



Planning Section,  
Sligo County Council,  
Riverside,  
Sligo.

**Our Ref:** 181105a  
**Your Ref:** 20/251

7<sup>th</sup> April 2021

**Re: Pl.Ref.20/251- Croagh Wind Farm Response to Further Information**

Dear Sir/Madam,

On behalf of our clients Coillte CGA please find enclosed the further information response (RFI) which has been prepared by MKO in response to the request for further information (FI) issued by Sligo County Council on the 18<sup>th</sup> of September 2020. Please note that the Natura Impact Statement (NIS) has been updated as part of the RFI documentation. Following discussions with the Planning Authority ten copies of all RFI documentation are being provided as well as an electronic version of all documentation is also being provided. This RFI is being submitted within the appropriate time period as an additional 3-month period (until 26<sup>th</sup> of June 2021) has been agreed with Sligo County Council (SCC) as confirmed in correspondence dated the 24<sup>th</sup> of March 2021.

The further information is being submitted in relation to the proposed Croagh Wind Farm which is seeking planning permission for 2 no. wind turbines, meteorological mast, underground cabling, access tracks/roads, amenity works and all associated works within the functional area of Sligo County Council. The entirety of the renewable energy development constitutes the provision of a ten-turbine wind farm and all associated works on lands in both Counties Leitrim and Sligo (with eight turbines and all associated works being proposed within the functional area of Leitrim County Council – (LCC)). With respect to the planning application which was submitted to Leitrim County Council (Pl.Ref.20/120) please note that further information was also sought on the 22<sup>nd</sup> of September 2020.

Please note that there is crossover between the FI Items raised by Sligo County Council and Leitrim County Council which cover similar themes relating to environmental assessment, ecology, hydrology, geology, nature conservation, etc.

Sligo County Council's Further Information request was in 14 multi-part points across the following themes. Please note that there is a discrepancy in the numbering of the Sligo County Council FI which was issued in which there are two references to Item No. 8 (Road Construction & Earthworks and Drainage, the FI response therefore addresses Drainage under item 9 with the remaining five topics being considered under response items 10 to 14)

- Nature Conservation: Items 1(a) to (c)
- Environmental Impact Assessment Report: Item 2
- Ecology: Item 3
- Habitat Loss: Item 4(a) to 4(e)



- Geotechnical and Peat Stability Assessment Report: Items 5(a) to 5(k)
- Fauna: Birds Items 6(a) to 6(v)
- Mammals: Items 7(a) and 7(b)
- Road Construction and Earthworks: Item 8(a) to 8(g)
- Drainage: Items 8(a) to 8(e) [sic] numbering was repeated in request response document answers drainage items as 9(a) to 9(e)
- Surface water and monitoring: Items 9(a) and (b) in FIR, responses are 10(a) and (b)
- Works in proximity to watercourses: Items 10(a) and (b) responses are 11(a) and (b)
- Biodiversity: Item 11 response is numbered 12
- Archaeology: Item 12 response is numbered 13
- Noise: Items 13(a) and (b), responses are numbered 14(a) and (b)

The Leitrim County Council FI request raised a total of 78 no. items along the following themes:

- Landscape and Visual Assessment: - Items 1 to 3
- Nature Conservation: Items 4 to 9
- Peat Stability: Items 10 to 21
- Roads Construction and Earth Works: Items 22 to 26
- Roads, Access, Parking: Items 27 to 36
- Aviation: Item 37
- Water quality and Drainage: Items 38 to 49
- Domestic Wells: Item 50
- Works in proximity to Watercourses Item 51
- Existing Forestry Drainage Item 52
- Mitigation Measures Items 53 – 55
- Construction and Environmental Management Plan (CEMP) Items 56 to 58
- Fisheries Catchments: Item 59
- Birds Items 60 to 61
- Mammals Item 62
- Cumulative effects Item 63
- Distance to nearest dwelling Item 64
- Tourism Item 65
- Noise Items 66 to 70
- Shadow Flicker item 71
- Tree Felling items 72 and 73
- Fuel Storage Item 74
- Water Supply and Waste Water Items 75 and 76
- Decommissioning Item 77
- Third Party submissions Item 78

A significant portion of the FI items raised were based on submissions that were made by the National Parks and Wildlife Service (NPWS) and Inland Fisheries Ireland (IFI). Both Planning Authorities requested that liaison be held with these bodies in advance of responding to the FI requests. Further discussions were held with both the IFI and NPWS and these have been used to inform the overall FI response here being submitted.

For the ease of reference and in the interests of clarity for all stakeholders we have prepared the attached table 1 which lists where similar requests have been made from both local authorities. Table



1 outlines the FI items raised by Sligo County Council and pairs these with the similar point raised by Leitrim County Council. A brief summary/synopsis of the response to the noted item has also been provided within the table. This is being provided by way of context and for ease of reference and it is noted that the full provisions of the RFI should be considered to inform opinion on any particular aspect of the project. It should also be noted that certain elements within the requests are unique to each local authority and in this regard please refer to Table 2 which outlines the points raised by Leitrim County Council which are not similar in nature to any item raised by Sligo County Council. Similarly to Table 1 please note that the summary/synopsis has been included to provide context to the Planning Authority and the full provisions of the RFI should be considered to inform assessment of any particular aspect.

The documentation which is being included as part of this Further Information Response includes the following:

- Sligo County Council Response to Further Information Report,
- Updated Natura Impact Statement.

Should you require wish to discuss any of the matters outlined within the enclosed documentation further please feel free to get in contact with this office.

Yours sincerely,



Jimmy Green,  
Principle Planner,  
MKO.





Table 1- Comparison Table of RFI's Items Issued by Leitrim County Council and Sligo County Council

Sligo County Council	Leitrim County Council	Summary/Synopsis of Response to FI Item
FI Item No.1(a)	FI Item No.4	The Screening for Appropriate Assessment report and NIS have been updated to include reference to both the Article 12 and 17 reports under the Birds and Habitats Directives. Both documents have been resubmitted as part of this further information response
FI Item No.1(b)	FI Item No.5	The development site located 18.1km from the Cummeen Strand SPA and is buffered from it by a mixed landscape of forestry, agricultural lands and urban developments. There is no supporting habitat for SCI species at the development site and none were recorded during the extensive suite of surveys undertaken. In the revised Screening for Appropriate Assessment report, the SCI bird species of Cummeen Strand SPA have been screened-in following a precautionary approach and considered in the revised NIS for further assessment.
FI Item No. 1(c)	FI Item No. 6	The NIS identifies measures that have been put in place to prevent any potential for impact as a result of peat slippage under Section 3.2.12.
FI Item No. 2	FI Item No.7	The Article 12 data and site-specific results of dedicated bird surveys assessed within the ornithology chapter were fully assessed during the preparation of the Natura Impact Statement (NIS). The revised NIS also includes specific reference to the Article 12 dataset for completeness, see Section 4.3.3.3.
FI Item No. 3	FI Item No. 8	The detailed response to the noted point is contained under the technical note prepared by Hydro Environmental Services Ltd (HES). Based on the provided technical note and as outlined in the EIAR the proposed development has no potential to have direct or indirect impacts on the hydrology/hydrogeology of Carrane Hill Bog NHA.
FI Item No.4(a)	FI Item No. 9	The loss of 0.91 hectares (1.47%) of peatland habitat within the EIAR study area <i>'will be compensated for in full by felling an equivalent area of land where conifers have been planted on blanket bog habitat'</i> per the Peatland Enhancement and Biodiversity Management Plan submitted as part of the planning application.
FI Item No. 4(b)	FI Item No. 10	The area of peatland habitat (i.e. Upland Blanket Bog (PB2)) lost to the proposed development footprint 'at Turbine 1' is approximately 0.91 hectares (1.47%) of the overall proposed development (Section 6.7.3.1.2 of the EIAR). As outlined this has been fully compensated for.
FI Item No. 4(c)		Please note that Table 6-13 of Chapter 6 of the EIAR provides all habitat areas in hectares, i.e. 30.46 ha of 580.9 ha.
FI Item No. 4(d)		In relation to the cumulative loss of underlying peat during the felling of conifer plantation as part of the proposed development, the potential loss of carbon compared to the restoration to peatland habitat has been accounted for in the carbon loss and savings analysis, which is noted in Section 10.2.3 of Chapter 10 of the EIAR.
FI Item No. 4(e)		As described in the response to Item No. 4(a) above, the Upland Blanket Bog (PB2) habitat lost to the proposed development footprint at Turbine 1 has been fully compensated for in the site-specific Biodiversity Management Plan, provided in Appendix 6-5 of the EIAR.
FI Item No. 5(a)	FI Item No. 11	The Dawn of Hope landslide is primarily attributed to an intense rainfall event and the concentration of runoff from forestry drainage into an area of saturated, relatively weak peat, and likely due to the blockage of some forestry drains. The impact of such an event can be mitigated by ensuring that all existing forestry drainage is maintained during the proposed construction works.
FI Item No. 5(b)		Slope angle is only one part of the stability assessment. Fehily Timoney do not solely rely on the factor of safety measurement; a risk assessment using qualitative factors is also used to determine the relative risk of peat instability on a site

Sligo County Council	Leitrim County Council	Summery/Synopsis of Response to FI Item
FOI Item No. 5(c)	FI Item No. 14	The proposed mitigation measures will ensure that surface runoff from the developed areas of the site will be of a standard that will not significantly affect downstream water quality and will therefore have no potential to impact on the existing WFD status of downstream surface water bodies including the Kilanummary_010 sub-catchment.
FI Item 5(d)	FI Item No. 12	An updated drainage map has been submitted as part of this request for further information (refer to Figure 1-1 and Appendix I of HES' technical note).
FI Item No. 5(e)	FI Item No. 16	An assessment of the stability of the Borrow Pit is attached in Appendix A of Fehily Timoney's technical note. The borrow pit drawing has been updated (refer to Appendix C of the technical note) to show on the plan the proposed internal buttresses/upstands and specific angles and measurements.
FI Item No. 5(f)	FI Item No. 15	An assessment of the stability of perimeter berm at the Borrow Pit and Peat Repositories is attached in Appendix A of the technical note provided by Fehily Timoney. The results of the stability assessment show an adequate factor of safety against instability.
FI Item No. 5(h)	FI Item No. 17	The discrepancy highlighted under Item 5(h) has been noted and Fehily Timoney clarify that the text in Section 3.2 of the Geotechnical and Peat Stability Assessment Report (Appendix 8-1 of the EIAR) should read: <i>the site is generally classified by the GSI (2019) as 'low' to 'moderately high' susceptibility.</i>
FI Item No. 5(i)	FI Item No. 18	The detailed response to the noted FI Item is contained under the technical note prepared by Fehily Timoney which has been appended to the RFI report.
FI Item No. 5(j)	FI Item No. 19	The detailed response to the noted FI Item is contained under the technical note prepared by Fehily Timoney which has been appended to the RFI report.
FI Item No. 5(k)	FI Item No. 20	The factors of safety calculated at T8 and T9 are all above 1.3, which is considered to provide a satisfactory factor of safety against peat failure.
FI Item No. 6	FI Item No. 60 FI Item No. 61	Further information relating to birds provided in line with the FI sought by LCC and SCC.
FI Item No. 7(a)	FI Item No. 62	The surveys undertaken at the site of the proposed development are fully in line with the industry best practice (SNH, 2019) and a comprehensive assessment was achieved.
FI Item No. 7(b)		Overall risk levels for high collision risk bat species was typically Medium. This risk level is reflective of the nature of the site, which is an upland conifer plantation with low levels of bat activity recorded during the static detector surveys as well as walked and driven transects undertaken.
FI Item No. 8(b)	FI Item No. 22	Please note that 11.1km (~60%) of the wind farm roads already exist as forestry track and are proposed for upgrade. The upgrading of these roads, presents a potential short-term insignificant effect to surface water quality during construction and will have a positive effect in the long-term with regard to improved attenuation measures and drainage controls that will be implemented.
FI Item No. 8(c)	FI Item No. 23	All potential impacts to surface water assessed in Chapter 9 of EIAR are indirect impacts. No direct impacts are anticipated as no part of any natural watercourse will be changed/altered.
FI Item No. 8(d)		

Sligo County Council	Leitrim County Council	Summery/Synopsis of Response to FI Item
FI Item No. 8(e)	FI Item No. 24	The outline methodologies for the construction of wind farm site roads, including the upgrade of existing roads and construction of new roads are included in Section 4.3.2 in Chapter 4 and in Appendix 4-2 of the previously submitted EIAR. Please note that stone material used will have an adequate tensile strength so as to accommodate the movement of heavy vehicles and plant used during the construction phase of the proposed development.
FI Item 8(f)	FI Item No. 25	The recorded lower factors of safety (values of between 1 and 1.3) on existing excavate and replace roads are a result of using lower bound shear strength values at locations of relatively steep slopes, as stated in Section 7.3 of Appendix 8-1 of the EIAR.
FI Item No. 8(g)	FI Item No. 26	The excavate and replace roads proposed will be founded on a competent stratum (i.e. if any very soft or soft clay is present beneath the peat it will be removed and replaced with granular fill). This will significantly reduce the risk of a failure occurring within this layer from construction loading and/or vibrations on excavate and replace roads.
FI Item No. 9(a)	FI Item No. 40	The purpose of the drainage plan submitted with the EIAR was to show that the proposed development can be constructed and operated with a high standard of surface water quality protection measures in place. Updated drainage plans are provided under Appendix I of the HES technical note. With regard to treatment standards, the drainage system has been designed to achieve compliance with surface water Environmental Quality Standards (EQS) in the downstream receiving waters. In relation to concerns regarding the potential for erosion at points where interceptor drains discharge concentrated flows to bog/vegetated ground using a level spreader, it is proposed that a gravel bed, underlain by a geotextile layer will be placed below the level spreader outfalls and this gravel will provide protection to the underlying ground. The gravel will help maintain laminar flow as the discharge leaves the level spreader.
FI Item No. 9(b)		
FI Item No. 9(c)		
FI Item No. 9(d)	FI Item No.41	The locations and sizing calculations of the settlement ponds are shown on the updated drainage plans included in Appendix I and Appendix II of HES' technical note. Straw bales are only intended as a temporary drainage control measure during the construction phase. They are not intended to be a primary treatment component for development surface water runoff, they are not stand alone but occur as part of a treatment train of systems.
FI Item No. 9(e)		
FI Item No. 10(b)	FI Item No. 42	A Surface Water Management Plan (SWMP) has been included under Appendix 9 of the LCC response and Appendix 4 of the SCC response.
FI Item No. 11(a)	FI Item No. 32	As part of the construction of the proposed new site roads for the Croagh Wind Farm development, 9 no. new watercourse crossings will be required. The locations of the noted water crossings are shown within the response as requested.
FI Item No. 11(b)	FI Item No. 51	The locations of each of the grid connection cable watercourse crossings are shown on the previously submitted planning application drawings. The table included as Appendix A in Appendix 4-6 of the EIAR has been amended, the amended table is included under Appendix A of the LCC response and Appendix 7 of the SCC response.
FI Item No. 12	FI Item No. 59	Site specific mitigation measures have been incorporated into the proposed development for the protection of sensitive downstream aquatic receptors, including the Killanummery, Arigna, Owengar and Tullynascreena catchments. All aquatic habitats and species are identified as Key Ecological Receptors (KERs) and are fully assessed and considered in the EIAR. The impact assessment concludes that <i>'following the implementation of mitigation, there will be no significant residual effect on aquatic habitats or species as a result of the proposed development'</i> .

Table 2- Leitrim County Council FI Items raised which do not have a similar Corresponding FI Item within the Sligo FI request

Leitrim County Council	Further Information Wording	Leitrim Further Information Response Section
<b>FI Item No. 1</b>	The methodology contained in the submitted Landscape and Visual Assessment refers to being consistent with the approach advocated by Scottish Natural Heritage, Visual Representation of Windfarms, Guidance Document. Having regard to the maximum indicated height of 170 metres to tip height indicated in the application document, the Scottish Natural Heritage guidance would require a Zone of Theoretical Visibility of 45 km as applicable to this proposed development. You are requested to outline the basis for deciding on a reduced zone of 20 km which seems to be contrary to the Scottish Natural Heritage guidance.	The response to Item 1 has been prepared by MKO and outlines that the ZTV distance of 20km was fully sufficient for the purposes of the landscape and visual assessment and is compliant with the provisions of SNH. Section 2.1.1. of the LCC RFI
<b>FI Item No 2</b>	The Planning Authority acknowledge that we were consulted in relation to identifying the range of vantage points from which the proposed development should be assessed, and which photo montages should be prepared. There is one additional location where an additional viewpoint should have been requested, namely from Cleighran Mor Waterways Ireland marina on the eastern shore of Lough Allen, south of Ballinagleragh. This a popular area for boating enthusiasts and is also located on a section of R280 regional roadway which is quite open towards the shoreline. Whilst it is accepted that the distance to the proposed development is considerable from this side of the lake, you are requested to include this vantage point and to submit an addendum to the submitted photomontages and Visual and Landscape Assessment.	Notwithstanding the lack of visibility of the proposed turbines from the marina itself, in response to the request, a photomontage has been prepared of the view from a location adjacent to the entrance to the marina off the R207 Regional Road and has been included as Appendix 1 of the LCC RFI. Refer to Section 2.2.1. of the LCC RFI
<b>FI Item No 3</b>	The Planning Authority accepts that the proposed development is located within an existing landscape which contains a considerable number of existing turbines. The Planning Authority would express some reservations that the introduction of larger turbines will not be read as one development type in the landscape, with existing turbines which are considerably smaller. The effect of introducing a new scale of turbines within an existing 'windfarm landscape' could be considered to introduce stacking of wind turbines in the landscape and giving rise potentially to visual confusion arising from the difference in height and profile. The Planning Authority would welcome your views on the above statements, and any ameliorations as may be appropriate.	The outcome of the landscape and visual impact assessment process, as set out in the submitted EIAR, shows that this site, the proposed layout and scale of project will not have significant landscape or visual effects cumulatively. The LVIA also demonstrates that stacking of wind turbines is not an issue and that visual confusion does not arise from the use of different sized and more modern turbines, accordingly it is not anticipated that any significant landscape or visual effects will arise at this site. Refer to Section 2.3.1. of the LCC RFI
<b>FI Item No 13</b>	The Geotechnical Report indicates that the turbines are located downslope of headwater areas, however these may still receive focused flows. This aspect should be incorporated into the Geology/ Geotechnical chapter, as the risk of failure that is	The detailed response to Item No.13 is included in a technical note prepared by Fehily Timoney (FT) which has also drawn on input from Hydrological Environmental Services Ltd (HES). The presence of interceptor drains upslope of the turbine locations will capture surface water flow and divert it away from the turbine/hardstand

Leitrim County Council	Further Information Wording	Leitrim Further Information Response Section
	linked to hydrology. You are requested to submit your revised proposals in this regard.	locations (refer to drainage design plans in Appendix I of Appendix 2 of the LCC RFI). Refer to Section 2.1.1. of the LCC RFI
<b>FI Item No 21</b>	The Environmental Health Service (EHS) in their submission notes the proposed drainage management measures included in Chapter 9.4.2 but reiterates the earlier reference to the recent nearby landslide which resulted from heavy rain following a period of dry weather. The Planning Authority therefore requests that the Flood Risk Assessment is reviewed in light of this recent landslide and that any further mitigation measures necessary to prevent a reoccurrence are outlined. You are requested to submit your revised proposals accordingly.	As outlined in the technical noted prepared by HES the occurrence of the nearby landslide does not change the flood risk as assessed in the EIAR with regard to mapped fluvial flood zones or downstream flood risk. Refer to Section 2.21.1. of the LCC RFI
<b>FI Item No 27</b>	Please submit a full design of the junction between the proposed road and the R280 in Drumkeeran Village. This design shall be in accordance with the Design Manual of Urban Roads and Streets. In addition, please provide details of works required at the entrance of the yard to lower and strengthen the paved footpath, the lowering of the ESB chamber cover and the relocation of the directional signage.	The full description of the proposed, temporary junction is included in Section 4.4.1.1 of the submitted EIAR and the junction detail is shown in Drawing No. 180511-60a of the planning application drawings. Additional details and discussion on this junction is provided in Section 2.27.1. of the LCC RFI
<b>FI Item No 28</b>	Please submit full details of sight distances for all new junctions. Sight distance requirements should achieve those set out in the Leitrim County Development Plan.	Traffic movements generated on the proposed link road and through its junctions with the R280 and L4282 will be limited to deliveries of large turbine components and other abnormal loads accompanied with a Garda Síochána escort to control traffic so standard visibility splays (sight distances) are not required at these junctions. Refer to Section 2.28.1. of the LCC RFI for further detail.
<b>FI Item No 29</b>	Please submit a full design of all junctions designed in accordance with DN-GE0-03060- Geometric Design of Junctions.	Traffic movements generated on the proposed link road and through its junctions with the R280 and L4282 will be limited to deliveries of turbine components and other abnormal loads accompanied by a Garda escort to control traffic and therefore, as these are not self-regulated junctions, standard junction layouts for these temporary junctions are not required. Refer to Section 2.29.1. of the LCC RFI
<b>FI Item No 30</b>	Please submit a detailed and accurate construction traffic management plan for construction traffic along regional and local roads. This plan should include calculations of anticipated traffic volumes for various elements of the construction stages and outline how such traffic volumes are to be accommodated on the exiting narrow local road network and whether and where passing bays are to be constructed as part of the road works. This Plan should also include details of how local traffic is going to be accommodated during periods of heightened construction traffic movement and additional in this regard, the local authority requests a map	A detailed and thorough assessment of the volumes of construction traffic that will be generated on the surrounding road network, including the R280 Regional Road and L4282 Local Road, during various constructions stages, together with estimates of the likely impacts in terms of increased traffic volumes, is presented in Chapter 14 of the EIAR. Please refer to Section 14.1.3 and 14.1.4 of the submitted EIAR. Refer to Section 2.30.1. of the LCC RFI

Leitrim County Council	Further Information Wording	Leitrim Further Information Response Section
	highlighting the location of residential dwellings and their proximity to the haul route in the townlands of Derrycullian, Letter, Camalt, Derrybofin, Derreens and Seltan.	
<b>FI Item No 31</b>	A detailed methodology of how it is proposed to transport the wind turbines along the N4, R299 and R280 shall be submitted. This should take into account the acute road junctions and the frequent flooding incidents on the R299.	A total of five additional locations, were identified as potential pinch points on the N4 National Primary Route, R299 Regional Route and R280 Regional Route section of the turbine delivery route via a desktop review and site visit of the route. It is proposed that the delivery of all blades through the five pinch-points identified on this section of the route will be made using blade lift adapter delivery technology. Refer to Section 2.31.1. of the LCC RFI
<b>FI Item No 33</b>	Please submit details of any parapets which may be required where works are carried out to widen the existing road and where any culverts that are crossed will have to be extended.	As noted within the RFI document it has been determined that no works to existing bridge parapets, new parapets nor upgrade works to existing watercourse crossings, along the public road network, are required or proposed as part of the Croagh Wind Farm development. Parapet upstands will be installed at Proposed New Watercourse Crossings No. 3 to 9 and these are shown on the drawings included in Appendix 6 of the RFI document. Refer to Section 2.33.1. of the LCC RFI
<b>FI Item No 34</b>	Please confirm that the routes shall be capable of accommodating emergency vehicle access in compliance with Section 5.2 of Technical Guidance Document B, with a minimum clear width of road between kerbs of 3.7 metres and a minimum carrying capacity of 15 tonnes.	It can be confirmed that all access roads will be capable of accommodating emergency vehicle access. Refer to Section 2.34.1. of the LCC RFI
<b>FI Item No 35</b>	Further details on the Proposed Turbine Haul Route should be submitted. Please consult with Transport Infrastructure Ireland and in the event that an abnormal load assessment is required, it should be undertaken in order to assess the impact of any abnormal weight loads where the load weight falls outside the limits allowed by the Road Traffic (Construction Equipment & Use of Vehicles) Regulations 2003.	Details of the proposed Turbine Haul Route were provided in Chapter 14 of the EIAR and in the response to Further Information Item No. 31. Transport Infrastructure Ireland (TII) were consulted as part of the EIA scoping process. TII did not request that an abnormal load assessment be carried out. Per Section 14.1.1.1 of the EIAR, the loads that will transport the large component parts of the wind turbines will be abnormal in size only, with the weight distributed over a sufficient number of axles that weights will not fall outside the limits set out in the Road Traffic (Construction Equipment & Use of Vehicles) Regulations 2003. Refer to Section 2.35.1. of the LCC RFI
<b>FI Item No 36</b>	Please set out details for the construction of the car park, including footpaths, drainage, surface material, etc. Please include details on sight lines at the entrance to the carpark from the public road, provision for disability parking spaces as required in the County Development Plan and parking space(s) for larger vehicles.	Details in relation to the visitor car park are included in Section 4.6.1.1 of the EIAR. The construction of the visitor car park will be carried out in a manner similar to that of the methodology for the construction compounds which is outlined in Section 4.9.5

Leitrim County Council	Further Information Wording	Leitrim Further Information Response Section
		of the EIAR. Refer to Section 2.36.1. of the LCC RFI which also provides clarification in relation to sightlines.
<b>FI Item No 37</b>	You are required to engage with Sligo and West of Ireland Airports to ascertain whether there is any impact on flight procedures or communication, navigation and surveillance equipment arising from the proposed wind farm or the construction methodology to be utilised, should planning consent be granted. An aeronautical safety screening assessment for both aerodromes is required.	Details in relation to the proposed Croagh Wind Farm development were issued to both Sligo and Ireland West (Knock) Airports via email on the 7 <sup>th</sup> and 15 <sup>th</sup> of January 2021, respectively. To date, no response has been received from Ireland West Airport. However, the applicant remains open to engaging with them. A response from Sligo Airport, received on the 26 <sup>th</sup> January 2021. A copy of the correspondence with Sligo Airport is included in Appendix 8a of the LCC RFI. Refer to Section 2.36.1. of the LCC RFI
<b>FI Item No 38</b>	It is noted that the proposed development crosses a number of catchments including the Killanummery, Arigna, Tullynascreen and Owengar Rivers. The Killanummery River provides important salmon and trout spawning and nursery habitat for the Bonet River, Lough Gill and Garavogue River fisheries. This catchment also supports populations of lamprey and crayfish. Tributaries of the Killanummery River runs adjacent to and through the proposed site. These watercourses are under environmental pressure but were identified as being at good ecological status in the EIAR Water Quality Section 6.5.2 refers. It should be noted that this has now deteriorated to poor ecological status and requires robust protection to allow its recovery back to good status. The Planning Authority notes that Inland Fisheries Ireland is concerned that this deterioration will impact on the long term viability of the downstream fisheries. This catchment has been identified as being at risk of not recovering to good status due to forestry activity and poor hydro morphology which are both potential impacts of this development. Salmon stocks in this system have now fallen below their conservation limit, i.e. the number of spawning salmon required to maintain the fishery. The Killanummery River forms part of the Lough Gill Special Area of Conservation (SAC) which this site is hydrologically connected to. This SAC is designated for the protection of Atlantic salmon, white-clawed crayfish and lamprey species.	The detailed response to Item No. 38 is included in a technical note prepared by HES. The surface water mitigation and the details presented in the updated drainage plans, as shown in Appendix I of HES' technical note, will ensure that surface runoff from the developed areas of the site will be equivalent to baseline conditions and will therefore have no potential to impact on the status, ecology or hydromorphology of downstream waters. Refer to Section 2.38.1. of the LCC RFI
<b>FI Item No 39</b>	You are requested to submit additional grab and composite water sampling to establish the physical, chemical and biological background water quality and the	In response to RFI Item 39, HES undertook further site investigations and hydrological monitoring at the Croagh WF Site during December 2020. This monitoring works are

Leitrim County Council	Further Information Wording	Leitrim Further Information Response Section
	baseline conditions in the selected sampling locations. In addition, the existing physical depths, conditions and flow in these streams shall be clearly identified.	detailed in Section 1.4.1 of HES' technical note. Refer to Section 2.39.1. of the LCC RFI
<b>FI Item No 43</b>	You are requested to clarify by providing a clearly labelled maps(s) to appropriate scale to identify the proposed locations where continuous monitoring equipment to monitor flow, turbidity and depth should be installed and remain in situ in the sampling locations on the Killanummetry River_010, the Arigna River_010 and the Owengar River _010.	The Surface Water Management Plan (SWMP)(Appendix 4-4 of the submitted EIAR) sets out detail in relation to the proposed drainage design measures, drainage management and the surface water monitoring programme. Continuous monitoring equipment, to monitor flow, turbidity and water depth will be installed at the 5 no. locations shown on Figure 4-1 of the SWMP. Refer to Section 2.43.1. of the LCC RFI
<b>FI Item No 44</b>	You are requested to clarify if silt fences will be installed on all the treated water outlets on all the proposed collector drains.	As shown on the updated drainage plans (Appendix I of HES technical note), silt fencing will be placed downstream of all treated water drainage outlets. The silt fencing will have the added benefit of reducing water velocity at the outfall locations as well as a protection to downstream watercourses. Refer to Section 2.44.1. of the LCC RFI
<b>FI Item No 45</b>	The submitted drainage layout 0511-26 shows 2 no. treated water outlets from the Borrow Pit yet the accompanying report only identifies 1 no. outlet. You are requested to correct this contradiction as over pumping may be required to control the standing water level, and the attenuation time in the settlement ponds is important for reducing the suspended solids and also for the protection of the stream adjacent to the Borrow Pit.	This issue is dealt with in the updated drainage plan (Appendix I of HES technical note) for details on borrow pit drainage locations. There is one outfall shown on Drawing 0511-26. Refer to Section 2.45.1. of the LCC RFI
<b>FI Item No 46</b>	The drainage layout drawings show the settlement ponds upstream of the vegetative swales (filter bed/secondary settlement pond). The Construction and Environmental Management Plan describes the reverse arrangement with the settlement ponds downstream of the vegetative swales. You are requested to correct this contradiction as it is considered important for adequate downstream attenuation.	The reverse arrangement referred to in the CEMP (Appendix 4-4 of the EIAR) is a discrepancy. Please refer to the updated drainage plans (Appendix I of HES' technical note) for details on drainage layout. Refer to Section 2.46.1. of the LCC RFI
<b>FI Item No 47</b>	In the interests of water protection, it is recommended that a suitably sized Class I petrol /oil interceptor and grit trap should be installed in both of the temporary compounds. These should be installed in an accessible location which allows for regular maintenance; and such that all surface water in both site compounds can be passed through this, prior to its final discharge. You are requested to submit a drawing identifying the proposed location of both.	Refer to the updated drainage plans (Appendix I of HES' technical note, Drawing 0511-24 and Drawing 0511-25) for the proposed locations of the suitably sized petrol /oil interceptors and grit traps at the temporary compounds. Refer to Section 2.47.1. of the LCC RFI

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<b>FI Item No 48</b>	It is recommended that a suitably sized Class 1 petrol/oil interceptor and grit trap should be installed in the permanent amenity car park to be provided; to be sited in an accessible location which will allow all surface water to be passed through this before discharge to surface waters and to allow regular maintenance and servicing. You are requested to submit your revised proposals in this regard.	Refer to the updated drainage plan 0511-23 at (Appendix I of HES' technical note) for the location of the perimeter drainage and the suitably sized petrol /oil interceptor and grit trap at the proposed amenity car park. Refer to Section 2.48.1. of the LCC RFI
<b>FI Item No 49</b>	You are requested to submit a Mitigation Measure for Post -Construction Surface Water Monitoring which will be required by the Local Authority to be carried out after the construction works are completed and should be continued until the surface water monitoring results of the chemical and biological monitoring indicate that there is no adverse impact on the surface water rivers draining the site.	The mitigation measure for Post- Construction Surface Water Monitoring, as will be required by the local authority, has been included in Section 4.1.4.1 of the Surface Water Management Plan (Appendix 9 of the LCC RFI). Refer to Section 2.49.1. of the LCC RFI
<b>FI Item No 50</b>	The Planning Authority notes that the Environmental Health Service (EHS) is aware of well(s) down- gradient of the site which are in use as domestic supplies. This is contrary to the information provided which states that 'no private dwelling houses were identified to be located down-gradient (i.e. downslope) of the proposed wind farm infrastructure development (and in particular turbine and borrow pit locations) and therefore there is no potential to impact on groundwater supplies'. You are requested to liaise with the Environmental Health Service in this regard and to identify the known wells down gradient of the proposed development and to outline a proposed sampling regime prior to any site works beginning and on an annual basis thereafter. The proposals should also include measures to remedy any impact which the proposed development could have on such domestic water supplies.	The potential impact on local wells was thoroughly assessed in Chapter 9 of the EIAR. This assessment was based on site specific investigations of the properties of the underlying bedrock aquifer. Specifying the locations of properties with domestic wells, as suggested in the RFI item will not change this assessment, because the existence of these wells was assumed as a worst-case and has the presence of wells has been assessed. As per the RFI it is noted that <i>"the purpose of the EIAR is to assess likely significant effects. We are confident in our assessment that the potential to impact on groundwater quality or quantity remote from the proposed development site is negligible."</i> Refer to Section 2.50.1. of the LCC RFI
<b>FI Item No 52</b>	You are requested to submit a specific mitigation measure for the existing forestry drainage network to ensure the protection of all downstream receiving waters. This measure should be specific and should include the proposed methods to integrate the existing drainage with the proposed new drainage layout.	The updated drainage plans (Appendix I of HES' technical note) include the pre-construction drainage measures as outlined within the RFI document. Refer to Section 2.52.1. of the LCC RFI
<b>FI Item No 53</b>	You are requested to clarify with regard to each of the proposed Mitigation Measures MM6 to MM11 inclusive as to who is the responsible person for each.	Clarification with regards to the mentioned proposals and the responsible person is provided under Section 2.53.1 of the LCC RFI. Refer to Section 2.53.1. of the LCC RFI
<b>FI Item No 54</b>	You are requested to submit a Mitigation Measure for COVID 19 with regard to current HSE guidance. In this regard, you are requested to revise Mitigation Measure 67 'Travel Plans for Construction Workers' for COVID 19.	It is not anticipated that the current public health requirements in relation to the COVID-19 pandemic will still be in place by the time the construction phase of the proposed development commences. However, in the event that public health requirements are still in place, these and any standard operating procedures put

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		forward by the CIF will be included in the Health and Safety Plan (outlined in Section 5.9.2.1 of the EIAR) for the construction phase which will be implemented on site and will extend to travel to and from the site. Refer to Section 2.54.1. of the LCC RFI
<b>FI Item No 55</b>	You are requested to clarify, if it is proposed to incorporate a 50m buffer zone during the wind turbine construction phase for all streams. In addition, you are requested to provide further detail outlining how these zones will be delineated, installed and managed within the site as indicated in Figure 9.7 of the EIAR.	A self-imposed 50m buffer zone will be incorporated during the construction phase at all streams. The 50m buffer zone will only be crossed in areas where a stream crossing (culvert) is required for access roads. Refer to Section 2.55.1. of the LCC RFI
<b>FI Item No 56</b>	It is important to consider the holistic view and rather than concentrating on upper and lower reaches the connectivity of watercourses means that all land drains and feeder streams have potential to impact on downstream watercourses in this regard adequate consideration should be given to existing forestry drains, which may act as a vectors for pollutants during construction works and should in some cases be blocked. You are requested to comment on the above statements and to submit your revised assessments I proposals as required.	The updated site drainage plans now include forestry drain mapping (Appendix I of HES' technical note). Refer to Section 2.55.1. of the LCC RFI
<b>FI Item No 57</b>	The management of invasive species, within the CEMP and mitigation measures should be expanded to include aquatic invasive for work on watercourses, pre and post works for all plant, equipment, PPE including pumps brought into site. Consideration should be given to the treatment of Japanese Knotweed stands identified on site, as part of this development. You are requested to comment on the above statements and to submit your revised assessments / proposals as required.	An outline of guidelines in relation to the establishment of good site hygiene has been provided in Section 3.3.2 of the CEMP (Appendix 4-4 of the EIAR). An invasive species management plan for the site will prevent the introduction or spread of any invasive species within the footprint of the works. An invasive species management plan will set out best practice treatment options, as summarised in the following sections. Refer to Section 2.57.1. of the LCC RFI
<b>FI Item No 58</b>	Where tree felling and replanting is carried out as part of this development, aquatic buffer zones must be provided along all watercourses with the planting of two rows of native broadleaf trees outside the buffer zone or groups of trees at irregular intervals. You are requested to comment on the above statements and to submit your revised assessments / proposals as required.	It can be confirmed that, where felling occurs as part of the proposed development, two rows of native tree species or groups of trees at irregular intervals will be planted on the edge of the forestry aquatic buffer zones, provided aquatic buffer zones do not occur within the areas to be left free of tall vegetation for the reduction of potential effects on bat populations. Refer to Section 2.58.1. of the LCC RFI
<b>FI Item No 63</b>	The Planning Authority notes the comments of the Department of Culture, Heritage and the Gaeltacht that they would welcome further information regarding the cumulative effects of collision mortality for the proposed wind farm in combination with all other wind farm developments in the zone of influence. Mortality rates should be put in a wider international and national context. To that end, the Department	Section 2.63.1 responds to the query raised by both LCC and the DAU. Please refer to the noted section for full context of the response.

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	recommends recent research published on collision risk mitigation (May et al., 2020) for specific bird species. You are requested to comment on the above concerns and to submit your revised assessments as appropriate.	
<b>FI Item No 64</b>	There is a discrepancy in the distance from the proposed development to the nearest occupied dwelling - 850m is stated in Chapter 5.7 (shadow flicker) and 750m in the Community Report. You are requested to clarify the distance to the nearest occupied dwelling.	The applicant wishes to clarify that the distance of 850m from the nearest occupied dwelling to any of the proposed turbine locations, as stated in Section 5.7 of the EIAR, is correct and that the reference to 750m in Section 5.2 of the Community Report (Appendix 2-2 of the EIAR) is a typographical error. Refer to Section 2.64.1. of the LCC RFI
<b>FI Item No 65</b>	The planning authority is concerned that the impacts on Tourism to the local economy may not have been adequately assessed. The planning authority requires that a sufficient and compelling assessment is submitted, containing research and resulting evidence from similar proposals to conclude that the proposed wind farm development will not have an adverse impact on Tourism and the local tourist economy.	Tourism in the context of the proposed development is further discussed under Section 1.65.1 of the LCC RFI. To reiterate Section 5.9.3.9 of the submitted EIAR it is considered that the Croagh Wind Farm project will have a significant positive effect on local tourism by opening up the area to the locals and attracting tourists from further afield with the addition of recreational facilities and amenities as part of the proposed wind farm design. Furthermore, the provision of a Croagh Wind Farm Community Benefit Fund will ensure continued annual financial contribution to local tourism, heritage, sport and sustainable developments to the surrounding communities for the operational lifespan of the project, further attracting visitors to the area. Refer to Section 2.65.1. of the LCC RFI
<b>FI Item No 66</b>	You are requested to clarify by providing a clearly labelled maps(s) to appropriate scale to identify each of the noise sensitive locations, noise measurement locations as identified in Table 11-4 Measurement Location Co-ordinates. The elevation of each location, the distance in metres from the wind turbine site boundary and the distance to the nearest turbine(s) shall be clearly provided.	These locations are shown on Figure 2-8 of the LCC RFI which illustrates the locations of the noise sensitive locations (NSLs) included in the noise impact assessment in Chapter 11 of the EIAR and the noise measurement locations (NMLs) listed in Table 11-4 of the same. Refer to Section 2.66.1. of the LCC RFI
<b>FI Item No 67</b>	You are requested to clarify the location and height of the reference turbine used for the noise modelling, and all other assumptions AWN Consulting used to construct the noise model.	In preparing the noise model, a number of turbine technologies, within the proposed turbine dimensions, were provided to AWN and their sound power levels were reviewed in order to form an envelope of values which covered all options, i.e., a set of sound power level values that would not be exceeded no matter which of one of the turbine technologies became the ultimate selection. Other assumptions used in the Croagh Wind Farm noise model include Ground Effect, Atmospheric Absorption and Barrier Effect. Refer to Section 2.67.1. of the LCC RFI

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<b>FI Item No 68</b>	You are requested to provide a noise contour plot with a key explaining in detail the contour noise levels, relative to the geographic location of the noise measurement locations.	An overall map of the site with the operational noise contour is presented in Figure 1 of AWN's technical note. Refer to Section 2.68.1. of the LCC RFI
<b>FI Item No 69</b>	You are requested to outline how the wind speed relied on in the EIAR was recorded on site, to identify where exactly it was recorded relative to each of the measurement locations in Table 11-4 and to the reference turbine.	The wind speeds were measured using a temporary meteorological mast installed at coordinates E584,274 N823,568 (Irish Transverse Mercator). The relative position of the mast in relation to the noise survey locations is presented in Figure 1 of AWN's technical notes. Refer to Section 2.69.1. of the LCC RFI
<b>FI Item No 70</b>	You are requested to indicate what the prevailing wind direction(s) was when the prevailing background noise levels were monitored at the locations given in Table 11-4. You are also requested to identify the prevailing wind direction for each of the proposed turbines at the proposed site.	The noise measurement periods for the 10 no. monitoring locations are presented in Table 11-5 of the EIAR and generally covered the period between January and March 2019. A frequency distribution of the wind speed and direction samples is presented in Figure 11-4 of the EIAR, showing that a broad range of directions was encountered, with a large number of samples in the south-west direction sector, which represents the prevailing wind direction. Refer to Section 2.70.1. of the LCC RFI
<b>FI Item No 71</b>	You are requested to clarify by providing a clearly labelled map(s) to appropriate scale to identify each of the 24 no. properties within 1 km of the proposed Wind Farm site used in the Shadow Flicker assessment. You are also requested to clearly identify, the 13 no. properties where Shadow Flicker is predicted to occur. The distance in metres from the wind turbine site boundary and the distance to the nearest turbine(s) should be clearly provided.	Figure 2-9 of the LCC RFI clearly shows the locations of the 24 no. properties that were considered in the shadow flicker assessment. Refer to Section 2.71.1. of the LCC RFI
<b>FI Item No 72</b>	You are requested to clarify by providing a clearly labelled map(s) to appropriate scale which identifies the geographic area of the site where clear-felling is proposed and clearly distinguish the areas where the forestry will not be clear-felled, and the proposed wind turbine layout submitted.	Please refer to Appendix 13 of the LCC RFI document which contains maps, at a larger scale, clearly showing the proposed forestry felling areas in response to Item No. 72. Refer to Section 2.72.1. of the LCC RFI
<b>FI Item No 73</b>	You are requested to prepare and submit a Method Statement for the clear-felling activities which includes detailed reference to the timing of the works, the various approval stages including those from the Forest Service and Inland Fisheries Ireland along with a surface water drainage plan. This shall include specific details of the surface water monitoring to be carried out during the clear-felling, the chemical, physical and biological monitoring proposed and clearly identify responsibilities for this work. Please be specific as split sampling of monitoring samples may be required by the Environment Section in interests of water protection. It is recommended that	Details surrounding the requested method statement are contained under Section 2.73.1 of the LCC RFI document. Refer to Section 2.73.1. of the LCC RFI

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	this sampling should be continued for the duration of the clear felling and construction works.	
<b>FI Item No 74</b>	You are requested to submit further information in regard to the proposed bunded areas, the sizing of the bund and all tanks to be included in the bund. Details of fuel storage, the fuel permit to refuel system and standard operating procedures for the delivery, storage, dispensing and containment/disposal of spills arising from the fuelling needs of all site equipment e.g. cranes, excavators, dump trucks and lorries. Please note that no vehicle maintenance should take place on the site.	The management of fuels stored on-site, refuelling on-site and the prevention of fuel and other hydrocarbon spillages has been considered in the EIAR and the CEMP (Appendix 4-4 of the EIAR). An emergency plan for the construction phase to deal with accidental spillages is contained within the CEMP. Only minimal plant or machinery maintenance will take place on-site other than regular checks for leaks and fitness for purpose. Refer to Section 2.74.1. of the LCC RFI
<b>FI Item No 75</b>	You are requested to clarify, the different proposed construction phase and operational phase sanitary arrangements for wastewater generated at the 2 no. compound locations and for the proposed substation during the operational phase of the proposed windfarm.	Per Section 4.3.9 of the EIAR temporary port-a-loo toilets located within a staff portacabin will be used during the construction phase. Wastewater from staff toilets will be directed to a sealed storage tank, with all wastewater being tankered off site by a permitted waste collector to wastewater treatment plants. Similarly, the sanitary arrangements for wastewater generated at the proposed control building within the substation compound during the operational phase of the proposed development. Refer to Section 2.75.1. of the LCC RFI
<b>FI Item No 76</b>	Please confirm how a water supply is to be accessed for welfare, and health and safety purposes, during the construction phases and the operational phases of the development.	During the construction phase of the proposed development, a temporary potable, water supply will be provided at the staff facilities within the construction compounds. Bottled water will be available in the staff facility cabins. A water supply for handwashing and other health and safety purposes will be provided via a static water storage tank located adjacent to the staff facility cabins.  During the operational phase the wind farm control building will include staff welfare facilities for the staff that toilet facilities will be installed with a low-flush cistern and low-flow wash basin. Due to the specific nature of the proposed development there will be a very small water requirement for occasional toilet flushing and hand washing and therefore the water requirement of the proposed development does not necessitate a potable source. It is proposed to harvest rainwater from the roofs of the building, and if necessary, bottled water will be supplied for drinking Refer to Section 2.76.1. of the LCC RFI

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<b>FI Item No 77</b>	Further information in regard to the detailed decommissioning of the project at the end of the thirty-year period is required. Details regarding the removal of structures, buildings, roads etc and landscaping proposals for after their decommissioning and removal should be submitted. A site specific, volumetric demolition Plan should be submitted and drawings to clearly show the areas included. A contoured landscape map should be submitted clearly identifying the proposed contour heights and finishes after decommissioning.	An outline Decommissioning Plan has been prepared and included as Appendix 14 of the LCC RFI. Refer to Section 2.77.1. of the LCC RFI
<b>FI Item No 78</b>	You are advised that submissions have been received in relation to the development. The submissions are available for inspection in the Planning Office. In this regard you are invited to inspect the submissions and if not already covered in the items above, to submit a response to the issues raised.	Section 2.78.1 of the LCC response has been prepared to respond to the submissions/observations which have been received by Leitrim County Council in relation to the Croagh Wind Farm application. Refer to Section 2.78.1. of the LCC RFI