

Response to Observations Received

Proposed Repowering of
the Existing Kilgarvan Wind
Farm (ABP Ref-319741)





DOCUMENT DETAILS

Client: **Orsted Onshore Ireland Midco Ltd**

Project Title: **Proposed Repowering of the Existing Kilgarvan Wind Farm (ABP Ref-319741)**

Project Number: **21107-a**

Document Title: **Response to Observations Received**

Document File Name: **211107 Response to Submissions Received F 2024.12.03**

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Rev	Status	Date	Author(s)	Approved By
01	Final	03/12/24	AM/AC	MPC/SC

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INTRODUCTION

MKO have been instructed by Orsted Onshore Ireland Midco Ltd (Orsted) ('the Applicant'), of Floor Five, City Quarter, Lapp's Quay, Cork to prepare a response to the request issued by An Bord Pleanála ('the Board') on the 6th November in relation to the Proposed Repowering of the Existing Kilgarvan Wind Farm (The Proposed Development). The request was made in relation to the Strategic Infrastructure Development (SID) planning application before the Board for consideration (ABP Ref-319741). The letter from the Board states that the deadline for submitting a response to the submissions received by them to the application is 4th of December 2024, by 5.30pm.

The Proposed Development will involve the removal of the existing 28 no. turbines and replacement with 11 no. wind turbines, and all other ancillary and associated site works and infrastructure on the existing Kilgarvan Wind Farm site in the townlands of Inchincoosh, Lettercannon, Inchee, Coomacullen, and Cloonkeen in County Kerry.

It is noted that the planning application lodged included a robust Environmental Impact Assessment Report (EIAR), including associated EIAR appendices, Natura Impact Statement (NIS) and a suite of planning drawings.

This response to submissions document comments firstly on observations from Third-Parties which have been categorised into themes, followed by commentary on observations from Statutory Bodies and finally deals with observations made by the local authority, Kerry County Council. It is of note that none of the observations raised have recommended refusal of the planning application, or a reduction in the overall scale of the development and all matters raised in the observations have been dealt with as part of the documentation submitted with this application.

Table 1 below outlines the 8 no. valid submissions that were received by the Board, along with the themes included in each submission.

Table 1 Valid submissions received by An Bord Pleanála

No.	Submission by	Section	Themes included
1	Dermot Kelleher	Third-Party Observer	Public Consultation, Negative Health Effects, Impact on Road Users, Electromagnetic Interference, Negative Effect on Wildlife and Local Rivers, Visual Impact/Negative Effects on Beauty of Area, Property Devaluation
2	Derry Kelleher	Third-Party Observer	Public Consultation, Negative Health Effects, Impact on Road Users, Electromagnetic Interference, Negative Effect on Wildlife and Local Rivers, Visual Impact/Negative Effects on Beauty of Area, Property Devaluation
3	Gerard Dineen	Third-Party Observer	Noise and Health.
4	Transport Infrastructure Ireland	Statutory Bodies	Official TII Polices and maintenance and safety of the National Road network

5	Department of Housing, Local Government and Heritage	Statutory Bodies	Archaeology, Nature Conservation (White-Tailed Sea Eagle)
6	Inland Fisheries Ireland	Statutory Bodies	Surface Water Quality
7	Irish Aviation Authority	Statutory Bodies	Requested conditions in relation to conditions related to <ul style="list-style-type: none"> • Obstacle warning light scheme • as-constructed coordinates • Notification of intentions to commence crane operations to Kerry Airport and IAA.
8	Kerry County Council	Local Authority	General, Environment Protection, Biodiversity, Construction Management Plan, Roads and Transportation, Water Services, Environment Department, Archaeology, Development Levies, Community Contribution Fund, Bond Allied Matters.

1.1

Background to the Proposed Project

As outlined in Section 1.1 of the Environmental Impact Assessment Report (EIAR) lodged with the planning application, the proposed 11 no. wind turbines and associated infrastructure will have an export capacity of approximately 72.6 megawatts (MW). The EIAR and Natura Impact Statement (NIS) which accompany the planning application contain the information necessary for An Bord Pleanála to complete the Appropriate Assessment and Environmental Impact Assessment as required for this planning application. For clarity, all elements of the Proposed Development are assessed cumulatively within the EIAR and in combination with other plans and projects to aid the competent authority in carrying out an EIA. The EIAR and NIS also assesses the proposal to upgrade the existing Coomagearlahy 110kV on-site substation and associated works, which connects to the existing 110kV overhead line which in turn connects to the existing Clonkeen 110kV substation, in the townland of Cloonkeen, Co. Kerry. These works for the upgrade of the existing Coomagearlahy 110kV substation were initially proposed in a pre-application consultation with An Bord Pleanála under Section 182A of the Planning and Development Act, 2000 as amended (Ref: ABP-314799-22), and now form part of this planning application, under Section 37E of the Planning and Development Act, 2000 as amended. This approach has been confirmed following consultations with An Bord Pleanála under the provisions of Section 182A of the Act (Ref: ABP-314799-22).

The primary driver behind the Proposed Development is the need to continue to provide renewable energy to offset the use of fossil fuels within the electricity generating sector. The repowering of the Existing Kilgarvan Wind Farm will ensure the supply of renewable energy to the national grid for an additional 35 years. The current proposal represents the provision of a significant wind energy proposal (as acknowledged by its classification as a Strategic Infrastructure Development under the Planning and Development Act, 2000 (as amended)) and will contribute considerably towards Ireland satisfying its 2030 and 2050 renewable energy targets.

Of note in the context of the Proposed Development, is the revision of the Renewable Energy Directive (RED III) which came into force in November 2023. RED III increases the EU wide renewable energy target from 32% set under the previous revision of the directive to at 42.5%, with an ambition to reach 45% by 2030. The increase was proposed under the publication of REPowerEU plan in May 2022. The Directive also introduces specific targets for Member States in the industry, transport, and building (district heating and cooling) sectors. Most notable, RED III establishes that Member States must speed up and simplify renewable infrastructure permitting procedures by ensuring that permit-granting procedures including for repowering do not exceed certain timelines. Additionally, RED III specifies that for repowering projects, the environmental impact assessment shall be limited to the potential impact arising from a change or extension compared to the original project.

As set out in the public notices that accompanied the planning application, the Proposed Development consists of the provision of the following:

- i. Removal of 28 no. existing turbines and relevant ancillary infrastructure permitted under Kerry County Council and An Bord Pleanála Planning References; 02/124, 03/2176, 03/2306, 07/1605, 07/4364, Pl. 08.209629, 07/4515, 07/4701, Pl. 08.232259 and 05/1351;*
- ii. Erection of 11 no. wind turbines with a blade tip height range from 199.5m to 200m, a hub height range from 118m to 125m and a rotor diameter range from 149m to 163m, along with associated foundations and hard standing areas;*
- iii. A thirty-five year operational life from the date of full commissioning of the wind farm;*
- iv. Underground electrical 33kV and communication cabling connecting the proposed turbines and meteorological mast to the existing 110kV Coomagearlahy substation in the townland of Inchee;*
- v. Upgrade of and the continued use of the existing onsite Coomagearlahy 110kV substation in the townland of Inchee, permitted under Kerry County Council References 07/3648, 04/1648, 06/1143, 06/2660;*
- vi. Upgrade of existing tracks, hardstand areas and provision of new site access roads and junctions;*
- vii. The extension and reuse of the 1 no. existing borrow pit;*
- viii. 2 no. temporary construction compounds;*
- ix. Meteorological mast, with a height of 100m and upgrade of existing associated foundation and hard standing area;*
- x. Forestry felling;*
- xi. Site drainage;*
- xii. Biodiversity Enhancement measures;*
- xiii. Operational stage site signage; and,*
- xiv. All ancillary works and apparatus.*

The application is seeking a 10-year planning permission and 35-year operational life from the date of full commissioning of the wind farm.

2.

RESPONSE TO THIRD PARTY OBSERVATIONS:

There were 3 no. submissions received on the application from Third-Party observers. **Table 2** below outlines the common themes identified within the Third-Party observations and specifies who in the project team is responsible for the corresponding response.

Table 2 List of themes outlines in Third Party observations

Theme	Lead author for Response
Public Consultation	MKO
Negative Health Effects	MKO
Impact on Road Users	MKO
Electromagnetic Interference	MKO
Negative effect on wildlife and local rivers	MKO
Visual Impact/Negative effects on beauty of area	MKO
Property Devaluation	MKO

2.1

Public Consultation

Observations were made pertaining to lack of adequate public consultation throughout the planning application process. It was also stated that there was very little opportunity for local residents to engage and voice their concerns in relation to the Proposed Development

Chapter 2 of the EIAR and Appendix 2-3 Community Report provide comprehensive detail on the extensive community consultation that occurred and on the substantial community benefit fund associated with the Proposed Development.

The applicant has carried out consultation in relation to the Proposed Development with local residents and interested parties in the wider community. The objective of the consultations was to ensure that the views and concerns of all were considered as part of the Proposed Development design and Environmental Impact Assessment (EIA) process.

The Proposed Development has the potential to have significant benefits on the local economy, by means of job creation, landowner payments and commercial rate payments. An important part of any renewable energy development, which Orsted has been at the forefront of developing, is its Community Benefit Package. The concept of directing benefits for wind farms to the local community is promoted by the National Economic and Social Council (NESC) and Wind Energy Ireland (WEI) among others.

While it may be simpler and easier to put a total fund aside for a wider community area, Orsted is endeavouring to develop new ways to direct increased gains towards the local community with particular focus on those living closest to the Proposed Development.

The public consultation strategy for the Proposed Development was based around engaging with the local community in an open, transparent and honest manner with the aim to not only provide clear and understandable feedback but also to gain feedback to understand the views of the local community. A

Community Liaison Officer (CLO) was appointed as the point of contact for the project. The purpose of the CLO was to introduce the project to the local community as well as engaging and establishing a line of dialogue with the local community.

A full outline of the consultation effort undertaken by the Applicant is set out below

- In July 2022, the CLO called to all houses around the Proposed Development. Where nobody was home, a letter was left. At this stage, the CLO offered face-to-face meetings to discuss the proposal, should residents wish. This letter included details about the Applicant, the Existing Kilgarvan Wind Farm, the EIAR process, Community Benefit Funds, and details on the project team.
- In November 2022, a letter was circulated to local residents which provided details on the design process of the Proposed Development, the EIAR process, Community Benefit Funds, and the public information event. The public information event took place on the 24th November in Top of Coom, Co. Cork. A notice was also placed in the local 'Kerry's Eye' newspaper informing readers of the Applicant's intention of holding a public information event.
- In April 2023, the final pre-planning correspondence was posted to householders around the Proposed Development. This correspondence was issued to inform the community that a planning application would be lodged for the Proposed Development in the coming months. Along with this letter was a figure of the final Proposed Development layout which was being applied for.
- Throughout the consultation period, the CLO has continued to liaise with any interested parties and answer any questions as promptly as possible.

Overall, the general reception of the public to the Proposed Development was positive and satisfaction was expressed with the continued consultation and the general flow of information that was available.

Please refer to Section 2.6.3 and Appendix 2-3 of the EIAR for further details.

It is concluded that the submissions referencing a lack of adequate public and/or little opportunity for local residents to engage in relation to the Proposed Development are unfounded. The applicant has clearly demonstrated in the information before the Board that meaningful and transparent engagement did take place ahead as part of the overall project.

2.2

Negative Health Effects

A number of observations by Third-Parties make reference to the potential for negative health effects associated with the Proposed Development due to the scale of the turbines proposed and proximity to local residents.

As discussed in Section 5.5.2 of the EIAR, while there are anecdotal reports of negative health effects on people who live very close to wind turbines, peer-reviewed research largely does not support these statements. There is currently no published credible scientific evidence to positively link wind turbines with adverse health effects.

Extensive research has been carried out in the US, Canada, UK, Australia, and by the World Health Organisation (2018) and the HSE (2017). All studies conclude that that exposure to wind farms does not trigger adverse health effects.

The HSE (2017) Position Paper on wind turbines and public health was published to address the rise in wind farm development and concerns regarding potential impacts on public health. The paper discusses

previous observations and case studies which describe a broad range of health effects that are associated with wind turbine noise, shadow flicker and electromagnetic radiation. The HSE position paper determines that current scientific evidence on adverse effects of wind farms on health is weak or absent. Further research and investigative processes are required at a larger scale in order to be more informative for identifying potential health effects of exposure to wind turbine effects. The Position Paper, taking guidance from the WHO concludes:

- *‘There is no direct evidence that considered possible effects on health of infrasound or low frequency noise from wind farms;*
- *The risk of shadow flicker from wind farms triggering a seizure among people with this condition is estimated to be extremely low;*
- *Limited evidence suggests that the level of extremely low-frequency electromagnetic radiation close to wind farms is less than average levels measured inside and outside suburban homes.’¹*

It should be noted that the Proposed Development complies with the Draft Revised Wind Energy Guidelines 2019 (referred to as the draft Guidelines) of a 4x tip height set back from the nearest non-involved Sensitive Property in order to protect for visual amenity. It should also be noted that in relation to noise and shadow flicker, turbine technology allows for the turbines to be controlled to achieve any revised guidance requirements.

None of the submissions received in relation to this topic area have set out clear and credible evidence which in any way alters the findings of the EIAR in this regard. As such, it is concluded that the information contained within the EIAR which is before the Board remains valid and robust.

2.2.1

Noise

A number of observations by Third Parties specifically mentioned noise as a negative health effect associated with the Proposed Development noting its potential to disrupt sleep and diminish the enjoyment of residences.

It is crucial to set out from the outset that a full and project-specific noise assessment was undertaken as part of the EIAR to determine the likely significant noise effects from the decommissioning, construction and operational phases of the Proposed Development.

Predicted decommissioning and construction noise levels at the nearest noise sensitive receptors during all phases of construction are below the threshold values within BS 5228 and are therefore deemed to be not significant.

A background noise survey was undertaken at five noise monitoring locations. The data was analysed in conjunction with on-site measured wind speed data and operational noise limits have been derived in accordance with the Wind Energy Guidelines 2006 (WEDG 2006.)

The operational noise assessment was undertaken in three stages, which involved setting the Total WEDG Noise Limits (which are limits for noise from all wind farms in the area) at the nearest noise sensitive receptors, predicting the likely effects (undertaking a cumulative noise assessment where required) and setting Site Specific Noise Limits for the Proposed Development.

A comparison was also undertaken of the predicted output of the Existing Kilgarvan Wind Farm and the Proposed Development. The comparison showed that predicted levels are lower for the Proposed Development at all Noise Assessment Locations considered in the assessment.

¹ HSE Public Health Medicine, Environment and Health Group. (February 2017). Position Paper on Wind Turbines and Public Health.

Predicted cumulative operational noise levels indicate that for noise sensitive receptors neighbouring the Proposed Development, cumulative wind turbine noise (which considers noise predictions from all nearby operational and consented wind farms and the Proposed Development) exceeds the Total WEDG Noise Limits at a small number of receptors. This is due to the contribution of existing wind turbines in area and Site-Specific Noise Limits have been set to ensure that the Proposed Development has a negligible additional contribution at these locations.

Predictions of wind turbine noise from the Proposed Development have been made in accordance with good practice using three candidate wind turbines. Predicted operational noise levels from the Proposed Development indicate that for noise sensitive receptors neighbouring the Proposed Development, wind turbine noise from the Proposed Development would meet the Site-Specific Noise Limits at all Noise Assessment Locations (NAL) and are therefore deemed to be not significant. In order to meet the noise limits, mode management would be required for certain wind speeds and wind directions based on the candidate turbines considered in this assessment.

The use of Site-Specific Noise Limits would ensure that the Proposed Development could operate concurrently with other operational wind farm developments in the area and would also ensure that the Proposed Development's individual contribution could be measured and enforced if required.

The wind turbine models were chosen in order to allow a representative assessment of the noise impacts. Should the Proposed Development receive consent, the final choice of wind turbine will be subject to a competitive tendering process. The final choice of wind turbine will, however, have to meet the Site-Specific Noise Limits presented in the noise assessment.

In conclusion, there is a lack of supporting information or evidence from the third-party submissions received which support the stance set out in those submissions received. It is the case that the information before the Board contained within the EIAR lodged has been prepared by competent experts and is robust in its findings.

2.3 Impact on Road Users

A number of observations by Third Parties make reference to adverse health and safety concerns for road users during the construction phase, with particularly regard to the local area of Cloonkeen and the Cork to Killarney road.

Chapter 15 of the EIAR includes an assessment of the likely traffic effects on the local highway network as a result of the Proposed Development. The assessment considers the likely impacts resulting from the additional traffic movements that will be generated by the Proposed Development during the construction, operational and decommissioning phases on the transport delivery route to the site.

During the 11 days when the concrete foundations are poured, the effect on the surrounding road network will be negative. It is forecast that the increase in traffic volumes will range from +3.7% on the N22 between Lissarda and Macroom, to +4.6% on the N28 just west of Ringaskiddy, to a maximum of +6.1% on the N22 Macroom Bypass. In the event that concrete deliveries travel to the site from the direction of Killarney it is forecast that traffic volumes on the N22 will increase by +5.7%. It is on these 11 days that it is forecast that the Proposed Development will have the greatest impact on the surrounding road network, when the effects will be negative, temporary, slight and not significant on the delivery route.

For the remaining 24 months of the proposed construction period for the Proposed Development, the increase in link flows on the delivery route compared to background traffic flows without the Proposed Development are forecast to vary as follows;

- Link 1 – N28 Ringaskiddy, between +0.7% to 1.0%,
- Link 2 – N22 Lissarda to Macroom, between 0.6% to 0.8%,
- Link 3 – N22 Macroom Bypass, between +1.0% to +1.4%, and

- Link 4 – N22 Killarney to Islandmore, between 0.9% to 1.3%.

During this main part of the construction phase, based on the forecast increase in traffic volumes set out above it is forecast that the impact on the delivery routes will be negative, temporary, imperceptible and not significant.

Once the Proposed Development is operational the traffic impact created by maintenance staff will be imperceptible and not significant

A preliminary traffic management plan is also provided in Sections 15.1.7 and 15.1.11.5.2 aimed at minimising the traffic impact on the local highway network. A detailed Traffic Management Plan (TMP) will be finalised and confirmatory detailed provisions in respect of traffic management agreed with the road's authority and An Garda Síochána prior to construction works commencing. The detailed TMP will include the following:

- **Traffic Management Coordinator** – a competent Traffic Management Co-ordinator will be appointed for the duration of the construction of the Proposed Development and this person will be the main point of contact for all matters relating to traffic management.
- **Delivery Programme** – a programme of deliveries will be submitted to relevant authorities in advance of deliveries of turbine components to the Proposed Development site.
- **Information to locals** – Locals in the area will be informed of any upcoming traffic related matters e.g. delivery of turbine components at night, via letter drops and/or posters in public places. Information will include the contact details of the Contract Project Co-ordinator, who will be the main point of contact for all queries from the public or local authority during normal working hours. An "out of hours" emergency number will also be provided.
- **A Pre and Post Construction Condition Survey** – A pre-condition survey of roads associated with the Proposed Development will be carried out prior to construction commencement to record the condition of the road. A post construction survey will be carried out after works are completed. Where required the timing of these surveys will be agreed with the local authority.
- **Liaison with the relevant local authorities** - Liaison with the relevant local authorities including the roads sections of local authorities that the delivery routes traverse, and An Garda Síochána, during the delivery phase of the large turbine vehicles, when an escort for all convoys will be required.
- **Implementation of temporary alterations to road network at critical junctions** – At locations where required highlighted in Section 15.1.8 of the EIAR.
- **Identification of delivery routes** – These routes will be agreed and adhered to by all contractors.
- **Travel plan for construction workers to Site**– While the assessment above has assumed a robust case that construction workers will drive to the site, the construction company will be required to provide a travel plan for construction staff, which will include the identification of a routes to / from the site and identification of an area for parking.
- **Delivery times of large turbine components** - The management plan will include the delivery of large wind turbine plant components at night in order to minimise disruption to general traffic during the construction stage.
- **Delivery times of large turbine components** - The management plan will include the delivery of large wind turbine plant components at night in order to minimise disruption to general traffic during the construction stage.
- **Re-instatement works** - All road surfaces and boundaries will be re-instated to pre-development condition, as agreed with the local authority engineers.

Please refer to Chapter 15 of the EIAR for further details.

Based on the above it is concluded that the application documentation has set out clearly the steps to be taken during the construction phase of the Proposed Development, should planning permission be

granted. It is held that this information is sufficient to address the traffic concerns expressed in the Third-Party submissions received.

2.4 Electromagnetic Interference

A number of observations by Third-Parties make reference to the potential for electromagnetic interference in relation to disruption to internet coverage and poor telephone signal.

Chapter 15 of the EIAR includes an assessment of the likely significant effects of the Proposed Development on Telecommunications.

A total of 23 no. telecommunications links and one singular mast was identified within the vicinity of the Site. Appropriate buffer zones, agreed with the telecommunications operators, have been applied to these links. The final turbine layout overlaps with links and setback distances identified by both ESB and Vodafone. Investigations were subsequently completed on the information provided to MKO by the respective telecom's providers by A.I. Bridges, to assess the potential impact to the identified links by the proposed turbines.

A.I. Bridges compiled a report in which they identified that 1 no. proposed turbine had the potential to cause interference to the existing ESB link. The report proposed the provision of a relay mast adjacent to the turbine which has the potential to impact the ESB link. The applicant has committed to constructing this relay mast in order to ensure that no impact is felt on the ESB transmission network.

A.I. Bridges conducted further assessments on the proposed turbine locations and the links supplied by Vodafone. It was found that there was 1 no. proposed turbine which had the potential to impact on the Vodafone link. 2 no. mitigation measure solutions were called out by A.I. Bridges as potential solutions to avoid this issue. The Applicant has committed to employing one of these techniques before the construction of the proposed turbines. This report has been forwarded on to Vodafone for comment and no response has been received to date. The A.I. Bridges report is included within Appendix 15-3, Chapter 15.

The remainder of the telecommunications links identified in proximity to the Proposed Development have no electromagnetic interference impacts for telecommunications assets or operations are associated with the Proposed Development

The final turbine layout overlaps with links and setback distance identified by both ESB and Vodafone. Investigations were subsequently completed on the information provided to MKO by the respective telecom's providers by A.I. Bridges, to assess the potential impact to the identified links by the proposed turbines.

There will be no significant effect on telecoms due to the Proposed Development.

Based on the information set out in the EIAR lodged with the application, and the lack of any clear evidence to suggest the Proposed Development will give rise to adverse impacts in respect of telecommunications, it is concluded that there will be no significant effects on telecoms as a result of the Proposed Development.

2.5 Negative effect on wildlife and local rivers

A number of observations by Third-Parties make reference to the potential for contamination of local streams, drains and private wells during construction. These are addressed below under the following headings:

- Potential effects on local rivers

- Potential effects on private well supplies

It must be stressed at the outset that considerable work has taken place across the project team to avoid and/or mitigate any potential impacts as a result of the Proposed Development.

2.5.1 Potential Effects on Local Rivers

The potential for effects on local rivers and streams is negligible for the following reasons:

- Chapter 9 of the submitted EIAR presents proven and effective measures for the protection of surface water quality within the Proposed Development site;
- A self-imposed 50m stream and lake buffer was used during the design of the Proposed Development, thereby avoiding sensitive hydrological features;
- Mitigation measures are detailed for felling (Section 9.5.2.1) and sediment control (Section 9.5.2.2) which will mitigate the release of sediment which will reduce the concentration of suspended solids to acceptable levels;
- Mitigation measures are also prescribed for hydrocarbons (Section 9.5.2.5) and cement-based products (Section 9.5.2.6). The storage and handling of hydrocarbons/chemicals will be carried out using best practice methods which will ensure the protection of surface and groundwater quality;
- Similar mitigation measures have been used in the construction of renewable energy developments across the country;
- The surface water drainage plan will be the principal means of significantly reducing sediment runoff arising from construction activities and to control runoff rates;
- There will be no direct discharge from the proposed work areas to natural watercourses;
- All water will be treated and attenuated prior to discharge;
- The Proposed Development drainage system will be designed to slow surface water runoff from the site by providing greater attenuation, ensuring that the Proposed Development does not alter downstream surface water flows and will not contribute to downstream flooding;
- A Water Framework Directive (WFD) Compliance Assessment has been completed for all waterbodies with the potential to be impacted by the Proposed Development. With the implementation of the mitigation measures detailed in this EIAR there will be no change in the WFD status of the downstream surface waterbodies as a result of the Proposed Development. The Proposed Development has been found to be fully compliant with the WFD and will not prevent any waterbody from achieving its WFD objectives;
- An assessment of potential cumulative effects associated with the Proposed Development and other developments on the hydrological and hydrogeological environment has been completed. With the implementation of the mitigation measures detailed in this EIAR, the cumulative assessment found that there will be no significant effects on the hydrological environment; and,
- No significant effects on the water environmental will occur during the construction, operation or decommissioning of the Proposed Development.

Please refer to 3.2.1 of the accompany response provided by Hydro-Environmental Services (HES) included as **Appendix 1** for further details.

2.5.2 Potential Effects on Private Well Supplies

As outlined in the EIAR (Section 9.5.2.9), the potential for effects on local private groundwater well supplies is negligible for the following reasons:

- The Proposed Development site is underlain by an aquifer of relatively low permeability;
- The local hydrogeological regime at the Proposed Development site is characterised by high rates of surface water runoff and low rates of groundwater recharge;

- This is a function of the sloping nature of the site, the presence of low permeability soils/subsoils and the low permeability of the underlying bedrock aquifer which means that a high proportion of the effective rainfall will runoff or discharge rapidly to surface watercourses.
- Groundwater flowpaths are therefore typically very short (~300m maximum);
- Consequently, the majority of groundwater flows within the Proposed Development site emerge as springs/baseline along streams/rivers and leave the site as surface water flows and not groundwater flows;
- Therefore, the potential to effect local wells (whether they are downslope or not) is very low as groundwater flowpaths between the Proposed Development infrastructure and potential source typically do not exist due to the large setback distance (>850m);
- Nevertheless, mitigation is provided in the EIAR to deal with typical construction phase groundwater hazards such as oils and fuels;
- Due to the shallow nature of the proposed works and the topographic elevation of the site, no significant dewatering is proposed and there will be no effects on groundwater levels/quantity, and,
- Therefore, based on our hydrogeological assessment of the Proposed Development site with regard to groundwater user risk and the proposed mitigation measures, we can robustly say the potential to effect local wells/water supply sources is negligible.

Please refer to 3.2.2 of the accompany response provided by HES included as **Appendix 1** for further details. The potential impacts arising from contamination of stream/drains on fish and birds is also addressed in **Appendix 5** Ecology Ireland Wildlife Consultants Ltd response to specific submissions.

On the basis of the above and the full detail contained within the EIAR lodged, it is held that full and careful consideration has been given to the potential for contamination of local streams, drains and private wells during construction of the wind farm (should planning permission be granted). Together with the suite of mitigation measures set out within the EIAR (Chapter-specific and combined at Chapter 18), it is held that the Proposed Development can be taken forward in a safe manner.

2.6 Visual Impact/Negative effects on beauty of area

A number of observations by Third-Parties make reference to the potential for negative effects on the beauty of the area, with particular regard to the number of turbines constructed in Co. Kerry.

Chapter 13 of the EIAR considers the potential landscape and visual impacts of the Proposed Development. Landscape and Visual effects were determined from information gathered during multiple site visits as well as use of other tools such as ZTV mapping, Route Screening analysis and production of photomontage visualisations (17 No. Photomontages in the Volume 2 Photomontage Booklet).

The site of the Proposed Development is currently an existing wind farm development. Considering this factor, as well as the designation of the site as a 'Potential Repowering Area' within the KCDP, the susceptibility of the landscape of the site to the proposed change is Low. Overall, on balance, the sensitivity of this landscape to the Proposed Development is deemed to be Medium.

Onsite visibility appraisals, ZTV mapping, a route screening analysis and assessment of visual effects from photomontage viewpoint locations determined that visibility of the proposed turbines is likely to be very limited throughout the LVIA Study Area. Siting of the turbines in an upland landscape enclosed by large landforms and ridgelines largely restricts visual exposure from vast areas in the wider landscape of the LVIA Study Area, as demonstrated by the ZTV. Visibility of the Proposed Development is limited to localised areas of high elevation and locations within the valleys to the west and north of the site.

Photomontages were used to assess the visual effects arising as a result of the Proposed Development from 17 No. viewpoint locations. Considering the limited visibility of the proposed turbines throughout the LVIA Study Area, the assessment of visual effects was focused on sensitive receptors with open views of the proposed turbines. The significance of the residual visual effect was not considered to be “Profound”, “Very Significant” or “Significant” at any of the 17 viewpoint locations. A residual visual effect of “Moderate” was deemed to arise at five of the viewpoint location. All other viewpoints were assessed as resulting in Slight (9) and Not Significant (3) residual visual effects.

A Cumulative Impact assessment of the Proposed Development was also carried out for landscape and visual impacts. Overall, the Proposed Development reduces the number of turbines visible within the area as the Existing Kilgarvan Wind Farm is made up of 28 turbines and then Proposed Development reduces this to 11 turbines. From the 17 viewpoint locations, cumulative effects are only likely to arise at 11 of these locations. In some instances, cumulative visual effects occur when there is incongruity with other existing turbines which are of smaller scale when viewed alongside the proposed turbines in the landscape. Assessments determined that no significant cumulative effects were deemed to occur as a result of the proposed Kilgarvan turbines.

The Proposed Development is viewed as a coherent development, appropriately scaled and visually balanced within a large landscape type where wind energy has already been well established and appropriately accommodated. It is not anticipated that the Proposed Development will cause any significant landscape and visual effects on receptors within the LVIA Study Area.

2.7

Property Devaluation

A number of observations by Third-Parties make reference to the potential for the Proposed Development to have adverse effects on the value of properties of local residents. As outlined in Chapter 5, Section 5.6 of the EIAR, there are no studies on the potential for impact on property values from wind farm developments in Ireland, however, the following studies are summarised:

- *‘The Impact of Wind Power Projects on Residential Property Values in the United States: A multi-Site Hedonic Analysis’, Lawrence Berkley National Laboratory, December 2009.*
- *‘The effect of wind farms on house prices’, Centre for Economics and Business Research, March 2014.*
- *‘Impact of wind Turbines on House Prices in Scotland’, Climate Exchange, October 2016.*

As stated in the same section of the EIAR, although there have been no empirical studies carried out in Ireland on the impacts of wind farms on property prices, the literature described above demonstrates that at an international level, wind farms have not impacted property values in areas near wind farms. It is a reasonable assumption based on the available international literature, that the provision of a wind farm at the proposed location would not impact on the property values in the area.

To conclude, while the presence of wind farms influencing an individual buyer’s opinion on a property is subjective to that individual, on an empirical level, there is no international evidence to indicate that wind farms have impacted the value of properties in areas near wind farms.

3. **RESPONSE TO OBSERVATIONS FROM STATUTORY CONSULTEES**

There were 4 no. submissions received on the application from Statutory Consultees (excluding the local authorities); Transport Infrastructure Ireland (TII), Department of Housing, Local Government and Heritage, Inland Fisheries Ireland (IFI) and Irish Aviation Authority (IAA).

All submissions from Statutory Consultees are addressed separately in the following sections.

3.1 **Transport Infrastructure Ireland**

TII raised concerns in relation to Official TII Policies and maintenance and safety of the National Road network. The observations can be grouped into the following points:

- Official TII Policy
- Road Safety Matters
- Proposed Turbine Haul Route
- Structures
- Cabling
- Greenway

A full response to concerns raised by TII has been prepared by Alan Lipscombe of Alan Lipscombe Traffic and Transport Consultants Ltd and is included as **Appendix 2** of this response document.

A Road Safety Audit (RSA) has also been commissioned and undertaken by Traffico Ltd and is included at **Appendix 4** of this response Document. The RSA describes the findings of a Stage 1 Road Safety Audit associated with the N22 Site Access to the Proposed Development, specifically in relation to road markings. All issues raised as part of the Audit have been addressed within the report.

In conclusion, all traffic related issues raised as part of this submission have been adequately addressed and all requirements by TII will be carried out should the Proposed Development be granted permission.

3.2 **Department of Housing, Local Government and Heritage**

The Department of Housing, Local Government and Heritage (DHLGH) raised observations and recommendations under the stated headings:

- Archaeology
- Nature Conservation

3.2.1 **Archaeology**

The submission received from the DHLGH advises that all mitigation measures in relation to archaeology and cultural heritage as set out in Chapter 14 of the EIAR be implemented in full. It also provided commentary in relation to the establishment of Exclusion Zones around heritage assets as identified in Chapter 14.

A full response to Archaeological and Cultural Heritage Observations from the DHLGH has been prepared by Tobar Archaeological Services and is included as **Appendix 3** of this response document. In conclusion, all requirements of the prescribed body submissions which are reflected by the mitigation

measures proposed in the Cultural Heritage chapter of the EIAR are addressed and all requirements of the DHLGH as will be carried out should the Proposed Development be granted permission.

3.2.2 Nature Conservation

3.2.2.1 White-Tailed Sea Eagle

A full response to observations relating to the White-Tailed Eagle from the DHLGH has been prepared by Ecology Ireland Wildlife Consultants Ltd and is included as **Appendix 5** of this response document. The response addresses the concerns raised relating to potential collision risk arising from the Proposed Development on the White-Tailed Eagle. It assesses currently available curtailment systems and robustly concludes that such systems are neither required based on the evidence collected at the existing site nor proven to be effective in the Irish Context. The response also confirms that the evidence provided in Chapter 6 of the EIAR meets Objective 12-9 of the Kerry County Development Plan 2022-2028.

Please refer to Appendix 5 of this Response Document for further details.

3.3 Inland Fisheries Ireland

Inland Fisheries Ireland (IFI) made several comments and recommendations in relation to watercourse crossings, sediment control, the use of cements and fuels, drainage of wet peat areas, the timing of the proposed works and the requirement for qualitative and quantitative surveys during and post construction works. It is stressed that IFI were scoped with in at an early stage of the project, and their scoping response ultimately taken into account in the project and project approach.

The overarching aim behind IFI's comments and recommendations is the protection of downstream surface water quality. All IFI comments and recommendations will be integrated into the Proposed Development for the protection of water quality.

A full response to concerns raised by IFI has been prepared by HES and is included as **Appendix 1** of this Response Document.

In conclusion, All IFI comments and recommendations will be integrated into the Proposed Development for the protection of water quality. In respect of Third-Party submissions, the potential for the Proposed Development to impact remote groundwater wells is negligible due to the elevation of the site, the local hydrogeological regime (low rates of groundwater recharge), the shallow nature of the proposed excavation works and the proposed mitigation measures for the protection of water quality. We are satisfied that our assessment of the potential effects on local rivers and streams as presented in the EIAR is comprehensive. With the implementation of the tried and tested mitigation measures there will be no significant effects on local watercourses.

3.4 Irish Aviation Authority

The Irish Aviation Authority requested that conditions related to aeronautical Obstacle warning light scheme and as-constructed coordinates are provided to them under planning condition, should planning permission be granted. It is also requested that the IAA and Kerry Airport are notified of intentions to commence crane operations with at least 30 days prior notification of their erection.

The applicant confirms its agreement to such conditions.

RESPONSE TO LOCAL AUTHORITY SUBMISSION

A submission was received on the application from Kerry County Council (KCC).

The KCC submission makes several observations relating to Ecology and these are addressed in full in **Appendix 5** Ecology Ireland Consultants Ltd.

In summary, the ‘Do Nothing’ scenario is clarified, it is highlighted that KCC confirm that the information provided in the EIAR is sufficiently detailed to allow for impact assessment and that subject to the proposed mitigation measures that specific species such as lesser horseshoe bats and the White-Tailed Eagle will not be adversely impacted by the Proposed Development.

Overall, KCC’s overarching stance is supportive of the Proposed Development, determining that the planning application, along with the EIAR and NIS, is comprehensive in nature, while also providing several observations for the Board’s consideration. The Planners Report concluded as follows:

“While Government policy recognises the need to transition to a zero-carbon economy by 2050, it also recognises that the realisation of renewable energy resources to achieve this target will involve a transitional period. These policy matters and their relevance to the assessment of the project are a matter for the Bord.

The planning application is supported by comprehensive information including mitigation measures by means of the Environmental Impact Assessment Report and Natura Impact Statement. The environmental studies and assessments completed including the mitigation measures proposed demonstrate that the development would not have a significant effect on the environment or on the residential amenity of the area. However, the Planning Authority has included in section 6 a number of observations on the submitted EIAR and NIS that the bord may wish to take into consideration.

The roads, water and in particular the energy infrastructure serving and adjacent to the application site is adequate to cater for the proposed development.

The proposed development accords with National and Regional policy as set out in the National Planning Framework and the Regional and Spatial Economic Strategy for the Southern Region. The proposed development aligns with the goals and objectives of the Kerry County Council Local Authority Climate Action Plan 2024-2029 and is consistent with the land use zoning and objectives contained in Kerry County Development Plan and the Kenmare Municipal District Local Area Plan and is in accordance with the proper planning and sustainable development of County Kerry.”

In the event that Planning Permission is granted KCC have requested that a number of conditions are attached under the following themes:

- > General
- > Environment Protection
- > Biodiversity
- > Construction Management Plan
- > Roads and Transportation
- > Water Services
- > Environment Department
- > Archaeology
- > Development Levies
- > Community Contribution Fund

These are addressed separately in the following sections.

4.1 General

KCC recommends the inclusion of the following condition:

“(i) All environmental mitigation measures as set out in the information submitted in support of the application, including within the EIAR and the NIS shall be fully implemented, except as may be otherwise required or specified by way of condition.

Reason: In the interests of clarity and the proper planning and sustainable development of the area.”

Comment: The applicant confirms its agreement to this condition.

4.2 Environmental Protection

KCC recommends the inclusion of the following conditions:

“(i) The developer shall appoint a full-time, appropriately qualified environmental manager for the duration of the construction and development phases of the project. This person will be responsible for ensuring that all environmental control measures are fully implemented and maintained and will also act as the point of contact with the Planning Authority in the event of any environmental difficulties arising with the project. Contact details of the person in question shall be provided to the Planning Authority prior to any works commencing on-site.

(ii) In advance of any works commencing on-site the developer shall prepare and submit a Construction Environmental Management Plan (CEMP) for approval by the Planning Authority. The CEMP shall cover all relevant environmental issues potentially associated with the development phase of the project, including air quality, noise control, water management, waste management etc.

(iii) No silt/sediment laden water shall be discharged from the development to any watercourse in the vicinity of the site. In this regard, during the development phase of the project, a suitable system for the collection and treatment of any sediment/siltation arising shall be installed on-site and maintained thereafter for the duration of the development works.

(iv) Bunds shall be installed around all temporary oil-containment facilities and the developer shall ensure that no oil, grease or other objectionable matter is discharged into any drain or watercourse.

Reason: In the interests of clarity, environmental protection and the proper planning and sustainable development of the area.”

Comment: The applicant confirms its agreement to such conditions.

4.3 Biodiversity

KCC recommends the inclusion of the following condition:

“(i) A Blanket Bog Rehabilitation and Management Plan and a White-tailed Eagle Risk Management Plan shall be provided as outlined in the plans and particulars submitted as part of the planning application.

Reason: In the interests of biodiversity and the proper planning and sustainable development of the area.”

Comment: The applicant confirms its agreement to this condition.

4.4

Construction Management Plan

KCC recommends the inclusion of the following condition:

“(i) The construction of the development shall be managed in accordance with a Construction Management Plan, which shall be submitted to, and agreed in writing with, the Planning Authority prior to commencement of development. This plan shall include all environmental and ecological measures arising from reports submitted with the planning application and shall provide details of intended construction practice for the development, including:

(a) The location of the site and materials compound(s) including area(s) identified for the storage of construction refuse.

(b) The location of areas for construction site offices and staff facilities.

(c) Details of boundary treatment, site security fencing and hoardings.

(d) Details of on-site car parking facilities for site workers during the course of construction.

(e) Details of a monitoring and audit system to be put in place to ensure compliance with the developed CEMP and to ensure regular inspection, maintenance and repair of the drainage channels, settlement ponds, swales, dams, silt fences and outfalls.

Reason: In the interest of clarity, environmental protection and the proper planning and sustainable development of the area”

Comment: The applicant confirms its agreement to this condition.

4.5

Roads and Transportation

KCC recommends the inclusion of the following condition:

“(i) Works adjacent to the Public Road shall not affect the surface water drainage regime of the public road and no surface water within the development shall be allowed to flow onto the public road.

(ii) The formation of the existing splayed entrance shall not interfere with the roadside drainage, which shall be maintained, repaired or made good by providing a dished channel constructed of concrete or piped culvert.

(iii) The applicant must make good any damage cause to the public road because of their works to the satisfaction of the Kerry County Council Roads Engineer.

(iv) All works adjacent to or on the public road shall require a road opening licence approved by the Roads & Transportation Directorate. The approval of this licence will be subject to the developer / contractor possessing the adequate level of insurance which indemnifies Kerry

County Council. The developer/contractor will furthermore have to produce a company safety statement along with a site-specific safety plan. The site specific safety plan shall include a site-specific risk assessment and a traffic management plan.

(v) The applicant shall institute appropriate measures to prevent material being drawn from the site onto the public road. No earth, soil or other material from this site shall be drawn or deposited onto the public road. Wheel washes shall be installed during the construction phase to prevent construction vehicles and plant from depositing debris and dirt on the public road.

(vi) All vehicles during construction phase of this proposed development must be parked within the site

vii) During the Construction and Delivery Phases, suitable Advance Warning Signage shall be provided as appropriate on the approaches to entrance to the Windfarm, to the satisfaction of the Road Authority and always maintained in satisfactory condition during the Construction and Delivery phases. The signage shall be clearly legible from the public roadway at the entrance to the site and shall be maintained to not be obscured or rendered illegible by dust, mud or vegetation. This signage should design and located in accordance with the Traffic Signs Manual.

(viii) The delivery times and haulage routes to be agreed in advance with the Road Authorities and An Garda Síochána.

Reason: In the interest of road safety and the proper planning and sustainable development of the area.”

Comment: The applicant confirms its agreement to such conditions.

4.6

Water Services

KCC recommends the inclusion of the following condition:

“(i) Detailed design of the surface water drainage and management system and the developed CEMP should be updated prior to the commencement of construction to include all mitigations and monitoring measures, planning conditions and alterations to the EIAR and must be submitted to the Planning Authority for written approval prior to the commencement of development.

Reason: In the interests of clarity, environmental protection and the proper planning and sustainable development of the area.”

Comment: The applicant confirms its agreement to this condition.

4.7

Environment Department

KCC recommends the inclusion of the following conditions:

“(i) The Run off control and drainage management proposals submitted with this application shall be fully implemented.

(ii) Runoff from access tracks, turbine bases, and developed areas (construction compounds, met masts) will be collected and treated in local (proposed) silt traps and settlement ponds/swales and then discharged over buffered outfalls. Runoff from the decommissioned areas will be treated in local swales before being discharged over buffered outfalls.

(iii) The surface water sampling regime highlighted and proposed in the Environmental Impact Assessment submitted with the application shall be fully implemented. The sampling regime will be agreed with the relevant local authority in advance.

(iv) The developer shall appoint a full-time, appropriately qualified environmental manager for the duration of the project. This person would be responsible for ensuring that all environmental control measures are fully implemented and maintained, and would also act as the point of contact in the event of any environmental difficulties arising with the project.

(v) No polluting matters including sediment laden waters shall be discharged directly or indirectly to any waters from the proposed works including the felling operations.

Suitable measures shall be put in place onsite in advance of any demolition works to prevent sediment laden waters entering any waters. The ongoing management of these measures is critical.

(vi) The developer shall ensure that proven forestry best practice methods are used to mitigate the risk of release of sediments/suspended solids to any water course/surfac drain during the felling and ground works operations on site for the duration of the proposed development.

(vii) In the event of complaints being received regarding alleged noise nuisance from the proposed rock breaking or borrow pit excavations and construction phase of this development to which this permission relates and, upon investigation by Kerry County Council, such complaints are found to be justifiable the applicant shall, upon written receipt of notification from the Planning Authority, retain the services of an acoustic specialist to establish the cause of the noise or nuisance and the remediation measures required in order to abate said nuisance. The applicant shall ensure that all such measures are fully implemented and shall be liable for all costs incurred therein.

(viii) If deemed necessary by the Planning Authority, the applicant shall carry out ambient noise monitoring at locations adjacent to the site during the demolition and construction phase of the development. The scope of the monitoring shall be agreed in advance with the Planning Authority.

(ix) Settlement ponds shall be designed to suit each specific drainage catchment and the proposed settlement ponds at the borrow pit will be designed to ensure suitable effective retention.

(x) The burning or burial of waste is prohibited at the site.

(xi) Any and all hazardous waste/material generated at the site shall be taken directly to a suitably authorised waste facility or transfer to a suitably licensed waste collector.

Reason: In the interests of clarity, environmental protection and the proper planning and sustainable development of the area.”

Comment: The applicant confirms its agreement to such conditions.

4.8

Archaeology

KCC recommends the inclusion of the following conditions:

“(i) The following archaeological monuments/features should be securely fenced off during construction and appropriate signage should advertise the presence of the monuments in order to avoid accidental damage. The fencing should be established and erected under

archaeological supervision. No excavation, storage of materials or traffic of machinery should be permitted within these buffer zones

- *KE086- 012 Building Inchee 508833 576635 T8 405*
- *KE085- 053001 Megalithic tomb - unclassified Lettercannon 507646 575845 T11 238*
- *KE085- 053002 Hut site Lettercannon 507646 575845 T11 238*
- *CH 1 Hut/House Lettercannon 507552 575666*
- *CH 2 Hut site Lettercannon 507568 575664*
- *CH 3 Hut site Lettercannon 507555 575881*

(ii) All soil/peat stripping, excavations and ground works in proximity to the identified archaeological monuments/features and in previously undisturbed areas of the proposed development site should be archaeologically monitored, under licence from the National Monuments Service. On completion of the monitoring reports outlining the results should be submitted to the planning authority and the NM

Reason: In the interests of archaeological conservation and the proper planning and sustainable development of the area."

Comment: The applicant confirms its agreement to such conditions.

4.9

Development Levies

KCC recommends the inclusion of the following condition:

"(i) The developer shall pay to the planning authority a financial contribution in respect of public infrastructure and facilities benefiting development in the area of the planning authority that is provided or intended to be provided by or on behalf of the authority in accordance with the terms of the Development Contribution Scheme made under section 48 of the Planning and Development Act 2000. The contribution shall be paid prior to the commencement of development or in such phased payments as the planning authority may facilitate and shall be subject to any applicable indexation provisions of the Scheme at the time of payment. Details of the application of the terms of the Scheme shall be agreed between the planning authority and the developer or, in default of such agreement, the matter shall be referred to the Board to determine the proper application of the terms of the Scheme. The value of the contribution outlined shall be agreed in writing, with the Planning Authority prior to commencement of construction of the development.

Reason: In the interests of orderly development."

Comment: The applicant confirms its agreement to this condition.

4.10

Community Contribution Fund

KCC recommends the inclusion of the following condition:

"Prior to commencement of development, details of the community gain proposals shall be submitted to, and agreed in writing, with the planning authority.

Reason: In the interests of the community and orderly development of the area."

Comment: The applicant confirms its agreement to this condition.

4.11

Bond and Allied Matters

KCC recommends the inclusion of the following condition:

“(i) A Bond of €50,000 shall be placed on this development, to be used if required, to repair any damage to the public road because of this development.

Reason: In the interest of road safety, orderly development and the proper planning and sustainable development of the area.”

Comment: The applicant confirms its agreement to this condition.

CONCLUSION

This document has been prepared to address the observations made by Third-Party observers, statutory consultees including the Local Authority in respect of the Proposed Repowering of the Existing Kilgarvan Wind Farm. The information constitutes a full and robust response to the matters raised and the information provided here will directly assist the Board in their ongoing consideration of the planning application.

The provision of renewable energy developments such as the Proposed Development is strongly supported by International, National, Regional and Local level policies and Guidelines aimed at increasing renewable energy generation, enhancing energy security, and achieving the transition to a low carbon and climate resilient economy. The Proposed Project will contribute to the target of generating 9GW of electricity from onshore wind and reducing GHG emissions by 80% by 2030 as set out in the CAP24.

The Proposed Development is consistent with the Kerry County Development Plan 2022-2028 which acknowledges the importance of renewable energy in reducing anthropogenic greenhouse gas emissions and the contribution of renewable energy in achieving national and EU target net zero greenhouse gas emissions by 2050.

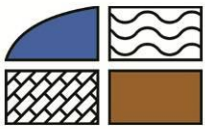
Furthermore, the Proposed Development is located in an area that is zoned as a 'Repower Area', and is, therefore, suitable in principle for the proposed repowering of the existing windfarms within the subject site. There is, therefore, policy support at local level for the development of renewable energy projects in County Kerry, in accordance with the Kerry County Development Plan 2022-2028.

Having regard to the key points set out in this response to submissions, it is respectfully suggested that nothing raised therein alters the findings of the assessments carried out for the project. This, together with the Development Plan policy supportive stance - emphasised further by the lack of objection from the Local Authority - leads to a request that the Board issue a grant of permission for this important repowering development in its entirety which is the subject of this application.



APPENDIX 1

***RESPONSE BY HYDRO
ENVIRONMENTAL SERVICES***



Date: 29th November 2024
Our Ref: P1585-1-0010

MKO Ireland

Planning & Environmental Consultants
Tuam Road,
Galway.
H91 VW84.

Attn: Meabhann Crowe

Dear Meabhann,

Re: Hydrological Responses to An Bord Pleanála Statutory Body and 3rd Party Submissions in relation to the Proposed Repowering of the Existing Kilgarvan Wind Farm, Co. Kerry (ABP Ref: 319471-24)

Hydro-Environmental Services (HES) were requested by MKO Ireland (MKO) to respond to hydrological and hydrogeological matters raised in prescribed bodies and 3rd Party submissions in relation to the proposed repowering of Kilgarvan Wind Farm, Co. Kerry.

This response submission has the following layout:

- Responses from Statutory Bodies / Prescribed Bodies (Section 2 below); and,
- Responses to 3rd Party submissions (Section 3 below).

Direct response are provided to the Prescribed Body submission. Responses to non-statutory (3rd party) submission are grouped based on recurring themes.

1 STATEMENT OF EXPERIENCE – WIND FARM DRAINAGE

Hydro-Environmental Services (HES) has extensive wind farm drainage and hydrogeological experience relevant to this project. Wind farm environmental impact assessment in respect of geology, hydrology, and hydrogeology has and is a core business area for HES presently and also over the past 22 years. Wind farm drainage design/management requires experience both as a civil/drainage engineer, a hydrologist, and as a hydrogeological specialist. HES has these combined experiences and expertise. HES has worked on over 100 wind farm projects in Ireland and Northern Ireland. Many of these required assessments of existing drainage features and streams and water quality data. HES work at all stages of wind farm developments including feasibility stage, layout design & preliminary drainage design/planning stage, FRAs, and also at construction management stage.

HES's experience also covers the key area of water quality and drainage controls and mitigation during the construction phase of wind farm developments. HES work at EIAR/planning stage to assist with the development of the optimal site layout which involves the development of hydrological constraints maps and interaction with geotechnical and ecological specialists and with site designers. HES also provide a follow-on consultancy service (if planning is granted and the development proceeds to construction) of detailed drainage design and construction management for drainage during wind farm development/construction stage. This practical on-site experience is invaluable as it has led to the development of improved preliminary and detailed drainage layouts and also many improvements/optimisations to standard peatland drainage mitigation measures.

HES specialises in wetland and peatland eco-hydrology. We also complete flood risk assessments for all types of developments across the country.

All these experiences are particularly relevant to this project, and they have been applied through the project development phase, the constraints mapping phase, and EIAR preparation work, including the cumulative impact assessment. This response submission has been prepared by Michael Gill and Conor McGettigan. Michael and Conor prepared the Land Soil and Geology and Water Chapters of the submitted EIAR, and their qualifications, competencies, and experience are already presented in the EIAR.

2 STATUTORY SUBMISSIONS

2.1 INLAND FISHERIES IRELAND

Inland Fisheries Ireland (IFI) make several comments and recommendations in relation to watercourse crossings, sediment control, the use of cements and fuels, drainage of wet peat areas, the timing of the proposed works and the requirement for qualitative and quantitative surveys during and post construction works.

The overarching aim behind IFI's comments and recommendations is the protection of downstream surface water quality. IFI state that the waters in and downstream of the site are:

"of high fishery interest, with extensive salmonid spawning and nursery grounds throughout these systems, it is therefore essential that the aquatic habitat and water quality is protected. These rivers should be considered high status waters and highly vulnerable to pollution inputs, habitat interference and hydrological changes."

Chapter 9 of the submitted EIAR acknowledges the importance and sensitivity of the local watercourses in the vicinity of the site. Section 9.3.15 of EIAR Chapter 9 states that *"these waters can be considered to be of Very High Importance as they achieved High and Good Q-ratings indicating waters which are unpolluted and in satisfactory condition"*. The WFD Compliance Assessment (Appendix 9-3) also recognised the watercourses in the vicinity of the site, which form part of the Roughty_030 river waterbody, are listed as high ecological objective status watercourses. It is noted that this waterbody is currently meeting this WFD objective.

The importance and sensitivity of the local hydrological environment was considered throughout the design process. Scoping also included consultation with IFI and the response from IFI was considered and integrated into the design of the Proposed Development. Therefore, the Proposed Development was designed, cognisant of the sensitivity of the hydrological environment, to ensure that, with the implementation of the prescribed mitigation measures, there would be no potential for effects on the local hydrological environment.

Our responses to each of IFI's comments and recommendations are detailed below:

2.1.1 Environmental Officer

IFI recommend that:

"An experienced Environmental officer is employed to oversee the project and protect the fishery habitat."

2.1.1.1 HES Response

An experienced Environmental Officer will be employed to oversee all construction works and to ensure the protection of the hydrological environment.

2.1.2 Road Crossings and Streams

In relation to road crossings and streams IFI make the following comments and recommendations.

Comment/Recommendation (a):

"As part of the proposals for the upgrade of the existing road infrastructure, IFI seeks to ensure all watercourse crossings currently in place, upgraded or new, do not impede fish, including eel migration. IFI requires this be assured or crossings modified as part of planning if granted. Consultation with IFI required and crossing agreed as part of the planning licence if granted. All watercourses should be effectively bridged/spanned prior to commencement of site development works with details provided on locations and design."

Comment/Recommendation (b):

"Bridging should be of a nature, which will not interfere with the natural streambed or its gradient."

Comment/Recommendation (c):

"Culvert pipes are not recommended as they increase flow velocities with the potential to cause erosion."

Comment/Recommendation (d):

"During construction, works should be undertaken in the dry by using cofferdams to divert flow or by pumping water passed the work areas" and "Instream works to be carried out from July to September inclusive."

2.1.2.1 HES Response

It is worth noting that the Proposed Development has been designed to reduce the requirement for new watercourse crossings by utilising the existing road infrastructure which forms part of the existing Kilgarvan Wind Farm. Road upgrades are proposed over a total of 10 no. existing watercourse crossings. These existing crossings are operational within the existing wind farm and do not display any requirement for upgrade.

As stated in Section 9.5.2.8 of the submitted EIAR, an existing pipe culvert crossing will be required to be extended near the existing Clonkeen 110kV substation whilst there will be 1 no. new proposed watercourse crossing located ~190m to the north of T11.

Response to Comment/Recommendation (a): IFI's comments and recommendation are noted and can be conditioned in the event that this planning permission is granted by An Bord Pleanála.

Response to Comment/Recommendation (b): There will be no interference with the natural streambed at any of the existing crossings or at the new proposed crossing to the north of T11 which will be constructed using a pre-cast open bottom box culvert.

Response to Comment/Recommendation (c): No piped culverts will be used as part of the proposed development.

Within the submitted EIAR it was stated that the new proposed watercourse crossing would be constructed using a piped culvert as surveys revealed that this was a non-fisheries channel in the extreme upper headwaters of the Lettercannon Stream. Following receipt of IFI's comment, the new crossing will be constructed using a pre-cast open bottom box culvert. The drawings for this new proposed crossing will be provided to IFI prior to construction and any additional measures/requirements stipulated by IFI will be incorporated into the final design and construction method statements for the proposed crossing.

Response to Comment/Recommendation (d): IFI's recommendations are noted and were previously addressed in the EIAR. Section 9.5.2.8 of EIAR Chapter 9 includes mitigation measures to prevent morphological changes to watercourses and stated that *"Instream construction will*

be carried out in the period July to September inclusive. This is a conservative working window that will help ensure construction occurs during very low or no flow and will minimise the risk of entrainment of suspended sediment in surface water runoff to fisheries waters in the lower Lettercannon tributary and the Roughty River". No piped culverts are proposed and there will be no alteration to the existing streambeds at crossings.

2.1.3 Sediment Control

IFI state that:

"Mitigation measures must be in place and functioning before any earthworks commence. Additional measures may be included/necessary if works breach original measures. Silt control measures need to be regularly inspected, easily managed and maintained (Fencing is easily collapsed and can become ineffective without proper management on an ongoing basis such is not generally a feature of these sites.) Machinery movement within buffer zones should be prohibited."

2.1.3.1 HES Response

Section 9.5.2.1 and Section 9.5.2.2 of EIAR Chapter 9 prescribe detailed and comprehensive mitigation measures for the protection of surface water quality and to ensure that there is no entrainment of suspended solids in surface waters due to construction and/or felling activities. These mitigation measures are best-practice, tried and tested measures for the protection of surface water quality and have been used in the construction of many upland renewable energy developments.

The prescribed pre-commencement temporary drainage works include:

- the installation of temporary drainage measures including the temporary blocking of downgradient dry forestry drains using check dams and silt traps;
- the installation of interceptor drains upgradient of the work areas to keep clean water clean and divert water around the work areas;
- Check dams and silt fences will also be placed in all forestry and roadside drains which contain water; and,
- A double silt fence perimeter will be placed downgradient of the works areas where works are proposed within a 50m hydrological buffer zone.

The mitigation measures in Section 9.5.2.2 also state that An Inspection and Monitoring Plan of the on-site drainage system will be prepared in advance of the works commencing. The plan will include for:

- Regular inspections of all-installed drainage systems, particularly following heavy rainfall, and after tree felling;
- Any excess build up of silt will be removed; and,
- These checks will be completed on a daily basis.

The movement of machinery within the buffer zones will be prohibited with the exception of at watercourse crossings where additional mitigation measures are proposed.

2.1.4 Cement and Fuels

IFI recommend that:

"Specific instruction should be given to contractors on the potential hazard to water quality when undertaking works close to watercourses and when using cement".

2.1.4.1 HES Response

Section 9.5.2.5 and Section 9.5.2.6 of EIAR Chapter 9 prescribe detailed and comprehensive mitigation measures for the prevention of the release of hydrocarbons and cement-based products into the hydrological environment. These mitigation measures are best-practice, tried

and tested measures for the protection of surface water quality and are used at construction sites across the country.

In addition, to the mitigation prescribed in the EIAR, IFI's recommendation is noted and will be included in the CEMP. All contractors working at the site will be subject to Environmental Inductions regarding the potential hazards to water quality from sediment, cement, and hydrocarbons and other hazards prior to the commencement of the construction works. Location specific Tool Box Talks will also be completed where other specific risks occur, such as at watercourse crossings.

2.1.5 Drainage of Wet Peat Areas

IFI state that:

"Drainage of these areas should be avoided or minimised. Any forestry drainage system within the site should be back filled to prevent surface water flow through. Such work should be undertaken during dry weather conditions."

2.1.5.1 HES Response

The key mitigation measures in relation to areas of wet peat is avoidance. During site walkover surveys any areas of deep and/or wet peat were identified. These areas were shown on hydrological constraints maps to ensure that the Proposed Development did not encroach upon or overlap with these areas. Based on the sloping nature of the Proposed Development site and the presence of predominantly shallow peat, the occurrence of areas of wet and deep peat at the site are limited.

Nevertheless, IFI's recommendations will be incorporated into the CEMP.

2.1.6 Alterations to Watercourses

IFI state that:

"Watercourses should not be diverted or altered as a result of this development."

2.1.6.1 HES Response

The Proposed Development does not include the diversion or alteration of any natural watercourse.

2.1.7 Timing

IFI state that:

"Instream work or works likely to impact on water quality or habitats may only be carried out during the months July to September inclusive, with IFI consultation."

2.1.7.1 HES Response

Section 9.5.2.8 of the submitted EIAR details mitigation measures in order to prevent morphological changes to watercourses as a result of the Proposed Development. Included in the prescribed mitigation measures is the following: *"Instream construction will be carried out in the period July to September inclusive. This is a conservative working window that will help ensure construction occurs during very low or no flow and will minimise the risk of entrainment of suspended sediment in surface water runoff to fisheries waters in the lower Lettercannon tributary and the Roughty River"*. Furthermore we can confirm that no instream works will be completed with prior consultation with IFI.

2.1.8 Surveys

IFI state that:

"Water quality must also be assessed, using fauna/flora and chemical analysis pre, during and post works, for a minimum of 1 year after construction phase is completed. Information to be made available to IFI upon request."

Pre-development information should be of such nature and extent that it can be used for reference purposes and more importantly to identify if an impact (event) has occurred during the project's developmental phase."

2.1.8.1 HES Response

Construction Phase surface water monitoring is detailed in Chapter 7, Section 7.5.7.4 of the EIAR.

Additional monitoring can be conditioned should this planning permission be granted.

3 NON STATUTORY SUBMISSIONS

3.1 INTRODUCTION

This section presents our response to recurring themes included in the various non-statutory 3rd party submissions. Our responses relate to the following themes:

- Potential effects on local rivers; and,
- Potential effects on private well supplies.

3.2 RESPONSES TO RECURRING MATTERS/TOPICS RAISED BY 3RD PARTIES

3.2.1 Potential Effects on Local Rivers

The potential for effects on local rivers and streams is negligible for the following reasons:

- Chapter 9 of the submitted EIAR presents proven and effective measures for the protection of surface water quality within the Proposed Development site;
- A self-imposed 50m stream and lake buffer was used during the design of the Proposed Development, thereby avoiding sensitive hydrological features;
- Mitigation measures are detailed for felling (Section 9.5.2.1) and sediment control (Section 9.5.2.2) which will mitigate the release of sediment which will reduce the concentration of suspended solids to acceptable levels;
- Mitigation measures are also prescribed for hydrocarbons (Section 9.5.2.5) and cement-based products (Section 9.5.2.6). The storage and handling of hydrocarbons/chemicals will be carried out using best practice methods which will ensure the protection of surface and groundwater quality;
- Similar mitigation measures have been used in the construction of renewable energy developments across the country;
- The surface water drainage plan will be the principal means of significantly reducing sediment runoff arising from construction activities and to control runoff rates;
- There will be no direct discharge from the proposed work areas to natural watercourses;
- All water will be treated and attenuated prior to discharge;
- The Proposed Development drainage system will be designed to slow surface water runoff from the site by providing greater attenuation, ensuring that the Proposed Development does not alter downstream surface water flows and will not contribute to downstream flooding;
- A Water Framework Directive (WFD) Compliance Assessment has been completed for all waterbodies with the potential to be impacted by the Proposed Development. With the implementation of the mitigation measures detailed in this EIAR there will be no change in the WFD status of the downstream surface waterbodies as a result of the Proposed Development. The Proposed Development has been found to be fully compliant with the WFD and will not prevent any waterbody from achieving its WFD objectives;

- An assessment of potential cumulative effects associated with the Proposed Development and other developments on the hydrological and hydrogeological environment has been completed. With the implementation of the mitigation measures detailed in this EIAR, the cumulative assessment found that there will be no significant effects on the hydrological environment; and,
- No significant effects on the water environment will occur during the construction, operation or decommissioning of the Proposed Development.

3.2.2 Potential Effects on Private Well Supplies

As outlined in the EIAR (Section 9.5.2.9), the potential for effects on local private groundwater well supplies is negligible for the following reasons:

- The Proposed Development site is underlain by an aquifer of relatively low permeability;
- The local hydrogeological regime at the Proposed Development site is characterised by high rates of surface water runoff and low rates of groundwater recharge;
- This is a function of the sloping nature of the site, the presence of low permeability soils/subsoils and the low permeability of the underlying bedrock aquifer which means that a high proportion of the effective rainfall will runoff or discharge rapidly to surface watercourses.
- Groundwater flowpaths are therefore typically very short (~300m maximum);
- Consequently, the majority of groundwater flows within the Proposed Development site emerge as springs/baseline along streams/rivers and leave the site as surface water flows and not groundwater flows;
- Therefore, the potential to effect local wells (whether they are downslope or not) is very low as groundwater flowpaths between the Proposed Development infrastructure and potential source typically do not exist due to the large setback distance (>850m);
- Nevertheless, mitigation is provided in the EIAR to deal with typical construction phase groundwater hazards such as oils and fuels;
- Due to the shallow nature of the proposed works and the topographic elevation of the site, no significant dewatering is proposed and there will be no effects on groundwater levels/quantity, and,
- Therefore, based on our hydrogeological assessment of the Proposed Development site with regard to groundwater user risk and the proposed mitigation measures, we can robustly say the potential to effect local wells/water supply sources is negligible.

4 RESPONSE SUMMARY

Submissions have been made by Statutory Bodies and 3rd parties relating to potential impacts in the Water Environment.

Our responses to those submissions are summarised as follows:

- The issues raised by IFI typically relate to mitigation measures for the protection of water quality, particularly at watercourse crossings. All IFI comments and recommendations will be integrated into the Proposed Development for the protection of water quality;
- In respect of 3rd Party submissions:
 - The potential for the Proposed Development to impact remote groundwater wells is negligible due to the elevation of the site, the local hydrogeological regime (low rates of groundwater recharge), the

shallow nature of the proposed excavation works and the proposed mitigation measures for the protection of water quality.

- We are satisfied that our assessment of the potential effects on local rivers and streams as presented in the EIAR is comprehensive. With the implementation of the tried and tested mitigation measures there will be no significant effects on local watercourses.

5 CLOSURE

We trust the above response meets your requirements. Please contact the undersigned if you have any questions regarding the above.

Yours sincerely,



Michael Gill PGeo
Civil Engineer and Hydrogeologist
B.A., B.A.I., M.Sc., Dip Geol, MIEI, MCIWEM

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APPENDIX 2

**RESPONSE BY ALAN
LIPSCOMBE TRAFFIC AND
TRANSPORT CONSULTANTS
LTD**

REPOWERING OF THE EXISTING KILGARVAN WIND FARM

Response to Traffic and Transport related submissions

REVISION A

Alan Lipscombe Traffic & Transport Consultants Ltd
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Client: Orsted
December 3rd, 2024
Project No: 9990

1 INTRODUCTION

This note addresses the traffic and transport related issues submitted to An Bord Pleanála in relation to the Strategic Infrastructure Development – Proposed Wind Farm Repowering at the existing Kilgarvan Wind Farm, Inchincoosh, Inchee, Lettercannon, Coomacullen and Cloonkeen, County Kerry.

The responses were prepared by Alan Lipscombe Traffic and Transport Consultants Ltd.

2 ISSUES RAISED BY TRANSPORT INFRASTRUCTURE IRELAND (TII)

A submission was received from TII dated 11th July with the issues raised together with the Applicant responses set out below.

1 Issues raised by TII – Official Policy

Section 2.5 of the DoECLG Guidelines sets out policy that seeks to avoid the creation of additional access points from new development or the generation of increased traffic from existing accesses (i.e. non-public road access) to national roads, to which speed limits greater than 50 kph apply. Section 2.6 of the DoECLG Guidelines provides that notwithstanding the provisions of Section 2.5, above, that planning authorities may apply a less restrictive approach to the management of access to a national road in 'exceptional circumstances' but only as part of the process of reviewing or varying the relevant development plan. It is noted the Section 15.1.2.1 of the EIAR advises that windfarm access will utilise the existing site access junction which is located on the southern side of the N22 at a point approximately 26 kms west of Macroom and 22 kms southeast of Killarney in County Kerry. TII's records indicate that a 100kph speed limit applies to the section of N22, national road, concerned. Current Kerry County Development Plan has not provided any agreed 'exceptional circumstances' cases for development accessing a national road such as that proposed in this subject Strategic Infrastructure Development application. The EIAR does not appear to address the obvious policy conflict arising from the proposed access direct to the N22, national road, at a 100kph speed limit location. critical requirement to ensure the strategic capacity and safety of the national road network is maintained and significant Government investment already made in the national road network is safeguarded. TII considers that this identified policy conflict requires resolution prior to any decision on the subject application having regard to the aforementioned provisions of the Section 28 Ministerial Guidelines 'Spatial Planning and National Roads Guidelines for Planning Authorities' (DoECLG, 2012).

Design team response – The applicant acknowledges Section 2.5 of the DoECLG Guidelines in relation to avoiding increased traffic from existing accesses at locations where a speed limit of greater than 50 kph applies, and the fact that the N22 has a speed limit of 100 kph at the location of the existing site access. In mitigation the following points are noted;

- It is proposed that with respect to additional traffic generated through the junction, the existing Kilgarvan Wind Farm junction on the N22 will be used for the purpose of the decommissioning of the existing wind farm and the construction of the new wind farm. Once operational the traffic volumes using the junction will return to existing levels, which is very low volumes of maintenance trips made infrequently by 1 to 2 staff in one day.

- As set out in Section 15.1.11.2.1 of the EIAR, the additional traffic volumes that will be generated on the N22 adjacent to the existing access junction are forecast to increase by a maximum of 5.7% on 11 days that the concrete foundations are poured, and between 0.9% and 1.3% for the remainder of the 24 month construction period.
- The results of the junction capacity tests undertaken for the N22 / Kilgarvan access junction undertaken for the busiest hour, based on a conservative precautionary scenario of all staff that will be employed on the site arriving during the AM peak hour and leaving during the PM peak hour is set out in Section 15.1.6.4.2 of the EIAR. For this scenario the test shows that the maximum ratio of flow to capacity (RFC) of 14.5% will apply to vehicles leaving the site at the end of the day. It is noted that in reality the RFC's, queues and delays will be even lower as significantly less than the total 100 staff will be on site on any one day and they will travel to and from the site at different times.
- As set out in Section 15.1.4.3 of the operational phase it is noted that the site will be unmanned and monitored remotely, with a maximum of 1-2 maintenance staff on the site at any one time . As a result the traffic generation of the site once operational will be equal to or less than what is currently generated by the site.
- It is noted that there is a precedence for construction related traffic gaining access off the N22 at a point approximately 4km to the east for the granted Knocknamork Wind Farm (PI Ref No. 19/4972, as amended under PI Ref No. 22/5791 and 23/4455.

2 Issues raised by TII – Road Safety Issues

Road safety issues for the Boards consideration which would also require assessment in the context of the subject proposals access requirements to the N22, national road, prior to any decision being made on the planning application;

1. TII notes that Section 15.1.9 of the EIAR advises that no Road Safety Audit has been undertaken for the N22 access junction as no change to the junction is proposed. Notwithstanding, TII considers that use of a private access to the N22, in the manner proposed, at a location where a 100kph speed limit applies should be supported and evidenced by a safety review to ensure no road safety issues arise and any mitigations or improvements identified can be incorporated into any permission granted in the interests of road user safety. A considerable period of time has passed since the junction was initially designed and other changes to the road network may also have occurred that support the requirement for a safety review of the junction in addition to changes to the scale of the turbines delivered to the site.

Design team response – While there are no significant changes proposed to the existing access junction a Road Safety Audit was commissioned and undertaken by Traffico Ltd which is included as Appendix 4 to the Response Document.

There were 3 “problems” raised as part of the Audit, with the issues raised by the Auditors, their recommendations and the design team response to each set out below.

Problem 2.1: Achieving Suitable Sight Lines at Access - Location: Site Access and N22 Mainline Approaches

Foliage and tree growth in the ditches combined with the adjacent horizontal curvature of the N22 may serve to limit potential sight lines at the windfarm access. This could increase the risk of a collision occurring between wind farm vehicles and general traffic passing the access on the N22.

Problem 2.1: Auditors Recommendation

Appropriate sight lines should be provided at the access to mitigate the risk of collisions between wind farm vehicles and general traffic passing the access on the N22.

Problem 2.1: Design Team response

Visibility splays (3m x 215m) and forward visibility splays were measured on site and were observed to be available, as shown in Figure FI 1 and Plates FI1 to FI6. The applicant commits to maintaining the hedgerows and treelines within their control.

Problem 2.2: Poor Junction Definition & Priority Control - Location: Site Access Approach to N22 Mainline

The unusually wide (and unregulated) access junction may be challenging for drivers engaged in windfarm construction or operation activity to identify on all approaches. This could lead to driver confusion, unexpected braking and failing to stop type collisions.

Problem 2.2: Auditors Recommendation

Appropriate measures should be set in place to improve junction definition, to improve priority control and to better identify the location of the access for drivers approaching it.

Problem 2.2: Design Team response

The following improvements are proposed for the Kilgarvan Wind Farm access approach to the existing junction with the N22;

- The compaction of the existing gravel surface in order to avoid stones and gravel spilling on to N22 surface.
- The introduction of a STOP sign as per RUS027 of the traffic Signs Manual.
- The delineation of the existing carriageway edge.

In addition to the above the Applicant would support implementing further improvements to the junction if considered appropriate by Kerry County Council and TII. These would include the following as shown in Figure FI 2 attached;

- Minor widening of the wind farm access approach to provide 9m radii.
- The introduction of a tarred surface for the first 10m of the access road from the carriageway edge of the N22.
- The introduction of junction markings as per Figure 7.35 of the Traffic Signs Manual.

Problem 2.3: Risk of Right Turning into Access from N22 - Location: N22 Eastbound Approach to Windfarm Access

Driver's unexpectedly slowing down whilst attempting to execute a right turn into the windfarm access from the climbing lane could lead to rear end shunt type collisions on the N22.

Problem 2.3: Auditors Recommendation

Suitable controls should be set in place to ensure that drivers engaged in the construction or the operation of the windfarm are directed to approach the windfarm access from the westbound N22 carriageway only. For clarity, approaching the windfarm access from the eastbound N22 carriageway should be prohibited.

Problem 2.3: Design Team response

The Auditors Recommendation is accepted.

It is noted that all recommendations provided by the Auditors are adopted by the Design Team and all responses provided have been accepted by the Auditors.

2. Any recommendations of the road safety review shall be incorporated into final designs for construction and the requirements to implement the recommendations of the road safety review shall be included as a condition of any permission granted.

Design team response – The Applicant accepts this condition as set out above.

3. TII also advises that any damage caused to the pavement on the existing national road due to the turning movement of abnormal loads (eg. tearing of the surface course) shall be rectified in accordance with TII Pavement Standards and details in this regard shall be agreed with the Road Authority prior to the commencement of any development on site.

Design team response – Mitigation measures proposed for the construction phase of the Proposed Development are set out Section 15.1.11.5.2 of the EIAR and includes a commitment to undertake pre and post construction road surveys and to re-instate all roads surfaces and boundaries to predevelopment conditions. The surveys and works will be agreed with all relevant Authorities.

3 Issues raised by TII – Proposed Turbine Haul Route

1. The applicant/developer should consult with all road authorities over which the haul route traverses to ascertain any operational requirements such as delivery timetabling, etc. and to ensure that the strategic function of the national road network is safeguarded.

Design team response – A commitment to liaise with relevant road authorities in relation to the above is provided in Section 15.1.11.5.2 of the EIAR.

2. In the interests of clarification, any proposed works to the national road network to facilitate turbine component delivery to site shall comply with TII Publications and shall be subject to Road Safety Audit as appropriate.

Design team response – All works required on the National Road network to facilitate the turbine delivery route are set out in Section 15.1.8 of the EIAR and is limited to minor temporary over-run areas that have

been used for previous similar developments. All works will be discussed and agreed with TII and the relevant local Authority, and will be the subject of a Road Safety Audit where required.

3. TII requests referral of all proposals agreed between the road authorities and the applicant impacting on national roads. Mitigation measures identified by the applicant should be included as conditions in any decision to grant permission. Any damage caused to the pavement of the existing national road due to the turning movement of abnormal 'length' loads (eg. tearing of the surface course) shall be rectified in accordance with TII Pavement Standards and details in this regard shall be agreed with the Road Authorities prior to the commencement of any development on site.

Design team response – The Applicant will liaise with the relevant Roads Authorities and provide all information required by TII for all locations temporarily impacted highlighted in Section 15.1.8 of the EIAR on the National Road network. Again, as set out in Section 15.1.11.5.2 of the EIAR, the Applicant commits to undertake pre and post construction road surveys and to re-instate all roads surfaces and boundaries to predevelopment conditions.

4. Two blade delivery options are considered. One is directly from port of entry at Ringaskiddy to site and another option that involves transferring the turbine components from the blade trailer to a blade adapter in order to transport the blade from the site entrance to their intended set down area within the site; Section 15.1.2.2 of the EIAR refers. This latter option involves 'abnormal load' delivery vehicles performing a reversing manoeuvre on the N22, national road, onto a local road to effect the blade transfer between vehicles. TII is concerned that such an approach does not appear to have been subject to any road safety analysis or review as highlighted in item no. 1, above.

Design team response – Details of the latter option described were not included as part of the EIAR as it is not the preferred option to transport the blades to site. The option, that is undertaking a reversing movement onto a section of the former N22 to transfer the blades onto a blade adapter before proceeding west on the N22 for approximately 4km to the site access was assessed as part of the design process, with the reversing movement off the N22 included as Figure FI 3 and the right turn back onto the N22 with the blade lifted included as Figure FI 4. The figures show that this option is feasible in terms of road geometry. It is noted that for all turbine delivery options, all movements of abnormally sized loads on the public road network will be accompanied by an escort provided by An Garda Síochána and outriders provided by the haulage company that will provide transient traffic management measures to ensure a safe environment for all road users.

4 Issues raised by TII – Structures

1. Haul Route proposals for wind turbine component delivery to site are outlined in Section 15.1.2.2 and Section 15.1.8 details the Abnormal Load Route Assessment. While the assessments undertaken detail the impacts of abnormal 'length' loads, it is unclear from the documentation submitted with the application if all structures on the haul route have been assessed to facilitate any abnormal 'weight' loads.

Design team response – As set out in Item 11 of Table 15-1 of the EIAR it is proposed that while the delivery stage of the Proposed Development will involve abnormally large loads, the axle loadings will not exceed accepted limits. A program of pre-delivery condition and structural assessment of the route is

however proposed, as set out in the Traffic Management Measures set out in Section 15.1.7 and 15.1.11.5.2.

2. With specific reference to national road structures on the proposed haul route, all structures should be checked by the applicant/developer to confirm that all the structures can accommodate the proposed loading associated with the delivery of turbine and/or substation components where the weight of the delivery vehicle and load exceeds that permissible under the Road Traffic Regulations.

Design team response – Response is as above.

3. The Authority considers that it is critical a full assessment by the applicant/developer of all structures on the national road network along the haul route should be undertaken, where relevant, and all road authorities along the haul routes(i.e. not just Kerry) should confirm their acceptance of proposals by the applicant. The Authority requests referral of all proposals agreed between the road authorities and the applicant impacting on national roads.

Design team response – The Applicant agrees with this condition.

5 Issues raised by TII – Cabling

TII notes proposals to utilise existing grid connections and that there are no new grid connection proposals included in the subject application with the potential to impact the strategic national road network.

Design team response – The design team has no further comment on this issue.

6 Issues raised by TII – Greenway

In relation to any Greenway proposals in the vicinity of the proposed works, consultation with Kerry County Councils own internal project and/or design staff is recommended.

Design team response – This will be done prior to any construction works taking place.

3 ISSUES RAISED BY MEMBER OF THE PUBLIC

Danger to road users during construction (Raised by 2 members of public)

Negative health and safety aspects to road users in the local area of Cloonkeen and road users on the extremely busy Cork to Killarney Road throughout the vast construction stage.

Design team response – The applicant acknowledges the concerns of the members of the public. The traffic impact assessment and mitigation measures propose for the construction stage of the proposed development, as set out in Chapter 15 of the EIAR, together with the independent Road Safety Audit, are aimed at minimising risks to all road users.

PLATES

Plate FI1 Taken from existing Kilgarvan Wind Farm access junction on N22 – looking south west – visibility of 215m along nearside of hardshoulder available from 3m setback



Plate FI2 Taken from existing Kilgarvan Wind Farm access junction on N22 – looking northeast – visibility of 215m along nearside of hardshoulder available from 3m setback



Plate FI3 Looking southwest east towards existing Kilgarvan Wind Farm access junction on N22 – taken from point 215m from access junction



Plate FI4 Looking northeast towards existing Kilgarvan Wind Farm access junction on N22 – taken from point 215m from access junction



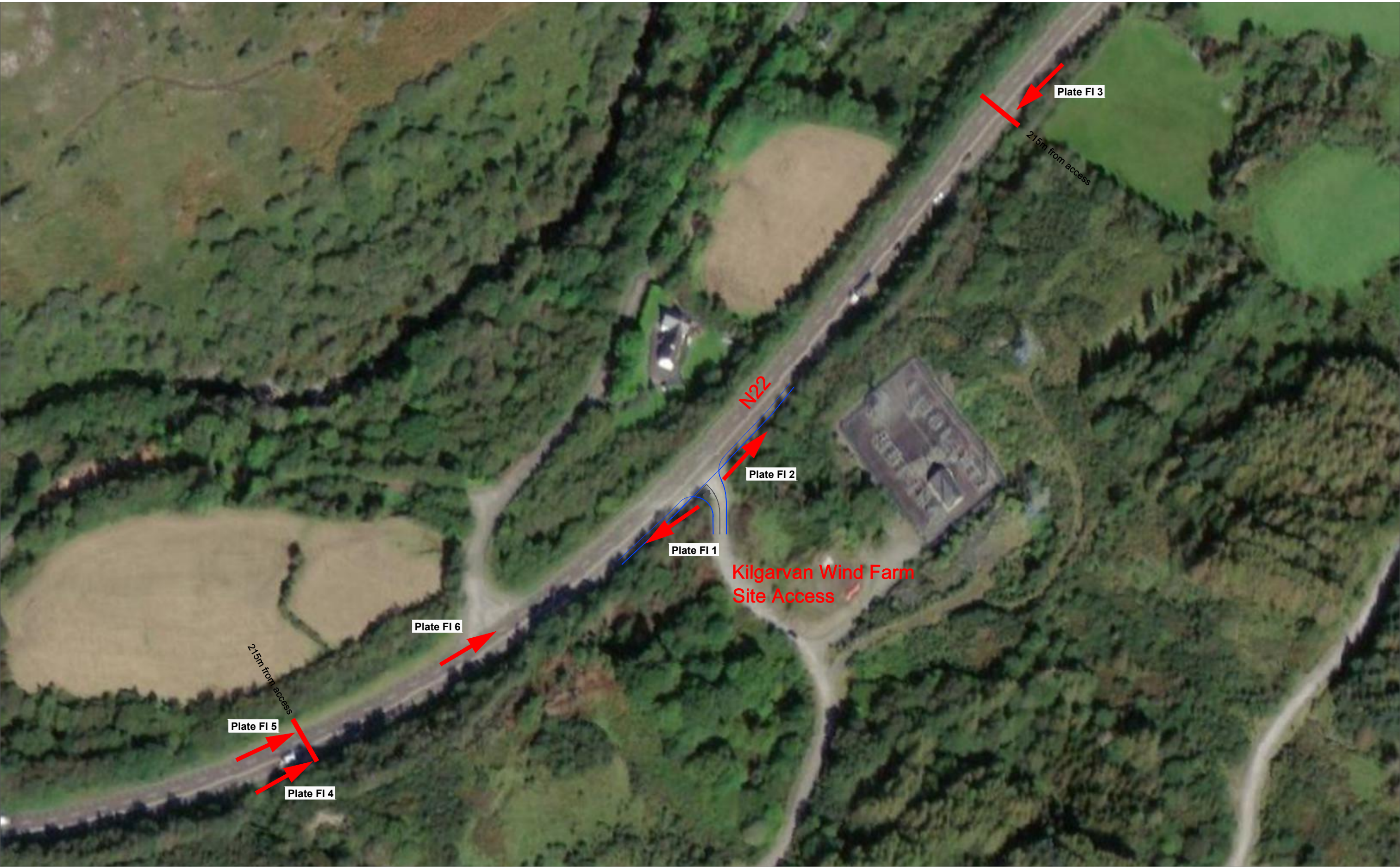
Plate FI5 Looking northeast towards existing Kilgarvan Wind Farm access junction on N22 – forward visibility from point 215m from access junction available



Plate FI6 Looking northeast towards existing Kilgarvan Wind Farm access junction on N22 – forward visibility taken from point approximately 130m south west of access junction available – forward visibility on N22 past access junction available



FIGURES



NOTES:

PLANNING DRAWING ONLY - NOT FOR CONSTRUCTION PURPOSES

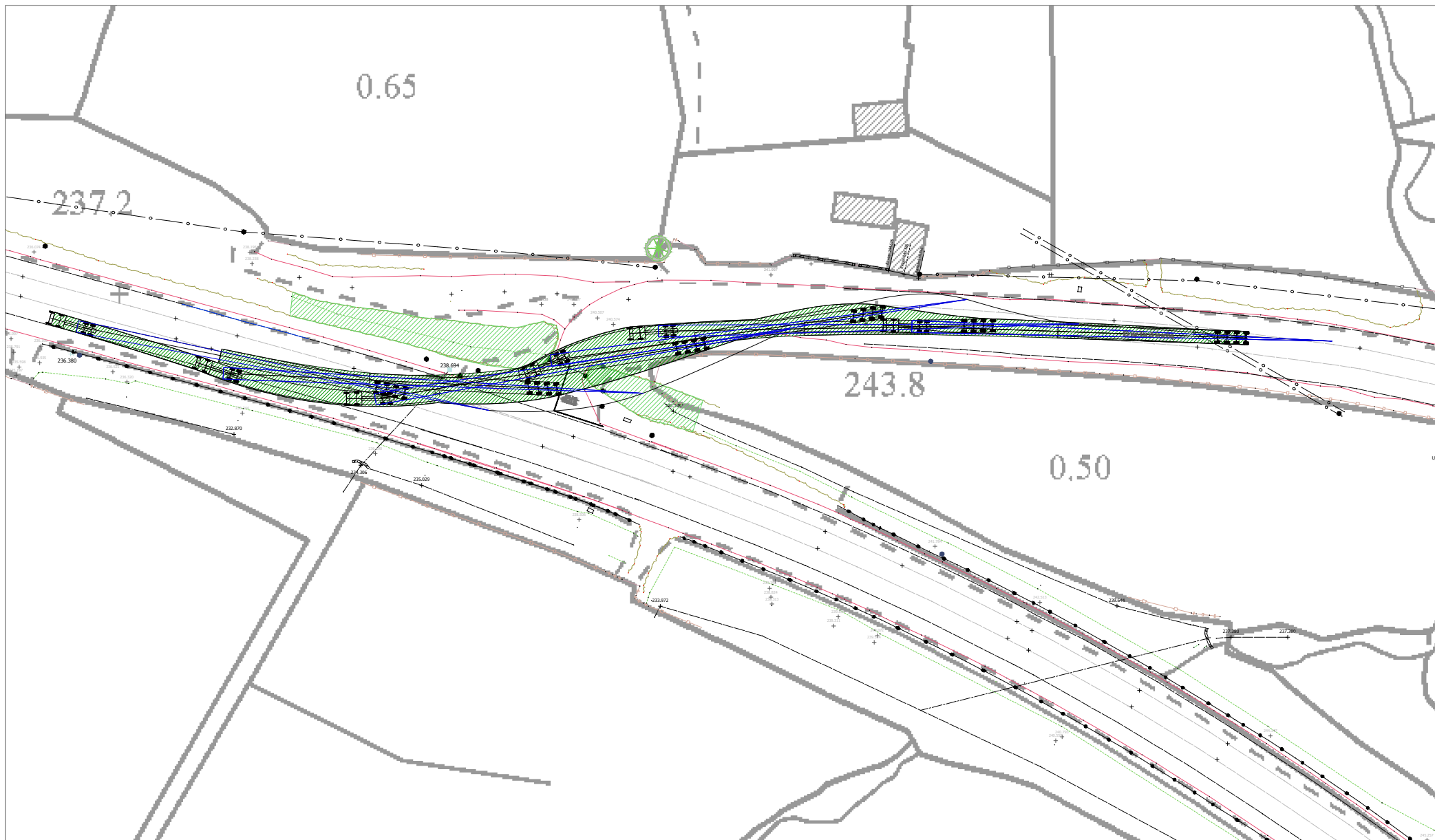
Figure FI 1 Locations of images shown in Plates FI 1 to FI 6

PROJECT: Repowering of the Existing Kilgarvan Wind Farm		
CLIENT: Orsted		SCALE: NTS
PROJECT NO: 9990	DATE: 22.11.24	DRAWN BY: AL

ALAN LIPSCOMBE
TRAFFIC & TRANSPORT CONSULTANTS



NOTES: PLANNING DRAWING ONLY - NOT FOR CONSTRUCTION PURPOSES		Figure FI 2 Improvement proposed for N22 / Kilgarvan Wind Farm access junction		
		PROJECT: Repowering of the Existing Kilgarvan Wind Farm		ALAN LIPSCOMBE TRAFFIC & TRANSPORT CONSULTANTS
		CLIENT: Orsted	SCALE: 1:1000	
		PROJECT NO: 9990	DATE: 29.04.24	
		DRAWN BY: AL		



NOTES:
PLANNING DRAWING ONLY - NOT FOR CONSTRUCTION PURPOSES

Figure FI 3 Right turn from Old N22 onto N22, blade extended artic (81.5m blade)

PROJECT: Kilgarvan Wind Farm

CLIENT: Orsted

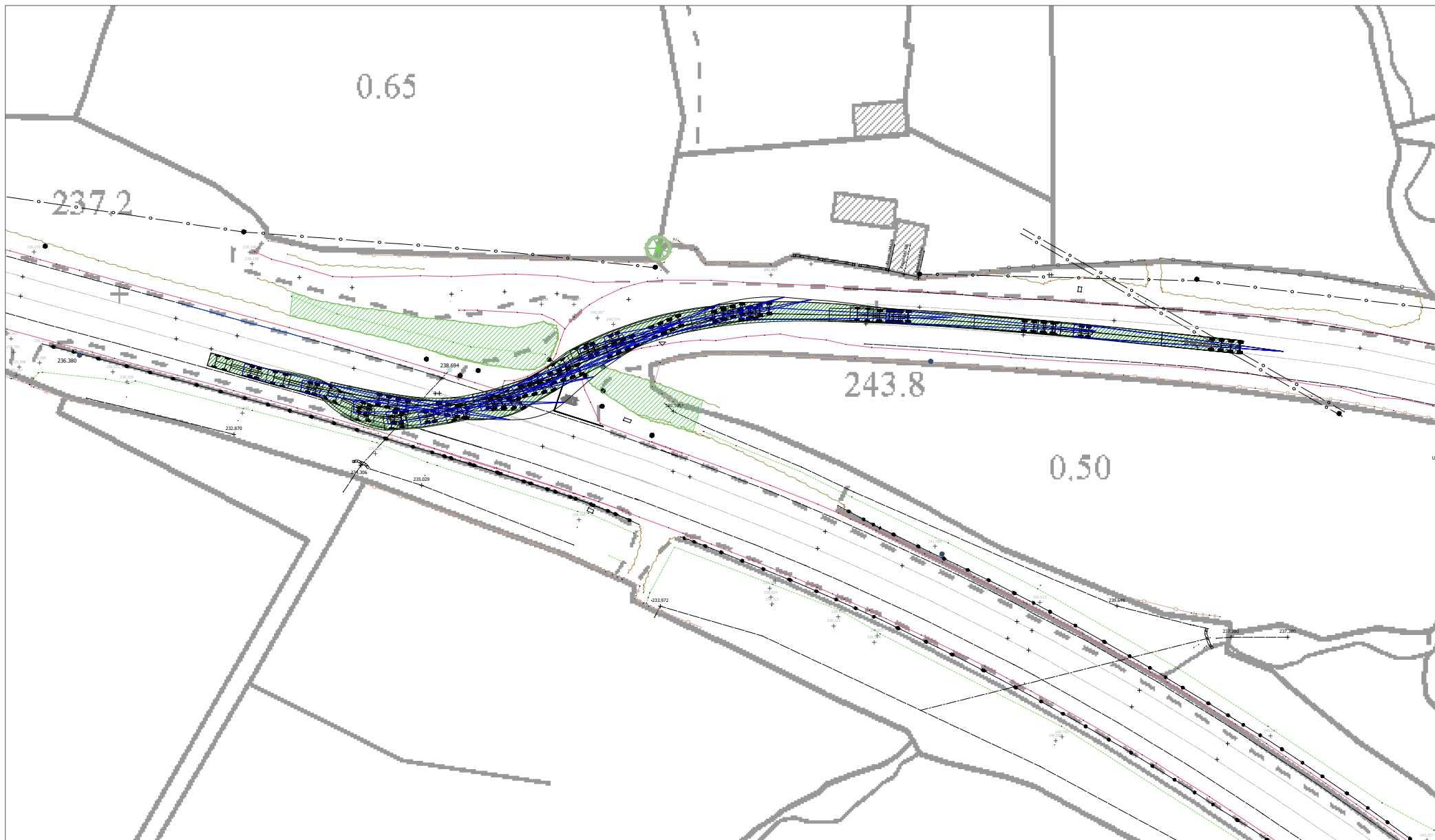
PROJECT NO: 9990

DATE: 14.07.23

SCALE: 1:1000

DRAWN BY: AL

ALAN LIPSCOMBE
TRAFFIC & TRANSPORT CONSULTANTS



NOTES:
PLANNING DRAWING ONLY - NOT FOR CONSTRUCTION PURPOSES

Figure FI 4 Right turn from Old N22 onto N22, blade extended artic (81.5m blade with 60 degree adapter)

PROJECT: Kilgarvan Wind Farm

CLIENT: Orsted

PROJECT NO: 9990

DATE: 14.07.23

SCALE: 1:1000

DRAWN BY: AL

ALAN LIPSCOMBE
TRAFFIC & TRANSPORT CONSULTANTS



APPENDIX 3

**RESPONSE BY TOBAR
ARCHAEOLOGICAL SERVICES**

Response to submissions on the Proposed Repowering of Kilgarvan WF, Co. Kerry

Author: Miriam Carroll

Client: MKO Ireland Ltd
C/O MKO Tuam Road,
Galway

Date: 28/11/2024

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1 INTRODUCTION

Tobar Archaeological Services Ltd prepared the archaeology and cultural heritage chapter, Chapter 14, of the EIAR which accompanied the planning application for the proposed repowering of Kilgarvan Wind Farm, County Kerry. This document has been prepared in response to Prescribed Bodies Submissions received in relation to archaeology and cultural heritage.

2 RESPONSES TO PRESCRIBED BODIES SUBMISSIONS

2.1 Department of Housing, Local Government and Heritage

The submission received from the Department of Housing, Local Government and Heritage (DHLGH) advises that all mitigation measures in relation to archaeology and cultural heritage as set out in Chapter 14 of the EIAR be implemented in full. It also notes the following in relation to the establishment of Exclusion Zones around heritage assets as identified in Chapter 14.

A suitably qualified archaeologist shall be retained to advise on, and establish appropriate Exclusion Zones around the external-most elements of vulnerable Heritage Assets (as identified in Chapter 14 of the EIAR or by any subsequent investigations associated with the project).

- a. *Exclusion Zones shall be fenced off or appropriately demarcated for the duration of decommissioning and construction works in the vicinity of the monuments. The location and extent of each Exclusion Zone and the appropriate methodology for fencing off or demarcating at each location shall be agreed in advance with the Department and the Planning Authority.*
- b. *No groundworks of any kind (including but not limited to advance geotechnical site investigations) and no machinery, storage of materials or any other activity related to decommissioning or construction will be permitted within Exclusion Zones.*

The submission goes on to state that The Construction Environmental Management Plan (CEMP) shall include the location of any and all archaeological or cultural heritage constraints relevant to the proposed development as set out in Chapter 14 of the EIAR and by any subsequent archaeological investigations associated with the project. An archaeologist is to be retained to advise on an archaeological mitigation plan for the decommissioning of the development which will describe all identified likely impacts and all mitigation measures to be employed to protect the archaeological or cultural heritage environment during decommissioning works. A final archaeological report describing the results of all archaeological works undertaken will be furnished to the Planning Authority and the DHLGH on completion of the works.

All requirements of the DHLGH as detailed in the submission will be carried out should the Proposed Development be granted permission.

2.2 Kerry County Council

Observations from Kerry County Council relating to archaeology and cultural heritage detailed the recorded archaeological monuments and cultural heritage sites around which buffer zones are to be established (as per the recommendations of the Cultural Heritage Chapter of the EIAR). It goes on to state that all soil/peat stripping, excavations and ground works in proximity to the identified archaeological monuments/features and in previously undisturbed areas of the proposed development site should be archaeologically monitored, under licence from the National Monuments

Service (NMS). A report detailing the results of the monitoring should be submitted to the Planning Authority and the NMS on completion of the work.

All requirements of Kerry County Council as detailed in the submission will be carried out should the Proposed Development be granted permission.

3 CONCLUSION

This document comprises a response to submissions received in respect the proposed repowering of Kilgarvan Wind Farm, County Kerry. It addresses all requirements of the prescribed body submissions which reflect the mitigation measures proposed in the Cultural Heritage chapter of the EIAR. All requirements of the prescribed bodies as detailed above will be carried out should the Proposed Development be granted permission.



APPENDIX 4

**STAGE 1 ROAD SAFETY AUDIT
BY TRAFFICO LTD**

N22 Site Access – Kilgarvan Wind Farm Repower Development

Stage 1 Road Safety Audit

Alan Lipscombe Traffic & Transportation

December 2024

N22 Site Access - Kilgarvan Wind Farm Repower Development

Stage 1 Road Safety Audit

December 2024

Notice

This document and its contents have been prepared and are intended solely for Alan Lipscombe Traffic & Transportation’s information and use in relation to the N22 Site Access - Kilgarvan Wind Farm Repower Development.

Traffico assumes no responsibility to any other party in respect of or arising out of or in connection with this document and / or its contents.

Document History

JOB NUMBER: 240122			DOCUMENT REF: 240122RPT001_RSA1_Rev_1			
1	Final Issue	MD	MD	MD	MD	02 Dec. 2024
0	Draft Issue	MD	MD	AON	MD	02 Dec. 2024
Revision	Purpose Description	Originated	Checked	Reviewed	Authorised	Date

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1. Introduction

1.1 Report Context – Audit Limited to Road Markings

This report describes the findings of a Stage 1 Road Safety Audit associated with the N22 Site Access - Kilgarvan Wind Farm Repower Development scheme. The Audit has been confined to consider only road markings.

The Audit has been completed by Traffico Ltd. on behalf of Alan Lipscombe Traffic & Transportation.

1.2 Details of Site Inspection

Date	Daylight / Darkness	Weather & Road Conditions
Wednesday 27 th November 2024	Daylight	Clear skies with damp roads.

Table 1.1 – Site Inspection Details

1.3 The Road Safety Audit Team

The members of the Road Safety Audit Team have been listed following:

Status	Name / Qualifications	TII Auditor Reference No:
Audit Team Leader (ATL)	Martin Deegan BEng(Hons) MSc CEng MIEI	MD101312
Audit Team Member (ATM)	Adrian O'Neill BEng MSc CEng RSA Cert	AO1356497
Audit Trainee (AT)	-	-

Table 1.2 – Audit Team Details

1.4 Drawings Examined as Part of the Audit Process

The following drawings were examined as part of the Road Safety Audit (RSA) process:

Drawing No.	Title	Revision
Figure 15-1	Site Location and Delivery Route	-
Figure 15-12	Location 4 - N22 Site Access Junction, Blade Adapter	-
Figure 15-13	Location 4 - N22 Site Access Junction, Tower Extended Artic	-

Table 1.3 – Designers Drawing List

1.5 Road Safety Audit Compliance

Procedure and Scope

This Road Safety Audit has been carried out in accordance with the procedures and scope set out in TII publication number GE-STY-01024 - Road Safety Audit.

As part of the road safety audit process, the Audit Team have examined only those issues within the design which relate directly to road safety.

Compliance with Design Standards

The road safety audit process is not a design check, therefore verification or compliance with design standards has not formed part of the audit process.

Minimizing Risk of Collision Occurrence

All problems described in this report are considered by the Audit Team to require action in order to improve the safety of the scheme and minimise the risk of collision occurrence.

2. Road Safety Issues Identified

2.1 Problem: Achieving Suitable Sight Lines at Access

Location: Site Access and N22 Mainline Approaches

Foliage and tree growth in the ditches combined with the adjacent horizontal curvature of the N22 may serve to limit potential sight lines at the windfarm access. This could increase the risk of a collision occurring between wind farm vehicles and general traffic passing the access on the N22.

Figure 2.1 – Driver's Line of Sight at Wind Farm Access Viewed East & West



Recommendation

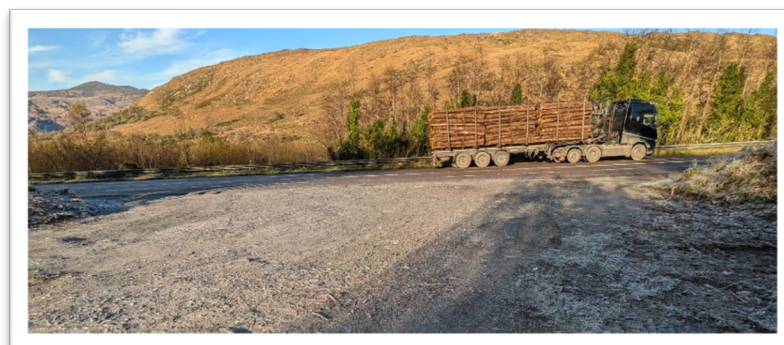
Appropriate sight lines should be provided at the access to mitigate the risk of collisions between wind farm vehicles and general traffic passing the access on the N22.

2.2 Problem: Poor Junction Definition & Priority Control

Location: Site Access Approach to N22 Mainline

The unusually wide (and unregulated) access junction may be challenging for drivers engaged in windfarm construction or operation activity to identify on all approaches. This could lead to driver confusing, unexpected braking and failing to stop type collisions.

Figure 2.2 – Poorly Defined Wide Windfarm Access onto N22 Mainline



Recommendation

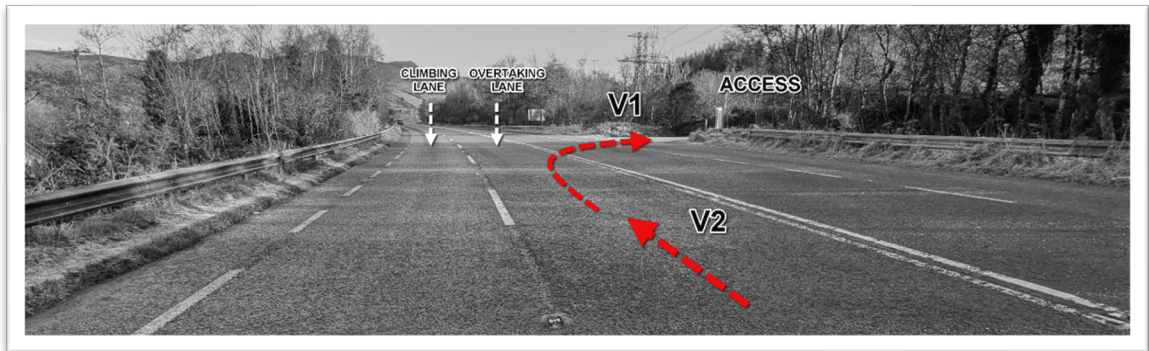
Appropriate measures should be set in place to improve junction definition, to improve priority control and to better identify the location of the access for drivers approaching it.

2.3 Problem: Risk of Right Turning into Access from N22

Location: N22 Eastbound Approach to Windfarm Access

Driver's unexpectedly slowing down whilst attempting to execute a right turn into the windfarm access from the climbing lane could lead to rear end shunt type collisions on the N22.

Figure 2.3 – Eastbound N22 Approach to Sight Access Illustrating Right Turning Risk



Recommendation

Suitable controls should be set in place to ensure that drivers engaged in the construction or the operation of the windfarm are directed to approach the windfarm access from the westbound N22 carriageway only. For clarity, approaching the windfarm access from the eastbound N22 carriageway should be prohibited.

3. Audit Team Statement

3.1 Certification & Purpose

We certify that we have examined the drawing(s) listed in Chapter 1 of this Report.

Sole Purpose of the Road Safety Audit

The Road Safety Audit has been carried out with the sole purpose of identifying any features of the design which could be removed or modified to improve the road safety aspects of the scheme.

3.2 Implementation of RSA Recommendations

The problems identified herein have been noted in the Report together with their associated recommendations for road safety improvements.

We (the Audit Team) propose that these recommendations should be studied with a view to implementation.

Audit Team's Independence to the Design Process

No member of the Audit Team has been otherwise involved with the design of the measures audited.

3.3 Road Safety Audit Team Sign-Off

Martin Deegan

Audit Team Leader

Road Safety Engineering Team

traffico

Signed:



Date:

2nd December 2024

Adrian O'Neill

Audit Team Member

Road Safety Engineering Team

traffico

Signed:



Date:

2nd December 2024

4. Designers Response

4.1 How the Designer Should Respond to the Road Safety Audit

The Designer should prepare an Audit Response for each of the recommendations using the Road Safety Audit Feedback Form attached in Appendix A.

When completed, this form should be signed by the Designer and returned to the Audit Team for consideration. See flow-chart following for further description.



Figure 4.1 – Road Safety Audit Sign-Off and Completion Process

4.2 Returning the Completed Feedback Form

The Designer should return the completed Road Safety Audit Feedback Form attached in Appendix A of this report to the following email address:

- Email address: martin@traffico.ie

The Audit Team will consider the Designer's response and reply indicating acceptance or otherwise of the Designers response to each recommendation.

Triggering the Need for an Exception Report

Where the Designer and the Audit Team cannot agree on an appropriate means of addressing an underlying safety issue identified as part of the audit process, an Exception Report must be prepared by the Designer on each disputed item listed in the audit report.

Appendix A

A.1 Road Safety Audit Feedback Form

Road Safety Audit Feedback Form

Scheme: N22 Site Access - Kilgarvan Wind Farm Repower Development

Audit Stage: Stage 1 Road Safety Audit

Audit Date: 2nd December 2024

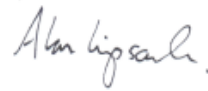
Problem Reference (Section 2)	Designer Response Section			Audit Team Response Section
	Problem Accepted (yes / no)	Recommended Measure Accepted (yes / no)	Alternative Measures or Comments	Alternative Measures Accepted (yes / no)
2.1	Yes	Yes	Visibility splays (3m x 215m) and forward visibility splays were measured on site and were observed to be available, as shown in Figure FI 1 and Plates FI1 to FI6. The applicant commits to maintaining the hedgerows and treelines within their control.	Comment noted & accepted.
2.2	Yes	Yes	<p><i>The following improvements are proposed for the Kilgarvan Wind Farm access approach to the existing junction with the N22;</i></p> <ul style="list-style-type: none"> <i>The compaction of the existing gravel surface in order to avoid stones and gravel spilling on to N22 surface.</i> <i>The introduction of a STOP sign as per RUS027 of the traffic Signs Manual.</i> <i>The delineation of the existing carriageway edge.</i> <p><i>In addition to the above the Applicant would support implementing further improvements to the junction if considered appropriate by Cork County Council and TII. These would include the following as shown in Figure FI 2 attached;</i></p> <ul style="list-style-type: none"> <i>Minor widening of the wind farm access approach to provide 9m radii.</i> <i>The introduction of a tarred surface for the first 10m of the access road from the carriageway edge of the N22.</i> <i>The introduction of junction markings as per Figure 7.35 of the Traffic Signs Manual.</i> 	Comment noted & accepted.

Problem Reference (Section 2)	Designer Response Section			Audit Team Response Section
	Problem Accepted (yes / no)	Recommended Measure Accepted (yes / no)	Alternative Measures or Comments	Alternative Measures Accepted (yes / no)
2.3	Yes	Yes		N/A

**The Designer should complete the Designer Response Section above, then fill out the designer details below and return the completed form to the Road Safety Audit Team for consideration and signing.*

Designer's Name: Alan Lipscombe

Designer's Signature:



Date: 02/12/24

Audit Team's Name: Martin Deegan

Audit Team's Signature:



Date: 2nd December 2024

Employer's Name: Patrick McMorrough

Employer's Signature:



Date: 02/12/2024



traffico

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w: www.traffico.ie



APPENDIX 5

**RESPONSE BY ECOLOGY
IRELAND**

Response to Ecology related submissions on ABP-319741-24

Proposed Repowering of the Existing Kilgarvan Wind Farm, Co. Kerry

Prepared by: Gavin Fennessy BSc PhD MCIEEM

Response to Ecology related submissions on ABP-319741-24

Department of Housing, Local Government & Heritage (Letter dated: 4th July 2024)

Introduction

The Department's submission raises concerns in relation to potential effects of the proposed development on White-tailed Eagle, *Haliaeetus albicilla*. They describe the status of the species and the history of the reintroduction programme in Ireland.

The submission outlines the history of collision fatalities with the species in Norway as well as records of collision fatalities of reintroduced eagles in Ireland. This is consistent with information provided in Chapter 6 of the EIAR (see Section 6.5.4.6.1 and Section 6.5.5.5.2).

White-tailed Eagle is an Annex I and Red-listed raptor species. It was reintroduced into Ireland in 2007 with releases of chicks from Norway in the Kilgarvan area between 2007 and 2011. The second phase of the reintroduction commenced in 2020 with the release of additional young eagles. There is an estimated national breeding population of 12 pairs (O'Donoghue *et al.* 2020).

White-tailed Eagle is known to be vulnerable to collision with turbines. Studies in Norway have shown that the species does not show any clear avoidance flight responses to the wind turbines (Dahl *et al.* 2013). Smøla is home to a significant population of White-tailed Eagles, as the island provides excellent habitat with abundant food and nesting opportunities. The proximity of these birds, year-round to the wind farm increases the likelihood of collisions. Dahl *et al.* 2012 and May *et al.* 2010 both reported higher rate of collision fatality with young and sub-adult birds in Norway. It is presumed that these birds are more vulnerable due to their inexperience and exploratory behaviour.

From 2007 to 2019, 6 birds were recovered in Ireland that are believed to have collided with turbines, with at least three of these fatalities occurring in Co. Kerry. This statistic is not surprising given that the original release location selected was nearby at Mangerton Mountain. This concentrated White-tailed Eagles, particularly young and inexperienced individuals, in this part of Kerry, where several wind farms were already operational. Two further fatalities that may or may not have involved collision with turbines are mentioned. Without consideration of the evidence for concluding that these were indeed turbine related fatalities, it is impossible to respond directly to the point raised. We are aware of at least one White-tailed Eagle carcass that was recovered from the wider area that was not located close to a turbine.

For context, a further 12 White-tailed Eagles were recovered nationally that were victim to poisoning or shooting during the same period. Losses of reintroduced birds are anticipated and young and inexperienced birds are more vulnerable to mortality from various sources. The species takes several years to reach breeding maturity and during this time the juvenile eagles tend to roam widely across the country. They are a large and highly mobile species that are often observed circling and soaring.

Summary of relevant Field data

Birds were observed at roost near the entrance to Grousemount Wind Farm and there were occasional observations of birds in the hinterland area during the summer months. The breeding season VP surveys only recorded a total of 4 flightlines of White-tailed Eagle with none of these birds within the EIAR study area. In total, individual White-tailed Eagles were observed for a total of almost 10 minutes

(off-site) over the course of three breeding seasons. In winter there were more frequent observations of the species, sometimes of up to three individuals at once. The number of flightlines recorded in the winter seasons was 7, 3 and 11 respectively. Birds were under observation for a cumulative total of 2 hours 55 minutes and 44 seconds (c. 2.7% of the total observation period) during the winter season. A total of 8 of the flightlines recorded were of White-tailed Eagles flying at rotor-swept-height (RSH) within the EIAR study area, for a cumulative total of 1 hour 21 minutes and 53 seconds (1.3% of the total observation period). The observations of White-tailed Eagle on-site were exclusively of birds in flight and while some may have been opportunistically foraging, no incidence of prey capture or scavenging was observed within the EIAR study area. While the fatality surveys did not record any evidence of raptor mortality at the site and the species was not recorded within the EIAR study area during the breeding season period, it was concluded in the EIAR that in the absence of appropriate mitigation that there is some potential for collisions to occur with White-tailed Eagle at the proposed development.

In Chapter 12 of the Kerry CDP (2022-2028) they state that energy projects in this area must be accompanied by ornithological assessments based on at least two years of survey data and taking into account the results of ongoing monitoring of existing renewable energy infrastructure in the area and should include mitigation to prevent eagle mortality as agreed for the existing Grousemount Wind Farm. These measures to address the identified collision risk with White-tailed Eagles are described in the Mitigation section of this Chapter.

Collision Risk

The submission queries the relationship between the presence of carrion and the strikes that occurred at local wind farms in 2011 and 2012. It is correct to query a simple cause and effect relationship to explain the presence/absence and strike occurrences of White-tailed Eagle. The presence of carrion is only one factor which may explain the occurrence of these birds in a given area. That is not in dispute. However, this does not negate the value in managing one potential source of attraction in the vicinity of the wind farm i.e. carrion. Any effective mitigation strategy will seek to manage wherever possible the sources of attraction to minimise the time spent on-site by White-tailed Eagle. Many of the newly released birds were provided supplementary food sources (e.g. deer carcasses) and therefore may be actively seeking out carrion to supplement any other self-provisioned prey.

The submission speculates that the topography of the Roughty Valley may also be contributing to the collision risk profile of turbines located at the crest of the valley. It must be noted again that there were no sightings of White-tailed Eagles within the EIAR study area in the breeding (summer) season. Sightings over the site were limited to the overwintering period when thermal updrafts are unlikely to be a significant factor for soaring birds. In these conditions, orographic lift, caused by wind being forced upward along hills or mountains may be used by soaring birds, especially in windy conditions. The presence of tree cover, particularly in the eastern portion of the wind farm would be anticipated to increase turbulence making it harder to exploit smooth orographic lift effectively.

The paper cited is a study by Sandhu *et al.* (2022) which introduces a stochastic agent-based model designed to predict raptor movements at a turbine scale during flights influenced by updrafts, such as orographic lift. The research focuses on Golden Eagles (*Aquila chrysaetos*) and their susceptibility to wind turbine collisions due to their reliance on low-altitude orographic updrafts for energy-efficient directional flights like migration. It is an interesting approach but one which is not directly applicable to the current application. The site was in Wyoming with a study area of 50km² an effective elevation range of 700m and a different study species.

The submission raises particular concerns about the collision risk of Turbines 10 and 11 in the absence of a 'topographic risk assessment'. While, as above, we recognise that there has been research on the predictive capability of topography in assessing collision risk with certain species, there is no standard methodology which has been applied to generate any reliable predictions at the scale involved, or for the species in question. In the absence of such a methodology, the multi-season observations of bird flight-lines (as presented in the EIAR) provide the best available information to evaluate whether the particular turbines highlighted are likely to have an unacceptably high-level of collision risk. Examination of the flightline mapping for White-tailed Eagle does not indicate that birds occur in the area close to T10 or T11 with any regularity. Indeed, there appears to be some concentration of flightlines to the west of the study area up through the river valley. While orographic updrafts may play a role in where birds occur there are many other factors which will also play a role. The direct observations of the birds across three breeding and three winter seasons clearly demonstrate that none of the turbines in the proposed layout are in areas regularly used by soaring White-tailed Eagles.

The EU Directive 'DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL amending Directive (EU) 2018/2001, Regulation (EU) 2018/1999 and Directive 98/70/EC as regards the promotion of energy from renewable sources, and repealing Council Directive (EU) 2015/652' states on page 118-119 Article 16c Part 2:

"2. Where the repowering of a renewable energy power plant is subject to the screening process provided for in Article 16a(4), to a determination whether the project requires an environmental impact assessment or to an environmental impact assessment pursuant to Article 4 of Directive 2011/92/EU, such a screening process, determination or environmental impact assessment shall be limited to the potential impact arising from a change or extension compared to the original project."

In this case the repowering development will see a reduction in the number of turbines present, including those located along the southwest slopes of the site.

Assessment of curtailment systems

The Departmental submission recommended that more sophisticated curtailment systems needed to be assessed. Several such systems have been developed and the current evidence of their efficacy and commercial viability was evaluated.

DeTect MERLIN system.

DeTect have developed a network comprising a ground-mounted central radar unit with co-located EOIR cameras. The data outputs from this system need to be manually interpreted by an operative based remotely in a command centre. The operative makes a decision on the species present, and if necessary, then issues a curtailment command to the SCADA system in the turbine to stop the rotor. It is the Applicant's view that this requirement for 24-hour remote human monitoring of radar and fixed camera data does not present a feasible solution, while the costs of such a system could not be considered feasible without further detailed independent data as to the efficacy of said system. The margin for human-error in remote monitoring is considered too great, while there is no precedent for the use of the systems themselves on the island of Ireland as presenting a viable evidence-based technical mitigant. DeTect are currently working on an AI-based tracking and identification system and could in the future have the capabilities to issue automated curtailment commands, however the technology is not yet fully ready. In DeTect's words, these systems are not a plug-and-play solution. The AI would need to be trained over time by an onsite team using site-specific data, in order to (theoretically) work efficiently.

IdentiFlight

It is noted that the research (McClure et al. 2021), which was directly funded by IdentiFlight International, was undertaken in a period that coincided with the removal of carcasses (carrion) from its subject and control sites. This means its results were not comparable to pre-install data, which would have provided a much more valuable insight into the efficacy of the system versus the comparison to a control site. It is noted that the instances of collision reduced from 11 to 3 on the control site and from 35 to 4 on the subject site, once the IdentiFlight system was installed, however this could be directly related to the removal of carcasses at that same moment in time. Subsequent research into the IdentiFlight system (Duerr *et al*, 2023, [Effectiveness of an artificial intelligence-based system to curtail wind turbines to reduce eagle collisions - PMC](#)) concluded that further refinement of the AI system was needed for better prediction of a target entering the rotor swept zone of a turbine, as well as improved discrimination between intended and unintended targets. For every 1 curtailment order issued by the system for the correct target species, approx. 6 curtailment orders were issued for unintended targets. This number of false positives recorded would translate to significant curtailment of turbines.

Spoor

Spoor is a company offering a similar technical system that were contacted by the Applicant. It is noted that their product offering consists primarily of a monitoring and identification system, while automated curtailment is still very much at the conceptual stage of development.

While these bird monitoring and identification technologies have some value for ongoing monitoring, it is apparent that further technological advancements and refinements are still needed in order to utilise them in automated curtailment systems. They remain costly and untried in Ireland and in Irish weather. Automated video based identification systems are reliant on good visibility and it is unknown to what extent any of these systems would be adversely affected by low cloud and poor visibility. While an automated and smart solution is an intuitively attractive solution to managing bird collision risk, the available technologies do not provide a convincing solution. In addition, the evidence of the detailed fatality study carried out as part of the EIAR (see Section 6.4.5.4.3), did not record any raptor fatalities at the site.

We would strongly contend that the need for such a system is not required based on the evidence collected at the existing wind farm site.

Kerry County Development Plan

We would strongly disagree with the suggestion that the EIAR does not meet the Objective 12-9 of Kerry CDP 'Support the sustainable implementation of EirGrid's Shaping Our Electricity Future roadmap (and successor programmes), subject to landscape, residential, amenity and environmental considerations.' The proposed development has been subject to detailed ecological assessment (as demonstrated in Chapter 6 of the EIAR) and the submission does not provide any clarity on the perceived conflicts. It makes a number of suggestions and inferences but in no way invalidates or undermines the conclusions or content of the EIAR.

The submission relates the success of the reintroduction programme with the need to control mortality. The submission does not acknowledge that the likely explanation for a concentration of mortality events in Kerry in the early years of reintroduction was the proximity of these wind farms to the release site. As the reintroduction has continued a number of release sites have been used and as a maturing population is present birds will be increasingly familiar with their home ranges. Older

and wild bred birds may well be less susceptible to collision and in agreement with the research quoted in the submission the shift to a greater proportion of wild bred birds in the population will likely result in a higher productivity and survival rate.

Response to Kerry County Council submission (dated July 2024) on ABP-319741-24

Section 6 of the Kerry County Council (KCC) submission deals with the EIAR and NIS prepared in relation to the repowering application.

One of the points of note in the introduction to the KCC submission pertaining to ecology is the perception that the EIAR

“does not appear to have...indicated if there are limits to the duration of consent for the operation of the existing turbines or if they enjoy the at least theoretical benefit of operating in perpetuity. This information would have been useful, to more fully establish the ‘baseline’ and the ‘Do -Nothing Scenario’. The do-nothing scenario is set out in S6.5.2 of the EIAR, however this does not discuss impacts on Terrestrial Ecology as could result from this scenario – positive or negative. Notwithstanding the above, this assessment will be undertaken on the ‘worst case scenario’ basis i.e that the existing turbines have a limited operational duration after which the site would have been restored.”

This is incorrect, as in Section 6.1 of Chapter 6 the current planning status of the existing turbines is outlined as follows:

As part of the Kilgarvan I Wind Farm Development, permission was granted for the construction of 21 no. turbines under the following planning references:

- 02/1241 – permission to construct 17 turbines and associated structures;
- 03/2176 – Extended hub height from 60m to 80m;
- 03/992176 – Extended the expiry date of planning ref 03/2176; and
- 03/2306 – Extension of 4 no. turbines

15 no. of the 21 no. turbines consented were constructed and these consist of Vestas V90 turbines with a total installed capacity of 42.5 MW. The planning permissions for Kilgarvan I Wind Farm was granted in 2007 and does not have a planning condition specifying an expiry date for its operational life.

The Kilgarvan II Wind Farm consists of several separate planning permissions, which were constructed together under the following planning permissions:

- Inchincoosh consisting of 6 no. turbines under Planning References 07/1605 and 07/4364
- Lettercannon consisting of 7 no. turbines under planning references PL. 08.209629, 07/4515 and 07/4701

Kilgarvan II Wind Farm was commissioned in 2009 and planning conditions attached to the planning permissions for the wind farm specify a 20-year operation life from commencement of operation. The Kilgarvan II Wind Farm operational life is therefore due to expire in 2029.

The repowering application will involve decommissioning of 28 no. turbines and the erection of 11 no. wind turbines. The proposed turbines are located in close proximity to the existing turbines and other wind farm infrastructure. Therefore, the cumulative number of turbines operational at the site will decrease substantially as a result of the proposed development.

The terrestrial ecology assessment was prepared in the knowledge of the planning status of all of the existing turbines.

The Kerry County Council submission confirms that it “is considered that the information collected and submitted is sufficiently detailed and extensive to allow for impact assessment”. In addition, the submission states that it is *“noted and considered appropriate that the proposal has been informed by observed avian flightlines as described and mapped in Appendix 6-2 of the EIAR. It is further noted and welcomed that a ‘white-tailed eagle outline risk management plan’ has been prepared for the proposal and is included as appendix 6.9 of the EIAR. It is noted that this has taken account of the mitigation to prevent eagle mortality as agreed for the existing Grousemount Wind Farm and which is required by the Kerry CDP 2022-2028. This approach is considered to be acceptable.”*

The KCC submission concurs that there is no potential for impact on Lesser Horseshoe Bat related conservation objectives. They also accept that there is no potential for impacts on the Mullaghanish to Musheramore Mts SPA. The submission states in Section 6.7 that *“Having regard to the information submitted, significant adverse impacts on biodiversity interests based on existing conditions are not anticipated.”*

In Point 7 of the submission, it is stated that *“A considerable amount of ecological surveys and assessments have been undertaken, in support of the proposal. It is evident that the proposal has had regard to the requirements of the Kerry CDP 2022-2028 and that the requirements of same along with the ecological findings have influenced the proposal, including the proposed provision of an outline White-tailed Eagle Risk Management Plan - which is considered to be appropriate. It is noted that the reports submitted conclude that the proposal is compatible with the requirements of the Habitats Directive.”*

It is noted that the KCC submission confirms that the ecological surveys undertaken are deemed appropriate and the mitigation approach and conclusions reached in the Biodiversity Assessment and NIS are consistent with the ecological information provided.

Dermot Kelleher submission on ABP-319741-24

Mr. Kelleher’s submission is made under a number of headings most of which are unrelated to the biodiversity assessment or Natura Impact Statement. He does raise concerns about the potential negative effects on wildlife and rivers associated with the proposed development. His concerns relate to perceived contamination risks to streams/drains and a resulting risk to fish and birds, during construction and in the years of operation.

The risks of run and contamination of watercourses are comprehensively addressed in the EIAR through design and mitigation measures. No significant residual risks were identified in relation to birds or fish.