



An
Bord
Pleanála

Inspector's Report

ABP-309224-21

Development	A ten year permission for a solar farm - NIS submitted.
Location	Kilcurly, Dundalk, Co Louth
Planning Authority	Louth County Council
Planning Authority Reg. Ref.	20187
Applicants	Harmony Solar Louth Ltd
Type of Application	Permission
Planning Authority Decision	Grant Permission
Type of Appeal	Third Party & First Party
Appellants	Kilkerly Residents c/o Gillian Rice Margaret and Francis Watters Patrick Kirk.
Date of Site Inspection	3 rd June 2021
Inspector	Dolores McCague

Contents

1.0 Site Location and Description	3
2.0 Proposed Development	3
3.0 Planning Authority Decision	17
3.1. Decision	17
3.2. Planning Authority Reports	18
3.4. Prescribed Bodies	19
3.5. Further Information.....	21
3.6. Third Party Observations	30
3.7. Further Reports	30
3.8. Planning Authority Reports	30
3.9. Prescribed Bodies	32
3.12. Further Third Party Observations	33
4.0 Planning History.....	33
5.0 Policy Context.....	34
5.2. National Planning Framework	34
5.3. Eastern and Midlands Region Regional Spatial & Economic Strategy	34
5.4. Development Plan.....	35
5.5. Guidelines	36
5.6. Natural Heritage Designations	37
6.0 The Appeal	37
6.2. Grounds of Third Party Appeals	37
6.4. Grounds of First Party Appeal	39
6.5. Applicant Response	40
6.14. Planning Authority Response	48
6.15. Further Responses.....	48
7.0 Assessment.....	51
7.2. The Principle of the Development	51
7.3. Appropriate Assessment	52
7.8. Requirement for Environmental Impact Assessment	60
7.9. Archaeology	62
7.10. Landscape Impact.....	65
7.11. Glint and Glare	66
7.12. Traffic Safety	67
7.13. Other Issues.....	68
8.0 Recommendation.....	69
9.0 Reasons and Considerations.....	69
10.0 Conditions.....	71

1.0 Site Location and Description

- 1.1.1. The site is located in the townland of Kilcurly at the northern end of the Muirhevna Plain, where the land is undulating, mostly in the range between 20-80m AOD; and further west it moves into drumlin type landscape.
- 1.1.2. Dundalk and its hinterland are c 1.5km to the east, and associated residential development is in evidence along country roads in the area. ESB powerlines / pylons are a feature of this agricultural area, which is predominantly in pasture with hedgerows and small clusters of woodland.
- 1.1.3. An overhead powerline runs in a north south direction near the eastern boundary of the site. A gas pipeline runs in a similar direction west of the powerline.
- 1.1.4. The site is bounded to the west by a local road (L7127) and to the south by a regional road (R178). There are remnants of the Great Northern Railway line running in an east west direction to the south of the Regional road. About 800m to the east, the M1, running in a north south direction, is elevated above surrounding land.
- 1.1.5. The site is given as 62.8 hectares.

2.0 Proposed Development

2.1. The application is for a 10 year permission for the erection of a solar farm, on a site of approximately 62.8 hectares of which 45.3ha will be used for development consisting of:

- Solar arrays covering a ground area of up to 319,500 sqm of solar photovoltaic panels on ground mounted steel frames; panels 3.2m tall at 15 degree tilt, fixed; microspacing 10 to 20 degrees.
- Installation of up to 34 inverter/transformers
- Installation of up to 15 inverter/transformer hardstandings (10m x 20m)
- Installation of 1 inverter/transformer hardstanding (15m x 20m)
- Provision and construction of approx. 4,900m of new internal tracks and associated drainage infrastructure;
- Provision of 2 vehicle passing areas on the public road;

- The site entrance will be a new entrance to the local road with agricultural gate incorporated into the entrance. The new access track from the entrance to the site will contain 1 passing area on the side of the access track to facilitate passing of vehicles includes traffic management island;
- 1 electrical substation (38kV) with electrical control building and associated compound with palisade fence;
- Perimeter fencing 5,925m including mammal access gaps;
- Underground power and communication cables and ducts;
- Installation of CCTV cameras stations;
- Preparation of screening and ecology/biodiversity enhancement areas indicated on drawings;
- Associated ancillary works.

2.1.1. Associated ancillary works encompass:

- Temporary site compounds 625 sq m main compound area to be used for storage during construction;
- Inverter stations;
- Temporary drainage infrastructure
- Biodiversity enhancement in the form of on-going management of existing internal and perimeter hedgerows and grassland management.

Per Construction and Environmental Management Plan (CEMP) no panels are placed within 23m either side of the 110kV power line which runs along the eastern boundary of the site. An exclusion zone of 7m either side of the pipe is also included for the Bord Gais gas pipeline which traverses the eastern section of the site. A concrete slab is required to cover the pipeline where it is crossed by vehicles.

Grid connection route - Grid connection nodes are determined by ESB Networks (ESBN) when allocating grid connection offers as part of the Enduring Connection Policy (ECP) process set out by the Commission for Regulation of Utilities Water and Energy (CRU). In line with ECP, grid connection offers are only made after electricity generators have received planning permission and it is not possible to be definitive

about the precise connection node until the connection offer is made. The proposed Grid connection route is indicated on drawings,

2.1.2. The development will require the removal of c 62m of hawthorn hedgerow.

2.1.3. The application is accompanied by:

- Planning and Environmental Report,
- Archaeological Assessment by John Cronin & Associates,
- Landscape and Visual Impact Assessment by Macro Works,
- Outline Construction and Environmental Management Plan (oCEMP), by Fehily Timoney,
- Glint and Glare Assessment by Macro Works,
- Photomontages – images for the LVIA study by Macro Works, and
- Drawings.

2.2. Planning and Environmental Report

2.2.1. It is set out in chapters:

- 1 Introduction
- 2 Description of the proposed development
- 3 Planning Policy, Need for the Development & Consultation
- 4 Key Characteristics of Proposed Development
- 5 EIA Screening
- 6 Hydrology & Water Quality
- 7 Ecological Appraisal
- 8 Roads, traffic & Transportation
- 9 Population and Human Health
- 10 Cultural Heritage
- 11 Landscape and Visual
- 12 Glint & Glare
- 13 Conclusion

2.2.2. Policy context is outlined.

2.2.3. Chapter 6 considers the potential impacts on watercourses during construction, operation and decommissioning stages paragraphs 6.4.2, 6.4.3 and 6.4.4 and summarises these potential impacts and the magnitude and probability, the sensitivity of the receptor and consequently their significance, in table 6.5. Mitigation is set out. An appropriate drainage design will be the primary mitigation. Section 6.6 lists mitigation measures. The detailed hydrology and water quality section sets out measures to manage surface water including three stage treatment for erosion control and retention: swale, stilling pond and diffuse outflow. Table 6.6 lists the potential impacts of various aspects of the construction, operation and decommissioning of the proposed development, the surface water receptor and its sensitivity and the before and after magnitude/probability and significance. Before mitigation the significance is 'moderate' in one case. Post mitigation 'not significant' is recorded.

2.2.4. The ecological context outlined includes:

Table 7-14: gives an evaluation of habitats within study area (NRA, 2009a): Of the habitats within the site - Scrub (WS1), Hedgerows (WL1), hedgerows/treelines and Treelines (WL2), Scattered Trees and Parkland (WD5), and Drainage Ditches (FW4), are considered as key ecological receptors

Table 7-15: gives an evaluation of Avifauna within the study area - of note – Yellowhammer a 'Red-listed' Protected species under the Wildlife Acts, of national importance, recorded within 2km of the site, which may forage and/or breed in habitats within the site.

Table 7-16: gives an evaluation of Non-Avian Fauna within study area - of note - Badger have been recorded within 2km of the site. The site's habitats overall are of low quality and offer limited habitat for badger. They are unlikely to breed within the site; however, there is potential for disturbance. Hedgehog have been recorded within 2km of the site. The site's hedgerows and treelines and scattered trees offer foraging and dwelling habitat for hedgehog.

Common frog of 'Least concern'; protected under EU Habitats Directive Annex V, and the Wildlife Act, is recorded within 2km of site and may utilise drainage ditches onsite. The large red-tailed bumble bee – 'near threatened' is recorded within 2km of site. The flowers present within the grassland, hedgerows and treelines onsite

provide limited potential foraging and breeding habitat for the large red-tailed bumblebee.

Construction stage impacts - loss of a small patch of Scrub (WS1) and a total of c.62m of Hedgerow (WL1).

With the implementation of biodiversity enhancement measures (see Section 7.7), a Positive Long-term Moderate Effect is envisaged on birds.

Enhancements measures have been included in the design of the solar farm: section 7.7 Site Enhancement Measures for ecology.

2.2.5. Noise is dealt with in chapter 9 - Population and Human Health. Section 9.3 deals with potential construction & installation phase impacts. Section 9.4 deals with potential operational phase impacts. In relation to operational noise - the predicted noise level results show that predicted noise level at the nearest residential dwelling (closest non-involved landowner located northwest of the site) is 40.7 dB LAeq. The predicted noise levels at other residential receptors are lower. Tones are audible close to the inverter stations; however, it is expected that the tonal noise will not be audible at noise sensitive locations and no penalty for noise character will be applicable. Solar farms only operate during daylight hours, there will be reduced operational noise generated during evening, night and early morning (when ambient noise levels are typically lowest) and the actual noise levels during evening and night-time periods will be lower than the predicted levels, which assumed a worst case of full power situation. Also noted is the fact that daylight extends into later periods (eg. those defined as evening/night in NG4) during summer months.

9.3.2.2 construction noise criteria 'given that there were no baseline measurements available, as a conservative exercise, it has been assumed that the background and ambient noise levels in the existing area are low.

9.4.3 operational noise - NG4 requires that sites are screened to determine whether they are a quiet area or areas of low background noise. Step 1 screening table 9-5 – finds that this is not a quiet area. Since it is not in a quiet area NG4 requires the site to be screened to determine if it is in an area of low background noise:

low background noise:

Average daytime background noise ≤ 40 dB LAF90, and

Average evening background noise ≤ 35 dB LAF90

Average night-time background noise ≤ 30 dB LAF90.

Table 9-6 gives recommended noise emission limits for daytime, evening and night time 55 dB (A) L Ar,T, 40 dB (A) L Ar,T and 45 dB (A) L Ar,T, respectively.

A baseline noise survey was not undertaken – given that the site is quite close – approx. 750m to the M1, it is considered unlikely that the area will be classified as an area of low background noise. NG4 states that quiet areas typically will have little contribution from manmade noise sources such as road or rail. It was assumed that the site is classified under all other areas and that the noise limits in table 9-6 apply.

Predicted noise level of 40.7 dB LAeq, at the closest non-involved landowner located northwest. Noise limits during all periods are met.

Chapter 10 Archaeology, largely relies on the expert report.

Similarly Chapter 11 Landscape and visual, largely relies on the expert report. The proposed solar panels are not a tall or bulky form of development and will faithfully mirror the gentle undulations of the existing landform.

Other specialist reports, submitted with the application are referred to.

2.3. Appropriate Assessment (AA) Screening Report

2.3.1. It includes at 1.4 the proposed grid connection route.

Table 3-2 details of physical changes that will take place during the various stages of implementing the proposal – includes grid connection. The precise alignment of the cable within the road will be confirmed prior to construction when records of services such as watermains, sewers, gas mains and other power cables will be obtained from the relevant service providers. The grid connection is anticipated to comprise an underground cable connection from the proposed on-site electricity substation via the R178 regional road and Mount Avenue local road to the Dundalk 110kV substation to the east of the site. The cable length from the proposed on-site substation to the Dundalk substation is approximately 3.5km. Standard underground cabling and trenching techniques, in accordance with ESNB specifications, will be deployed. Section 3-3 describes the grid connection.

The proposed grid connection crosses three streams, firstly the Littlemill Stream, followed by the Lisnawull stream and lastly by an unnamed 1st order stream, en-

route to the Dundalk substation. Each of these streams discharge into Dundalk Bay SAC and SPA downstream.

The Littlemill Stream flows for 8.7km (in-stream distance) from the point of the stream crossing before discharging into Dundalk Bay SAC and SPA.

The Lisnawull Stream flows for 7.1km (in-stream distance) from the point of the stream crossing before discharging into Dundalk Bay SAC and SPA.

The unnamed 1st order stream flows in a northerly direction from the point of the stream crossing, through residential developments, before discharging into Dundalk Bay SAC and SPA, 1.9km and 2.3km downstream respectively. For stream crossings the cable route will be piped through existing structures/bridges if they have the capacity, or direction drilling will be used which will prevent in-stream works.

- 2.3.2. Finding of no significant effects - Due to the scale and nature of the works, the intervening distances and the dilution factor associated with Dundalk Bay, no effects are envisaged to any European sites.

2.4. Archaeological Assessment

- 2.4.1. It includes:

Mitigation measures are outlined which will provide for the avoidance of the known archaeological resource as well as the avoidance and/or recording of currently unknown archaeological features that may be encountered as part of the proposed scheme. As a result, there will be no significant direct negative impacts on the cultural heritage resource during the operational phase.

Avoidance of known archaeological sites:

The following are details of each of the proposed buffer areas:

1. A 65m diameter buffer zone around the recorded extents of the two levelled souterrains LH006-110001 and LH006-110002 (ITM 700755, 806804).
2. A 60m diameter buffer zone around the location of a Crannog LH007-058 -- (ITM 701098, 806641).
3. A 35m diameter buffer zone around the site of a possible tree ring (ITM 701223, 806522)

4. A 35m diameter buffer zone around the site of a Burial Ground LH006-111 -- (ITM 700949, 806513).
5. A 40m diameter buffer zone around the site of a possible tree ring (ITM 700541, 806375).
6. A 35m diameter buffer zone around the site of a possible tree ring (ITM 700906, 806169).
7. A 50m east to west by 80m north to south buffer zone around the site of a mill dam (ITM 700791, 806006).

These buffer zones will be fenced off during the construction phase and no development works will occur within, including solar arrays, cables, spoil heaps, site traffic and compounds. The fences to delimit the buffer zones around the monuments will rest on existing ground levels to avoid any sub-surface impacts.

Geophysical Survey:

A pre-development programme of geophysical survey will be undertaken within fields 1, 3-4 and 6-12. Fields 2 and 5 are formed of overgrown boggy land and are not deemed suitable for geophysical survey.

The geophysical survey will be followed by a programme of pre-development archaeological testing which will be undertaken by a suitably qualified archaeologist. These site investigations will be undertaken in areas where extensive sub-surface excavation works within the proposed development site are required (such as along proposed access roads, cable trenches, temporary hardstanding areas, sub-stations and site storage areas). Test trenching will also be undertaken to identify potential archaeological features identified (outside buffer zones) during the geophysical survey and this will be carried out in consultation with the National Monuments Service (NMS).

Monitoring and mitigation measures:

All of the site investigation measures outlined will be carried out under licences issued by the NMS following their approval of method statements submitted by the appointed consultants. In the event that unrecorded sub-surface archaeological features are uncovered in any areas they will be recorded and then cordoned off to remain in situ while the NMS are consulted and an appropriate mitigation strategy

agreed. This may entail preservation in situ by avoidance, or preservation by record by systematic archaeological excavation. It is envisioned that the proposed methodology for solar arrays at the location of sub-surface features identified outside the buffer zones will be amended to avoid any subsurface impacts through the use of concrete shoe supports placed on existing ground surface, instead of earth-driven supports. The placement of arrays in these areas will also be designed to avoid the need for machine traffic to extend over the identified features, and this will be archaeologically supervised.

It should be noted that in the event of any unrecorded archaeological deposits, features or artefacts being uncovered, the preferred policy of the Department of Culture, Heritage and the Gaeltacht is for preservation in situ. Where avoidance of identified archaeological sites or features is not possible they must be preserved by record by a systematic archaeological excavation. All construction design responses that may arise in relation to uncovered archaeological materials will be discussed and agreed with the National Monuments Service and the planning authority.

Appendix 1, attached to the report - the NMS Internal Guidance Document on Solar Farm Developments.

2.5. Landscape and Visual Impact Assessment

2.5.1. It includes:

The Louth Landscape Character Assessment 2002 is incorporated into Section 5.7 of the CDP. Of the 9 character areas identified the site is located within the Muirhevna Plain; of which characteristics are outlined.

The CDP heritage policies are cited HER 10, 16 and 17. There are no scenic routes in the area and just two designated views & prospects: VP 16 at Hackballscross approx. 4.9km northwest and VP17 Killin Golf Course approx. 3.2km north; in both cases the designated view is not in the direction of the site.

Like the broader study area, the site is rich in archaeological / heritage site, including a disused graveyard, while Kilcurly House is a large, south-facing, occupied, period country house that was, according to historical maps, surrounded by considerably more outhouses/farmyard buildings in previous centuries than at present. While post-and-wire fencing serves for many of the internal field boundaries, a comparison to 19th century and early 20th century maps of the site do not suggest any extensive

removal of hedgerows or vegetation from the site, over the last century. However, there is an unusually high amount of tracks or private roadways/avenues within the site, along some of which there are broadleaf, stately trees. There is a highly visible degree of power lines and pylons, marginally east of the eastern boundary of the site (although within the same field/fields) as well as a 38kV power line and, elsewhere a submerged/buried gas line crossing the site.

Bare ground ZTV – zone of theoretical visibility – the vast majority of the study area has no theoretical visibility, (fig. 11).

Digital Surface Model (DSM) – which also accounts for terrestrial land cover elements, (fig. 11) shows substantial reduction in likely visibility.

The 10 viewshed reference points are shown in fig. 12 and these are analysed in section 1.4.2. The main mitigation measure employed is in the siting of the proposed development in a robust and well-contained rural area that avails of strong topographic and vegetative screening, so that the proposed development will not be prominent within the surrounding landscape.

On-site access roads utilise the existing farm tracks as far as possible and follow existing topography in order to minimise ground disturbance, alteration of physical landscape character and visual intrusion. Retention of all but 62m of existing hedgerows (to facilitate 2 no. passing bays and the site entrance) in field boundaries both within and around the application site will aid visual screening and maintain existing field patterns.

Additional hedgerow planting is shown in Figures 14 and 15. It is intended to manage hedgerows at around 3-4m in height.

The consolidated 3-4m high hedgerows will help to marginally reduce the potential for visual impacts within the surrounding area. Typically, such mitigation tends to considerably reduce the potential for visual impacts; the fact that it does not in this instance is far more a reflection of the strength and depth of the existing screening than the supplementary mitigation planting. It should be noted that within the lowest category of likely visibility (ie 1-20% of panels potentially visible) such visibility is likely to have substantially reduced to less than 3%. The assessment of landscape impact is that it is considered that the magnitude of impact is medium within 500m of the site where it is contained within the same visual context. The magnitude of

impact is likely to reduce rapidly with increasing distance (to low and imperceptible) as the proposed development becomes a proportionally smaller component of the overall landscape fabric. Medium-low landscape sensitivity and medium landscape impact gives a significance of no greater than moderate-slight, with most of the 5km radius study area likely to experience slight and imperceptible landscape impacts.

Analysis of each of the 10 representative viewpoints at 1.4.2.2 provides details of receptor sensitivity, impact magnitude, and significance: the latter being the product of the sensitivity and impact magnitude. A description of each view and of pre- and post-mitigation is given. For most (7) the significance of visual impact is 'imperceptible' post mitigation; for two the impact is 'slight/imperceptible' post mitigation, and for one is 'slight' post mitigation.

2.6. Glint and Glare Assessment

2.6.1. It includes:

The assessment was carried out in respect of 104 dwellings and 147 road points. DTM and DSM modelling was used and the results verified on the ground. The DSM results indicate that 81 dwellings show no potential for incidences of glint and glare. The remainder were analysed with results as follows: H1 impact – none; H 14, 15 and 16 impact low-very low; H39 - impact low-very low; H48 – impact very low – none; H52, 100, 101, 103 and 105 - impact none; H106 - impact medium-low; H117, 123, 125, 129, 143, 146, 147, 159, 164, 166, and 167 - impact none. Table 5.1 summarises the results.

Results for road receptor points are summarised in Table 5.2.

For R21 and 22, during field work a higher degree of intervening vegetation was identified than indicated in the DSM model, negating the potential for hazardous solar reflectance at these points.

For R26, the local road immediately west of the site, screening is proposed in the form of vegetation between this receptor and the portion of the site likely to result in glare. During the 4 minutes per day across 15 days, in which some glare may be encountered, it will be offset greater than 50 degrees to the direction of travel and any during any potential periods of glare the sun will be a greater source of glare from approximately the same direction (within 10 degrees).

For R29, 30, 31 and 33, during field work a higher degree of intervening vegetation was identified than indicated in the DSM model, negating the potential for hazardous solar reflectance at these points.

For R70, during field work a higher degree of intervening vegetation was identified than indicated in the DSM model, negating the potential for hazardous solar reflectance at this point.

For R82, located on the regional road immediately south. Theoretically reflectance emanating from the southwestern portion of the proposed solar farm has the potential to occur along this section of the regional road. DTM analysis results show that reflectance could theoretically occur for up to 32 minutes per day over 183 days of the year. In reality, however, screening exists in the form of vegetation between the receptor and the portion of the site likely to result in a glare episode. The DSM based analysis which accounts for the intervening screening, indicates the potential for up to a maximum of 2 minutes per day across 17 days of the year. Glare will not be experienced when travelling east along this section of road as the potential glare will be outside of the field of view i.e. offset greater than 110 degrees to the direction of travel. When travelling west along this short straight section of road there is the potential to encounter some glare within a 2 minute period over 17 days per year. However, once the proposed landscape mitigation measures have been undertaken the vegetation will act to negate any potential for hazardous solar reflectance at these points.

For R85 to 90, the analysis is similar to the foregoing, reflectance could theoretically occur up to a maximum of 16 minutes per day across 160 days of the year. The DSM based analysis, which accounts for the intervening screening, indicates the potential for up to a maximum of 16 minutes per day across 160 days of the year. Travelling west along this short straight section of road, there is the potential to notice some glare within a 16 minute period over 160 days per year. However, once the proposed landscape mitigation measures have been undertaken the vegetation will act to negate any potential for hazardous solar reflectance at these points.

An additional assessment was undertaken to examine if alternative panel tilt angles would alter the impact at these road receptor points; it would not be sufficient to alter the judgement.

For R 93 and 94, during field work a higher degree of intervening vegetation was identified than indicated in the DSM model, negating the potential for hazardous solar reflectance at this point.

For R111 to 137 (excluding R116 to 119, 121 and 124, 126 to 129 and 131 to 135), during field work a higher degree of intervening vegetation was identified than indicated in the DSM model, negating the potential for hazardous solar reflectance at this point.

For R147, this road receptor point is located on the M1 motorway approx. 1 km east. Theoretically reflectance could occur up to a maximum of 28 minutes per day across 149 days of the year. In reality however, screening exists in the form of vegetation between the receptor and the portion of the site likely to result in a glare episode. The DSM based analysis, which accounts for the intervening screening, indicates the potential for up to a maximum of 6 minutes per day across 27 days of the year. During field work a higher degree of intervening vegetation was identified than indicated in the DSM model. This vegetation will provide screening thus negating the potential for hazardous solar reflectance at these points.

Effects of glint and glare emanating from the proposed PV solar panels are unlikely to prove hazardous for the surrounding roads.

Aviation receptors – SGHAT software analysis was performed for the final approach to runways from both directions at Crossmaglen Airstrip. The results, given in table 5.3 show that if tilted between 10 and 25 degrees there will not be any nuisance or hazard effects generated from glint and glare on the identified aviation receptors.

2.7. Outline Construction and Environmental Management Plan

2.7.1. It includes:

Tracks / roads - per CEMP the access tracks will be of standard traditional aggregate road construction and the general method of construction will be:

- Establish alignment of the new site tracks from the construction drawings and mark out centrelines,
- Topsoil / subsoil will be stripped back to required levels. All material will be banded and stored separately,

- The soil will be excavated down to a suitable formation layer of either firm subsoil or rock,
- Well-graded granular fill will be spread and compacted in layers to provide a homogeneous running surface,
- The access tracks will be of single-track design with an overall width of approximately 3.5m. All bends will be designed to suit the requirements of the delivery vehicles.
- Floating road construction will be adopted where the site excavation has revealed the depth of unsuitable sub-formation is such that it is not suitable for traditional track construction. Temporary aluminium access trackway will be used to provide short term access to areas of the site not served by the proposed aggregate tracks during the construction and commissioning phase.

Cross sectional drawings of these tracks/roads are provided at plates 3-1 and 3-2 for 'typical access track section' and 'typical section of the existing access track to upgrade'. Including granular fill typically 200mm to 500mm topped with 150mm type 1 granular running surface, for a new access track; and above suitable fill material extending/adjoining an existing access track, a class 6F2 cap stone layer, topped with a 200mm surfacing layer of (clause 804 of the SRW).

Cable trenching is set out in the CEMP. It does not appear to include the route to the ESB substation. The CEMP states that there is no watercourse crossing. The route to the ESB substation crosses three streams/rivers.

- The specification for cable trenches will vary slightly depending on cable voltage, location and existing land use. The maximum depth of cable trenches will be typically 1.2m or less. In advance of construction, detailed desk studies and site investigations will be carried out to find the optimal location to place cables. Records of services such as water mains, sewers, gas mains, communications cables and other power cables will be obtained from the relevant service providers. Cable detection tools, ground penetrating radar and slit trenches will be used by the contractor as appropriate, to find the exact locations of existing services. The typical method of construction involves the following:

- The contractor initially excavates the trench to the specified depth using a mechanical excavator.
- A bedding of sand or approved CBM (cement bound material) is placed in the bottom of the trench.
- The cable is laid in the trench from a ground or vehicle mounted cable drum reel.
- If specified, the contractor will lay ducting in the trench. If so, a rope will be inserted into the ducts to facilitate cable-pulling later.
- Communications cables and respective ducts will also be laid where required.
- Cable marker strips will be placed at a specified distance above the cables/ ducts.
- The trench is back filled using as-dug material and topsoil reinstated and vegetated side up where possible.

3.0 **Planning Authority Decision**

3.1. **Decision**

The Planning Authority decided to grant permission subject to 21 conditions, including:

Condition no. 2 - a period of 10 years for carrying out the development.

Condition no. 3 - limiting the period of use to 30 years from commissioning.

Condition no. 6 - development contribution in respect of infrastructure (€800) and amenity (€200) for every 0.1 megawatt produced over and above the first 0.5 megawatts.

Condition no. 7 - bond of €120,000.

Condition no. 8 - prior to development archaeological testing.

Condition no. 9 - The use of concrete shoe supports at the base of solar panel arrays shall not be permitted. Where the results of archaeological testing as outlined in Condition no. 8 above require the preservation of specific archaeology in situ, the affected solar panel array(s) shall be excluded from the proposed development.

Condition no. 8 – re. roads and drainage.

Condition no. 9 – Environment Section requirements.

3.2. Planning Authority Reports

3.2.1. Planning Reports

There are two planning reports on file. The first recommendation a request for further information, which issued, includes:

- Reference to development plan policies including RD 37 which generally permit renewable energy schemes in Zone 4 - the greenbelt around Dundalk, Drogheda and Ardee.
- Reference to the broader policy context which is generally supportive of renewable energy schemes.
- Assessment under the headings: principle of development; site history & precedents, design scale and form, landscape & visual, glint and glare, archaeology, Natura 2000 sites, EIA, impact on adjoining properties, environment, sanitary services and flooding, roads & parking; which resulted in the conclusion that further information was required on 9 points. The recommendation included at item 8 – ‘it is noted that the development proposal does not include the construction of the grid connection or the cable route, which is expected to be an underground cable of approx. 3.5km in length which will run from the on-site substation to the Dundalk 110kV substation and that separate consent procedure will be undertaken by the applicant. The applicant is requested to clarify why the construction of the grid connection has not been included in the application for the solar farm’. With the exception of the omission of this item the further information request that issued is per the planner’s recommendation.

3.3. Other Technical Reports

- 3.3.1. Infrastructure – local secondary road LS-7127-26 recommending further information re vehicular access – visibility and left turn only deflection island, surface water disposal, soil management, and structural upgrades of the road for 25m either side of the proposed entrance.

3.3.2. Environmental Compliance – conditions.

3.4. Prescribed Bodies

3.4.1. IAA – no observations.

3.4.2. Department of Culture, Heritage and the Gaeltacht:

Archaeology – noting the archaeological assessment report submitted by John Cronin & Associates. They concur with the recommendation as outlined in Section 6 of the report.

The following are details of each of the proposed buffer areas:

A 65m diameter buffer zone around the recorded extents of the two levelled souterrains LH006-110001 and LH006-110002 (ITM 700755, 806804),

A 60m diameter buffer zone around the location of a Crannog LH006-110001 and LH007-058 -- (ITM 701089, 806641),

A 35m diameter buffer zone around the site of a possible tree ring (ITM 701223, 806522),

A 35m diameter buffer zone around the site of a Burial Ground LH006-111 -- (ITM 700949, 806513),

A 40m diameter buffer zone around the site of a possible tree ring (ITM 700541, 806375),

A 35m diameter buffer zone around the site of a possible tree ring (ITM 700906, 806169), and

A 50m east to west by 80m north to south buffer zone around the site of a mill dam (ITM 700791, 806006).

These buffer zones will be fenced off during the construction phase and no development works will occur within, including solar arrays, cables, spoil heaps, site traffic and compounds. The fences to delimit the buffer zones around the monuments will rest on existing ground levels to avoid any sub-surface impacts.

Geophysical Survey: a pre-development programme of geophysical survey will be undertaken within fields 1, 3-4 and 6-12 in order to detect any subsurface

archaeological features/deposits within the site. The statement should be submitted as further information.

It should be borne in mind that, if significant archaeological remains are found, refusal might still be recommended, and/or further monitoring or excavation required. It is the Department's view that a final decision should not be made on this application until the planning authority and the Department have had the opportunity to evaluate the Archaeological Assessment. The Department will forward a recommendation based on the Archaeological Assessment.

Given the high archaeological potential, it is recommended that pre-development archaeological mitigation in the form of targeted archaeological test trenching be undertaken by a suitably qualified archaeologist (licensed under the National monuments Acts 1930-1994). The archaeological test trenches should target specifically those anomalies highlighted by the geophysical report. Further mitigation measures would be recommended on completion of the test trenching. This should be undertaken as clarification to the original Further Information Request sought by Lough County Council.

3.4.3. IFI:

The site is located in the Ramparts River catchment. The upper reaches of the river, in the vicinity of the site is valuable from a fisheries perspective as it contains salmonid spawning and nursery habitat and supports stocks of brown trout among other species.

The potential impact of developments of this nature on fisheries habitats includes discharges to watercourses of silt laden waters and fuels and oils. IFI refer to Section 7 of their guidance document available on their website 'Guidance on protection of fisheries during construction works in and adjacent to waters'. Section 7.2 and 7.3 deals with the potential negative impact of silt laden waters and fuel discharges to fisheries habitat while section 7.4 includes suggested mitigation measures. IFI has no objection to the application provided that the mitigation measures contained in section 6.6 of the Planning and Environmental Report and also in the Construction and Environmental Management Plan are implemented. They also suggest monitoring of surface waters upstream and downstream of the site during the construction phase.

3.5. Further Information

3.5.1. A further information request issued, 25th June 2020, on 9 points:

1 Appropriate Assessment, stage 2 (since a number of measures outlined in Section 4.2 of the OCEMP to ensure that that the water quality status of the receiving waterbodies, which are hydrological pathways to two Natural 2000 sites are not affected by the proposed development constitute mitigation measures)

2 Sightlines

3 Left turn only deflection island or similar for vehicles exiting the development to ensure compliance with the submitted haul route.

4 Road drainage along the entrance to be submitted.

5 Soil management plan to maintain the soil in good condition through the design life and preserve soil permeability.

6 Details of appropriate structural upgrades of the road for a minimum distance of 25m either side of the entrance.

7 Geophysical survey and archaeological assessment.

8 State the MegaWatt output of the proposed solar farm.

3.5.2. Further information was received, 4th November 2020, which includes:

3.5.3. Consultant response:

Item 2 – site entrance revisions – site entrance will now measure a total of approx. 50m and provide sightlines of 75m to either side. (Drawings numbered P20-178-0100-0001, P20-178-0100-0002 and P20-178-0400-0001 refer).

Item 3 – deflection island. A haul route has been identified with HGV and plant deliveries travelling to the site from the west, via the R178 regional road and turning left onto the L7127 (figure 8-1 of the Planning and Environmental report). This haul route conforms with the request from Louth County Council that no construction traffic should continue past the development entrance and up the L7127.

Item 4 – road drainage across the entrance will not be impeded or interrupted. At the site entrance the bell mouth will be graded such that surface water will fall inwards and it is proposed to install concrete drainage blocks across the entrance.

Item 5 – it is anticipated that soil will not be stripped to accommodate the provision of solar panels; grassed areas will be maintained and will continue to enhance soil permeability. Following construction, in certain grassed areas and in the areas between the panels, the soil can be turned and reseeded with native grass species to encourage productive growth. It is anticipated that over time, as use of artificial fertilisers and ploughing will (not) occur, native grasses and meadow species will overtake, resulting in further enhanced soil permeability.

Chisel ploughing can be undertaken where necessary within areas where compaction has occurred, if deemed appropriate or suitable.

Road access is generally not required for all solar panel areas on the site as panel servicing and maintenance is anticipated to be undertaken using light weight quad vehicles. If access to areas of the site, not serviced by a site road, is required for heavy vehicles, a temporary aluminium road solution will be adopted on any wet areas of the site to avoid localised soil compaction and siltation.

Item 6 – Road upgrades – public road upgrades are detailed.

Item 7 - geophysical survey and archaeological assessment. Survey results from LM Surveys which refers to 28 features identified as anomalies, 8 outside the development area of the site or natural features. Recommendations in relation to mitigation measures are made in John Cronin & Associates review.

A table in the John Cronin & Associates recommendation, with interpretation, description and recommendation for the 28 anomaly features is referred to. Outside the 8 features where no intervention is required the options for protecting the remaining 20 features include.

Using concrete shoe support should be utilised instead of pile or screw support structures, this will preserve the feature in situ.

Applying development exclusion buffers, this will preserve the feature in situ.

Undertaking target archaeological testing, which will inform on the origin of the feature and determine if preservation of the feature in situ or by record (through further excavation), is appropriate.

In accordance with John Cronin & Associates recommendations, the developer intends to undertake preservation in situ through the use of concrete shoes for

archaeological features indicated, excepting feature No 7, where, in line with recommendations, an exclusion buffer extending to 2m beyond the feature's boundary will be applied. The area covered by the exclusion of feature No 7 is illustrated in drawings submitted with the response (P20-178-0100-0002). (The areas are represented by two shaded areas but not shown to exclude solar panels).

Item 8 – MegaWatt output, yet to be determined.

- 3.5.4. Appropriate Assessment Screening Report and Natura Impact Statement, by Fehily Timoney, Consultants in Engineering, Environmental Science & Planning, re. Item 1, includes:

Habitat survey – habitats include patches of scrub (semi-natural), but are mainly improved agricultural farmland; hedgerows, hedgerows/treelines – which are semi-improved habitats; also buildings and artificial surfaces and scattered trees and parklands. No habitats that conform to those listed in annex I of the EU habitats directive.

Locally important – lower value: improved agricultural farmland, improved agricultural farmland / wet grassland; scrub, and buildings and artificial surfaces.

Locally important – higher value: hedgerows, hedgerows/treelines, scattered trees and parklands, and drainage ditches.

European sites within 15km – Dundalk Bay SAC (site code 000455), Carlingford Mountain SAC (site code 000453), Dundalk Bay SPA (site code 004026), and Stabannan-Branganstown SPA (site code 004091); and beyond 15k Carlingford Shore SAC (site code 002306).

The site is hydrologically connected to Dundalk Bay SAC and SPA via the Littlemill Stream, to which the proposed development site drains. The proposed grid route is hydrologically connected to Dundalk Bay SAC and SPA via the Littlemill Stream, Lisnawully Stream and an unnamed 1st order stream, all of which are traversed by the grid connection. These protected sites are shown in Figure no. 4.1 and Figure no. 4.2.

The characteristics of the European Sites within 15km are set out in tabular form in Table 4 - 1.

Table 4 - 4 sets out an assessment of the potential effects of the proposed development either alone or in combination with other plans or projects on European sites.

Comments of note:

The proposed development is not located within or adjacent to any European site. The proposed development has an indirect hydrological connection with two European sites Dundalk Bay SAC and SPA via the Littlemill Stream. Surface runoff drains to the Littlemill Stream which is located c 45m east of the site boundary. This stream flows for 9.5km, passing through Dundalk town, before discharging into Dundalk Bay SAC and SPA.

The potential exists for indirect effects due to the transport of emissions in the form of soils, chemicals and fuels from leakage or accidental spillage; increased sedimentation as a result of uncontrolled run-off along the hydrological corridor. In the case of sedimentation, increased sediment can impact fish, and cause a decline in water quality due to eutrophication caused by nutrients contained in soil being transported in water. The threat of contamination comes in the form of fuel or lubricants leaking from plant / machinery during construction and installation activities, or from cement during construction of associated infrastructure. They note that very little cement is required at solar farm inverters and the substation compound. These features are designed to be far removed from drains (c 150m) and watercourses (c 450m). Refuelling of plant during construction will only be carried out at designated refuelling station within the site compound.

The proposed development is not hydrologically linked to Stabannan-Branganstown SPA or Carlingford Mountain SAC.

The proposed grid connection is not located within or adjacent to any European site. The proposed grid connection is hydrologically linked to Dundalk Bay SAC and SPA. The proposed grid connection crosses three streams: the Littlemill Stream, Lisnawully Stream and an unnamed 1st order stream, en-route to the Dundalk substation. Each stream discharges to Dundalk Bay SAC and SPA downstream.

The Littlemill Stream flows for 8.7km from the point of the stream crossing before discharging into Dundalk Bay SAC and SPA.

The Lisnawully Stream flows for 7.1km from the point of the stream crossing before discharging into Dundalk Bay SAC and SPA.

The unnamed 1st order stream flows in a northerly direction from the point of the stream crossing through residential developments before discharging into Dundalk Bay SAC and SPA, 1.9km and 2.3km respectively downstream.

For stream crossings the cable route will be piped through existing structures / bridges if they have the capacity, or direction drilling will be used which will prevent in-stream works.

The proposed grid connection is not hydrologically linked to Stabannan-Branganstown SPA, Carlingford Mountain SAC, or Carlingford Shore SAC.

The grid route option will be buried underground and will have no resultant collision risk for birds. The burying along roads will involve minimal excavation.

Solar panels will not effect birds via heat or lake effect.

Reported solar farm bird mortality is from heliostats, which concentrate sunlight. Their location in arid areas like deserts can also lead to solar panels being viewed through a heat haze or shimmer like that associated with the phenomenon of seeing mirages, or a postulated lake effect.

The proposed solar panels are designed to adsorb light and are coated with anti-reflective film to increase their efficacy. The grid-like panel design means that any reflection would be fragmented.

Likely impacts are considered under headings: size and scale, land take and distance; resource requirements and excavation requirements, emissions, transportation requirements, duration of construction and operation. Of note: the potential for significant effects on Dundalk Bay SAC and SPA from hydrological connection.

Likely changes to the protected site - of note: the potential for significant effects on Dundalk Bay SAC and SPA from hydrological connection.

Likely impacts on the site as a whole - of note: the potential for significant effects on Dundalk Bay SAC and SPA from hydrological connection.

Indicators - of note: the potential for significant effects on Dundalk Bay SAC and SPA from hydrological connection.

Elements of the project where the effects are likely to be significant – the potential for indirect effects of unknown scale or magnitude.

3.5.5. The Screening Conclusion - no effects on Stabannan-Branganstown SPA, Carlingford Mountain SAC, or Carlingford Shore SAC. The possibility of negative effects on Dundalk Bay SAC and SPA requires the preparation of a NIS.

3.5.6. Stage 2 NIS

The potential for pollution via surface water of Dundalk Bay SAC and SPA is considered.

Table 5-1 sets out each conservation objective, attribute, target and potential for significant effects for each qualifying interest of Dundalk Bay SAC; and Table 5-2 sets out each conservation objective, attribute and potential to be affected for each qualifying interest / special conservation interest of Dundalk Bay SPA.

There is potential for significant effects on the qualifying interests of Dundalk Bay SAC and SPA.

3.5.7. Mitigation – mitigation measures are set out in Table 5-3, together with details of how it will avoid/reduce adverse effects, details of implementation and monitoring.

Measures proposed are:

The rate of runoff along the route of the access roads will be mitigated by the proposed drainage system which includes stilling ponds to reduce the concentration of suspended solids in the runoff.

The Ecological Clerk of Works or Environmental Manager appointed by the developer will inspect construction works to ensure the effective operation and maintenance of drainage and other mitigation measures.

Stilling ponds with a diffuse outflow detail will be put in place in advance as construction progresses across the site. Erosion control and retention facilities, including stilling ponds will be regularly maintained during the construction phase. The three stage treatment - swale, stilling pond, diffuse outflow, proposed to retain and treat the discharges from hard surfaces as a result of the development, will reduce any risk of flooding downstream.

Where haul roads pass close to watercourses, silt fencing will be used to protect streams.

Silt traps will be provided at outfalls from roadside swales to stilling ponds.

Standing water, which could arise in excavations has the potential to contain an increased concentration of suspended solids, as a result of the disturbance to soils.

The developer will ensure that erosion control, namely silt-traps, silt fencing, swales, stilling ponds and diffuse outflow areas, are regularly maintained during the construction phase.

All personnel working on site will be trained in pollution incident control response. Emergency silt control and spillage response procedures contained within the site drainage management plan of the construction environmental management plan (CEMP) will ensure that appropriate information will be available on site outlining the spillage response procedure and a contingency plan to contain silt. Interceptor cut off drains will be provided on the upslope side of the access roads to prevent the mixing of overland flows with the drainage for the proposed development. These interceptor drains will discharge diffusely over land to avoid concentration of runoff. The roadside drains will therefore only carry the site access road runoff and so avoid carrying large volumes of water and concentrating flows.

Cross drains of 450mm will be provided to prevent clogging for drainage crossings and conveying flow from agricultural drains and forestry drains under access track roads. A regular review of weather forecasts for heavy rainfall will be undertaken, and a contingency plan will be prepared for before and after such events.

A record will be kept of daily visual examinations of watercourses which receive flows from the proposed development, during and for an agreed period after the mitigation phase.

Where new cross-drains are proposed on this site to convey surface water from roadside swales to stilling ponds, these will be sized at a minimum of 225mm diameter to avoid blockages.

Roadside swales will serve to attenuate any increase in surface water runoff.

All open water bodies adjacent to proposed construction will be protected by fencing.

Site access tracks have been laid out to reduce longitudinal slope of roadside drains where possible. Where roadside drains are laid at slopes greater than 2%, check dams will be provided. This will reduce effective slope and runoff velocities and any consequent potential for erosion.

Where agricultural tracks are to be used to access the development, the roadside drains alongside these roads will be cleared of obstructions, should it be found that debris and vegetation are impeding flows.

Any diesel, fuel or hydraulic oils stored on site will be stored in bunded storage tanks – the bund will have a volume of at least 110% of the volume of such materials stored.

Refuelling of plant & machinery during works will only be carried out at designated refuelling station site at the site compound. The station will be fully equipped for a spill response and a specially trained and dedicated environmental and emergency spill response team will be appointed before commencement on site. Only emergency breakdown maintenance will be carried out on site. Drip trays and spill kits will be kept available on site, to ensure that any spills from vehicles are contained and removed off site.

Concrete washout of chutes shall only be allowed within the site at a designated bunded washout area within the site compound.

Portaloos and / or containerised toilets and welfare units will be used to provide toilet facilities for site personnel. Sanitary waste will be removed from site via a licenced waste disposal contractor.

The temporary storage of excavated material on site will be at least 50m from watercourses.

Cables will be installed in trenches adjacent to the site access roads, or laid within the access road line, where required. Trenches will be excavated during dry periods where possible in short sections and left open for minimal periods, to avoid acting as a conduit for surface water flows.

3.5.8. Operational Phase Mitigation Measures

The surface water run-off from the hardstanding areas will be attenuated in settlement ponds which will discharge to existing drainage ditches.

Risks of potential oil leakage and pollution draining to the watercourse from the installed transformer is mitigated with transformer interceptor bund wall.

The drainage system will be maintained. The maintenance of the development will incorporate effective maintenance of the drainage system. Including inspecting:

Drains and cross drains for any blockages.

Roadside swales for any obstructions.

Swales

Progress of the re-establishment of vegetation.

The maintenance regime will also include implementation of appropriate remedial measures as required. Visual inspection will be undertaken during the maintenance period in accordance with maintenance schedule in CIRIA C753.

3.5.9. De-commissioning Phase Mitigation Measures

In the event of de-commissioning of the solar farm the access tracks may be used in the de-commissioning process. Mitigation measures applied during de-commissioning activities will be similar to those applied during construction.

The grid connection cables will be left in the ground, therefore no potential impacts during decommissioning stage are likely to occur. Hence no mitigation measures are required.

3.5.10. Proposed Mitigation Measures for flooding

The proposed development is within flood zone C. No mitigation measures are envisaged. With the drainage system being installed, which will reduce the peak runoff from the site, increase in the flood risk downstream of the site is not expected.

3.5.11. With the implementation of the mitigation measures to protect water quality in the area, there will be no significant effects and no negative effects on the integrity of Dundalk Bay SAC and SPA or their constitutive elements.

3.5.12. No cumulative effects are envisaged between the proposed works and any other developments or activities in the surrounding landscape and downstream catchment.

3.5.13. It is concluded beyond reasonable doubt that the integrity of Dundalk Bay SAC and SPA will not be adversely affected.

3.5.14. The AA / NIS includes in an appendix 'Outline Construction and Environmental Management Plan' (oCEMP).

3.5.15. Consultant response – appendices:

Appendix 1 – copy of FI request.

Appendix 2 – revised drawings – showing revised entrance, left turn deflection island, and structural upgrades, (items 3 - 6).

Appendix 3 Geophysical Survey JLM Surveys and letter from John Cronin & Associates Archaeology, Conservation, Heritage and Planning Consultants (item 7) – the letter includes in tabular form for the 28 anomaly features: an interpretation, description and recommendation. In many cases the recommendation is 'concrete shoe support should be utilised instead of earth piling or screws or created archaeological buffer zone, or carry out test trenching, if archaeological (evidence/material) is found then preservation by record and/or shoe/buffer.

Appendix 4 Hydrological Response to Solar Farm – article from the Journal of Hydrologic Engineering 2013 (item 5).

3.6. **Third Party Observations**

3.6.1. Third party observations on the file have been read and noted. Issues raised include:

Prominent position next to the R178 makes it potential hazard.

Fisherman's stream not indicated.

No intervisibility between passing bays.

Sections across the site are required.

3.7. **Further Reports**

3.8. **Planning Authority Reports**

3.8.1. Planning Report

3.8.2. The second planning report recommendation permission includes:

Stating satisfaction with all the responses:

Item 1 – NIS submitted. Proposed development will not affect protected sites.

Item 2 - site layout has been revised to include revised road geometry and widening of the entrance to facilitate the 75m sightline – Drg No. P20-178-0100-0002.

Item 3 - a haul route has been identified with HGV and plant deliveries travelling to the site from the west via the R178 and turning left onto the L7127 – Drg No. P20-178-0100-0002.

Item 4 – all surface water will remain within the site due to the topography. Section 6.5 of the CEMP.

Item 5 – soil management, public road drainage, proposed drainage of access road and hardstandings, post construction monitoring of drainage, operational / maintenance tasks to be carried out using light weight quad vehicles to limit soil compaction. Native grasses and meadow species to be encouraged. Post construction chisel ploughing where necessary.

Item 6 – road strengthening will be carried out.

Item 7 – geophysical surveying by qualified archaeologist has been carried out. Proposed measures include – buffer zones, preservation by avoidance and through the use of concrete shoe supports; targeted pre-development to determine whether preservation in situ or preservation by record will be implemented.

Item 8 – megawatt output not determined.

3.8.3. Infrastructure – no objection subject to conditions:

Adequate visibility shall be made available and maintained as indicated on the revised site entrance drawing no P20-178-01000-0002 Rev A for a minimum of 75 metres on either side of the entrance from a point 4.5m back from the edge of the road carriageway over a height of 1.05m above road level and no impediment of visibility shall be placed, planted or allowed to remain within the visibility triangle. Where it is necessary to remove hedges/banks/walls to provide adequate sightline visibility this must be completed prior to the development on site and any new boundary wall/fence/hedge shall be located behind the visibility splay. Any pole column, tree or sign materially affecting visibility must also be removed.

No work shall commence on site until the visibility splays have been provided. The area within the visibility splay shall be cleared to provide a level surface no higher

than 250mm above the level of the adjoining carriageway and shall be retained and kept clear thereafter.

Entrance gates to be set back 10m. wing walls splayed at 45° angle. Gradient of 2% for a distance of 15m from the junction with the public road. The applicant shall fully implement all soil management procedures.

Road drainage across the entrance with the public road shall not be impacted.

No works to commence until road strengthening works have been carried out.

No works to commence until road adequate passing bays have been constructed.

Prior to commencement the applicant shall submit for agreement a site specific traffic management plan.

The glint and glare study concludes that there will not be any substantial nuisance reflectance effects experienced at any adjacent dwellings nor any hazard reflectance effects experienced at adjacent public roads. Any reported nuisance effects or nuisance reflectance shall be investigated by the applicant and appropriate adjustments carried out to eliminate them without delay.

Applicant to liaise with public utility authorities and carry out diversions, re-routing, modifications, etc as required during construction.

The applicant/developer shall make all necessary arrangements to apply for and obtain a road opening licence from Louth County Council in respect of all openings in public areas and shall pay road opening license fees and road restoration costs. The applicant shall abide by the conditions set out in said licenses.

Applicant /developer shall be responsible for any damage to adjoining public road.

Any necessary measures to prevent spillage or deposit of clay, rubble or other debris on the public road, and to maintain the public road by removing material shall be implemented with full costs to be borne by the developer.

3.9. **Prescribed Bodies**

3.10. Department of Culture, Heritage and the Gaeltacht:

Archaeology – noting the geophysical report submitted as further information.

Given the high archaeological potential, it is recommended that pre-development archaeological mitigation in the form of targeted archaeological test trenching be

undertaken by a suitably qualified archaeologist (licensed under the National monuments Acts 1930-1994). The archaeological test trenches should target specifically those anomalies highlighted by the geophysical report. Further mitigation measures would be recommended on completion of the test trenching. This should be undertaken as clarification to the original further information request sought by Lough County Council.

3.11. IFI - reiterate previous comments.

3.12. **Further Third Party Observations**

3.12.1. Further third party observations on the file have been read and noted, including

Inadequate AA - Leaching from concrete shoes.

Inadequate access and road safety. Traffic. Structural upgrades.

Inadequate haul routes.

Contradictory statements.

Inaccuracies in plans

Non compliance with the LG P&D Regulations 2006 – re notification of period for submissions.

Historic landscape.

Mega watt output.

4.0 **Planning History**

None on this site.

Referred to in the submissions:

247521 Kinsale Solar PV array with 20,000 solar panels, substation, 2 No. inverter/transformer units, fence, entrance and access tracks, granted.

248939 Grangegeeth Slane Ten year permission to develop a Solar Farm, referred to re EIS and roads, granted.

248028 Julianstown Solar voltaic panel array with a maximum export capacity of 20 MW of 88,800 no. solar panels. A Natura Impact Statement accompanied the planning application, granted.

248823 Kilbrew 10 year permission for the construction of an up to 12.5MW solar PV farm within a site area of 20.21HA and associated site works, sited re archaeology, refused. 301990 revised, granted.

5.0 Policy Context

- 5.1.1. The policy context as set out in section 9 of the planner's report indicates that policy at national, regional and local level is generally supportive of renewable energy projects including solar farm developments, subject to environmental controls.

5.2. National Planning Framework

- 5.2.1. The National Planning Framework is the spatial plan for the state up to 2040 and includes:

National Strategic Outcome 8 – this recognises the need to harness both on-shore and off-shore potential from energy sources including solar. The following points are noted:

Green Energy

Deliver 40% of our electricity needs from renewable sources by 2020 with a strategic aim to increase renewable deployment in line with EU targets and national policy objectives out to 2030 and beyond. It is expected that this increase in renewable deployment will lead to a greater diversity of renewable technologies in the mix.

National Policy Objective 55 – 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.

5.3. Eastern and Midlands Region Regional Spatial & Economic Strategy

- 5.3.1. The Strategy supports an increase in the amount of new renewable energy sources in the Region. This includes the use of wind energy – both onshore and offshore, biomass, and solar photovoltaics and solar thermal, both on buildings and at a larger

scale on appropriate sites in accordance with National policy and the Regional Policy Objectives outlined in this Strategy.

5.4. Development Plan

5.4.1. Louth County Development Plan 2015-2021, is the operative plan.

Relevant provisions include:

Located in Zone 4 - To provide for a greenbelt area around the urban centres of Dundalk, Drogheda and Ardee.

Policy

RD 23 To support the development of renewable energy resources in rural areas where proposals are consistent with the landscape objectives of the Louth County Development Plan 2015-2021, the protection of the natural and built environment and the visual and residential amenities of the area and other normal planning requirements.

RD 3 To secure vibrant and viable rural communities by promoting sustainable development and settlement patterns in rural areas, environmentally friendly agricultural practices and the protection of natural resources, environment, sensitive landscapes and landscapes of the countryside.

RD 4 To encourage the development of alternative rural based enterprises, including home based enterprises, where the scale and nature of such enterprises are not detrimental to the amenity of the area, adjoining dwellings and where the proposal can meet all other planning requirements. Any proposals must demonstrate that they have a site specific link to the rural area, are appropriate for the site size and be of a scale commensurate with the rural area.

RD 7 To maintain a vibrant and healthy agricultural sector based on the principles of sustainable agriculture and associated activities as a cornerstone of rural development and prosperity.

RD 11 To consider farm-based diversification which is complementary to the farm and is operated as part of the holding.

RSS 59 To require that access to the public road will not prejudice road safety or significantly inconvenience the flow of traffic by demonstrating compliance with the

appropriate visibility and traffic safety standards as set down in Section 7.3.6 of the Plan.

SS 60 To require that new accesses are located so as to minimise the impact on existing roadside boundaries.

SS 63 To require that new accesses are located having regard to both road safety and the protection of existing roadside hedgerows, trees and boundaries.

SS 64 To require, where it is necessary to modify or remove the existing roadside boundary in the interest of traffic safety, that the new boundary is located behind the visibility sight line and that a new boundary consistent with the nature and character of the area is planted behind the visibility sight line.

HER 10 To afford protection to the landscapes and natural environments of the County, by permitting only those forms of development that are considered sustainable and do not unduly damage or take from the character of the landscape or natural environment.

HER 16 Where in exceptional circumstances, trees and or hedgerows are required to be removed in order to facilitate development, there shall be a requirement that each tree felled is replaced at a ratio of 10:1 and each hedgerow removed is to be replaced with native species where feasible.

HER 17 To increase native tree coverage in the County by promoting the planting of suitable trees along public roads, residential streets, parks and other areas of open space.

5.5. Guidelines

5.5.1. No national guidelines have been issued to date. The following are of relevance:

Planning and Development Guidance Recommendations for Utility Scale Solar Photovoltaic Schemes in Ireland (October 2016 report prepared by Future Analytics for the Sustainable Energy Authority Ireland / SEAI).

Planning guidance for the development of large scale ground mounted solar PV systems (British Research Establishment / BRE – 2016).

5.6. Natural Heritage Designations

- 5.6.1. The nearest Natura sites are Dundalk Bay SAC (site code 000455) approx. 4.4km from the development site and 2 km from the grid connection at the nearest point and Dundalk Bay SPA (site code 004026) approx.. 3.4km from the development site and 1.3 km from the grid connection.

6.0 The Appeal

- 6.1.1. Third party appeals against the planning authority's decision to grant permission have been submitted by:
- Residents of Kilcurly/Kilkerley care of Gillian Rice,
 - Margaret and Francis Watters, and
 - McCabe Durney Barnes on behalf of Patrick Kirk.
- 6.1.2. A first party appeal against condition no. 9 of the planning authority's decision has been submitted by Fehily Timony.

6.2. Grounds of Third Party Appeals

- 6.2.1. The grounds of the third party appeals include:
- No policy on solar farms.
 - Loss of productive agricultural land.
 - It is not demonstrated, in the absence of guidelines at national level, that this particular type of development involving the removal of productive lands from agricultural use and significant landscape changes would be beneficial to the immediate community nor the country as a whole.
 - Inadequate consultation.
 - No clarity on public gain.
 - Impact of glint and glare on dwellings and roads – H113 – rising area of land observable at all times.
 - Impact on the amenities of the area.

- Road safety and traffic. The road is used for pre-school, school, church and community centre access. The road also acts as a route between the R178 and the N53 and South Armagh.
- Lack of before and after.
- Traffic timing.
- Sightlines.
- Narrow road width.
- Impassability with passing bays.
- Noise – Environmental and Planning report states that the pile driver has a sound level of 56.9dB at 20 metres. It has a noise level of 75dB from this distance not accounting for echo and aural reverberations.
- Natural heritage.
- Protected sites.
- European Landscape Convention – landscape strategy – NPO 14 and NPO 61, CDP 2.19.17.
- Louth County Council Landscape Character Assessment 2002 states the area as of regional importance, the CDP states local importance. Chapter 8 of the CDP refers to the LCA 2002, no updates since.
- No sections have been provided.
- Period property.
- Inadequate details of proposed security gateway – Balscadden Road SAA Residents Assoc v ABP IEGC 586.
- GL1036*
- Vegetation for screening may fail, may be removed eg; for cable connection in the next application and one cannot rely on vegetation to screen an industrial development across a site of c 63 ha. Mitigation may take several years.
- Impact on archaeology notably north and east of Kicurly House.
- Louth Fences study is referred to.

- (Ref 247217) – re roads on development sites. European Commission 2015 Interpretation of definitions of project categories of annex I and II of the EIA Directive. The concept of road (note 247217 was annulled and was followed by 301321).

6.3. Oral Hearing Request

- 6.3.1. One appeal was accompanied by a request for an oral hearing. Following consideration of the request, the Board decided not to hold an oral hearing and parties were advised accordingly.

6.4. Grounds of First Party Appeal

- 6.4.1. Grounds of first party appeal against condition no. 9 includes:

- Requesting the Board to consider the appeal under Section 139. Requesting that condition no 9, which requires that the use of concrete shoes for support structures shall not be used, be removed, as it is unnecessary. This was proposed as mitigation, is overly restrictive and somewhat contradicts condition no 8 (f).
- The three mitigation measures identified in the further information response were:
 - Establishment of buffer zones for the duration of the construction phase.
 - Outside of the buffer zones, preservation in situ by avoidance through the use of concrete shoe supports, placed on existing ground surface (instead of earth-driven supports) or
 - Targeted pre-development archaeological testing to determine whether either preservation in situ or preservation by record is appropriate.
- Condition no. 8 satisfies the Department of Culture, Heritage and the Gaeltacht (DoCHG) request for pre-development mitigation by targeted pre-development test trenching. The DoCHG did not request the removal of concrete shoes as an option and only sought pre-development testing.
- The reason for trenching to be done as clarification was to ensure the continued preservation (either in situ or by record) of places, caves, sites, features or other objects of archaeological interest. The applicant does not agree that it would be appropriate at this time to undertake archaeological trenching as the applicant is

obliged to put in place a number of procedural and financial steps in advance of construction. It is appropriate to undertake archaeological testing prior to construction. Per condition 8 (a) pre-development test trenching will be carried out.

- The use of concrete shoes does not conflict with the advice of the DoCHG. The use of concrete shoes as an archaeological mitigation was accepted previously in other solar PV developments (including Reg Reg 16/6302 County Cork).
- The applicant will be undertaking pre - prior to development archaeological testing, in accordance with condition no. 8 (f).
- Where archaeological material is shown to be present, avoidance, preservation in situ, preservation by record (excavation) and/or monitoring may be required and the Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs will advise the applicant/developer with regard to these matters.
- The preclusion of concrete shoes as an option somewhat conflicts with condition no 8 (f).
- The use of concrete shoes would not give rise to the type of leaching suggested by the observer.

6.5. Applicant Response

6.5.1. The applicant response to the third party appeals includes comments under the headings:

Lack of policy guidance

Visual impact on the landscape

Protected species

Glint and glare

Roads and traffic

Archaeology

Hydrology

Connection to 110kV national grid

Other matters – environmental impact assessment

6.5.2. Lack of policy guidance:

National policy (Climate Action Plan and National Planning Framework), regional policy (RSES) and local policy (Louth County Development Plan 2014-2020) are cited.

6.5.3. Visual impact on the landscape:

A comprehensive LVIA was prepared. The methodology used follows listed guidelines, the LVIA included fieldwork, the landscape is not unspoiled but is a much modified, intensively managed agricultural landscape. The presence of 4 features on the RMP (record of monuments and places) does not constitute an historical landscape. The landscape character area is designated as of local importance.

Proposed planting and removal of vegetation – the c62m of hedgerow removal, referred to in the appeal, was calculated to facilitate the passing bays on the L7127 and the site entrance, and is unlikely to generate a significant visual impact. An additional 1.1km of new native planting is proposed for field boundaries and 5.2km of existing perimeter hedgerows which will be bolstered to ensure dense and consistent screening of the site in perpetuity and there are 7 ecological zones proposed for the site.

Applicant disagrees with the contention that the development will be visible.

Applicant disagrees with the contention that it is a sensitive landscape.

Applicant disagrees with the contention that the proposal represents extensive industrial infrastructure.

Applicant disagrees with the contention that the proposed development would have a permanent negative impact.

Applicant disagrees with the contention that the 2002 Louth report is relied on and that the LVIA does not establish the particular character of this landscape.

Of the Landscape Values & Classification of Muirhevna Plain the only one which is relevant to the site is the key value being 'extensive area of good quality agricultural land with fine traditional hedgerows.

Applicant disagrees that the LVIA and PA fail to address the visual impact on Kilcurly House and its context of a historical demesne. Kilcurly House is not open to the

public and visual impact on such properties do not form part of normal LVIA practice. The house and remnants of the demesne have helped inform the landscape character.

Applicant disagrees with the contention that the LVIA failed to consider the impact of the proposed new vehicular entrance along the western boundary. The LVIA considered the impact of the new vehicular entrance. The further information response requires minimum 75m sightlines, in each direction to be achieved and the entrance will measure 50m in width. This will require additional pruning of the existing trees and hedgerows over the lifetime of the project. An additional 60m of new screening hedgerow has been incorporated into the new entrance with two new ecology areas located behind these hedgerows. No significant landscape impacts are likely. VP3 encompasses the vicinity of this road, set within an approx. 200m long hollow in the road, along which no residences or other road junctions are located. This hollow is relatively visually enclosed. The new road entrance is unlikely to be visible beyond the immediate visual context (100m) or from neighbouring residences. While larger and more visible than a standard agricultural entrance, the proposed entrance and security gate will be similar to that seen at numerous rural locations. Drawing no P20-178-0100-002 shows a typical security gate.

Applicant disagrees that the development will be highly visible from the regional road to the south. Two viewpoints from the south were recorded – VP4 & VP5. These represent the worst case scenario for this receptor, the regional road where there is relatively low or medium height hedgerow with infrequent mature trees; whereas other sections of the road had more robust inherent screening owing to taller, thicker or more mature roadside hedgerows. Following the establishment of mitigation planting, visual impact magnitude is no higher than low-negligible and visual impact significance no higher than slight-imperceptible. Three other viewpoints south and southeast (VP8, VP9 & VP10) recorded visual / impact visual impact significance of no higher than slight.

The google imagery used by the appellant was captured in June 2018 from a height of 3m. The photomontages, November 2019, are from eye level (1.7m), higher than the vast majority of cyclists / motorists.

Proposed boundary treatment and impact on 3 dwellings on L7127 – the placement of the panels has had regard to proximity to existing dwellings. The proposed panels are located c20m from the nearest dwellings. Additional screening is proposed between the lands and the dwellings. The proposed panels will not have a detrimental impact on adjoining dwellings.

6.6. Protected species:

Badger are included in the Planning and Environmental Report from a desktop review. The first entry from the Badger Sett of Ireland Database is in the northern section of the site from 2012. The second and third are road fatality records for the R178, and their locations in a field are approximations. As part of the ecologists field survey all field boundaries were examined, and tracks, trails and other field signs were also searched. No mammals were observed. No setts were found. This was attributed to the disturbed nature of the site. The proposed development includes the removal of three short sections (total c62m) of low diversity hedgerow. The impact is deemed long-term slight, reversible and localised. Mitigation measures are proposed. If a sett is encountered the NPWS will be informed and work within 50m suspended until consent from NPWS is granted. A pre construction survey is proposed. The detailed enhancement measures will improve the value of the site for many species, including badger; 7 biodiversity zones (2.5% of the site area) 1,072m length of linear habitat. The security fencing will have gaps 300mm c 300m at the base at 100m distances too allow mammals to continue to traverse the site.

Birds – the desktop review of 2km, noted one red-listed and 8 amber listed species, no annex I species, no wintering species of rare or conservation interest. Habitats are of low value. Drumach, Toprass and Cortial Loughs pNHA, a series of wetlands 1.2km northwest, and Stephenstown Pond pNHA 3.1km south, offer more favourable habitat to wintering birds. Dundalk Bay SPA 3.4km east and Stabannan Branganstown SPA 11.2km, are both coastal. The distance and unfavourable habitat mean wintering birds of these sites are unlikely to frequent the subject site.

6.7. Glint and Glare:

Issues raised under this heading relate to the widened access, H24, and how long it will take for landscaping to develop, such that the 'none' impact will apply.

The Glint and Glare Assessment was carried out by Macro Works, a leading consultancy in this field. It is accepted that it will take several growing seasons for the proposed mitigation planting to establish to the intended height/density and this is not evaded in the Glint and Glare Assessment report. Where the mitigation planting is specifically utilised to improve screening of potential glint and glare, advanced nursery stock (semi-mature trees) will be used to achieve consistent 3-4m high screening as soon as practically possible. Details of the survey methodology are given.

Dwellings – H24 is located to the north west and outside the area of potential solar reflectance. H 23, with which it is compared in the appeal, although further away, is further south. The survey methodology is given. All windows on receptors are treated as habitable rooms.

H113 – potential reflectance 50 minutes per year – 2 minutes per day over 25 days is a negligible impact. Impact of less than 5 minutes per day and less than 60 minutes per year is deemed a 'none' impact. As the proposed mitigation screen planting becomes established, the period of reflectance will further reduce.

Roads – receptors R82 and R85-90 record a 16 minute window across 160 days per year where there is the potential for reflectance to be noticeable to road users travelling west, prior to the establishment of the proposed mitigation planting. Advanced nursery stock will be used to provide a good degree of instant screening. If any concerns remain for ABP, a temporary visual barrier could be installed, adjoining the proposed mitigation planting along the southern perimeter of the application site boundary, to screen reflectance until the proposed planting fully matures; in the form of wind-stop netting.

R26 is located 280m southeast of H01. There is the potential to encounter some glare but it will be offset greater than 50 degrees to the direction of travel – it may be noticeable, but outside the central field of view. Hazardous reflectance can be discounted.

Re. removal of vegetation to provide sightlines. There is no reliance on the existing vegetation or any proposed mitigation measures, to mitigate reflectance at this section of road, represented by R25 and R26. The changes made in the further information response do not alter the conclusions.

6.8. Roads and traffic:

The site access has been extensively assessed. The deflection island and road strengthening were acceptable to Louth County Council. Section 8 of the Planning and Environmental Report assesses traffic impact during construction and operation. Installation will involve 2,614 two way trips over 4-6 months.

A swept path assessment was undertaken on all vehicles taking a right hand turn into the site and a left hand turn out of the site. This confirmed that there is a sufficient turning path to ensure that vehicles turning into and out of the site can do so with minimum disturbance to the traffic flow on the local road. Upgrade and strengthening of the public road for 30m either side of the entrance is being carried out by the applicant. Visibility splays have been demonstrated.

Passing bays – the proposed passing bays on the eastern side of the L7127 roadway will be approx. 25m long and 3m wide, designed to ease passage of vehicles and allow delivery vehicles to park beyond the site entrance if required. The final position of the passing bays is to be confirmed with Louth County Council per condition no 11 (g). The bays will provide for the levels of temporary construction traffic required for construction of the solar farm.

Re. danger to cyclists, pedestrians and horse riders: the L7127 is a public road with established traffic patterns. The proposed development will not undermine existing road users. The TMP will include road safety signage, phasing of deliveries and emergency access.

A Traffic Management Plan (TMP) will be submitted prior to commencement.

6.9. Archaeology:

Regarding the precedent case referred to in the grounds (248823) a revised planning application was granted (301990) following some modifications to the layout which included an increased buffer from the impacted monument. It was an above ground feature and a condition requiring pre -development geophysical testing and trenching was attached.

The Department of Culture, Heritage and the Gaeltacht's reason for requesting trenching be done, as clarification, was to ensure the continued preservation (either in situ or by record) of places, caves, sites, features or other objects of

archaeological interest. It would not be appropriate at this time to undertake archaeological trenching as the applicant is obliged to put in place a number of procedural and financial steps in advance of construction. It is appropriate to undertake archaeological testing prior to construction. Per condition 8 pre-development test trenching will be carried out.

6.10. Hydrology:

That the stream in calf field is not identified – in the walkover 27th August 2019 the ditch was completely dry. The proposed drainage system of cross drains at specific locations, allows surface runoff to disperse over the fields. Section 4.2 of the CEMP refers.

6.11. Noise:

It is stated that the noise level of the pile driver is under-estimated. The noise impact assessment undertook noise modelling using BS 5228-1:2009+A1:2004. The predicted noise from the preparation of solar panel foundations is less than 65dB $L_{Aeq,1hr}$ at 1m from the dwelling facade. In accordance with BS 5228-1:2009+A1:2004 this does not signify a potential significant impact. The manufacturers website refers to maximum noise levels of 75dBA. A worst case, with the plant operating 20m from a dwelling, has been modelled. In practice, the plant will only be operating at such distance for a very short period. The distance from the nearest dwelling to the solar panel foundations is approx. 20m. Noise mitigation will be implemented.

6.12. Connection to 110kV national grid and uncertainty regarding output:

The appellant alleges project splitting. The grid connection is not part of this application and will be addressed as a separate application in due course. Grid connection nodes are determined by ESB Networks (ESBN) when allocating grid connection offers as part of the Enduring Connection Policy (ECP) set out by the Commission for Regulation of Utilities Water and Energy (CRU). In line with ECP, grid connection offers are only made after electricity generators have received planning permission and it is not possible to be definitive about the precise connection node (ESBN/ Eirgid Substation) prior to ECP. The grid connection location and cable route represent the applicant's reasonable expectation. The route has been included in AA screening and NIS. Output can not be confirmed but would be agreed prior to construction.

6.13. Other matters:

6.13.1. Environmental impact assessment: EIA screening was included in the Planning and Environmental Report.

The proposed development does not fall within a class of development contained in Schedule 5, parts 1 or 2, therefore the requirement for mandatory EIS can be screened out. SI No. 235 /2008 amends the classes of development to which Schedule 5 of SI 6000 of 2001 applies to include:

“(dd) All private roads which would exceed 2000 metres in length.”

The claim that EIA is required due to the provision of internal access tracks within this application is incorrect. The previous Board decision, ref PI 26.247217, accepted this. The proposed access tracks will be of standard aggregate road construction. The purpose of the access tracks is for the construction and maintenance of the development. They should not be considered a private road.

6.13.2. Devaluation of property: No evidence has been put forward. Applicant disagrees that there will be devaluation of property and cites the research funded by Sustainable Energy Association of Ireland and the inspector’s report in a previous case: PL 04.247521.

6.13.3. Agricultural soil: previous cases which came before the Board are cited:

PL17.248939 and PL17.249028. The agricultural productivity of the lands will reduce over the lifetime of the development being in place, but the lands can still be farmed with certain types of agricultural activity, such as crop cultivation, sheep grazing, bee-keeping. The quality of the land will be rejuvenated in the long-term allowing for its ecological enhancement and no loss of agricultural soil.

6.13.4. Privacy / CCTV: The cameras are proposed to be installed on posts up to 4.8m in height and will be directed internally within the site and will not monitor lands outside the boundary.

6.13.5. Public consultation: That there was no meaningful consultation - As noted in the planning report the only statutory requirement for public consultation is through the planning application process. The foregoing notwithstanding, public consultation was engaged in; 125 public information packs were issued; 24 observations were received. The applicant engaged with several observers who had queries.

6.14. Planning Authority Response

6.14.1. The Planning Authority have responded that they have no further submissions or observations.

6.15. Further Responses

6.15.1. McCabe Durney Barnes, on behalf of Patrick Kirk, have responded to the first party appeal which includes:

Citing the report of Dr Charles Mount (which they attach) referring to the further information which identified a large number of significant geophysical anomalies indicating a substantial number of potential additional monuments in the vicinity of the known monuments in the application area.

Despite the submission of Department of Culture, Heritage and the Gaeltacht requesting clarification, Louth County Council proceeded to grant planning permission without seeking clarification.

Dr Mount concludes that the assessment of the archaeological heritage of the application area is incomplete, and that the potential impacts on archaeological heritage have not been addressed. To grant planning permission is contrary to proper planning and sustainable development.

They consider that the proposed development of such scale, within an elevated site that is archaeologically and culturally significant with a number of recorded monuments and numerous areas of archaeological interest and potential, would result in an unacceptable impact on the archaeological and cultural heritage of the recorded monuments and their location within the landscape and would materially and adversely affect the character and setting of the recorded monuments and other potential monuments.

6.15.2. An expert report prepared by Mr Charles Mount, Heritage Services. in relation to the archaeological assessment provided, is attached to the response, it includes:

- The Dept. in requesting a geophysical survey as further information, noted that if significant remains were found refusal might still be recommended and/or further monitoring or excavation required and a final decision should not be

made until the Dept. had the opportunity to evaluate the archaeological assessment.

- The significant geophysical anomalies, indicating a substantial number of potential additional monuments in the vicinity of known monuments include:
Anomaly 2 irregular linear response in close proximity to a souterrain which may be archaeological;
Anomaly 4 curvilinear response representing a curving ditch that may be associated with adjacent burial ground with an associated boundary feature to the north;
Anomaly 7 curvilinear ditched feature comprising burnt material c10m in diameter that are burnt mounds or circular ditched features
Anomaly 10 a curvilinear trend that may be the remains of a ditched enclosure of c49m diameter;
Anomaly 11 linear and rectilinear trends that are of archaeological potential;
Anomaly 12 possible archaeological pits;
Anomaly 13 linear responses that may represent a souterrain;
Anomaly 14 linear responses similar to 13;
Anomaly 18 has a large magnetic signature and may be the remains of a kiln type feature;
Anomaly 19 has a magnetic signature and may be the remains of a kiln type feature;
Anomaly 20 has a magnetic signature and may be the remains of a kiln type feature;
Anomaly 25 a circular trend that may be the remains of an enclosure of c18m diameter.
- The Dept sought clarification of the further information.
- Despite the observation that the geophysical survey indicated a high potential of additional archaeology and the request for clarification, Louth County Council proceeded to grant planning permission without seeking clarification.

- There is a high potential that there are substantial archaeological remains in the application area that will be impacted by the proposal. The assessment of the archaeological heritage of the application area is incomplete, and the potential impacts on archaeological heritage have not been addressed. To grant planning permission without first considering a complete assessment of the significance of the archaeological material present in the application area, including the material identified through geophysics, is contrary to the proper planning and sustainable development.

6.16. The residents of Kilcurly/Kilkerley have responded to the other appeals, which includes:

6.16.1. Response to first party appeal:

The prohibition of use of concrete shoe supports is not restrictive. Why does the applicant not want to use buffer zones to preserve archaeological features?

One 'shoe' manufacturer states that they should be used only in brownfield or bedrock sites, not a greenfield site such as this. They weigh thousands of kilograms compared to 700kg to 1100kg for cattle. Shoes would lead to soil compression and/or collapse of historically related features. They will be exposed to rainfall and should not be used close to direct surface water connection to waterways linked to Natura sites. It has not been established that adverse effects would not arise. Archaeological buffer zones have not been shown at 4 sites. The location of fisherman's stream is not indicated. Archaeological investigations should be carried out prior to approval rather than prior to construction. Appeal should be assessed de novo.

6.16.2. Response to other third party appeals:

They support the other appeals. A photograph of a traffic situation (Wednesday 17th February 2021), on the L7127, is provided.

Laybys are not within the line of sight of one another.

Photograph of a badger sett on the boundary of the proposed development is included, (note: this is not on the boundary but west of the boundary in a hedge between two nearby fields).

If the application is approved, An Bord Pleanála should enforce production scale restrictions to limit the removal of productive land and restrict development near housing.

6.17. Margaret and Francis Watters have responded to the other appeals, which includes:

6.17.1. They support the other third party appeals.

6.17.2. Response to first party appeal:

The attempt to remove condition 9 is intended to undermine condition 8.

The appeal is to avoid the need to carry out a comprehensive archaeological testing programme before the developer can ensure the financial viability of the overall project. This is not a valid planning concern. The protection and maintenance of a site, which is archaeologically and culturally significant, is part of the planning process.

6.17.3. They are also concerned that the applicant is splitting the planning process by omitting the connection to the 110kv substation. The conditions would be undermined by removal or amendment of condition 9, and it is unclear how the future connection to the 110kv substation would be affected.

7.0 Assessment

7.1.1. The issues which arise in relation to this appeal are: principle of the development, appropriate assessment, the requirement for Environmental Impact Assessment, archaeology, landscape impact, glint and glare, impact on residential amenity, traffic safety and other issues, and the following assessment is dealt with under those headings.

7.2. The Principle of the Development

7.2.1. There is in-principle support for renewable energy schemes at a national, regional and local policy level, which collectively support a move to a low carbon future and the need to encourage the use of renewable energy resources to reduce greenhouse gas emissions. No locational policy guidance is set out for such development vis a vis agricultural land. I am satisfied that the development is acceptable in principle.

7.3. Appropriate Assessment

7.3.1. In accordance with obligations under the Habitats Directives and implementing legislation, to take into consideration the possible effects a project may have, either on its own or in combination with other plans and projects, on a Natura 2000 site, there is a requirement on the Board, as the competent authority in this case, to consider the possible nature conservation implications of the proposed development on the Natura 2000 network, before making a decision, by carrying out appropriate assessment.

7.3.2. An AA Screening report was submitted with the application, and, in response to the planning authority’s further information request, the applicant has submitted a Natura Impact Statement (NIS).

Description of the Development

7.3.3. A description of the proposed development has been set out earlier in section 2 of this report.

7.3.4. The protected sites which require to be considered are:

Dundalk Bay SAC (site code 000455), Carlingford Mountain SAC (site code 000453), Dundalk Bay SPA (site code 004026), and Stabannan-Branganstown SPA (site code 004091); and Carlingford Shore SAC (site code 002306).

7.3.5. Table 1 Screening summary

European Site	Site Code	Relevant QI & SCI	Distance and ecological connection	Potential for significant effects on conservation objectives
Dundalk Bay SAC	000455	Estuaries Mudflats and sandflats not covered by seawater at low tide Perennial vegetation of stony banks	hydraulically connected c9.5 km downstream from site	Yes A number of QI features are dependent on high water quality and are sensitive to sediment

		Salicornia and other annuals colonising mud and sand Atlantic salt meadows Mediterranean salt meadows	c1.9km downstream from cable route	ingress and any construction related pollutants in an uncontrolled situation. Protective measures are required to avoid the potential for significant effects
Dundalk Bay SPA	004026	Great Crested Grebe Greylag Goose Light-bellied Brent Goose Shelduck Teal Mallard Pintail Common Scoter Red-breasted Merganser Oystercatcher Ringed Plover Golden Plover Grey Plover Lapwing Knot Dunlin Black-tailed Godwit Bar-tailed Godwit Curlew Redshank	hydraulically connected c9.5 km downstream from site c2.3km downstream from cable route	Yes A number of QI features are dependent on high water quality and are sensitive to sediment ingress and any construction related pollutants in an uncontrolled situation. Protective measures are required to avoid the potential for significant effects

		Black-headed Gull Common Gull Herring Gull Wetland and Waterbirds		
Carlingford Mountain SAC	000453	Northern Atlantic wet heaths with <i>Erica tetralix</i> European dry heaths Alpine and Boreal heaths Species-rich <i>Nardus</i> grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe) Blanket bogs (* if active bog) Transition mires and quaking bogs Alkaline fens Siliceous scree of the montane to snow levels (<i>Androsacetalia alpinae</i> and <i>Galeopsietalia ladani</i>) Calcareous rocky slopes with chasmophytic vegetation Siliceous rocky slopes with chasmophytic vegetation	c.10km not hydraulically connected	No
Stabannan Branganstown SPA	004091	Greylag Goose	c11 km not hydraulically connected	No SCI species not at any risk.

*denotes a priority habitat.

7.4. Screening Conclusion

7.4.1. Having carried out AA Screening I am satisfied that in the absence of mitigation the potential for significant effects cannot be excluded for Dundalk Bay SPA / SAC and that AA is required in respect of these sites, no additional sites other than those assessed in the NIS need to be brought forward for inclusion in the AA.

7.5. Appropriate Assessment of implications of the proposed development

7.5.1. Appropriate Assessment: integrity test

The qualifying interests of the Dundalk Bay SPA (coastal bird species, wetland and waterbirds) are dependant on water quality, other aspects of the proposed development are not likely to have any impact on the conservation objectives of the SPA. The conservation objectives of the SAC are similarly dependant on water quality. Consequently the main issue as identified through AA screening is that construction related activities within the site and the installation of the cables, both within the site and along public roads, may result in decreased water quality including siltation. Protective measures are required to ensure that the risk of adverse effects on the conservation objectives of Dundalk Bay SAC/SPA are excluded.

7.5.2. Proposed Mitigation

7.5.3. A detailed hydrology and water quality section in the Planning and Environmental Report sets out measures to manage surface water. Table 6.6 lists the potential impacts of various aspects of the construction, operation and decommissioning of the proposed development, the surface water receptor, its sensitivity and the before and after magnitude/probability and significance. A significance of moderate is recorded in one case, before mitigation. Post mitigation 'not significant' is recorded in all cases.

7.5.4. The NIS restates the mitigation measures.

7.5.5. Table 5-3, details measures to avoid/reduce adverse effects, together with details of implementation and monitoring. Measures proposed are:

- The rate of runoff along the route of the access roads will be mitigated by the proposed drainage system which includes stilling ponds to reduce the concentration of suspended solids in the runoff.

- The Ecological Clerk of Works or Environmental Manager appointed by the developer will inspect construction works to ensure the effective operation and maintenance of drainage and other mitigation measures.
- Stilling ponds with a diffuse outflow detail will be put in place in advance as construction progresses across the site. Erosion control and retention facilities, including stilling ponds will be regularly maintained during the construction phase. The three stage treatment - swale, stilling pond, diffuse outflow, proposed to retain and treat the discharges from hard surfaces as a result of the development, will reduce any risk of flooding downstream.
- Where haul roads pass close to watercourses, silt fencing will be used to protect streams.
- Silt traps will be provided at outfalls from roadside swales to stilling ponds.
- Standing water, which could arise in excavations has the potential to contain an increased concentration of suspended solids, as a result of the disturbance to soils. The developer will ensure that erosion control, namely silt-traps, silt fencing, swales, stilling ponds and diffuse outflow areas, are regularly maintained during the construction phase.
- All personnel working on site will be trained in pollution incident control response. Emergency silt control and spillage response procedures contained within the site drainage management plan of the construction environmental management plan (CEMP) will ensure that appropriate information will be available on site outlining the spillage response procedure and a contingency plan to contain silt.
- Interceptor cut off drains will be provided on the upslope side of the access roads to prevent the mixing of overland flows with the drainage for the proposed development. These interceptor drains will discharge diffusely over land to avoid concentration of runoff. The roadside drains will therefore only carry the site access road runoff and so avoid carrying large volumes of water and concentrating flows.
- Cross drains of 450mm will be provided to prevent clogging for drainage crossings and conveying flow from agricultural drains and forestry drains under access track roads. A regular review of weather forecasts for heavy rainfall will be

undertaken, and a contingency plan will be prepared for before and after such events.

- A record will be kept of daily visual examinations of watercourses which receive flows from the proposed development, during and for an agreed period after the mitigation phase.
- Where new cross-drains are proposed on this site to convey surface water from roadside swales to stilling ponds, these will be sized at a minimum of 225mm diameter to avoid blockages.
- Roadside swales will serve to attenuate any increase in surface water runoff.
- All open water bodies adjacent to proposed construction will be protected by fencing.
- Site access tracks have been laid out to reduce longitudinal slope of roadside drains where possible. Where roadside drains are laid at slopes greater than 2%, check dams will be provided. This will reduce effective slope and runoff velocities and any consequent potential for erosion.
- Where agricultural tracks are to be used to access the development, the roadside drains alongside these roads will be cleared of obstructions, should it be found that debris and vegetation are impeding flows.
- Any diesel, fuel or hydraulic oils stored on site will be stored in bunded storage tanks – the bund will have a volume of at least 110% of the volume of such materials stored.
- Refuelling of plant & machinery during works will only be carried out at designated refuelling station site at the site compound. The station will be fully equipped for a spill response and a specially trained and dedicated environmental and emergency spill response team will be appointed before commencement on site. Only emergency breakdown maintenance will be carried out on site. Drip trays and spill kits will be kept available on site, to ensure that any spills from vehicles are contained and removed off site.
- Concrete washout of chutes shall only be allowed within the site at a designated bunded washout area within the site compound.

- Portaloos and / or containerised toilets and welfare units will be used to provide toilet facilities for site personnel. Sanitary waste will be removed from site via a licenced waste disposal contractor.
- The temporary storage of excavated material on site will be at least 50m from watercourses.
- Cables will be installed in trenches adjacent to the site access roads, or laid within the access road line, where required. Trenches will be excavated during dry periods where possible in short sections and left open for minimal periods, to avoid acting as a conduit for surface water flows.

7.5.6. Operational Phase Mitigation Measures

- The surface water run-off from the hardstanding areas will be attenuated in settlement ponds which will discharge to existing drainage ditches.
- Risks of potential oil leakage and pollution draining to the watercourse from the installed transformer is mitigated with transformer interceptor bund wall.
- The drainage system will be maintained. The maintenance of the development will incorporate effective maintenance of the drainage system. Including inspecting:

Drains and cross drains for any blockages.

Roadside swales for any obstructions.

Swales

Progress of the re-establishment of vegetation.

- The maintenance regime will also include implementation of appropriate remedial measures as required. Visual inspection will be undertaken during the maintenance period in accordance with maintenance schedule in CIRIA C753.

7.5.7. De-commissioning Phase Mitigation Measures

- In the event of de-commissioning of the solar farm the access tracks may be used in the de-commissioning process. Mitigation measures applied during de-commissioning activities will be similar to those applied during construction.

- The grid connection cables will be left in the ground, therefore no potential impacts during decommissioning stage are likely to occur. Hence no mitigation measures are required.

7.5.8. The proposed mitigation measures in relation to surface water management are also set out in the oCEMP. It is not explicitly stated that the measures are intended to apply to the laying of cable to Dundalk substation, which, although not part of the planning application, is part of the NIS. For clarity it would be appropriate to condition that all of the relevant measures to protect surface water from contamination, proposed in relation to the construction phase of the proposed development, shall apply to the installation of the cable outside the site and similarly any relevant measures of the decommissioning phase of the proposed development shall apply to the decommissioning of the cable outside the site. Condition no. 6, as drafted, applies.

7.5.9. In my opinion adherence to the best practice methods proposed during the construction, operation and decommissioning, will ensure that the potential for the project to impact on surface water and to have adverse effects on the qualifying interests of the downstream protected sites Dundalk Bay SAC & Dundalk Bay SPA is excluded. With the application of the proposed measures, the proposed works will not affect the attainment of the conservation objectives of these sites or any other European site, and adverse effects on site integrity can be excluded with confidence.

7.5.10. In-Combination Effect

7.5.11. No cumulative effects are envisaged between the proposed works and any other developments or activities in the surrounding landscape and downstream catchment.

7.6. Conclusion and Appropriate Assessment Determination in relation to Site Integrity

7.6.1. The proposed development has been considered in light of the assessment requirements of Sections 177U and 177V of the Planning and Development Act 2000 as amended. I consider that the Board can be confident that the information and assessment before them is complete, precise and definitive for the purpose of Appropriate Assessment.

7.6.2. Having carried out screening for Appropriate Assessment of the project, it was concluded that in the absence of mitigation the development may have a significant

effect on European sites Dundalk Bay SAC & Dundalk Bay SPA only. Appropriate Assessment of the implications of the proposed development on the qualifying features of these sites in light of its conservation objectives, was required.

7.6.3. Following an Appropriate Assessment, it has been ascertained that the proposed development, individually or in combination with other plans or projects would not adversely affect the integrity of the European site No,000455 Dundalk Bay SAC, or 004026 Dundalk Bay SPA, or any other European site, in view of the sites' Conservation Objectives.

7.6.4. This conclusion is based on a complete assessment of all aspects of the proposed project and there is no reasonable doubt as to the absence of adverse effects.

7.6.5. This conclusion is based on:

- the location outside of a European site,
- a full and detailed assessment of all aspects of the proposed project including proposed mitigation measures,
- detailed assessment of in combination effects with other plans and projects,
- no reasonable scientific doubt as to the absence of adverse effects on the integrity of Dundalk Bay SAC, or Dundalk Bay SPA.

7.7. Requirement for Environmental Impact Assessment

7.7.1. The subject application was not accompanied by an EIAR. The Planning and Environmental Report accompanying the application set out why the submission of such a report was not required; including a schedule 7(2) matrix.

7.7.2. The third party grounds of appeal includes that Environmental Impact Assessment is required as the proposed development involves the construction of private roadways in excess of 2km length. A previous Board case '247217' is referred to in the grounds of appeal in relation to the requirement for Environmental Impact Assessment. The Board will know that the decision to refuse permission in that case, which was based on 'lack of guidance at national, regional and local level in relation to the appropriate location, scale and distribution of future proposals for solar power' was judicially reviewed, and an order of Certiorari quashing the decision was granted by the Court (on hearing that a settlement was reached by consent) and the case was

remitted to the Board. Subsequently, following receipt of further information in relation to Appropriate Assessment, the development was granted permission under file reference no. 301321.

7.7.3. That development included '6km of access tracks using existing lanes and constructing new tracks'; 'proposals to upgrade some of the tracks and roadways to benefit landowners using the laneways. Existing routes will be used for 2 kilometres. Any new tracks required will be constructed to a width of 4 metres'.

7.7.4. The inspector's report regarding the Requirement for Environmental Impact Assessment, included that:

Noting that solar farms do not require EIA the inspector considered the need for EIA in relation to the proposed:

6km of access tracks using existing lanes and constructing new tracks; using existing routes for 2 kilometres. Any new tracks required will be constructed to a width of 4 metres.

7.7.5. The assessment that EIA was not required, relied on the purpose of the site track being primarily for the purpose of construction and maintenance of the development, not for the conveyance of people and vehicles per se, except as necessary in connection with the maintenance and construction of the development, as being materially different from a road as defined in the Roads Act 1963.

7.7.6. The Board accepted this assessment.

7.7.7. It is further noted that more recently (2020) (file ref 305620) the Board decided that a farm road was part of a stand alone development for the purposes of assessment, and notwithstanding that the length of the farm road in the development to be retained, taken with the extent of other farm roads would exceed the threshold for EIA and having regard to the thresholds of classes of development set out in Schedule 5 and the criteria set out in Schedule 7 of the Planning and Development Regulations 2001 as amended, to the site context, and to the characteristics of the development and potential impacts, a sub-threshold EIA report was not required.

7.7.8. In the current appeal the proposed roads are ancillary to the development of the solar farm. A solar farm is a development type which does not come within the classes of development set out in Schedule 5. The development of roads within the

site would not impact on the environment such that their development together with any other aspect of the development, having regard to the criteria set out in Schedule 7 of the Planning and Development Regulations 2001 as amended, would indicate the need for EIA.

7.8. Archaeology

7.8.1. Both third party and first party appellants refer in their appeals to archaeology.

7.8.2. Conditions 8 and 9 refer to impact on archaeology:

Condition no 8

The following requirements of the Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs shall be complied with:

Pre-development archaeological mitigation in the form of targeted archaeological test trenching shall be undertaken by a suitably qualified archaeologist (licensed under the National monuments Acts 1930-1994). The archaeological test trenches should target specifically those anomalies highlighted by the geophysical report, submitted to the Planning Authority on the 4th November 2020.

No sub-surface work shall be undertaken in the absence of the archaeologist without his/her express consent.

The archaeologist shall notify the Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs in writing at least four weeks prior to the commencement of any site preparations. This will allow the archaeologist sufficient time to obtain a licence to carry out the work.

The archaeologist shall carry out any relevant documentary research and may excavate test trenches at locations chosen by the archaeologist, having consulted the proposed development plans and the geotechnical survey report prepared by JM Leigh Surveys Ltd. submitted to the Planning Authority on the 4th November 2020.

Having completed the work, the archaeologist shall submit a written report to the Planning Authority and to the Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs for consideration.

Where archaeological material is shown to be present, avoidance, preservation in situ, preservation by record (excavation) and/or monitoring may be required and the Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs will advise the applicant/developer with regard to these matters.

No site preparation of construction work shall be carried out until after the archaeologist's report has been submitted and permission to proceed has been received in writing from the planning authority in consultation with the Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs

Reason: To ensure the continued preservation (either in-situ or by record) of places, caves, features or other objects of archaeological interest.

Condition no 9

The use of concrete shoes for supports at the base of solar panel arrays shall not be permitted. Where the results of archaeological testing as outlined in Condition no. 8 above require the preservation of specific archaeology in situ, the affected solar panel array(s) shall be excluded from the proposed development.

Reason: In the interests of orderly development.

- 7.8.3. Impact on archaeology is of concern to third party appellants.
- 7.8.4. The first party appeal is an appeal against condition no. 9 above relating to impact on archaeology, and which the first party requests the Board to remove. Condition no 9 requires that the use of concrete shoes for support structures shall not be used as mitigation of impact on underground archaeological material.
- 7.8.5. An Archaeological Assessment report by John Cronin & Associate accompanied the application.
- 7.8.6. In response to the planning authority's further information request, the results of a geophysical survey was submitted together with a further archaeological assessment of those results.
- 7.8.7. The first Archaeological Assessment reported on 7 known archaeological sites within the site: two levelled souterrains, a crannóg, a burial ground, a mill dam and two possible tree rings. The further archaeological assessment, and the geophysical

survey reported on 28 anomalies of which 8 were either outside the development area of the site or were natural features. Mitigation was proposed.

- 7.8.8. The Department of Culture, Heritage and the Gaeltacht Department of Arts, is referred to on this file as is the Department of Heritage, Regional, Rural and Gaeltacht Affairs. Submissions on both the original application details and the further information were made by the National Monuments Service. The National Monuments Service (NMS) is now within the Department of Housing, Local Government and Heritage.
- 7.8.9. Their submission on the further information recommended that pre-development archaeological mitigation in the form of targeted archaeological test trenching be undertaken by a suitably qualified archaeologist (licensed under the National Monuments Acts 1930-1994), because of the high archaeological potential of the site. The archaeological test trenches should target specifically those anomalies highlighted by the geophysical report, and should be undertaken as clarification to the original further information. This would have facilitated further advice from the Department of Culture, Heritage and the Gaeltacht, which would have clarified what extent of development could proceed.
- 7.8.10. Instead of clarification of further information the planning authority decided to grant permission subject to conditions, including conditions 8 and 9 as quoted above.
- 7.8.11. The first party points out that three mitigation measures were identified in the further information response:
- Establishment of buffer zones for the duration of the construction phase.
 - Outside of the buffer zones, preservation in situ by avoidance through the use of concrete shoe supports, placed on existing ground surface (instead of earth-driven supports) or
 - Targeted pre-development archaeological testing to determine whether either preservation in situ or preservation by record is appropriate.
- 7.8.12. They further state that they do not agree that it would be appropriate at this time to undertake archaeological trenching as the applicant is obliged to put in place a number of procedural and financial steps in advance of construction.

7.8.13. The site has archaeological potential. Archaeology is not a side-bar issue, or a detail for final agreement. It is a fundamental issue which could determine whether or not large parts of the proposed development can proceed. It is appropriate to undertake archaeological testing prior to construction. Following the further examination of the results, it will be a matter for the National Monuments Service / Department of Culture, Heritage and the Gaeltacht to advise further in relation to what extent of development can take place, what exclusion areas may be required, and other appropriate mitigation. A condition which the Board may wish to attach, should they be minded to grant permission, is set out as condition 5 below.

7.9. **Landscape Impact**

7.9.1. Landscape impact is of concern to third party appellants.

7.9.2. Grounds of appeal refer to the quality of the landscape and the need to protect the landscape from the negative impact arising from the proposed development.

7.9.3. A Landscape and Visual Impact Assessment accompanied the application including an examination of a study area centred on the site. The Muirhevna Plain within which the site is located is described, and its character and suitability for accommodating development, as outlined in the current Louth County Development Plan, are set out. The Muirhevna Plain is not identified as a scenic landscape and no protected views or prospects would be affected by development on this site.

7.9.4. Because of the undulating nature of the terrain, there is no theoretical visibility of the proposed development over the vast majority of the study area. The Digital Surface Model (DSM), which also accounts for terrestrial land cover elements, shows substantial reduction in likely visibility, due to the presence of hedgerows along field and roadside boundaries. Retention of hedgerows is proposed, except where their removal is required to facilitate the development.

7.9.5. The likely visual impact of the proposed development from 10 representative viewpoints, shown in fig. 12 and analysed in section 1.4.2. For each of the 10 representative viewpoints details of the receptor sensitivity, impact magnitude, and significance are given (1.4.2.2). For each viewpoint a description of the view and of the impact of the proposed development pre- and post-mitigation is given. The

significance of visual impact is 'imperceptible' post mitigation for 7, it is 'slight/imperceptible' post mitigation for 2 and it is 'slight' post mitigation for one.

- 7.9.6. I am satisfied that the proposed development will not be prominent within the surrounding landscape. I note that the site includes archaeological sites, which issue is considered earlier in this report, under a separate heading. In relation to the impacts on landscape and on roads and dwellings in the vicinity I accept the assessment of the Landscape and Visual Impact Assessment, that the main mitigation measure employed is in the siting of the proposed development in a robust and well-contained rural area that avails of strong topographic and vegetative screening.
- 7.9.7. In my opinion the visual impact and the impact on the landscape should not be a reason to refuse or modify the proposed development.

7.10. **Glint and Glare**

- 7.10.1. Glint and glare is of concern to third party appellants. A Glint and Glare Assessment accompanied the application. It assesses the potential impact on 104 dwellings and 147 road points. The methodology followed DTM (digital terrain model) modelling a bald earth scenario, followed by DSM (digital surface model) modelling which accounts for vegetation, followed by verification on the ground. The proposed hedgerow reinforcement and new planting areas (Figures 14 and 15) will offer additional mitigation. Table 5.1 summarises the results for dwellings. Results for road receptor points are summarised in Table 5.2.
- 7.10.2. There are no likely impacts of any significance from glint and glare on dwellings. Impact on point R 26 along the local road to the west will be offset greater than 50° to the direction of travel and during the period of potential glare, the sun from approximately the same direction, will be a greater source of glare. For point R82 along the regional road to the south, travelling west, along a short straight section of road there is the potential to encounter some glare within a 2 minute period over 17 days per year. However, once the proposed landscape mitigation measures have been undertaken, the vegetation will act to negate any potential for hazardous solar reflectance at these points. Similarly for points R85-90 along the regional road to the south, travelling west.

- 7.10.3. In response to the grounds of appeal, the applicant restates the validity of the methodology used in the Glint and Glare Assessment report.
- 7.10.4. For road receptors R82 and R85-90 where there is the potential for reflectance to be noticeable to road users travelling west during a 16 minute window across 160 days per year, prior to the establishment of the proposed mitigation planting, the applicant states that advanced nursery stock will be used to provide a good degree of instant screening. It is further stated that if any concerns remain for An Bord Pleanála, a temporary visual barrier in the form of wind-stop netting could be installed, adjoining the proposed mitigation planting along the southern perimeter of the application site boundary, to screen reflectance until the proposed planting fully matures.
- 7.10.5. Due to the elevated nature of the sections of the site in relation to the regional road to the south, along which existing roadside hedging is currently maintained at a low height, there is potential for glint and glare to be experienced for west borne traffic. This busy regional road is likely to be used by goods vehicles with drivers at a higher eye level. Should the Board be minded to grant permission, it is considered that the use of a visual barrier to screen reflectance, until hedgerows are shown to provide effective reflectance screening, should be a condition of any permission.
- 7.10.6. Subject to the foregoing it is considered that glint and glare should not be a reason to refuse or modify the proposed development.

7.11. Traffic Safety

- 7.11.1. Traffic Safety is of concern to third party appellants. They refer to the use of the road for pre-school, school, church and community centre access and as a route between the R178 and the N53 and South Armagh; lack of before and after assessment; traffic timing; sightlines; the narrow road width; and impassability with passing bays.
- 7.11.2. The applicant response is that the site access has been extensively assessed: swept path assessment, visibility splays, road upgrade and strengthening for 30m either side of the entrance and passing bays. The final position of the passing bays is to be confirmed with Louth County Council per condition no 11 (g). The bays will provide for the levels of temporary construction traffic required for construction of the solar farm. Responding to concerns regarding danger to cyclists, pedestrians and horse riders they point out that the L7127 is a public road with established traffic

patterns. The proposed development will not undermine existing road users. The Traffic Management Plan (TMP) which will be submitted prior to commencement, will include road safety signage, phasing of deliveries and emergency access. Installation will involve 2,614 two way trips over 4-6 months.

7.11.3. Traffic safety was given detailed consideration by the planning authority, including requesting amendments as further information, items 2, 3 and 4 of the further information request refer. Item 2 required revised sightlines and item 3 required a left turn only deflection island or similar for vehicles exiting the development to ensure compliance with the submitted haul route. The Infrastructure section of the planning authority was satisfied with the responses and the revisions proposed. Construction will take place over a limited period 4-6 months, thereafter infrequent site visits will be required. In my opinion traffic safety has been satisfactorily addressed during the course of the application and traffic safety should not be a reason to refuse or modify the proposed development.

7.12. Other Issues

7.13. Noise

7.13.1. Noise is of concern to third party appellants.

7.13.2. It is stated that the noise level of the pile driver is under-estimated, the Environmental and Planning report states that the pile driver has a sound level of 56.9dB at 20 metres. It has a noise level of 75dB from this distance not accounting for echo and aural reverberations. The buffer between solar panels and dwellings should be increased.

7.13.3. The applicant response is that the noise impact assessment undertook noise modelling using BS 5228-1:2009+A1:2004. The predicted noise from the preparation of solar panel foundations is less than 65dB $L_{Aeq,1hr}$ at 1m from the dwelling facade. In accordance with BS 5228-1:2009+A1:2004 this does not signify a potential significant impact. The manufacturers website refers to maximum noise levels of 75dBA. A worst case with the plant operating 20m from a dwelling has been modelled. In practice, the plant will only be operating at such distance for a very short period. The distance from the nearest dwelling to the solar panel foundations is approx. 20m. Noise mitigation will be implemented.

7.13.4. I am satisfied that noise from construction will be for a limited period and, where it occurs close to a sensitive receptor will be of short duration, and will not be such as to require modification or refusal of the proposed development.

7.13.5. Operational noise is associated with the transformers / inverters and will be experienced during daylight hours. In these latitudes this can extend, during summertime, to late evening / night. In total 34 transformers / inverters are to be installed at 16 locations. These locations are not close to any sensitive receptor. Operational noise will not be such as to require modification or refusal of the proposed development.

7.13.6. Cable Route

7.13.7. The Board will note that the NIS submitted includes the provision of a cable along the public road to Dundalk substation, although this is not part of the planning application. It is worth noting for the Board's consideration that the published notices do not identify the locations through which the route will pass. Since this aspect of the proposed development is being considered as part of the NIS, the Board may consider an extended description of the overall proposal including the location of the cable route, is required to facilitate public engagement.

8.0 Recommendation

8.1.1. In accordance with the foregoing I recommend that permission should be granted, for the following reasons and considerations and in accordance with the following conditions.

9.0 Reasons and Considerations

Having regard to:

- (a) the nature, scale and extent of the proposed development,
- (b) the national targets for a renewable energy contribution of 40% to gross electricity consumption by 2020,
- (c) national and local policy support for developing renewable energy, in particular the:

Government's Strategy for Renewable Energy, 2012-2020,

National Planning Framework, 2018,

Delivering a Sustainable Energy Future for Ireland - the Energy Policy Framework, 2007-2020,

Government Policy Statement on the Strategic Importance of Transmission and Other Energy Infrastructure 2012,

Eastern and Midlands Region Regional Spatial & Economic Strategy,

Louth County Development Plan 2015 2021, in particular policy RD 23,

(d) the location of the proposed development on moderate grade agriculture land in fields surrounded by hedgerows which assist it's visual absorption and where the Landscape Character designation as set out in the Development Plan requires no particular landscape protection,

(e) the distance to dwellings or other sensitive receptors from the proposed development,

(g) the submissions on file,

(h) the documentation submitted with the application, including the Natura Impact Statement and the Planning and Environmental Report,

I consider that the proposed development, would

(a) not have an unacceptable impact on the character of the landscape or on the cultural or archaeological heritage,

(b) not seriously injure the visual and residential amenities of the area,

(c) be acceptable in terms of public health, traffic safety and convenience,

(d) not have an unacceptable impact on the ecology,

(e) make a positive contribution to Ireland's requirements for renewable energy, and

(f) be in accordance with:-

(i) Government's Strategy for Renewable Energy, 2012-2020,

(ii) the National Planning Framework, 2018, and

(iii) the Louth County Development Plan, 2015-2021.

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

10.0 Conditions

1.	<p>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 4th November 2020, 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.</p> <p>Reason: In the interest of clarity.</p>
2.	<p>The period during which this permission may be implemented shall be 10 years from the date of this Order.</p> <p>Reason: In the interest of clarity.</p>
3.	<p>The permission shall be for a period of 30 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.</p> <p>Reason: To enable the Planning Authority to review the operation of the solar array in the light of the circumstances then prevailing.</p>
4.	<p>This permission shall not be construed as any form of consent or agreement to a connection to the national grid or to the routing or nature of any such connection.</p> <p>Reason: In the interest of clarity.</p>

5.	<p>The developer shall facilitate the preservation, recording and protection of archaeological materials or features that may exist within the site. In this regard, the developer shall -</p> <p>(a) Engage the services of a suitably qualified archaeologist (licenced under the National Monuments Acts 1930-2004) to carry out test trenching targeting specifically those anomalies highlighted by the geophysical report, submitted to the Planning Authority on the 4th November 2020.</p> <p>(b) The archaeologist is required to notify the Department of Housing, Local Government and Heritage for consideration in writing at least four weeks prior to the commencement of site preparations. This will allow the archaeologist sufficient time to obtain a licence to carry out the work.</p> <p>(c)The archaeologist shall carry out any relevant documentary research and may excavate trenches at locations chosen by the archaeologist, having consulted the proposed development plans.</p> <p>(d) Having completed the work, the archaeologist shall submit a written report to the Planning Authority and the Department of Housing, Local Government and Heritage for consideration.</p> <p>(e) Where archaeological material is shown to be present, avoidance, preservation in situ, preservation by record (excavation) and/or monitoring may be required and the Department of Housing, Local Government and Heritage will advise the Developer with regard to these matters.</p> <p>(f) No site preparation or construction work shall be carried out until after the archaeologist's report has been submitted and permission to proceed has been received in writing from the Planning Authority in consultation with the Department of Housing, Local Government and Heritage.</p> <p>Reason: To ensure the continued preservation (either <i>in situ</i> or by record) of places, caves, sites, features or other objects of archaeological interest.</p>
6.	<p>The proposed development shall be undertaken in compliance with all environmental commitments made in the documentation supporting the application. In particular all of the relevant measures to protect surface</p>

	<p>water from contamination, proposed in relation to the construction and decommissioning phases of the proposed development, shall apply to the installation and decommissioning of any associated cable outside the site.</p> <p>Reason: To protect the environment.</p>
7.	<p>No work shall commence on site until the visibility splays have been provided. The area within the visibility splay shall be cleared to provide a level surface no higher than 250mm above the level of the adjoining carriageway and shall be retained and kept clear thereafter.</p> <p>Entrance gates to be set back 10m. wing walls splayed at 45^o angle. A gradient of not greater than 2% shall be provided for a distance of 15m from the junction with the public road.</p> <p>The applicant shall fully implement all soil management procedures.</p> <p>Road drainage across the entrance with the public road shall not be impacted.</p> <p>No works to commence until road strengthening works have been carried out.</p> <p>No works to commence until road adequate passing bays have been constructed.</p> <p>Prior to commencement the applicant shall submit for written agreement a site specific traffic management plan.</p> <p>Any necessary measures to prevent spillage or deposit of clay, rubble or other debris on the public road, and to maintain the public road by removing material shall be implemented with full costs to be borne by the developer</p> <p>Reason: In the interest of traffic safety.</p>
8.	<p>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</p>

	<p>development. This plan shall provide details of intended construction practice for the development, including:</p> <ul style="list-style-type: none"> (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 of construction traffic to and from the construction site and associated directional signage. (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 waste, (k) Construction hours – not to extend beyond 0800-1800 Monday to Friday and 0800-1400 on Saturdays and no construction work on Sundays and public holidays. <p>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.</p> <p>Reason: In the interest of amenities, public health and safety.</p>
9.	<p>Details of materials, colours, textures and finishes to the ancillary structures shall be submitted to, and agreed in writing with, the planning authority prior to commencement of development.</p>

	<p>Reason: In the interest of the visual amenity of the area.</p>
10.	<p>CCTV cameras shall be fixed and angled to face into the site and shall not be directed towards adjoining property or the public road.</p> <p>Reason: In the interest of the amenities of the area and of property in the vicinity.</p>
11.	<p>The solar panels shall have driven or screw pile foundations only, unless otherwise agreed in writing with the Planning Authority.</p> <p>Reason: In the interest of clarity.</p>
12.	<p>Cables within the site shall be located underground.</p> <p>Reason: In the interest of visual amenity.</p>
13.	<p>Additional screening and/or planting shall be provided so as to ensure that there is no glint impact on adjoining houses as a result of the development. Upon commissioning of the development and for a period of two years following first operation, the developer/operator shall provide detailed glint surveys on an annual basis to the Planning Authority to confirm that no such glint impact has taken place, and shall provide such mitigation measures as the Planning Authority may specify in writing, to ensure this is achieved.</p> <p>Reason: To mitigate against any glint impact and in the interest of residential amenity.</p>
14.	<p>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 within five years from planting shall be replaced within the next planting season by</p>

	<p>trees or hedging of similar size and species, unless otherwise agreed in writing with the Planning Authority.</p> <p>Reason: In the interest of biodiversity and the visual amenities of the area.</p>
15.	<p>Prior to commencement of development, a detailed restoration plan, including a timescale for its implementation, shall be submitted to, and agreed in writing with, the Planning Authority. On full or partial decommissioning of the solar array, or if the solar array ceases operation for a period of more than one year, the site, including access roads, shall be restored and structures removed in accordance with the said plan within three months of decommissioning/cessation, to the written satisfaction of the Planning Authority.</p> <p>Reason: To ensure the satisfactory reinstatement of the site on full or partial cessation of the proposed development.</p>
16.	<p>The construction of the development shall be managed in accordance with the Construction Environmental Management Plan (CEMP) which shall be submitted to, and agreed in writing with the planning authority prior to commencement of the development. This plan shall provide details of intended construction practice for the development, including hours of working, details of traffic and environmental management measures proposed including but not limited to operational controls for dust, noise and vibration, protection of groundwater.</p> <p>Reason: In the interests of public safety, residential amenity and protection of the environment.</p>
17.	<p>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 reinstatement of public roads that may be damaged by</p>

	<p>construction transport 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.</p> <p>Reason: To ensure the reinstatement of public roads that may be damaged by construction transport.</p>
18.	<p>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 upon 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.</p> <p>Reason: To ensure the satisfactory reinstatement of the site upon cessation of the project.</p>
19.	<p>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</p>

	<p>matter shall be referred to An Bord Pleanála to determine the proper application of the terms of the Scheme.</p> <p>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</p>
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July 2021

Appendices

Appendix 1 Photographs

Appendix 2 Louth County Development Plan 2015 2021 – extracts