



An
Bord
Pleanála

Inspector's Report ABP305953-19

Development	Solar farm.
Location	Drehid, Mulgeeth, Ballynamullagh, Mucklon, Kilmurray, Killyon and Timahoe East, County Kildare.
Planning Authority	Kildare County Council
Planning Authority Reg. Ref.	18/1514
Applicant(s)	Bord na Móna Powergen Limited & ESB Wind Development Limited
Type of Application	Permission
Planning Authority Decision	Refuse
Type of Appeal	First vs Refusal
Appellant(s)	Bord na Móna Powergen Limited & ESB Wind Development Limited
Observer(s)	Butterfly Conservation Ireland
Date of Site Inspection	29 th March 2020
Inspector	Hugh Mannion.

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1.0 Site Location and Description

- 1.1. The application site comprises 782ha and is located in northwest County Kildare in the townlands of Drehid, Mulgeeth, Ballynamullagh, Mucklon. Kilmurray, Killyon and Timahoe East. Of the application site about 238ha will be developed for the solar farm and associated works. The area is about 6kms from both Allenwood and Carbury and about 3kms south of Johnstownbridge. The site is most easily accessed from the M6 motorway at the Innfield exit, then along the R402. Direct access is from the Derrymahon road at a point where an old bog railway crosses the road from the application site to other lands to the southwest. The site was formerly used for a commercial peat harvesting by Bord n Móna and elements of the associated infrastructure are still visible within the site. The most obvious of these is the narrow-gauge railway once used to bring out peat, the track of which is still clearly identifiable and some of the rail is still intact. This railway runs from its junction with the Derrymahon road northeast to the site boundary in Doohary/Mucklon townlands. About two thirds of the way along this rail line a spur turned northeast, but this element of the rail line is much less prominent in the landscape. The significance of this old rail line is that it will, with minor amendment, serve as the new access to service the new solar arrays, supporting infrastructure and access to the grid connection (separate application under ABP303249-18). This line is also the spine of the amenity trail proposed as part of this application. A second significant element of the former use of the lands for peat extraction is the network of drains/ditches which run, generally northwest to south east within the site and for much of its length along the side of the former rail line.
- 1.2. The proposed solar arrays are in two sections both of which are located to the northwest of the rail line/proposed amenity trail. Figure 6.4a and 6.4b in the EIAR illustrate the habitats on site. Of significance in this context is the remaining areas of raised bog located, generally, close to the entrance from the Derrymahon road and in the far north-eastern corner of the site. Stretching in a wide arc from the edge of that remnant of raised bog to the north eastern boundary is a very complex landscape comprising cut-over bog, areas of self-seeded scrub and heather re-growth, conifer plantation, bare ground and drainage ditches. All along the rail line/drainage ditch are self-seeded trees/scrub. From a visual assessment it appears that non-commercial turf cutting is taking place in an area roughly between the two

areas of proposed solar arrays and close to the north-western site boundary. The remaining open drainage ditch from this area runs from northwest to south east, under the rail line, into a collection drain and then southeast towards the Mulgeeth stream. Finally of note in this area north of the rail line is a large expanse of open water close the eastern site boundary.

- 1.3. There are no solar arrays planned to the south of the rail line although the grid connection associated with this application is located immediately to the south of the rail line close to the Derrymahon road. There is some tree/scrub regrowth in this area but there are extensive areas of bare peat. Of note in the eastern corner of the site and south of the rail line are four areas (variously illustrated on Figure 6.4a and 6.4b as pioneer dry heath/poor fen and other habitats) of open water with raised areas of scrub between. These are located close to the eastern corner of the site in the Doogary townland. These may have originated as drainage/attenuation ponds when the bog was being worked for peat and are now proposed as the centrepiece of the amenity looped walk.
- 1.4. Overall the site is flat and relatively featureless and well screened on all boundaries by a combination of natural growth and coniferous plantation. The local road network has extensive ribbon housing development, notably on the Derrymahon road between the application site entrance and its junction with the R402. There are, generally, several fields between these roadside houses and the site boundary. The road from Timahoe cross to Doogary likewise has ribbon development but again at significant distances from the site boundary. The application makes the additional point that the solar arrays have, where possible, been kept away from the site boundaries.

2.0 Proposed Development

- 2.1. The application is for a 10-year planning permission for a renewable energy development comprising;
 - a) Construction and operation of 2 areas of solar photovoltaic arrays mounted on metal frames over an area of about 200ha and having a maximum overall height of 3m over ground level.
 - b) Internal solar farm underground cabling,

- c) 2 temporary construction compounds,
- d) Recreation and amenity works, including a looped walk (upgrade of existing tracks and provision of new tracks, car parking and vehicular access).
- e) 1 battery storage compound,
- f) Upgrade of existing tracks and provision of new site access roads,
- g) Site drainage,
- h) Forestry felling and replanting,
- i) Permanent signage,
- j) All associated site development and ancillary works.
- k) The proposed new renewable energy development will have an overall operational life of 35 years from commissioning date.

An EIAR and NIS are submitted with the application.

The development takes place at Drehid, Mulgeeth, Ballynamullagh, Mucklon, Kilmurray, Killyon and Timahoe East, County Kildare.

3.0 Planning Authority Decision

3.1. Decision – Refuse permission

3.2. It is a policy of the planning authority set out at NH5 and section 13.7 of the Kildare County Development Plan to protect the favourable conservation status of habitats and species listed under the Bird's Directive, Habitat's Direct and the Wildlife Acts and to conserve biodiversity outside conservation areas. Having regard to;

- the absence of robust scientific data to exclude the presence of Annex 1 Habitats within the footprint of the development, in particular wet heath, which if present could be permanently lost as a result of the proposed development.
- The Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment which advises that species and habitats protected under the Bird's Directive and Habitat's Directives must be identified, described and assessed in the EIA process and that the baseline

scenario to be included in the EIAR should be based on the collection and examination of relevant data.

- The precautionary principle.

It is considered that the proposed development, in the absence of more robust assessment of the baseline scenario as it relates to habitats would potentially have a residual negative impact on an Annex 1 Habitat (North Atlantic Wet Heath 4010). The proposed development would therefore materially contravene Policy NH5 and Section 13.7 of the current Kildare County Development Plan and be contrary to the proper planning and sustainable development of the area.

3.3. Planning Authority Reports

3.3.1. Planning Reports -The initial planner's report requested further information as follows;

- 1) The EIAR has not sufficiently considered the cumulative impacts of the proposed development with the proposed North Kildare wind farm under 18/1534 (ABP306500-20) or the Drehid Waste Management Facility (ABP 300506-17). Additionally, the Irish Water Supply Eastern and Midlands Region proposes a 200m pipeline through the site which should be considered in the EIAR.
- 2) Proposals for the integration of the proposed amenity trail with existing of proposed trails should be submitted along with details of the proposed site "Interpretation Plan".
- 3) The EIAR should consider decommissioning impacts.
- 4) A full decommissioning and rehabilitation plan for the site must be submitted.
- 5) The HSA has stated that there is insufficient information submitted with the application for it to comment. Therefore, details of any hazardous substances to be stored on site should be provided – EIAR section 4.2.2.5 refers.
- 6) Clarification is required as to how the concerns raised in the EIAR consultation process have been addressed in the EIAR and NIS –

especially those of the Irish Peatland Conservation Council (IPCC) and Butterfly Conservation Ireland.

- 7) There are areas within and beside the site designated as of national importance in the Kildare County Development Plan, regionally important on the IPCC Bog of Allen Habitat and Heritage Survey 2005 (IPCC) and regionally/county importance in the EIAR. The applicant should clarify how the EIAR then concludes that the impacts are moderate.
- 8) The applicant should clarify the significance of the potential and residual impacts related to the geographical scale at which impact will occur having regard to the advice in CIEEM (2018) and NRA (2009) guidelines.
- 9) The applicant should confirm that the habitats documented in the EIAR as bog woodland, dry heath, cutover bog and alkaline fen habitats correspond to the Habitat Directive Annex 1 habitats as Bog Woodland (*9100), European dry heaths (4030), depressions on peat substrates of the Rhynchosporion 7150 and/or active raised bogs (*7110) (in areas of embryonic bog vegetation), and alkaline fen (7230) respectively. The valuation level assigned to these habitats should be justified. Clarify the significance of the impacts on any Annex I habitats. Submit a map showing the habitats relative to the footprint of the proposed development.
- 10) Further details of the impact on Lepidoptera species, especially marsh fritillary, small skipper, the day-flying forester narrow bordered five spot burnet moth species. Mitigation measures should be detailed.
- 11) Further details should be submitted on the proposed tree planting and the ecological impacts of this planting, the potential impact of the amenity loop walk focussing on the impact from increased visitors and a draft rehabilitation plan and proposal for the active management of the raised bog to the north of the site.
- 12) The applicant should submit an in-combination assessment of the impact of the proposed development with the impacts arising from the

Drehid windfarm (18/1534), Drehid landfill (ABP300506) on Annex 1 habitats, Lepidoptera species and downstream aquatic/river ecology.

- 13) The EIAR does not address the impact on birds, bats, aquatic invertebrates which may be attracted to the reflective surfaces of the development. A literature review on this aspect of the application should be undertaken.
- 14) The impact of the excavation of 63,000m³ of peat and soil relative to the hydrology/hydrogeology of the site should be further assessed. Revised site drainage and Flood Risk Assessment reports should be submitted.
- 15) Cross sectional plans of existing and proposed levels in areas to be excavated should be submitted.
- 16) The buffer zone for recorded monument KD008-025 should be clarified. Test pits discovered timbers which may be of archaeological significance. A revised site layout should incorporate these considerations.
- 17) The condition of the roads serving the site should be assessed having regard to the risk of damage from heavy construction traffic.
- 18) Construction of this development, the Drehid windfarm (18-1534 ABP306500-20), Drehid landfill (ABP 300506-17) will have to be carried out separately for construction traffic impact reasons. A programme of works should be submitted.
- 19) The AA screening report and NIS should be revised in accordance with the latest guidance (November 2018).
- 20) Marsh fritillary is a qualifying interest of the Ballynafagh Lake SAC. The application site accommodates breeding members of this species. The applicant should map suitable habitat within the application site and comment on the identified impact on this species. The NIS should be revised to detail the relationship between the SAC and the application site for this species and quantify the expected affect. Respond to the Butterfly Conservation Ireland submission on the marsh fritillary.

21) The zone of influence should be related to the Screening for Natura 2000 sites. All the potential impacts (including the potential for contamination of ground water) should be assessed.

22) The impact of tree planting on Natura 2000 sites should be examined.

23) The applicant should be aware of the Irish Water 200m pipeline corridor which adjoins the northeast corner of the application site.

3.4. **Other Technical Reports**

3.5. **Water Services Section** commented that, and Irish Water Pipeline may impact on the application site. The surface water arrangements at present include drainage ditches and a facility to pump surface water off the site eventually to the River Boyne but this pumping is not taking place at present. Proposed surface water discharge arrangements will mimic the existing situation, and this is satisfactory. The Flood Risk Assessment is adequate, and the site naturally attenuates surface water whereby ponding responds to rainfall.

3.6. **Irish Water** commented on the application to say that the amenity area is partially within the 200m corridor of the Shannon to Dublin water supply project. However, this area is not critical to the proposed water pipeline and “Irish Water considers that the proposed development will not impede the delivery of the water supply project”.

3.7. **Environment Section** reviewed chapters 7, 8, 9 and 10 of the EIAR and concluded that they were fit for purpose.

3.8. **Roads/Transport Section** reported that a programme of works for the construction of the subject development and Drehid windfarm (18-1534 ABP306500-20), Drehid landfill (ABP300506) should be submitted.

3.9. **Heritage Officer** commented that recreation and amenity trails should be linked to similar existing facilities. An interpretation plan for the finished site should be submitted. Additional archaeological investigation should be carried out and integrated into a final site layout. Conditions in a grant of permission should refer to employment of suitably qualified Clerk of Works, mitigation measures should be codified into a single list for approval by the planning authority, works should be monitored for uncovering of archaeological remains.

- 3.10. **The Environment Section** reported no objection subject to conditions in relation to surface water management, control of noise, prevention of oil/fuel spoils, adoption of measures to minimise noise/dust emissions, management of waste in accordance with the Waste Management Acts, implementation of measures to prevent construction phase water pollution, on decommissioning the applicant shall recycle the structures on site where appropriate.
- 3.11. **The Department of Culture, Heritage and the Gaeltacht** commented that the buffer zone around recorded monument KD008-025 should be clarified and that further assessment of the site was necessary having regard to the discovery of potentially significant timbers in some test pits.
- 3.12. The **Environmental Health Officer** reported on the EIAR that the proposal would have negligible impact on human health, that mitigation measures in relation to impacts on air quality should be implemented during construction phase, that best practice in relation to noise abatement should be followed, that glint and glare should not be a problem in the sparsely populated area. Finally, the HSE has no concerns based on the EIAR/information submitted by the applicant.
- 3.13. The **HSA** reported that there was a lack of clarity in relation to the dangerous substance inventory that would be kept on site (section 4.5.5.2) of the EIAR.
- 3.14. **Bird Watch Ireland** requested that Barn Owl and Kestrel nest boxes be provided on the periphery of the application site.

4.0 Planning History

- 4.1. ABP306500-20 Reg Ref 18/1534 North Kildare Windfarm has not been decided yet.
- 4.2. ABP303249-19 refers to the provision of a 110kV substation and associated electrical plant, welfare facilities, waste water holding tank, security fencing, upgrade of existing tracks and provision of new site access roads, 110kV overhead line grid connection cabling with associated angel lattice masts and supporting pole sets and all ancillary works which is subject to a separate planning application made directly to An Bord Pleanála in accordance with Section 182A of the Act.

5.0 Policy and Context

- 5.1. The **National Planning Framework 2018-2040** sets 10 strategic priorities including building a strong economy supported by enterprise, innovation and skills, enhanced amenity and heritage and transition to a low carbon economy. The NPF states that this transition to a low carbon economy requires;
- A shift from predominantly fossil fuels to renewable energy sources,
 - Increasing efficiency and upgrades of appliances, buildings and systems.
 - Decisions around development and deployment of new technologies relating to wind, smart grids, electric vehicles, buildings, ocean energy and bioenergy.
 - Regulatory frameworks to facilitate this transition.
- 5.2. A key element of the NPF is to support and strengthen more environmentally focused planning at local level. The Framework states that the future planning and development of our communities at local level will be refocused to tackle Ireland's higher than average carbon-intensity per capita and enable a national transition to a competitive, low carbon, climate resilient and environmentally sustainable economy by 2050, through harnessing our country's prodigious renewable energy potential.
- 5.3. **National Policy Objective 55** seeks to promote renewable energy use and generation at appropriate locations within the built and natural environment to meet national objectives towards achieving a low carbon economy by 2050.
- 5.4. The **Government White Paper entitled 'Ireland's Transition to a Low Carbon Energy Future 2015 – 2030'**, published in December 2015
- 5.5. The White Paper is a complete energy policy update, which sets out a framework to guide policy between up to 2030. The vision of the White Paper is to achieve a low carbon energy system that targets greenhouse gas (GHG) emissions from the energy sector that will be reduced by between 80% and 95%, compared to 1990 levels, by 2050, and will fall to zero or below by 2100. However, it does not supersede the NREAP (National Renewable Energy Action Plan), which set out Ireland's approach to achieving its (legally binding) targets, with a target of 40% of electricity consumption to be from renewable sources by 2020.

- 5.6. Paragraph 137 of the White Paper states ‘solar photovoltaic (PV) technology is rapidly becoming cost competitive for electricity generation, not only compared with other renewables but also compared with conventional forms of generation. The deployment of solar in Ireland has the potential to increase energy security, contribute to our renewable energy targets, and support economic growth and jobs. Solar also brings several benefits like relatively quick construction and a range of deployment options, including solar thermal for heat and solar PV for electricity. It can be deployed in roof-mounted or ground-mounted installations. In this way, it can empower Irish citizens and communities to take control of the production and consumption of energy. Solar technology is one of the technologies being considered in the context of the *new support scheme for renewable electricity generation which will be available in 2016*’.
- 5.7. The White Paper also sought to publish a Renewable Electricity Policy and Development Framework (with a spatial dimension) to underpin the proper planning and development of larger scale renewable electricity generation development on land. It is envisaged that such a plan will give guidance to those seeking development consent and to planning authorities in relation to larger-scale onshore renewable electricity projects.
- 5.7.1. **National Climate Change Strategy 2007-2012**
- 5.7.2. Under the Kyoto Protocol and as part of its contribution to the overall EU target, Ireland agreed to a target limiting its greenhouse gas emissions to 13% above 1990 levels over the period 2008-2012. The National Climate Change Strategy 2007-2012 sets out a range of measures, building on those already in place under the first National Climate Change Strategy (2000), to ensure Ireland reaches its target under the Kyoto Protocol. The Strategy provides a framework for action to reduce Ireland’s greenhouse gas emissions in the areas of energy, transport, housing, industry, agriculture and waste as well as cross-sectoral actions. Local authorities are key agents for change at the local level in achieving target reductions.
- 5.7.3. **Strategy for Renewable Energy: 2012-2020 - Department of Communications, Energy and Natural Resources (DCENR) (2012)**
- The Government’s overriding energy policy objective is to ensure competitive, secure and sustainable energy for the economy and for society.

- The development of renewable energy is central to overall energy policy in Ireland. Renewable energy reduces dependence on fossil fuels, improves security of supply, and reduces greenhouse gas emissions creating environmental benefits while delivering green jobs to the economy, thus contributing to national competitiveness and the jobs and growth agenda.
- Climate change, energy security and competitiveness are inter-related challenges that will be addressed through the transforming of Ireland's economy from one based on a predominantly import based fossil fuel dependence to a more indigenous low carbon economy based around energy efficiency, renewable energy and smart networks.
- The Government's overarching strategic objective is to make renewable energy an increasingly significant component of Ireland's energy supply by 2020, so that at a minimum we achieve our legally binding 2020 target in the most cost-efficient manner for consumers.

5.8. National Renewable Energy Action Plan (NREAP)

5.9. The EU Renewables Directive 2009/28/EC promotes the use of energy from renewable sources and set the EU's 20% renewable energy target by 2020. Ireland was set a renewable energy target of 16% target by 2020. The National Renewable Energy Action Plan sets out the Government's strategic approach and concrete measures to deliver this target which includes:

- 40% of electricity consumption from renewable sources by 2020.
- 10% electric vehicles by 2020
- 12% of renewable heat by 2020

5.10. The Government is also looking beyond 2020 in terms of the significant opportunities to develop Ireland's abundant offshore renewable energy resources, including offshore wind, wave and tidal energy.

5.11. Draft Methodology for Local Authority Renewable Energy Strategies (Sustainable Energy Authority of Ireland, 2011)

5.12. There is a growing trend and need to prepare strategies for the co-ordinated development of renewable energy sources. These strategies will allow Local Authorities to maximise the renewable energy resource and potential of its area and assist in the transition to a low carbon economy. The Sustainable Energy Authority of

Ireland (SEAI) has produced draft methodology guidelines for Local Authorities when preparing Renewable Energy Strategies.

5.13. The **Eastern and Midland Regional Economic and Spatial Strategy 2019 to 2031** is the relevant regional strategy for the application site. A key principle of the RESS is “the need to enhance climate resilience and to accelerate a transition to a low carbon society recognising the role of natural capital and ecosystem services in achieving this”. Of the sixteen Regional Strategic Outcomes for the eastern and midlands region number 10 is to “identify, protect and enhance Green Infrastructure and ecosystem services in the Region and promote the sustainable management of strategic natural assets such as our coastlines, farmlands, peatlands, uplands woodlands and wetlands”.

5.14. **Development Plan**

5.15. The **Kildare County Development Plan 2017-2023** is the relevant county development plan for the area.

5.16. Objective ECD 23.

Facilitate and encourage the development of the alternative energy sector and to work with relevant agencies to support the development of alternative forms of energy where such developments are in accordance with the proper planning and sustainable development of the area.

5.17. In relation to solar energy the objectives SE 1 and SE 2 are;

SE1 - Promote the development of solar energy infrastructure in the county, in particular for on-site energy use, including solar PV, solar thermal and seasonal storage technologies. Such projects will be considered subject to environmental safeguards and the protection of natural or built heritage features, biodiversity views and prospects.

SE2- Ensure that the assessment of solar energy development proposals will have regard to:

- site selection, by focussing in the first instance on developing solar farms on previously developed and non-agricultural land, provided that it is not of high environmental value;

- where a proposal involves greenfield land, whether (i) the proposed use of any agricultural land has been shown to be necessary and poorer quality land has been used in preference to higher quality land; and (ii) the proposal allows for continued agricultural use where applicable and/or encourages biodiversity improvements around arrays;
- the nature of solar farms as normally temporary structures. Decommissioning and site rehabilitation plans will be required providing for the land be restored to its previous use;
- the proposal's impact through glint and glare on neighbouring uses and on transportation and aviation safety;
- the proposal's visual and landscape impact and the potential to mitigate these impacts through, for example, screening with native hedges;
- the guidance provided in relation to compatibility with landscape designations of Tables 14.3 and 14.4 of Chapter 14 of this plan;
- the need for, and impact of, security measures such as lights and fencing;
- the need to ensure that heritage assets are conserved in a manner appropriate to their significance, including the impact of proposals on protected views and scenic routes etc. As the significance of a heritage asset derives not only from its physical presence, but also from its setting, careful consideration should be given to the impact of large-scale solar farms of such assets, e.g. historic demesnes. Depending on their scale, design and prominence, a large-scale solar farm within the setting of a heritage asset may cause substantial harm to the significance of the asset; development of the area.
- the need to consider ecology so as to avoid or minimise damage on important species or protected habitats;
- the energy-generating potential, which can vary for a number of reasons including latitude and aspect;
- the design of the scheme needs to be carefully considered including layout, scale, land cover panel, height, landscaping, access roads, noise, cumulative impacts and the design of ancillary elements;

- 5.18. The site is designated 'high sensitivity' which is class 3 in a 5-point scale of landscape sensitivity in Chapter 14 of the County Development Plan and mapped on map 14.1 of the Plan.
- 5.19. Objective NH5 in relation to environmental conservation states;
Prevent development that would adversely affect the integrity of any Natura 2000 site located within and immediately adjacent to the county and promote favourable conservation status of habitats and protected species including those listed under the Birds Directive, the Wildlife Acts and the Habitats Directive.
- 5.20. The County Development Plan at 13.7 states that;
- 5.21. The County supports a range of plant, animal and bird species that are deemed to be rare and threatened under European and Irish legislation and which are known to exist outside of designated sites such as Natura 2000 sites or Natural Heritage areas. This includes nationally rare plants, plants listed in the Red Data Lists of Irish Plants, the Flora Protection Order, 1999 (or other such Orders) and their habitats and animals and birds listed in the Wildlife Act 1976 (amended 2000) and subsequent statutory instruments.
- 5.22. It is the policy of the Council to protect and promote the conservation of biodiversity outside of designated areas and to ensure that species and habitats that are protected under the Wildlife Acts 1976 and 2000, the Birds Directive 1979 and the Habitats Directive 1992 are adequately protected.
- 5.23. It is the policy of the Council:
NH 11: To ensure that development does not have a significant adverse impact on rare and threatened species, including those protected under the Wildlife Acts 1976 and 2000, the Birds Directive 1979 the Habitats Directive 1992 and the Flora Protection Order species.
NH 12: To ensure that, where evidence of species that are protected under the Wildlife Acts 1976 and 2000, the Birds Directive 1979 and the Habitats Directive 1992 exist, appropriate avoidance and mitigation measures are incorporated into development proposals as part of any ecological impact assessment. In the event of a proposed development impacting on a site known to be a breeding or resting site

of species listed in the Habitats Regulations a derogation licence, issued by DAHG may be required.

5.24. **Natural Heritage Designations**

5.25. The EIAR (figure 6.1a maps the pNHAs and NHAs) within and close to a 15kms radius of the application site. Because the application site is sufficiently remote from and there is no hydrological or hydrogeological connection between the application site and the Hodgestown bog NHA, the Carbury bog NHA or the Merrick Bog NHA, it can be concluded with scientific certainty that there will be no impact on these features.

6.0 **The Appeal**

6.1. **Grounds of Appeal**

- The proposed development complies with the Government's Climate Action Plan 2019 including in so far as it seeks to reduce CO₂ emissions, phase out coal/peat fired electricity generation, increase electricity generation for renewable resources to 70%.
- The proposed development complies with County Development Plan policy in be a renewable energy project (EDC 23), harnessing solar energy (SE1 and SE 2).
- The evidence presented was sufficient to exclude beyond all reasonable scientific doubt the presence of Annex 1 habitats. The wet heath habitats identified within the site are not the same as Annex I North Atlantic Wet Heath (4010) habitat. The planning authority requested at point 9 of the FI request that the possibility of the presence of four habitat types (Bog Woodland (*9100), European dry heaths (4030), depressions on peat substrates of Rhynchosporion 7150 and or active raised bogs (*7110) (in areas of embryonic bog vegetation), and alkaline fen (7230) be excluded by the applicant. An explanation as to why the habitats present on site did not

correspond to the queried habitats was given. However, in the refusal reason a further habitat type Annex 1 North Atlantic Wet Heath (4010) habitat was raised.

- The definition of Annex 1 North Atlantic Wet Heath (4010) is given in the Irish Wildlife Manual “Guidelines for a National Survey and Conservation Assessment of Upland Habitats in Ireland (2014). This definition has been adopted by the NPWS and has not been taken to include cut over bog. A review of SACs that were designated for raised bogs many includes areas of cut over bog but these areas are not described as Wet Heath Habitats.
- No raised bog is included in the footprint of the development. The entire development is located on cut over bog. There are indicator species within the site for Wet Heath Habitats, but these species are common to protected raised bogs and cut over bogs and do not demonstrate the existence of Wet Heath Habitats.
- The woodlands on site are not Annex I Bog Woodlands (91D0) because they do not contain sphagnum cover as is required by the definition of Annex I Bog Woodlands.
- Peat Substrates of the Rynchosporion refer only to raised bogs and therefore are not relevant to this site.
- The site does not comprise Active Raised Bog (7110) or Degraded Raised Bog Capable of Regeneration (7120) habitats.
- Appendix 6.13 sets out the habitat valuation methodology which has been adopted from the Guidelines for the Assessment of Ecological Impact of National Road Schemes (NRA 2009).
- The area of unmitigated impact queries in the planning authority’s assessment comprises 263ha of cutover bog and woodland habitat which is significant at county level.
- The measures to mitigate/off-set the loss of 263ha of cutover bog and woodland habitat are set out at section 6.5.3.2 and appendix 6.9 of the EIAR.
- The impacts on the site are reversible because the cut over bog has regenerated to its present state after 20 years, none of the habitats being lost

are Annex I habitats, the areas within Timahoe North bog have been specifically avoided in this application, the existing peat mass will be substantially retained not requiring the removal of peat from the site, drainage will be shallow and can be easily blocked allowing for rewetting following decommissioning of the development and the enhancement of surrounding lands may lead to better conditions for peat formation. There are residual positive impacts from the proposed development.

6.2. Planning Authority Response

- The planning authority has no further comments.

6.3. Observations

An observation was received from Butterfly Conservation Ireland.

- Butterfly Conservation Ireland is a charity concerned with the decline in butterfly populations. The writer is an expert on butterflies.
- The EIAR is unsatisfactory. The site contains breeding habitat for the Small Skipper butterfly (*Thymelicus Sylvestris*) which will be removed. Although replacement habitat is proposed the application is unclear on what will happen to the butterfly population in the intervening period.
- The EIAR is incorrect that there are no Marsh Fritillary butterflies on the site. There is a breeding population on the embankment along the proposed access road. This butterfly is an annex II species for the Habitats Directive.
- The EIAR is further inadequate in that it does not record the presence of the day flying Forester Moth and the Narrow-bordered Five spot Burnet moth. Widening of the access road will remove habitat for the Green Hairstreak and the Large Heath.
- The embankment along the proposed access road also has breeding populations of Brimstone, Cryptic Wood White, Large White, Green-veined White, Orange tip, Small Copper, Common Blue, Peacock, Small

Tortoiseshell, Red Admiral, Speckled Wood, Meadow Brown, Ringlet, Small Heath.

- Birds also breed in this embankment; Meadow Pipit, Eurasian Skylark, Stonechat and more common birds (grasshopper warbler and common white throat). The EIAR is inadequate in its assessment of the impacts on these species.
- The construction of the photovoltaic cells on wet heath habitat, an Annex I habitat under the Habitats Directive will impact on a breeding pair of lapwings.
- The application could be redesigned to avoid the most ecologically sensitive areas.

6.4. Further Responses

None.

7.0 Assessment

8.0 Environmental Impact Assessment.

- 8.1. The EIAR makes the point that the while solar farms do not fall into a class of development for which an EIAR is required the application includes the felling of more than 10ha of trees which brings the application into Class1(d)(iii) of Part 2 of Schedule 5 of the Planning and Development Regulations as amended. The class requires EIAR for applications where “deforestation for the purpose of conversion to another type of land use, where the area to be deforested would be greater than 10 hectares of natural woodlands or 70 hectares of conifer forest” is being proposed
- 8.2. Furthermore, the proposed development includes provision of a private road exceeding 2,000 metres in length and the falls into Class 10(dd) Part 2 of Schedule 5 of the Planning and Development Regulations as amended which requires EIA for developments of “all private roads which would exceed 2000 metres in length”.

8.3. Under the EIA Directive an EIAR must describe

- the proposed development including, site, design and size,
- the likely significant effects of the project on the environment,
- a description of the features of the project designed to avoid, prevent, reduce or off-set significant adverse impacts on the environment.
- A description of the reasonable alternatives studied and the main reasons for choosing the proposed development,
- A non- technical summary of the information presented.

8.4. The EIAR is broken down into 14 sections;

- The background to the proposed development,
- Site selection and alternatives
- Description of the proposed development
- Population and human health.
- Biodiversity.
- Land, soils and geology
- Water
- Air and climate
- Noise and vibration
- Landscape and visual
- Cultural heritage
- Material assets
- Interactions of the foregoing,
- Schedule of mitigation measures.

8.5. **Chapter 2 deals with the background of the proposed development.**

8.6. The EU Directive on the Promotion and Use of Energy from Renewable Resources (Dir 2009/28/EC) requires a minimum 20% reduction of greenhouse gases on 1990

levels by 2020. The National Renewable Energy Action Plan (NREAP) was developed as a response to the EU Renewables Directive 2009/28/EC whereby Ireland was set a renewable energy target of 16% target by 2020. The White Paper on Energy Policy in Ireland 2015-2030 seeks a low carbon economy that maintains Irish competitiveness and ensures a secure supply of affordable energy. The paper states that photovoltaic cells are becoming a cost competitive form of electricity generation. The Regional Planning Guidelines for the Greater Dublin Area 2010-2022 sets out a strategic recommendation (PIR 27) that low carbon sustainable energy systems be fully exploited through the promotion of existing and emerging green technologies. The Kildare County Development Plan (ECD 23) seeks to encourage the alternative energy sector and commits the planning authority to encourage a move to renewable energy sources including solar.

8.7. The applicant consulted with locals, interest groups and statutory agencies. It was concluded that the matters raised in these consultations could be addressed in the application. The issues raised, response and the methodology for addressing these issues are summarised in table 2.5 of the EIAR.

8.8. **Chapter 3 considers site selection and alternatives.**

8.9. The ESB's Sustainability Statement 2030 (published in 2016) recognises that much of its landholding, which was traditionally used for peat harvesting, now comprises cut away bog from which several layers of vegetation and peat have been removed. This landholding will increasingly be given over to other energy producing uses; biomass, landfill gas, wind, waste to energy and solar energy production. The site selection criteria adopted are;

- County development plan policy and zoning
- Grid access/capacity
- Proximity to houses
- Environmental sensitivity and designations
- Flood risk assessment
- Supporting infrastructure
- Visual amenity.

- 8.10. The County Development Plan at chapter 8 supports the development of solar energy. An existing 110kV line passes through Timahoe which is less than 1km from the application site and allows for ease of connection into the national grid. The applicant's landholding in the area is about 807ha and while there is no recommended appropriate separation distance between houses and solar farms the application allows 500m to the closest occupied house. The application site was previously harvested for commercial peat production and is not an NHA or Natura 2000 site and is of low ecological sensitivity. Because of its previous use the site has older drainage channels which can be repurposed for the proposed use. The surface water within the site can be managed and its exit from the site can be controlled so as to minimise risk of downstream flooding. No significant road upgrades are required. There is some coniferous forestry on the site edges and a mix of naturally regenerating woodlands, trees and bog lands within the landholding. Existing and proposed screening will ensure against visual amenity on the surrounding areas.
- 8.11. The application site was chosen for its relative remoteness from houses, low ecological value, and previous use. The solar array layout was modified having regard to hydrological and archaeological constraints (these alternative layouts are illustrated in figures 3.1 and 3.2. on page 3-7). It was concluded that the chosen site and proposed design was the most appropriate for this location.
- 8.12. I have considered EIAR and all submissions made in relation to the location and layout of the solar farm. I am satisfied that potential effects would be avoided, managed and mitigated by the measures which form part of the proposed scheme, and through suitable conditions. I am therefore satisfied that the proposed development would not have any unacceptable direct, indirect or cumulative impacts because of the choice of location or layout.
- 8.13. **Chapter 4 sets out a detailed development description.**
- 8.14. The solar farm is part of a wider development which includes a grid connection which is subject to a separate application. This development comprises
- Construction and operation of 2 areas of solar photovoltaic arrays mounted on metal frames over an area of about 200ha and having a maximum overall height of 3m over ground level.
 - Internal solar farm underground cabling,

- 2 temporary construction compounds,
- Recreation and amenity works, including a looped walk (upgrade of existing tracks and provision of new tracks, car parking and vehicular access).
- 1 battery storage compound,
- Upgrade of existing tracks and provision of new site access roads,
- Site drainage,
- Forestry felling and replanting,
- Permanent signage,
- All associated site development and ancillary works.
- The proposed new renewable energy development will have an overall operational life of 35 years from commissioning date.

8.15. Along with the industrial use it is planned to provide an amenity looped walk and car parking. The car parking at the beginning of the amenity walk will be at an existing entrance on the Derrymahon Road and the walk will allow access to the bogland habitats. The amenity walk will generally follow the line of the disused private railway and has the looped element at its north-eastern end. The walk will be accompanied by appropriate signage.

8.16. Along with the solar panels there will be an on-site electricity substation, a substation laydown area, solar farm control buildings which are located immediately to the left (northwest) of the former railway line about 1/3 of the way into the site from the Derrymahon Road (the application under ABP303249-19). Construction works will require the felling of 45.61ha of trees on site and this is illustrated on figure 4.6 in the EIAR. These trees comprise planted conifers and self-seeded species. A buffer of 25m will be maintained along the grid construction route and about 46ha of the site will be replanted as part of the development.

8.17. Surface water management will adhere to the SuDS principle. Surface water will be separated into clean water from undisturbed parts of the site and soiled or water with the potential to carry silt from working areas. Swales, settlement ponds, vegetation strips and silt fences and other works will form part of the drainage system as will oil separators where appropriate.

8.18. The foundations for the solar panels will be constructed by tracked machinery and details are set out in appendix 4-4. Access and construction tracks are required; 3.5kms of main access track, 12kms of spur track and an amenity trackway of 2kms. The on-site electricity substation and control building will require the following.

- Stripping of about 25,000m³ of peat and earthworks to achieve a flat working area.
- Surface water drainage.
- A foul water holding tank (18m³).
- Electrical cabling.
- Foundations and building works.
- Installation of 110kV transformers with bunds and oil interceptors.

8.19. The impacts and mitigation measures for the construction of the various elements are set out at section 4.9 and following of the EIAR. The temporary construction compound will require the marking out of the appropriate area, surface water drainage systems, earthworks and levelling, hardstandings for delivery vehicles, fencing and security gates. When the construction phase has been completed the compound will be decommissioned and removed. The 110kV line will be carried on double wood pole sets (see plate 4.10) and steel lattice towers will be used at angle positions (see plate 4.11). The holes for the poles will be excavated by tracked digger and backfilled by hand. The foundations for the lattice angle towers will be dug by tracked vehicles. Each of the four legs of the tower must be anchored in a hole from which all water has been pumped out and into which a concrete plug is poured from a vehicle which has been brought as close as possible to the hole. Where dewatering is required sediment will be prevented from entering the surrounding surface water systems.

8.20. I have considered all the submissions made in relation to the detailed development description of the proposed development. I am satisfied that potential effects would be avoided, managed and mitigated by the measures which form part of the proposed scheme, the mitigation measures and through suitable conditions.

- 8.21. **Chapter 5 addresses population and human health.**
- 8.22. The study area for this topic comprises 5 electoral districts including and bounding the application site, has an area of 105kms² and a population of 4,191 people and is mapped on 5.1 in the EIAR.
- 8.23. An industry report from 2015 estimated that the solar energy industry could generate about 7,300 jobs. 150 construction phase jobs will be created in the area arising from this development.
- 8.24. The main potential health impact is from electromagnetic fields (EMFs). Solar farms are low voltage installations whereas EMFs are generated by high voltage installations. Nonetheless mitigation measures against impacts on the community and staff during construction and operation phase are proposed as follows.
- Adherence to all statutory requirements, including Health and Safety at work Act requirements.
 - Properly qualified persons will install and operate the development.
 - The solar arrays and equipment will be fenced off from public access and additional signage and security cameras will prevent access.
- 8.25. Glint and glare are described as the reflection of sunlight from reflective surfaces. There is no National guidance in relation to this potential impact. The types of surface, screening, receptor location relative to the panels, direction and elevation of the panels are factors in the severity of this impact. The potential impact on houses is mitigated by a 500m buffer between houses and the solar arrays, topography, natural screening and buildings to the point where there is no potential impact. Likewise screening by buildings and hedgerows will result in no impacts on the local road network.
- 8.26. There is the potential for impact on human beings from noise in the construction phase. Such potential impact will be mitigated by appropriate location of equipment taking account of topography and screening, appropriately timed and phasing of work to reduce noise emissions, selection of low-noise emitting plant and machinery, plant will be operated in accordance with best practice and BS5338 'Code of Practice for Noise Control on Construction and Demolition Sites' and BS5228 'Code of Practice for Noise and Vibration Control on Construction and Open Sites'. These

measures will ensure a short term imperceptible negative impact but no significant effects.

- 8.27. There is the potential for impact on human beings from dust emissions in the construction phase. Mitigation measures against fugitive dust will include locally sourcing aggregate materials thus minimising the impact on the local road network, on-site wheel washing, storing plant and materials in a dedicated compound, excavations and stockpiling will be kept to a minimum, limiting vehicle movements to defined routes and limiting speeds. These measures will ensure a short term imperceptible negative impact but no significant effects.
- 8.28. In summary, apart from a positive employment creation impact, there will be no significant effects on population or human health arising from the proposed development.
- 8.29. I have considered the submissions made in relation to population and human health. I am satisfied that potential effects would be avoided, managed and mitigated by the measures which form part of the proposed scheme, the mitigation measures and through suitable conditions. I am therefore satisfied that the proposed development would not have any unacceptable direct, indirect or cumulative effects on population or human health.
- 8.30. **Chapter 6 addresses biodiversity, flora and fauna.**
- 8.31. Figure 6.1a and table 6.4 identify the NHAs and pNHS within 15kms of the application site. The NHAs are Hodgestown Bog NHA, Carbury Bog NHA, Molerick Bog NHA, Blackcastel Bog NHA. The pNHAs are Royal Canal pNHA, Grand Canal pNHA, Donadea Wood pNHA, Ballynafagh Lake pNHA, Ballina Bog pNHA, The Long Derries Edenderry pNHA, Ballynabarny Fen pNHA, Rathmoylan Esker pNHA and Mounds Bog pNHA.
- 8.32. The habitats within the application site are mapped on figure 6.4b and are, generally, bog woodland/scrub, pioneer stage dry heath type habitat, grasslands, drainage channels, poor fen, uncut raised bog. Within the proposed amenity loop in the north-eastern corner of the site there are additional habitats, bare peat and spoil recolonising bare ground (detailed description at section 6.3.2.2). The birds recorded within the site are whooper swan, golden plover, lapwing, wigeon, woodcock, buzzard, kestrel, sparrow hawk, meadow pipit, snipe. Additionally, wetland species

recorded within the site grey heron, little grebe, mallard, moorhen and teal. Signs of the presence of fox, hare, pine martens, deer, red squirrel, badger were observed on site. Although not observed it is likely that the site contains pigmy shrew, wood mouse, stoat and mink, also common frogs and common lizards.

- 8.33. Invertebrates include the marsh fritillary and its habitat is illustrated on figure 6.8b and located, generally, along the disused railway in the north-eastern quadrant of the application site. A dedicated butterfly management plan is included as appendix 6-11 of the EIAR. Other invertebrates are listed at 6.3.3.5.
- 8.34. The impacts arising from the proposed development are summarised in Table 6.15. There is potential for habitat loss or degradation to occur in three areas close to the remaining portion of raised bog where it is close to the solar array; where the entrance road is realigned at the site entrance, where the solar array is close to the raised bog immediately north of the entrance from the Derrymahon Road and where the northern section of the solar array is close to an undisturbed raised bog. This potential long-term slight impact has been mitigated against by siting the solar arrays and associated works away from sensitive areas and confining impacts to a small area which give rise to no significant change in vegetation or hydrology. The impact of the solar farm on the cutaway bog has been mitigated by locating the development at higher levels within the site to allow for re-wetting of lower laying areas, avoiding a spring on site and providing buffers to water courses. There will be a significant direct impact through the loss of 260ha of cut away bog. Likewise, there will be long term moderate impact on habitat fragmentation within the area of the solar arrays and this has been mitigated against as far as possible by choice of location including avoiding wetlands and buffering along water courses. There are no significant habitat fragmentation effects from the looped walk.
- 8.35. The project has been designed to avoid wetlands and therefore mitigate impact on breeding water birds (snipe and mallards). There will be a long term negligible negative effect on these water birds and long term slight negative effect on passerine birds (the family including larks, finches, crows thrushes starlings) which are classified as of local importance. There will be a long-term significant effect through the loss of 45ha of scrub/woodland, but this is unlikely to affect the conservation status of the birds recorded in the application site. This impact will be mitigated against by undertaking tree/scrub clearing outside of the breeding season. In the

operational phase of the solar farm vegetation trimming will have a long term slight negative effect similar to agricultural activity.

- 8.36. In relation to water dependent species there are potential impact through pollution and silt run-off. However, the on-site habitats are unsuitable for more sensitive aquatic receptors such as salmon, lamprey and crayfish. The construction phase mitigation measures (keeping works away from water courses, preventing the spillage of hydrocarbons, managing concrete to avoid spillage and attenuation within the existing on-site drainage channels) will address this matter. In the operational phase, having regard to vegetation and drainage management arrangements, there is potential for long-term negligible negative impact, but this will be reduced by mitigation measures.
- 8.37. Foraging habitat loss may arise for bats but this will not be significant either in the construction or operational phases of the development as there is not a large bat population within the application site as the main commuting and foraging areas are along water courses which will remain undisturbed.
- 8.38. Foraging habitat loss for badgers and squirrels will not be significant; there are no badger setts within the areas of the solar arrays. The site is not significant for red squirrels. Therefore, there are no significant predicted effects for these species arising from habitat loss. There is a long-term slight negative effect on badgers because they will be excluded from the areas covered by the solar arrays, but these areas are not significant foraging areas.
- 8.39. The small skipper butterfly is a locally important species for which the development is predicted to have short-term moderate negative impact. This potential impact has been mitigated against by redesigning the layout of the access track to avoid this species' habitat¹.

¹ The details of mitigation measures in relation to the small skipper butterfly, green hairstreak butterfly and the marsh fritillary butterfly are set out in appendix 6-11 of volume 4 of the EIAR. Figure 2.3 "Alteration to proposed site access road" in the appendix is hard to read because of the very similar colours used to distinguish between the line of the original railway and the new access to the proposed development but it is clear, read with the text, that the proposed realigned access road will mitigate impacts on the butterfly habitats that exist along the sunny/northern side of the railway by moving the access south.

- 8.40. The common frog and smooth newt are predicted to a long-term significant negative impact through about 260ha of habitat loss in the construction phase. There are no predicted operational phase impacts predicted.
- 8.41. The decommissioning phase will not give rise to any significant indirect or direct impacts on any of these habitats or species.
- 8.42. Potential cumulative impacts are considered having regard to the Drehid waste management facility (ABP300506-17), a landfill gas plant (PA reference 11/537), the Drehid windfarm (ABP306500-20) and some residual turf cutting within the site although commercial peat harvesting by BNM has ceased. The solar panels will result in the loss of 260ha of cut over bog land. However, 233ha will be better protected and enhanced. Tree planting in revegetating bare beat areas will make a positive contribution. The impacts on animal/bird habitats have been mitigated against by avoiding impacting on these areas through design and layout of the proposed development. Works close to streams that might provide passage or foraging pathways have been minimised. The water courses within the site have been assessed as not ecologically important, although outside the site there are significant watercourses, but the measures taken to avoid water pollution will ensure that no pollution of these sensitive habitats will occur.
- 8.43. I have considered all of the submissions made in relation to biodiversity, flora and fauna. I am satisfied that potential effects would be avoided, managed and mitigated by the measures which form part of the proposed scheme, the mitigation measures and through suitable conditions. I am therefore satisfied that the proposed development would not have any unacceptable direct, indirect or cumulative effects on biodiversity, flora and fauna.
- 8.44. **Chapter 7 deals with land, soils and geology.**
- 8.45. The main construction phase impact will be topsoil/peat/subsoil excavation. Impacts on the peat in areas of work will be minimised by limiting the depth and area of work to only those strictly necessary, there will be no direct impacts on Natura 2000 sites since there are no Natura 2000 site within the application site. Where peat is disturbed it will be moved as little as possible and reused on site for bunds or other works, peat stability will be protected either by appropriate supports or sloping and stock piling of peat and parking of machinery on undisturbed areas will be avoided.

Therefore, whereas there will be a slight permanent negative effect on peat there no significant effect on soils or subsoils.

- 8.46. There is a potential for contamination of soil from leakages or spillages of hydrocarbons – generally fuels and lubricants. The mitigation measures proposed in this regard include are keeping on-site maintenance of plant and machinery to a minimum, refuelling to be undertaken using a double skinned bowser, keeping on-site fuel storage to a minimum and in properly bunded areas, construction plant to be properly maintained and regularly inspected for leaks.
- 8.47. Loss of vegetation will be mitigated through the methods used to protect peat and subsoils but also through minimising the footprint of the proposed development, using low bearing pressure machines, maintaining existing drainage patterns and preventing damage to vegetation through excessive stockpiling of materials or machinery parking.
- 8.48. The cumulative impacts on land, soils and geology are assessed having regard to on-going non-commercial turf cutting on the site edges, other solar farm applications within 5kms, the Drehid windfarm and Drehid waste management facility, the Irish Water Dublin/Shannon water pipeline project. It is concluded that there are no significant cumulative effects on land, soils and geology arising from these projects.
- 8.49. There will be no impacts arising from the decommissioning phase as there will be no excavation or peat or subsoil associated with that operation. A full decommissioning plan was submitted with FI and is included in appendix 4-6.
- 8.50. I have considered all the submissions made in relation to land, soils and geology. I am satisfied that potential effects would be avoided, managed and mitigated by the measures which form part of the proposed scheme, the mitigation measures and through suitable conditions. I am therefore satisfied that the proposed development would not have any unacceptable direct, indirect or cumulative effects on land, soils and geology.
- 8.51. **Chapter 8 deals with water.**
- 8.52. As part of historic peat production BNM pumped water from the application site with 8 pumps and a network of 11 main drains northwest to south east with a network of smaller drains. The pumps are no longer in situ and many of the drains no longer function to carry away water from the site, having become silted up and/or where

culverts have collapsed, with the result that there are many areas of year-round standing water. The only effective surface water drainage from the site is to the south east into the Mulgeeth which eventually decants into the Blackwater/Boyne river system.

- 8.53. The site is within the Trim groundwater body which is locally important moderately productive aquifer. Groundwater has a low vulnerability given an overlay of 10m of peat and the EIAR concludes that surface water is a more vulnerable target for contamination than groundwater. Figure 8.6 maps the NHAs, pNHAs and SAC considered most at risk and Table 8.8 maps the dwelling houses and farmyards in the study area. Construction phase effects are likely to arise for receptors principally through the release of silt into water courses. This will be mitigated through prevention of release of contaminants by good design, construction practices and good housekeeping to prevent runoff and pollution. Contaminants will be controlled at source; water will be contained in the local area in a series of settlement ponds with silt fences and filter strips. Drainage within the site will be designed to manage rainwater runoff the solar panels to minimise erosion, drains will slow surface water movement, inverter stations will be fitted with petrol interceptors, the new amenity area will mimic the existing semi-natural attenuation occurring in this area at present.
- 8.54. Water quality will be managed by distinguishing between silt laden water and clean water, buffer zones between streams and working areas will be maintained, vegetation strips will trap silt before it reaches water courses as will swales and collector drains. Settlement ponds will allow silt to drop out of surface water and check dams will be installed on concentrated flow, silt fences along drains and roadways will control the escape of silts. Works will be undertaken in dry periods to limit runoff.
- 8.55. Hydrocarbon runoff will be prevented/mitigated by limiting the volumes of fuels or oil stored on-site, where fuel/oil storage is necessary it will be in properly bunded enclosures, appropriate training will be provided to for staff, provision of spill equipment in the event of accidents, refuelling carried out on mobile double skinned fuel bowsers, spills will be immediately contained and any contaminated soil removed from site and properly disposed of.

- 8.56. Foul water from staff facilities will be collected in a waste holding tank and removed from site and properly disposed of.
- 8.57. Cement will be used for building foundations, steel tower foundations and stay blocks for overhead pole sets. The potential for contaminants from these works reaching water courses will be mitigated by limiting cement use to ready mix products thus avoiding on-site batching of wet cement, using precast products for culverts and similar jobs, on-site washing out of concrete, no cement-contaminated waters will be discharged on site, cement will not be poured where there is standing water and works requiring cement will be carried out only on dry days.
- 8.58. Because the application site is sufficiently remote from and there is no hydrological or hydrogeological connection between the application site and the Hodgestown bog NHA, the Carbury bog NHA or the Merrick Bog NHA, it can be concluded with scientific certainty that there will be no impact on these features.
- 8.59. In relation to groundwater impacts there are two types of receptors: the Johnstown Bridge public water supply and individual houses along the local road network in the area. The Johnstown Bridge source and its zone of contribution are 2.1kms and 480m from the application site respectively, the private houses are mapped on figure 8.8 of the EIAR. The development comprises shallow excavations in an area with a peat overlay of between 0.5m and 5.2, low hydraulic gradient (mirroring the flat landscape slowing ground water flow). Having regard to the separation distances between the proposed work and public or private water supplies and the limited time period of the construction works it is concluded that there will be no effects on the public or private water supplies.
- 8.60. The cumulative effects on the proposed development are considered with reference to on-going non-commercial turf cutting on the site edges, other solar farm applications within 5kms, the Drehid windfarm and Drehid waste management facility, the Irish Water Dublin/Shannon pipeline. The Drehid windfarm is proposed to be located to the west/northwest and surface water drains to the Fear English river not to the Mulgeeth stream as is the case in this solar farm. It is concluded that there are no significant cumulative effects on the water environment from these projects. The solar farm drains to the Blackwater river in the Boyne catchment whereas the Drehid waste management facility drains to the Barrow catchment and cumulative

impacts on the water environment are excluded on that basis. The shallow trench required for the Irish Water Dublin/Shannon pipeline is not considered to give rise to any significant cumulative effects with the solar farm. Non-commercial turf cutting and other solar farms in the area are not considered to give rise to any cumulative impacts with the proposed solar farm.

8.61. I have considered all the submissions made in relation to water. I am satisfied that potential effects would be avoided, managed and mitigated by the measures which form part of the proposed scheme, the mitigation measures and through suitable conditions. I am therefore satisfied that the proposed development would not have any unacceptable direct, indirect or cumulative effects on water.

8.62. **Chapter 9 deals with air and climate.**

8.63. The construction phase for the solar farm has the potential to give rise to dust and exhaust emissions. Mitigation measures to limit dust and exhaust emissions may be summarised as.

- Water spraying working areas and access roads in wet weather
- Storage of vehicles and materials in dedicated areas
- Keeping excavation and stockpiling to a minimum
- Panels and materials will be transported to the site by specified haul routes only which will be kept dust free
- Construction materials likely to give rise to windblown dust will be moved in covered trucks
- Development will be undertaken in accordance with the CEMP set out in appendix 4-5 of the EIAR
- Machinery will be properly maintained and switched off when not in use.

8.64. During the operational phase, any machinery will be properly maintained thereby minimising exhaust emissions.

8.65. It is concluded that there will be no cumulative impacts with the Drehid waste management facility since the construction phase emissions from the solar farm will be managed to mitigate any such emissions. Likewise, proper management of dust or exhaust emissions during the construction phase will mitigate any cumulative

impacts with the Drehid windfarm. The Irish Water Dublin/Shannon pipeline application had not been lodged at the time of this application and it is assumed that both sets of works would not be contemporaneous and any air quality impact will be limited to the construction phases, short term and imperceptible.

8.66. The reduction of CO₂, SO₂ and NO₂ through the replacement of fossil fuel derived electricity will have a long-term positive air quality impact. Therefore, greenhouse gas emissions are reduced resulting in a long-term positive impact on climate.

8.67. I have considered all the submissions made in relation to air and climate. I am satisfied that potential effects would be avoided, managed and mitigated by the measures which form part of the proposed scheme, the mitigation measures and through suitable conditions. I am therefore satisfied that the proposed development would not have any unacceptable direct, indirect or cumulative effects on air and climate.

8.68. **Chapter 10 deals with noise and vibration.**

8.69. The EIAR distinguishes between noise related to the construction of the solar farm and the associated grid connection. Figure 10.3 maps the noise sensitive locations (houses) on the local road network around the site. Table 10.13 lists the major sources of construction noise (HGV movements, tracked vehicles, piling operations, general construction, dewatering pumps, JBCs, rollers carrying out road surfacing) and the expected noise levels experienced at 10m, 150m, 500m and 800m separation distances. Construction phase works will comply with the British Standard BS5228-1:2009 +A1:2014 Code of Practice for Noise and Vibration Control on Construction and Open Sites – Noise. Construction phase mitigation measures will include.

- Limiting the working hours during which noise/vibration could be caused
- Establishing channels of communication with the local authority and the local community
- Appointing a staff member to be responsible for noise/vibration issues
- Arranging monitoring of noise at locations from which a complaint arises
- maintaining good road surface to limit vibration from moving lorries

- selecting plant for its reduced noise output and fitting it with exhaust silencers
- locating plant likely to give rise to noise and vibration away from sensitive properties
- where plant (generators or pumps) must operate outside normal working hours they will be surrounded with an acoustic screen.

8.70. The operational phase will require inverters² and these generate noise – but only when the solar panels are operational during hours of sunshine. No noise will be emitted at night.

8.71. The cumulative construction phase noise impacts are discussed at section 10.6.6 and the worst-case scenario is assumed whereby the proposed solar farm, Drehid windfarm, Drehid waste management facility and the Irish water pipeline are all under construction simultaneously. This worst-case scenario would give rise to a change of +3dB on the Derrymahon road but this would be short term. The maximum predicted daytime operational phase predicted noise level is 48dB_{L_{aeq}} at the Derrymahon road which is well below the daily criterion level of 55dB_{L_{aeq}}. The overall operational phase noise impact will not be significant.

8.72. I have considered all the submissions made in relation to noise and vibration. I am satisfied that potential effects would be avoided, managed and mitigated by the measures which form part of the proposed scheme, the mitigation measures and through suitable conditions. I am therefore satisfied that the proposed development would not have any unacceptable direct, indirect or cumulative effects on noise and vibration.

8.73. **Chapter 11 deals with landscape and visual impact.**

8.74. The planning authority carried a landscape assessment of County Kildare and mapped 14 landscape character areas in the County Development Plan. The application site is located within the Western Boglands landscape area which the County Development Plan describes as an area with reduced capacity to accommodate uses without significant adverse effects on the appearance or character of the landscape having regard to prevalent sensitivity factors. The compatibility for solar development is characterised as ‘medium’. The scenic routes

² These convert the current from the photovoltaic cells into a grid compatible current.

close to the application site are mapped in Figure 11.3 in the EIAR. The walking routes in the wider area are the grand canal way, royal canal way, barrow way and Donadea forest walk.

- 8.75. The construction phase visual impact will arise from the loss of trees on site and will constitute a short-term slight effect.
- 8.76. The operational effects of the solar array will be assessed having regard to 9 local locations which are listed in table 11.9 and are illustrated in the photomontages submitted as part of the EIAR. Having regard to the location of the solar arrays in a brownfield site which is surrounded by mature vegetation including coniferous forestry the development will be visible from a very limited area outside the site. It is concluded that there are no visual effects associated with the solar farm and the landscape effect will be long term and imperceptible.
- 8.77. Having regard to the flat nature of the surrounding area, central location of the proposed development within the bog land setting, the dense screening along the site boundaries which will remain in the ownership of Bord na Móna it is concluded that this is an appropriate landscape for the proposed development. Furthermore, the cumulative visual and landscape impacts of the proposed development with the Drehid windfarm, substation/grid connection, Drehid Waste management facility, turf cutting within the site and other solar farms in the wider area are assessed having particular regard to the amended photomontages submitted following the planning authority's request for further information. There is no potential for cumulative landscape effects with these other projects.
- 8.78. I have considered all the submissions made in relation to landscape and visual impact. I am satisfied that potential effects would be avoided, managed and mitigated by the measures which form part of the proposed scheme, the mitigation measures and through suitable conditions. I am therefore satisfied that the proposed development would not have any unacceptable direct, indirect or cumulative effects on landscape and visual impact.

- 8.79. **Chapter 12 deals with archaeology and cultural heritage.**
- 8.80. There is a single recorded archaeological monument within the application site located close to the western site boundary. This comprised a group of scattered and broken timbers which may have been part of a Toghher or prehistoric road which may have linked Drehid townland to the northwest to Timahoe in the southeast over the bog. There are no remaining over ground elements of this structure visible where the area has revegetated but as a precautionary mitigation measures the area has been designed out of the footprint of the solar panels and a buffer zone of 15m has been imposed. The monument and associated and buffer zone have been mapped on figure 12.4 and 12.5 in Chapter 12. There are no other visible archaeological remains within the site, but bogs are recognised as areas of potential archaeological interest. Ninety six trial pits were excavated within the site boundary, are mapped on figure 12.7 and 3 had timbers of potential archaeological significance but given the paucity of the material uncovered it is uncertain if the exposed timbers were part of a larger structure or even were archaeological in nature.
- 8.81. Table 12.2 sets out recorded archaeological monuments within 2kms of the site boundary.
- 8.82. There are no protected structures within the application site boundary and within 2kms of there is a single protected structure – Colree Fort. A single structure listed in the National Inventory of Architectural Heritage is located – Kilshanchore catholic church - is with 2kms of the site boundary
- 8.83. There are no predicted significant direct or indirect effects on any of the national monuments, protected structure or church listed in the NIAH during the construction or operational phases of the proposed development.
- 8.84. There is potential for unrecorded archaeological remains on site and any impact on these will be mitigated against by archaeological monitoring of site works under licence from the National Monuments Service.
- 8.85. The cumulative impacts of the proposed development are assessed in conjunction with on-going turf cutting within the application site, the Drehid waste management facility, nearby solar farm projects, Drehid windfarm and the Irish Water Dublin/Shannon pipeline. The Drehid waste management facility has not been permitted at time of writing but archaeological mitigation has been designed into that

project which will ensure no unreasonable cumulative impacts with this solar farm project. The on-going turf cutting will cease if this solar farm project is implemented thus removing the possibility of cumulative impacts in that case. The adjoining Drehid wind farm project has no direct archaeological impact and construction phase impacts will be mitigated against through monitoring of the works. The Irish Water project is at an early stage of planning and no archaeological analysis is available, however that project is sited on cut over raised bog with the potential for subsurface archaeological material; any construction phase impact in this regard can be mitigated against by appropriate archaeological monitoring.

- 8.86. There are no identified cumulative operational phase significant impacts from these other projects with the exception of the Drehid windfarm which has been assessed as having a slight visual impact on two local ringforts. Having regard to the topography of the area and available natural screening it has been concluded that the slight impact is not exacerbated by this solar farm development.
- 8.87. I have considered all the submissions made in relation to archaeology and cultural heritage. I am satisfied that potential effects would be avoided, managed and mitigated by the measures which form part of the proposed scheme, the mitigation measures and through suitable conditions. I am therefore satisfied that the proposed development would not have any unacceptable direct, indirect or cumulative effects on archaeology and cultural heritage.
- 8.88. **Chapter 13 deals with material assets.**
- 8.89. The primary material assets identified as being impacted is the public road network serving the site. The access route is mapped in figure 13.1.2 included in chapter 13 and comprises a right turn off the M6 motor way at the Enfield junction onto the R402. The R402 turns southwest from the motorway through the village of Johnstown Bridge. From there it continues southwest to a junction with the L-5025 Derrymahon road. The access route continues south east along the Derrymahon road to an existing site access to the application site. The EIAR assesses the access route having regard to three identified pinch points; the first point is the left turn from the R402 onto the Derrymahon road, the second is a bend on the Derrymahon road and the third is the site access. The assessment concludes that all these junctions can accommodate the largest materials delivery vehicles.

8.90. The EIAR identifies 4 construction phases. The first phase of advance work and site preparation will be 110 days during which the project will add 1.1% to general traffic flows on the R402 and 4.3% to HGV traffic. The impact on the R402 will be the slight and temporary. For the Derrymahon road where the current traffic flows are relatively low the construction phase traffic will be more noticeable adding 4.7% to overall traffic and 18.5% to HGV traffic. The second phase (100 days) is the most traffic intensive and the increased traffic on the R402 will be 6.2% for overall traffic volumes and 28.2% for HGVs. The corresponding figures for the Derrymahon Road are 26.5% and 121.4%. The third phase, the main construction phase, will be 110 days and see an increase of 4.4% in general traffic and 12.7% in HGVs on the R402 with corresponding figures of 18.7% and 54.8% for the Derrymahon road. In the 4th and final stage of construction of the substation/grid connection and commissioning the project will add 0.9% to ordinary traffic flows on the R402 and 2.1% to HGV volumes. For this period, the Derrymahon road will experience an increase of 3.7% (ordinary traffic) and 8.9% in HGV traffic.

8.91. Mitigation measures will include the measures set out in the Traffic Management Plan which is included with the Construction Environment Management Plan included as Appendix 4-5 of the EIAR. The primary mitigation measure is the choice of the most appropriate delivery route having regard to road conditions and the avoidance of unsuitable routes. Additionally a traffic management coordinator will be employed as the main contact point for traffic related issues, a materials delivery programme will be submitted to the planning authority, local residents will be kept informed of traffic management plans, a travel plan for construction workers will include travel routes and parking areas. Wheels will be washed prior to exiting the site and all road surfaces will be made good in agreement with the local authority. Having regard to these factors it is concluded that construction phase traffic will give rise to a slight to moderate short-term impact on users of the local road network. There are no predicted operational phase impacts and decommissioning phase impacts will mirror those of the construction phase.

8.92. The construction phase cumulative impacts are assessed in conjunction with turf cutting within the application site, nearby solar farms, the Drehid waste management facility, Drehin windfarm and the Irish Water pipeline. Table 13.1.22 summarises the

traffic impacts on the R402 and the Derrymahon road. Turf cutting on site has been accounted for in the background traffic levels and no further impact is anticipated. For three other solar farms the traffic impact is judged to be imperceptible and for Drehid waste management facility (yet to be permitted) the cumulative impact would be moderate. The cumulative impact with the Drehid windfarm would be high only if that development is granted permission and the two construction phases were contemporaneous.

- 8.93. Glint and glare can potentially impact on aviation. There are no construction phase glint and glare impacts for aviation. Having regard to factors such as distance, visibility and terrain screening there are no operational phase impacts. There are no cumulative impacts with other projects in the area.
- 8.94. The other material assets identified as potentially being impacted by the proposed development are electricity networks, water supply networks, landuse and waste management. The applicant owns the application site and can confirm that there are no underground electricity cables or water supply pipelines. Waste will be generated in the operational phase and this will be managed in accordance with applicable legislation and best practice. There will be no waste generated in the operational phase. The proposed development will occupy only a small area of the total previously harvested bog area.
- 8.95. There will be no impacts on services during the construction phase. There will be an imperceptible residual impact on electricity, water, landuse and waste networks but these will not be significant. There are no operational phase impacts for these elements.
- 8.96. Cumulative impacts of the proposed development are assessed in conjunction with the Drehid waste management facility, nearby solar farm projects, Drehid windfarm and the Irish Water Water Supply Project. There are no cumulative impacts for the identified material assets arising from the proposed solar farm and these other projects.
- 8.97. I have considered all the submissions made in relation to material assets. I am satisfied that potential effects would be avoided, managed and mitigated by the measures which form part of the proposed scheme, the mitigation measures and through suitable conditions. I am therefore satisfied that the proposed development

would not have any unacceptable direct, indirect or cumulative effects on material assets.

8.98. **Chapter 14 deals with the interaction of the foregoing.**

8.99. Table 14.1 summarises the interaction of the factors discussed in the preceding chapters. Generally, the negative impacts relate to the construction phase of the project and are slight. There are some positive impacts largely related to air and climate connected to the project assisting the switch to non-fossil fuel-based energy supply.

8.100. I consider that this summary of the potential for interacting impacts is reasonable.

8.101. **Chapter 15** deals provides a schedule of mitigation measures which have been discussed above.

8.102. **Reasoned Conclusion.**

8.103. Having regard to the examination of environmental information contained above, to the EIAR and supplementary information provided by the applicant and the submission from the observers, the contents of which I have noted, it is considered that the main significant direct, indirect effects, residual and cumulative impacts of the proposed development on the environment are as follows:

- Impacts on biodiversity are likely to arise during construction due to the removal of shrub/tree and grassland habitat and the laying out of the solar array and associated plant particularly in the circa 260ha associated with these works. It is noted, however that these areas largely comprise cut-over bog and are the less ecologically important areas within the application site and that the solar array and associated infrastructure have been located to avoid wetland habitats and minimise the ecological impacts. The impacts arising from the removal of habitat and disturbance would be mitigated by minimising the removal of existing vegetation, revegetation and tree planting and following construction best practice and procedures and specific and practical mitigation measures.
- Potential impacts on the water environment are considered under the relevant headings. The site drains to the Mulgeeth stream and then into the Blackwater/Boyne catchment. The watercourses within the application site

are unsuitable for sensitive species (salmon, lamprey or trout) and the measures to prevent the release of sediments or hydrocarbons are specific and practicable. The proposed works are relatively shallow in terms of impact on peat and subsoils so that the remaining overburden, the distance between the application site and public and private wells sources and the measures to prevent the release of fuel/oils or domestic waste into groundwater are sufficient to conclude that there are no foreseeable impacts on groundwater. The proposed development, therefore, will not give rise to water pollution in the water courses within the site, in the Mulgeeth stream, in the wider Blackwater/Boyne catchment or of groundwater resources.

- Impacts on population and human health will be generally positive in terms of employment creation. Construction phase impacts in the form of short term increases in the traffic (private cars and HGVs) on the local road network are recognised, addressed in the EIAR and, specifically in the construction and environment management plan (appendix 4-5 of the EIAR). The noise and vibration mitigation measures, such as the limiting of construction hours, the use of plant with low potential of noise and / or vibration, the use of noise barriers and locating plant away from noise sensitive receptors are reasonable and practicable. Noise and vibration levels would be within acceptable emissions limits during normal operation.
- The site is a relatively flat brownfield site which is not prominent in views from a wide area. Landscape and visual impacts will be mitigated by existing and proposed screening and screen planting. No impacts will arise for residential uses in the area or for the aviation from glint or glare.

9.0 Appropriate Assessment Screening

- 9.1. The screening exercise was carried out referencing a zone of influence of 15kms from the site but in addition considered nature, size and location of the project, the sensitivity of the ecological receptors and the potential for cumulative impacts with other developments. Figure 3.1 mapped all European sites within the zone. Figure 3.2 mapped the European sites and the surface water catchments where they are

located. The identified European SACs within the zone of influence are; Ballynafagh Lake SAC (001387) 6.8kms distant, Ballynafagh Bog SAC (000391) 7.5kms distant, The Long Derries Edenderry SAC (000925) 8.3kms, the River Boyne and River Blackwater SAC (002299) 19.8kms distant, Mouds Bog SAC (002331) 13.2kms distant. The identified SPA is the River Boyne and River Blackwater SPA (004232) 10.9kms distant.

- 9.2. The screening report screened out the Ballynafagh Bog SAC (000391) from further consideration because it is 7.5kms distant from the application site and there is no surface or ground water connection or habitat connectivity between the application site and the SAC. The application site is located in the Boyne surface water catchment while the SAC is in the Barrow catchment and the application site is within the Trim groundwater catchment while the SAC is within the Kildare ground water catchment. The Long Derries Edenderry SAC (000925) is screened out because it is 8.3kms distant from the application site, the nature of the qualifying interest (grasslands) and its location in the Barrow surface water catchment while the application site is within the Boyne catchment. There is, therefore, no connection between the application site and the SAC. The Mouds Bog SAC (002331) is 13.2kms distant and located in a different surface water catchment (the Liffey catchment) from the application site and a different ground water catchment. There is therefore no hydrological or habitat connectivity between the Natura 2000 site and the application site and the Natura 2000 site can be excluded from further consideration.
- 9.3. Having reviewed the screening report submitted with the application and the material available from the NPWS in relation to the Natura 2000 sites with the potential to be affected and applying the source pathway receptor model I agree with the application that it is possible to exclude Ballynafagh Bog SAC (000391), The Long Derries Edenderry SAC (000925), The Mouds Bog SAC (002331) from further consideration and conclude that that the proposed development, individually or in combination with other plans or projects would not be likely to have a significant effect on these sites in view of the sites' Conservation Objectives, and a Stage 2 Appropriate Assessment is not therefore required.

9.4. **Appropriate Assessment**

- 9.5. The remaining sites with potential to be affected are; Ballynafagh Lake SAC (001387) the River Boyne and River Blackwater SAC (002299), and the River Boyne and River Blackwater SPA (004232).
- 9.6. The conservation objective for the Ballynafagh Lake SAC (001387) is to maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected. The habitats are Alkaline fens and the Desmoulin's Whorl Snail *Vertigo moulinsiana* and the Marsh Fritillary *Euphydryas aurinia*.
- 9.7. The conservation objective for the River Boyne and River Blackwater SAC (002299) is to maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected. The habitats are: Alkaline fens and Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (Alno-Padion, Alnion incanae, Salicion albae), this latter is a priority habitat. The species are; lampetra fluviatilis (river lamprey) [1099], the *Salmo salar* (salmon) [1106], and *Lutra lutra* (otter) [1355].
- 9.8. The conservation objective for the River Boyne and River Blackwater SPA (004232) is to maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA which is the Kingfisher *Alcedo atthis*.
- 9.9. Since the application site is located outside any Natura 2000 site there are no direct impacts. There is potential for indirect impacts through surface water drainage through a single connection via the Mulgeeth River to the River Blackwater. A Construction Environmental Management Plan is included as Appendix 2 to the NIS. The measures to prevent surface water contamination may be summarised as;
- No refuelling or overnight parking of vehicles near watercourses,
 - Confinement of works to dry weather,
 - Restrictions on vehicle speeds within the site,
 - Use of the existing entrance and rail lines for construction materials movements,

- Monitoring of water quality outflows.
- Separation of clean surface water and surface with silt/other contaminants and dedicated treatment for the latter,
- Buffer zones between working areas and surface water drains,
- Removal of any human waste off site for appropriate treatment.

9.10. The site is crisscrossed by a network of old drains some of which have been subject to blockages and collapsed culverts and many of which have only standing water. The site drains in two directions; to the northwest into a tributary of the Fear English River and to the south east to the Mulgeeth River. Both these rivers form part of the Blackwater/Boyne system. There is no effective water flow from the site to the Fear English River and the only drainage was via the on-site drains to the Mulgeeth River. The NIS concludes that, having regard surface water separation distance between the application site of 26.7kms River Boyne and River Blackwater SPA (004232) and the River Boyne and River Blackwater SAC (002299) that there is no potential for adverse effects on these Natura 2000 sites. Although not part of a Natura 2000 site and having regard to the precautionary principle additional surveys were conducted on site for species designated as qualifying interests in the three Natura 2000 sites examined in the NIS. These are otters, River Lamprey, Atlantic salmon, Kingfisher, and the Marsh Fritillary. The signs of offers' presence were south of the disused railway and closer to the Mulgeeth River. It was concluded having regard to the nature of the habitats on site and the evidence for otters that the area is not a significant habitat for the creature outside a Natura 2000 site. The water courses within the application site are characterised by little or no water flow, choked with weeds and silt such that they are not an appropriate habitat for salmon or lamprey. The site is unsuitable for the Kingfisher because of a lack of suitable nesting sites, suitable habitat and fishing opportunities and no indications of the presence of this bird were identified during the site surveys.

9.11. In relation to Ballynafagh Lake SAC (001387) the NIS concludes that since there are no hydrological links between the application site and the SAC there are no indirect effects on the site and particularly on two of the three qualifying interests - Alkaline fens and the Desmoulin's Whorl Snail *Vertigo moulinsiana*. In relation to the third and

final qualifying interest - the March Fritillary (a butterfly) the NIS restates that the site surveys associated with the preparation of the NIS identified a habitat suitable for the March Fritillary (a butterfly). This habitat was overgrazed and subject to encroachment by scrub (Birch and willow). The NIS included a Lepidoptera Management Plan in Appendix 8 of the NIS which is the same as the Lepidoptera Management Plan provided in appendix 6-11 to the EIAR. The management plan makes the point that proposed site access track and layout has been designed to completely avoid the recorded butterfly breeding colonies and suitable supporting habitats. In order to prevent construction phase related damage to such areas they will be fenced off and any new tree planting will avoid such habitats.

9.12. I consider it reasonable to conclude on the basis of the information on the file, which I consider adequate in order to carry out a Stage 2 Appropriate Assessment, that the proposed development, individually or in combination with other plans or projects would not adversely affect the integrity of the Ballynafagh Lake SAC (001387), the River Boyne and River Blackwater SAC (002299), and the River Boyne and River Blackwater SPA (004232) or any other European site, in view of the sites' Conservation Objectives.

10.0 **Planning Assessment**

10.1. The planning assessment will address the following subjects.

- the reason for refusal
- compliance with planning policy
- impact on residential amenity
- water pollution
- flooding
- ecological impacts
- traffic impacts
- visual impact.

10.2. Refusal Reason.

- 10.3. The planning authority refused permission because there is insufficient scientific data to exclude the possibility of there being north Atlantic wet heath habitat, which is an Annex 1 habitat, within the footprint of the application site which could be permanently lost on foot of the proposed development and that the species and habitats protected under the Birds and Habitats Directives must be identified, described and assessed and the EIAR should be based on the collection and examination of relevant data. The planning authority concluded that in the absence of a sufficiently robust assessment in the application that there could be a residual negative impact on the North Atlantic Wet Heath (4010) which is an Annex 1 habitat for the purposes of the Habitats Directive.
- 10.4. In relation to the matter of the existence on site of protected habitats the planning authority at point 9 of its request for further information sought confirmation that the habitats identified on site as bog woodland, dry heath, cutover bog and alkaline fen habitats correspond to Habitats Directive Annex 1 habitat types; bog woodland *91D0, European Dry Heaths 4030, depressions on peat substrates of Rhynchosporion 7150 and/or active raised bogs *7110 (in the areas of embryonic bog vegetation) and alkaline fen 7230.
- 10.5. The applicant's response to this point is set out in pages 17 and following of the further information booklet and the ring binder with updated appendix 6-13 both received by the planning authority on the 12th August 2019. The grounds of appeal also address these matters.
- 10.6. In addressing the precise nature of the habitats within the application site the applicant's further information submission adopts a methodology whereby it contrasts the description of the qualifying habitats with the observed habitats on site using as its reference named authoritative sources. In relation to bog woodland habitat *91D0 (the first habitat queried by the planning authority) the applicant adopts as an authoritative source the definition used in the Irish Wildlife Manual – Results of a Monitoring Survey of Bog Woodland (Cross and Lynn 2013) which, in turn, references a document entitled 'Interpretation Manual for European Habitats'³ for the description of the bog woodland on site. The EIAR in chapter 6 has identified the

³ https://ec.europa.eu/environment/nature/legislation/habitatsdirective/docs/Int_Manual_EU28.pdf

habitats on site and mapped them. The characteristics of bog woodland habitat *91D0 are not shared by the habitats identified within the application site. In relation to European Dry Heaths (the second habitat queried by the planning authority) the applicant makes the point that this habitat is defined in the Irish Wildlife Manual – Guidelines for National Survey and Conservation Assessment of Uplands Habitats in Ireland and that this definition has been adopted by the NPWS. The Irish Wildlife Manual does not include in its definition of this habitat habitats occurring on cut over raised bog. The surveys conducted in preparation of the EIAR revealed a mosaic of habitats which may in some respects be analogous to European dry heaths but collectively the areas within the site do not meet the definition of European Dry Heaths adopted by the NPWS.

10.7. The third habitat queried by the planning authority as potentially arising within the application site is depressions on peat substrates of the *Rhynchosporion* 7150. Regarding this habitat the applicant states that the NPWS's The National Raised Bogs Special Areas of Conservation Plan (2017) records this habitat as appearing in active raised bogs and degraded raised bogs but that in the surveys carried out in preparation of the EIAR this habitat was not found within the development footprint of the proposed development or in the cut over areas surrounding the development areas. The remaining areas of raised bog and/or areas of degraded raised bog capable of regeneration that occur within the wider application site have, thereby, been avoided in the proposed development layout. The fourth habitat queried by the planning authority as potentially existing on site is Alkaline Fens (7239). In this instance the applicant relies on the definitions of Alkaline Fens provided in the NPWS's Status of EU Protected Habitats in Ireland (2013)⁴ and in the EU's 'Interpretation Manual for European Habitats' and, following the habitat identification process conducted as part of the EIAR preparation process it was concluded that there are no rich fen habitats present within the application site and no areas where the vegetation replicates the vegetation described by the NPWS or the EU

⁴ There is a 2019 edition of this document available on the NPWS website which varies the definition of alkaline fens somewhat but not materially from the 2013 definition quoted by the applicant and adds that these habitats are widespread, particularly in the midlands but are under pressure.
https://www.npws.ie/sites/default/files/publications/pdf/NPWS_2019_Vol1_Summary_Article17.pdf

documents. There is a poor fen within the application site fed by a spring which has been avoided in the design of the scheme.

10.8. The applicant follows a similar methodology (see especially the grounds of appeal at 4.3.1.2) to assess the presence of North Atlantic wet heath habitat within the application site. The NPWS guidance set out in their publication the Status of EU Protected Habitats in Ireland adopts the definition of this habitat in the Irish Wildlife Manual but notes that this habitat is not recorded within cut over raised bogs. Furthermore, in a list of 11 European sites where cut over bog occurs surrounding intact raised bogs none of these are designated as North Atlantic wet heath habitat.

10.9. I consider that the applicant, especially Bord na Mona has extensive knowledge of peatlands in Ireland and the habitats that occur therein. I note section 1.7.2.1 and following of the EIAR where the expert personnel who prepared the EIAR including qualifications and experience are set out in detail and I conclude these persons are properly qualified to provide the information and assessments set out in the EIAR and the other submissions made in relation to the application and appeal. I have reviewed the advisory and statutory documents referenced in the EIAR and consider that they are an authoritative and reliable basis on which the matters of fact concerning the nature of habitats and matters of judgement concerning their relative importance may be judged. Having reviewed the EIAR, the amendments thereto on foot of the planning authority's request for further information, the grounds of appeal and the applicant's response to the observation made to the Board by Butterfly Conservation Ireland which was circulated for comment, I conclude that the application adequately identifies, describes and assess the species and habitats occurring within the site and that the information submitted complies with the Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment 2018⁵.

10.10. I draw two conclusions from the above.

- Habitats that are listed within the Habitats Directive become qualifying interests only where they occur within European sites.

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https://www.housing.gov.ie/sites/default/files/publications/files/guidelines_for_planning_authorities_and_an_bord_pleanala_on_carrying_out_eia_-_august_2018.pdf

- The evidence submitted in the amended EIAR and additional submissions made by the applicant establish with sufficient certainty that the habitats referenced by the planning authority do not occur within the site and/or are not within the development footprint.

10.11. In considering ecological protection it may be noted that there are conflicting objectives within the development plan which seek to support the development on solar energy on cut-over boglands and seeks to protect habitats listed in the Habitats Directive where they occur outside European sites. Whereas the proposed development will give rise to impacts on habitats and species, having regard to the conflicting policies in the Plan, the objectives set out in the National Planning Framework in relation to the transition to a low carbon economy, the strategic importance of this solar energy project and the associated grid connection I conclude that the proposed development will not materially contravene an objective set out in the County Development Plan.

10.12. Point 9(b) of the further information request queries the valuation of habitats ascribed to them in the EIAR (i.e. on what basis is the order of importance allocated between international, local, county, local importance higher and local importance lower). The applicant replied that the criteria applied are those set out in the NRA's Guidelines for the Assessment of Ecological Impacts National Roads Schemes but regard has also been had in the preparation of the EIAR to the CIEEM Guidelines for Ecological Impacts Assessment in the UK and Ireland, Terrestrial, Freshwater and Coastal (Chartered Institute of Ecological and Environmental Management 2018) and the Draft Revised Guidelines on the information to be contained in Environmental Impact Statements.

10.13. I consider that there is some space for professional judgement in ascribing levels of importance to elements within the environment especially where they occur outside specifically designated areas, for instance outside NHAs, pNHAs and European sites, and having regard to the material submitted with the application and appeal I conclude that the applicant's evaluation of relative importance of habitats within the site are robust and reasonable.

10.14. Point 9(d) of the further information request sought a revised site layout showing the queried habitats relative to the layout of the proposed development and this was submitted and is included in appendix 6-13.

10.15. Having regard to the foregoing I conclude that the proposed development will not materially contravene an objective set out in the County Development Plan.

10.16. **Planning Policy**

The current planning policy framework flows from the National Planning Framework 2018-2040 (NPF) which encourages transition to a low carbon economy. National Policy Objective 55 seeks to promote renewable energy use and generation at appropriate locations within the built and natural environment to meet national objectives towards achieving a low carbon economy by 2050. The 2015 White Paper on Ireland's transition to a low carbon economy sets the objective of reducing greenhouse gas emissions from the energy sector by between 80% and 95%, compared to 1990 levels, by 2050, and will fall to zero or below by 2100. The Paper states that 'solar photovoltaic (PV) technology is rapidly becoming cost competitive for electricity generation, not only compared with other renewables but also compared with conventional forms of generation. The deployment of solar in Ireland has the potential to increase energy security, contribute to our renewable energy targets, and support economic growth and jobs.

10.17. The **Eastern and Midland Regional Economic and Spatial Strategy 2019 to 2031** is the relevant regional strategy for the application site. A key principle of the RESS is "the need to enhance climate resilience and to accelerate a transition to a low carbon society recognising the role of natural capital and ecosystem services in achieving this". Of the sixteen Regional Strategic Outcomes for the eastern and midlands region number 10 is to "identify, protect and enhance Green Infrastructure and ecosystem services in the Region and promote the sustainable management of strategic natural assets such as our coastlines, farmlands, peatlands, uplands woodlands and wetlands".

10.18. The **Kildare County Development Plan 2017-2023** (objective ECD 23) seeks to facilitate and encourage the development of the alternative energy sector and (objectives SE 1) to promote the development of solar energy infrastructure in the

county. In relation to these developments the Plan (objective SE 2) will seek to locate these development in the first instance on developing solar farms on previously developed and non-agricultural land having regard to a number of factors including visual impact on scenic routes, glint and glare impacts on neighbouring uses and aviation, built heritage and archaeological impacts, ecological impacts including avoidance and/or mitigation.

10.19. Having regard to this policy context I conclude that there is robust policy support for the proposed development. The international context since the Kyoto protocol has seen a commitment by Ireland to share the responsibility assumed by the EU to reduce reliance of fossil fuels for energy and transport uses. The recent NPF has recommitted the state to this shift from fossil fuels to renewable sources of energy. The RESS specifically supports the sustainable management of peatlands and County Development Plan specifically notes the availability of previously developed and non-agricultural land as potential sites for renewable energy projects.

10.20. The development plan commits the planning authority to ensure the protection of environmentally sensitive areas and in particular to prevent development that would adversely affect the integrity of any Natura 2000 site and promote favourable conservation status of habitats and protected species including those listed under the Birds Directive, the Wildlife Acts and the Habitats Directive. These objectives are not mutually exclusive and the Development Plan sets out a set of criteria (including environmental, ecological, impacts on visual amenity and neighbouring uses) by which applications for renewable energy projects may be assessed.

10.21. Having regard to assessment of ecological impacts on receptors within and outside the site, the impacts on adjoining uses and road networks in the area set out elsewhere in this report I conclude that the proposed development complies with national and local planning policies and objectives, is acceptable in terms of the criteria for assessment set out in the County Development Plan and will accord with the proper planning and sustainable development of the area.

10.22. **Residential Amenity**

10.23. There is extensive one-off housing development on the road network in the area comprising the R402 to the northwest of the site, the Derrymahon road to the

southwest of the site and the local road from Timahoe cross to Doogary to the northeast and these are mapped on figure 5.4 in the EIAR. The application site is set back off the road by a network intervening fields and the two areas of solar arrays are set back from the site boundary such that, as noted in the EIAR, the closest house is 500m from the solar array.

- 10.24. Forty-three houses were examined for potential glint/glare impact. The application points out that there are no national guidelines in relation to appropriate limits for glare/glint at dwelling houses but the EIAR (section 5.5.7) sets out an assessment model. This model concluded that of the 43 dwellings with potential for impacts the screening effects of existing screening (in the form of trees and other buildings) was such as to ensure that there would be no hazardous or iterant effect arising from the proposed solar arrays for these houses.
- 10.25. Having regard to the materials submitted with the application, the topography of the site which is generally flat terrain and the screening along the site boundaries and the separation distances between the solar arrays and houses I conclude that the proposed development will not negatively impact on residential amenity by reason of glint or glare.
- 10.26. Noise is another potential impact on residential property. The application anticipates that the main noise impacts will arise in the construction phase from excavation for and construction of the solar arrays, proposed piling, construction of internal roads and substation elements. A slight short-term negative impact on residential amenity is anticipated but noise abatement/mitigation measures will include appropriate location of equipment having regard to topography and screening, appropriate training for managers and operatives, limiting construction hours and sequencing constriction works to avoid noise where possible. Plant will be chosen for its noise limiting characteristics and will be operated in accordance with the British Standard BS5228-1:2009 +A1:2014 Code of Practice for Noise and Vibration Control on Construction and Open Sites – Noise.
- 10.27. The planning authority's Environment Section reviewed Noise Chapter of the EIAR and reported that it was fit for purpose and recommended a grant of permission subject to conditions. The Environment Section proposed a condition managing the

noise impact arising from the proposed development and the draft condition in relation to noise set out in the draft order below generally repeats this advice.

10.28. I consider that the application has fairly assessed the likely impact on residential amenity arising from the construction phase noise and I conclude that no serious injury to residential amenity will arise from this source. Additionally, I conclude that given the nature of the proposed development that the operational phase of the proposed development will not generate noise in a manner to seriously injure the amenity of property in the vicinity.

10.29. **Water pollution**

10.30. The material submitted with the application traces the origin of most of the drains on site to the previous use of the site for the harvesting of peat by Bord na Móna. I conducted a walk-over site inspection and agree with the applicant that many of the drains on site have become blocked since peat harvesting ended in the 1990s. There are large areas of open water in what may have been attenuation ponds and, having regard to the topography and observable conditions on site, I agree with the application that the site drains to the Mulgeeth stream to the southeast of the application site and that this stream decants into the Blackwater to the east and this, in turn into the River Boyne.

10.31. There are two main sources of surface water pollution; the release of silt during solar array/substation and internal road construction and spillage of fuels/lubricants required for plant and machinery.

10.32. Silt will be controlled through distinguishing between clean surface water and silt laden water. The first will be allowed to enter the drainage system unimpeded. The second, surface water carrying silt, will be contained by way of buffer zones between streams and working areas, maintaining vegetation strips to trap silt before it reaches water courses augmented by swales and collector drains. Settlement ponds will allow silt to drop out of surface water before release to the wider surface water system. Works likely to release silt will be limited to dry periods.

10.33. In relation to release of hydrocarbons (fuels and lubricating oil) this potential source of contamination will be mitigated through good on-site management of these products, limiting on-site refuelling, providing properly bunded areas where these

products are stored, provision of spill equipment in the event of accidents and where soils do become contaminated the soil will be removed for the site and properly disposed of.

10.34. Effluent from staff sanitary facilities will be collected in a sealed tank and removed off site.

10.35. In relation to the risk of ground water contamination the application makes the point that the works are relatively shallow and that the overburden between the ground surface and water table will break the pathway for contaminants. This factor and the other mitigation measures set out in the application, including distance from domestic wells and public water supplies are enough to conclude that the proposed development will not give rise to groundwater pollution.

10.36. Having regard to the material set out in the application, the reports of the planning authority and the factors set out above I conclude that the proposed development will not give rise to pollution of ground or surface water bodies.

10.37. **Flooding**

10.38. The application included a flood risk assessment (FRA) as Appendix 8.2 attached to the EIAR. The FRA makes the point that the site is saucer shaped with slightly elevated ground to the southwest and north east while the central area is below 80mOD. All development areas drain southeast towards the Mulgeeth stream and the drainage system is illustrated in figure 5 in the FRA. The total catchment addressed in the FRA is 7.5km² and illustrated in figure 6.

10.39. The FRA modelled the flood risk and noted that the peaty nature of the soil on site restricted drainage and provided poor permeability. Figure 18 illustrates the result of this modelling which predicts that large sections of the site would be flooded in both 100 and 1,000-year return periods. The objective of the assessment is to inform the design of the development to choose the best location for the solar arrays within the site, meet the ecological requirements within the site and prevent an unacceptable flood risk outside the site. The solar arrays are located on slightly higher ground within the site. An enhanced system of collector drains will convey water from the solar arrays and access tracks to a large transverse collector drain which generally follows the line of the main railway. This large transverse collector drain will decant,

via a new oversized culvert under the rail line/new access track into drain number 7 (see illustrated on figure 5) which in turn drains into the southern collector trains and from there into the Mulgeeth stream.

10.40. The FRA provides a justification test for the proposed development as required by the Flood Risk Management Guidelines for Planning Authorities (DOEHLG 2009). The justification test set out in the guidelines requires, in summary, that;

- the site has been zoned or otherwise designated for the type of development in a development plan,
- it can be demonstrated that the development will not increase flood risk elsewhere,
- the development proposal includes measures to minimise flood risk to people, property, the economy and the environment,
- The development proposed includes measures to ensure that residual risks to the area and/or development can be managed to an acceptable level.

10.41. The FRA makes the point that the site has areas at high, medium and low risk of flooding, that the vulnerable elements are the ESB substation and inverters and that the only source of flooding is pluvial (rain). The proposed use as a solar farm is compatible with the site's previous use for the commercial peat harvesting. The solar arrays have been raised to a minimum level of 79.5m OD which is equivalent to a 1,000-year return flood with climate change factored in. Access tracks for the solar arrays can be allowed to flood whereas the peat repository area, site compound, and car parking area will meet the 1,000-year return event standard with climate change and 500mm freeboard to protect humans and prevent water pollution. The main vehicular access will be ungraded to the same standards. Residual flood risk to the proposed development will be managed through active management of the drainage infrastructure especially the new transverse collector drain, new culverts and a managed flow control/choke point under the access road/rail line.

10.42. Water will be stored and attenuated within area to be developed for the solar arrays north of the access road through the improved drainage channels and the provision of a choke point at the culvert on drain 7. This 900mm culvert will release surface water to the southern collector trains and from there into the Mulgeeth stream. This

will ensure that the maximum surface water discharge from the site will be less than that which applies at present.

10.43. In reply to points raised in the further information request the flood risk assessment was amended to make additional points in relation to flood risk;

- Any increase in the speed of run off from the solar arrays will be compensated for by the additional drainage and the flow control/choke point proposed.
- Trees do generally aid water management by facilitating evapotranspiration through the leaves but the proposed loss of tree cover in this instance will be balanced by the provision of extra dug swales and ditches and by new planting which will ensure that there is no additional risk of flooding arising from the proposed development.
- The decommissioning phase will see the removal of all the solar arrays and associated infrastructure but the maintenance and continued management of the surface water management system to ensure against any downstream flooding impacts.
- The cumulative impacts with Drehid windfarm development, Drehid waste management facility and the Irish Water pipeline corridor are assessed. The area of the Drehid windfarm development drains to a different catchment (the Fear English River) and there are no cumulative flood risk implications from the two developments. The area of the Drehid waste management facility drains to the Cushaling River and there are no cumulative flood risk implications from the two developments. There is potential for the Irish water pipeline to interact with the drains which serve the site, but this can be mitigated by design of the pipeline.

10.44. I have considered the amended flood risk assessment submitted as appendix 8-2 to the EIAR. I consider that it provides the relevant information and a credible rationale for the proposed development. The methodology adopted in the FRA complies with the Flood Risk Management Guidelines and its conclusions are robust. Having particular regard to the previous use of the site for industrial peat harvesting purposes, to the measures included in the design to protect sensitive elements of the proposed development from flooding and the surface water control and attenuation measures included in the FRA I conclude that the application site is an appropriate

location for the proposed development and that proposed development will not give rise to unreasonable risk of flooding within the application site or to areas outside the application site.

10.45. **Ecological Impacts**

10.46. I have considered the impacts on European sites above. Under this heading I will deal with the ecological impact on Natural Heritage Areas (NHAs), the general ecological impact of the development and specifically on the Marsh Fritillary butterfly.

10.47. The Kildare County Development Plan identifies 23 NHAs within the county, lists them in table 13.2 and maps these on map 13.2. It is an objective of the planning authority (objective NH7) to contribute towards the protection of the ecological, visual, recreational, environmental and amenity value of the County's Natural Heritage Areas and associated habitats and (objective NH8), to ensure that any proposal for development within or adjacent to a Natural Heritage Area (NHA), Ramar Sites and Nature Reserves is designed and sited to minimise its impact on the biodiversity, ecological, geological and landscape value of the site, particularly plant and animal species listed under the Wildlife Acts, the Habitats Directive and Birds Directive including their habitats.

10.48. The EIS in figure 6.1a maps the proposed NHAs and NHAs within a 15km radius of the site and table 6.4 lists these NHAs and pNHAs and assesses the potential for impact arising from the proposed development. The NHAs are the Hodgestown bog NHA, the Carbury bog NHA, the Molerick bog NHA, the Black Castle bog NHA. The respective separation distances from the application site are 3.8km, 4.3km, 12.4km and 14.9km. The EIAR concludes that having regard to the separation distances and absence of pathways between the application site and the protected areas that there will be no direct or indirect impacts from the proposed development on these protected areas in terms of surface water pollution, species disturbance, habitat loss or fragmentation.

10.49. There are 9 proposed NHAs within the study 15km area. These are the Royal Canal, Grand Canal, the Donadea Wood, the Ballynafagh lake, the Ballina Lake, The Long Derries Edenderry, the Ballynabarny Fen, the Rathmoylan Esker and the Mouds bog. The respective separation distances between these protected sites and the

application site are 3.7km, 5km, 5km, 5.4km, 5.8km,8.1km, 10.9km,11.3km and 12.9km. The application concludes that there is no potential for impacts on these protected sites arising from the proposed development because of the substantial separation distances and absence of pathways with no consequent surface water pollution, species disturbance, habitat loss or fragmentation.

- 10.50. The planning authority's Heritage Officer reported on the application and raised no objection in relation to impacts on NHAs, pNHAs or any other non-European designated sites in the County
- 10.51. Notwithstanding that there is no statutory basis for confining the study area to a radius of 15kms I consider that the nature of the proposed development and the likely emissions therefrom, separation distances between the application site and the NHAs and pNHAs identified within and adjoining the study area, the absence of pathways between the site (source) and receptors (the NHAs and pNHAs) it is reasonable to conclude that there will be no impacts in terms of pollution, loss or fragmentation of habitat or species disturbance arising from the proposed development within these areas.
- 10.52. The planning authority raised the issue of tree felling and replanting in item 11 of its further information request. The response to the FI request and the amended EIAR make the point that the tree loss within the site comprises about 45ha out of a total site area of over 800ha and the replacement planting concentrated in the east of the site, near Doogary townland, will be 45ha in extent. The area proposed for tree planting is predominantly cut over bog with no habitats corresponding to those listed in Annex 1 of the Habitats Directive. The replanted trees will be native broadleaf species. This is an adequate mitigation measure against a long-term significant effect which would arise from the loss of trees elsewhere on the site.
- 10.53. The FI request sought clarity on the ecological impact of the proposed looped walk and the applicant replied (see revised EIAR at 6.3.2.2) that the looped walk largely follows the line of the former railway. Where it leaves the old rail line the looped walk crosses areas of bare peat, recolonising bare grounds and grassland. The FI request (see point 11 of FI request) sought further clarity in relation to the draft rehabilitation plan and an active management plan for the raised bogs. The applicant responded that at no change was proposed to the Draft Rehabilitation Plan originally submitted

(see appendix 6:10 to the EIAR) but that a new Habitat Enhancement Plan is submitted as appendix 6:9 to the EIAR.

- 10.54. The main measures set out in this Habitat Enhancement Plan may be summarised as replacement of woodland and scrub where these are to be impacted upon by development works, rewetting of areas within the site to enhance available habitats (these are illustrated on Figure 2.1 of the Plan), bunding of chosen wet areas and replanting of sphagnum species in areas proposed for rewetting. There is a detailed description (see the Plan section 3.4) of how re-vegetation occurs naturally under and around the solar array and how this has been observed and managed in other sites in the ownership of Bord na Mona.
- 10.55. This information was reviewed by the planning authority's Environment Section and no further issues were raised (report dated 3rd September 2019).
- 10.56. The application makes the point that the water courses on site are not suitable for sensitive fish species, salmon, lamprey and crayfish. I consider that the measures detailed in the application to limit run-off of silt and hydrocarbons are adequate to protect water quality on site and prevent silt or hydrocarbons escaping into the wider surface water systems outside the site. In terms of mammals the site is not significant for badgers or squirrels; there are no badger setts within the footprint of the solar arrays. The bird species identified within the site were whooper swan, golden plover, lapwing, wigeon, woodcock, buzzard, kestrel, sparrow hawk, meadow pipit, snipe. Additionally, wetland species on site were grey heron, little grebe, mallard, moorhen and teal. The potential impacts on wetland bird species have been mitigated by the location of the solar arrays and substation away from the wetland habitats favoured by these species. In relation to the other bird species the application states that there will be a moderate negative impact on bird species that currently use the terrain which will be given over to the solar arrays. However, no clearance of the vegetation in the area of the solar array will take place in the breeding season (1st March to 31st August).
- 10.57. I have read the EIAR and accompanying appendices, the Appropriate Assessment screening and the NIS and the planning authority's reports. I consider the main ecological impacts have been adequately addressed and I consider the negative impacts for habitats and species have been properly assessed and that the

proposed mitigation measures are implementable and practicable. It is significant that the site is a brownfield site which has been subject to very significant anthropogenic alteration already. Access tracks have been constructed, a rail line of considerable length was laid, the area has been drained, peat has been industrially harvested within the site and some turf cutting is still in progress and there is significant levels of household and construction waste dumping within the site.

10.58. Having regard to all these factors I conclude that no unacceptable effects on the ecology of the site or wider area will arise from the proposed development.

10.59. **Butterflies.**

10.60. Butterfly Conservation Ireland made a submission to the planning authority at application stage and made a submission to the Board in relation to the appeal. These submissions make the same points and may be summarised as;

- the site contains a habitat for the small skipper butterfly for which the application makes no provisions,
- there are populations of marsh fritillary butterfly on site which will be disturbed by the proposed development and these are an Annex II species for the purposes of the Habitats Directive.

10.61. The applicant stated that the applicant and their agents met with Butterfly Conservation Ireland and agreed measures to address these issues and that these measures were subsequently incorporated into the application as the Lepidoptera Management Plan that is included as Appendix 6-11 to the EIAR. Specifically, the proposed mitigation measures are,

- Avoidance measures will include moving the proposed site access track 3m south of its original position to avoid damage to and maintain the existing south facing grassy verges used by breeding and feeding butterfly species.
- Pre-construction measures will include the marking out and fencing off the grassy verge along the northern edge of the access track so as to avoid impact during construction.

- In the operational phase some sensitive removal of encroaching scrub along the main entrance track will be undertaken to prevent excessive shading of suitable butterfly feeding areas along the track verges.
- A sensitive mowing regime will be developed for grassy verges along the proposed main access tracks on site.

10.62. These measures including the overall habitat enhancement plan (appendix 6-9 of the EIAR) will ensure that there are no significant residual impacts on this species as a result of the construction, operation or decommissioning of either the Solar Farm or the associated substation/grid connection.

10.63. In relation to the marsh fritillary butterfly the applicant comments in response to Butterfly Conservation Ireland's (BCI) submission in January 2019 that the applicant undertook additional butterfly surveys on 29th March, 3rd May, 23rd May and 5th July 2019 and incorporated the findings into chapter 6 of the EIAR and appendix 6-11 attached to the EIAR. All areas of suitable habitat for Marsh Fritillary are outside the construction footprint of the proposed project and no butterflies were identified within these suitable habitats. There was one exception to this where a population within a suitable habitat was identified by both the applicant and BCI (see Figure 6.8 in the EIAR) and is close to the access track associated with the proposed project. To address this the development has been designed to avoid loss of any Marsh Fritillary habitat and mitigation measures are proposed in the EIAR Lepidoptera Management Plan to avoid disturbance and displacement when working close to the habitat.

10.64. The marsh fritillary is an annex II species under the Habitats Directive and is a qualifying interest of the Ballynafagh Lake SAC which is located about 6.8kms from the application site. Therefore, it is accorded a very high level of protection within the European site where it is a qualifying interest, but it does not have the same status within the application site. The issue to be addressed in this application is 'could an impact arising on a population of this butterfly within the application site give rise to an indirect effect on the butterfly population within the European site?'. The applicant (see especially the NIS section 4.2.2 and table 4.2) makes the point that the dispersal distance of this butterfly is less than 100m and that maximum distance over which the butterfly will travel for new habitat is 1-2kms. The NIS

concluded, having regard *inter alia* to the separation distances between the application site and the SAC, that no indirect effect will arise for the marsh fritillary population within the SAC.

10.65. The planning authority's Heritage Officer reported that the likely impacts on qualifying interests of European sites within the zone of influence of the proposed development were properly identified and assessed in the application documents and that changes in design had mitigated against any residual effects. The planning authority carried out an appropriate assessment of the proposed development and concluded that the proposed development would not affect the integrity of any European site. Having regard to the submissions made to the planning authority and the Board in relation to the Lepidoptera identified within the site, having regard to the material set out in the EIAR and the Lepidoptera Management Plan I conclude that the proposed amendments to the access roadway and the management of vegetation and other mitigation measures set out in the application will ensure that the impacts on these fauna within the site will be minimised to an acceptable level and that the proposed development will not undermine the conservation status of a qualifying interest within a European site or materially contravene an objective set out in the County Development Plan in relation to habitat or species protection.

10.66. Traffic safety.

10.67. The site is located, generally, within a triangle of routes; the R402 Johnstown to Carbury regional route to the northwest of the application site, the Derrymahon road from a junction with the R402 in the northwest to the existing/proposed site entrance and another county level road from Timahoe cross roads back north towards Johnstown. The construction phase delivery route will be the R402 regional route from the M4 to the junction with the Derrymahon road and from this junction to the site entrance. The planning authority's transport department requested that the applicant engage with the roads authority to (1) assess the condition of the roads to be used as construction traffic route and (2) to submit a programme of works with the grid connection (ABP303249-18) with a view to reducing the impact of construction traffic on the surrounding road network. These matters were raised as points 17 and 18 in the request for further information.

- 10.68. The applicant responded to the request for a survey of road condition by making the point that since the application is for a 10-year permission for the development the survey can be more usefully carried out closer to the actual commencement of development. The applicant states that this approach has been agreed with the roads authority's engineers.
- 10.69. In relation to the potential for cumulative construction impacts arising from Drehid wind farm application, the Drehid waste management facility and this current planning application for the solar farm the applicant states that these have been set out in the amended EIAR at section 13.1.10. Included in this cumulative impact assessment are turf cutting within the application site, Ovidstown solar farm, Hortland solar farm, Power Capital solar farm near the Curragh, and the Irish Water supply project. The applicant makes the case that several factors will determine the timing and duration of the construction periods associated with these developments not all of which have benefited from grants of permission at time of writing. Additionally, the applicant in the present case is unable to determine the timetable for the other developments considered.
- 10.70. Subsequent to the submission of the additional information the planning authority's transport department (second report dated 17th October 2019) reported no objections subject to conditions including a bond for the maintenance and repair of roads serving the proposed development.
- 10.71. Overall, in relation to road capacity it may be noted that the area is served by the M4 motorway, a good regional route (the R402) and the Derrymahon road. The regional route and the Derrymahon road are part of a well-developed network of non-national routes which serve a network of towns and villages (especially Carbury and Johnstown Bridge), farming and industrial uses. Whereas there will be a rise in construction related traffic this is, in a sense, the point of a road system. The applicant will submit a construction management plan as required by a condition in the draft order set out below and there will be an opportunity for the roads authority to further manage the sequencing of developments surveyed in the EIAR. The proposed development will generate minimal traffic movements associated with its operational phase.

10.72. I conclude that the construction phase traffic impacts may can be properly managed in consultation with the planning authority and that the proposed development will not endanger public safety by reason of traffic hazard.

10.73. Visual amenity.

10.74. The County Development Plan in Chapter 14 sets out a landscape sensitivity assessment and maps the sensitivity of landscapes within the county on map reference 14.2. The sensitivity of landscapes is estimated on a 5-point scale as unique, special, high, medium and low. The application site is within an area designated as high on this scale. The area is designated as western boglands and table 14 in the Plan estimates the likely compatibility between a range of land uses and landscape areas. Western boglands are described as having a medium compatibility with solar farm development.

10.75. It is a policy of the planning authority (Objective LA 2) to protect and enhance the county's landscape, by ensuring that development retains, protects and, where necessary, enhances the appearance and character of the existing local landscape. In relation to lowlands and bogland areas it is an objective (objective LL5) to recognise that cutaway and cut-over boglands represent degraded landscapes and/or brownfield sites and thus are potentially robust to absorb a variety of appropriate developments.

10.76. The planning authority at point 1 of the request for further information requested additional analysis of the landscape impacts of the proposed development and the applicant responded with an additional photomontage assessment, a further information booklet and amended chapter 12 of the EIAR.

10.77. The points of note in relation to this topic is that the bog is relatively low laying in its landscape context and the proposed development will not alter this. The site is a brownfield site with a history of industrial development and consequent visual impact when viewed at close quarters. There is extensive tree screening along the site boundaries and while there is tree felling necessitated by proposed development there will be an equal area of new tree planting. The photomontages submitted with further information provide an assessment of the cumulative impacts arising from the solar farm, the grid connection and the proposed wind farm (ABP306500). The

proposed solar farm will be inconspicuous in the landscape. The EIAR concludes (section 11.9.3.3.1.) that there will be no landscape impact arising from the solar farm.

10.78. It is an objective of the planning authority (objective LO6) to preserve and protect the character of those views and prospects obtainable from scenic routes identified in this Plan, listed in Table 14.5 and identified on Map 14.3. The only scenic route in the vicinity of the site is route 28 as designated in the County Development Plan and located to the northwest of the site. This route is illustrated in figure 11.3 in the EIAR and of the photo locations illustrated in the revised photomontage submitted with the further information of note is viewpoint number 4. This viewpoint is from the protected route (partly on the R402) towards the application site and the EIAR concludes that there will be no impact arising from the proposed development on views from this route.

10.79. I observed the landscape of the site and wider area, the road network serving the proposed development and the protected route as part of my site inspection. I consider that the assessment the visual impacts provided in the application, and specifically the photomontages, are reliable in relation to the visual impact of the proposed development. Having regard to the material submitted with the application I conclude that the proposed development would not seriously injure the visual amenity of the area or materially contravene an objective set out in the County Development Plan in relation to protection of views or prospects from scenic routes or the visual amenity of the landscape in the area.

10.80. **Archaeology**

10.81. It is an objective of the planning authority (County Development Plan Objective AH1) to manage development in a manner that protects and conserves the archaeological heritage of the county and avoids adverse impacts on sites, monuments, features or objects of significant historical or archaeological interest. Furthermore, objective AH 2 requires the planning authority to have regard to the Record of Monuments and Places (RMP) when assessing planning applications for development. No development shall be permitted in the vicinity of a recorded feature, where it detracts from the setting of the feature or which is injurious to its cultural or educational value.

10.82. The Department of Culture, Heritage and the Gaeltacht in its submission dated 28th January 2019 noted that the EIAR recognised the existence of a recorded monument within the application site but outside the footprint of the proposed development but commented that the proposed buffer zone which would protect this recorded monument from damage had not been illustrated in the application.

10.83. This matter was raised as point 16 of the planning authority's request for further information. The applicant's responded that the EIAR had been revised and that a 15m buffer zone had now been provided for this recorded monument (KD008-025 an unclassified Togher) and illustrated on figures 12.4 and 12.5 of the amended EIAR.

10.84. A further point raised by the Department was the existence of timbers of possible archaeological importance uncovered in test pits. The applicant's response on this point is that the timbers in test pits are not identifiable as of archeological significance. Furthermore, the solar arrays will avoid excavations and use screw piles and excavations for the substation, compounds and inverter location are not in the vicinity of the test pits and further mitigation measures are set out in chapter 12 of the EIAR. The department subsequently commented on the additional information and recommended that a condition be attached to any grant of permission requiring archaeological monitoring of the proposed development.

10.85. Having regard to the information submitted with the application, the reports of the planning authority and the comments of the Department of Culture, Heritage and the Gaeltacht and subject to the condition set out in the draft order below requiring archaeological monitoring of the construction phase of the proposed development I conclude that the proposed development will accord with the objectives set out in the County Development Plan in relation to the conservation of items and areas of archaeological interest.

10.86. **Irish Water Pipeline**

10.87. The planning authority sought an assessment from the applicant of the potential for impact of the proposed solar farm on the planned Irish Water pipeline from the Parteen weir on the Shannon to Dublin. Irish Water commented on this issue stating that the proposed amenity walk is partially within the 200m corridor of the Shannon to Dublin water supply project but that this element of the proposed development will not impede the delivery of the water supply project.

10.88. Having regard to the material on file I conclude that the proposed development will not negatively impact on the Shannon/Dublin water supply scheme.

10.89. Operational Lifetime of Permission

10.90. The application is for an operational period of 35 years. The Board has previously refused permission for operational periods of more than 25 years for solar farm developments from the date of commencement of development. Generally, it was considered that periods of 25 years from the commencement of development was appropriate given the relatively new nature of the technology and the desirability of allowing the planning authority to consider the circumstances prevailing at the end of a 25-year period.

10.91. In previous solar farm applications determined recently by the Board (ABP305852-19, ABP305854-19 and ABP305860-19) the site areas were 12.7ha, 10ha and 10ha respectively. In the present case the solar arrays alone exceed 200ha and the associated infrastructure is substantially more. Having regard to,

- the extensive area to be developed and maintained,
- level of investment proposed including the associated substation/grid connection,
- the long-term management required for the accessible amenity areas,
- the management of the surface water regime including drains, culverts and collector drain in the interest of ecology and flood prevention,
- the long construction period,

10.92. I recommend an operational lifetime of 35 years from the commissioning of the development.

11.0 Recommendation

11.1. I recommend that permission be granted.

12.0 Reasons and Considerations

12.1. **Having regard to:**

- the nature, scale and extent of the proposed development,
- the decisions made in respect of an appropriate assessment and environmental impact assessment,
- national and local policy support for developing renewable energy, in particular the:-
 - Government's Strategy for Renewable Energy, 2012-2020,
 - National Planning Framework, 2018, and,
 - Objectives set out in the Kildare County Development Plan,
- the location of the proposed development within a brownfield site with a medium capacity to accommodate solar farm developments in the Western Boglands as set out in the Kildare County Development Plan,
- the separation distances between the proposed development and dwellings or other sensitive receptors,
- the history of industrial uses on the application site and the planned connection of the proposed development to the national electricity grid (ABP-303249-18 refers)
- the submissions made in connection with the planning application and appeal
- the likely consequences for the environment and the proper planning and sustainable development of the area in which it is proposed to carry out the proposed development and the absence likely significant effects of the proposed development on European Sites.

The Board considered that the proposed development, subject to compliance with the conditions set out below, would:

- not have an unacceptable impact on the character of the landscape or on the cultural or archaeological heritage,
- not seriously injure the visual and residential amenities of the area,
- be acceptable in terms of public health, traffic safety and convenience,
- not have an unacceptable impact on the ecology,
- make a positive contribution to Ireland's requirements for renewable energy,
- be in accordance with:-
 - Government's Strategy for Renewable Energy, 2012-2020,
 - the National Planning Framework, 2018 and

- Objectives SE 1 and SE 2 of the Kildare County Development Plan, 2017-2023 in relation to the promotion of solar energy infrastructure and the assessment of solar energy proposals.

The proposed development would, therefore, be in accordance with the proper planning and sustainable development of the area.

12.2. Environmental Impact Assessment

12.3. The Board completed an environmental impact assessment of the proposed development, taking into account:

- the nature, scale, location and extent of the proposed development,
- the environmental impact assessment report and associated documentation submitted in support of the application,
- the submissions from the local authority, the observers in the course of the application, and
- the Inspector's report.

12.4. Having regard to the examination of environmental information contained above, to the EIAR and supplementary information provided by the applicant and the submission from the observers, it is considered that the main significant direct and indirect effects of the proposed development on the environment are as follows:

- Impacts on biodiversity are likely to arise during construction due to the removal of shrub/tree and grassland habitat and the laying out of the solar array and associated plant particularly in the circa 260ha associated with these works. It is noted, however that these areas largely comprise cut-over bog and are the less ecologically important areas within the application site and that the solar array and associated infrastructure have been located to minimise the ecological impacts. The impacts arising from the removal of habitat and disturbance would be mitigated by minimising the removal of existing vegetation and reinstatement of vegetation and following best practice and procedures during the construction phase.

- Potential impacts on water quality are considered under the relevant headings. The site drains to the Mulgeeth stream. The watercourses adjoining the application site are unsuitable for sensitive species (salmon, lamprey or trout) and the measures to prevent the release of sediments or hydrocarbons set out in the EIAR are specific and practicable. The proposed development, therefore, will not give rise to water pollution in the water courses within the site, in the Mulreeth stream or in the wider Blackwater/Boyne catchment and it is concluded that significant impacts are not likely to arise.
- Impacts on population and human health will be generally positive in terms of employment creation. Construction phase impacts in the form of short term increases in the traffic (private cars and HGVs) on the local road network are recognised, addressed in the EIRA and, specifically in the construction and environment management plan (appendix 4-5 of the EIAR). The noise and vibration mitigation measures, such as the limiting of construction hours, the use of plant with low potential of noise and / or vibration, the use of noise barriers and locating plant away from noise sensitive receptors are reasonable and practicable. Noise and vibration levels would be within acceptable emissions limits during normal operation.
- The site is a relatively flat brownfield site which is not prominent in views from a wide area. Landscape and visual impacts will be mitigated by existing and proposed screening and screen planting. No impacts will arise for residential uses in the area or for the aviation from glint or glare. The visual impact assessment submitted with the EIAR demonstrates that there will be cumulative visual impacts with other development in the area including the proposed grid connection under ABP303249-198 and the Drehid windfarm under ABP306500-20. These cumulative are considered to be proportionate and reasonable.

12.5. **Appropriate Assessment Stage 1**

12.6. The Board considered the Screening Report for Appropriate Assessment and all other relevant submissions and carried out an appropriate assessment screening exercise relation to the potential effects of the proposed development on designated European

sites. The Board noted that the proposed development is not directly connected with or necessary for the management of a European Site and considered the nature, scale and location of the proposed development, as well as the report of the Inspector.

12.7. The Board agreed with the screening report submitted with the application and with the screening exercise carried out by the Inspector. The Board concluded that, having regard to the qualifying interests for which the sites were designated and in the absence of a hydrological connection between the application site and the European Sites that Ballynafagh Bog SAC (000391), The Long Derries Edenderry SAC (000925), The Mouds Bog SAC (002331) could be screened out from the further consideration and that the proposed development, individually or in combination with other plans or projects would not be likely to have a significant effects on these European Sites or any other European Sites in view of the sites' conservation objectives and that a Stage 2 appropriate assessment is therefore not required in relation to these European Sites.

12.8. **Appropriate Assessment Stage 2**

12.9. The Board considered the Natura Impact Statement and all other relevant submissions and carried out an appropriate assessment of the implications of the proposed development for the Ballynafagh Lake SAC (001387) the River Boyne and River Blackwater SAC (002299), and the River Boyne and River Blackwater SPA (004232) in view of the sites' conservation objectives. The Board considered that the information before it was adequate to allow the carrying out of an Appropriate Assessment as well as the report of the Inspector.

12.10. In completing the assessment, the Board considered the likely direct and indirect impacts arising from the proposed development both individually or in combination with other plans or projects, the mitigation measures which are included as part of the current proposal and the Conservation Objectives for this European Site. In completing the Appropriate Assessment, the Board accepted and adopted the Appropriate Assessment carried out in the Inspector's report in respect of the potential

effects of the proposed development on the aforementioned European Site, having regard to the sites' Conservation Objectives.

12.11. In overall conclusion, the Board was satisfied that the proposed development would not adversely affect the integrity of the Ballynafagh Lake SAC (001387) the River Boyne and River Blackwater SAC (002299), and the River Boyne and River Blackwater SPA (004232) or any other European Site in view of the sites' Conservation Objectives.

13.0 Conditions

1. The development shall be carried out and completed in accordance with the plans and particulars lodged with the application as amended by the further plans and particulars submitted on the 12th day of August 2019 and including the mitigation measures specified in the Environmental Impact Assessment Report except as may otherwise be required in order to comply with the following conditions. Where such conditions require details to be agreed with the planning authority, the developer shall agree such details in writing with the planning authority prior to commencement of development and the development shall be carried out and completed in accordance with the agreed particulars.

Reason: In the interests of clarity.

2. The period during which the development hereby permitted may be carried out shall be 10 years from the date of this Order.

Reason: Having regard to the nature of the proposed development, the Board considered it reasonable and appropriate to specify a period of the permission in excess of five years.

3. All of the environmental, construction and ecological mitigation measures set out in the Environmental Impact Assessment Report and the Natura Impact Statement, and other particulars submitted with the application shall be implemented by the developer in conjunction with the timelines set out therein, except as may otherwise be required in order to comply with the conditions of this order.

Reason: In the interest of clarity and the protection of the environment during the construction and operational phases of the development.

4. a) The permission shall be for a period of 35 years from the date of the commissioning of the solar array. The solar array and related ancillary structures shall then be removed unless, prior to the end of the period, planning permission shall have been granted for their retention for a further period.
- b) Prior to commencement of development, a detailed restoration plan, including a timescale for its implementation, providing for the removal of the solar arrays, including all foundations, anchors, inverter/transformer stations, substation, CCTV cameras, fencing and site access to a specific timescale, shall be submitted to, and agreed in writing with, the planning authority.
- c) On full or partial decommissioning of the solar farm, the solar arrays, including foundations/anchors, and all associated equipment, shall be dismantled and removed permanently from the site. The site shall be restored in accordance with this plan and all decommissioned structures shall be removed within three months of decommissioning.

Reason: To enable the planning authority to review the operation of the solar farm over the stated time period, having regard to the circumstances then prevailing, and in the interest of orderly development

5. a) No additional artificial lighting shall be installed or operated on site unless authorised by a prior grant of planning permission.

- b) CCTV cameras shall be fixed and angled to face into the site and shall not be directed towards adjoining property or the road.
- a) Cables within the site shall be located underground.
- a) The inverter/transformer stations shall be dark green in colour. The external walls of the storage containers shall be finished in a neutral colour such as light grey or off-white and the roof shall be of black slate or tiles.

Reason: In the interests of clarity, and of visual and residential amenity

- 6. Before construction commences on site, details of the structures of the security fence showing provision for the movement of mammals at regular intervals along the perimeter of the site shall be submitted for prior approval to the Planning Authority. This shall be facilitated through the provision of mammal access gates designed generally in accordance with standard guidelines for provision of mammal access (NRA 2008).

Reason: To allow wildlife to continue to have access across the site, in the interest of biodiversity protection

- 7. Prior to the commencement of development, the developer shall submit a finalised Invasive Species Management Plan for the written agreement of the Planning Authority. This plan shall include updated details of invasive species surveys, the location of such species, and the proposed method of managing these species during the construction and operational phase of the development.

Reason: To ensure that the spread of invasive species is minimised.

- 8. The developer shall facilitate the archaeological appraisal of the site and shall provide for the preservation, recording and protection of archaeological materials or features which may exist within the site. In this regard, the developer shall:

- a) notify the planning authority in writing at least four weeks prior to the commencement of any site operation (including hydrological and geotechnical investigations) relating to the proposed development, and

- b) employ a suitably-qualified archaeologist prior to the commencement of development. The archaeologist shall assess the site and monitor all site development works.

The assessment shall address the following issues:

- a) the nature and location of archaeological material on the site, and
- b) the impact of the proposed development on such archaeological material.

A report, containing the results of the assessment, shall be submitted to the planning authority and, arising from this assessment, the developer shall agree in writing with the planning authority details regarding any further archaeological requirements (including, if necessary, archaeological excavation) prior to commencement of construction works.

In default of agreement on any of these requirements, the matter shall be referred to An Bord Pleanála for determination.

Reason: In order to conserve the archaeological heritage of the area and to secure the preservation (in-situ or by record) and protection of any archaeological remains that may exist within the site.

- 9. Water supply and drainage arrangements, including the attenuation and disposal of surface water, shall comply with the requirements of the planning authority for such works and services.

Reason: In the interest of public health.

- 10. a) Existing field boundaries shall be retained, notwithstanding any exemptions available and new planting undertaken in accordance with the plans submitted to the planning authority with the application and by plans submitted to An Bord Pleanála
- b) All landscaping shall be planted to the written satisfaction of the planning authority prior to commencement of development. Any trees or hedgerow that are removed, die or become seriously damaged or diseased during the operative period of the solar farm as set out by this permission, shall be replaced within the next planting season by trees or hedging of similar size and species, unless otherwise agreed in writing with the planning authority.

Reason: In the interests of biodiversity, the visual amenities of the area, and the residential amenities of property in the vicinity.

11. The applicant shall appoint a suitably qualified ecologist to monitor and ensure that all avoidance/mitigation measures relating to the protection of flora and fauna are carried out in accordance with best ecological practice and to liaise with consultants, the site contractor, the NPWS and Inland Fisheries Ireland. A report on the implementation of these measures shall be submitted to the planning authority and retained on file as a matter of public record.

Reason: To protect the environmental and natural heritage of the area.

12. 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 provide details of intended construction practice for the development, including:
 - a) location of the site and materials compound(s) including area(s) identified for the storage of construction refuse
 - b) location of areas for construction site offices and staff facilities
 - c) details of site security fencing and hoardings
 - d) details of on-site car parking facilities for site workers during the course of construction
 - e) details of the timing and routing of construction traffic to and from the construction site and associated directional signage, to include proposals to facilitate the delivery of abnormal loads to the site,
 - f) measures to obviate queuing of construction traffic on the adjoining road network,
 - g) measures to prevent the spillage or deposit of clay, rubble or other debris on the public road network,
 - h) details of appropriate mitigation measures for noise, dust and vibration, and monitoring of such levels,

- i) containment of all construction-related fuel and oil within specially constructed bunds to ensure that fuel spillages are fully contained; such bunds shall be roofed to exclude rainwater,
- j) off-site disposal of construction / demolition waste and details of how it is proposed to manage excavated soil
- k) details of on-site re-fuelling arrangements, including use of drip trays,
- l) details of how it is proposed to manage excavated soil,
- m) means to ensure that surface water run-off is controlled such that no deleterious levels of silt or other pollutants enter local surface water drains or watercourses.

A record of daily checks that the works are being undertaken in accordance with the Construction Management Plan shall be kept for inspection by the planning authority.

Reason: In the interest of environmental protection, amenities, public health and safety.

- 13. a) During the operational phase of the proposed development, the noise level arising from the development, as measured at the nearest noise sensitive location shall not exceed:
 - i. An LAeqT value of 55 dB(A) during the period 0800 to 2200 hours from Monday to Saturday inclusive. [The T value shall be one hour.]
 - ii. An LAeqT value of 45 dB(A) at any other time. [The T value shall be 15 minutes]. The noise at such time shall not contain a tonal component.

At no time shall the noise generated on site result in an increase in noise level of more than 10 dB(A) above background levels at the boundary of the site.

- b) All sound measurement shall be carried out in accordance with ISO Recommendation R 1996 "Assessment of Noise with respect of Community Response" as amended by ISO Recommendations R 1996 1, 2 or 3 "Description and Measurement of Environmental Noise" as applicable.

Reason: To protect the amenities of property in the vicinity of the site

14. All road surfaces, culverts, watercourses, verges and public lands shall be protected during construction and, in the case of any damage occurring, shall be reinstated to the satisfaction of the planning authority. Prior to commencement of development, a road condition survey shall be taken to provide a basis for reinstatement works. Details in this regard shall be submitted to, and agreed in writing with, the planning authority prior to commencement of development.

Reason: In order to ensure a satisfactory standard of development.

15. Prior to commencement of development, the developer shall lodge with the planning authority a cash deposit, a bond of an insurance company, or such other security as may be acceptable to the planning authority, to secure the satisfactory reinstatement of the site on cessation of the project coupled with an agreement empowering the planning authority to apply such security or part thereof to such reinstatement. The form and amount of the security shall be as agreed between the planning authority and the developer or, in default of agreement, shall be referred to An Bord Pleanála for determination.

Reason: To ensure satisfactory reinstatement of the site

16. 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, as amended. The contribution shall be paid prior to 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 An Bord Pleanála to determine the proper application of the terms of the Scheme.

Reason: It is a requirement of the Planning and Development Act 2000, as amended, that a condition requiring a contribution in accordance with the Development Contribution Scheme made under section 48 of the Act be applied to the permission

Hugh Mannion

Senior Planning Inspector

3rd June 2020