMP (included at Appendix 4-4). These drainage systems were installed around work areas and were integrated with the pre-existing forestry site drainage network. The Existing Development drainage system was designed to mitigate effects on surface watercourses by runoff control and drainage management as follows:		

			○ Avoiding disturbance to natural drainage features, minimising any works in or around artificial drainage features, and diverting clean surface water flow around excavations, construction areas and temporary stockpile areas. ○ Drainage waters from works areas that carried silt or sediment, and nutrients, were collected and routed towards settlement ponds (or stilling ponds) prior to controlled diffuse release over vegetated surfaces. ○ There was no direct discharge from the work areas or from infrastructure footprint to surface waters. ○ All runoff from works areas (i.e. dirty water) was attenuated and treated to a high quality prior to being released. › The Existing Development was designed to avoid negative impact on the water quality of the Wind Farm Site and its associated rivers and lakes. Apart from the areas directly affected by the November 2020 Peat Slide, the Existing Development did not alter any natural drainage routes. › Turbine locations and associated new roadways were originally selected to avoid natural watercourses, with existing roads being used wherever possible. All drainage waters were designed to be dispersed as overland flows. All discharges from activities at works areas were made over vegetation filters at a minimum of 50m and 100m distance from streams and lakes respectively. Buffer zones around the existing natural drainage features informed the layout of the Existing Development. › Where existing forestry drains were in place in the vicinity of works areas, these drains were diverted around the works areas to minimise the amount of water in the vicinity of works areas. Where it was not possible to divert existing drains around work areas, the drains were blocked to ensure sediment-laden water from the works areas had no direct route to other watercourses. Where drains had to be blocked, the blocking took place only after an alternative drainage system to handle the same water was put in place. › Existing artificial drains in the vicinity of existing Wind Farm Site roads were maintained in their present location where possible. In locations where these artificial drains received drainage water from works areas, check dams were added to control flows and sediment loads in these existing artificial drains. Where road widening or improvement works were necessary along the existing roads, where possible, the works took place on the opposite side of the road to the drain.		
MM4	Drainage Design Principles	rEIAR Chapter 4 - Section 4.5.1	› Disturbance to natural drainage features was avoided, minimising any works in or around artificial drainage features, and diverting clean surface water flow around excavations and construction areas.		

MM5	Drainage Swales	rEIAR Chapter 4 - Section 4.5.2.2	› Drainage swales were installed in advance of any main construction works. › Drainage swales are shallow drains which are used to intercept and collect runoff from construction areas of the Wind Farm Site. › A swale was an excavated drainage channel located along the downgradient perimeter of construction areas, used to collect and carry any sediment-laden runoff to a sediment-trapping facility and stabilised outlet. › Drainage swales remained in place to collect runoff from roads and hardstanding areas of the Existing Development. › Drainage swales were installed downgradient of any works areas to collect surface flow runoff where it might have come into contact with exposed surfaces and picked up silt and sediment. › Swales intercepted potentially silt-laden water from the excavations and construction areas of the Wind Farm Site and prevented it from reaching natural watercourses.		
MM6	Drainage - Check Dam	rEIAR Chapter 4 - Section 4.5.2.3	› The velocity of flow in the interceptor drains and drainage swales, particularly on sloped sections of the channel, is controlled by check dams, which are installed at regular intervals along the drains to ensure flow in the swale is non-erosive. Check dams were also installed in some existing artificial drainage channels that received waters from works areas of the Wind Farm Site. › Check dams restrict flow velocity, minimise channel erosion, and promote sedimentation behind the dam. The check dams were installed as the interceptor drains were being excavated. Check dams were also installed in some of the existing artificial drainage channels within the Wind Farm Site, downstream of where drainage swales connect in. › The check dams are made up of straw bales or stone, or a combination of both depending on the size of the drainage swale they were installed in. In smaller channels, a stone check dam was installed and pressed down into place in the bottom of the drainage swale with the bucket of an excavator. › The check dams were installed at regular intervals along the interceptor drains to ensure the bottom elevation of the upper check dam was at the same level as the top elevation of the next down-gradient check dam in the drain. The centre of the check dam was approximately 150 mm lower than the edges to allow excess water to overtop the dam in flood conditions rather than cause upstream flooding or scouring around the dams. › Check dams were not used in any natural watercourses, only artificial drainage channels and interceptor drains. › Check dams were designed to reduce velocity and control erosion and were not specifically designed or intended to trap sediment, although sediment was likely to build up. If necessary, any excess sediment build-up behind the dams was removed. For this reason, check dams are inspected and maintained regularly to ensure adequate performance. Maintenance checks also ensure the centre elevation of the dam remained lower than the sides of the dam.		

MM7	Drainage – Level Spreaders	rEIAR Chapter 4 - Section 4.5.24	› A level spreader was constructed at the end of each interceptor drain to convert concentrated flows in the drain into diffuse sheet flow on areas of vegetated ground. The level spreaders are located downgradient of any works areas in locations where they were not likely to contribute further to water ingress to construction areas. › The water carried in interceptor drains does not come in contact with works areas of the Wind Farm Site and is free of silt and sediment. The level spreaders distribute clean drainage water onto vegetated areas where the water is not reconcentrated into a flow channel immediately below the point of discharge. The discharge points are on level or only very gently sloping ground rather than on a steep slope to prevent erosion.		
MM8	Drainage – Piped Slope Drains	rEIAR Chapter 4 - Section 4.5.2.5	› Piped slope drains were used to convey surface runoff from diversion drains safely down slopes to flat areas without causing erosion. Once the runoff reached the flat areas, it is reconverted to diffuse sheet flow. Level spreaders were only established on slopes of less than 6% in grade. Piped slope drains were used to transfer water away from areas where slopes were too steep to use level spreaders. › Piped slope drains are inspected regularly with inlets and outlets checked for sediment accumulation and blockages. Any seepage holes where the pipe emerged from the drain at the top of the pipe are repaired promptly.		
MM9	Drainage – Vegetation Filters	rEIAR Chapter 4 - Section 4.5.2.6	› Vegetation filters are existing vegetated areas of land that were used to accept surface water runoff from upgradient areas. The selection of suitable areas to use as vegetation filters was determined by the size of the contributing catchment, slope, and ground conditions. › Vegetation filters carry outflow from the level spreaders as overland sheet flow, removing any suspended solids and discharging to the groundwater system by diffuse infiltration. › Vegetation filters are not used in isolation for waters that were likely to have higher silt loadings. In such cases, silt-bearing water had already passed through stilling ponds prior to diffuse discharge to the vegetation filters via a level spreader.		
MM10	Drainage - Stilling Ponds (Settlement Ponds)	rEIAR Chapter 4 - Section 4.5.2.7	› Stilling ponds were constructed as part of the Existing Development and are used to attenuate runoff from works areas of the Wind Farm Site during the construction. The purpose of the stilling ponds is to intercept runoff potentially laden with sediment and to reduce the amount of sediment leaving the disturbed area by reducing runoff velocity. Reducing runoff velocity allows larger particles to settle out in the stilling ponds, before the runoff water is redistributed as diffuse sheet flow in filter strips downgradient of works areas. › Stilling ponds were excavated/constructed at each required location as two separate ponds in sequence, a primary pond and a secondary pond. The points at which water entered and exited the stilling ponds were stabilised with rock aprons, which trapped sediment, dissipated the energy of the water flowing through the stilling pond system, and prevented erosion. Water flows out of the secondary stilling pond through a stone dam, partially wrapped in geotextile membrane, which controls flow velocities and trapped any sediment that has not settled out.		

			› Stilling ponds are located towards the end of swales, close to where the water was reconverted to diffuse sheet flow.		
MM11	Drainage – Roadside Berms	rEIAR Chapter 4 - Section 4.5.2.8	› Small, low-level roadside berms were used to contain sediment within the road corridor and prevent run-off into the wind farm drainage system at uncontrolled locations. › Berms are a minimum of 600 mm high and run perpendicular to the running surface of the constructed roads and have intermittent aps for drainage to settlement ponds. › The construction of these berms ensures that runoff is allowed to access the drainage system only via settlement ponds. The purpose of these measures is to protect water quality during the construction phase of the Existing Development.		
MM12	Drainage - Culverts	rEIAR Chapter 4 - Section 4.5.2.9	› Five new stream culverts were installed along with 19 culvert upgrades and were the subject of consent applications to the OPW under Section 50 of the Arterial Drainage Act, 1945. Some culverts were installed to manage drainage waters from works areas particularly where the waters had to be taken from one side of an existing roadway to the other for discharge. › The size of culverts was influenced by the depth of the track or road sub-base. In some cases, two or more smaller diameter culverts were used where this depth was limited, though this was avoided as they had a higher associated risk of blockage than a single, larger pipe. In all cases, culverts were oversized to allow mammals to pass through the culvert. Culverts were installed with a minimum internal gradient of 1% (1 in 100). › Smaller culverts had a smooth internal surface. Larger culverts had corrugated surfaces which trapped silt and contribute to the stream ecosystem. › Depending on the management of water on the downstream side of the culvert, large stone was used to interrupt the flow of water. This helped dissipate its energy and helped prevent problems of erosion. › Smaller water crossings simply consisted of an appropriately sized pipe buried in the sub-base of the road at the necessary invert level to ensure ponding or pooling didn't occur above or below the culvert and water could continue to flow as necessary. All culverts were inspected regularly to ensure they were not blocked by debris, vegetation, or any other material that might impede conveyance.		
MM13	Drainage – Silt Fences	rEIAR Chapter 4 - Section 4.5.2.10	› Silt fences were installed as an additional water protection measure around existing watercourses in certain locations, particularly where works were carried out within the 50m buffer zone of a stream or 100m buffer zone of a lake, which was inevitable where existing roads in proximity to watercourses were upgraded. These areas included around existing culverts and around the headwaters of watercourses. › Silt fences were installed as single, double, or a series of triple silt fences, depending on the space available and the anticipated sediment loading. The silt fence designs followed the technical guidance document '*Control of Water Pollution from Linear Construction Projects*' published by CIRIA (Ciria, No. C648, 1996).		

			› All silt fencing was formed using Terrastop Premium or equivalent silt fence product. Silt fences were inspected regularly to ensure water was continuing to flow through the fabric, and the fence was not coming under strain from water backing up behind it. ›		
MM14	Environmental Clerk of Works (ECoW)	rEIAR Chapter 4 - Section 4.8.3	› The procedures for the implementation of the mitigation measures outlined in the CEMP and their effectiveness and completion was monitored by the Environmental Clerk of Works (ECoW) on behalf of Planree Ltd., in an objective manner. Mitigation measures and construction phase monitoring and oversight was set out in the CEMP for the Permitted Development and is presented in Appendix 4-4.		
Construction Phase					
rEIAR Chapter 4 – Description of the Existing Development					
MM15	Drainage – Borrow Pit Drainage	rEIAR Chapter 4 - Section 4.5.2.11	› While surface water was contained in the borrow pit areas, run-off from the borrow pit areas was controlled via a single outlet that was installed at the edge of the borrow pit. The single outfall point was constructed to handle runoff from the borrow pit and its immediate surrounds. › During the construction of the Existing Development, it was necessary to keep the borrow pit area free of standing water while rock was still being extracted. This was achieved by using a mobile pump, which pumped water into the same series of drains, settlement ponds, and level spreader, which received the water from the single outlet.		
MM16	Refuelling	rEIAR Chapter 4 - Section 4.7.2	› Wherever possible, vehicles were refuelled off-site, particularly for regular road-going vehicles. › On-site refuelling of machinery was carried out at designated refuelling areas at various locations throughout the Wind Farm Site. › Heavy plant and machinery were refuelled on-site by a fuel truck that came to the Wind Farm Site as required on a scheduled and organised basis. Other refuelling was carried out using mobile double skinned fuel bowser. › All refuelling was carried out outside designated watercourse buffer zones. › Only designated trained and competent operatives were authorised to refuel plant on-site. › Mobile measures such as drip trays and fuel absorbent mats were used during refuelling operations as required. › All plant and machinery were equipped with fuel absorbent material and pads to deal with any event of accidental spillage.		
MM17	Concrete Deliveries	rEIAR Chapter 4 - Section 4.7.3	› Only ready-mixed concrete was used during the construction phase, with all concrete being delivered from local batching plants in sealed concrete delivery trucks. › No on-site batching was carried out.		

		CEMP Section 3.4	› When concrete was delivered to the Wind Farm Site, only the chute of the delivery truck was cleaned, using the smallest volume of water necessary, before leaving the Wind Farm Site. › Water generated from washing the concrete lorry's chute was directed into a temporary lined impermeable containment area. Once evaporated, any remnants of concrete were disposed of along with other construction waste. › Due to the volume of concrete required for each turbine foundation, and the requirement for the concrete pours to be continuous, deliveries were carried out outside normal working hours to limit the traffic impact on other road users, particularly peak period school and work commuter traffic. Such activities were limited to the day of turbine foundation concrete pours, which were completed in a single day per turbine. › The risks of pollution arising from concrete deliveries were further reduced by the following measures: ○ Concrete trucks were not washed out on the Site but were directed back to their batching plant for washout. ○ Site roads were constructed to a high standard to allow transport of the turbine components around the Site, and hence, concrete delivery trucks were able to access all areas where the concrete was needed. ○ No concrete was transported around the Site in open trailers or dumpers to avoid spillage while in transport. ○ All concrete used in the construction of turbine bases was pumped directly into the shuttered formwork from the delivery truck. If this was not practical, the concrete was pumped from the delivery truck into a hydraulic concrete pump or into the bucket of an excavator, which transferred the concrete to the location where it was needed.		
MM18	Dust Suppression	rEIAR Chapter 4 - Section 4.7.4	› In periods of extended dry weather, dust suppression was used along haul roads to ensure dust did not cause a nuisance. › Water was taken from stilling ponds in the Wind Farm Site's drainage system and was pumped into a bowser or water spreader to dampen down haul roads and temporary construction compounds to prevent the generation of dust. › Silty or oily water was not used for dust suppression.		
MM19	Vehicle Washing	rEIAR Chapter 4 - Section 4.7.5	› Due to the length of surfaced Wind Farm Site roads, vehicle or wheel washing facilities were not required as part of the construction phase of the Existing Development. Site roads were formed before road-going trucks begin to make regular or frequent deliveries to the Wind Farm Site (e.g. with steel or concrete). The Wind Farm Site roads were well finished with compacted hardcore, and so the public road-going vehicles were not travelling over soft or muddy ground where they might pick up mud or dirt. The Grid Connection Site mainly included existing roads and therefore vehicle washing was not required.		

			› A road sweeper was available in the event that a section of the public roads was dirtied by trucks associated with the construction of the Existing Development.		
rEIAR Chapter 5 – Population and Human Health					
MM20	Land Use Patterns & Activities	rEIAR Chapter 5 - Section 5.4.2.2.4 & 5.4.2.2.5	› No plant used on-site was permitted to cause an on-going public nuisance due to noise. › The best means practicable, including proper maintenance of plant, were employed to minimise the noise produced by on-site operations. › All vehicles and mechanical plant were fitted with effective exhaust silencers and maintained in good working order for the duration of the contract. › Compressors were attenuated models fitted with properly lined and sealed acoustic covers which were kept closed whenever the machines are in use and all ancillary pneumatic tools shall be fitted with suitable silencers. › Machinery that was used intermittently was shut down or throttled back to a minimum during periods when not in use. › Any plant, such as generators or pumps, which was required to operate before 07:00hrs or after 19:00hrs was surrounded by an acoustic enclosure or portable screen. › During the course of the construction programme, supervision of the works ensured compliance with the limits detailed in **Error! Reference source not found.** in Chapter 12: Noise and Vibration, using methods outlined in British Standard BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Noise. › The hours of construction activity were limited to avoid unsociable hours where possible. Construction operations was generally restricted to between 7:00hrs and 19:00hrs weekdays and between 7:00hrs and 19:00hrs on Saturdays. However, works occurred outside of these hours on occasions where critical periods within the construction programme (e.g. concrete pours) and optimal weather aligned. › Pedestrians and cyclist were accommodated along the primary and secondary diversion routes. Operatives were made aware to watch out for oncoming pedestrians / cyclists and to advise them accordingly. › Traffic Management Coordinator – a competent Traffic Management Co-ordinator was appointed prior to and during the construction of the Existing Development who was the main point of contact for all matters relating to traffic management. › Information to locals – when required, locals in the area were informed of any traffic related matters e.g. temporary lane/road closures via letter drops and posters in public places. An "out of hours" emergency number was also be provided.		

			› Gardai were advised of the intended works to be carried out prior to commencement on the Gardai Consultation form. Emergency services using the local roads were made priority and areas where the works are being carried out were covered immediately with road plates so as to allow access. › Temporary traffic signs – As part of the traffic management measures temporary traffic signs were put in place at all key junctions, including the access junction on the N15, in accordance with the "Traffic Signs Manual, Section 8 – Temporary Traffic Measures and Signs for Road Works" (DoT now DoTT&S) and "Guidance for the Control and Management of Traffic at Roadworks" (DoTT&S). A member of construction staff (flagman) was present at key junctions during peak delivery times. › The entire traffic management system was set up prior to any works commencing. ○ Only approved signs were used along the works area. ○ All signs were clean and clearly visible. ○ Once signs were in place the route was assessed to ensure adequate visibility for drivers and pedestrians. ○ All signs were secured and weighted down where appropriate. ○ At the end of each day the excavation was back filled and all materials was removed from the roadside. ○ Where flag men were required, both flag men, the foreman and guarding officer all communicated via two-way radios. › Additional measures - Various additional measures were in place in order to minimise the effects of the development traffic on the surrounding road network including sweeping / cleaning of local roads where required. › Road Opening Licence – Roads works associated with the grid connection cabling were undertaken in line with the requirements of a road opening licence as agreed with Donegal County Council. › Trench Reinstatement - Trenches on public roads were reinstated and an agreed surface overlay to the satisfaction of the roads authority.		
MM21	Tourism	rEIAR Chapter 5 - Section 5.4.2.2.5	› Refer to MM28.		
MM22	Property Values	rEIAR Chapter 5 - Section 5.4.2.2.5	› Refer to MM25, MM27, MM28, and MM29.		
MM23	Residential Amenity	rEIAR Chapter 5 - Section 5.4.2.1.6	› Refer to MM60, MM61, MM63, MM64, MM65, MM66, MM67, MM68, MM69.		

MM24	Health & Safety	rEIAR Chapter 5 - Section 5.4.2.2.1	› The Existing Development was constructed in accordance with all relevant Health and Safety Legislation, including: ○ Safety, Health and Welfare at Work Act 2005 (No. 10 of 2005); ○ Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2016 (S.I. No. 36 of 2016); ○ Guidelines on the Procurement, Design and Management Requirements of the Safety, Health and Welfare at Work (Construction) Regulations 2006; ○ Safety, Health and Welfare at Work (Work at Height) Regulations 2006 (S.I. No. 318 of 2006). › To mitigate against the effect of the November 2020 Peatslide, 3 no. barrage walls were constructed down along the course of the slide to stop the movement of any additional peat. In addition, all construction works on the Wind Farm Site were halted. Water and sediment management elements were implemented on-site also. › Additional remedial and mitigation measures were also developed for the construction activities post the November 2020 Peatslide which included geotechnical investigations and assessments, monitoring of the Wind Farm Site and Grid Connection Site, drainage improvements, and tree felling management.		
MM25	Air Quality: Dust and Exhaust Emissions	rEIAR Chapter 5 - Section 5.4.2.2.2	› A CEMP was in place and followed throughout the construction phase (Refer to Appendix 4-4 for the 2019 CEMP). › The designated public roads and along the main transport routes were regularly inspected by the ECoW for cleanliness, and cleaned as necessary; › All construction related traffic had speed restrictions in place on un-surfaced roads to 20 kph. Construction traffic was restricted to defined routes on the public road network, and a speed limit was implemented; › Daily inspections of construction works areas was undertaken to examine dust measures and their effectiveness. › The agreed haul route road adjacent to the Wind Farm Site and Grid Connection Site were regularly inspected for cleanliness and cleaned, as necessary › Water bowsers operated onsite as required to mitigate dust in dry weather conditions. › The transport of soils or other material, which had potential to cause dust, was undertaken in vehicles with tarpaulin-cover where necessary. › All construction machinery was maintained in good operational order while onsite, minimising any emissions that were likely to arise.		
MM26	Water Quality	rEIAR Chapter 5 - Section 5.4.2.2.3	The mitigation measures implemented to avoid release of hydrocarbons at the Wind Farm Site were as follows: › All plant was inspected and certified to ensured that they were leak free and in good working order prior to use.		

			› Wherever possible, vehicles were refuelled off-site, particularly for regular road-going vehicles. › On-site refuelling of machinery was carried out at designated refuelling areas at various locations throughout the Wind Farm Site. › Heavy plant and machinery were refuelled on-site by a fuel truck that came to the Wind Farm Site as required on a scheduled and organised basis. › Other refuelling was carried out using mobile double skinned fuel bowser. › All refuelling was carried out outside designated watercourse buffer zones. › Only designated trained and competent operatives were authorised to refuel plant on-site. › Mobile measures such as drip trays and fuel absorbent mats were used during refuelling operations as required. However, no spills were recorded during the construction of the Existing Development. › All plant and machinery were equipped with fuel absorbent material and pads to deal with any event of accidental spillage. › An emergency plan for the construction phase to deal with accidental spillages was included within the 2019 CEMP (Appendix 4-4). The following mitigation measures were implemented at Grid Connection underground cabling watercourse crossing works: › A double silt fence perimeter was placed along the road verge on the down-slope side of works areas located inside the watercourse 50m buffer zone; › No stockpiling of construction materials occurred along the Grid Connection route; › No refuelling of machinery or overnight parking of machinery was permitted inside the watercourse 50m buffer zone areas; › No concrete truck chute cleaning was permitted; › Works during periods of high rainfall were avoided; › Machinery deliveries were arranged using existing structures along the public road; › All machinery operations took place away from the stream and ditch banks, apart from where crossings occur; › Any excess construction material was immediately removed from the area and sent to a licenced waste facility or on-site borrow pits; and › Spill kits were available in each item of plant required to complete the works. The following mitigation measures were adhered to within the Grid Connection Site where HDD was implemented: › The crossing works areas were clearly marked out with fencing or flagging tape to avoid unnecessary disturbance; › There was no storage of material / equipment or overnight parking of machinery inside the hydrological buffer zone;		

			› Before any ground works are undertaken, double silt fencing was placed upslope of the watercourse channels; › The area around the batching, pumping and recycling plant was bunded using terram (as it would have clogged) and sandbags in order to contain any spillages; › Drilling fluid returns were contained within a sealed tank / sump to prevent migration from the works area; › Spills of drilling fluid were cleaned up immediately and contained in an adequately sized skip before been taken off-site; › The discharge of water onto vegetated ground was via a silt bag which filtered any remaining sediment from the pumped water. The entire percolation area was enclosed by a perimeter of double silt fencing; › Any sediment laden water from the works area was not discharged directly to a watercourse or drain; › Works during periods of high rainfall were avoided; › Daily monitoring of the works area, the water treatment and pumping system and the percolation area was completed by the ECoW. All necessary preventative measures were implemented to ensure no entrained sediment, or deleterious matter was discharged to the watercourse; › On completion of the works, the ground surface disturbed during the site preparation works and at the entry and exit pits was carefully reinstated at the soonest opportunity to prevent soil erosion; › The silt fencing upslope of the river was left in place and maintained until the disturbed ground had re-vegetated; and, › All plant was checked for purpose of use prior to mobilisation at the watercourse crossing.		
MM27	Noise and Vibration	rEIAR Chapter 5 - Section 5.4.2.2.4	› No plant used on-site was permitted to cause an on-going public nuisance due to noise. › The best means practicable, including proper maintenance of plant, were employed to minimise the noise produced by on-site operations. › All vehicles and mechanical plant were fitted with effective exhaust silencers and maintained in good working order for the duration of the contract. › Compressors were attenuated models fitted with properly lined and sealed acoustic covers which were kept closed whenever the machines are in use and all ancillary pneumatic tools shall be fitted with suitable silencers. › Machinery that was used intermittently was shut down or throttled back to a minimum during periods when not in use. › Any plant, such as generators or pumps, which was required to operate before 07:00hrs or after 19:00hrs was surrounded by an acoustic enclosure or portable screen. › During the course of the construction programme, supervision of the works ensured compliance with the limits detailed in **Error! Reference source not found.** in Chapter 12: Noise and Vibration, using		

			methods outlined in British Standard BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Noise. › The hours of construction activity were limited to avoid unsociable hours where possible. Construction operations was generally restricted to between 7:00hrs and 19:00hrs weekdays and between 7:00hrs and 19:00hrs on Saturdays. However, works occurred outside of these hours on occasions where critical periods within the construction programme (e.g. concrete pours) and optimal weather aligned.		
MM28	Traffic and Transport	rEIAR Chapter 5 - Section 5.4.2.2.5	› Pedestrians and cyclist were accommodated along the primary and secondary diversion routes. Operatives were made aware to watch out for oncoming pedestrians / cyclists and to advise them accordingly. › Traffic Management Coordinator – a competent Traffic Management Co-ordinator was appointed prior to and during the construction of the Existing Development who was the main point of contact for all matters relating to traffic management. › Information to locals – when required, locals in the area were informed of any traffic related matters e.g. temporary lane/road closures via letter drops and posters in public places. An "out of hours" emergency number was also be provided. › Gardai were advised of the intended works to be carried out prior to commencement on the Gardai Consultation form. Emergency services using the local roads were made priority and areas where the works are being carried out were covered immediately with road plates so as to allow access. › Temporary traffic signs – As part of the traffic management measures temporary traffic signs were put in place at all key junctions, including the access junction on the N15, in accordance with the "Traffic Signs Manual, Section 8 – Temporary Traffic Measures and Signs for Road Works" (DoT now DoTT&S) and "Guidance for the Control and Management of Traffic at Roadworks" (DoTT&S). A member of construction staff (flagman) was present at key junctions during peak delivery times. › The entire traffic management system was set up prior to any works commencing. ○ Only approved signs were used along the works area. ○ All signs were clean and clearly visible. ○ Once signs were in place the route was assessed to ensure adequate visibility for drivers and pedestrians. ○ All signs were secured and weighted down where appropriate. ○ At the end of each day the excavation was back filled and all materials was removed from the roadside. ○ Where flag men were required, both flag men, the foreman and guarding officer all communicated via two-way radios.		

			› Additional measures - Various additional measures were in place in order to minimise the effects of the development traffic on the surrounding road network including sweeping / cleaning of local roads where required. › Road Opening Licence – Roads works associated with the grid connection cabling were undertaken in line with the requirements of a road opening licence as agreed with Donegal County Council. › Trench Reinstatement - Trenches on public roads were reinstated and an agreed surface overlay to the satisfaction of the roads authority.		
MM29	Major Accidents and Natural Disasters	rEIAR Chapter 5 - Section 5.4.2.2.6	› An emergency response plan was put into action in response to the November 2020 Peatslide as set out in the 2019 CEMP.		
rEIAR Chapter 6 – Biodiversity					
MM30	Upland Blanket Bog (PB2) and Wet Heath (HH3)	rEIAR Chapter 6 – Section 6.6.2.1.1	› Approximately 108 hectares of forestry on peatland will be felled and enhanced to promote restoration of heath and bog habitats along with a mosaic of scrub. The restoration area will include an area of 6.2 hectares of wet blanket bog that will be enhanced through restoration measures such as drain blocking, surface smoothing and stump flipping if required. These enhancement measures are fully described and assessed in the EIAR for the Prospective Development, which also accompanies this application.		
MM31	Eroding/upland rivers and associated aquatic species	rEIAR Chapter 6 – Section 6.6.2.1.2	› An emergency response to the November 2020 Peatslide was undertaken in line with the protocols that were set out in the 2017 EIAR. These involved the construction of three stone barrage walls which were constructed in the immediate aftermath of the November 2020 Peatslide and contained much of the peat on the Wind Farm Site, preventing further damage to sensitive downstream watercourses. Further measures were undertaken to mitigate the effects of the November 2020 Peat under Section 12 of the Local Government (Water Pollution) Acts following a notice issued by Donegal County Council. They included the peat removal, stream channel restoration, bank stabilisation and tree planting works that are described below. Restoration of this section of the channel was undertaken including the manual removal of peat from the channel and recreation of a flow path, stabilisation of the banks with coir mesh and the planting of native tree species including alder and grey willow along a wide riparian buffer surrounding the stream. In addition, a small pond was created along the river channel. › As a result, these sections of the Shruhangarve River are in a similar condition to the pre-slide conditions, but with a stable and well-developed riparian buffer as opposed to coniferous forestry. › The Loughs Agency undertook gravel cleaning works in suitable spawning habitat in the Mourne Beg River. This was not associated with the Existing Development and followed a standard procedure that was subject to a separate environmental assessment. The Loughs Agency routinely		

			carry out these works in the rivers under their jurisdiction but did additional work in the Mourne Beg following the November 2020 Peatslide. › Mitigation as set out in the 2017 EIAR and related documentation including the 2019 CEMP was also undertaken during the construction phase of the Existing Development to prevent impacts on water quality.		
rEIAR Chapter 7 – Ornithology					
MM32	Ornithology – Design	rEIAR Chapter 7 – Section 7.6.1	› The project design has followed the basic principles to avoid significant effects on ornithological receptors. These are outlined in Section 7.6.1 of Chapter 7 of the 2017 EIAR and include the following; › The removal of woody vegetation was conducted outside the general bird breeding season which runs from the 1st of March to the 31st of August inclusive. Where sections of woody vegetation were removed for the purposes of the junction and road upgrades, these were replaced with suitable hedge/tree species which are common in the local context. › During the construction phase, noise limits, noise control measures, hours of operation (i.e. dusk and dawn is high faunal activity time) and selection of plant items were considered in relation to disturbance of birds. › Plant machinery was turned off when not in use. › All plant and equipment for use complied with the Construction Plant and Equipment Permissible Noise Levels Regulations 1996 (SI 359/1996) and other relevant legislation. › An Ecological Clerk of Works (ECoW) was appointed. Duties included: › Undertaking a pre-construction transect/walkover bird survey to ensure that significant effects on breeding birds were avoided. › Inform and educate on-site personnel of the ornithological and ecological sensitivities within the Wind Farm Site and Grid Connection Site. › Overseen management of ornithological and ecological issues during the construction period and advised on ornithological issues as they arised. › Provided guidance to contractors to ensure legal compliance with respect to protected species onsite. › Liaised with officers of consenting authorities and other relevant bodies with regular updates in relation to construction progress.		
MM33	Biodiversity Management and Enhancement Plan	rEIAR Chapter 7 – Section 7.6.3	› A Hen Harrier Habitat Enhancement Plan was proposed for the Existing Development. Full details are provided in Section 7.6.3 of Chapter 7 of the 2017 EIAR. This is superseded by a BMEP which has been prepared to ensure that the Subject Development does not result in a net loss of foraging habitat for hen harrier. The plan is designed to create approximately the same amount of permanent foraging habitat for hen harrier as will potentially be lost by the Subject Development. Full details are provided in Chapter 7 of the accompanying EIAR for the Prospective Development.		
rEIAR Chapter 8 – Land, Soils and Geology					

MM34	Peat, Subsoil and Bedrock Excavation	rEIAR Chapter 8 – Section 8.5.2.2	› All infrastructure was placed in areas with shallower peat where possible; › The existing forestry road network was used to reduce peat excavation and borrow pit volumes where possible; › Floating roads (where geotechnically acceptable to do so) were used to reduce peat excavation volumes; › The peat and subsoil removed during the construction phase was relocated within the Wind Farm Site and localised to the infrastructure location (i.e. side cast) where practicable; › The excavated peat was either used for landscaping, side-casting or was placed in the borrow pits and engineered peat cells; › Side-cast rock aggregate was used to form the base of new roads; › Sensitive habitats and designated sites were avoided; › A minimal volume of peat, subsoil and rock was excavated and removed to allow for infrastructure works to take place in comparison to the total volume of these materials present on the Wind Farm Site due to optimisation of the wind farm design; › Construction of settlement ponds to be volume neutral, and all excess material used locally to form pond bunds and surrounding landscaping; and, › The peat placed in peat cells and in the borrow pits was allowed to revegetate. The mitigation measures implemented during works along the Grid Connection underground cabling route included: › Soils and subsoils excavated along the Grid Connection underground cabling route were temporarily stored in covered stockpiles along the edge of the road carriageway; › Once the emplacement of the cable had been completed, the trench was backfilled with suitable imported material, with the exception of the off-road section which was reinstated using the excavated soils and subsoils; › Excess material was removed from the Grid Connection Site with trucks; › The tarmacadam surface along the road sections of the route was replaced with the same design standard as the surrounding road carriageway.		
MM35	Contamination of Soil and Bedrock by Leakages and Spillages	rEIAR Chapter 8 – Section 8.5.2.3	› All plant was inspected and certified to ensured that they were leak free and in good working order prior to use. › Wherever possible, vehicles were refuelled off-site, particularly for regular road-going vehicles. › On-site refuelling of machinery was carried out at designated refuelling areas at various locations throughout the Wind Farm Site.		

			› Heavy plant and machinery were refuelled on-site by a fuel truck that came to the Wind Farm Site as required on a scheduled and organised basis. › Other refuelling was carried out using mobile double skinned fuel bowser. › All refuelling was carried out outside designated watercourse buffer zones. › Only designated trained and competent operatives were authorised to refuel plant on-site. › Mobile measures such as drip trays and fuel absorbent mats were used during refuelling operations as required. › All plant and machinery were equipped with fuel absorbent material and pads to deal with any event of accidental spillage. › An emergency plan for the construction phase to deal with accidental spillages was included within the CEMP (Appendix 4-4). › Spill kits were available to deal with and accidental spillage in and outside the re-fuelling area. However no spills were recorded during the construction of the Existing Development.		
MM36	Erosion of Exposed Subsoils and Peat During Construction	rEIAR Chapter 8 – Section 8.5.2.4	› The project geotechnical engineer carried out inspections and monitoring of all development on site and did not note any concerns; › Erosion control measures were implemented before any site clearance works commenced; › The area of exposed ground was minimised by maintaining pre-existing vegetation that would otherwise have been subject to erosion; › All peat clearance works were delayed before construction began to ensure that stripping did not occur months in advance of construction activities; › Silt fences were installed around stockpiles to limit the movement of entrained sediment in surface water runoff; › All stockpiles were located away from drains and watercourses and all drains and watercourses were protected by silt trapping apparatus such as silt fences; › No work was permitted near watercourses during or after prolonged rainfall or an intense rainfall event; › Appropriate silt control measures were installed such as silt-traps, check dams and settlement ponds; › During felling and forestry works, brash mats were used to support vehicles on soft ground, reducing peat and mineral soils erosion and avoiding the formation of rutted areas, in which surface water ponding can occur. Brash mats were renewed when they became heavily used and worn. Brash mats were used along all off-road routes to protect soil from compacting and rutting; › All controls were regularly inspected and maintained and vegetation had re-established; and, › All works were completed in accordance with the above mitigation measures which were detailed in the CEMP.		
MM37	Erosion of Exposed Soils/Subsoils	rEIAR Chapter 8 – Section	› Before any works were completed silt fences were installed to limit the movement of entrained sediment in surface water runoff;		

	During Tree Felling	8.5.2.5	› The plant used (i.e. the harvester and the forwarder) were designed specifically for the forest environment and are low ground pressure machines; › All machinery was operated by suitably qualified personnel; › These machines traversed the Wind Farm Site along specified off-road routes (referred to as racks); › Brash mats were placed on the racks to support the vehicles on soft ground, reducing mineral soil disturbance and erosion and avoiding the formation of rutted areas, in which surface water ponding could have occurred; › As felling progressed, the harvester collected brash produced by the felling and placed it in front of the machine before it advanced forward along the rack; › The condition of the racks were continually monitored and fresh brash was applied when the brash mat became heavily used and worn, ensuring that the mat remained effective throughout the operational phase; and, › The location of racks were chosen to avoid wet and potentially sensitive areas.		
MM38	Excavation and Reinstatement of Borrow Pits	rEIAR Chapter 8 – Section 8.5.2.6	› Prior to excavation, the areas of the Borrow Pits (BP) were marked out at the corners using ranging rods and timber posts. Drainage and associated settlement ponds were installed around the perimeter; › The initial excavation involved the removal of peat and overburden deposits. These materials were used to form a berm on the downhill side of the BP; › Interceptor drainage ditches were excavated on the upslope sides of the BP; › The bedrock material was extracted from the BP and stockpiled or used as required; › Excavation works were undertaken and supervised by an experienced contractor and suitably qualified personnel; › The borrow pits were developed with stable ground inclinations; › The stability of the rock faces were inspected by the Project Geotechnical Engineer upon excavation to ensure stability; › As the BP excavations progressed deeper, any ingress of water was removed via pumping to the installed settlement ponds; › When extraction ceased, the uphill face of the rock was stepped and deposits of soil placed which assisted the revegetation of the rock face; › Upon the removal of the required volumes of material (for the construction of the infrastructure elements at the wind farm) from the BPs, the pits were reinstated using excavated peat and spoil; › The borrow pits were designed and constructed in a way which allowed the excavated peat and spoil to be placed safely, with areas within the borrow pits designated for the storage of backfill with excavated peat; › Rock buttresses were constructed within the borrow pits to help retain placed peat and spoil. The founding stratum for each buttress was inspected and approved by the Project Geotechnical Engineer; and,		

			› Infilling of peat and spoil commenced at the back of the borrow pit and progressed towards the pit entrance.		
MM39	Peat Instability and Failure	rEIAR Chapter 8 – Section 8.5.2.8	› The Emergency Response Plan (Section 6 of the 2019 CEMP) which provides detailed procedures in the case of an emergency onsite was actioned; › The project geotechnical engineer carried out inspections and monitoring of all development on site and did not note any concerns; › Experienced and competent contractors were appointed; › The Wind Farm Site and Grid Connection Site was supervised by experienced and qualified personnel; › Sufficient time was allocated for the project; › Prevented undercutting of slopes and unsupported excavations; › Maintained and managed robust drainage system; › Prevented placement of loads/overburden on marginal ground; › Set up, maintained and reported findings from monitoring systems (as outlined in the PSA); › Ensured construction method statements were developed and agreed before works commenced and all method statements were followed by the contractor; and, › Revised and amended the Construction Risk Register as construction progresses to ensure that risks are managed and controlled for the duration of construction. › Following the November 2020 Peatslide, a comprehensive review of the construction methodologies being employed on-site was undertaken by Fehily Timoney. Following this review a document entitled 'Construction Responses to Fehily Timoney Mitigation Measures', was prepared by the contractor (MCE Ltd.) in August 2021 (MCE, 2021) to accompany the Fehily Timoney report 'Peat Stability Assessment of Meenbog Wind Farm Site' (FT, 2021). The MCE (2021) document outlined additional mitigation measures and revised construction methodologies to be utilised during the construction of the outstanding elements required to complete the wind farm. These measures and methodologies were implemented for all construction activities undertaken on-site since the publication of the MCE (2021) document.		
MM40	Effects from Wastewater Disposal	rEIAR Chapter 8 – Section 8.5.2.9	› A self-contained port-a-loo with an integrated waste holding tank was used for welfare facilities, maintained by the providing contractor; › Welfare facilities were also present at the onsite substation (constructed as part of the Existing Development). Wastewater was stored in an underground tank and was removed by a licenced contractor; and, › Wastewater treatment on-site has not been implemented.		
rEIAR Chapter 9 – Hydrology and Hydrogeology					

MM41	Effects from Construction Earthworks on Surface Waters	rEIAR Chapter 9 – Section 9.5.2.1	**Mitigation by Avoidance:** › The key mitigation measure implemented during the construction phase was the avoidance of sensitive hydrological features where possible, by application of suitable buffer zones (i.e. 50m to main watercourses). › The majority of the Existing Development is located outside of the delineated 50m natural watercourse (river and stream) buffer zones. › Silt fences were installed as an additional water protection measures around existing watercourses in certain locations, particularly where works occurred within the hydrological buffer zone. The silt fences were installed as single, double or triple silt fences depending on the space available and the anticipated loading. Further details in silt fences are included in the CEMP. › The large setback distance from sensitive hydrological features meant that adequate room was maintained for the drainage mitigation measures (discussed below) to be properly installed and operate effectively. The buffer zone: ○ Avoided physical damage (river/stream banks and river/stream beds) to watercourses and associated release of sediment; ○ Avoided excavations within close proximity to surface watercourses; ○ Avoided the entry of suspended sediment from earthworks into watercourses; and, ○ Avoided the entry of suspended sediment from the construction phase drainage system into watercourses, achieved in part by ending drain discharge outside the buffer zone and allowing percolation across the vegetation of the buffer zone. **Mitigation by Design:** The following controls and treatment systems were implemented during the construction phase: › Source controls: Interceptor drains, erosion and velocity control measures such as use of sand bags and other similar/equivalent or appropriate systems. Small working areas, covering stockpiles, weathering off stockpiles, cessation of works in certain areas or other similar/equivalent or appropriate measures. › In-Line controls: Interceptor drains, oversized swales, erosion and velocity control measures such as check dams, silt bags, silt fences, sedimats, and collection sumps, temporary sumps, sediment traps, pumping systems, settlement ponds, temporary pumping chambers, or other similar/equivalent or appropriate systems. › Treatment systems: Temporary sumps and ponds, temporary storage lagoons, sediment traps, and settlement ponds. **Interactions with pre-existing Drainage:** › Drains were constructed around the footprint of the Existing Development and conveyed clean runoff water to the downstream drainage systems, there was no direct discharge (without treatment for sediment reduction, and attenuation for flow management) of runoff from the wind farm drainage		

			system into the pre-existing site drainage network. This reduced the potential for any increased risk of downstream flooding or sediment transport/erosion; › Silt traps were placed in the pre-existing drains where appropriate; › Silt fences were placed downstream of the works areas where appropriate; › Runoff from individual work areas was not discharged into the pre-existing drain network but discharged locally at each work location through settlement ponds; and, › Drains running parallel to the pre-existing roads which were upgraded and were targeted to the opposite side of the road. Velocity and silt control measures such as silt fences were used during the construction works.		
MM42	Effects from Tree Felling	rEIAR Chapter 9 – Section 9.5.2.2	› Machine combinations were chosen which were most suitable for the ground conditions at the time of felling and to minimise soils disturbance; › Use of buffer zones for aquatic zones as per the Forest service (2000) guidance; › Roads and culverts were checked and maintained during felling operations; › No tracking of vehicles through watercourses occurred; › Where possible, existing drains were not disturbed during felling works; › Ditches which drain from the felling area towards existing surface watercourses were blocked, and temporary silt traps were constructed. No direct discharge of such ditches to watercourses occurred during felling. Drains and sediment traps were installed during ground preparation works. Collector drains were excavated at an acute angle to the contour (~0.3%-3% gradient), to minimise flow velocities. Main drains from collector drains included water drops and rock armour, as required, where there were steep gradients, and were not placed at right angles to the contour; › Sediment traps were sited outside of buffer zones and had no direct outflow into the aquatic zone. Machine access was maintained to enable the accumulated sediment to be excavated. Sediment was carefully disposed of away from all aquatic zones. Where possible, all new silt traps were constructed on even ground and not on sloping ground; › In areas, particularly sensitive to erosion, it was necessary to install double or triple sediment traps. This measure was reviewed on site during construction works; › All drainage channels tapered out before entering the aquatic buffer zone. This ensured that discharged water gently fanned out over the buffer zone before entering the aquatic zone, with sediment filtered out from the flow by ground vegetation within the zone. On erodible soils, silt traps were installed at the end of the drainage channels, to the outside of the buffer zone; › Drains and silt traps were maintained throughout all felling works, ensuring that they were clear of sediment build-up and are not severely eroded. Correct drain alignment, spacing and depth ensured that erosion and sediment build-up were minimised and controlled; › Brash mats were used to support vehicles on soft ground, reducing peat and mineral soils erosion and avoiding the formation of rutted areas, in which surface water ponding could occur. Brash mat		

			renewal took place when they became heavily used and worn. Provision was made for brash mats along all off-road routes, to protect the soil from compaction and rutting. Where there was a risk of severe erosion occurring, extraction was suspended during periods of high rainfall; › Timber was stacked in dry areas, and outside a local 50m stream buffer zone. Straw bales and check dams were emplaced on the down gradient side of timber storage/processing sites; › Works were carried out during periods of no, or low rainfall, in order to minimise entrainment of exposed sediment in surface water run-off; › Refuelling or maintenance of machinery was not permitted within 50m of an aquatic zone. Dedicated refuelling areas were used during the felling works; and, › Branches, logs or debris were not allowed to build up in aquatic zones. All such material was removed when harvesting operations were completed, but care was taken to avoid removing natural debris deflectors.		
MM43	Effects on hydrological regime from Peat and Spoil Management	rEIAR Chapter 9 – Section 9.5.2.3	› During the initial placement of peat and subsoil, silt fences were used to control surface water runoff from the peat and spoil management areas. › Drainage from peat and spoil management areas was ultimately routed to an oversized swale at the BPs and a number of settlement ponds with appropriate storage and settlement designed for a 1 in 100 year 6 hour return period before being discharged to the on-site drains. › Peat and spoil management areas, particularly the locations of side-cast peat, were sealed with a digger bucket and vegetated as soon possible to reduce sediment entrainment in runoff. Once re-vegetated and stabilised peat/subsoil storage areas were no longer a potential source of silt laden runoff. › While surface water was contained in these excavations, the design proposal was to control the level of water by creating a single point outlet from the basin-like area that ensured the water does not overtop. The berms associated with the peat cells were constructed in a manner which prevented water retention with large rocks placed with an 'open bond' to allow water to pass through the berm in a controlled manner. Interceptor drains were already installed upgradient of the peat cell area before any extraction began.		
MM44	Effects on Surface and Groundwater Quality from the Borrow Pits	rEIAR Chapter 9 – Section 9.5.2.4	All borrow pits were excavated and backfilled in accordance with the environmental management measures set out in the 2019 CEMP. Mitigation measures with respect to the protection of water quality included: › Interceptor drainage ditches were excavated on all sides of the borrow pit to catch surface water runoff, and direct it to downstream re-distribution locations; › As the borrow pit excavations progressed, surface water and groundwater ingress was removed via pumping to settlement ponds, and re-distribution locally across natural vegetated areas. › Run-off from the borrow pit areas was controlled via a single outlet that was installed at each borrow pit.		

			› Where required additional specialist treatment, including sediment bags and silt fences, was employed to ensure no deterioration in downstream water quality occurred. › Furthermore, mitigation measures with respect to hydrocarbons were implemented (refer to MM48)		
MM45	Effects from Morphological Changes to Watercourses at the Wind Farm Site	rEIAR Chapter 9 – Section 9.5.2.5	› The clear-span bridge over the Bunadowen River was upgraded to the specifications of the Office of Public Works (OPW) bridge design guidelines 'Construction, Replacement or Alteration of Bridges and Culverts - A Guide to Applying for Consent under Section 50 of the Arterial Drainage Act, 1945', and in consultation with Inland Fisheries Ireland (IFI). › Works were monitored by the ECoW › The crossing was a clear span bridge and the banks remained undisturbed. No in-stream excavation works occurred at this location and therefore there was no direct impact on the Bunadowen River at the crossing location. › All guidance / mitigation measures required by the OPW and/or the Inland Fisheries Ireland (IFI) was incorporated into the design of the crossing; › All drainage measures were installed in advance of the works; › Plant and equipment were not permitted to track across the watercourse; › Access to the opposite side of the watercourse for excavation and foundation installation was provided via a steel walkway and handrail which spanned the stream; › Steel boxes for concrete reinforcement were constructed in close proximity to the work for ease of installation and were fixed by competent persons. Steel boxes were placed into position by a 360 excavator. Concrete was placed using an excavator or, where practical, poured from the chute of a truck. A banksman directed the truck once on-site. › Concrete plinths were poured as per the structural designer's request.		
MM46	Effects on Surface Water Quality from Excavation Dewatering	rEIAR Chapter 9 – Section 9.5.2.6	› Appropriate interceptor drainage, to prevent upslope surface runoff from entering excavations were put in place; › If required, pumping of excavation inflows prevented build-up of water in the excavation; › The interceptor drainage discharged to the site constructed drainage system or onto natural vegetated surfaces and not directly to surface waters; › The pumped water volumes were discharged via volume and sediment attenuation ponds adjacent to excavation areas, along with use of more specialist treatment systems such as a Silt bags; › There was no direct discharge to surface watercourses, and therefore no risk of hydraulic loading or contamination occurred; and, › Monitoring of excavations by a suitably qualified person occurred during the construction phase.		

MM47	Effects on Groundwater Levels During Excavation Works	rEIAR Chapter 9 – Section 9.5.2.7	› Firstly, the borrow pit areas are located on the side of local hills where the ground elevations are between 200 and 300m OD; › These elevations are significantly above the elevations of the local valleys and streams; › The borrow pits extend to approximately 8 – 10m below ground level. However, in the context of the topographical/elevated setting of the borrow pits, this depth range is relatively shallow; › The local bedrock comprises quartzites, gneisses and schists is known to be generally unproductive. This means that groundwater flows are minor; › Observations from the borrow pit exposures show that the bedrock is massive with very little, if any fractures. Any jointing / fractures that were seen were noted to be very tight; › No significant groundwater inflows were recorded at any of the borrow pits. Limited groundwater flow was restricted to the top of the rock or within a very thin zone of weathered rock; › The flow paths (i.e. the distance from the point of recharge to the point of discharge) in this type of geology will be short, localised, and will also be relatively shallow; › No regional groundwater flow regime, i.e. large volumes of groundwater flow, will be encountered at these elevations; › Therefore shallow groundwater inflows are largely fed by recent rainfall, and possibly by limited groundwater seepage from localised shallow bedrock; › The sloping nature of the ground on the hills where the borrow pits are located along with the coverage of peat means groundwater recharge is going to be very low; › As such the shallow groundwater flow system is small in comparison to the expected surface water flows from the bog surface; › This means that there is a preference for high surface water runoff as opposed to groundwater recharge and flow; and, › Hence, the management of surface water formed the largest proportion of water to be managed and treated.		
MM48	Effects from the Release of Hydrocarbons	rEIAR Chapter 9 – Section 9.5.2.8	› All plant was inspected and certified to ensured that they were leak free and in good working order prior to use. › Wherever possible, vehicles were refuelled off-site, particularly for regular road-going vehicles. › On-site refuelling of machinery was carried out at designated refuelling areas at various locations throughout the Wind Farm Site and Grid Connection Site. › Heavy plant and machinery were refuelled on-site by a fuel truck that came to the Wind Farm Site and Grid Connection Site as required on a scheduled and organised basis. › Other refuelling was carried out using mobile double skinned fuel bowser. › All refuelling was carried out outside designated watercourse buffer zones. › Only designated trained and competent operatives were authorised to refuel plant on-site. › Mobile measures such as drip trays and fuel absorbent mats were used during refuelling operations as required.		

			› All plant and machinery were equipped with fuel absorbent material and pads to deal with any event of accidental spillage. › An emergency plan for the construction phase to deal with accidental spillages was included within the Construction and Environmental Management Plan (Appendix 4-4). Spill kits were available to deal with and accidental spillage in and outside the re-fuelling area. However no spills were recorded during the construction of the Existing Development.		
MM49	Effects from the Release of Cement-Based Products	rEIAR Chapter 9 – Section 9.5.2.9	› Only ready-mixed concrete was used during the construction phase, with all concrete being delivered from local batching plants in sealed concrete delivery trucks. › No on-site batching was carried out. › When concrete was delivered to the Wind Farm Site, only the chute of the delivery truck was cleaned, using the smallest volume of water necessary, before leaving the Wind Farm Site. › Water generated from washing the concrete lorry's chute was directed into a temporary lined impermeable containment area. Once evaporated, any remnants of concrete were disposed of along with other construction waste. › Concrete trucks were not washed out on the Wind Farm Site but were directed back to their batching plant for washout. › Site roads were constructed to a high standard to allow transport of the turbine components around the Wind Farm Site, and hence, concrete delivery trucks were able to access all areas where the concrete was needed. › No concrete was transported around the Wind Farm Site in open trailers or dumpers to avoid spillage while in transport. › All concrete used in the construction of turbine bases was pumped directly into the shuttered formwork from the delivery truck. If this was not practical, the concrete was pumped from the delivery truck into a hydraulic concrete pump or into the bucket of an excavator, which transferred the concrete to the location where it was needed.		
MM50	Effects from Wastewater Disposal	rEIAR Chapter 9 – Section 9.5.2.10	› A self-contained port-a-loo with an integrated waste holding tank was used for welfare facilities, maintained by the providing contractor; › Welfare facilities were also present at the onsite substation (constructed as part of the Existing Development). Wastewater was stored in an underground tank and was removed by a licenced contractor; › Wastewater treatment on-site has not been implemented; and, › No water was sourced on-site or discharged on-site.		
MM51	Effects from Works Along the Grid Connection	rEIAR Chapter 9 – Section 9.5.2.11	› A double silt fence perimeter was placed along the road verge on the down-slope side of works areas that are located inside the watercourse 50m buffer zone;		

			▸ The following mitigation measures were implemented at Grid Connection underground cabling watercourse crossing works: ○ No stockpiling of construction materials occurred along the Grid Connection route; ○ No refuelling of machinery or overnight parking of machinery was permitted in these areas; ○ No concrete truck chute cleaning was permitted; ○ Works did not take place at periods of high rainfall; ○ Machinery deliveries were arranged using existing structures along the public road; ○ All machinery operations took place away from the stream and ditch banks, apart from where crossings occur. Although no instream works occurred; ○ Any excess construction material was immediately removed from the area and sent to a licenced waste facility or on-site borrow pits; ○ Spill kits were available in each item of plant required to complete the works; and, ○ Silt fencing was erected on ground sloping towards watercourses at the stream crossings if required.		
MM52	Effects from Directional Drilling along Grid Connection	rEIAR Chapter 9 – Section 9.5.2.12	▸ The crossing works areas were clearly marked out with fencing or flagging tape to avoid unnecessary disturbance; ▸ There was no storage of material / equipment or overnight parking of machinery inside the hydrological buffer zone; ▸ Before any ground works are undertaken, double silt fencing was placed upslope of the watercourse channels; ▸ Silt fencing was embedded into the local soils to ensure all site water is captured and filtered; ▸ The area around the batching, pumping and recycling plant was bunded using terram (as it will clog) and sandbags in order to contain any spillages; ▸ Drilling fluid returns were contained within a sealed tank / sump to prevent migration from the works area; ▸ Spills of drilling fluid were cleaned up immediately and contained in an adequately sized skip before been taken off-site; ▸ The discharge of water onto vegetated ground was via a silt bag which filtered any remaining sediment from the pumped water. The entire percolation area was enclosed by a perimeter of double silt fencing; ▸ Any sediment laden water from the works area was not discharged directly to a watercourse or drain; ▸ Works did not take place during periods of heavy rainfall and were scaled back or suspended when heavy rain was forecasted; ▸ Daily monitoring of the works area, the water treatment and pumping system and the percolation area was completed by a suitably qualified person during the construction phase. All necessary		

			preventative measures were implemented to ensure no entrained sediment, or deleterious matter was discharged to the watercourse; › On completion of the works, the ground surface disturbed during the site preparation works and at the entry and exit pits was carefully reinstated at the soonest opportunity to prevent soil erosion; › The silt fencing upslope of the river was left in place and maintained until the disturbed ground had re-vegetated; and, › All plant was checked for purpose of use prior to mobilisation at the watercourse crossing. › The use of a natural, inert, and biodegradable drilling fluid negated any adverse effects arising from the use of other traditional polymer-based drilling fluids. It was used sparingly as part of the drilling operations, appropriately stored prior to use, and deployed in the required amounts to avoid surplus. In the event that any excess drilling fluid accumulated in the reception or drilling pits, it was contained and removed from the Wind Farm Site and Grid Connection Site in the same manner as other subsoil materials associated with the drilling process to an approved licensed waste facility.		
MM53	Effects on Downstream Surface Watercourses from November 2020 Peatslide	rEIAR Chapter 9 – Section 9.5.2.13	› Sondes were installed on the main watercourses draining the Wind Farm Site, including MSe3 on the Shruhanagarve Stream. Continuous turbidity monitoring was in place at these locations and was being used as an early warning system of potential sediment input into receiving waters and allowed further investigations and remedial action to be undertaken if required. It is noted that no elevated NTU concentrations were recorded in the Shruhanagarve Stream in the days preceding the peat slide and that turbidity was at background concentrations. There was no indication from the available monitoring that a peat movement was imminent in this area. MSe3 was lost during the peat slide and was reinstated on 18th December 2020. › Following the Peat Slide, emergency response procedures were implemented in accordance with the 2019 CEMP. These emergency response procedures included the installation of barrage walls downslope of the peat slide to prevent further movement of peat. Reinstatement works were also completed in an attempt to restore the hydrological regime insofar as possible. › Additional sondes (MSe5, MSe6 and MSe7) were also installed along the Mourne Beg River following the peat slide to provide additional data on turbidity concentrations downstream of the Shruhanagarve Stream.		
MM54	Effects from Emergency Works in Response to Peat Instability	rEIAR Chapter 9 – Section 9.5.2.14	› The berm was constructed in a manner which prevented water retention within the storage area. This was in order to prevent a build-up of hydrostatic pressure at the base of the berm at a varying rate across the footprint which could have effectively placed a point load at a specific location. › Large rocks were placed with an 'open bond' periodically to allow water to pass through the berm in a controlled manner. › The berm was inspected and signed off by competent personnel.		
MM55	Effects on Surface Water Abstractions	rEIAR Chapter 9 – Section 9.5.2.16	› The mitigation measures implemented in relation to the entrainment of suspended solids are detailed in MM41, MM43 and MM46. › The implemented mitigation measures with respect to hydrocarbons are detailed in MM48 and,		

			› The implemented mitigation measures with respect to wastewater contamination are detailed in MM50.		
MM56	Effects on Hydrologically Connected Designated Sites	rEIAR Chapter 9 – Section 9.5.2.17	› The mitigation measures implemented in relation to the entrainment of suspended solids are detailed in MM41, MM43 and MM46. › The implemented mitigation measures with respect to hydrocarbons are detailed in MM48 and, › The implemented mitigation measures with respect to wastewater contamination are detailed in MM50.		
MM57	Effects on WFD Status and Objectives	rEIAR Chapter 9 – Section 9.5.2.18	› The mitigation measures implemented in relation to the entrainment of suspended solids are detailed in MM41, MM43 and MM46. › The implemented mitigation measures with respect to hydrocarbons are detailed in MM48 and, › The implemented mitigation measures with respect to wastewater contamination are detailed in MM50.		
MM58	Effects on Local Private Groundwater Well Supplies	rEIAR Chapter 9 – Section 9.5.2.19	› The mitigation measures implemented with respect to groundwater levels are detailed in MM47. › The implemented mitigation measures with respect to hydrocarbons are detailed in MM48 and, › The implemented mitigation measures with respect to wastewater contamination are detailed in MM50.		
MM59	Effects from the Replacement of Natural Surface with Lower Permeability Surfaces	rEIAR Chapter 9 – Section 9.5.2.20	**Mitigation by Design:** › The drainage system of the Existing Development has been installed and constructed in conjunction with and in accordance with the Permitted Development drainage system as follows: › Interceptor drains have been installed up-gradient of the Existing Development infrastructure to collect clean surface runoff, in order to minimise the amount of runoff reaching areas where suspended sediment could become entrained. This water is then be directed to areas where it can be re-distributed over the ground by means of a level spreader; › Swales/road side drains were installed to collect runoff from access roads and turbine hardstanding areas of the Wind Farm Site that are likely to have entrained suspended sediment, and channel it to settlement ponds for sediment settling; › Check dams are used along sections of access road drains to intercept silts at source. Check dams are constructed from a 4/40mm non-friable crushed rock; › Settlement ponds, emplaced downstream of road swale sections and at turbine hardstand locations, buffer volumes of runoff discharging from the drainage system during periods of high rainfall, by retaining water until the storm hydrograph has receded, thus reducing the hydraulic loading to watercourses; and, › Settlement ponds are designed in consideration of the greenfield runoff rate.		
rEIAR Chapter 10 – Air Quality					

MM60	Exhaust Emissions	rEIAR Chapter 10 – Section 10.3.2.1	› All construction machinery was maintained in good operational order while onsite, minimising any emissions that were likely to arise. › Machinery that was used intermittently was shut down or throttled back to a minimum when not in use. › Construction traffic was restricted to defined routes, and a speed limit of 20 kph was implemented. › The waste volumes generated onsite were not large enough to warrant source segregation at the Wind Farm Site and Grid Connection Site. Therefore, all waste streams generated onsite were deposited into a single waste skip which was covered. This waste material was transferred to a licensed/permitted Materials Recovery Facility (MRF) by a fully licensed waste contractor where the waste was sorted into individual waste streams for recycling, recovery or disposal. The MRF facilities used were local to the Wind Farm Site and Grid Connection Site to reduce the emissions associated with vehicle movements. › The 2019 CEMP was in place throughout the construction phase (see Appendix 4-4).		
MM61	Dust Emissions	rEIAR Chapter 10 – Section 10.3.2.2	› A CEMP was in place throughout the construction phase (Refer to Appendix 4-4 for the 2019 CEMP). › The designated public roads and along the main transport routes were regularly inspected by the ECoW for cleanliness, and cleaned as necessary; › All construction related traffic had speed restrictions in place on un-surfaced roads to 20 kph. Construction traffic was restricted to defined routes on the public road network, and a speed limit was implemented; › Daily inspections of construction works areas was undertaken to examine dust measures and their effectiveness. › The agreed haul route road adjacent to the Wind Farm Site and Grid Connection Site were regularly inspected for cleanliness and cleaned, as necessary › Water bowsers operated onsite as required to mitigate dust in dry weather conditions. › The transport of soils or other material, which had potential to cause dust, was undertaken in vehicles with tarpaulin-cover where necessary. › All construction machinery was maintained in good operational order while onsite, minimising any emissions that were likely to arise.		
rEIAR Chapter 11 – Climate					
MM62	Greenhouse Gas Emissions	rEIAR Chapter 11 – Section 11.8.2.1	› Construction staff were trained how to inspect and maintain construction vehicles and plant to ensure good operational order while onsite, thereby minimising any emissions that arise. The Site Supervisor/Construction Manager produced and followed a site inspection and machinery checklist which was followed and updated as/when required.		

			› All construction vehicles and plant were maintained in good operational order while onsite, thereby minimising any emissions that arose. › When stationary, delivery and on-site vehicles were required to turn off engines. › the 2019 CEMP (Appendix 4-4) was in place throughout the construction phase. › The 2019 CEMP included a Waste Management Plant (WMP) which outlined the best practice procedures that occurred during the construction phase relating to waste material. › The majority of aggregate materials for the construction of the Existing Development were obtained from the onsite borrow pits (with some material being imported from local licenced quarries as needed). This significantly reduced the number of delivery vehicles accessing the Wind Farm Site, thereby reducing the amount of emissions associated with vehicle movements.		
rEIAR Chapter 12 - Noise and Vibration					
MM63	Noise and Vibration	rEIAR Chapter 12 – Section 12.6	› All vehicles and mechanical plant were fitted with effective exhaust silencers and maintained in good working order for the duration of the contract. › Compressors were attenuated models fitted with properly lined and sealed acoustic covers which were kept closed whenever the machines are in use and all ancillary pneumatic tools were fitted with suitable silencers. › Machinery that was used intermittently was shut down or throttled back to a minimum during periods when not in use. › Any plant, such as generators or pumps, which was required to operate before 07:00hrs or after 19:00hrs was surrounded by an acoustic enclosure or portable screen where appropriate. › The hours of construction activity were limited to avoid unsociable hours where possible. Construction operations were generally restricted to between 7:00hrs and 19:00hrs weekdays and between 7:00hrs and 19:00hrs on Saturdays. However, to ensure that optimal use was made of good weather period or at critical periods within the programme (i.e. concrete pours) it was occasionally necessary to work out of these hours.		
rEIAR Chapter 13 -Landscape					
MM64	Mitigation by Design	rEIAR Chapter 13 – Section 13.1.5	› The Wind Farm Site was strategically selected as a landscape highly suitable for the development of wind energy. Through the iterative project design process for the Permitted Development, various best practice tools for assessing the landscape and visual impact of a proposed wind farm development were utilised to bring forward the optimum design with respect to landscape and visual factors. These tools include landscape modelling, Zone of Theoretical Visibility (ZTV) mapping and the preparation of photomontage visualisations. › The iterative design process was informed by the siting and design guidance for wind farms in specific landscape types as set out in the Wind Energy Development Guidelines for Planning Authorities (Department of the Environment, Heritage, and Local Government [DoEHLG], 2006), hereafter the 'Guidelines (DoEHLG, 2006)'		

			› The final design of the Permitted Development included careful micro-siting of infrastructure with the aim of preventing the potential for significant landscape and visual effects. Although only partially constructed, that design has mitigated the potential for the Existing Development to have unacceptable landscape and visual effects. › The layout of the Existing Development, that is the subject of this LVIA, incorporates the following landscape and visual design considerations for good wind farm design: › The Existing Development is sited within a low sensitivity landscape comprising sparsely settled, remote, marginal upland characterised by commercial forestry. › The Existing Development is sited in a location where it is not the focus of any designated protected views in local planning policy.		
Chapter 15 Material Assets: Non-Traffic					
MM65	Effects on Electricity Infrastructure and Supply	rEIAR Chapter 15 – Section 15.3.8.2	› Any area where excavations were planned were surveyed and all existing services were identified prior to commencement of any works. › Liaison was held with the relevant sections of the Local Authority (DCC) including all the relevant area engineers to ensure all services are identified. › Excavation permits were completed, and all plant operators and general operatives were inducted and informed as to the location of any services. › The contractor complied with standard construction codes of practice in relation to working around electricity, gas, water, sewage and telecommunications networks.		
MM66	Effects on Water Infrastructure and Supply	rEIAR Chapter 15 – Section 15.3.8.3	› Prior to the construction of the underground grid route, relevant drawings/service data was requested from Irish Water (now Uisce Éireann). These surveys confirmed the presence of services such as water supply. › Prior to the construction of the underground grid route, underground services encountered along the route were surveyed for level/depth details. › During the construction works, the grid cabling ducting was passed over the service where adequate cover was available. A minimum clearance of 300mm was implemented between the bottom of the ducts and the service. › Where clearance was not achievable, the ducting was pass under the service with a 300 mm clearance between the top of the communications duct and bottom of the service. › Back filling around any utilities encountered was with dead sand/pea shingle where appropriate.		
MM67	Effects on Waste Management Services	rEIAR Chapter 15 – Section 15.3.8.4	› The updated 2019 CEMP in place for the construction of the Existing Development, (Appendix 4-4 of this rEIAR), includes a WMP which outlines the best practice procedures during the construction phase of the project. The construction of the Existing Development followed all relevant procedures and mitigation measures set out in the CEMP. › Waste management was carried out in accordance with 'Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects' (2006) by the Department of Environment. The WMP outlines the methods of waste prevention and minimisation by recycling,		

			recovery and reuse at each stage of construction of the Existing Development. Disposal of waste was seen as a last resort. › All hazardous wastes were securely stored in a designated bunded area clearly labelled, in the temporary construction compound. These storage areas were located away from surface water drains and watercourses and protected from accidental damage. This hazardous waste was removed from the site by licensed waste contractors and transported to authorised waste recovery or disposal facilities. › All non-hazardous waste generated on-site by the Existing Development was contained in waste skips at a dedicated waste storage area on-site. This waste storage area was kept tidy with clear signage to indicate the allowable material to be disposed of therein. This non-hazardous waste material was transferred to a MRF by a fully licensed waste contractor where the waste was sorted into individual waste streams for recycling, recovery or disposal. › Spill prevention measures were implemented, including the provision of spill kits and drip trays, and all personnel were trained in appropriate handling procedures and emergency response. › Site personnel were instructed at induction that under no circumstances can waste be brought to site for disposal in the on-site waste skips. It was also made clear that the burning of waste material on-site was forbidden.		
rEIAR Chapter 15 - Material Assets: Traffic and Transport					
MM68	Existing Development Construction Traffic Volumes	rEIAR Chapter 15 -Section 15.1.8.1.1	› A detailed TMP was prepared and incorporated in the 2019 CEMP. The Existing Development was constructed with this CEMP in place. The TMP included the following measures that were in place during the construction of the Existing Development: › Traffic Management Coordinator – a competent Traffic Management Co-ordinator was appointed prior to and during the construction of the Existing Development who was the main point of contact for all matters relating to traffic management. › Information to locals – when required, locals in the area were informed of any traffic related matters e.g. temporary lane/road closures via letter drops and posters in public places. An "out of hours" emergency number was also be provided. › A Pre-Construction Condition Survey – A pre-condition survey of roads was carried out prior to construction commencement to record the condition of the road. › Travel plan for construction workers –The construction company provided a travel plan for construction staff, which included the identification of a routes to / from the site and provided a dedicated parking area. › Temporary traffic signs – As part of the traffic management measures temporary traffic signs were put in place at all key junctions, including the access junction on the N15, in accordance with the		

			"Traffic Signs Manual, Section 8 – Temporary Traffic Measures and Signs for Road Works" (DoT now DoTT&S) and "Guidance for the Control and Management of Traffic at Roadworks" (DoTT&S). A member of construction staff (flagman) was present at key junctions during peak delivery times. › Additional measures - Various additional measures were in place in order to minimise the effects of the development traffic on the surrounding road network including sweeping / cleaning of local roads where required. › Road Opening Licence – Roads works associated with the grid connection cabling were undertaken in line with the requirements of a road opening licence as agreed with Donegal County Council. › Trench Reinstatement - Trenches on public roads were reinstated and an agreed surface overlay to the satisfaction of the roads authority.		
MM69	Effects of Grid Connection Works on Public Road Network	rEIAR Chapter 15 - Section 15.1.8.1.2	The TMP includes the following measures that were in place during the construction of the Grid Connection: › Pedestrians and cyclist were accommodated along the primary and secondary diversion › routes. Operatives were made aware to watch out for oncoming pedestrians / cyclists and to advise them accordingly. › Traffic Management Coordinator – a competent Traffic Management Co-ordinator was appointed prior to and during the construction of the Existing Development who was the main point of contact for all matters relating to traffic management. › Information to locals – when required, locals in the area were informed of any traffic related matters e.g. temporary lane/road closures via letter drops and posters in public places. An "out of hours" emergency number was also be provided. › Gardai were advised of the intended works to be carried out prior to commencement on the Gardai Consultation form. Emergency services using the local roads were made priority and areas where the works are being carried out were covered immediately with road plates so as to allow access. › Temporary traffic signs – All works were signed in accordance with the "Guidance for the Control and Management of Traffic at Road Works" (Second Edition 2010). The Routine Works Traffic Management Design. › The entire traffic management system will be set up prior to any works commencing. › Only approved signs were used along the works area. › All signs were clean and clearly visible. › Once signs were in place the route was assessed to ensure adequate visibility for drivers and pedestrians. › All signs were secured and weighted down where appropriate. › At the end of each day the excavation was back filled and all materials was removed from the roadside.		

			› Where flag men were required, both flag men, the foreman and guarding officer all communicated via two-way radios. › Road Opening Licence – Roads works associated with the grid connection cabling were undertaken in line with the requirements of a road opening licence as agreed with Donegal County Council. › Trench Reinstatement - Trenches on public roads were reinstated and an agreed surface overlay to the satisfaction of the roads authority.		
rEIAR Chapter 16 – Major Accidents and Natural Disasters					
MM70	Peat Stability During Construction	rEIAR Chapter 16 - Section 16.4.2.1	› The project geotechnical engineer carried out inspections and monitoring of all development on site; › Experienced and competent contractors were appointed; › The Wind Farm Site and Grid Connection Site was supervised by experienced and qualified personnel; › Sufficient time was allocated for the project; › Prevented undercutting of slopes and unsupported excavations; › Maintained a managed robust drainage system; › Prevented placement of loads/overburden on marginal ground; › Set up, maintained and reported findings from monitoring systems (as outlined in the PSRA); › Ensured construction method statements were developed and agreed before works commenced and all method statements were followed by the contractor; and › Revised and amended the Construction Risk Register as construction progresses to ensure that risks are managed and controlled for the duration of construction. › Following the November 2020 Peat Slide, additional mitigation and monitoring measures were recommended as listed below. Refer to Construction Controls Procedures for the Site produced by MCE 2021, (Appendix 4-7) for full details: › No vehicles to track onto peat. › Signage to be erected to indicate prohibition of construction vehicles tracking off-road. › Floating roads to be subjected to a formal load test and certification (by Ionic) prior to turbine erection cranes being permitted to access them. The load test will involve incrementally increasing vehicle loads. Floating roads have also previously been subjected to construction vehicles such as the A25D, which has a total weight of 45 tonnes. The turbine crane will be restricted to an axle load of 12t, lower than the axle load of the A25 vehicles. No vehicles to track onto peat. Signage to be erected to indicate prohibition of construction vehicles tracking off-road. › Works will be advanced from solid construction (as previously planned) to avoid the need for plant to track over peat. › There is a no works zone to be enforced in an area south ofT7 turbine works zone.		
Appendix 8-1 Peat Stability Assessment Report: Meenbog Wind Farm (Existing Development) (FT, 2026) (rPSA (FT, 2026))					

MM71	Design Construction Details and Mitigation Measures	rPSA – Section 5.4	› Use of founded access roads across the majority of the Wind Farm Site (17.8km from a total of 20.4km) to reduce the area of peat loaded by construction works. Civil works undertaken by an experienced earthworks and civil contractor. › Inspection of areas identified for sidecasting by a suitably qualified person to confirm the suitability of the areas for this use. › A basal layer of brash and small trees and a layer of geogrid reinforcement were incorporated into the design of the floating roads to minimise the thickness of granular rockfill used to construct the roads, and to spread the dead load of the road evenly over the surface of the intact peat. › Ground Investigation – Extensive peat probing, in-situ vane shear testing to characterise the depth, strength and material characteristics of the peat. › Peat excavated from the turbine foundations sidecast on the intact peat slopes adjacent to the excavations was spread out over the surface of the peat, generally to a depth of 0.5-1.5m, to minimise the dead load surcharge and distribute it over a wide area. › Where large peat cells were required, a granular bund was constructed to retain the placed peat, with appropriate drainage installed through the berms to allow the placed peat to drain and consolidate. › Regular monitoring of deep peat areas. › Restrictions on work during or after periods of heavy or sustained rainfall. Heavy intense rainfall can result in degradation of the works resulting in localised instability, and in extreme cases can trigger large-scale peat failure.		

18.2 Emergency Response Measures Following the November 2020 Peatslide

Table 18-2 Emergency Response Measures

Ref. No.	Reference Heading	Reference Location	Emergency Response Measure Implemented
ERM1	Emergency Response Plan Activation	rEIAR Chapter 4 – Section 4.4.3	The Emergency Response Plan, as set out in the 2019 CEMP, was implemented immediately following the November 2020 peat slide. All construction activities were halted and resources redirected to emergency mitigation and environmental protection measures.
ERM2	Peat Containment Berm at T8	rEIAR Chapter 4 – Section 4.4.3.1	A peat containment berm was constructed upslope of T8 as a preventative and responsive measure to peat movement. The berm was designed to prevent further downslope peat migration and constructed to ensure controlled drainage through open-bond rock placement, avoiding hydrostatic pressure build-up.
ERM3	Barrage Wall No. 1	rEIAR Chapter 4 – Section 4.4.3.2	Barrage Wall No. 1 was constructed within 72 hours of the peat slide to prevent the movement of liquefied peat into downstream watercourses. The existing access road embankment was raised to increase containment capacity and mitigate overtopping risk.
ERM4	Barrage Wall No. 2	rEIAR Chapter 4 – Section 4.4.3.2	Barrage Wall No. 2 was constructed downstream of the slide area to prevent further peat migration and to facilitate peat removal and channel restoration works. The wall was subsequently partially removed following stabilisation to restore natural flows.
ERM5	Barrage Wall No. 3	rEIAR Chapter 4 – Section 4.4.3.2	Barrage Wall No. 3 was constructed downslope of identified unstable peat to stabilise water-laden material and prevent further movement.
ERM6	Water and Sediment Management Measures	rEIAR Chapter 4 – Section 4.4.3; rEIAR Appendix 2-3	Additional water and sediment management measures were implemented in conjunction with the barrage walls to control sediment mobilisation and protect downstream water quality during emergency response works.
ERM7	Peat Removal and Channel Restoration	rEIAR Chapter 4 – Section 4.4.3 ; rEIAR Appendix 2-3	Peat was removed from affected watercourses and channel restoration works were undertaken, including reinstatement of flow paths and stabilisation of stream banks to reinstate hydrological function.
ERM8	Supervision by On-Site Engineers	rEIAR Chapter 4 – Section 4.4.3	All emergency response and remedial works were supervised by on-site engineers (Ionic Consulting, now AFRY), ensuring appropriate design, implementation and environmental oversight.

18.3 Monitoring Measures

Monitoring measures that were implemented during the construction of the Existing Development are documented in Chapters 5 to 16 of this rEIAR and in the relevant appendices to this rEIAR. Proposed monitoring measures relating to the construction of the Prospective Development and the operation of the Subject Development are set out in the accompanying EIAR.