



An
Coimisiún
Pleanála

Inspector's Report

ACP-323453-25

Development

10-year permission for the development of a solar farm with an operational period of 40 years. The development is located proximate to Killough Castle and Tower House, which is a Protected Structure (TRPS 1029). A Natura Impact Statement was submitted to the planning authority with Further Information.

Location

Townlands of Killough, Clohoge and Graigue, Co. Tipperary.

Planning Authority

Tipperary County Council

Planning Authority Reg. Ref.

25/60003

Applicant(s)

Marmoris Limited (trading as Killough Solar)

Type of Application

Permission

Planning Authority Decision

Grant of Permission

Type of Appeal

Third Party v. Grant of Permission

Appellant(s)

1. Moycarkey Community Association.
2. Thomas Dyer and others.

Observer(s)

Thomas Dyer

Date of Site Inspection

19th November 2025.

Inspector

Enda Duignan

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1. Site Location and Description

- 1.1.** The application site has a stated area of 222.23ha. and is located across the rural townlands of Killough, Clohoge, Graigue, Co. Tipperary. The site is located on the southern side of the L4106 local road, c. 2.75km to south-east of the settlement of Holycross and c. 6km to the south of the designated 'Key Town' of Thurles. Killough Castle, a designated Protected Structure, occupies the central portion of the site and is accessed from a gated entrance off the L-4106 to the north. A single storey gate lodge is positioned immediately to the west of the principal entrance, and a tarmacadam access road bisects the site in a north to south direction. It was evident at the time of inspection that the fields on either side of the access road were under arable production. Areas of forestry within the site are located further to west. An unoccupied single storey cottage and associated outbuilding is located on the eastern side of this access road, c. 1.3km from the entrance. The eastern extent of this portion of the site comprises a network of smaller fields which are bound by hedgerows of varying maturities. There are also a cluster of agricultural buildings located within this area of the site.
- 1.2.** Further to the south, there is an existing bridge crossing over the Lisnagonoge Stream. This watercourse flows in an east to west direction and separates the northern and southern portions of the overall site. A formal tree lined avenue leads from the bridge crossing to the castle, and its 19th century extensions, all of which are in good condition. Mature gardens are located to the south-west of the castle and are also maintained in good condition throughout. The original stable yard is located to the castle's north-east and is accessed from an arched entrance. To the north and northeast of the castle are a number of outbuildings and more modern agricultural structures. To the south of the gardens is a mature tree lined avenue which is flanked on either side by fields which are again under cultivation. The field to the south-east of the access track is bordered by a random rubble stone wall. The access track leads to a secondary gated entrance off the L-13101 to the south of the site.
- 1.3.** Whilst the site is located in a rural area, there are a large number of one-off dwellings and working farms located along the surrounding road network. There is an existing quarry located within Killough Hill which adjoins the south-eastern boundary of the

site. The northern slopes of Killough Hill comprises an area of deciduous woodland which form a visually prominent feature within the wider landscape.

2. Proposed Development

2.1. Description

2.1.1. The Applicant is seeking a 10 year permission for a solar PV development with a 40-year operational lifespan. In summary, the development shall comprise:

- 745,168sq.m of solar photovoltaic panels on ground mounted steel frames,
- 23 no. inverter/transformer stations,
- Underground power and communication cables and ducts,
- Boundary security fencing,
- 1 no. Medium Voltage (MV) Ring Main Unit (RMU) Control Building,
- New internal access tracks and associated drainage infrastructure,
- Continued use of existing site entrances off the L-4106 and L-13101 local roads,
- CCTV/Lighting posts,
- Landscaping,
- Biodiversity enhancement features,
- Temporary works to the existing site entrance, and,
- All associated site services and works.

2.1.2. Within the Applicant's documents, it is stated that a separate consenting procedure will be entered into for the 110kV electrical GIS substation and associated works which will connect the solar farm to the national grid via the adjacent overhead 110kV Killhill-Thurles over-head transmission line. This has been identified within the Applicant's documents as the '110kV GIS Substation site' which they note will be Strategic Infrastructure Development (SID) under section 182A of the Planning and Development Act 2000 (as amended).

2.1.3. The megawatt (MW) output for the proposed solar farm has not been identified in the application documents. It is stated that this has not been provided as it is difficult to be precise on the output as there are a number of factors which will govern the final energy output of the facility. The area of the panels in square metres is instead

included in the development description and the accompanying reports which they note is a standard approach for solar farm planning applications.

- 2.1.4. The proposed development comprises PV Solar panels laid out over an area of c. 745,168m² in arrays over a c. 222.23ha site. Each PV panel is 1,000mm by 2,000mm, and panels will be secured to metal frame support structures, known as tables. It is noted that the maximum height of PV panels on the tables will be 3.2m. The tables will be fixed to the ground by either steel pile fixings, earth screw fixings or concrete shoes. Solar panels will be orientated to the south for maximum solar energy capture and will be separated by 2.1m with a 15 degree tilt.
- 2.1.5. The proposals include the installation of 23 no. hardstanding areas (each of 15m x 8m) across the site. Electrical skids are located within the hardstanding areas at points indicated throughout the site to serve the solar panels. Each hardstanding will contain between 1-3 no. electrical skids, with the total to be finalised during detailed design. Transformers in the electrical skids will change the voltage of the AC current to 33kV. The generated electricity will then be transported via underground cables to the 110kV Gas Insulated Switchgear (GIS) substation at Graigue, where it is further stepped up to 110kV before it is connected by underground cables to the existing Killhill-Thurles 110kV overhead line which traverses the substation site.
- 2.1.6. Electricity generated by the solar farm will be collected at the Ring Main Unit (RMU) Control Building by an internal circuit of buried cables from the inverter/transformer stations located throughout the site. The RMU Control Building will measure c. 15.3m x c. 7.4m and will be located proximate the northern site entrance. Electricity generated by the solar farm will be collected at the RMU Control Building by an internal circuit of buried cables from the inverter/transformer stations located throughout the site. All electrical cabling linking tables of PV panels to electrical skids and RMU control building will be underground, unless prohibited from doing so within the archaeological non-development areas. Where underground electrical cable works may potentially impact any unrecorded sub-surface archaeological remains, cables will be attached to the rear of the solar panel fixings, and the frames will be housed in concrete shoes instead of being pilled or screwed into the ground.

- 2.1.7. As part of the initial proposals, access to the site was to be achieved via the existing site entrances off the L-4106 to the north of the site, with access to the south of the site provided from the existing entrance on the L-13101. In order to achieve adequate sightlines and accommodate construction works from the northern site entrance, temporary works were proposed to the existing entrance onto the L-4106. The temporary works included the disassembling of the western entrance pier and part of the eastern entrance splay wall, and its reconstruction following the completion of the project. Internal access tracks will be provided within the solar farm and will measure 3.5m in width and will total c. 9,874m in length (i.e. c. 3,081m of existing access tracks and c. 6,793m of proposed access tracks). It is noted that all access tracks within the site will be constructed from permeable road gravel.
- 2.1.8. A perimeter fence of timber post and wire construction (deer fencing) is proposed inside the perimeter hedgerows. The perimeter fencing will have a total length of c. 11,250m and mammal access points will be included in the fence design at 100m intervals. Details of the proposed perimeter fencing are provided on Drawing No. P24169-FT-XX-XX-DR-PL-0400 'Solar Farm Fence & Gate Details'.
- 2.1.9. It is noted that internal and perimeter field boundaries comprising hedgerows and tree lines will generally be retained for ecology and landscape protection and are treated as exclusion areas. Existing hedgerows and treelines are to be maintained and enhanced internally throughout the site. It is also proposed to provide new hedgerow planting throughout the site to enhance existing hedgerows to provide additional volume and density. The Applicant notes that an extensive biodiversity enhancement area (c. 42.23ha.), Archaeological and Cultural Heritage buffer areas (c. 25.35ha.) and Existing Forrest and Bird/River buffer areas (c. 28.93ha.) will remain free from development and will be set aside for biodiversity protection and enhancement and archaeological preservation. It is intended that the habitats within these biodiversity lands will be managed and made more suitable for species.
- 2.1.10. As noted, Killough Castle and Tower House are centrally located within the site and is a designated Protected Structure (TRPS 1029). It is noted that no works are required directly to the protected structure. However, minor works were originally proposed within its extended curtilage (i.e. temporary works to the existing entrance). As detailed

above, the temporary works included the disassembling of the western entrance pier and part of the eastern entrance splay wall, and its reconstruction following the completion of the project.

2.1.11. CCTV cameras will be installed on posts of the perimeter fence, or on the PV tables and will be directed internally within the site and shall not monitor lands outside of the boundary. It is stated that the CCTV will operate using passive infra-red and it is confirmed that no lighting is required within the solar farm for the operation of CCTV cameras.

2.1.12. In terms of construction phase, 2 no. construction compounds are proposed on a temporary basis, each having an area of c. 2,800sq.m. Upon completion, the construction compounds will be backfilled with solar panels. Lighting posts will be installed around the temporary construction compounds and will be directed internally within the proposed development facing away from hedgerows, riparian buffer, residential and any other light sensitive receptors within proximity to the boundary of the proposed solar farm. It is stated that the use of motion sensor lighting will be utilised which will activate by movement within a specific range of the sensor security light.

2.2. Amendments to Proposed Development at Further Information Stage

2.2.1. It is noted that concerns were raised by the Planning Authority at further information (FI) stage regarding the adequacy of the sightlines at the northern site entrance. In response, it was determined by the Applicant that that the required sightlines at the northern entrance could not be achieved due to site constraints, including existing splayed stone boundary walls, mature trees and roadside vegetation along with Third-party land ownership. In this regard, the northern entrance was no longer proposed for access for the construction or operation of the proposed solar farm, and all traffic would utilise the southern access only.

2.2.2. In response to concerns raised regarding potential archaeological impacts, revised plans were submitted showing the removal of concrete shoes at certain locations and Archaeological Areas AA1, AA2 and AA3 protected through the removal of panels. It is also noted that the panel array associated with AA3 was amended to reflect the absence of an enclosure, as previously believed based on the geophysical survey,

with the test trenching confirming the presence of a kiln/charcoal production pit.

2.2.3. Furthermore, the Applicant's FI response was accompanied by a Natura Impact Statement (NIS).

2.3. Submitted Documentation

2.3.1. The application included the following accompanying documents:

- Planning and Environmental (P & E) Report prepared by Fehily Timoney and Company,
- Ecological Impact Assessment (EclA) prepared by Fehily Timoney and Company,
- Appropriate Assessment Screening report prepared by Fehily Timoney and Company,
- Flood Risk Assessment prepared by JBA Consulting,
- Construction Environmental Management Plan (CEMP) (includes Preliminary Decommissioning Plan appended), prepared by Fehily Timoney and Company,
- Landscape and Visual Impact Assessment (LVIA), prepared by Macro Works,
- Glint and Glare Assessment (G & C Report), prepared by Macro Works,
- Photomontages, prepared by Macro Works,
- Landscape Mitigation Plans, prepared by Macro Works, and,
- Archaeological and Architectural Heritage Assessment, prepared by IAC Archaeology (includes Geophysical Survey Report)

2.3.2. Subsequent to the request for FI by the Planning Authority, the following key documents were submitted by the Applicant:

- Further Information Response Report, prepared by Fehily Timoney and Company,
- Natura Impact Statement (NIS), prepared by Fehily Timoney and Company,
- Archaeological Assessment (AIA) report, prepared by IAC Archaeology, and,
- Revised Site Plan Drawings Showing Underground Cable and updated archaeological layout, as completed by Fehily Timoney and Company.

3. Planning Authority Decision

3.1. Decision

3.1.1. The Planning Authority granted planning permission for the proposed development subject to compliance with 14 no. standard conditions. Conditions of note include:

- Condition No. 2 confirms that the period during which the development may be carried out shall be 10 years from the date of the Order.
- Condition No. 3 (a) stipulates that the permission shall be for a period of 40 years from the date of commissioning. In addition, it requires the solar array and related ancillary structures to be then removed unless, prior to the end of the period, permission had been granted for their retention for a further period. Part (b) of the condition requires the submission a detailed restoration plan prior to commencement of development.
- Condition No. 5 prohibits external artificial lighting save for lighting required for the substation compound.
- Condition No. 6 relates to landscaping requirements.
- Condition No. 10 relates to sightline requirements for the southern site access and restricts the northern site access.
- Condition No. 11 relates to archaeology and cultural heritage.
- Condition No. 13 requires the submission of a finalised CEMP.

3.2. Planning Authority Reports

3.2.1. Planning Reports

3.2.1.1. The Tipperary County Council Planning Reports form the basis of the decision. The First Planning Report dated 25th February 2025 provided a description of the site and subject development, an outline of the site's planning history, a summation of the public submissions and referral responses on file and a description of the relevant planning policy context. In terms of their assessment, the Planning Authority was satisfied that the principle of development was acceptable at this location. Furthermore, the layout of the proposed development was deemed to be well considered and designed to the satisfaction of the Planning Authority. In terms of potential visual impacts, it was noted that the residual impact was considered to be low once the proposed landscape mitigation boundary planting has become established. Notwithstanding the foregoing, a number of issues were raised during

their assessment which formed the basis of the Planning Authority's FI request. These are summarised as follows:

- A requirement for a revised site layout plan clearly indicating the required sightlines at each entrance in accordance with the provisions of Section 6.1 and Tables 6.1 and 6.2 of the Tipperary County Development Plan, 2022-2028,
- The Applicant was required to engage the services of a suitably qualified, licensed Archaeologist, (as per National Monuments (Amendment) Acts 1930—2004) to carry out an Archaeological Impact Assessment at the proposed development site.
- The submission of a revised site plan drawing showing the proposed underground cabling that will be developed within the application site.
- The Applicant was requested to submit predicted impacts of all simultaneous construction activities, with appropriate mitigation measures.
- The submission of an NIS inform a Stage 2 AA of the project in order to assess the effects of the development on the relevant Natura 2000 site (Lower River Suir SAC 002137).

3.2.1.2. An FI response was received on 5th June 2025 and was deemed to contain significant FI. The second Planning Report on file signed 24th July 2025 provides an assessment of the Applicant's FI response. A summary of the assessment and the revisions to the proposed development are included as follows:

1. In response to Item No. 1, it is now proposed to use the southern entrance for both construction and operational traffic. It is confirmed that the northern entrance is not to be used and the temporary works to this entrance are therefore no longer required. This revised access arrangement was deemed to be acceptable by the Planning Authority.
2. In response to Item No. 2, an Archaeological Impact Assessment (AIA) report was submitted which records the findings of test trenches that were excavated under licence at the location of the recorded monument RMP TS047-098 and the TN047-096. It was stated that sites / features AA1- AA3 will be avoided by the arrangement of the proposed solar arrays, and no negative impacts are predicted. In addition, the following mitigation is proposed:
 - The locations of AA1-AA3 are inspected prior to the commencement of

construction to ensure they are appropriately fenced off to avoid inadvertent impacts by mobile plant traffic.

- All topsoil stripping associated with the proposed development be monitored by a suitably qualified archaeologist. If any features of archaeological potential are discovered during the course of the works further archaeological mitigation may be required, such as preservation in-situ or by record.

This response was deemed to be acceptable to the Planning Authority and suitable conditions were attached to the grant of permission.

3. In response to Item No. 3, revised layout drawing sets were submitted that identified the locations of the underground cabling.
4. In relation to Item 4, the Applicant submitted revised information that appraised cumulative construction noise arising from 2 construction scenarios. Based on the assessment of cumulative noise at the closest properties, it was stated that there is potential for the construction noise limit to be exceeded at Receptor No. 146, west of the main solar farm entrance. It was also confirmed that there is no change to the mitigation measures recommended in section 11.6 of the P & E Report for this location.
5. Following the consideration of mitigation measures as outlined in the submitted NIS, the Planning Authority were satisfied that the proposed project would not adversely affect the integrity of Lower River Suir SAC [site code 002137] in view of the site's Conservation Objectives.

3.2.1.3. Overall, the Planning Authority was satisfied that the Applicant's response to the FI requests was acceptable, and permission was granted for the proposed development subject to compliance with 14 no. conditions, as discussed above.

3.2.2. **Other Technical Reports**

3.2.2.1. Thurles District Engineer: An initial report on file from the Local Authority's district engineer who recommended FI regarding the requirement for improved sightlines on the proposed site entrance. There is also a recommendation within the report for the Applicant to explore the option of using private lands to install the proposed cable from the solar farm to the proposed substation. I note that these works do not form part of the application which is the subject of this appeal. A second report is on file following the submission of the FI response recommending a grant of permission subject to

compliance with a condition.

3.3. Prescribed Bodies

- 3.3.1. Department of Housing, Local Government and Heritage (National Monuments Service) (referred to herein as the Department): An initial report received from the Department which recommends that further archaeological testing of all potential archaeological features to establish the precise nature and extent of the features and to inform additional mitigation measures. The submission details areas where this further archaeological testing should be undertaken. A second report is on file which has recommended a suite of conditions for Preservation in Situ, Pre-development Archaeological Testing and Licensed Archaeological Monitoring to be included with any grant of planning permission.

3.4. Third Party Submissions

- 3.4.1. A total of 34 no. submissions were initially received by Third Parties in respect of the proposed development. Following the receipt of the Applicant's significant FI response, a further 26 no. submissions were received by the Planning Authority. It is noted that each submission has been summarised in the Planner's Reports on file. There are notable submissions from the Moycarkey Community Association (Third Party appellant which includes a hydrological impact assessment prepared by Hydro-S Engineering Hydrology Consultants). I note that the issues raised in the Third Party appeals are broadly similar to the issues raised at application stage which I will discuss in further detail in Section 8 of this Report. I note that I have considered all submissions in my assessment of the subject proposal and a summary of the key issues raised are included below.

Ecology/Appropriate Assessment (AA)

- The application should be subject to AA and case law is provided.
- The Planning Authority is requested to rigorously assess the proposal in light of its proximity to the Lower River Siur SAC and either satisfy itself that those threats are indeed low, or request that an AA be carried out.
- Failure to adequately assess the impact of the proposed development on the woodlands of Killough Hill (pNHA).
- Concerns regarding the location of the proposed development adjacent to

Galbertstown Bog that contains various species of wildlife that would be endangered.

- The site is hydrologically connected to the Cabragh Wetlands and extra drainage from the site will lead to higher water levels, leading to disruption of protected wildlife.
- Impact of the development on biodiversity including owl, badgers, starlings, stoats, rabbits, buzzard, falcon and bat populations etc. as well as the impact on the Cabragh Wetlands.
- The destruction of the environment negates any green benefits of this application.
- Noise and light pollution and its impact on protected species.
- Concerns regarding the loss of hedgerow habitats.
- Limitations noted regarding the timing and duration of the surveys for badger, bats, butterfly and water quality.
- No assessment of cumulative impacts.
- Concern regarding the limitations in assessment of the NIS where impacts on Marsh Fritillary not properly considered.
- Failure to consult with National Parks and the NPWS.
- Dismissal of potential impacts on groundwater dependent wetlands, downplaying habitat importance, absence of assessment of species of importance.
- Concerns with the effectiveness of the mitigation measures in the NIS regarding impacts on the Lisnagonoge Stream (during a flood event and a normal weather event), concerns with flooding arising from increased runoff, concerns with impacts on the underlying aquifer and impacts on the Lower River Suir SAC and Cabragh Wetlands pNHA.

Built Heritage

- Impacts on the setting of Killough Castle (Protected Structure) by virtue of the change to the historic landscape.
- The proposed development fails to protect the local heritage of Killough Castle and grounds.
- Concerns regarding the adequacy of the Applicant's Architecture and

Archaeology assessments.

- It is argued that the disturbance risks from machinery, trenching, and underground cabling remain significant.

Landscape

- Concerns regarding impact of the development on Killough Hill, the visual character of the landscape and the amenity of hillwalking.
- The solar farm, with its large-scale panels, would have a significant visual impact on the surrounding area. It would disrupt the scenic views and negatively affect the aesthetic character of the landscape.
- The visual impact of the proposed development and proposed mitigation measures in the Landscape and Visual Impact Report are lacking in detail.

Community Consultation

- Failure of the proposed development to have community involvement which is contrary to S07 of the Tipperary County Development Plan.
- There is little evidence of meaningful community consultation.
- Development will not produce long term jobs.
- The development provides no local benefit.

Agriculture & Biosecurity

- Concerns regarding the loss of prime agricultural land.
- The golden vale is traditionally used for food output.
- Concern associated with biosecurity risks.

Residential Amenity

- Health and Safety of the local residences.
- Long-term health hazards are unknown - extremely low-frequency magnetic fields could be carcinogenic.
- Impact on quality of life and property values.
- Concerns regarding the proximity of the proposed development to existing residences.
- The proposed development will adversely impact schools within the

surrounding area.

- Concerns raised regarding noise related impacts and air pollution.
- Glare impacts from the proposed solar panels.

Hydrology

- Impacts of the proposed development on water quality.
- Concerns regarding the use of chemicals for solar panel cleaning.
- Risk of sedimentation, changes in water quality, and downstream hydrological impacts.
- Water quality and effects during flood events - Natural flow of water will be changed and impacts of same not addressed in the application documents.

Traffic & Transportation

- The road network is incapable of safely meeting current demands.
- The local road network does not have the capacity to cater to a development of this scale.
- Concerns regarding access for locals to the road network during the construction phase.
- Objection made to the proposals to lay cables in area where solid rock is present which may potentially damage neighbouring structures.
- The construction and maintenance of the site would likely result in increased traffic, disruption to local communities, and potential wear and tear on the road network.
- Sightlines, width, condition or operational speeds of proposed alternative access road(s) are not in accordance with the standards as set out in the County Development Plan.

Procedural Matters & Policy

- Planning application is incomplete, as a solar farm is non-functional without the grid line, battery storage and substation.
- Multiple objections made to the grid connection and substation associated with the proposed solar farm and the absence of detail regarding same. Concerns highlighted regarding the absence of fire safety and hazard management plan.

- The commercial nature of the development is contrary to the zoning of the site for agriculture.
- Prematurity of the application.
- The applicant has not included in their plans whether they continue to facilitate public access to the woodlands of Killough Hill into the future.
- Instead of a community development fund, a walkway should be provided allowing continued access for the woodland members of the public. Submissions noted that they were given verbal assurances that this could happen and would be investigated. However, it has not formed part of the plans submitted.
- Proposal is contrary to the policies of the County Development Plan, and fails to address the requirements for the request for FI with regarding site access.

4. Relevant Planning History

4.1. A review of the Tipperary County Council Planning Portal and the Commission's case files was carried out on 24th October 2025 to collate any relevant, recent (within 10 years) planning history for the site and surrounding area.

4.2. Appeal Site

4.2.1. No history of planning applications within the boundaries of the subject site.

4.3. Surrounding Area

4.3.1. There is a history of planning applications within the immediate surrounds of the site which typically relate to small scale residential and agricultural developments which are characteristic of the site's rural setting. There is also a history of quarrying on lands within Killough Hill to the south of the site. Furthermore, an application of note within the existing quarry lands include:

- **25/60019:** Permission has been sought on lands to the south of the site adjacent to the Roadstone Killough Quarry consisting of a proposed bio-renewables production facility, buffer screening, ancillary facilities and site access via the existing permitted quarry entrance. The application is the subject of a further information request which has yet to be determined by the Planning Authority.

4.3.2. Table 1 – 2 of the Applicant’s P & E Report has identified approved Solar Energy Developments within 15km of the subject site. These are summarised in the below table for reference.

Table: Solar Energy Developments within 15km

Application Reference No.	Development Description	Distance to site
16/600484	4.2 MVA solar farm comprising photovoltaic panels on ground mounted frames, 4 no single storey inverter/transformer stations, 1 no single storey terminal station, 1 no single storey electrical switch room, security fencing, CCTV and all associated ancillary development works.	c. 2.9km N
19/601159	The construction and operation of solar PV arrays mounted on metal frames on a 37.6ha site, inclusive of an electrical substation compound, up to 10 inverter units, a temporary construction area and ancillary facilities, (inclusive of gross floor space of proposed works up to 248sq.m).	c. 2.3km N
22/60732	A 10-year permission for the construction of a Solar PV Energy Development comprising the installation of Solar Photovoltaic (PV) panels on ground mounted frames/support structures within existing field boundaries.	c. 3.8km N
24/60156 (ABP-322270-25)	A 10 year planning permission for development consisting of the construction of a solar PV development on a c. 129 ha site consisting of the erection of solar panels on ground-mounted galvanised steel frames, string inverters attached to selected ground-mounted galvanised steel frames, 16 no. transformer units, underground cabling, security fencing, etc.	c. 6.6km S
19/601012 (ABP-306933-20)	Construction and operation of solar PV arrays mounted on metal frames on a 38.3 ha site, inclusive of an electrical substation compound, up to 10 no indicative inverter units, a temporary construction area and ancillary facilities (inclusive of gross floor space of proposed works up to 248sq.m.).	C. 8.8km NE
16/600170	A 10 year permission for the construction, operation and decommissioning of a solar photovoltaic panel array to export electricity to the national grid. The solar panel array consists of up to approximately 33,000sq.m. of solar photovoltaic panels supported by ground mounted frames, one electrical control building, 4 number power inverter cabins, underground cable ducts, temporary laydown area, boundary security fence, CCTV, site entrance, and all associated site works.	c. 12.2km NE

5. Policy Context

5.1. International/EU Policy.

5.1.1. RED III (European Renewable Energy Directive (EU/2023/2413))

5.1.1.1. The revised Directive EU/2023/2413 came into force on 20th November 2023. RED III sets an overall renewable energy target of at least 42.5% binding at EU level by 2030, but it is aiming for 45%. This target is raised from the previous 32% target. It means almost doubling the existing share of renewable energy in the EU. The Directive introduces several provisions to facilitate the deployment of photovoltaic (PV) projects, including the designation of renewable acceleration areas by Member States, a simplified and expedited permit granting process for solar PV projects and streamlined environmental assessment procedures for solar PV projects in designated renewable acceleration areas. This Directive has been transposed by way of SI 254/2025 on 6th August 2025.

5.1.2. **REPowerEU Plan 2022 and Directive EU 2018/2001, as amended 18.05.2022**

5.1.2.1. The plan was prepared in response to the Russian invasion of Ukraine. It focuses on the need to end the EU's dependence on Russian fossil fuels and to tackle the climate crisis. It includes the accelerated rollout of renewable energy. It amends the Directive on the Promotion of the Use of Energy from Renewable Sources (Directive EU 2018/2001) to require that 45% of energy is from renewable sources.

5.2. National Policy and Guidance

5.2.1. **Climate Action and Low Carbon Development Act, 2015, as amended**

5.2.1.1. The Act commits Ireland to the objective of becoming a carbon-neutral economy by 2050, reducing emissions by 51% by the end of the decade. Section 17 of the Climate Action and Low Carbon Development (Amendment) Act, 2021 amends the principal act such that Section 15(1) requires:

“(1) A relevant body shall, in so far as practicable, perform its functions in a manner consistent with—

- a) the most recent approved climate action plan,*
- b) the most recent approved national long term climate action strategy,*
- c) the most recent approved national adaptation framework and approved sectoral adaptation plans,*
- d) the furtherance of the national climate objective, and*
- e) the objective of mitigating greenhouse gas emissions and adapting to the*

effects of climate change in the State”.

“Relevant body” means a prescribed body or a public body.

5.2.2. Climate Action Plan 2024 (“CAP24”) and 2025 (“CAP25”)

5.2.2.1. The Climate Action Plan 2024 (CAP24) is the third annual update to Ireland’s Climate Action Plan 2019. The plan is prepared under the Climate Action and Low Carbon Development Act 2015 (as amended, see below), which introduced economy wide carbon budgets and sectoral emission ceilings, to achieve a 51% reduction in emissions by 2030 (relative to 2018 levels) and net zero emissions by 2050. CAP24 sets out the sectoral emission ceilings for the electricity sector (Table 3.2) and, in Table 12.5, KPIs to accelerate renewable energy generation. Key objectives include deploying up to 5 GW of solar power by 2025 and at least 8 GW by 2030. The Plan also details the significant changes required to enhance the electricity grid’s capacity and flexibility.

5.2.2.2. To meet its targets and obligations CAP 24 sets a course for Ireland to halve emissions by 2030 and reach net-zero no later than 2050. In terms of the electricity sector a 75% reduction in emissions based on 2018 levels is required by 2030 and CAP 24 provides that central to achieving this is the strategic increase in the share of renewable electricity to 80% by 2030 including ambitious targets of deploying 9GW of onshore wind, 8GW of solar power and at least 5GW from offshore wind projects.

5.2.2.3. CAP 2025 was published on 15th April 2025. It re-affirms the previous commitment to increase the share of renewable electricity generation to 50% by 2025 and 80% by 2030 including solar targets of up to 5 GW by 2025 and 8 GWs by 2030.

5.2.3. Ireland’s Long-term Strategy on Greenhouse Gas Emissions Reductions 2024

5.2.3.1. The National long-term Climate Action Strategy, entitled Ireland’s Long-term Strategy on Greenhouse Gas Emissions Reductions 2024, sets out indicative pathways, beyond 2030, towards achieving carbon neutrality for Ireland by 2050. The Strategy provides a pathway to a whole-of-society transformation and serves as a vital link between shorter-term Climate Action Plans and Carbon Budgets and the longer-term objective of the European Climate Law and Ireland’s National Climate Objective.

5.2.4. The National Adaptation Framework; Planning for a Climate Resilient Ireland (June 2024)

5.2.4.1. The most recent approved national adaptation framework, the National Adaptation Framework; Planning for a Climate Resilient Ireland June 2024 (NAF) is Ireland's second statutory National Adaptation Framework (NAF) and was published on 5th of June 2024. The NAF and its successors do not identify specific locations or propose adaptation measures or projects in individual sectors, but sets out the context to ensure local authorities, regions and key sectors can assess the key risks and vulnerabilities of climate change, implement climate resilience actions and ensure climate adaptation considerations are mainstreamed into all local, regional and national policy making. The NAF identifies 13 (previously 12) priority sectors under 7 lead Departments that are required to prepare sectoral adaptation plans under the Climate Act in accordance with the Sectoral Planning Guidelines for Climate Change Adaptation which were published in 2018 and have been updated in 2025. The original 12 sectoral Plans prepared in 2019 and a new sectoral Plan for tourism prepared in 2025. The following Electricity and Gas Sectoral Plan is relevant to the subject proposal.

5.2.5. Electricity and Gas Networks Climate Change Sectoral Adaptation Plan 2025 (EGN SAP 2025)

5.2.5.1. This is the second Sectoral Climate Change Adaptation Plan for the Electricity and Gas Networks Sector, as required under the provisions set out in the Climate Action and Low Carbon Development Act 2015 and the National Adaptation Framework and focuses on climate adaptation. It is a strategic document designed to help Ireland's electricity and gas networks build long term resilience to climate impacts and extreme weather events. The Plan has been developed through the 6-step adaptation planning process set out in the Sectoral Adaptation Planning Guidelines, and has been informed by the latest science and stakeholder engagement. To address the risks posed by climate change to the EGN sector, the EGN SAP 2025 sets out a EGN SAP Vision underpinned by three goals: (i) Establish structures to strengthen and enable action across the EGN sector to increase resilience; (ii) Strengthen the capacity of the EGN sector to ensure long-term resilience and (iii) Deliver a sustainable and resilient

EGN sector. These goals are supported by 7 objectives and 38 actions, ranging from enhancing existing SAP governance processes, to prioritising research, and strengthening policy integration. In addition, delivery of this Plan aims to prioritise the key principles outlined in the 2024 National Adaptation Framework, to ensure just resilience, support nature-based solutions, and avoid maladaptation. Each action is linked to delivery owners, timelines, and relevant national strategies, ensuring alignment with Ireland's climate commitments.

5.2.6. Project Ireland 2040: National Planning Framework (“NPF”), First Revision of the NPF and the National Development Plan (“NDP 2021-2030”)

5.2.6.1. The Project Ireland 2040 is the Government's long-term overarching strategy to make Ireland a better country for all and to build a more resilient and sustainable future. The NPF and the NDP combine to form Project Ireland 2040. The NPF sets out to deliver a spatial strategy through a set of National Strategic Outcomes (“NSO's”), including: ‘Transition to a Low Carbon and Climate Resilient Society’ which establishes a national objective of achieving transition to a competitive, low carbon, climate resilient and environmentally sustainable economy by 2050. The first revision of the NPF has been approved by both Houses of the Oireachtas, following the decision of the Government to approve the final revised NPF on 8th April, 2025. The ‘First Revision’ introduces regional renewable electricity capacity allocations for each of the three Regional Assemblies to be achieved by 2030 which for the Eastern and Midland Regional Area is an additional 3,294MW, for solar PV or 45% of the National share in 2030. This is the minimum required for solar generation to meet the 2030 emission reductions in the electricity sector. The NDP 2021-2030 sets out the investment priorities that will underpin the implementation of the National Planning Framework, through a total investment of approx. €116 billion. It recognises that Ireland's energy system requires radical transformation in order to achieve its 2030 and 2050 targets and objectives. It recognises that investment in renewable energy sources affords Ireland an opportunity to decarbonise our energy generation, but that this must be complemented by wider measures to moderate growth in energy demand, increase energy security, diversify supply sources and facilitate more variable electricity generation on the grid.

5.2.7. Relevant National Policy Objectives (NPO) include:

- NPO 69 Reduce our carbon footprint by integrating climate action into the planning system in support of national targets for climate policy mitigation and adaptation objectives, as well as targets for greenhouse gas emissions reductions as expressed in the most recently adopted carbon budgets.
- NPO 70 Promote renewable energy use and generation at appropriate locations within the built and natural environment to meet national objectives towards achieving a climate neutral economy by 2050.
- NPO 71 Support the development and upgrading of the national electricity grid infrastructure, including supporting the delivery of renewable electricity generating development.

5.2.8. **Ireland's 4th National Biodiversity Action Plan 2023–2030**

5.2.8.1. Ireland's 4th National Biodiversity Action Plan (NBAP) sets the national biodiversity agenda for the period 2023-2030 and aims to deliver the transformative changes required to the ways in which we value and protect nature. The NBAP will continue to implement actions within the framework of five strategic objectives, while addressing new and emerging issues:

- Objective 1 - Adopt a Whole of Government, Whole of Society Approach to Biodiversity,
- Objective 2 - Meet Urgent Conservation and Restoration Needs,
- Objective 3 - Secure Nature's Contribution to People,
- Objective 4 - Enhance the Evidence Base for Action on Biodiversity
- Objective 5 - Strengthen Ireland's Contribution to International Biodiversity Initiatives.

5.2.9. **National Energy Security Framework, April 2022**

5.2.9.1. The Framework addresses Ireland's energy security needs in the context of the war in Ukraine. It coordinates energy security work across the electricity, gas and oil sectors. The Framework takes account of the need to decarbonise society and the economy, and of targets set out in the Climate Action Plan to reduce emissions. Theme 3 - Reducing our Dependency on Imported Fossil Fuels, focusses on three areas of work:

7.1 Reducing demand for fossil fuels.

7.2 Replacing fossil fuels with renewables, including solar energy.

7.3 Diversifying fossil fuel supplies.

5.2.9.2. Under 7.2, the statement notes that prioritising renewables is in line with the requirements of the recast Renewable Energy Directive and the EC REPowerEU action statement. The Commission has called on Member States to ensure that renewable energy generation projects are considered to be in the overriding public interest, and the interest of public safety, and the Government supports this request.

5.3. Regional Policy

5.3.1. Regional Spatial & Economic Strategy – Southern Region

5.3.1.1. This document seeks to support the delivery of the programme for change set out in Project Ireland 2040, the National Planning Framework (NPF) and the National Development Plan 2018-27 (NDP), and to ensure coordination between the City & County Development Plans and Local Enterprise & Community Plans. It seeks to facilitate the sustainable development of additional electricity generation capacity throughout the region and to support the sustainable expansion of the transmission network. The Regional Authority seeks to ensure that future strategies and plans for the development of renewable energy, and associated infrastructure, will promote the development of renewable energy resources in a sustainable manner.

5.3.1.2. The following relevant Regional Policy Objectives (RPOs) 87, 95, 98, 219 and 221 deal with renewable energy.

- RPO 87 - Low Carbon Energy Future: The RSES is committed to the implementation of the Government's policy under Ireland's Transition to a Low Carbon Energy Future 2015-30 and Climate Action Plan 2019. It is an objective to promote change across business, public and residential sectors to achieve reduced GHG emissions in accordance with current and future national targets, improve energy efficiency and increase the use of renewable energy sources across the key sectors of electricity supply, heating, transport and agriculture.
- RPO 95 - Sustainable Renewable Energy Generation: It is an objective to support implementation of the National Renewable Energy Action Plan (NREAP), and the Offshore Renewable Energy Plan and the implementation of

mitigation measures outlined in their respective SEA and AA and leverage the Region as a leader and innovator in sustainable renewable energy generation.

- RPO 98 - Regional Renewable Energy Strategy: It is an objective to support the development of a Regional Renewable Energy Strategy with relevant stakeholders.
- RPO 219 - New Energy Infrastructure: It is an objective to support the sustainable reinforcement and provision of new energy infrastructure by infrastructure providers (subject to appropriate environmental assessment and the planning process) to ensure the energy needs of future population and economic expansion within designated growth areas and across the Region can be delivered in a sustainable and timely manner and that capacity is available at local and regional scale to meet future needs.
- RPO 221 - Renewable Energy Generation and Transmission Network:
 - a. Local Authority City and County Development Plans shall support the sustainable development of renewable energy generation and demand centres such as data centres which can be serviced with a renewable energy source (subject to appropriate environmental assessment and the planning process) to spatially suitable locations to ensure efficient use of the existing transmission network;
 - b. The RSES supports strengthened and sustainable local/community renewable energy networks, micro renewable generation, climate smart countryside projects and connections from such initiatives to the grid. The potential for sustainable local/community energy projects and micro generation to both mitigate climate change and to reduce fuel poverty is also supported;
 - c. The RSES supports the Southern Region as a Carbon Neutral Energy Region.

5.3.2. Other Relevant Guidelines

5.3.2.1. Regard is also given to:

- EU Energy Directives and Roadmaps and associated national targets for renewable energy by sector.
- National Renewable Energy Action Plan, 2010.

- Strategy for Renewable Energy, 2012-2020.
- Ireland's Transition to a Low Carbon Energy Future, DCENR, 2015-2030.
- Renewable Energy Policy and Development Framework, DCENR, 2016.
- Architectural Heritage Protection Guidelines for Planning Authorities, Department of Housing, Local Government and Heritage, 2011. (updated in 2022).
- Ireland's 4th National Landscape Strategy for Ireland 2015-2025,
- The Planning System and Flood Risk Management, 2009,
- Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment, (Department of Housing, Local Government and Heritage) (August 2018).
- Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities (Department of Environment, Heritage and Local Government, 2009).

5.4. Local Policy

5.4.1. Tipperary County Development Plan, 2022 – 2028

5.4.1.1. The operative Development Plan for the purpose of this assessment is the Tipperary County Development Plan, 2022 – 2028 (referred to herein as the Development Plan). The site is located within a rural area of the county, outside the settlement boundary of any designated settlements.

5.4.1.2. Chapter 3 (Low-Carbon Society & Climate Action) contains the following policies and objectives of note:

- Policy 3-1 - Promote and facilitate renewable energy development, in accordance with the policies and objectives of the Tipperary Renewable Energy Strategy 2016 (and any review thereof), and the Tipperary Climate Adaptation Strategy 2019.
- Objective 3-A - Support and facilitate the implementation of European and National objectives for climate adaptation and mitigation, and to prepare a Climate Action Plan for Tipperary in compliance with the Climate Action and Low Carbon Development (Amendment) Bill (DECC, 2020) and any review thereof.

- Objective 3-E - Support, in collaboration with stakeholders, research and innovation in smart renewable energy technologies and initiatives to accelerate diversification away from fossil fuels.

5.4.1.3. Chapter 10 relates to ‘Renewable Energy and Bioeconomy’ and contains a number of relevant policies and objectives including inter alia:

- Policy 10-1 - Support and facilitate new development that will produce energy from local renewable sources such as hydro, bioenergy, wind, solar, geothermal and landfill gas, including renewable and non-renewable enabling plant, subject to compliance with normal planning and environmental criteria, in co-operation with statutory and other energy providers. The provisions of the Tipperary Renewable Energy Strategy (and any review thereof) as set out in Volume 3, will apply to new development.
- Objective 10 – A - Support the Climate Action Plan (DECC, 2019) as it relates to renewable energy production, having consideration to the strategic importance and potential benefits of renewable energy investment to rural communities.
- Objective 10 - C To continue to support renewable energy development and to maintain a positive framework for development through the review of the Renewable Energy Strategy over the lifetime of the Plan.

5.4.1.4. Policies of relevance to the subject proposal within Chapter 11 (Environment and Natural Assets) include:

- Habitats Directive (Policy 11-1 and 11-2),
- NHAs and pNHAs (11-3),
- Biodiversity (11-4),
- Water quality (11-7),
- Flood risk (11-9 and 11-10),
- Landscape and visual amenity (11-16 and 11-17), and,
- Noise disturbance (11-18).

5.4.1.5. Policies of relevance to the subject proposal within Chapter 13 (Built Heritage) include 13-4, 13-5 and 13-6.

5.4.1.6. Chapter 15 of the Development Plan relates to Water and Energy Utilities and relevant policies and objectives include 15-7, 15-E and 15-F.

5.4.1.7. The Development Plan's Renewable Energy Strategy is provided in Appendix 2, with Section 6.8 outlining the key considerations for solar farm developments. The policy states that *"There has been recent interest in the development of large-scale ground mounted solar PV installations. The Council will facilitate proposals for solar PV installations; subject the demonstration by the applicant that the proposal will not have a significant adverse impact on the built and natural environment, the visual character of the landscape or on residential amenity. Particular care must be taken in respect to proposals for commercial PV in Primary and Secondary Amenity Areas, where the Council may require a Visual Impact Assessment (VIA) in support of the proposal, particularly where there is potential for cumulative visual impact as a result on existing and permitted solar development in the area"*.

5.4.1.8. Policies and objectives of note include:

- RE1 - Protection of the Environment: It is the policy of the Council that renewable energy developments and associated supporting infrastructure shall be assessed for compliance with the environmental standards and policies as set out in the County Development Plan (as varied) and the Development Management standards set out in Chapter 10.
- RE2 - Landscape Capacity and Renewable Energy Development: It is the policy of the Council to facilitate new development which integrates with and respects the character, sensitivity and value of the landscape in accordance with the guidelines set out in the Tipperary Landscape Character Assessment 2016 and the policies as set out in the County Development Plan (as varied) and the Development Management standards set out in Chapter 10.
- RE10 - It is the policy of the Council to facilitate solar energy installations where it is demonstrated to the satisfaction of the Council that there will be no significant adverse impact on the built and natural environment, the visual character of the landscape or on residential amenity.
- SO1 - It is an objective of the Council to support the implementation of the

targets and objectives of the White Paper for Energy 2015.

- SO13 - It is an objective of this Renewable Energy Strategy to support the objectives of the White Paper for Energy 2015 as they relate to energy storage as an important element of renewable energy systems in the county. Volume 2

5.4.1.9. Appendix 3 of the Development Plan contains the Landscape Character Assessment and Schedule of Views and Routes. The application site is located in the open countryside and is not located within a Primary or Secondary Amenity Area landscape designation. The site is contained in the plains of lowland pastures in Thurles Hinterlands and the River Suir Central Plain Landscape Character Area (LCA). The Development Plan Landscape Character Assessment identifies the site as being located with an area of robust/normal sensitivity with medium compatibility and low likely landscape effects from solar energy developments.

5.4.1.10. Appendix 6 of the Development Plan sets out the various 'Development Management Standards'.

6. Natural Heritage Designations

6.1.1. Natura 2000 European Sites within proposed development's Zone of Influence (Zoi) are as follows:

6.1.1.1. Special Areas of Conservation (SACs)

- Lower River Suir SAC (002137) - The proposed development is hydrologically connected to the site via the Lisnagonoge stream/river (c. 2.7km downstream (c. 1.1km direct distance)).

6.1.1.2. Natural Heritage Areas (NHA) & proposed National Heritage Areas (pNHA)

- There are no Natural Heritage Areas (NHA) located within 15km of the site. However, there are 11 no. proposed National Heritage Areas (pNHA) within 15km of the site. The nearest pNHA being Killough Hill, where the south-eastern corner of the site encroaches within the pNHA. Other pNHAs within the surrounding area include:
 - o Cabragh Wetlands pNHA (001934) - c. 1.1km (Instream distance c.

2.7km),

- Ardmayle Pond pNHA (000945) - c. 6.4km,
- Laffansbridge pNHA (000965) - c. 6.7km,
- Power's Wood pNHA (000969) - c. 11.8km,
- Aughnaglanny Valley pNHA (000948) - c. 12.3km,
- Knockroe Fox Covert pNHA (000964) - c. 12.4km,
- Knockavilla National School pNHA (000649) - c. 12.4km,
- Ormond's Mill pNHA (002066) - c. 13.6km,
- Dundrum pNHA (002096) - c. 13.8km, and,
- Rockwell College Lake pNHA (000970) - c. 14.6km.

7. EIA Screening

Solar Energy development

- 7.1.1. Solar energy development is not listed as a class of development for the purposes of EIA under Part 2 of the Fifth Schedule, within the Planning and Development Regulations, 2001 (as amended). In this regard, a requirement for preliminary examination or EIA does not arise for this type of development.
- 7.1.2. The proposed solar energy development will require a connection to the national grid. While this appeal relates to a decision under S.34 of the Act, an application for such grid connection would fall under the Strategic Infrastructure provisions of the act requiring a separate application under S.182. A grid connection of this nature would not constitute a class of development under Schedule 5 and would not require preliminary examination or EIA.

Rural Re-structuring

- 7.1.3. However, it is noted that rural restructuring is listed as development for the purposes of Part 10 under the heading of *Agriculture, Silviculture and Aquaculture*, Class 1 of Part 2 of the Fifth Schedule, with the following stated under subsection (a) '*Projects for the restructuring of rural land holdings, undertaken as part of a wider development, and not as an agricultural activity that must comply with the European Communities (Environmental Impact Assessment) (Agriculture) Regulations 2011, where the length of field boundary to be removed is above 4 kilometres, or where re-contouring is above*

5 hectares, or where the area of lands to be restructured by removal of field boundaries is above 50 hectares.'

- 7.1.4. The proposed development involves the removal of a limited extent of hedgerow, in total comprising c. 190m. Such removal is associated with access requirements and does not result in the amalgamation or enlargement of existing fields. This proposed removal of hedgerow is significantly below the EIA threshold of 4km as outlined under Planning and Development Regulations, 2001 (as amended). The development would, however, constitute sub-threshold development for rural restructuring (Class 1(a), Part 2 of Schedule 5). I refer to Appendix 3 Pre-screening and Appendix 4 which contains the final EIA Screening Determination on file.

Conclusion

- 7.1.5. Having regard to the nature and scale of development and the absence of any significant environmental sensitivity in the vicinity of the site, as well as the criteria set out in Schedule 7 of the Planning & Development Regulations 2001 (as amended), and the Schedule 7A information submitted by the Applicant, following a screening determination as detailed under Appendix 4 of this report, it can be concluded that there is no real likelihood of significant effects on the environment arising from the proposed development. The need for environmental impact assessment can, therefore, be excluded following this screening determination and an EIA is not required.

8. The Appeal & First Party Response

8.1. Third Part Appellants

- 8.1.1. The Commission received a total of 2 (two) no. appeals from the following Third Parties:
- Moycarkey Community Association, and,
 - Thomas Dyer and others.
- 8.1.2. A summary of the issues raised in each appeal is presented in the below table. The corresponding First Party response to the issues raised within appeals is also summarised in the below table for ease of reference.

Table: Appellant’s Grounds of Appeal & First Party Response.

Moycarkey Community Association	
<p>It is noted that this appeal is accompanied by drone footage of the site and the surrounding area which I have reviewed. Furthermore, a Hydrological Impact Assessment (Hydro-S Engineering Hydrology Consultants Ltd) accompanies the appeal which was prepared on behalf of the appellant and accompanied the appellant’s submission to the Applicant’s FI response. I note that the issues raised within the consultant’s report are addressed in my assessment of the proposals. The appeal also notes solar farms that have been refused planning permission in Ireland.</p>	
Grounds of Appeal	First Party Response
<p><u>Ground 1 - Conflict with Habitats Directive</u></p> <p>The Applicant’s FRA concludes minimal risk. However, the Independent Hydrological Impact Assessment Report, prepared on behalf of the appellant identifies major risks to the SAC and Cabragh Wetlands. This is a direct conflict in expert assessments.</p> <p>Reliance on mitigation measures to claim "no adverse effect" contradicts Article 6(3) of the Habitats Directive. It is stated that mitigation cannot substitute for certainty, and the precautionary principle must apply.</p> <p>It is contended that cumulative impacts with forestry and agricultural nutrient inputs in the catchment are not fully considered, despite explicit requirements under the Directive.</p>	<p>It is noted that the AA screening confirmed that no works were proposed within the 20m buffer of the Lisnagonoge stream which traverses the site and 10m from smaller streams on site. It is also confirmed that foundations are likely to be no more than 0.7m deep and therefore there is no potential for pollutants to enter groundwater as a result of construction. The groundwater body underlying the site is not at risk.</p> <p>In response to the Planning Authority’s FI request, a NIS was prepared which reaffirmed that no in-stream works are proposed as part of the development with the exception of an in-bridge cable crossing. In this regard, the potential for impacts on surface water quality as a result of suspended solids discharge is considered (no concrete works are proposed near the watercourses) for the Lower River Suir SAC. Mitigation measures proposed during the construction phases are outlined in Table 4-4 of the NIS which were determined to be acceptable by the Planning Authority.</p> <p>It is further noted that the appellant’s included a desktop hydrology report prepared by Hydro-S Engineering which is the same that was submitted to the Planning Authority following the readvertisement of the application at FI stage. It is stated that the appellant’s report is a desktop study only and does not take into account the design as submitted by the applicant, which is supported by a site-specific assessment as provided in the submitted NIS and FRA conducted by Applicants consulting engineer.</p> <p>It is highlighted that the Planning Authority recognised the provision of the appellant’s Hydro-S report in their Planner’s Report. However, the lack of site specific and evidence-based assessments provided no material contradiction to the submitted NIS and FRA which relied entirely on evidence based and site specific assessments and mitigation.</p>
<p><u>Ground 2 – Ecology and Biodiversity</u></p> <p>Concerns regarding the adequacy and detail provided in the Applicant’s Ecological Impact Assessment (EclA). Key omissions and</p>	<p>It is stated that the EclA was prepared by qualified ecologists in line with NPWS and CIEEM guidance. Surveys were conducted during the ecological season and supplemented with desk studies and national datasets, ensuring a robust baseline.</p>

inadequacies include:

- Floating River vegetation (habitat code 3260) is listed in Annex I of the EU Habitats Directive. Therefore, the protected status of the Lisnagonoge River was not properly recognised.
- Although the presence of otter was noted, the limited survey timeframe could not scientifically assess its presence or activity.
- Presence of Marsh Fritillary butterfly (a protected species) was recorded on site. However, no further surveys were undertaken beyond two sightings in July 2024.
- Killough Hill is a pNHA due to its limestone and calcareous grasslands. This important designation was omitted from the NIS despite its proximity to the solar farm.
- The scale of the solar complex may confuse migratory birds moving between the Suir SAC and Cabragh Wetlands NHA, as panel reflections can be mistaken for water bodies.

Floating river vegetation (habitat 3260) was identified within the EclA and NIS as being a qualifying interest of the Lower River Suir SAC. It is noted that the proposal avoids all works in or near the Lisnagonoge River, and applies a 20m non development riparian buffer, and includes water quality measures.

It is stated that Otter surveys were undertaken during site visits by a qualified ecologist in accordance with NPWS guidelines. The Lisnagonoge Stream will not be physically affected by the proposal, with a riparian buffer of 20m applied either side of the entire stretch of river at the site, with buffer zones and water quality protection measures ensuring foraging areas or commuting otters are not disturbed. The precautionary principle was applied by assuming potential usage when designing the proposal, and ensuring protective measures were implemented regardless of the survey detections.

The EclA confirmed 2 no. incidental sightings of Marsh Fritillary in 2024. However, no suitable habitat for permanent breeding colonies (i.e. extensive wet grasslands with Devil's-bit Scabious) was recorded within the Proposed Development. The lack of suitable habitat for Marsh Fritillary can be attributed to the predominant current land use in the area, which is used as tillage and agriculturally improved grassland which is of low ecological value, and possesses little or no fauna to support a colony of Marsh Fritillary. It is the opinion of the surveying ecologist that the sightings were likely that of individuals traversing the site and not being resident. It is stated that biodiversity protection and enhancement measures will create and enhance existing habitats through retention and planting of hedgerows and improved field margins and grasslands. Further measures to encourage the population of Marsh Fritillary, and wildlife in general, will include a prohibition in the use of herbicides in buffer areas, with sheep/goats typically used as an alternative to herbicide spraying to manage grass, thus, improving the habitat required for Marsh Fritillary to establish a colony which does not exist at present.

Killough Hill pNHA, while outside the Proposed Development, was acknowledged within the EclA baseline review. The Applicant notes that it was shown there will be no habitat loss, fragmentation or hydrological impact on Killough Hill pNHA as part of the proposed development.

Concerns about bird strike or panel reflection are unfounded and were not identified as being of concern by the Planning Authority. The

	<p>assessments submitted show panels are typically tilted, thus preventing rainwater settling on the panel surface and creating a reflective surface which may resemble water from a distance. Furthermore, solar panels are non-reflective, and the panel arrays are visually broken by hedgerows, trackways and topography. It is stated that the site has no visual connection to the Cabragh Wetlands, thus reducing any concerns regarding birds confusing panels with waterbodies even further.</p>
<p><u>Ground 3 – Archaeology and Cultural Heritage</u></p> <p>The Applicant's Archaeological Assessments confirm the presence of significant remains (enclosures, fulacht fiadh, kiln/charcoal pit).</p> <p>The Department in their reports on file warned repeatedly that unrecorded archaeology across such a vast site is highly likely to be destroyed by the proposed development.</p> <p>It is stated that the Applicant's P & E Report downplays these risks, suggesting preservation by avoidance, without clear mechanisms.</p>	<p>From a Cultural Heritage perspective, the Applicant's consultant archaeologist recommended a significant buffer to the south of the site so as to preserve the setting of Killough Castle and Tower House. A full Archaeological Impact Assessment (AIA) was prepared and submitted to the Planning Authority, including the findings of a geophysical survey. Furthermore, an updated AIA was submitted as part of the FI response which analysed the results of archaeological test trenching.</p> <p>The findings from the AIA confirmed that all recorded archaeological features were excluded from development, with archaeological buffer zones incorporated into the site layout, and where necessary, non-intrusive construction methods such as the use of concrete shoes were specified where deemed appropriate to avoid ground disturbance. It is stated that the Planning Authority considered the input from the Department, and the findings of the updated AIA, and accepted that the proposed measures adhered to the relevant policies of the Development Plan.</p> <p>It is noted that the assessments conducted and submitted to the Planning Authority demonstrate that the proposed development addresses both known and potential archaeological features through preservation by avoidance, ongoing monitoring, and embedded design measures, fully consistent with the Development Plan policies and the requirements of the Department.</p>
<p><u>Ground 4 & 5 – Hydrology and Flood Risk</u></p> <p>The appellant's Hydrological Impact Assessment Report finds that solar panel runoff and roadworks will accelerate surface water, increasing downstream flood risk and impacting local aquifers.</p> <p>It is noted that the Local Authority District Engineer's Reports acknowledge local flooding history that is not captured by OPW or CFRAM mapping.</p> <p>Scope Differences: The developer's Flood Risk Report focuses on modelled fluvial and pluvial flood extents, while the independent hydrology report assesses wider hydrological</p>	<p>It is noted that the Applicant's FRA was based on detailed topographic survey data, OPW/CFRAM mapping and site-specific hydraulic modelling. Flood extent and depth maps were submitted to the Planning Authority, and these included climate change allowances to inform the project design related to layout of panels, electrical infrastructure, temporary compound location and buffer zones.</p> <p>The FRA confirms that the project specific design incorporates permeable ground beneath the elevated panels, greenfield-equivalent discharge rates and infiltration features for roadways and temporary compounds. It is also noted that elements such as solar panels will be installed above the 1% AEP climate change event plus 300mm freeboard, with all electrical infrastructure confined to Flood</p>

<p>pathways including groundwater, wetlands, and domestic wells.</p>	<p>Zone C (low risk), with runoff considered less than that generated by the current agricultural land use.</p> <p>It is again stated that the appellant's Hydrological Impact Assessment was a desktop study which did not use site-specific survey data or hydraulic modelling and did not consider design measures and mitigations contained within the submitted documents. It is noted that the proposed development avoids all works in or near the Lisnagonoge River, and applies a 20m non development riparian buffer, and includes water quality measures.</p> <p>The FRA also assessed the nature of any proposed works, with no deep excavation and measures incorporated to eliminate contamination events. Groundwater vulnerability was assessed using GSI mapping, which identified the site as low to medium risk, with only one small karst feature recorded c. 2km away, which has no relationship with the subject site. Groundwater flooding was screened out on this basis, with no wells identified as being at risk.</p>
<p><u>Ground 6 – Roads, Traffic and Grid Connection</u></p> <p>The Planning Authority's engineer highlighted inadequate sightlines, unsafe entrances, and major risks from 2.1m-wide cable trenches.</p> <p>The Applicant's P & E Report suggests that impacts on traffic and roads will be "minimal".</p> <p>Pre-planning consultation minutes confirm the Local Authority's "serious reservations" about roadworks and cable trenching under public roads.</p>	<p>The original proposal provided for 2 no. entrances, one to the north on the L-4106 and one to the south on the L-13101. The Traffic Impact Assessment (TIA) assessed a worst-case scenario where all construction related traffic could use either entrance as there is long standing agricultural vehicle use of both entrances.</p> <p>An updated southern entrance layout, and a Passing Report was submitted as part of the FI response showing available passing opportunities along the L-13101. This was deemed to be acceptable by the Planning Authority. Furthermore, the appellant's concerns were also addressed, with the Planning Authority requiring construction traffic be managed to avoid peak school periods, with this commitment included in the submitted Outline Traffic Management Plan (TMP) with a dedicated coordinator to oversee implementation.</p> <p>In granting planning permission, the Planning Authority concluded that the proposed development can be safely accommodated and is reflected in Condition 10 (southern entrance design and sightlines) and Condition 13 (Traffic Management Plan) of the decision to grant.</p> <p>With regard to the 'grid connection' element of Appeal Item No. 6, it is noted that the grid route was assessed as part of the overall development, with the proposed development currently under appeal to ACP for the solar farm element only. It is confirmed that the grid route will form a separate consenting process.</p>
<p><u>Ground 7 – Health, Amenity, and Biosecurity</u></p>	<p>It is stated that the Applicant's Planning &</p>

HSE guidance requires cumulative health impacts to be considered. Cumulative dust, noise, and stress impacts are ignored in the Applicant's reports.

The Applicant's Glint and Glare Report concedes that reflectance may affect local roads, contradicting claims in the Planning Report of "no nuisance."

The developer's assessments do not adequately address compliance with Health Service Executive (HSE) standards on air quality, occupational safety, and community health. The HSE emphasises risk from dust inhalation, particulate matter (PM10, PM2.5), construction noise exceeding WHO guideline levels, and long-term stress from industrialisation of residential rural settings.

- The absence of a robust Health Impact Assessment means the project does not meet HSE's precautionary approach to public health protection.
- Residents, including vulnerable groups such as children, the elderly, and those with respiratory conditions, are not accounted for in the modelling of air and noise impacts.

Biosecurity and TB Risks: It is stated that the project area is intensively farmed and lies within an agricultural community reliant on dairy and beef production. Construction traffic and soil disturbance risk spreading animal pathogens, including bovine tuberculosis (TB). The movement of machinery between farms, without stringent cleaning protocols, is a recognized vector for disease transmission. No evidence of a Biosecurity Management Plan has been provided which creates a risk of herd restrictions, economic losses for local farmers, and further disruption to rural livelihoods.

Environmental (P&E) Report considered cumulative impacts across noise, traffic and air quality. Dust and noise emissions were modelled alongside background noise receptors such as roads and commercial activity, with predicted impacts remaining below EPA, HSE and WHO thresholds. It is noted that stress is not quantifiable within statutory environmental assessment frameworks, but nuisance-level emissions such as those creating dust and noise regarding local receptors were explicitly avoided by design and construction mitigation.

The Applicant's G&G Assessment modelled elements associated with G&G such as reflection intensity, frequency and duration. The study identified short-duration reflections along certain road segments which are low in intensity and are considered to be within acceptable thresholds under TII and international aviation standards. It is noted that new planting of hedgerows and supplementing of existing vegetation to provide enhanced screening, such as at the north-western corner of the site, and well as panel orientation will further reduce any risk. The report's conclusion of "no nuisance" remains valid in light of this analysis.

Dust sources including earthworks, material storage, vehicle movements, and temporary generators were identified. It is noted that the mitigation identified within the CEMP includes the use of dust suppression, covering stockpiles, and vehicle washing to ensure PM₁₀ and PM_{2.5} remain within HSE and EPA thresholds.

It is stated that construction impacts are temporary and manageable by phasing works and predicted operational noise levels are below guideline thresholds at all noise-sensitive receptors. Occupational health and safety will comply with the Safety, Health and Welfare at Work Act 2005.

Health considerations are integrated into the EclA process, with robust assessments conducted in relation to dust, air quality, noise, traffic, and electromagnetic effects assessed against HSE, WHO, EPA, and EU standards using conservative assumptions. It is stated that this satisfies the precautionary principle without the need for a standalone Health Impact Assessment.

In terms of potential biosecurity and TB risks, it is noted that there is no evidence that solar farm development presents biosecurity risks greater than those that already exist in normal farming practices in any given area. Solar farm construction and operation incorporate standard management measures which effectively address any residual risk of disease spread. During construction, works

	<p>are sequenced and managed to minimise soil disturbance and unnecessary movement across farmland. Stock-proof fencing and controlled access points are used to prevent interaction between livestock and construction activity. Once operational, the site is securely fenced and managed in a way that allows compatible agricultural uses, such as sheep grazing, to continue safely without additional biosecurity to that of which may already occur through the current land use and agricultural practices in the area.</p>
<p><u><i>Ground 8 - Landscape and Visual Impact</i></u></p> <p>The Applicant's Landscape Visual Impact Assessment (LVIA) claims that impacts are not significant beyond 2km.</p> <p>The G & C Report admits reflectance on local roads within 1km.</p> <p>Planning Decision Conditions included restrict external lighting to reduce visual intrusion, showing that the Planning Authority itself recognised a significant visual risk.</p> <p>It is noted that there are conflicting statements in the Applicant's reports, whereby visual impact is acknowledged in some reports but downplayed in others.</p>	<p>It is noted that the LVIA assessed residential, commercial and road receptors. In line with established practice, any visual impacts from solar farms are widely recognised as being negligible beyond this 2km distance. It is stated that solar panels follow site topography, and their visual mass is broken up by existing hedgerows and trees, and other features within the landscape such as buildings, forestry and hills can further assimilate the panels into the landscape. The submitted Photomontages and the LVIA confirm that beyond 2km, visual impacts are imperceptible and not significant.</p> <p>The G&G Assessments modelled reflectance effects for roads proximate to the Proposed Development, with all roads at a distance of 2km assessed. This showed that short duration reflections were predicted, but were shown to be low intensity, non-hazardous and to be within acceptable thresholds. The G&G report showed that glint and glare will not pose a safety hazard to road users and will not generate material nuisance for nearby residential and commercial receptors. The submitted Landscape Management Plan (LMP) shows that a combination of panel orientation and existing and newly planted hedgerows to provide screening further reduces the potential for effects.</p>
<p><u><i>Ground 9 – Statutory Body Concerns</i></u></p> <p>It is noted that the Department and the Planning Authority's engineer raised unresolved issues regarding archaeology, flooding, and cabling. Notwithstanding this, permission was granted subject to conditions.</p> <p>Concerns are raised that the Planning Authority proceeded to grant permission despite the continued concerns of the statutory consultees</p>	<p>It is noted that the "unresolved issues" raised by the appellant were addressed in the process of the planning application or the subsequent FI request. This demonstrates without doubt that the proposed development adheres to all relevant legislation, regulations and statutory guidance, along with national and EU planning laws and policy objectives within the Development Plan.</p>
<p><u><i>Ground 10a - Conflicts with the Tipperary County Development Plan, 2022-2028</i></u></p> <p>Key conflicts identified by the appellant include:</p> <ol style="list-style-type: none"> 1. Environment & Natural Assets (Chapter 11) 2. Built Heritage (Chapter 13) 	<p><i>Environment & Natural Assets (Chapter 11)</i></p> <ul style="list-style-type: none"> - An NIS was completed to identify any potential impacts on the Lower River Suir SAC (Site Code: 002137), and any other Natura 2000 sites which have potential to be affected. This took cognisance of measures incorporated into the project design and mitigation measures to avoid

<p>3. Flood Risk & Water - Flood Risk Management: The Development Plan adopts the Planning System and Flood Risk Management Guidelines sequential approach and Justification Test. Conflicting evidence on local flood history and accelerated runoff indicates the proposal has not satisfied a precautionary approach.</p> <p>4. Renewable Energy Strategy</p> <p>5. Development Management Standards (Volume 3) - Sustainability Statement Requirement: Major non-residential proposals must provide an evidence-based Sustainability Statement addressing infrastructure capacity, amenity, connectivity, environmental protection and climate action. The application fails to demonstrate coordinated infrastructure delivery {roads/grid connection/water) and robust health/biosecurity safeguards.</p> <p>6. Rural Economy & Biosecurity - Support for Sustainable Agriculture: The Development Plan commits to safeguarding the rural economy. Lack of a Biosecurity Management Plan and elevated TB transmission risk to neighbouring farms conflict with this objective.</p>	<p>effects on water quality. It was determined the proposed development will not adversely affect the integrity any European Site.</p> <ul style="list-style-type: none"> - Policy 11-4: The proposed layout has been designed to retain the majority of existing hedgerows, treelines and field boundaries and ensuring where possible that ecological connectivity is preserved. Where limited removal is unavoidable, compensatory planting of native species will be carried out to maintain and enhance biodiversity. Fencing will be stock proof but designed to allow for small mammal movement, thereby avoiding habitat severance. Therefore, it is stated that the project is consistent with Policy 11-4 in protecting and enhancing local biodiversity assets. - Policy 11-6: A site-specific hydrological assessment was undertaken in accordance with the Water Framework Directive and Inland Fisheries Ireland guidance. Drainage design incorporates silt traps, swales, and other Sustainable Urban Drainage Systems (SuDS) to prevent sedimentation or nutrient loading to nearby watercourses, including the Lisnagonoge and the Lower River Suir. With these measures in place, the project will not compromise the achievement of "Good Ecological Status" under the WFD. The planning authority's conditions further ensure compliance during both construction and operation. - Policy 11-9: The NIS and EIAR considered cumulative and in-combination effects with other permitted and existing projects, with no significant cumulative impacts being identified. It is stated that the five-year review period applied ensures that the assessment reflects current and relevant pressures in the area. <p><i>Built Heritage (Chapter 13)</i></p> <ul style="list-style-type: none"> - Policies 13.1-13.7: Once the necessity for access from the northern entrance and associated dismantling of the gate pier was no longer required, a revised access strategy with accompanying drawings was submitted by way of FI. Therefore, no temporary dismantling works are now required to the Killough Castle gate pier at the northern site entrance. - With regard to ground disturbance, the appeal site was subject to a Geophysical assessment to identify subterranean and unrecorded archaeological features. The features were then excavated with a programme of test trenching by a licenced archaeologist. The Archaeological and Cultural Heritage assessments, in
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	<p>conjunction with the Geophysical and test trenching, informed the development's design. Development activities requiring ground disturbance such as piling for panel placement, access track construction and underground cabling are subject to appropriate buffer zones and non-developable areas. The identified archaeological areas will be fenced prior to works to prevent inadvertent disturbance, and any unexpected discoveries will be preserved in situ or by record in consultation with the National Monuments Service.</p> <p><i>Flood Risk & Water</i></p> <ul style="list-style-type: none"> - The FRA demonstrated that the project design incorporates appropriate drainage controls and construction management to prevent increased runoff or downstream effects. The FRAs conclusion is consistent with established national guidance and hydrological principles which were submitted and accepted by the Planning Authority and is contrary to the opinion expressed in the appeal. Residual risks were tested under conservative scenarios. On that basis, the precautionary principle is satisfied, and the proposal complies with the flood risk management requirements of the Development Plan. <p><i>Renewable Energy Strategy</i></p> <ul style="list-style-type: none"> - The documentation submitted to the Planning Authority demonstrates compliance with environmental and Development Management standards across ecology, water quality, archaeology and cultural heritage, flood risk. Assessments and reports submitted such as the NIS, FRA, LVIA and AIA etc. show no unresolved risk when mitigation and design measures are included. It is contended that the proposals meet the Development Management standards the Renewable Energy Strategy's RE1 policy by ensuring environmental and heritage protection is central to the design. <p><i>Solar Energy Strategy (Section 6.8) and Landscape Capacity</i></p> <ul style="list-style-type: none"> - The Landscape Capacity has been assessed through LVIA and G&G assessments and further revised with consultations with the local community to adjust and reduce visual intrusion. Sensitive receptors were identified, and appropriate mitigation incorporated such as planting of new hedgerows, retention of existing tree lines, no external lighting etc., with the
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	<p>topography of the area allowing the proposed development to assimilate into the landscape as its visual unit is dispersed by topography and vegetation. Furthermore, non-development buffer areas have been incorporated into the design.</p>
<p><u>Ground 10b - Conflicts with the National Development Plan (NDP 2021-2030) and Infrastructure Coordination</u></p> <p>It is argued that the NDP 2021-2030 emphasises the need for renewable energy to be developed in a manner that is coordinated with supporting infrastructure {roads, grid, water services) and protective of heritage and environmental assets.</p> <p>It is contended that the proposed development demonstrates poor coordination with infrastructure planning:</p> <ul style="list-style-type: none"> - Grid connection is unresolved and dependent on trenching along local roads, which the District Engineer strongly opposed. - Road safety standards for sightlines are not met, contradicting national policy on safe access to renewable energy developments. - Water infrastructure conflicts exist, with trenches overlapping existing watermains. 	<p>It is stated that the proposed development was assessed in accordance with the Planning and Development Act 2000 (as amended), which determines that the solar farm and associated grid infrastructure must be consented under separate applications. This is the process that must be adhered to in accordance with the Planning and Development Act, 2000 (as amended).</p>
Thomas Dwyer, John Maher & James Maher	
Grounds of Appeal	First Party Response
<p><u>Ground 1 - Inaccurate Road Classification</u></p> <p>The schedule of conditions (Ref 256003), specifically Condition 10(a) mandates that all construction, operation, and decommissioning traffic must access the site via the L-13101. It is noted that this road has been incorrectly identified as a secondary road with two lanes. In reality, it is a single-track tertiary road, functioning as a cul-de-sac, as demonstrated in photos enclosed with the appeal (i.e. photo nos. 5, 6, and 9).</p>	<p>In response to the claims regarding the incorrect classification of the L-13101, it is stated that the Planning Authority fully considered the characteristics of this road during its assessment. It is stated that the classification of the L-13101 as a secondary road in the condition does not alter the fact that its physical width and function were acknowledged in the technical reports. The Road and Passing Opportunities Assessment which recorded carriageway widths and natural passing points along the L-13101 was considered by the Planning Authority's engineer who confirmed that passing opportunities have been demonstrated. It is concluded that the revised TIA, together with the passing report and southern entrance drawings proposed at FI, are considered adequate to address the Road's Section requirements</p> <p>It is stated that the reference to road classification in the condition does not undermine the safety or adequacy of the approved southern entrance, which was specifically reviewed and approved by the Planning Authority.</p>
<p><u>Ground 2 - Historical Context</u></p>	<p>It is stated that the Planning Authority fully considered the physical condition and function of</p>

<p>The L-13101 was originally owned by Killough Castle and taken over by the Council in the 1970s. It was then tarred, but its structure remains unchanged. Therefore, many of the included conditions, particularly Condition No. 10(b), 10(c), and 10(d), are impractical, as this road transitions into Castle Lane, which is unsuitable for large-scale traffic. The L-13101 is an old farm pathway which is surfaced with tar spray and chip and has no proper foundations for constant traffic or heavy goods vehicles.</p>	<p>this road during its assessment, and in conjunction with the submitted assessments and drawings, the suitability of the L-13101 for construction and operational traffic was specifically addressed through submissions, inspections and enforceable conditions such as contained within Condition 10.</p> <p>While the L-13101 may historically have been an agricultural lane, it is currently a tarred and maintained public road under TCC's remit, with the assessment by TCC Roads Section, supported by traffic modelling and passing opportunity surveys, confirmed it can accommodate the proposed development subject to the conditions.</p>
<p><u><i>Ground 3 – Traffic Management Issues</i></u></p> <p>The L-13101 is c. 1,200m long and only wide enough for single-lane traffic (3.83M), with no passing bays. The appellant notes that they are not in a position to allow passing bays on this avenue. Between their 3 no. businesses, they note that they own 85% of the land on each side of L13101 and it is contended that the use of this avenue for both phases is detrimental to their business.</p> <p>This poses a significant risk as trucks and vans will be forced to wait at Location C (junction with L4112), which has:</p> <ul style="list-style-type: none"> - Poor sightlines (only 78m south, 170m north), - A steep dip in the road, - No mention in the conditions regarding its safety or impact, - There is a local primary school and active quarry in operation using these roads which contributes to the already busy nature of these roads. <p>This junction and its limitations are shown in Photo Nos. 7, 8, and 9. It is stated that Location C, as marked on map nos. 10 and 11, should be considered the true entrance point from a traffic planning perspective, due to its strategic importance and risk potential.</p>	<p>Condition 10 requires all traffic to use the southern entrance, the provision and maintenance of passing bays, pre- and post-construction road surveys with developer-funded repairs, and preparation of a Traffic Management Plan in consultation with Planning Authority.</p> <p>Furthermore, Condition 13 requires a Traffic Management Plan to manage construction traffic, including measures to avoid school peak hours and coordinate with other road users. On this basis, the Planning Authority accepted that the associated traffic can be safely accommodated on the L-13101. The traffic management measures were deemed appropriate and feasible by the Planning Authority to address the temporary and short term nature of all traffic movements during the construction phase of development.</p>
<p><u><i>Ground 4 – Impact on Local Community</i></u></p> <p>The L-13101 serves several residences and three working farms, with daily delivery and collection traffic, including feed deliveries and milk collection. Each house has multiple vehicles. It is stated that the inevitable conflict between local traffic and site-related trucks will cause serious safety issues, especially at the L4112 junction, where vehicles may be forced to reverse or back out into oncoming traffic. The appellants are also concerned about access in the event of an emergency or how a vet or ambulance can ensure ease of</p>	<p>The issues raised by the appellant were considered by the Planning Authority who conducted their own assessments in conjunction with the assessments and drawings submitted as part of the planning application. As noted, the Road and Passing Opportunities Assessment assessed carriageway widths and existing passing opportunities along the L-13101, and following site inspections, the Planning Authority concluded that the southern site entrance was acceptable. The suitability of the L-13101 for construction and operational traffic was specifically addressed through submissions, inspections and enforceable conditions such as contained within Condition 10 and Condition 13</p>

access.	which will ensure that emergency access, farm deliveries, school drop-off and residential movements are protected during the construction phase of the proposed development.
<p><u>Ground 5 – Location A - Safer Alternative</u></p> <p>It is stated that Location A and map nos. 10 and 11, are already completed. It has:</p> <ul style="list-style-type: none"> - A splayed entrance directly onto the site, - Clear sightlines of 300m+ in both directions, - Access from a two-lane secondary road (L4106), - Proximity to the motorway (Horse & Jockey Junction), - Significantly safer and more appropriate for construction access. 	<p>It is stated that Location A (i.e. originally proposed northern entrance) on the L4106 was fully assessed and considered in the submitted planning application assessments and drawings. However, it is confirmed that this entrance could not meet the required sightlines.</p> <p>Alternative northern options were also explored with an access point to the west of the proposed access considered, but this option was similarly constrained by constraints as it was not possible to achieve adequate sightlines given the proximity to third-party lands. Following lengthy assessments and consultations with the Planning Authority, the northern entrance was omitted from the access strategy.</p> <p>A revised proposal for the southern access was submitted by way of FI and was deemed to be acceptable by the Planning Authority. 2 no. conditions which specifically relate to the above, namely, Condition 10 and Condition 13 were included. In summary, the Planning Authority considered the southern entrance as a safe and appropriate access for the proposed development.</p>
<p><u>Ground 6 – Location B – Inappropriate for Use</u></p> <p>Location B, shown in photos 5 and 6, is a very rural, overgrown, and quiet area. It is c.1,200m from the nearest secondary road and completely unsuitable for heavy traffic. It is stated that it should never have been considered a viable comparison to Location A.</p>	<p>As detailed above, the design team presented a revised strategy on the southern entrance to the Planning Authority by way of FI. Access to the southern entrance is included within Condition 10 and Condition 13 which confirms that the southern entrance is a safe and appropriate access, with enforceable conditions ensuring road safety and amenity.</p>

8.2. Observations

8.2.1. An observation was received from Thomas Dwyer on the Third Party appeal by Moycarkey Community Association. A summary of the points made in the observation include:

- Loss of useable farmland - Concerns regarding the loss of the finest arable land for a large-scale industrial development.
- Grid Connection – Concerns raised regarding the exclusion of the grid connection from the proposed development which is an approach that has been designed to gather momentum, so other permissions become a formality. It is also highlighted that this will have a negative and divisive impact on the local community.

- Identification of Roads – The conditions of the permission have misidentified the local road to the north of the site.
- Biosecurity - Concerns regarding the absence of a biosecurity management plan in the CEMP. This is critical as the area is currently experiencing a TB outbreak.

8.3. First Party Response

- 8.3.1. A response to the various issues raised in each Third Party appeal has been prepared by the Applicant's agent. As noted, the Applicant's response has been summarised above in Section 8.1 of this report.

8.4. Planning Authority Response

- 8.4.1. None.

8.5. Further Responses

- 8.5.1. None.

9. Planning Assessment

Having inspected the site and having examined the application details and all other documentation on file, including the reports of the Local Authority, the submissions on file and having regard to the relevant local/regional/national policies and guidance, I consider that the substantive issues in this appeal to be considered are as follows:

- Principle of Development,
- Water,
- Access & Transport,
- Archaeology & Cultural Heritage,
- Landscape & Visual Impact,
- Biodiversity,
- Residential Amenity, and,
- Other Matters.

9.1. Principle of Development.

- 9.1.1. Planning permission has been sought for the construction of a solar photovoltaic (PV)

development on a site within the townlands of Killough, Clohoge and Graigue, Co. Tipperary. The proposed solar farm will comprise c. 745,168sq.m. of solar PV panels laid out over a site measuring c. 222ha. I note that the appellants in this case and the observers during the course of the application have raised concerns regarding the principle of development at this rural location, its overall scale and industrial nature and the loss of prime agricultural farmland to facilitate the development, which in their view is contrary to the policies of the Tipperary County Development Plan, 2022-2028 (Development Plan). I note that the subject lands are located within a rural area, on un-zoned lands at a removed distance from the nearest settlement of Holycross. Whilst it is evident that the majority of the site forms productive agricultural lands and agriculture is the predominant land use in the surrounding area, the Development Plan does not identify a preference for the reuse of previously developed land such as brownfield, industrial land or non-productive agricultural land, in preference to productive land. The Development Plan's Rural Employment Strategy (Section 8.4) indicates that the rural economy has already taken steps to extend beyond the traditional rural sectors and that rural areas provide opportunities for development in expanding economic sectors, such as rural tourism, the bio energy and renewable energy. I am therefore satisfied that the siting of solar energy development on any type of un-zoned agricultural land is not precluded. As I have referenced in Section 5 of this report, the transition to a green economy and an acceleration in the delivery of renewable energy projects is a principle that is supported in international, national, regional and local policy. The NPF seeks to reduce the country's carbon footprint (NPO 69) and promotes renewable energy use and generation at appropriate locations within the built and natural environment to meet national objectives towards achieving a climate neutral economy by 2050 (NPO 70). This policy is now aligned with the ambitious targets set out within CAP24 and CAP25 of achieving net zero emissions by 2050. There are also objectives included within CAP24 and CAP25 to deploy up to 5 GW of solar power by 2025 and at least 8 GW by 2030. Similar support is provided at regional level where the enormous potential for renewable energy in the region is recognised and RPO 59 of the RSES acknowledges the urgency to transition to a low carbon future, where it is an objective to accelerate the transition towards a low carbon economy.

9.1.2. At a local level, the Development Plan has identified that climate change is one of the most significant challenges facing society as a whole and it acknowledges that a transition to a 'Green' economy and society will bring benefits in the form of new jobs, economic innovation, enhanced environment and better quality of life. Within Chapter 3 (Low-Carbon Society & Climate Action), policies are prescribed which promote and facilitate renewable energy development (Policy 3-1) and objectives are included that seek to support research and innovation in smart renewable energy technologies and initiatives to accelerate diversification away from fossil fuels (Objective 3-E). Chapter 10 (Renewable Energy and Bioeconomy) supports investment and development in renewable energy and the bioeconomy, as part of a national transition to a low-carbon, climate resilient and circular economy. Policy is enshrined within the Development Plan that supports and facilitates new development that will produce energy from local renewable sources such as solar, subject to compliance with normal planning and environmental criteria (Policy 10-1). It is also an objective to support the Climate Action Plan (DECC, 2019) as it relates to renewable energy production (Objective 10-A), renewable energy development (Objective 10-C) and the diversification of the agriculture sector as part of decarbonisation (Objective 10-E).

9.1.2.1. There is currently no national land use policy in Ireland which prescribes the preservation or protection of agricultural lands. Furthermore, there is an absence of national guidance specifically in relation to the location of solar energy development. Notwithstanding this, the Development Plan's Renewable Energy Strategy seeks to facilitate solar energy installations where it is demonstrated to the satisfaction of the Council that there will be no significant adverse impact on the built and natural environment, the visual character of the landscape or on residential amenity (Policy RE10). The strategy notes that key considerations for developments of this nature are:

- Site aspect, area and topography,
- Availability and method of grid connection,
- Impact on sensitive receptors including roads, residential development, areas of tourism and landscape amenity value, airfields and ecology,
- The visual impact of the proposal and other permitted large-scale solar PV developments on the visual character of the area having regard to the provisions of the LCA 2016,

- Management, fencing and upkeep of the site,
- Construction phase activities and impacts,
- Proposed lifespan of the development, and,
- Decommissioning and reinstatement of site subject to the satisfaction of the council.

I note that various considerations listed above are addressed in further detail in my assessment of the subject proposal. As detailed in Table 10.1 (Renewable Energy Targets for County Development Plan period), the 2028 target for solar energy represents a 25% increase over permitted capacity (117MW). This equates to a solar energy target of 150MW operational. Whilst I note that the Applicant has not provided an estimated capacity, Condition No. 14 of the permission has calculated an estimated capacity of 100MW for the purposes of the development contributions. While this may exceed the prescribed Development Plan targets, it is my view that the targets are not maximum targets which are aimed at capping renewable energy projects. Overall, it is considered that the rapid acceleration and delivery of renewable energy projects of this nature is both fully supported in local through to national policy, and necessary to achieve the national targets of achieving net zero emissions by 2050. For these reasons, I am satisfied that the principle of development is acceptable at this location. However, it is acknowledged that proposals of this nature must accord with the pertinent policy of the Development Plan, in particular Policy RE10 which seeks to safeguard the built and natural environment, the visual character of the landscape and the residential amenity of neighbouring residents. Along with other matters, these are addressed in detail in the following sections of this report.

- 9.1.3. As noted above, the estimated capacity (i.e. megawatt (MW)) of the proposed solar farm has not been included in the development description or within any of the accompanying reports. Instead, the area of the panels in square metres (sq.m.) has been identified. The Applicant notes that this is a standard approach for solar farm planning applications and is an approach that has been accepted by other local authorities who have attached conditions requiring Applicants to confirm the MW prior to commencement. Furthermore, it is stated that the MW has not been provided as it is difficult to be precise on the MW output of the proposed solar farm and they have outlined a number of factors which will govern the final energy output of the facility. Noting the rationale provided by the Applicant, I am satisfied that the MW capacity of

the proposed solar can be agreed with the Planning Authority by way of condition.

9.1.4. In terms of the duration of the permission, the Applicant has sought a period of 10 years from the date of a grant of planning permission. This duration is requested as the proposed development is dependent on achieving a suitable connection to the electricity Grid network which is under the control of EirGrid / ESB Networks and the timeframe for receiving an offer is currently unknown. Furthermore, it is stated that the timing of the construction and installation works is predicated on various factors, which justify an extended period. The Applicant has also requested that the planning permission specify an operational life of 40 years from the date of the commissioning of the solar farm. It is noted that the technology associated with solar PV cells and solar energy projects has made rapid advances in recent years with the expected physical lifetime of modern solar PV equipment to be at least 40 years. In addition, it is noted that the manufacturer warranty for solar PV equipment is typically that of 40 years or greater. It is requested that the planning permission reflects this. The Applicant contends that financing associated with solar energy is based on its operational life and thus landholding agreements, maintenance contracts and other associated operational agreements will be based around a 40-year timeframe. In summary, it is put forward that a 40-year operational lifetime will maximise the environmental and sustainable energy benefits of the proposed development and precedent examples have been provided of recently approved solar farm developments, both locally and nationally, with similar operational periods. I note that the Planning Authority have raised no concerns regarding the duration of the permission or the solar farm's operational life. Having regard to the nature and extent of the proposed development and the material considerations required for its development, including a grid connection and the need for financial certainty before progressing with construction, I am satisfied that 10-year permission is acceptable in this instance. Regarding the requested operational period of 40 years, this appears reasonable in the context of increased knowledge relating to the durability of the proposed infrastructure. I also note that there is significant precedent for similar operational periods being permitted by the Commission.

9.2. Water

- 9.2.1. Throughout the application phase, Third Party observers raised concerns regarding the potential impact of the proposed development on water quality, the risk of sedimentation, downstream hydrological impacts and the potential for flood related impacts. These concerns are also echoed in the Third Party appellant's grounds of appeal. Included as an appendix to the appeal is a Hydrological Impact Assessment Report which has been prepared on the appellant's behalf and addresses issues regarding surface and groundwater contamination. The overall aim of this report is to assess the effects of the proposed development on hydrology from the proposed development and does so by providing a baseline study of the topography, geology, surface and groundwater hydrology of the site, formulates the Source-Pathway-Receptor model in relation to hydrology and hydrogeology of the study area and examining the effects of the proposed solar farm on the identified hydrological receptors. Hydrological related concerns are addressed in further detail in the following sections.

Drainage & Flooding

- 9.2.2. In order to establish the pattern of existing drainage and to record existing hydrology features within the site and surrounds, a site walkover survey was carried out by the Applicant's consultant engineers on the 1st July, 8th August, 9th August and 9th September 2024, with an additional site visit conducted on 27th June 2024. It is noted that the site walkover was informed by an initial review of available information gathered in the desk study phase. In terms of existing hydrological features, surface water runoff within the site boundary is mostly collected in existing land drains within the site, which subsequently drain to the Lisnagonoge Stream which bisects the site in an east-west direction. There is also an EPA mapped watercourse, known as 'Killough Hill' which appears on EPA mapping as a tributary to the Lisnagonoge Stream. However, it is detailed within the application documents that the watercourse was observed to be dry at the time of the site visits and that historic infilling has heavily impacted the former watercourse to such an extent that the channel has been removed, and therefore no longer functions as a stream or a drainage ditch. I can also confirm that the former watercourse was dry during my inspection of the subject site which followed a number of days of heavy rainfall. Within the southern portion of the site, there are also 2 no. smaller EPA mapped watercourses which flow directly into

the Lisnagonoge Stream. One watercourse adjoins a land parcel containing solar arrays within the south-western corner of the site, with the other watercourse adjoining the proposed Biodiversity Enhancement Area along the western site boundary.

- 9.2.3. Concerns have been raised at application and appeal stage regarding the adequacy of the drainage proposals and the associated potential for flooding due to an increase in the intensity and concentration of surface water runoff from the proposed solar panels. It is acknowledged by the appellant's hydrologist that the proposed ground cover (grass) would mitigate the scouring and have benefits in terms of infiltration. However, they note that large areas of the subject site have peat topsoil and subsoil which would have a poor infiltration rate. They go on to state that the solar panels would constitute a continuous row which will cause sheet flow from surface runoff on to the ground. This combined with the moderate slope of the ground towards the river will cause higher runoff volumes and reduced travel times. Concerns are also raised regarding runoff from the access tracks, construction compounds etc. As detailed in Section 7 of the Applicant's P & E Report, access tracks and hardstanding areas will be drained over-the-edge, with track-side drainage provided for all new access tracks. Rainfall across the site will drain over land. While the 'Killough Hill' watercourse was observed to be dry on all site visits, a 300mm culvert is also being proposed as a conservative measure where the proposed access track crosses this dry channel. A 20m buffer of the Lisnagonoge stream which traverses the site and a 10m buffer from all other smaller streams has also been identified on the submitted drawings. From a review of the application documents, it is evident that the proposed development will generally not require any alternations to the existing onsite drainage and the majority of the surfaces on site will be permeable surfaces, allowing rainwater to percolate directly to the ground. The proposed solar arrays will be constructed with spaces between each row of panels. This will allow rainwater to pass through the arrays and disperse and infiltrate to the agricultural grassland below at a natural rate in a similar manner to the current greenfield infiltration rates. Within the Applicant's Flood Risk Assessment (FRA), suggested mitigation includes the promotion of long grass conditions underneath the solar panels with native meadow grass and wildflower longer meadow type grasses. It is stated that wildflower vegetation provides high levels of natural attenuation of surface water flow which will serve to reduce the risks of

erosion and limit surface water flows across the site. Furthermore, the long grass will also promote infiltration of surface water. Post development, there is also a recommendation to undertake chisel ploughing between solar panel rows to loosen the soil that will be compacted during construction. It is stated that chisel ploughing will reduce soil compaction on the site and promote seed growth and has been proven to significantly increase infiltration rates, thereby, reducing runoff rates from the site. It is contended that the proposed measures will have a positive effect on the surface water conditions onsite and will reduce the total flow compared to its pre-development (greenfield) equivalent.

9.2.4. In terms of relevant policy guidance for solar farms, Section 6.8 (Solar Energy Strategy) of the Development Plan's Renewable Energy Strategy notes that the provisions of 'Planning guidance for the development of large scale ground mounted solar PV systems' BRE 2013 (referred to herein as the UK Guidance), may be consulted in the absence of Irish guidelines. In terms of drainage, Section 2(n) (Drainage, Surface Water Run-off and Flooding) of the UK Guidance notes that applications should be accompanied by a Flood Risk Assessment. The policy acknowledges that as solar PV panels will drain to the existing ground, the impact will not in general be significant and therefore this should not be an onerous requirement. Furthermore, it states that where access tracks need to be provided, permeable tracks should be used, and localised SUDS, such as swales and infiltration trenches, should be incorporated to control any run-off where recommended. Given the temporary nature of solar PV farms, the policy states that sites should be configured or selected to avoid the need to impact on existing drainage systems and watercourses and culverting of existing watercourses/drainage ditches should be avoided. As discussed above, the solar farm has been designed to ensure that the existing hydrological regime of the site is not impacted, with appropriate buffers provided from all watercourses on site. Soil disturbance will also be minimised to essential excavations (i.e. laying of cables) and appropriate spacing shall be provided between the arrays to ensure that runoff will infiltrate naturally to ground. This spacing shall also support the growth of vegetation beneath the panels and will allow rainwater to pass through the arrays and disperse and infiltrate evenly, thereby reducing the potential for runoff. It is acknowledged by the Applicant that care will be required during construction to prevent

soil compaction, and the use of permeable stone access tracks will ensure that the underlying soil conditions are not significantly affected by construction traffic. Overall, the extent of impervious services across the site is limited and relates only to the proposed transformer units and the RMU building. On balance, I am satisfied that the Applicant's onsite drainage proposals are acceptable. However, it is considered that a condition should be included which requires the Applicant to monitor the existing drainage network for blockages and other issues that could affect its functionality throughout the lifetime of the solar farm. Furthermore, the Applicant shall be required to fully comply with mitigation measures prescribed in the submitted FRA. These measures should form part of a maintenance regime for the solar farm and can be included as part of the maintenance and restoration plan that can be agreed with the Planning Authority prior to the commencement of development.

- 9.2.5. In terms of flood risk, it is noted within the Applicant's FRA that the proposed development must undergo an FRA to ensure sustainability and effective management of flood risk. I note the Planning Authority has raised no objections to the proposed development on the grounds of flood risk. In terms of the local topography, the site is characterised by high points within the centre of the site, to the west and along the southern boundary. Low points have been identified in the centre of the site and particularly along the western boundary. An assessment of the potential for flood risk at the site was conducted using historical and predictive information. This identifies any sources of potential flood risk to the site and reviews historical flood information. Section 3.3 of the FRA notes that the main flood risk to the site is from fluvial flooding due to the site's proximity to the Lisnagonoge Stream. On the basis of the National Indicative Fluvial Mapping (NIFM), the central part of the northern boundary is at risk during the 1% AEP and 0.1% AEP events and therefore, this area may be subject to fluvial flooding. A review of the Suir CFRAM map indicates that the flood extent from the Suir does not directly impact the proposed site, as it is located 1.1 km to the north-west. In terms of pluvial flooding, marshy areas along both the left and right banks of the Lisnagonoge Stream have been identified in the FRA, particularly in the central portion of the proposed site. It is stated that these low-lying areas are susceptible to water accumulation during periods of heavy rainfall. However, it is stated that they are not expected to pose significant flooding issues given the limited extent of the affected areas. The FRA indicates that there is no known risk of coastal or groundwater flooding

in this area and both were subsequently screened out from further assessment.

9.2.6. To further investigate flood risk arising from the Lisnagonoge Stream, a complete hydrological analysis and the development of a hydraulic model was carried out to include all the hydrological features which may have an impact on the site. Lidar terrain model for the site was used to develop the hydraulic model and an in-channel survey for the Lisnagonoge Stream was conducted and used for defining the channel capacity within the hydraulic model and to stamp the channel bathymetry within the Lidar. The baseline scenario was run to define flood extents for Flood Zone A (1% AEP Event) and Flood Zone B (0.1% AEP Event) and Figure 4-4 shows the modelled flood extents for the 1% AEP and 0.1% AEP fluvial events. The results show most of the site is in Flood Zone C and at low risk from flooding. However, there are significant areas in Flood Zone A/B along the watercourse crossing the site. It is noted that the main flooded area is at east of the site where the water is entering the site and at west of the site where the watercourse leaves the site. These areas have low lying terrain and both banks are overtopped with the water being stored in the river floodplains. Figure 4-5 also provides an overview of the flood extent maps for the climate change scenario against the baseline map. Flood depth maps were also produced as part of the hydraulic modelling to be used in conjunction with the flood extent maps. It is noted that water depth map for 1%AEP + 20% climate change (MRFS) has been provided in Figure 4-6 of the FRA and indicates that water depth across the eastern flooded area of the site is generally up to 0.6m with very small areas up to 0.8m. The western flooded area within the site shows water depth up to 1.0m and only localised areas with depth greater than 1.0m. It is confirmed in the FRA that it is proposed to locate the solar panels in areas of the site that have a maximum flood depth of 0.6m. Furthermore, the panels have been designed to provide a freeboard of 0.4m above the predicted 1% AEP MRFS flood event, which ensures that the development will be resilient to climate change.

9.2.7. From the flood risk assessment undertaken, it is evident that the majority of the proposed development is located within Flood Zone C. The RMU building along with all electrical infrastructure will be located in Flood Zone C and at low risk of flooding. All areas with risk of flooding are confined to the solar panel areas, such as portions

of the East and West lands that are in Flood Zone A/B. It is noted that the flood extents are generally consistent with the NIFM study in the upstream and downstream sections of the watercourse. Some slight differences have been identified which are a result of modelling at a finer resolution and it is noted that the results from the FRA supersede the NIFM mapping. In response to the identified level of flood risk, mitigation measures are required for the development of the solar farm. Within Section 5.2 of the FRA, it is noted that solar farms are classified as a water compatible usage and therefore are suitable for development within Flood Zone A, in line with the 2009 Planning System and Flood Risk Management Guidelines. However, it is necessary to ensure that operations at the site are not impacted by a flood event and that the development will not increase the risk of flooding elsewhere in the catchment. As such, the following mitigation has been proposed:

- A minimum freeboard of 300mm is required between the solar panel and the 1% AEP MRFS flood level. Due to the predicted depth of flooding, there will be areas where the required freeboard cannot be met and where development will be restricted.
- No critical infrastructure should be located with Flood Zones A & B. All electrical connections will be placed above the 1% AEP flood level.
- The solar panels will also be installed a minimum of 150mm above the 1% AEP event with residual risk (bridge blockage) allowance.
- It is intended to locate the panels in areas with a maximum flood depth of 0.6m. Areas where development should be restricted are highlighted in Figure 5-2 of the FRA.

The majority of the site consists of agricultural/permeable ground which provides varying degrees of infiltration; these factors will serve to reduce the potential for overland flows to develop. As discussed above, the proposed development will not increase the rate of discharge from the current pre-development runoff rates as there are limited areas of hard standing associated with the development. Furthermore, it is noted that the proposed development will have several benefits regarding runoff rates. In the absence of typical farming activity, the fields will not be ploughed or furrowed during the lifetime of solar farm, they will no longer be left without vegetation cover during the winter months, and they will no longer be regularly traversed by heavy machinery. It is stated that these farming activities can considerably increase the rate

of water runoff from a site and have the potential to also increase downstream flood risk in terms of water flow rates and silt production. As such, it is contended that the absence of more intensive farming activity will reduce soil compaction, allowing soils to become naturally aerated over time which should improve the soils water acceptance potential and reduce runoff rates from the site. Having regard to the majority of the site's location within Flood Zone C, the siting of critical infrastructure outside Flood Zones A & B, the water compatible nature of the proposed development which will not impede infiltration, the proposed installation method which will minimise impacts on drainage patterns (i.e. pile driven), the sustainable drainage systems incorporated into the development's design which would reduce surface water runoff and the proposed mitigation measures outlined in the FRA, it is considered that the proposed development would not increase the risk of flooding either on site or elsewhere downstream. Noting the Planning System and Flood Risk Guidelines (2009), I am satisfied that a Justification Test does not need to be applied in this instance, and the proposed development is therefore acceptable. However, it is considered that a condition should be included which requires the Applicant to submit a set of revised site layout drawing(s) which omit the solar panels from the locations identified in Figure 5-2 (Panel Exclusion Zones) of the FRA.

Water Framework Directive and Surface & Groundwater Quality

- 9.2.8. I have assessed the proposed development and have considered the objectives as set out in Article 4 of the WFD as detailed in Appendix 5 (WFD Screening Matrix) of this report. The appellant has raised concerns raised regarding the potential adverse impact of the proposed development on water quality in the area, a concern that was also echoed in a number of Third Party submissions at application stage. The appellant's consultant hydrologist has also noted that the site is underlain by a regionally Important Aquifer – karstified diffused (Rkd), and concerns have been raised regarding increased recharge levels and the potential for groundwater contamination. The appeal site is located within the Suir WFD Catchment (Catchment_ID: 16) and the Suir_SC_050 subcatchment (Subcatchment_ID: 16_10). There are 2 no. existing EPA mapped watercourses located on the subject site. The Lisnagonoge Stream (LISNAGONOGE_010) bisects the centre of the site in an east to west direction. There is a tributary of the stream within the eastern portion of the site which the Applicant has referred to as the 'Killough Hill' watercourse. As discussed above, this tributary no

longer functions as a watercourse due to historical infilling. The Lisnagonoge Stream flows into the other EPA mapped watercourse (SUIR_080) which adjoins the western site boundary. This watercourse is also mapped in the south-western portion of the site and enters the Lisnagonoge Stream within the centre of the site. From the eastern boundary, the SUIR_080 flows in a northerly direction for a distance of c. 2.7km from the site, where it enters the Cabragh Wetlands before then discharging into the River Suir. As per the WFD 2019-2024 monitoring events, the water quality status within the Lisnagonoge Stream (LISNAGONOGE_010), is identified as being 'moderate,' and the status of this watercourse is identified as being under 'Review'. According to the WFD 2019-2024 monitoring events, the water quality within the other EPA mapped watercourse which adjoins the site (SUIR_080) is 'poor,' and the status of this river is identified as being 'at risk' of not meeting the WFD's 'good' status objective. In terms of groundwater, the appeal site is underlain by a single Groundwater Body (GWB), being the Tipperary GWB. As per the most recent monitoring period (GW 2019-2024), the current status of the Tipperary GWB is 'good' and it is identified as being 'not at risk' of not meeting the WFD's 'good' status objective. As highlighted above, the site sits above a regionally Important Aquifer – karstified diffused (Rkd). Whilst the majority of the site is underlain by 'moderate' vulnerability, there are pockets of 'high', 'extreme', and 'Rock at or near Surface or Karst' vulnerability throughout the site.

- 9.2.9. Section 7 (Drainage and Water Quality) of the Applicant's P & E Report concludes that the impact assessment for water quality has found that there are no significant effects anticipated from the proposed development. Furthermore, it is stated that "Mitigation by design" has been implemented in designing the proposed development, such that specific mitigation measures will not be required. Notwithstanding this, I note that the application is accompanied by a CEMP. This document sets out the key construction and environmental management issues associated with the construction, operation and decommissioning of the proposed project, to ensure that during these phases of the development, the environment is protected and impacts on the environment are minimised. As indicated, buffer zones have been proposed from all mapped watercourses on the site. In terms of the required works within these buffer zones, a crossing with a culvert for a new access track is proposed for the EPA mapped watercourse within the eastern portion of the site. This tributary of the Lisnagonoge

Stream has been filled in historically and is no longer present onsite. Details of the proposed culvert are shown on Drawing Ref No. P24169-FT-XX-XX-DR-PL-0405. There is also an existing bridge crossing within the site which connects the northern and southern land parcels via the main access road through the site. This bridge crosses the EPA mapped Lisnagonoge Stream and will be crossed by a 33kV cable trench running from the southern land parcels to the northern parcel RMU building. A flat formation trench within the deck and road pavement reinstatement is proposed and it is confirmed that no instream works are required or modification to the existing stream. Furthermore, no wet concrete works are required to the bridge with the cabling to be fully contained in the deck enclosed by existing parapet walls.

9.2.10. Soil disturbance across the site will be minimised as the foundations for the solar arrays will be installed using galvanised steel driven piles. Furthermore, excavations will be limited to the 1.2m deep trenches for the laying of cables. The appellant's consultant hydrologist has acknowledged the effectiveness of the mitigation measures proposed. However, concerns remained regarding the potential for impacts on water quality due to sedimentation during a potential flood event. Notwithstanding these concerns, I have considered the various mitigation measures proposed within the NIS, including the scheduling of works at the bridge crossing during dry weather conditions to reduce the elevated risk of runoff. In terms of the operational phase, it is noted that the proposed development will result in a change of land-use at the site from predominantly productive agriculture to a solar PV Farm, thereby reducing the potential for fertilisers and pesticides entering into the nearby watercourses. I note that this is of particular relevance in this instance given that pollution from agriculture has been identified by the EPA as a significant pressure for the SUIR_080 watercourse which adjoins the site. As I have discussed at length, the solar arrays have been designed to minimise the effect on the infiltration pattern of the site, whereby the spacing will support the growth of vegetation beneath the panels and will allow rainwater to pass through the arrays and disperse and infiltrate evenly, thereby reducing the potential for concentrated flows that could cause soil erosion. As noted, it is my view that a maintenance plan for the solar farm should be agreed with the Planning Authority prior to the commencement of development. In terms of decommissioning, a Preliminary Decommissioning Plan has been included within

Appendix 2 of the CEMP. Within this document it is confirmed that all potential negative environmental effects from decommissioning of the project will be mitigated through established measures including the use of erosion and sediment control measures, maintenance of all existing buffers and scheduling and timing of the proposed decommissioning works. Having regard to the nature of the proposed works, which require minimal soil disturbance, the mitigation measures that will be employed during the construction, operational and decommissioning phases as outlined in the CEMP, FRA and the NIS and the limited extent of solar panels which are to be located within the identified flood zones, I am satisfied that any downstream receptors will not be adversely impacted by the proposed development. Whilst I note that buffer zones are to be provided to all mapped watercourses within the site, the access tracks serving the solar farm at locations will be located adjacent to the watercourses. In this regard, it is my view that a condition be included which requires the installation of silt fences at these locations as a further measure to prevent their siltation. These silt fences shall be installed for the duration of the construction works and shall be monitored throughout for their effectiveness. A detailed drainage drawing identifying the location of the silt fences shall be submitted to the Planning Authority prior to the commencement of development.

9.2.11. I have assessed the proposed development and have considered the objectives as set out in Article 4 of the WFD, which seek to protect and, where necessary, restore surface and ground water waterbodies in order to reach good status (meaning both good chemical and good ecological status), and to prevent deterioration. Having considered the nature, scale and location of the proposed development, I am satisfied that it can be eliminated from further assessment because there is no conceivable risk to any surface and/or groundwater water bodies either qualitatively or quantitatively. The reason for this conclusion is as follows:

- The nature and extent of the proposed development which entails minimal excavations (i.e. pile driven foundations and shallow trenches).
- The mitigation measures to be employed during the construction and decommissioning phases,
- The provision of SuDS measures, i.e. natural infiltration between the solar arrays, the planting of a native grassland habitat and permeable surface for the access tracks which will result in road surfaces filtering any sediment-laden

surface waters prior to soakage to groundwater,

- The inclusion of a condition requiring the installation of silt fences along watercourses within the site where they abut the proposed access tracks,
- The findings of the Section 7 of the Applicant's P & E Report and the submitted Flood Risk Assessment.

I conclude that on the basis of objective information, that the proposed development will not result in a risk of deterioration on any water body (rivers, lakes, groundwaters, transitional and coastal) either qualitatively or quantitatively or on a temporary or permanent basis or otherwise jeopardise any water body in reaching its WFD objectives and consequently can be excluded from further assessment. (See Appendix 5 for WFD Screening Matrix).

9.3. Access & Transport

9.3.1. In terms of access, I have mentioned earlier in this report that the proposed development originally sought to utilise the 2 no. site entrances, with one access on the L-4106 to the north and an additional access from the L-13101 to the site's south. It was proposed to temporarily disassemble a section of the main northern entrance wall and pillar to allow appropriate space for construction HGVs entering and leaving the site. It was confirmed that the pillar and stone would be fully reinstated post-construction and suitable mitigation measures for said works have been prescribed within the Applicant's architectural heritage assessment. At application stage, the Planning Authority raised concerns regarding the adequacy of the northern entrance in terms of achieving the Development Plan sightline requirements for commercial entrances. In summary, the Applicant was requested by way of FI to provide unobstructed sightlines of 120m in each direction from a setback distance of 4.5m. It is documented within the Applicant's FI response that they engaged with the Planning Authority's Road's Engineers regarding a potential relaxation of the standard sightline requirement. However, it was the Local Authority's view that this could not be justified at this location. Therefore, a revised access proposal was submitted to use southern entrance only for both construction and operational traffic. This approach was deemed to be acceptable by the Planning Authority and permission was granted subject to compliance with a condition which restricts the use of the L-4106 access for all traffic associated with the proposed development. I note that there appears to be a typographical in Condition No. 10(a) of the notification of decision to grant permission

as it incorrectly refers to the L-4156.

9.3.2. The Third Party appellants have raised significant concerns regarding access and traffic related impacts. Similar concerns have been highlighted throughout the application stage by observers. Of note, the appeal submission by Thomas Dwyer, John Maher & James Maher has a fundamental objection to the use of the L-13101 for all related construction and operational traffic. Section 9 (Roads, Traffic and Transportation) of the Applicant's P & E Report provides information regarding the local, regional and national road network that will be impacted by the proposed development and details are provided regarding the delivery and haul routes. It is stated that the vast majority of loads associated with this project are standard size and can navigate from any port to the national road network without transport issues. Details of the proposed delivery route are provided in Section 9.3 of the Applicant's report. Whilst it is acknowledged that there is one expected abnormal load (width and length) required for the project consisting of the 110kV transformer, this is associated with the proposed substation and will form part of a separate consenting process. This load will likely be delivered at an off-peak time during the night and traffic management measures will be in place to assist with oversized load manoeuvres, including flag men and advanced warning signage on approach to the Substation Site. In terms of haul routes, loads from the nearest quarry will provide aggregates for track construction and a small number of HGV trips associated with other construction materials will access the site from the national road network the construction phase. The haul proposed haul route for the northern and southern entrances were identified in Figure Nos. 9-2 and 9-3 of the Applicant's P & E Report.

9.3.3. As discussed above, the southern entrance was confirmed by way of FI as the primary and sole point of access for both construction and operational traffic. An assessment of this entrance was originally provided in the Applicant's P & E Report and was deemed to be acceptable by the Planning Authority. To further demonstrate the suitability of the southern access, it is detailed within their FI response that the Applicant's consulting engineers undertook a follow-up site visit and prepared a Road and Passing Opportunity Assessment. This assessment confirms that the southern entrance (i.e. L-13101) is located at the end of a cul-de-sac, with no public traffic

approaching from the east and only limited traffic from the west during the construction phase. The assessment notes that the L-13101 is a local road currently used by articulated vehicles for agricultural purposes, indicating that it is capable of accommodating HGV movements and the road offers several natural passing opportunities, which were identified and recorded during the site survey. It is stated that these locations facilitate safe two-way traffic movement without the need for additional road widening or interventions. An updated Site Entrance Layout Plan for the southern entrance also accompanied the FI response. Furthermore, it is highlighted by the Applicant that the revisions to the access arrangement does not affect the assumptions or distribution of traffic modelled in the original Transport Impact Assessment (TIA) as it had adopted a worst-case approach in which all construction traffic was assumed to utilise all haul route roads.

- 9.3.4. The Applicant's initial TIA (i.e. Section 9 of P & E Report) was prepared by estimating the amount of traffic, in the form of heavy goods vehicles (HGV) and light goods vehicles (LGV) that will be generated during the construction phase and then distributing it over the duration of the construction programme (i.e. 18 month period). It was noted that the construction phase will result in additional traffic on the roads travelling to the development, in particular the N62, R659, L-4106, L-4162, L-1310, L-1309 and the L-13101. Whilst I note that the R659 has not been identified as being utilised as part of the delivery or haul routes (Figure Nos. 9.1 – 9.4), it is reasonable to assume that construction workers may use this route when travelling from the direction of Thurles. An additional 9,720 HGV trips (two-way) are estimated over the duration of the installation works. Calculations of vehicle movements indicate an average daily increase of 21 HGV trips per day and rising to 40 HGV trips per day during peak construction month occurring in month 4. An average workforce of 50 no. site staff is anticipated, increasing to 80 during peak periods. This is estimated to give rise to an average increase in LGV traffic of 74 no. trips per working day and rising to 80 no. during peak construction periods during months 13 and 14. The combined HGV and LGV average daily increase are 94 vehicles per day and rising to 111 vehicles per day during peak construction periods occurring in months 4 and 15. The baseline and predicted Annual Average Daily Traffic (AADT) during the estimated construction year of 2027 for the surrounding road network is presented in Tables 9-5 to 9-7 of the P &

E Report. However, I must note that information was only provided for the M8 and the N62 in terms of the baseline and predicted percentage increases as a result of the proposed development. Given the existing/baseline traffic volumes in the surrounding local road network are likely to be significantly less, the impact on the local road will therefore be more pronounced.

9.3.5. Although not formally included within the Planning Authority's FI request, the Applicant's FI response also provided an updated assessment of potential traffic impacts. It is stated within the response that the updated assessment incorporated traffic volumes relevant to the local road network leading to Gaile National School (i.e. south-west of the site along the L-1309) and responds directly to the request from the Local Authority's Roads Department for baseline traffic data in the vicinity of the school. To inform this assessment, traffic count data from a recently proposed Bio-Renewables Production Facility at the Roadstone Killough Quarry (Ref. 2560019) was utilised. Automatic Traffic Count (ATC) surveys from that application recorded baseline traffic volumes at the quarry entrance on the L-1309 and at 2 no. additional points along the same road. This data was considered representative of both existing quarry-related movements travelling west toward the school and regular commuter traffic approaching from the east. Furthermore, it is stated that this reflected typical conditions on a local road within the solar farm vicinity and along the proposed construction haul route. Predicted baseline AADT volumes for the estimated construction year (2027) are presented in Tables 2-2, 2-3, and 2-4 of the FI response, showing the anticipated impacts of average and peak construction traffic volumes for LGVs and HGVs. Predicted AADT volumes with average HGV and LGV construction traffic show an 13.7% and 84.5% increase respectively for the L-1309 (i.e. Table 2-3) which then increases to 26.2% and 91.4% respectively for the peak AADT volumes. As per Table 2-2, a 46.2% increase for combined LGV & HGV Peak AADT during construction phase is predicted. I note that there appears to be a minor error in Table 2-2 in the calculation of the combined AADTs generated by the proposed development. Based on the data and the supporting traffic management measures outlined in the submitted Outline Traffic Management Plan (TMP), it is the Applicant's contention that the southern entrance meets the safety and visibility requirements of the Development Plan and provides a practical, low-impact access solution for the project. An outline TMP is included within the CEMP, and I note that a condition

(Condition No. 13) has also been included by the Planning Authority requiring the submission of a finalised TMP prior to the commencement of development.

9.3.6. As noted, the appellants have confirmed that they are existing landowners along the L-13101 and concerns have been raised regarding the Planning Authority's incorrect classification of this road, its inadequate width and alignment, its unsuitability to cater to large scale traffic and the potential for a traffic conflict to arise during the construction phase of the proposed development. It's the appellant's view that the access to the site should only be provided from the northern entrance off the L-4106. Alternative access arrangements have also been suggested by the appellant, including reverting to the use of the 2 no. entrances or the introduction of a one-way system. It is noted that there are at least 3 no. existing residences and a number of agricultural buildings and farms that are accessed directly from the L-13101. The site entrance is located towards the eastern end of the L-13101, at a distance of c. 1.2km from the junction of the L-13101 and the L-4162 to the west. With this alternative access arrangement, it is reasonable to conclude that the potential for traffic conflicts would be intensified along this relatively small section of a local road, as all two-way traffic movements are now fully reliant on the L-13101 for site access and egress. These conflicts may arise between residents/farmers and vehicles associated with the proposed development and also between vehicles entering and exiting the proposed development given the width of the local road.

9.3.7. In terms of the L-13101, it was noted that in the Applicant's FI response that the local road offered several natural passing opportunities, which were identified and recorded during a further site survey. It is stated that these locations facilitate safe two-way traffic movement without the need for additional road widening or interventions and reference is made to the Road and Passing Opportunities Assessment (Appendix 3) which accompanied the FI response. Notwithstanding the Applicant's assertions above, the assessment (Appendix 3) does however confirm that works are required to provide a number of the proposed passings bays (i.e. as per Table 1-1). Whilst the indicative locations of the passing bays have been identified (Figure Nos. 1-2 – 1-4), the passing locations are generally outside the application site boundary, and no specific details (i.e. plans) have been furnished with the application. On the basis of

the submitted information, there is a level ambiguity as to whether the works are entirely within the road corridor (inclusive of verge) or if Third Party consent would be required for the works. Within the 2nd report on file from the Local Authority's District Engineer, a condition has been recommended for the design of the proposed passing locations to be agreed in advance of any works taking place and reference is made to a requirement for a Road Opening Licence. Notwithstanding this recommendation, a condition requiring details of same has not been included in the Planning Authority's notification of decision.

- 9.3.8. From my observations on site, it is evident that there are stretches of this road where passing opportunities would be restricted, particularly in the context of HGV traffic. Notwithstanding this, there are several existing natural passing opportunities that readily allow smaller vehicles to safely pass. Furthermore, larger agricultural vehicles would regularly utilise this local road given the presence of a number of working farms. Whilst I accept that there may be construction related traffic impacts, these are temporary in nature. In my view, this would not warrant a refusal of permission, particularly in the context of the pressing need to deliver renewable energy projects of this nature and achieve national climate targets which I have discussed above. These potential construction phase impacts can also be mitigated through adherence with a robust traffic management system that could be implemented throughout this phase of the development. It is therefore my view that the Applicant shall be required to prepare and submit for the written agreement of the Planning Authority, a detailed Construction Traffic Management Plan (CTMP) prepared by a suitably qualified transport engineer. This CTMP shall include measures such as the use of flagmen at the site entrance for all HGV deliveries and the potential limited introduction of a stop/go system during peak delivery periods. The CTMP shall also include a requirement to appoint a resident liaison or point of contact to ensure residents located along the L-13101 are informed of peak delivery times, anticipated disruptions or other related matters. Whilst I acknowledge that there will be a noticeable increase in traffic volumes on the surrounding local road network, this increase and any associated impacts are temporary in nature and can be successfully managed and mitigated through adherence with a carefully developed CTMP. Subject to compliance with this condition, I am satisfied that the proposed development is acceptable from a traffic

management perspective and should therefore be granted planning permission. Given the nature of the proposed development and that they are typically unmanned facilities, traffic associated with the operational phase is not considered to be an issue of concern given the limited number of trips that would be generated.

9.4. Archaeology & Cultural Heritage

9.4.1. In terms of the site's archaeological heritage, there are a total of 4 no. recorded archaeological sites located within the application boundary, namely Killough Castle (RMP TS047-057), an enclosure (RMP TS047-098), a former mill pond (Redundant record; TN047-096) and an earthwork (RMP TN047-126). It is noted that a further 14 no. archaeological sites are recorded within 500m of the proposed development. Concerns have been raised by the appellants regarding the potential impact of the proposed development, particularly on unrecorded features of archaeological significance due to ground disturbance. Similar concerns were raised by Third Party observers during the course of the application. The application was supported by an Archaeological and Architectural Heritage Assessment (AAHA) which provides a detailed study of the archaeological and historical background of the site and the surrounding area. It is noted that a field inspection, followed by a geophysical survey, was carried out with the aim of identifying any previously unrecorded features of archaeological or historical interest. It is noted that the Applicant's assessment also examined the potential grid connection and substation which form part of a separate consenting process. The AAHA contains the following appendices:

- Appendix 1: Mitigation
- Appendix 2: SMR/RMP Sites within the Study Area
- Appendix 3: Legislation Protecting the Archaeological Resource
- Appendix 4: Legislation Protecting the Architectural Resource
- Appendix 5: Impact Assessment and the Cultural Heritage Resource
- Appendix 6: Mitigation Measures and the Cultural Heritage Resource
- Appendix 7: Geophysical Survey Report.

9.4.2. Section 7 of the archaeological report sets out the impact assessment and mitigation strategy for the proposed development. In terms of the site's recorded and unrecorded archaeological features, the below table summarises the potential impacts of the

proposed development. The mitigation strategy recommends a programme of archaeological test trenching carried out under licence for any extensive ground disturbances. Dependant on the results of this assessment, further mitigation may be required, such as preservation by record or in-situ and/or archaeological monitoring.

Table: Impact Assessment.

Archaeological Feature	Impact Assessment
Recorded enclosure site TN047-126	Located in the northern portion of the proposed solar development area. The site does not possess any upstanding remains but was identified during the geophysical survey. It is stated that the site will be avoided and no direct or indirect impacts are predicted.
Recorded earthwork site TS047-098	Located to the east of the demesne associated with Killough Castle. Originally added to the RMP as a site visible in an aerial photograph, no archaeological remains were detected at this location during the geophysical survey. It remains unclear as to whether an archaeological site is present at this location. Proposed arrays in this area will be secured with concrete boots/ballast and will not require driven piles. As such, any impacts on archaeological remains that may be present will be avoided.
Recorded ringfort site TN047-061	Located within the proposed substation development, and the grid connection route passes through its Zone of Notification (Figure 2b), but the ringfort itself will not be subject to direct or indirect impacts.
Former mill pond (TN047-096)	Deemed to be of no archaeological significance and is now listed as a redundant record. This site, and the remaining sites of post medieval activity will be directly impacted by the erection of solar arrays on driven piles. Given the relatively recent nature of the sites, the fact that they have been removed from the landscape and the narrow piles required to support the solar array, impacts are deemed to be minimal and not significant.
3 no. previously unrecorded enclosures (identified during geophysical survey) (Sites No. 1.3, 1.4 and 1.8)	These will be avoided by the proposed solar development as shown on Figure 2a. This will ensure the preservation of the features and removes the potential for direct impacts. None of the sites possess upstanding remains so indirect effects are not anticipated.
5 no. areas of archaeological potential (identified during geophysical survey) (Sites Nos. 1.2, 1.5, 1.7, 1.9, 2.1)	These be included in the solar array layout, but direct impacts will be avoided on the remains, due to the implementation of concrete boots/ballast to mount the solar arrays in these areas.
Watercourse	No in-stream works are proposed in relation to the stream that crosses the development area. Cabling related to the proposed development will be located within the bed of the stone bridge that crosses the watercourse.

9.4.3. Within their assessment of the application, the Planning Authority referred to the initial report of the Department of Housing, Local Government and Heritage (referred to herein as the Department) who provided commentary on the proposed development including a recommendation to undertake archaeological testing of potential archaeological features and test trenching of areas of the site that would be subject to extensive ground disturbances; the submission of a detailed 'Solar Panel and

Mounting System Arrangement' drawing; the establishment of suitably sized concentric buffer zones of the recorded monument identified in the geophysical survey; the avoidance (through the use of suitably sized concentric buffer zones) of RMP TS047-098- --- or additional investigative works to confirm the presence/absence of the monument and to inform additional mitigation measures; the establishment of suitably sized concentric buffer zones around the 3 no. previously unrecorded enclosures (Sites 1.3, 1.4 and 1.8); and, additional archaeological investigations to confirm the nature and extent of the additional areas of archaeological potential (Sites 1.2, 1.5, 1.7, 1.9, 2.1) to inform additional mitigation measures. This commentary formed the basis of a detailed FI request.

9.4.4. As part of Applicant's FI response, an Archaeological Assessment was submitted which followed on from the AAHA and Geophysical Survey that accompanied the application. As part of the further site investigations, the report notes that a total of 62 no. trenches were mechanically investigated across multiple test areas, which measured 1155 linear metres in total. The impact assessment within the report provides the following conclusions:

- The site of 2 no. adjacent circular enclosures was identified during the geophysical survey. Testing confirmed the presence of ditches associated with the enclosures and they are interpreted as archaeological and have been assigned Archaeological Area 1 (AA1). It is noted that the site will be avoided by the arrangement of the proposed solar arrays at this location, and no negative impacts are predicted.
- Testing confirmed the presence of burnt mound spreads associated with the site of a fulacht fiadh. These are interpreted as archaeological and have been assigned Archaeological Area 2 (AA2). It is noted that the site will be avoided by the arrangement of the proposed solar arrays at this location and no negative impacts are predicted.
- Testing confirmed the presence of a kiln/charcoal production pit. This is interpreted as archaeological and has been assigned Archaeological Area 3 (AA3). It is noted that the site will be avoided by the arrangement of the proposed solar arrays at this location and no negative impacts are predicted.

The report notes that a possibility remains that there may be an adverse impact on small-scale or isolated archaeological features or deposits that have the potential to

survive beneath the current ground level and outside of the footprint of the excavated trenches. This could be caused by ground disturbances associated with the proposed development. In terms of the mitigation strategy, measures have been applied to areas of potential archaeology to avoid any underground disturbance. These include the use of non-development exclusion zones and concrete shoes instead of invasive piling or screwing of panel supports, which could potentially impact on subsurface archaeology. It is also recommended that the locations of AA1-AA3 are inspected prior to the commencement of construction to ensure they are appropriately fenced to avoid inadvertent impacts by mobile plant traffic. Furthermore, all topsoil stripping associated with the proposed development is to be monitored by a suitably qualified archaeologist. Should any features of archaeological potential be discovered, it is noted that further archaeological mitigation may be required, such as preservation in-situ or by record.

- 9.4.5. A further report is on file from the Department where they were now generally satisfied with the impact assessment and mitigation strategy set out within the Applicant's Archaeological Assessment. However, conditions for Preservation in Situ, Pre-development Archaeological Testing and Licensed Archaeological Monitoring are recommended to be included within any grant of planning. Furthermore, it is noted that reports containing the results of the testing archaeological monitoring and any subsequent required archaeological work be submitted to the Department and the Planning Authority. Having considered the detailed analysis provided within the Archaeological and Architectural Heritage Assessment, Geophysical Survey and Archaeological Assessment, the nature of the proposed works which will have a relatively low sub-surface impact, the scale of the structures associated with the solar farm and the mitigation strategy which comprise exclusion and buffer zones and the use of concrete shoes instead of invasive piling at certain locations, I consider the proposed development to be acceptable from an archaeological perspective. As part of the Applicant's FI response, revised Site Layout Drawings were submitted. Upon review, it was evident that solar arrays have been excluded from AA1 and AA2. However, panels remained at the location of AA3. It is therefore my view that a condition be included which requires the submission of updated site layout drawings which clearly overlay the excluded areas that have been identified as having archaeological potential (AA1-AA3). Furthermore, the updated layout drawings shall

clearly identify where the proposed panels are to be located on concrete shoes. I note that their locations have been omitted from the drawings submitted at FI stage. Overall, I am satisfied that the Applicant has provided a thorough archaeological assessment and subject to compliance with suitable conditions, including those as recommended by the Department, I consider the proposal to be fully in accordance with policy of the Development Plan (13 – 4) that seeks to safeguard sites, features and objects of archaeological interest. The proposed development is therefore acceptable in my view.

- 9.4.6. In terms of site's architectural heritage, Killough Castle is included on the RPS and NIAH survey (RPS 1029; NIAH 22204707). This protected structure comprises a 16th century tower house which was expanded as a country house known as Killough Castle, during the early 19th century. Despite the extension of the structure, the Applicant's AAHA confirms that the fabric of the medieval castle survives in good condition with the original wall-walk and crenelations intact. It is noted that a possible bawn wall runs from the south-east angle of the tower eastwards and has been incorporated into the 19th century castellated stable yard wall. A total of 6 no. further structures included on the RPS are located within 500m of the proposed development and are identified in Table 5 of the Applicant's assessment. The demesne landscape of Killough Castle (NIAH Garden Survey Ref.: 1017) is also located within the application boundary. The first edition Ordnance Survey map of County Tipperary (1843) shows the extent of demesne landscapes which were established as a naturalised landscaped setting for the large houses of the landed gentry. It is noted that the overall demesne was relatively modest, with access roads from the north-east and south-west and some remnants of the tree-lined boundaries remain today along with a small walled garden and some specimen planting. It is stated that the outbuildings associated with Killough Castle have been affected by the construction of modern agricultural buildings. Plate 7 of the Applicant's assessment identifies the surviving elements of the core demesne associated with Killough Castle. It is noted that Plate 7 also illustrates the portion of the demesne that remains in a better state of preservation and could be determined to represent the 'setting' of Killough Castle. A gate lodge associated with the entrance to Killough Castle is located adjacent the northern site entrance and this comprises a single storey cottage with a dormer level

and a pitched slate roof.

9.4.7. It is confirmed within the Applicant's impact assessment that Killough Castle and the core of the demesne will be avoided by the proposed development. As such direct and indirect impacts on the castle and the core landscape will be avoided, as the setting of the structure and the core demesne elements will be maintained. It is acknowledged that the south-eastern extent of the former demesne will be impacted directly by the erection of solar panels. However, it is contended that the effects will not be significant given the denuded nature of this portion of the landscape. Whilst temporary works were originally proposed to the existing northern gated entrance to Killough demesne, the disassembling is now no longer required as the proposals were amended by way of FI and access/egress is solely restricted to the southern site entrance. Furthermore, the 2 no. vernacular cottages within Clohoge and the ruined farmstead in Graigue will be avoided by the proposed solar development and a buffer area provided from the structures. Whilst it is acknowledged that there may be some indirect impacts on the setting of these structures, these are not predicted to be significant. Within their assessment of the application, no concerns were raised regarding potential architectural heritage impacts, noting a large buffer around Killough Castle has been provided as a measure to preserve its character and setting. I also note that no issues or concerns have been raised within the reports on file from the Department.

9.4.8. As per the policy (13 – 1) of the Development Plan, any proposals that will have an unacceptable impact on the character and integrity of a protected structure or adjoining protected structure will not be permitted. As discussed above, the Applicant has proposed a large buffer zone around Killough Castle that will remain free from development. I note that this buffer zone generally aligns with the castle's core demesne that has been identified within the Applicant's assessment. A similar buffer zone has been provided around the existing gate lodge and the vernacular cottage located along castle's avenue. From my observations on site, it was evident that key views both from and towards the castle will not be adversely impacted by any infrastructure associated with the proposed development noting the siting of the solar arrays and the separation distances provided. Overall, I am satisfied that the approach taken will ensure that character and setting of the existing protected structure remains intact and will not detract from or be eroded by the proposed development. For this

reason, I am satisfied that the Applicant's proposals are compliant with policies and objectives of the Development Plan and the Architectural Heritage Protection Guidelines for Planning Authorities, (DAHG 2011) and permission can therefore be granted.

9.5. Landscape & Visual Impact

9.5.1. The appellants have raised concerns regarding the visual impact of the proposed development, and they have questioned the findings of the Applicant's Landscape Visual Impact Assessment (LVIA). Similar concerns were raised by observers at application stage. Submissions on file noted that the development would disrupt scenic views and negatively affect the aesthetic character of the landscape, would negatively impact on views of Killough Hill and the robustness of the proposed mitigation measures were called into question.

9.5.1.1. In terms of a landscape's capacity to absorb renewable energy development, it is the policy of the Council to facilitate new development which integrates with and respects the character, sensitivity and value of the landscape in accordance with the guidelines set out in the Tipperary Landscape Character Assessment (LCA) 2016 and the policies as set out in the Development Plan (Policy RE2). I note that the site is located in the plains of lowland pastures in Thurles Hinterlands and the River Suir Central Plain Landscape Character Area (LCA). The Thurles hinterland forms a flat open landscape lying below the rolling hills of Kilcommon and Upperchurch to the west. The River Suir Central Plain is also known as part of the 'Golden Vale' and forms the large central area of the county where it is associated with the River Suir and also extends west along the tributaries of the Multeen, Thonouge and Tar and eastwards along the Anner. It is characterised by its rich and productive agricultural lands and rolling landscape. The M8 Motorway transverses the central plain in an east – west divide. The LCA identifies the site as being located with an area of robust/normal sensitivity with medium compatibility and low likely landscape effects from solar energy developments.

9.5.2. In terms of the extent of the study area, Section 1.2.2 of the Applicant's LVIA notes that based on similar studies, the proposed development is likely to be difficult to

discern beyond c. 5km and is not likely to give rise to significant landscape or visual impacts beyond c. 2km. In the interests of a comprehensive appraisal, a 5km radius study area is used in this instance. However, it is noted that there is a particular focus on receptors contained within 2km, except where iconic or designated scenic viewpoints exist at greater distances out to 5km. The LVIA includes a total of 13 no. viewpoint photomontages taken from various locations within the study area and each viewpoint provides the existing scenario, an outline view, the proposed montage view and the montage view with the mitigation established. In support of the LVIA, a computer-generated Zone of Theoretical Visibility (ZTV) map has been prepared to illustrate where the proposed development is potentially visible from. The ZTV map is based solely on terrain data (bare ground visibility), and ignores features such as trees, hedges or buildings, which may screen views. It is noted within the LVIA that as the 'bare-ground' ZTV map is theoretical, the proposed PV panels will not rise more than 3.2m above the underlying terrain and will therefore be considerably screened by surrounding and intervening hedgerow vegetation, trees and numerous buildings, walls and embankments littered through the study area, resulting in a much lesser degree of actual visibility. The second form of ZTV mapping provided within the LVIA relies on a Digital Surface Model (DSM), which also accounts for terrestrial land cover elements, such as hedgerows and buildings (see Figure 1-5). It is stated within the LVIA that this is of far more value in determining the likely visibility of the solar panels and the following points are noted:

- There is a considerable reduction in likely visibility from many areas within 1km of the site as the existing hedgerow and treeline network notably limits the potential for views of the proposed development.
- There is a notable reduction in the potential for actual panel visibility once the existing vegetation is accounted for. The majority of the landscape in the immediate surrounds of the site has the potential to afford visibility of less than 20% of the total panel area.

9.5.3. The UK Guidance for large scale solar development notes that landscape / visual impact is likely to be one of the most significant impacts of such development and it is acknowledged that southerly sloping sites are likely to be more visible within the wider landscape. Given the temporary nature of solar farms, the policy notes that the removal of existing vegetated field boundaries, including hedges should not be

permitted as this will irrevocably alter the landscape character of the site. Existing hedges and established vegetation, including mature trees, should be retained wherever possible and protected during construction. In the case of the subject proposal, the LVIA notes that the main mitigation by avoidance measure employed in this instance is the development's siting in a relatively flat to low rolling rural area that avails of a high degree of vegetative screening. It is contended that the retention of existing hedgerow boundaries within and around the site will aid visual screening and maintains existing field patterns. In addition, it is proposed to bolster existing perimeter and internal hedgerows with under and inter-planting of whip transplants (i.e. Hedgerow Type 1) in order to ensure dense and consistent screening of the site in perpetuity. It is confirmed that this will be undertaken where required to thicken and fill gaps in the existing hedgerow network prior to the construction phase. Where not already exceeded by existing vegetation, it is intended to manage hedgerows up to 3-4m in height. This will be achieved by a combination of allowing lower sections of existing hedgerows to mature, filling obvious gaps with advanced nursery stock and providing an additional line of whip planting to selected hedgerows that require densification. New 'Type 2' hedgerows are also proposed for planting in three sections, namely along the northern boundary, the eastern and southern parts of the archaeology buffer, and near the southern boundary of the site. Advanced nursery stock trees (c. 3m planted height) are also proposed to further screen the development from some of the nearest surrounding receptors and will be allowed to mature up to a maintained height of 3-4m as a measure to screen and soften the proposed development from nearby dwellings and surrounding local and regional roads. Wherever possible, the on-site access roads utilise the existing farm tracks and follow existing topography in order to minimise ground disturbance, alteration of physical landscape character and visual intrusion. Restoration of any areas disturbed during the construction process will be undertaken on construction completion by appropriate grass seeding to return a green characteristic.

- 9.5.4. Whilst the Planning Authority accepted that the proposed development would alter the existing landscape character, regard was given to the low profile of the solar panels, the site typography, whereby views to the site are limited to its immediate surroundings and the proposed planting/screening that would be implemented. Overall, the Planning Authority raised no concerns regarding the potential visual impact of the proposed

development on its receiving landscape. The results of the Applicant's LVIA in terms of the magnitude of visual effects is provided in Section 1.6 of the LVIA and I have summarised same in the below table. My assessment of each representative viewpoint is also provided below. It is noted within the LVIA that the selected viewpoints are intended to reflect a range of different receptor types, distances and angles and the development is assessed using up to 6 no. categories of receptor types including Key Views (from features of national or international importance) (KV), Designated Scenic Routes and Views (SR/SV), Local Community views (LCV), Centres of Population (CP), Major Routes (MR) and Amenity and heritage features (AH). Overall, I am satisfied that the Applicant has provided comprehensive selection of viewpoints which are generally reflective of the key receptors in the site's hinterland. It is relevant to note that the Applicant's assessment has also considered the potential visual impacts associated with the substation building. As noted, this will form part of a separate consenting process and is therefore not considered in my assessment of the appeal.

Table: Magnitude of Visual Effects

VP No. & Location	VP Sensitivity	Pre-mitigation Significance / Quality / Duration of Impact	Post-mitigation Significance / Quality / Duration of Impact	Assessment
VP1: M8/N62 Bridge at Arbourhill (c. 2.9km east of site)	Medium-low	Imperceptible / Neutral / Long-term	Imperceptible / Neutral / Long-term	✓ - Agree with LVIA conclusions. The solar farm will not be visible from this major route receptor due to the intervening distance and the significant vegetation screening.
VP2: N62 outside of John Corbett Motor village at Coolkenedy (c. 2.5km north-east of site)	Medium-low	Imperceptible / Neutral / Long-term	Imperceptible / Neutral / Long-term	✓ - Agree with LVIA conclusions. The solar will not be visible from this major route receptor due to the existing significant vegetation screening.
VP3: L4106 at Graigue (c. 1.2km north-east of site)	Medium-low	Slight-Imperceptible / Neutral / Long-term	Imperceptible / Neutral / Long-term	✓ - Agree with LVIA conclusions. A brief glimpse of the panels has the potential to be visible through the layers of intervening vegetation. However, the impact will be mitigated through the bolstering of hedgerows along the eastern site boundary.
VP4: Local road at	Medium-low	Slight / Neutral / Long-term	Slight-imperceptible /	✓ - Agree with LVIA conclusions. The solar arrays within the

Carrig More (c. 970m east/south-east of site)			Neutral / Long-term	eastern extent of the site are visible from this receptor. It is acknowledged that the development would detract slightly from view's pastoral character, thereby subtly increasing the intensity of built development. However, I would concur that the magnitude of visual impact is low as it relates only to a brief section of this local road. The impacts would also be further mitigated through the additional planting along the southern boundary of the eastern land parcels.
VP5: L4106 at Clohoge (Adjacent to site northern boundary)	Medium-low	Moderate-Slight/Negative/S hort-term	Slight/Negative/ Long-term	X - The view is taken from a gated entrance to an agricultural field adjacent to the northern site entrance and where there are expansive views of the northern portion of the site from the L-4106. Killough Hill dominates the skyline from this viewpoint with relatively flat pasture lands to the fore. A medium sensitivity is warranted at this location given the presence of Killough Hill. Although the solar arrays will have a low profile, their introduction along with the proposed timber post and wire fencing will measurably alter this view. There is also a gap in the proposed landscaping along the northern extent of the arrays (i.e. Field 8 as per AAHA) which results in more open views of the development. It is recommended that additional hedgerow planting be provided at this location to assist in mitigating this impact. Notwithstanding the conclusions in the LVIA, it is considered that there would be a moderate/negative long term residual impact once the mitigatory planting has been established given the open views that exist and its sensitivity owing to the presence of Killough Hill. <u>It is therefore considered that a Moderate/Negative/long-term impact will arise.</u>
VP6: R660 at Glenbane Upper (c. 2.3km south-west of site)	Medium-low	Slight-Imperceptible/Negative/Long-term	Slight-Imperceptible/Negative/Long-term	✓ - Agree with LVIA conclusions. The proposed solar panels will introduce a built feature in the more elevated portion of Field 1 (as labelled as per AAHA). I note that this is in the immediate

				context of the quarry and area of deciduous forestry within Killough Hill. Whilst the solar arrays will contrast with the tones and textures of the surrounding landscape, I am satisfied that they will not overly detract from the existing landscape character.
VP7: R660 at Graiguene (c. 2.1km west of site)	Medium-low	Imperceptible/Neutral/Long-term	Imperceptible/Neutral/Long-term	✓ - Agree with LVIA conclusions. The proposed solar farm will not be visible from this viewpoint due to the intervening vegetation.
VP8: Local road at Galbertstown (c. 830m west of site)	Medium-Low	Slight/Negative/Long-term	Slight/Negative/Long-term	✓ - Agree with LVIA conclusions. There are views from the local road and residential receptors of the solar arrays within Field 1. Given the topography, mitigatory planting would be ineffective. It is considered that a Slight/Negative/Long-term effect will arise.
VP9: Local road at Graigue (c. 930m east of site)	Medium-low	Slight / Negative / Long-term	Slight / Negative / Long-term	✓ - Agree with LVIA conclusions. VP9B is provided in the direction of the solar farm, and it is evident that it will not be visible from this location due to the intervening vegetation.
VP10 A & B: Local road at Killough (At the southern boundary of the solar farm site)	Medium-low	Moderate/Negative/Short-term	Moderate-slight-/Negative/Long-term	X – These viewpoints are taken from the local road to the south of the site in a north-westerly and north-easterly direction. Whilst it is proposed to bolster hedgerow planting along the southern site boundary, this localised view will be altered considerably. <u>It is therefore considered that a Moderate/Negative/long-term impact will arise.</u>
VP11: Local road at Clohogue (c. 680m north of site)	Medium-low	Slight-imperceptible/Negative/Short-term	Imperceptible/Neutral/Long-term	✓ - Agree with LVIA conclusions. Glimpses of the western extent of the solar arrays will be visible from this vantage point. However, the visual impact will be minimised once the mitigatory hedgerow planting has been established.
VP12 A & B: Local road at Galberstown (c. 685m west of site)	Medium-low	Imperceptible/Neutral/Long-term	Imperceptible/Neutral/Long-term	✓ - Agree with LVIA conclusions. The solar farm will not be visible from this location due to the distance and intervening vegetation.
VP13 A & B: Local road at Butlersfarm (c. 1.2km east of site)	Medium-low	Moderate/Negative/Long-term	Moderate-Slight/Negative/Long-term	✓ - Agree with LVIA conclusions. Impacts from this viewpoint are associated with the substation building. The solar farm will not be visible from this location due to the distance and intervening

				vegetation. An Imperceptible/Neutral/Long-term is considered to arise for the solar farm development.
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- 9.5.5. Whilst I acknowledge that a degree of subjectivity is naturally applied to LVIAs, I have outlined instances in the above assessment where the magnitude of effect has been somewhat underreported in the Applicant’s LVIA. From my observations during my inspection of the site and surrounding area, this was evident at VP5 and VP10 where it is considered that long term, moderate, negative residual impacts would arise and there is a reliance on the mitigatory hedgerow planting, where the solar arrays will be particularly prominent. As I have discussed above, additional mitigatory hedgerow planting could be provided along the northern boundary of Field 8, and I am satisfied that this could be addressed by way of condition. Overall, I note that the impacts are predominantly localised and can be successfully mitigated to avoid any significant impacts on the receiving landscape. Whilst I acknowledge that the change in land use will alter the area’s rural landscape character, I note that the site is not located in a Primary or Secondary Amenity area. Furthermore, there are no Development Plan designated scenic routes or viewpoints within the surrounds of the site that would be impacted by the proposed development. With the exception of the more elevated portion of Field 1, existing vegetation will generally screen longer views of the solar arrays. On balance, I am satisfied that the proposed development will not have a significant adverse impact on the existing landscape character, and the development can be successfully absorbed at this location. However, it is considered that the proposed planting should be implemented at the earliest opportunity given the length of time it will take for it to reach maturity. I therefore concur with the Planning Authority that a condition should be included which requires the landscaping to be implemented within the first planting season following the commencement of development. It is also my recommendation that a condition be included that requires all ancillary structures such as inverters, the RMU building and other plant to be coloured in green or muted shades to help them assimilate with the surrounding countryside.
- 9.5.6. In terms of decommissioning and restoration, the operational life of the solar farm is c. 40 years. Following this, it is confirmed within the LVIA that decommissioning will involve the removal of all solar panels and associated fencing, storage and operation

facilities. In accordance with a detailed restoration plan, it is stated that the site will be fully restored to agricultural use through reseeded of appropriate grass species to reflect the grass sward mix in the immediate vicinity. Any site access tracks not required for on-going agricultural purposes will be excavated and top-soiled in order to reinstate them to productive agricultural use. Furthermore, existing hedgerow field boundaries, which are to be maintained and reinforced with additional planting during the construction and operational phases, will remain intact following the restoration phase. I note that the Planning Authority have included a condition (3(b)) which requires the submission of a restoration plan for agreement prior the commencement of development. As discussed previously, this should also include a regime for the maintenance of vegetation between and around the solar arrays.

9.6. Biodiversity

- 9.6.1. This section concerns general biodiversity and in particular, the potential for impacts on habitats and species which are not qualifying interests of European Sites. It is noted that an Ecological Impact Assessment (EclA) has been submitted with the application and Section 8 of the Applicant's P & E Report deals with Biodiversity and Ecology. Whilst it is noted in the EclA that the site borders the Killough Hill proposed Natural Heritage Area (pNHA), the application boundary does in fact encroach within the pNHA. This is discussed in further detail below. I note that concerns regarding the potential impacts of the proposed development on biodiversity have been raised by a Third Party appellant. Similar issues were raised by observers at application stage. In terms of the Planning Authority's assessment, it was their view that the proposed mitigation measures, together with the biodiversity and buffer areas will minimise any impacts on biodiversity and ecology and the proposed development was therefore acceptable from an ecological perspective.

Habitats

- 9.6.2. In terms of habitats on site, detailed habitat mapping is provided within Figure 3.2 of the Applicant's EclA. It is noted that habitat surveys were undertaken during July, August and September 2024 and the appeal site is characterised by arable crops (BC1), improved agricultural grassland (GA1), hedgerows (WL1), treelines (WL1), eroding/upland rivers (FW1), depositing/lowland rivers (FW2), buildings & other artificial surfaces (BL3), scrub (WS1) and dense bracken (HD1). The enhancement

area comprises of wet grassland (GS4) and arable crops (BC1). It is noted that the wider study area contains areas of oak-ash-hazel woodland (WN2), (mixed) broadleaved woodland (WD1), conifer plantation (WD4), rich fen and flush (PF1), drainage ditches (FW4), wet-willow-alder woodland (WN6) and immature woodland (WS2). As per Section 3.3 of the EclA, no rare or protected flora species protected under the Flora Protection Order (2022) or listed in Annex II and IV of the EU Habitats Directive (92/43/ECC) were recorded during the site surveys. Furthermore, no invasive species listed under the third schedule invasive species list of the European Communities (Birds and Natural Habitats) Regulations 2011 [S.I.477/2011], were recorded within the site. An evaluation of the habitats within the study area is included within Table 3.6 of EclA and the selection of the Key Ecological Receptors (KERs) is identified in the below table.

Table: Identification of KERs

Habitat	Evaluation	Rationale
Hedgerows WL1	Local (Higher value)	Important to local wildlife (invertebrates, birds, mammals) and can act as ecological corridors.
Treelines WL2	Local (Higher value)	Important to local wildlife (invertebrates, birds, mammals) and can act as ecological corridors.
Scrub WS1	Local (Higher value)	Important to local wildlife (invertebrates, birds, mammals) and can act as ecological corridors.
Drainage ditches FW4	Local (Higher value)	Important to local wildlife (invertebrates, birds, mammals, fish) and can act as ecological corridors.
Depositing/lowland rivers FW2	Local (Higher value)	Important to local wildlife (invertebrates, birds, mammals, salmonids) and can act as ecological corridors.
Oak-ash-hazel woodland WN2	National	Important to local wildlife (invertebrates, birds, mammals) and can act as ecological corridors.
Wet-willow-alder-ash woodland WN6	Local (Higher value)	Important to local wildlife (invertebrates, birds, mammals) and can act as ecological corridors.
Wet grassland GS4	Local (Higher value)	The habitat varies in quality throughout the Site. Areas to the west of the Site can be considered relatively species rich while supporting Marsh fritillary and breeding Snipe.
Rich fen and flush PF1	Local (Higher value)	Semi-natural habitat – the floral diversity within this habitat has the potential to support a number of invertebrate and mammal populations within a local context.

		The surrounding landscape is dominated by managed landholdings, such as improved agricultural grassland and conifer plantations – therefore, this seminatural habitat is identified as a KER for the area.
Buildings and other artificial surfaces BL3	Local (Higher value)	Roost and breeding sites for bird and bat species.
Transition mire (PF3)	Local (Higher value)	Important to local wildlife (invertebrates, birds, mammals).
Limestone/marl lakes (FL3)	Local (Higher value)	Important to local wildlife (invertebrates, birds, mammals)
Marsh (GM1)	Local (Higher value)	Important to local wildlife (invertebrates, birds, mammals) and can act as ecological corridors.

9.6.3. During the application phase, Third Party observers raised concerns regarding the location of the proposed development relative to the Cabragh Wetlands and Galbertstown Bog that contain various species of wildlife that would be endangered. Concerns were also raised regarding the loss of hedgerow habitats within the site. In terms of potential effects, it is noted within Section 4 of the EclA that the proposal will result in direct habitat loss to arable crops, improved agricultural grassland, improved wet grassland, dense bracken and hedgerows. Of these, only hedgerows are identified as a KER. It is noted that the proposed development will require minimal hedgerow loss (190m) which is necessary to provide access between the various fields. It is noted that the majority of hedgerow to be lost is of poor quality and currently intensively managed. The resulting effects are therefore classified as imperceptible, irreversible and long-term in a local context. It is stated that the treelines, scrub, oak-ash-hazel woodland, wet willow-alder-ash woodland, and dry meadows and grassy verges, will be avoided during construction and effects therefore will be neutral.

9.6.4. It is stated that the fen, marsh, transition mire and lakes will be avoided during construction, and this area of the site is designated for biodiversity enhancement. It is noted that no construction works, access tracks, or infrastructure shall be placed in these habitats as the layout of the proposed project was designed to avoid all of the higher value habitats. As a result, direct effects on these habitats will be neutral. Notwithstanding this, it is acknowledged that these habitats are located at a lower elevation than the works area and there is potential therefore for negative effects from groundwater interactions, in particular the fen which is a groundwater fed habitat.

However, the assessment confirms that the deepest excavation during the works will be 0.7m and no closer than 35m to the existing fen habitat. Therefore, potential effects via contaminated groundwater can be classed as imperceptible, negative, short-term in a local context. Buildings and other artificial surfaces may contain roost and breeding sites for bird and bat species. Noise disturbance during the works could reduce the habitat usage by these species in the absence of mitigation. This is deemed a moderate, negative, short-term effect.

9.6.5. In terms of potential operational phase impacts, it is noted that no further excavation or habitat loss will occur. However, maintenance works will require minimal vegetation trimming. The resulting effects on the flora and habitats is considered negative, reversible, long-term, imperceptible in a site context, as this already occurs on site from the current activities.

9.6.6. It is acknowledged within the EclA that the majority of environmental effects relate to the construction phase which will be temporary in nature and predominantly relate to the loss of habitat and disturbance. In terms of design and avoidance, the following mitigation measures have been incorporated into the proposed development:

- Solar panels will only be placed in arable & agricultural fields (GA1/BC1) and improved wet grassland (GS4), with the higher value habitats including fens, semi-natural grassland and woodland being avoided.
- Buffer zone provided from the Lisnagonoge stream.
- The wetland habitats (marsh, mire and fen) are within a biodiversity enhancement area where no works will occur. These habitats are located a minimum 40m from any works area.
- No infrastructure will be placed within 20m of the Killough Hill pNHA.

It is noted that the area of the proposed works will be kept to the minimum necessary, including all site clearance works, to minimise disturbance to habitats and flora. In addition, access to the site will be via designated points, and vehicles will be limited to access tracks. In this case, the footprint of the proposed solar farm development has been kept to the minimum necessary, including the use of design methods to minimise excavation works. It is also confirmed that a project Ecologist/Ecological Clerk of Works (ECoW) with appropriate experience and expertise in supervising and

managing the implementation of ecological mitigation measures for large renewable projects will be employed to supervise vegetation clearance and to perform pre-works surveys for mammals and birds.

9.6.7. Ecological enhancement measures associated with the proposed development are outlined within Section 6 of the EclA. Internal and perimeter field boundaries comprising hedgerows and tree lines will generally be retained for ecology and landscape protection and are treated as exclusions areas. New hedgerow planting is proposed throughout the site to enhance existing hedgerows and create new hedgerows to provide additional volume and density. Total hedgerow loss equates to c. 190m across the site and is required to facilitate access between the various land parcels. In addition, mitigation measures will be implemented to safeguard the drainage ditches and watercourses on site which I have discussed in Section 9.2 of this report. It is noted that an extensive biodiversity enhancement area (c. 42.23ha) and Existing Forrest and Bird/River buffer areas (c. 28.93 ha.) will remain free from development and will be set aside for biodiversity protection and enhancement. An area has been identified for the creation of species rich grassland consists of Wet Grassland. It is noted that the Lisnagonoge stream flows adjacent to the field while a number of drainage ditches are present though the area and bounding the field. Grazing management will be implemented within this enhancement area as managed grazing will also benefit the area of devils bit scabious by preventing a rank sward from developing. Prior to works being undertaken, it is stated that 8 no. fixed vegetation monitoring quadrats will be set up and surveyed and will remain in-situ for the monitoring period to allow surveyors to determine the effectiveness of the measures. Furthermore, an area to the north of the site, which is currently arable crops, has been identified as an area for enhancement for finches and buntings through the creation of a wild bird cover plot.

9.6.8. There is a commitment within the EclA for annual monitoring (first 3 years and in years 5 and 10 following construction) of the status of the created habitats and species enhancement measures. This will follow implementation of the plan to assess whether habitats have successfully established and to identify any issues or problems that need to be addressed. Following these monitoring visits, it is stated that a short status report will be prepared which will identify any necessary actions to ensure the success

of the enhancement features. Having regard to the overall layout of the proposed solar farm which has been designed to avoid all higher value habitats, the minimal loss of hedgerow habitats, the incorporation of the mitigation measures proposed within the EclA and the implementation of the various ecological enhancement measures, I am satisfied that the proposed development will not have significant impacts on existing habitats within the site. However, I consider it reasonable for a condition to be included which requires the Applicant to submit the monitoring status reports to the Planning Authority, as committed to in the EclA, with a record of same being placed on the public file.

Mammals

9.6.9. It is noted within the EclA that badger activity was recorded along the woodland to the east of the proposed site. This included numerous snuffle holes and latrines. Two badgers were observed during surveys foraging within the arable fields to the east of the site during September. However, no badger setts were located during the dedicated surveys. In terms of otters, it is stated that no signs of otter activity were noted along the watercourses within the site. However, these watercourses were identified as being suitable for otter given the presence of salmonids and its location relative to existing areas of woodland. An Irish hare was observed in the improved agricultural fields to the east of the site. Furthermore, it is acknowledged that several mammal species recorded in the desktop study which were not recorded during field surveys could utilise the various habitats within the site. These species include pygmy shrew, hedgehog and Irish stoat. As per Table 3-13 of the EclA, each of the above-mentioned mammal species have been identified as KERs.

9.6.10. Whilst no badger setts were recorded within the site, a high level of badger activity was noted during site surveys, much which was recorded within the woodlands at the site where no works are proposed. As only minor areas of hedgerows are to be removed (190m), it is contended that the resulting effects are deemed negative, reversible, temporary and slight in a site context. Although no otter signs were recorded within the study area, suitable foraging and commuting habitat were present along the on-site watercourses. It is noted that a buffer zone is provided from the Lisnagonoge stream and no works other than cable installation in the deck of an

existing bridge crossing (no instream works) is proposed. Otters, having large territories, can utilise other parts of their territory if disturbed by the works. As Otter are mainly nocturnal and crepuscular, works would take place during daytime hours, thus minimising the potential of noise disturbance should the species utilise habitats at the site. The resulting effects are therefore deemed temporary, not significant and reversible in a local context. No further effects are envisaged to terrestrial mammals during the operational phase of the proposed solar farm development

9.6.11. In terms of mitigation, it is confirmed that a pre-construction mammal survey will be undertaken within the footprint of the development in order to reconfirm the findings of the ecology survey, and in the event that a new badger sett/otter holts or couches should be encountered at any point, the NPWS will be informed and NRA Guidelines for the Treatment of Badgers Prior To the Construction of National Road Schemes/NRA Guidelines for Treatment of Otters Prior to the Construction of National Road Schemes will be followed. In the unlikely event that a strictly protected species is identified during re-confirmatory preconstruction surveys, the appropriate licensing shall be sought. As discussed above, the design has incorporated buffer zones from existing watercourses and hedgerow habitat removal has been minimised. In addition, an existing bridge will be used for the proposed stream crossing, and no instream works are proposed. In terms of the adequacy of the Applicant's survey work, the NRA Guidelines confirm that there are no seasonal constraints for otter surveys. However, it is acknowledged that badger surveys are significantly constrained by vegetational cover and season and are best conducted from November to April. It is noted that badger territorial activity is high from mid-January to March and surveys at this time are most efficient in identification of badger paths, latrines and feeding signs. Whilst I note that the mammal surveys were not undertaken during the optimal period, I note that characteristics of the site and predominant location of the proposed infrastructure on arable crops and improved agricultural grassland. Furthermore, pre-commencement surveys are to be undertaken prior to the commencement of development to identify if there are any new setts on site in the intervening period. Overall, I am satisfied that the proposed development will not result in a significant adverse impact on mammals. In coming to this conclusion, I have also had regard to proposals to create new foraging and commuting habitats by removing gaps and

rejuvenating hedgerows and treelines as outlined within the EclA. As part of the Applicant's proposals, mammal gates will also be installed along the perimeter fence to ensure fencing does not inhibit the movement of wildlife, and to allow movement of badgers, otters, and other small mammals across the development. It is confirmed that the security fencing will be placed a minimum of 3m away from hedgerows and ditches around the site. Having regard to the design of the proposed development and the suite of proposed mitigation, the proposed development is considered to be acceptable in my view.

Bats

9.6.12. In terms of the Applicant's preliminary roost assessment, it was noted that there are 3 no. areas across the site with several buildings. Two derelict houses of high suitability to the north and centre of the study area are surrounded by arable fields, hedgerows and public road. It is stated that the hedgerows that surround the houses have been intensively managed. The third area consists of a large castle (i.e. Killough Castle) with several old farm buildings of high suitability. Linear features surround the buildings consisting of well-maintained hedgerows and large mature treelines adjacent to a farm driveway. It is noted that several gaps exist in both the castle and old farm buildings which offer suitable roost habitat to bats. In addition, several mature leylandii trees are located adjacent to the castle which are considered to have a low suitability for a roost. It is highlighted that there were a number of suitable fissures and crevices along the bark of the mature trees, with cracks along branches offered potential suitable roosting habitat for a small number of individuals. It is acknowledged within the EclA that the hedgerows, treelines, and streams at the site offer potential foraging and commuting areas for bats. However, the open areas of arable grassland are considered to be of lower suitability for most bat species in Ireland, which favour linear features for both commuting and foraging. The exception are Leisler's bats (*Nyctalus leisleri*) who are known to use open fields for foraging. It is confirmed that no infrastructure or works are proposed within 50m of the derelict buildings, castle and farm buildings/sheds at the site. In terms of the bat habitat assessment, it is noted that the proposed site is part of a landscape that is of moderate-high suitability for all bats. It is of high suitability for soprano pipistrelle, common pipistrelle, brown long-eared bat, and Leisler's bat, of moderate-high suitability for Natterer's bat and of moderate-low for Daubenton's bat

and whiskered bat. It stated that the site is of negligible suitability for Nathusius' pipistrelle and lesser horseshoe bat.

9.6.13. Activity transects were undertaken along suitable commuting and foraging areas in August and September 2024 and the species recorded within the study area are detailed in Table 3-12 of EclA. A summary of transect survey dates, timing and weather conditions are shown Table 3-11. Bat species recorded within the study area consisted of 7 no. species. It is stated that the majority of the bat activity was attributed to common and soprano pipistrelle having been recorded on all three transects. All species showed higher levels of activity at locations which had linear or edge features such as hedgerows, treelines, streams, drains, and woodland.

9.6.14. In terms of potential effects, it is stated that the key resources identified on site for bats are the buildings, hedgerows, treelines and woodland edge features on site – all of which will be retained except for minimal hedgerow removal. It is confirmed that no mature trees will be removed as part of the proposed development works. Buildings on site will have a bat buffer placed around them and no works will occur in this area. It is noted that the solar farm will be built in areas of arable and agricultural grassland habitat which could provide foraging potential for species such as Leisler's bat. However, both these habitats are species poor and currently under use by agriculture. Higher value habitats such as woodlands, species rich wet grassland and fens are to be retained. It is noted that the operational phase of the proposed development is likely to maintain large areas of functional grassland under the panels. Additionally, the surrounding landscape is dominated by alternate resources of this nature. Therefore, it is contended that the effects are deemed to be negative, reversible, long-term and imperceptible in a local context. In the absence of mitigation, it is stated that there is potential for indirect effects on bats due to disturbance effects to commuting and foraging activity. However, no trees will be cut as part of the works, therefore no potential roosts will be lost or directly disturbed. Furthermore, the site works are likely to be less than 1 year in duration and primarily associated with daytime working hours. Therefore, the effects identified are negative, reversible, temporary and slight in a local context. In terms of the operational phase, it is stated that lighting that is installed to light CCTV cameras will be faced downwards to prevent lighting the commuting and

foraging routes. In this regard, it is the Applicant's view that no effects are envisaged to bats during the operational phase of the proposed development

9.6.15. For mitigation, the EclA confirms that an area of 50m from the buildings and sheds is deemed to be a 'bat sensitive area' with no works proposed within these areas. At the start of construction, the area will be marked off, with no works to be undertaken. In addition, there will be no mechanical equipment, petrol/diesel operated equipment (such as generators), power tools, or unauthorised personnel allowed to enter the cordoned area. No lighting will be used in the vicinity of sensitive bat receptors during construction phase to reduce the potential disturbance to bats utilising the site. In terms of the operational phase, no lighting will exist on site, aside from permanent emergency lighting in the Transformer Compound which will be designed to provide bat friendly lighting directed to the ground, with a hood to focus light on the area needed and minimise light pollution. In addition to forementioned mitigation, it is proposed to undertake enhancement planting to both supplement and strengthen the existing hedgerows which will provide suitable foraging and commuting habitat. Furthermore, bat boxes (12 no.) will be placed along trees in the treelines and woodland edges on site to provide further roosting/breeding habitats. Potential locations have been identified in Figure 6-11 of the EclA. However, it is noted that the final locations will be selected by an ecologist to ensure they are sheltered from prevailing winds and exposed to the sun for part of the day.

9.6.16. I note that the Applicant's surveys have been undertaken in the appropriate season, and I am generally satisfied that the assessment is acceptable and proportionate given the design and layout of the development, the extent of habitat loss required and the proposed mitigation measures that are to be employed. It is confirmed that the proposal will not result in the loss of any bat roosts, and it is considered that the biodiversity enhancement measures will ensure that the proposed development will not have a significant negative impact on the commuting and foraging habitat for bats. In terms of impacts associated with lighting, it is acknowledged that artificial and excessive lighting has the potential to impact on commuting and foraging bat species. I note that there are conflicting statements in the Applicant's assessment as it is initially stated that lighting is required for the proposed CCTV. However, the mitigation

measures confirms that permanent emergency lighting is only required for the Transformer Compound. I note that the Planning Authority have included a condition (Condition No. 5) which fully restricts the installation or operation of external artificial lighting on site, unless otherwise agreed with the Planning Authority. Overall, I am satisfied that adherence with this condition and the additional mitigation measures will ensure there will be no significant impacts on bats from light spillage during the construction or operational phases. The proposed development is therefore considered to be acceptable in my view.

Birds

9.6.17. It is noted within the Applicant’s EclA that ornithological surveys were conducted within and surrounding the proposed project site in August 2024 to assess the bird species present, and the suitability of surrounding habitats for birds. This included incidental bird sightings and a Kingfisher suitability survey. A total of 32 no. species were observed during the August 2024 surveys with a further 2 no. species recorded during the July surveys, the details of which are provided in Table 3-8 of the EclA. Of these four are red listed (meadow pipit, kestrel, snipe and grey wagtail) and eight are amber listed (goldcrest, house sparrow, spotted flycatcher, house martin, swallow, willow warbler, kingfisher and mallard). Of the species noted, two are protected under Annex I of the EU Birds Directive (i.e. kingfisher and little egret). The avian species that have been identified as KERs and the rationale for their inclusion is detailed in the below table.

Table: Avian KERs

Species	Evaluation	Rationale
Raptors	Local (Higher Value)	Buzzard, kestrel and sparrowhawk were recorded at the site. These species were recorded commuting and hunting within and surrounding the site. The site offers suitable hunting and breeding grounds for these raptor species, with the established hedgerows and woodland offering suitable habitat for prey species. Buzzard, kestrel and sparrowhawk are therefore considered as a KER.
Snipe	Local (Higher Value)	Snipe was recorded at the site. Breeding behaviour was noted within the fen habitat to the west of the site. In addition, wet grassland and fens habitats have the potential to offer suitable foraging habitat for snipe during the breeding and non-breeding season. Due to usage of the site by snipe, particularly during the breeding season, they are considered as a KER
Waterfowl, rails	Local (Higher Value)	Mallard was the only waterfowl recorded on site. This

and herons		species was only recorded once and flushed from the fen habitat within the site. Little egret was also recorded foraging in the same area of fen. Both water rail and moorhen were recorded within the fen habitat during July and August 2024. It is likely that both species breed within the site. Therefore, the waterfowl, rails and herons recorded are considered as a KER.
Kingfisher	County Importance	Kingfisher was recorded at the site during July and August 2024. Foraging and territorial behaviour was recorded within the site. A limited extent of potentially suitable breeding habitat is present along the Lisnagonoge stream. Due to the level of kingfisher activity on site, the species is considered a KER.
Passerines & Hirundines	Local (Higher Value)	The treelines, hedgerows and woodlands are suitable nesting and foraging habitat for several passerine species present in the area, including some which are listed as amber- and red-listed species on the BoCCI. Agricultural buildings at the site host potential suitable breeding habitat for swallows. The amber and red-listed species recorded in the site were grey wagtail, meadow pipit, goldcrest, greenfinch, house sparrow, willow warbler, house martin, swallow, spotted flycatcher. These species are considered as a KER.

9.6.18. The potential effects during the various phases of the proposed development as identified in the EclA are summarised in the below table.

Table: Potential effects.

Construction Phase	
Species	Potential effect and significance
Hedgerow nesting species (willow warbler, goldcrest, spotted flycatcher, redwing, fieldfare, and starling)	Although minimal hedgerows will be removed (190m), it is indicated that these species may be affected by habitat loss, injury or disturbance). If works were to take place during the breeding season, disturbance to these species could be significant in the absence of mitigation measures (e.g. disturbance during the nesting season between 1st March and 31st August).
Swallow, house sparrow, house martin	Breeding areas for these species are present around the buildings and sheds within the greater study area and are likely to use habitats within the footprint of works for foraging. As works progresses across the site, these agricultural lands may be avoided locally until works have been completed in each section. However, as these areas quickly revegetate, these species are likely to return shortly thereafter. Therefore, habitat lost is considered negative, reversible, long-term and imperceptible effect in a local context.
Mallard, Kingfisher and Grey wagtail	Mallard was observed within the fen habitat to the west of the site. However, there will be no works in this area as it is designated for biodiversity enhancement. Kingfisher and grey wagtail were also noted in this area along the Lisnagonoge stream and drains. It is confirmed that no suitable banks for nesting are present for kingfisher. Grey wagtail may breed within cavities at the existing bridge or buildings at the Site. However, no in-stream works will take place, and proposed infrastructure will not encroach on these areas. Therefore, habitat lost is considered negative, reversible, short term and imperceptible effect in a local context.
Snipe	Breeding behaviour was observed in the wetland habitat to the west of the site. Whilst no works are proposed in this area, effects caused

	by noise and disturbance during construction within 500m of the wetlands would be increased if the nest location was close to the edge of the habitat. While hedgerows, field boundaries and other vegetation present would screen construction activity to habitats outside the site and there would be a certain amount of habituation as the lands inside the site are currently subject to ongoing agricultural management typical to this rural environment (silage cutting, fertilisation, ploughing, etc), it is stated that it would be prudent to add additional mitigation measures to reduce this effect.
Little Egret	This species was observed feeding within the wetland habitats to the west of the solar farm (biodiversity enhancement area). It is stated that there may be some localised noise disturbance caused by construction activity. However, effects to this species are considered to slight, negative and short-term.
Woodpecker	There will be no habitat loss for this species as no woodland habitats are being removed as part of the proposed development. There may be noise disturbance caused by construction activity. Effects to this species are therefore considered slight, negative and short-term.
Meadow Pipit	This species was recorded holding territory within the arable fields at the site. While this habitat will be lost to the proposed development, it is noted that other areas of suitable semi natural grassland are present in the vicinity within the red line boundary. Effects caused by construction outside of the breeding season are deemed to be negative, short-term, slight in a local context if unmitigated. Works occurring during the breeding season are deemed to be negative, short-term, significant in a local context if unmitigated.
Operational Phase	<p>It is stated that the solar farm development will utilise photovoltaic (PV) solar panels which are designed to absorb as much light as possible and are coated with anti-reflective films to increase the efficacy of solar panels. In addition, it is stated that the grid-like panel design means that any reflection would be fragmented, a principal applied to windows in order to reduce collision events. On the basis of available evidence-based research on carcass searches in and around solar PV installations, it is indicated that any collision risk posed by solar panels to birds is extremely low.</p> <p>As no further excavation or construction works shall be required during the operational phase of the proposed solar farm development, it is stated that no further effects to habitats are envisaged. There shall be some intermittent human activity within the site as part of general maintenance. However, this shall not differ markedly from the current level of human activity associated with agricultural practices within the site. Therefore, resulting effects to avifauna will be negative, reversible, long-term, imperceptible in a site context during the operational stage.</p>

9.6.23. In addition to the appointment of an ECoW, the proposed species-specific mitigation measures outlined in Section 5.4 of the EclA include:

- Temporary construction compounds will not be lit at night.
- A full year of preconstruction ornithological surveys shall be undertaken during the breeding and winter season to reconfirm the findings of the EclA. These surveys shall be carried out prior to the commencement of construction works within the proposed development site and shall continue for the duration of the

construction phase of the development.

- In the event that a nesting site of red list species snipe or kestrel is recorded, no works shall be undertaken within 500m of the nest between the 1st of March to the 31st of August.
- Grey Wagtail have not been recorded nesting at the existing bridge being utilised for the stream crossing and only minimal works are being carried out at this bridge (i.e. installation of cabling in the deck). In the unlikely event that a grey wagtail nest is recorded at this bridge during the nesting season, no works shall be carried out until all chicks have fledged from the nest.
- In the event that breeding meadow pipit are recorded within the footprint of works, no works will occur within the same field boundary until chicks have fledged.
- Any removal or cutting back of vegetation will be carried out outside of the bird breeding season (March 1st – August 31st). It is stated that no section of hedgerow is to be cut more than once every three years.
- In the event that vegetation clearance during the bird breeding season is unavoidable, an ECoW will be appointed to examine the area of construction/clearance for nests no more than 48 hours in advance of works. They will have the authority to include a buffer zone until the chicks have fledged from the nest.

9.6.24. During the application stage, the Third Party observers have raised concerns regarding the potential impact of the proposed development on Avian species. Having regard to the results of the Applicant's surveys, the design and layout of the proposed development which includes dedicated forestry and watercourse buffer zones that will remain free from development, the siting of infrastructure within areas of site that primarily comprise arable and improved agricultural grasslands, the Applicant's proposals to retain the majority of boundary hedgerows (exception of the c. 190m of internal hedgerows) and the various biodiversity enhancement measures and mitigation measures proposed within the EclA, it is considered that the Applicant's assessment is adequate in the context of the proposed development and significant impacts on avian species shall not arise.

9.6.25. It is noted that the appellant has raised concerns that the scale of the solar complex may also confuse migratory birds as panel reflections can be mistaken for water bodies. It is detailed within the application documents that the proposed solar panels shall be set at a 15-degree angle which will ensure that water will not collect on the surface. Furthermore, the solar panels will be 'grid-formed' and coated with an anti-glare film, thereby removing the perception of a water surface. I am also conscious of the guidance from Nature Scott (NatureScot pre-application guidance for solar farms, June 2025) which indicates that published evidence suggests the overall risk of collision is low for solar PV proposals and it is advised there is no need for a collision risk assessment. For this reason, I am satisfied that undue impacts on ornithological receptors will not arise as result of the proposed development.

Aquatic Fauna

9.6.26. It is noted that aquatic surveys of the riverbanks and watercourses within the site were carried out by the Applicant's ecologist in July and August 2024. These surveys included a walkover survey of riverbanks and the recording of mammal activity, amphibian potential, fisheries potential and invasive alien plant species. As detailed earlier in this report, the Lisnagonoge stream flows through the centre of the site before turning north along the western boundary. It is stated that the stream has been subject to anthropogenic influences, whereby channel straightening and deepening was evident throughout the length of its course through the site. A moderate to low flow was present with glide and pool habitat at the time of the site survey and the substrate was largely composed of silt and soft sediment. The upper reaches of the watercourse at the eastern site boundary was dry or with a low volume of stagnant water. A small section of the stream adjacent to the existing bridge consists of a riffle, glide and pool habitat and a gravel and cobble substrate was present at this location. It is stated that in-stream vegetation varied greatly with none present along its route at the centre and adjacent to the eastern site boundary. Large stands of bulrush and yellow flag were evident on the lower reaches of the watercourse. The section of the stream immediately above the existing crossing held large quantities of watercress. Overall, it is considered within the EclA that the stream has 'high' fisheries potential with salmonid and eel habitat present. It is confirmed that salmonids (likely brown trout) were observed at several locations along the watercourse, with the area adjacent to the existing crossing providing suitable spawning habitat.

9.6.27. In terms of potential effects, it is stated that works will not take place in the vicinity of the stream at the site, with the only crossing being a pre-existing bridge over the Lisnagonoge stream located centrally within the site. Therefore, it is contended that there will be no effects during any phase of the proposed development. As a consequence, no species-specific mitigation has been included within the EclA. As discussed within Section 9.2 of this report, the Applicant submitted an NIS by way of FI which has now included a suite of mitigation to protect surface water quality. Having regard to the provision of buffer zones from onsite watercourses, the absence of any instream works, the implementation of the mitigation measures include within the NIS and the nature of the solar array installation works which require minimum soil disturbance/excavation, I am satisfied that significant impacts on aquatic ecology will not arise as a result of surface or groundwater contamination. Subject to compliance the conditions discussed in Section, 9.2 of this report, I deem the proposed development to be acceptable.

Marsh Fritillary

9.6.28. The appellants in this case have highlighted that Marsh Fritillary (a protected species) were recorded on site within the initial site surveys. However, concerns are raised that that no additional follow up surveys were undertaken by the Applicant. As detailed within the EclA, 2 no. adult marsh fritillary butterflies were recorded in the north-western side of the study area in July 2024. These were located outside of the solar farm footprint, beneath a power-line break and between 2 no. forestry plantation blocks at the north-west of the site. A subsequent dedicated marsh fritillary survey and habitat condition assessment for larval webs was carried out within this area in August 2024. It was confirmed that a single web was recorded on site (see Figure 3-4). However, it was noted that suitable habitat for Marsh fritillary exists throughout the wetland habitats in the western side of the site where the larval foodplant devil's-bit scabious is present. In terms of potential effects, it is noted that the suitable habitat lies outside the footprint of the proposed works within this portion of the site being designated for habitat enhancement. For this reason, no effects are envisaged. However, the Applicant has committed to undertake a preconstruction survey of all areas of potential habitats to reconfirm the findings of surveys already completed and to inform the enhancement measures. As detailed in the Applicant's response to the appeal, it is further stated biodiversity protection and enhancement measures will create and

enhance existing habitats through retention and planting of hedgerows and improved field margins and grasslands. Further measures to encourage the population of Marsh Fritillary, and wildlife in general, will include a prohibition in the use of herbicides in buffer areas, with sheep/goats typically used as an alternative to herbicide spraying to manage grass, thus, improving the habitat required for Marsh Fritillary to establish a colony which does not exist at present. Overall, I am satisfied that the design and layout of the proposed solar farm and the biodiversity enhancement measures will ensure that adverse impacts on marsh fritillary or its associated habitat will not arise as a result of the proposed development.

Designated Sites

9.6.29. Notwithstanding the commentary within the EclA, I note that the application boundary encroaches within the Killough Hill pNHA (000959). This is a forested area of the site adjacent to Field No. 1. It is noted by the Applicant that this pNHA is protected for limestone pavement, limestone grassland and broadleaf woodland. Whilst the red line boundary encroaches into this the western edge of the pNHA, it is evident that no works are proposed at this location, and the solar arrays are proposed entirely within the existing arable field. Given the nature of the proposed works and the set back of the solar arrays from the existing forestry boundary, I am satisfied that adverse impacts on this pNHA will not arise.

9.6.30. An appellant has raised concerns regarding the impact of the proposed development on the Cabragh Wetlands pNHA (001934). This pNHA is hydrologically connected to the site via the Lisnagonoge stream and as part of their submission, drone imagery has been provided by the appellant which illustrates the connection that currently exists between the site and the wetlands. Whilst I acknowledge that the EclA did not anticipate impacts on this pNHA, the Applicant submitted an NIS at FI stage which included a suite of measures to mitigate potential surface water quality impacts. Overall, I am satisfied that the designed-in mitigation along with the additional measures outlined within the NIS will ensure that significant impacts on downstream receptors will not arise as a result of the proposed development. For this reason, I consider the Applicant's proposals to be acceptable and the proposal is in accordance with Policy 11 - 3 of the Development Plan that seeks to 'ensure the conservation and protection of existing, and proposed NHAs, and to ensure that proposed developments

within or in close proximity to an existing or proposed NHA would not have a significant adverse impact on the status of the site as described’.

Conclusion

9.6.31. Having regard to the nature of the proposed development and the totality of the documentation on file, it is considered that the Applicant has provided adequate detail regarding the site’s ornithological, terrestrial and aquatic ecology. Noting the location of the site in an area characterised by predominantly arable and improved agricultural grassland, the integral design measures (i.e. avoidance), standard best practice measures and the mitigation and biodiversity enhancement measures set out within the EclA, NIS and CEMP, I am satisfied that significant impacts on biodiversity will not arise and the proposed development would therefore be acceptable from an ecological perspective.

9.7. Residential Amenity

Glint and Glare

9.7.1. In terms of potential glint and glare impacts, the appellant highlights that the Applicant’s assessment has conceded that there may be impacts on local roads which is contrary to the claims made in their P & E Report of ‘no nuisance’ on nearby receptors. A Glint and Glare (G & C) assessment accompanies the application which seeks to determine the potential for solar reflectance effects upon dwelling and transport route receptors in surrounding area. It is noted that the study uses a multi-step process of elimination to determine which receptors have the potential to experience the effects of glint and glare. Using a computer-generated geometric model, it then examines the times of the year and the times of the day such effects could occur. It is noted that the majority of the photovoltaic panels are to be oriented in a south and south-west facing direction to maximise solar gain and will remain in a fixed position throughout the day and year. The height of the panels is 3.2m, with a tilt angle of 15°. Whilst ZTV analysis was undertaken as part of the LVIA, it is highlighted that areas shown on the ZTV map to have the potential for visibility do not necessarily have the potential to be impacted by glint and glare (i.e. no geometric potential for glare to the north).

9.7.2. The assessment notes that the potential for substantial nuisance or hazardous impacts

are greatest in close proximity to the source of reflectance and the potential for adverse impacts reduces with increased distances. Therefore, a 1km buffer from the site boundary is used by default on all solar farms. In terms of the residential receptors, the results of the analysis provided for receptors that occur within the 'Area of Consideration for Further Analysis' are contained in Appendix A and summarised in Table 1.2 of the Applicant's G & C Assessment. A total of 72 no. residential receptors were included within this 'Area of Consideration for Further Analysis'. Terrain-only data (DTM) identified that glint and glare is geometrically possible at 53 of these dwellings. Further analysis, taking account of the existing screening (using a digital surface model - DSM) and on-site verification of the analysis results, indicated that 10 no. dwellings (H09, H12, H13, H28, H29, H41, H42, H46, H65 and H67) are likely to have the potential to be materially affected by glint and glare. Post the establishment of mitigation, it is noted that 9 no. dwellings have the potential to incur glint and glare effects (potential impacts on H65 are mitigated). In terms of mitigation, it is proposed that all existing hedgerows within and around the perimeter of the site are to be 'grown-out' prior to construction. In addition, it is proposed to bolster existing perimeter and internal hedgerows with under-planting and inter-planting of whip transplants (i.e. Hedgerow Type 1) in order to ensure dense and consistent screening of the site in perpetuity. Furthermore, it is proposed to plant 3 no. sections of new 'Type 2' hedgerows with whips and a high proportion of advance nursery stock trees (c. 3m planted height). It is noted that all planting will be allowed to mature up to a maintained height of 3-4m. The analysis of each residential receptor and the potential magnitude of impact is summarised in the below table.

Table: Assessment of Residential Receptors

Residential Receptor	Assessment and Magnitude of Impact
H09	Single storey dwelling located c. 900m west of the site. Theoretical potential for reflectance – max. of 34 minutes per day over 134 days of the year. Level of potential reflectance decreases significantly to a max. of 8 minutes across 27 days of the year when accounting for existing screening. The magnitude of impact is deemed Low .
H12-13	H12 is a single-story dwelling and H13 is a two-storey dwelling c. 630m west of the site. H12 had a theoretical potential for reflectance for a max. of 52 minutes per day over 125 days of the year. When accounting for existing screening, this reduced to a max. of 16 minutes per day over 55 days of the year. Post mitigation establishment, this will be further reduced to a max. of 10 minutes per day across 55 days of the year. Post mitigation, there is no potential for glare to be experienced at the ground floor level of H13. At second-floor level, there will be a potential for a max. of 8 minutes per day across 29 days of the year. The magnitude of impact is deemed Low .

H28-29	H28 and H29 are two-storey dwellings located c. 718m to the west of the site. H28 saw potential for reflectance at the ground and first floor for a maximum of 40 minutes per day over 141 days of the year. When accounting for existing screening, it is noted that there will not be any reflectance experienced at ground floor, while there will be a max. of 4 minutes per day across 30 days of the year at second floor level. The magnitude of impact is deemed Very Low .
H41	H41 is a two-storey dwelling located c. 948m to the south-west of the site. The DTM analysis indicates the theoretical potential for reflectance at the ground floor for a maximum of 10 minutes per day over 71 days and for a maximum of 30 minutes per day over 137 days 1st floor. When accounting for existing screening, the ground floor will experience a reduction to a maximum of 6 minutes per day over 3 days of the year, while the first floor will experience a maximum of 6 minutes per day over 4 days. No change post mitigation. The magnitude of impact is deemed Very Low .
H42	H42 is a two-storey dwelling located c. 150m west of the site boundary. The DTM analysis indicates the theoretical potential for reflectance at the ground floor for a max. of 8 minutes per day over 85 days of the year and for a maximum of 28 minutes per day over 104 days of the year at the 1st floor. When accounting for existing screening, this will reduce to a max. of 6 minutes per day over 54 days of the year at ground floor level, and a max. of 8 minutes per day over 87 days on the first floor. Post mitigation establishment, there will be no glare experienced at the ground floor level, while the first floor will see a reduction to a max. of 2 minutes per day across 7 days of the year. The magnitude of impact is deemed Negligible .
H46	H46 is a two-storey dwelling located on a private road within the site area. The DTM analysis indicates the theoretical potential for reflectance at the ground floor for a max. of 22 minutes per day over 117 days and a max. of 24 minutes per day over 124 days at 1st floor. When accounting for existing screening, the ground floor will see a reduction to a max. of 16 minutes per day across 100 days, while the first floor will experience a max. of 22 minutes per day over 115 days. Post mitigation, the ground floor will not experience any glare, while the first floor will slightly reduce to a max. of 20 minutes per day over 115 days of the year. The magnitude of impact is deemed Medium .
H67	H67 is a two-storey dwelling located c. 100m east of the site boundary. The DTM analysis indicates the theoretical potential for reflectance at ground floor for a max. of 28 minutes per day over 133 days and a max. of 30 minutes per day over 137 days of the year at the 1st floor of this dwelling. When accounting for existing screening, the ground floor will not experience any glare, while the first floor will experience a max. of 16 minutes per day over 29 days throughout the year. The potential for reflectance will be slightly reduced post mitigation, with the first floor experiencing a max. of 10 minutes per day across 29 days of the year. The magnitude of impact is deemed Very Low .

9.7.3. In terms of the transport receptors, Receptor Points have been positioned along all the potentially affected roads within the 'Area of Consideration for Further Analysis', the results of which are provided in Appendix B and summarised in Table 1.3 of the G & C Assessment. A total of 91 no. road Receptor Points were analysed using a DTM which identified that glint and glare is theoretically possible at 67 of these road Receptor Points. The results of the DSM analysis indicate that the existing screening afforded by buildings and vegetation significantly reduces the overall glint and glare to be experienced, whereby 6 no. road receptors are likely to experience glare with the existing screening, and 3 no. receptors are identified once mitigation has established.

The result of this analysis is summarised in the below table.

Table: Assessment of Road Receptors

Road Receptor	Assessment and Magnitude of Impact
R16 and R19	Located along a stretch of local road off the R659, c. 420m to 850m west of the site. R19 saw the greatest potential for glare with a max. of 40 minutes per day across 151 days of the year. When accounting for existing screening, this reduced to a max. of 4 minutes across 27 days. It is noted that the majority of this time will be between April and September from 6:30am to 8:30am and road users travelling north-east may experience this glare fleetingly.
H12-13	Located along a local road bordering the site to the south and has potential for glare for a max. of 12 minutes across 81 days of the year on the basis of the DTM modelling. When accounting for existing screening, this reduces to a max. of 4 minute per day across 25 days. Post mitigation, this reduces further to a max. of 2 minutes per day across 12 days. Glare will be experienced from March to April to August between 6:30am and 9:00am, whereby road users travelling east along this road may experience some glare as the potential reflectance would be within their field of vision.

9.7.4. As detailed in the above table, the potential magnitude of impact within the 1km buffer of the site ranges from negligible to low across the various residential receptors. The exception to this is H46, whereby a medium magnitude of impact is anticipated given the overall number of days (i.e. 115) the dwelling will experience reflectance throughout the year. However, it was evident from my observations on site that H46 is an unoccupied dwelling within a state of disrepair and located within the boundary of the application site. Overall, I am satisfied that it has been demonstrated that the proposed development will not result in significant impacts on nearby residences. Notwithstanding this, I note that there have been technological advancements in solar energy and the addition of an Anti-Reflective Coating (ARC) on panels has become an option that is now typically utilised in solar farm developments and is referenced as an ameliorating factor in the Applicant's report. Whilst I accept that it may not be possible to eliminate all glint and glare, it is my view that a condition should be included which requires all solar panels to include an ARC. Furthermore, there should be a requirement for the developer/operator (2 years post commissioning) to submit annual detailed glint surveys to confirm the effectiveness of the proposed mitigation once implemented. Subject to compliance with these conditions and the implementation of the proposed mitigation planting, I am satisfied that the proposed development will not result in any significant nuisance effects from glint and glare at dwellings or road receptors within the study area.

Noise & Air Quality

- 9.7.5. The appellant has raised concerns regarding the industrialisation of the site and the potential for noise related impacts, which in their view would compromise the residential amenity of this rural area. Within their initial assessment, the Planning Authority was satisfied that the operational phase of the proposed development would not result in noise impacts on nearby residential receptors. In terms of the construction phase however, it was evident from the CEMP and the programme of construction works that there would be an overlap with various elements of construction activity. It was considered that the submitted Noise Assessment did not portray an accurate picture of the cumulative noise levels that would be generated during the construction phase. Therefore, the Applicant was requested to respond to this issue by way of FI. Noise is addressed in Section 11 (Noise and Vibration) of the Applicant's P & E Report. In terms of the construction phase, it is indicated that noise will arise from deliveries and/or removal of material to and from site, top-soil excavation, preparation of access roads, hardstands and drainage, piling of PV panel frames and pouring of foundations and construction works associated with the medium voltage RMU building. Whilst it is regrettable that the Applicant has not undertaken a detailed noise survey to determine baseline measurements, a conservative assumption is provided within their assessment in that the background and ambient noise levels in the existing area are low. Based on a low baseline noise level in the area i.e., assumption that the baseline noise environment in the area is less than BS 5228 Category A, a construction noise threshold limit of 65dB during weekdays applies.
- 9.7.6. Figure 11.1 of the P & E Report identifies the receivers (residential, commercial and mixed use) and noise sensitive locations (NSLs) within 1km of the subject site. Depending on the nature of the proposed works, an assessment of the predicted noise levels at the relevant NSLs is provided in Table 11-2 (Access Roads and Drainage), Table 11-3 (Solar Panel Foundations), Table 11-4 (Installation of Inverters and Plant) and Table 11-5 (Medium Voltage RMU Building) of the P & E Report. Further to this, an assessment is provided for the 110kV GIS Substation and its connection to the solar farm development. As noted, these elements of the overall project will form part of a separate consenting process. Whilst there were no individual breaches of the 65dB noise limit, the Planning Authority highlighted the likelihood of overlaps between

the various works as set out within the indicative construction programme. As part of the FI response, the Applicant noted cumulative construction noise has now considered 2 potential scenarios, where the highest amount of construction activity is proposed to occur and is based on the Estimated Construction Program within Figure 2-10 of the CEMP. These are:

- Scenario 1: Months 4 to 6, where the Access tracks and hardstanding, Substation, Solar Panel installation, Inverter installation and RMU construction will occur simultaneously.
- Scenario 2: Months 13 to 14, where the Substation, Solar Panel installation, Inverter installation and Grid connection works will occur simultaneously.

The predicted noise from the cumulative construction activities associated with each phase is summarised in Table 5-1 of the FI response. In terms of Scenario 1, it is indicated that the predicted cumulative noise level exceeds the construction noise limit of 65 dB LAeq,1hr at location R146 (i.e. 70.7dB at northern site entrance). For Scenario 2, the predicted cumulative noise level also exceeds the construction noise limit of 65 dB LAeq,1hr at location R146 ((i.e. 79.3dB). However, it is confirmed that the predicted noise at the remaining closest locations for each scenario are below the noise limit of 65 dB LAeq,1hr. The Applicant also notes that the cumulative noise without grid connection works (subject to a separate application) at R146 would be 66.9dB. In summary, the Applicant acknowledges that there is potential for the construction noise limit to be exceeded at R146. They go on to note that this has been identified in the P & E Report and there is therefore no change to the recommended mitigation measures for this location.

9.7.7. Although no formal opinion has been provided, it would appear from reviewing the second Planner's Report on file that the Applicant's updated analysis was deemed to be satisfactory. Whilst an exceedance has been anticipated at R146, neither the Applicant nor Planning Authority have considered the revisions to the site access arrangements, whereby all construction traffic is from the southern site access only. Therefore, any potential noise impacts will likely be reduced at the NSLs adjacent to the northern portion of the site. Whilst traffic generated by the proposed development will now be concentrated at the southern site access, I note the significant separation distances provided between the site and the various the dwellings located on the L-

13101. Having regard to the temporary and short-term nature of the construction phase noise impacts and the various mitigation measures that are to be employed as outlined in Section 11.6 of the E & P Report, I am satisfied that the proposed development will not result in significant noise impacts at NSLs or other sensitive receptors within the site surrounds. Furthermore, the Planning Authority has included a condition limiting the hours of construction beyond which has been identified in the E & P Report. Overall, I am satisfied that the proposals are in accordance with policies (11 – 18) of the Development Plan that seeks to ensure that new development does not result in significant noise disturbance. For decommissioning, it is noted within the Applicant's report that activities will use comparable equipment to the construction phase, and the predicted noise will be equivalent or less than the construction noise levels and will therefore comply with best practice noise limits.

- 9.7.8. For the operational phase, it is confirmed that the solar arrays will be fixed structures with no moving parts. As such, there is no predicted noise emission from the solar panels. The potential noise sources are from inverters connected to the PV panels. It is proposed that there will be 3 inverters located on each of the 23 no. hardstanding areas across the site. It is noted that operational noise from the proposed Medium Voltage RMU building has not been considered as it does not contain noise generating equipment. As discussed, a baseline noise survey was not undertaken by the Applicant. Therefore, they have conservatively assumed that the site is an 'area of low background noise' and more onerous noise limits have been applied to the development as outlined Table 11-9 of the E & P report. The predicted noise levels, from both the proposed Solar Farm and 110kV GIS Substation at the most affected NSLs are summarised in Table 11-11 of the E & P report and demonstrate that the daytime, evening and night-time criteria are met at all locations. The highest predicted noise levels at the closest residential property (R75, which is north-east of the proposed solar farm) during the daytime is 42dB LAeq and is below the daytime noise limit (i.e. 45dB). The predicted noise level during evening and night time at this location is 32dB and is also compliant with the evening and night time limit of 40dB LAeq and 35dB LAeq respectively. For the purpose of the assessment, the inverters have been assumed to operate at 50% load level during evening and night time (worst case scenario) as the irradiance levels are lower with an inverter load level less than 40%.

This approach is considered to be reasonable in my view. In terms of the mitigation, it is recommended that more detailed noise information for the proposed inverters be obtained during the procurement process so that it can be confirmed that the inverters meet the operational noise criteria. I am satisfied that this matter could be addressed by way of condition. Having regard to the nature of the proposed development and its noise sources, the separation distances provided between the inverters and existing dwellings and the results of the Applicant's analysis, I am satisfied that the operation of the proposed development will not result in significant noise impacts on surroundings properties. For this reason, I consider the proposed development to be acceptable.

9.7.9. Adverse impacts on air quality was also raised as a concern by the Third Party appellant and observers at application stage. It is acknowledged within Section 10 (Population and Human Health) of the Applicant's P & E Report that dust emissions can lead to elevated PM₁₀ and PM_{2.5} concentrations. The following principal sources of potential air emissions during the construction phase have been identified:

- Dust arising from earthworks including trench excavation along internal cable routes and construction of new access tracks;
- Dust arising from the movement of construction vehicles over land as well as the transporting of materials to the site of the proposed development;
- Dust arising from the temporary storage of any excavated materials and wind blowing over unprotected, unconsolidated soils;
- Dust arising from uncovered truckloads, the movement of material around the site and the loading and unloading of aggregates and of materials within the site;
- Pollutants arising from temporary diesel generators; and
- Pollutants arising from construction vehicles and machinery exhaust emissions associated with the construction works for the proposed grid connection route.

However, mitigation measures to reduce dust nuisance and to minimise impact on air quality will be employed during the construction and decommissioning phases. In summary, these include:

- Production and implantation of a Dust Control Plan.
- All new access tracks within a parcel will be constructed and/or improved prior

to the commencement of other construction activities,

- The drop height of excavated materials during access track construction will be minimised,
- Gravel will be used at site exit points to remove caked on dirt from tyres and tracks before travelling along public roads,
- The site supervisor will undertake daily visual inspections to examine dust generation,
- Water bowser will be used to suppress the migration of dust from site,
- All loads with potential to cause dust nuisance will be covered,
- All other stockpiles will be kept damp and covered to prevent windblown dust emissions, and,
- Construction vehicles and plant will be routinely serviced and will not be left running unnecessarily.

Having regard to the nature of the proposed works, which require minimal excavation and ground disturbance and the suite of mitigation measures that have been prescribed within the CEMP and P & E Report, it is considered that significant impacts on air quality during the construction and decommissioning phases of the proposed development will not arise. In addition, no adverse effects on air quality are anticipated during the operational phase. The proposed development is therefore considered to be acceptable.

9.8. Other Matters

Biosecurity

- 9.8.1. In terms of biosecurity risks, it is highlighted by the appellants that the subject lies within an agricultural community reliant on dairy and beef production and concerns are raised regarding the absence of a Biosecurity Management Plan and the potential for the spread of animal pathogens as a result of construction traffic and soil disturbance. As detailed in their response to the appeal, solar farms incorporate standard management measures which effectively address any residual risk of disease spread. This includes sequencing and management of construction works to minimise soil disturbance and unnecessary movement across farmland. It is also noted that stock-proof fencing and controlled access points are used to prevent interaction between livestock and construction activity. Once operational, it is noted that the site is securely

fenced and managed in a way that allows compatible agricultural uses, such as sheep grazing, to continue safely without additional biosecurity to that of which may already occur through the current land use and agricultural practices in the area. I would also concur with the Applicant that there is no evidence that a development of this nature presents biosecurity risks, greater than those that already exist in normal farming practices in any given area. Therefore, I deem the proposed development to be acceptable subject to adherence to the mitigation measures outlined within the Applicant's CEMP.

Substation & Grid Connection

- 9.8.2. Throughout the application and appeal stages, various concerns were raised by Third Parties regarding the proposed substation and grid connection. It was also noted that each element of the project was functionally interdependent, and the proposed development was therefore considered to be premature. Overall, I do not consider that there is a requirement for consideration of the future substation development or grid connection under this appeal. Whilst these elements of the overall project have been assessed in a number of the Applicant's reports, these will be the subject of a future consent process, whereby an application may be made to the Commission under Section 182A of the Act, following the required pre-application consultation process to determine if it is SID. If it is not, an application would be made to Tipperary County Council.

Property Devaluation

- 9.8.3. I note that a number of third party observers at application stage raised concerns regarding property devaluation. Noting my assessment of the application, particularly with respect to landscape, visual and residential amenity (noise, air quality, glint and glare) impacts and subject to compliance with appropriate conditions and adherence to the various mitigation measures, including the implementation of the comprehensive landscaping proposals, I am satisfied that the proposed development would not lead to property devaluation at a level as to warrant a refusal of permission.

10. Appropriate Assessment

10.1. Screening Determination

- 10.1.1. In accordance with Section 177U of the Planning and Development Act 2000 (as

amended) and on the basis of the information provided by the Applicant in the AA Screening Report and supporting information, the nature, size and location of the proposed development and its likely direct, indirect and cumulative effects and the source pathway receptor principle between the proposed works and the European site and its conservation objectives, I conclude that the proposed development could result in significant effects on the Lower River Suir SAC (site code: 002137). It is therefore determined that an Appropriate Assessment (Stage 2) [under Section 177V of the Planning and Development Act, 2000 (as amended)] of the proposed development is required. (see Appendix 1)

10.2. Appropriate Assessment Conclusion: Integrity Test

10.2.1. In screening the need for Appropriate Assessment, it was determined that the proposed development could result in significant effects on the Lower River Suir SAC (site code: 002137) in view of the conservation objectives of this site and that Appropriate Assessment under the provisions of S177U was required.

10.2.2. Following an examination, analysis and evaluation of the NIS, all associated material submitted, and taking into account observations on nature conservation, I consider that adverse effects on site integrity of the Lower River Suir SAC (site code: 002137) can be excluded in view of the conservation objectives of these sites and that no reasonable scientific doubt remains as to the absence of such effects (see Appendix 2). My conclusion is based on the following:

- Detailed assessment of all aspects of the proposed project including proposed mitigation measures in relation to the Conservation Objectives of the Lower River Suir SAC (site code: 002137).
- Detailed assessment of in combination effects with other plans and projects including historical projects, current proposals and future plans.
- The development of a solar PV energy development will, through the design and application of mitigation measures, ensure the preservation of the favourable conservation status of habitats characterised as being in favourable status and ensure that habitat characterised as being in unfavourable status will not be further harmed or rendered difficult to restore to favourable status.
- The development of a solar PV energy development will, through the design

and application of mitigation measures as detailed and conditioned ensure the lasting preservation of the essential components and characteristics of the European Sites.

- No reasonable scientific doubt as to the absence of adverse effects on the integrity of the Lower River Suir SAC.

11. Recommendation

11.1. It is recommended that the Commission grant planning permission for the proposed development for the following reasons and considerations and subject to the conditions set out below.

12. Reasons and Considerations

12.1. The Commission reached its decision in accordance with its duties under Section 15(1) of the Climate Action and Low Carbon Development Act 2015, as amended, and the requirement to, in so far as practicable, perform its functions in a manner consistent with inter alia the Climate Action Plan 2025 and the furtherance of the national climate objective, and otherwise had regard to:

- a. European, national, regional and local planning, energy, climate and other policy of relevance, including in particular the following:

European Policy/Legislation including:

- Directive 2014/52/EU amending Directive 2011/92/EU (Environmental Impact Assessment Directive);
- Directive 92/43/EEC (Habitats Directive) and Directive 79/409/EEC as amended by 2009/147/EC (Birds Directive);
- Directive 2000/60/EC (Water Framework Directive)

National Policy and Guidance including:

- Project Ireland 2040: National Planning Framework (“NPF”), First Revision of the NPF;
- National Development Plan 2021-2030
- The objectives and targets of the National Biodiversity Action Plan 2023-2030;
- Policy Statement on Security of Electricity Supply (November 2021);

- National Energy Security Framework (April 2022);
- National Energy and Climate Action Plan (2021-2030);

Regional and Local Planning Policy, including in particular:

- Regional Spatial and Economic Strategy for the Southern Region (2019-2031);
- Tipperary County Development Plan, 2022-2028;

- b. The nature, scale and extent of the proposed development,
- c. The pattern of development within the area and context of the receiving environment,
- d. Measures proposed for the construction, operation and decommissioning of the development,
- e. The range of mitigation measures set out in the Planning and Environmental Report, Ecological Impact Assessment, Construction and Environmental Management Plan, Flood Risk Assessment, Glint and Glare Assessment, Landscape and Visual Impact Assessment and Archaeological and Architectural Heritage Assessment,
- f. The range of mitigation measures set out in the Natura Impact Statement,
- g. The submissions of the Third Party appellants and the submission received in relation to the appeal,
- h. The documentation submitted with the application and the appeal, and,
- i. The Inspector's report and recommendation.

12.2. Proper Planning and Sustainable Development

12.2.1. It is considered that subject to compliance with the conditions set out below, the proposed development:

- Would be in accordance with European, national, and regional renewable energy policies and would align with the provisions of the Tipperary County Development Plan, 2022-2028,
- Would be acceptable in terms of traffic impacts and safety,
- Would not have an adverse impact on the character of the landscape or the cultural or archaeological heritage of the site and surrounding area,
- Would not give rise to flood risk on site or elsewhere downstream,

- Would not result in adverse impacts on water quality,
- Would not seriously injure the residential amenities of the area or otherwise of property in the vicinity,
- Would not have a significant adverse impact on terrestrial, ornithological or aquatic ecology, and,
- Would make a positive contribution to Ireland's renewable energy and security of energy supply requirements.

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

12.3. Appropriate Assessment Stage 1 Screening Determination

12.3.1. The Commission noted that the proposed development is not directly connected with, or necessary for the management of a European Site.

12.3.2. The Commission considered the Screening Report for Appropriate Assessment and all other relevant submissions and carried out an appropriate assessment screening exercise in relation to the potential effects of the proposed development on designated European sites. The Commission noted that the proposed development is not directly connected with or necessary for the management of the Lower River Suir SAC (site code: 002137) and considered the nature, scale, and location of the proposed development, as well as the report of the Inspector.

12.3.3. The Commission agreed with the screening report submitted with the application and with the screening exercise carried out by the Inspector. The Commission concluded that, having regard to the qualifying interests for which the site was designated and the connections to and distance between the application site, the Lower River Suir SAC (site code: 002137) required further investigation.

12.4. Appropriate Assessment – Stage 2

12.4.1. The Commission considered the Natura Impact Statement and associated documentation submitted with the application, the mitigation measures contained therein, the submissions on file, and the Inspector's assessment. The Commission completed an Appropriate Assessment of the implications of the proposed

development for the Lower River Suir SAC (Site Code 002137) in view of the sites' conservation objectives. The Commission considered that the information before it was adequate to allow the carrying out of an Appropriate Assessment. In completing the Appropriate Assessment, the Commission considered, in particular, the following:

- i. the likely direct and indirect impacts arising from the proposed development both individually or in combination with other plans or projects,
- ii. the mitigation measures which are included as part of the current proposal, and
- iii. the conservation objectives for the European Site.

In completing the Appropriate Assessment, the Commission accepted and adopted the Appropriate Assessment carried out in the Inspector's report in respect of the potential effects of the proposed development on the aforementioned European Site, having regard to the sites' Conservation Objectives. In overall conclusion, the Commission was satisfied that the proposed development, by itself or in combination with other plans or projects, would not adversely affect the integrity of the European Sites, in view of the sites' Conservation Objectives.

13. Conditions

1. The development shall be carried out and completed in accordance with the plans and particulars lodged with the application and as amended by the further plans and particulars received by the Planning Authority on the 5th day of June 2025, except as may otherwise be required in order to comply with the following conditions. Where such conditions require details to be agreed with the planning authority, the developer shall agree such details in writing with the planning authority prior to commencement of development and the development shall be carried out and completed in accordance with the agreed particulars.

Reason: In the interest of clarity.

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

Reason: Having regard to the nature of the development, the Board considers it appropriate to specify a period of validity of this permission in excess of five

years.

3. All of the environmental, construction and ecological mitigation measures, as set out in the Planning and Environmental Report, Ecological Impact Assessment, Flood Risk Assessment, Natura Impact Statement, Construction and Environmental Management Plan, Glint and Glare Assessment, Archaeological and Architectural Heritage Assessment and other particulars submitted with the application and by way of further information, shall be implemented by the developer in conjunction with the timelines set out therein, except as may otherwise be required in order to comply with the conditions of this Order. In addition, the Applicant shall:
 - a. Install silt fences where access tracks are located adjacent to watercourses or drains on the subject site for the duration of the construction period. Details and locations of the proposed silt fences shall be submitted to the Planning Authority for written agreement prior to the commencement of development.
 - b. The Project Ecologist/Ecological Clerk of Works (ECoW) shall oversee the construction works and audit the implementation of the CEMP and all mitigation measures included within the EclA and NIS.
 - c. As committed to in Section 7 if the EclA, the Applicant shall submit the monitoring status reports to the Planning Authority for agreement, with a record of same being placed on the public file.

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

4. 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.

Reason: In the interest of clarity.

5. The RMU building and inverters shall be dark green in colour or other dark colour that shall be agreed with the Planning Authority prior to the commencement of development.

Reason: In the interest of the visual amenity of the area.

6.

- a. The permission shall be for a period of 40 years from the date of the commissioning of the solar array. The solar array and related ancillary structures shall then be removed unless, prior to the end of the period, planning permission shall have been granted for their retention for a further period.
- b. Prior to commencement of development, a detailed maintenance regime for the solar farm and a separate restoration plan, including a timescale for its implementation, providing for the removal of the solar arrays, including all foundations, anchors, inverter/transformer stations, control building, CCTV cameras, fencing and site access to a specific timescale, shall be submitted to, and agreed in writing with, the planning authority. The maintenance regime shall have due regard to the mitigation measures prescribed in the submitted Flood Risk Assessment.
- c. On full or partial decommissioning of the solar farm, or if the solar farm ceases operation for a period of more than one year, the solar arrays, including foundations/anchors, and all associated equipment, shall be dismantled and removed permanently from the site. The site shall be restored in accordance with this plan, and all decommissioned structures shall be removed within three months of decommissioning.

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

7. The Applicant shall submit updated site layout drawings which clearly overlay the excluded areas that have been identified as having archaeological potential (AA1-AA3) in the Archaeological Assessment dated June 2025. Furthermore, the updated layout drawings shall clearly identify where the proposed panels are to be located on concrete shoes. In addition, the following requirements shall apply:
 - i. The applicant shall retain the services of a suitably qualified

archaeologist to advise on, and establish a 20m radius Exclusion Buffer Zone around the external most elements of the following archaeological site:

- a. The outermost subsurface features as identified in the in the geophysical survey that was carried out under Licence 24R0361 and that are likely to be related to the recorded monument: RMP TN047-126---- Earthwork.
- ii. The archaeologist shall advise on, and establish 20m radius concentric buffer zones—comprising an inner Exclusion Buffer Zone measuring 10m and an outer No-Dig Buffer Zone measuring 10m—around the external-most elements of the following archaeological sites: Archaeological Areas 1-3 (AA1-3) as identified in the in the geophysical survey that was carried out under Licence 24R0361 and the archaeological testing that was carried out under Licence 25E0348.
 - a. No groundworks of any kind (including, but not limited to, advance geotechnical site investigations) will be permitted in buffer zones of either type.
 - b. Only non-invasive above ground solar panel supports shall be used within No-Dig Buffer Zones and all cable connections or other necessary service conduits shall be placed in above-ground housings. Protective matting shall be put in place during installation to prevent machine rutting. Machine access and transits shall be limited to essential works for installation only. No other activity related to construction will be permitted within No-Dig Buffer Zones.
- iii. The developer shall engage a suitably qualified archaeologist (licensed under the National Monuments Acts) to carry out pre-development archaeological testing in areas of proposed ground disturbance and to submit an archaeological impact assessment report for the written agreement of the planning authority, following consultation with the Department. The testing shall take place in advance of any site preparation works or groundworks (other than those which may be necessary to fulfil this condition) including site investigation works /

topsoil stripping / site clearance and / or construction works. The report shall include an archaeological impact statement and mitigation strategy:

- a. Where archaeological material is shown to be present, avoidance, preservation in-situ, preservation by record [archaeological excavation] and/or monitoring may be required.
 - b. Any further archaeological mitigation requirements specified by the planning authority, following consultation with the Department, shall be complied with by the developer. No site preparation and/or construction works shall be carried out on site until the archaeologist's report has been submitted to the Department and the Local Authority and approval to proceed is agreed in writing with the planning authority.
- iv. The applicant is required to engage a suitably qualified, archaeologist to monitor all ground disturbance required for this development. No groundworks of any type (including any preparatory/enabling works or advance site investigations) are to take place in the absence of the archaeologist without his/her express consent.
- a. The archaeological monitoring programme must be carried out under licence from the National Monuments Service and in accordance with an agreed method statement (to include specified details on the use of a mechanical excavator to be fitted with a flat grading bucket); note a period of 5-6 weeks should be allowed to facilitate processing and approval of the licence application and method statement.
 - b) Should archaeological material be found during the course of the archaeological monitoring, the archaeologist shall suspend work in the area of archaeological interest pending a decision as to how best to deal with the archaeology. The applicant shall be prepared to be advised by the Planning Authority, in consultation with the Department with regard to any necessary mitigating action e.g. preservation in situ, and/or excavation. The applicant shall facilitate the archaeologist in recording any material found.
 - c) The Department and the Local Authority shall be furnished with a

- report describing the results of the monitoring. All resulting and associated archaeological costs shall be borne by the developer.
- v. The planning authority and the Department shall be furnished with a final archaeological report describing the results of all archaeological investigative works and monitoring following the completion of all archaeological work on site and the completion of any necessary post-excavation work. All resulting and associated archaeological costs shall be borne by the developer.
 - vi. The Construction Environment Management Plan (CEMP) shall incorporate all significant findings from the reports titled 'Archaeological and Architectural Heritage Assessment at Killough, Clohoge and Graigue, County Tipperary', 'Geophysical Survey Report Killough, Clonhoge & Graigue, Co. Tipperary. Licence No.: 24R0361' and 'Archaeological Assessment at Killough Solar Farm Killough, Clohoge and Graigue, County Tipperary. Licence Number: 25E0348' including (but not limited to) the location of any archaeological or cultural heritage constraints relevant to the proposed development. The CEMP shall clearly describe all identified likely impacts—both direct and indirect—and all mitigation measures to be employed to protect the archaeological or cultural heritage environment during all phases of construction activity. It shall have particular regard to the requirements as set out at Points 1 and 2 above in relation to the establishment and characteristics of the protective buffer zones that will be implemented to ensure preservation in situ of archaeological sites and monuments.
 - vii. The applicant shall retain the services of a suitably qualified archaeologist to advise on an archaeological mitigation plan for decommissioning of the development, to include mitigation measures for the removal of the solar panels and the protection of the archaeological sites and monuments that are in situ at the site. The Decommissioning Statement for the Proposed Solar PV Array shall be updated to include the location of any archaeological or cultural heritage constraints. It shall clearly describe all identified likely impacts from decommissioning—both direct and indirect—and all mitigation measures to be employed to

protect the archaeological or cultural heritage environment during decommissioning works.

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

8.

- a. Existing field boundaries, including trees and hedgerow, shall be maintained and supplemented in accordance with the details submitted save where removal is proposed to facilitate access roadways and sight lines.
- b. All proposed landscaping and planting shall take place in the first planting season following commencement of development and in accordance with the details proposed. The landscaping and screening shall be maintained at regular intervals. 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 trees or hedging of similar size and species, unless otherwise agreed in writing with the Planning Authority.
- c. To assist in mitigating the visual impact of the solar arrays from the site's north, additional hedgerow planting (Hedgerow Type 2) shall be provided along the northern extent of the arrays located within Field 8 (as per AAHA).
- d. All solar panels within the permitted development shall include an Anti-Reflective Coating (ARC). 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 the effectiveness of the proposed mitigation once implemented.

Reason: In the interest of the visual and residential amenity of the area.

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

- a. Surface water from the site shall not be allowed to discharge onto the public road or adjoining properties.
- b. The Applicant shall monitor the existing drainage network for blockages and other issues that could affect its functionality throughout the lifetime of the solar farm.
- c. The Applicant shall submit revised site layout drawing(s) which omit the proposed solar panels from the locations identified in Figure 5-2 (Panel Exclusion Zones) of the Flood Risk Assessment.

Reason: In the interest of environmental protection and reducing run-off from the site.

10. With the exception of the panels that will use concrete shoes, the solar panels shall be fixed in place by way of driven pile or screw pile foundations only, unless otherwise authorised by a separate grant of planning permission.

Reason: In the interest of the long term viability of this agricultural land, and in order to minimise impacts on drainage patterns.

11.

- a. Save for lighting required for the Transformer Compound, no artificial lighting shall be installed or operated on site unless authorised by a prior grant of planning permission.
- b. CCTV cameras shall be fixed and angled to face into the site and shall not be directed towards adjoining property or the road.
- c. Cables within the site shall be located underground.
- d. Prior to the commencement of development and following the procurement process, the Applicant shall submit to the Planning Authority more detailed noise information for the proposed inverters so that it can be confirmed that the inverters meet the operational noise criteria.

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

12.

- a. The site entrance onto the L-4106 shall not be used for the construction, operation or decommissioning phases of the development. All traffic associated with the construction, operation or decommissioning phases of the development shall access the site via the L-13101-0.
- b. The roadside boundary either side of the site entrance onto the L-13101-0 shall be set back to achieve the required sightlines at the site access junction. The required sight lines are measured from appoint 4.5 metres back from the road edge at the centre of the entrance to a point 70 metres along the public roadway in both directions from the entrance to the near side road edge.
- c. The roadside boundary hedgerow either side of the entrance onto the L-13101-0 shall be maintained such that clear and unobstructed sight lines of 70 metres are available from a point 4.5 metres back from the edge of the metalled surface of the roadway at the centre of the entrance to the nearside metalled surface. The appropriate eye and object heights of 1.05m & 0.15m. respectively shall be used.
- d. The area between the roadside boundary and the edge of the public road (L-13101-0) shall be grassed and maintained indefinitely in a tidy condition. No feature in excess of 1.05 metres in height shall be located in the sight triangle of the site access. ESB, Telecom poles or services connections on roadside shall be removed and setback to the new fence line in agreement with the service provider. The area between new road fence and road carriageway shall be trimmed and rolled level with the carriageway, top soiled, seeded with grass and thereafter maintained without obstruction, trim and tidy.

Reason: In the interest of traffic safety.

13. Prior to the commencement of development, the Applicant shall submit a detailed Construction Traffic Management Plan (CTMP) prepared by a suitably qualified transport engineer. The CTMP shall provide details for the management of construction traffic for the duration of the construction phase and shall include measures such as the use of flagmen at the site entrance for

all HGV deliveries and the potential limited introduction of a stop/go system during peak delivery periods. The CTMP shall also include the appointment of a resident liaison or point of contact to ensure residents located along the L-13101-0 are informed of peak delivery times, anticipated disruptions or other related matters.

Reason: In the interest of traffic safety and residential amenity.

14. The construction of the development shall be managed in accordance with a finalised Construction and Environmental Management Plan, which shall be submitted to, and agreed in writing with, the planning authority prior to commencement of development. The finalised CEMP shall provide details of intended construction practice for the development, including:

- a. location of the site and materials compound(s);
- b. location of areas for construction site offices and staff facilities;
- c. details of site security fencing and hoardings;
- d. details of on-site car parking facilities for site workers during the course of construction;
- e. details of the timing and routing of construction traffic to and from the construction site and associated directional signage, to include proposals to facilitate the delivery of abnormal loads to the site;
- f. measures to obviate queuing of construction traffic on the adjoining road network;
- g. measures to prevent the spillage or deposit of clay, rubble or other debris on the public road network;
- h. details of appropriate mitigation measures for noise, dust and vibration, and monitoring of such levels;
- i. containment of all construction-related fuel and oil within specially constructed bunds to ensure that fuel spillages are fully contained; such bunds shall be roofed to exclude rainwater;
- j. off-site disposal of construction/demolition waste and details of how it is proposed to manage excavated soil;
- k. details of on-site re-fuelling arrangements, including use of drip trays;
- l. details of how it is proposed to manage excavated soil;

m. means to ensure that surface water run-off is controlled such that no deleterious levels of silt or other pollutants enter local surface water drains or watercourses.

n. Hours of construction.

The finalised CEMP shall also take account of the mitigation measures outlined within the NIS. A record of daily checks that the works are being undertaken in accordance with the Construction and Environmental Management Plan shall be kept for inspection by the planning authority.

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

15. Site development and building works shall be carried out only between the hours of 0800 to 1800 Mondays to Fridays inclusive, between 0800 to 1400 hours on Saturdays and not at all on Sundays and public holidays. Deviation from these times will only be allowed in exceptional circumstances where prior written approval has been received from the planning authority.

Reason: In order to safeguard the residential amenities of property in the vicinity.

16. 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, 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 Coimisiún Pleanála for determination.

Reason: To ensure the satisfactory restoration of the site in the interest of visual and residential amenity.

17. The developer shall pay to the planning authority a financial contribution in respect of public infrastructure and facilities benefiting development in the area of the planning authority that is provided or intended to be provided by or on

behalf of the authority in accordance with the terms of the Development Contribution Scheme made under section 48 of the Planning and Development Act 2000, as amended. The contribution shall be paid prior to commencement of development or in such phased payments as the planning authority may facilitate and shall be subject to any applicable indexation provisions of the Scheme at the time of payment. Details of the application of the terms of the Scheme shall be agreed between the planning authority and the developer or, in default of such agreement, the matter shall be referred to An Coimisiún Pleanála to determine the proper application of the terms of the Scheme.

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

I confirm that this report represents my professional planning assessment, judgement and opinion on the matter assigned to me and that no person has influenced or sought to influence, directly or indirectly, the exercise of my professional judgement in an improper or inappropriate way.

Enda Duignan
Senior Planning Inspector

27th November 2025

Appendix 1: AA Screening Determination Test for likely significant effects (ACP-323453-25)

Screening for Appropriate Assessment Test for likely significant effects	
Step 1: Description of the project and local site characteristics	
Case File: ACP-323453-25	
Brief description of project	<p>Normal Planning Appeal</p> <p>A 10 no. year permission is sought for the solar PV development with a 40-year operational lifespan. The development shall comprise 745,168sq.m. of solar photovoltaic panels on ground mounted steel frames, 23 no. inverter/transformer stations, underground power and communication cables and ducts, boundary security fencing, 1 no. Medium Voltage (MV) Ring Main Unit (RMU) Control Building, new internal access tracks and associated drainage infrastructure, continued use of existing site entrance off the L-13101 local roads, CCTV/Lighting posts, landscaping, biodiversity enhancement and bat/bird and archaeological buffers and all associated site services and works.</p> <p>See Section 2.0 of Inspectors Report for further detail.</p>
Brief description of development site characteristics and potential impact mechanisms	<p>It is proposed to construct a solar farm development on lands that currently comprise arable and improved grassland. A detailed description of the site and subject proposal is provided in Sections 1 and 2 of the Inspector's report and detailed specifications of the proposal are provided in the AA screening report, NIS, Ecological Impact Assessment, Planning and Environmental Report and other planning documents provided by the Applicant.</p> <p>In summary, the development comprises 745,168sq.m. of solar photovoltaic panels over c. 222.23ha site. It is noted within the application documents that a separate application will made to the Commission (ACP) for a pre-application consultation in respect of a proposed 110kv substation and grid connection.</p> <p>A hydrological connection was identified between the site and the Lower River Suir SAC (002137) via the Lisnagonoge Stream (c. 2.7km downstream). Surface water runoff within the site boundary is mostly collected in existing land drains within the site, which subsequently drain to the Lisnagonoge Stream/River which bisects the site, east-west. There is also an EPA mapped watercourse, named as 'Killough Hill' which appears on mapping as a tributary to the Lisnagonoge Stream/River. However, it is detailed within the application documents that the watercourse was observed to be dry at the time of the Applicant's site visits. It is noted within the application documents that historic infilling has heavily impacted the former watercourse to such an extent that the channel has been removed, and it no longer functions as a stream or a drainage ditch. I can confirm that the former watercourse was dry during my inspection of the site. Within the southern portion of the site, there are also 2 no. smaller EPA mapped watercourses which flow directly into the Lisnagonoge Stream. One watercourse adjoins a land parcel containing solar arrays within the south-western corner of the site,</p>

	<p>with the other watercourse adjoining the proposed Biodiversity Enhancement Area along the western site boundary.</p> <p>The Lower River Suir SAC supports a number of designated species which have the potential to commute and forage within the wider river network outside the SAC boundary. Therefore, consideration is given to this European site and its designated features of interest to assess potential impacts arising from water quality impairment as a result of the proposed development.</p>			
Screening report	Yes. Prepared by Fehily Timoney			
Natura Impact Statement	Yes. Prepared by Fehily Timoney			
Relevant submissions	<p>The following issues were raised in the Third Party appeals:</p> <ul style="list-style-type: none"> - The Independent Hydrological Impact Assessment Report, prepared on behalf of the appellant identifies major risks to the SAC and Cabragh Wetlands which is in direct conflict in expert assessments. - Reliance on mitigation measures to claim "no adverse effect" contradicts Article 6(3) of the Habitats Directive. It is stated that mitigation cannot substitute for certainty, and the precautionary principle must apply. - It is contended that cumulative impacts with forestry and agricultural nutrient inputs in the catchment are not fully considered, despite explicit requirements under the Directive. - A key omission from the Ecological Impact Assessment (EclA) is that Floating River vegetation (habitat code 3260) is listed in Annex I of the EU Habitats Directive. Therefore, the protected status of the Lisnagonoge River was not properly recognised. - Although otter were noted within the surveys, the limited survey timeframe could not scientifically assess its presence or activity. - It is contended that the scale of the solar complex may confuse migratory birds moving between the Lower River Suir SAC and Cabragh Wetlands NHA, as panel reflections can be mistaken for water bodies. 			
Additional Information:				
N/A				
Step 2. Identification of relevant European sites using the Source-pathway-receptor model				
One (1) no. European site was identified as being located within a potential zone of influence (Zol) of the proposed development as detailed in Table 1 below.				
European Site (code)	Qualifying interests¹ Link to conservation objectives (NPWS, date)	Distance from proposed development (km)	Ecological connections²	Consider further in screening³ Y/N
Lower River Suir SAC [002137]	<p>Atlantic salt meadows,</p> <p>Water courses of plain to montane levels with the Ranunculion fluitantis and Callitriche-Batrachion vegetation,</p> <p>Hydrophilous tall herb fringe communities of plains and of</p>	Hydrological distance of c. 2.7km via the Lisnagonoge Stream/River.	The solar farm site is hydrologically linked to the SAC via the watercourses on and adjoining the site and the additional drainage ditches within the site.	Yes

	<p>the montane to alpine levels,</p> <p>Old sessile oak woods with Ilex and Blechnum in the British Isles,</p> <p>Alluvial forests with Alnus glutinosa and Fraxinus excelsior,</p> <p>Taxus baccata woods of the British Isles,</p> <p>Freshwater Pearl Mussel,</p> <p>White-clawed Crayfish,</p> <p>Sea Lamprey,</p> <p>Brook Lamprey,</p> <p>River Lamprey,</p> <p>Twaite Shad,</p> <p>Salmon,</p> <p>Otter.</p> <p>Lower River Suir SAC National Parks & Wildlife Service</p>			
Slievefelim to Silvermines Mountains SPA [004165]	<p>Hen harrier</p> <p>Slievefelim to Silvermines Mountains SPA National Parks & Wildlife Service</p>	17.7km	<p>The solar farm site is located over 17km from the SPA and outside the maximum foraging range for hen harrier in Ireland. Whilst hen harrier were recorded in the ornithological surveys, it is noted within the Applicant's AA Screening Report that the proposed site does not contain suitable nesting/roosting habitats for hen harrier. Given the characteristics of the appeal site and the intervening distance between the site and SPA, potential effects on the SCI can be ruled out.</p>	No

Step 3. Describe the likely effects of the project (if any, alone or in combination) on European Sites

The appeal site is not located within or directly adjacent to a European site, and there are no designated habitats located onsite. Therefore, it is not considered that the proposed development will result in any direct loss or degradation to the habitats designated for the Lower River Suir SAC. However, due to the size and scale of the development and its proximity and hydrological connectivity to the River Suir, impacts generated by the construction and operation of the solar farm development require consideration.

Sources of impact and likely significant effects are detailed in the Table below.

AA Screening matrix

Site name Qualifying interests	Possibility of significant effects (alone) in view of the conservation objectives of the site*	
	Impacts	Effects
Lower River Suir SAC [002137]	<p>Direct:</p> <p>None. There will be no direct impacts or effects as the site is not located within or directly adjacent to a European site, and there are no designated habitats located onsite.</p> <p>Indirect:</p> <p>There is a hydrological connection between this SAC and the subject site. A pathway for indirect effects on the aquatic qualifying interest (QIs) species and habitats of the SAC exist in the form of water quality deterioration and habitat degradation via surface water pathways during the construction, operation and decommissioning phases of the proposed development.</p> <p>Whilst it is acknowledged that the terrestrial ranges for Otter can extend outside of SAC boundaries, it is confirmed within the application documents that there are no otter breeding or resting places on the Lisnagonoge Stream or within the Zol of the proposed project. In relation to disturbance, otter are predominantly crepuscular in nature and it is considered that the daytime construction activities will minimise potential disturbance related impacts to this species. Furthermore, the proposed development will retain a riparian area along the stream and will not result in inhibition of access to the watercourse by otter.</p>	<p>Potential for indirect effects on SCI species and habitats via a deterioration in water quality and habitat degradation.</p>
	Likelihood of significant effects from proposed development (alone): Yes.	
	If No, is there likelihood of significant effects occurring in combination with other plans or projects? N/a.	

Step 4 Conclude if the proposed development could result in likely significant effects on a European site

Based on the information provided in the screening report, my visit to the proposed solar farm site and a review of the conservation objectives and supporting documents, I consider that in the absence of mitigation measures

beyond best practice construction methods, the proposed development has the potential to result significant effects on the Lower River Suir SAC.

Through an assessment of the pathways for effects and an evaluation of the sources for impacts, taking account of the processes involved and the distance of separation from European sites, it was determined in the Applicant's AA Screening Report that there are no likely significant effects on the qualifying interests, special conservation interest or the conservation objectives of any designated European site. However, the Planning Authority screened the application as to the requirement for AA and it was determined that AA was required and the Applicant was therefore requested to submit an NIS. I concur with the Planning Authority's findings that the proposed development, individually or in-combination with other plans or projects, may have effects on the Lower River Suir SAC, in view of the site's conservation objectives.

An appropriate assessment is required on the basis of the possible effects of the project alone.

Screening Determination

Finding of likely significant effects

In accordance with Section 177U of the Planning and Development Act 2000 (as amended) and on the basis of objective information provided by the Applicant, I conclude that the proposed development could result in significant effects on the Lower River Suir SAC in view of the conservation objectives of a number of qualifying interest features of those sites.

It is therefore determined that Appropriate Assessment (stage 2) [under Section 177V of the Planning and Development Act 2000] of the proposed development is required.

Appendix 2: Appropriate Assessment (ACP-323453-25)

The requirements of Article 6(3) as related to appropriate assessment of a project under part XAB, sections 177V of the Planning and Development Act, 2000 (as amended) are considered fully in this section.

Taking account of the preceding screening determination, the following is an appropriate assessment of the implications of the proposed solar farm development in view of the relevant conservation objectives of the Lower River Suir SAC [002137] based on scientific information provided by the Applicant.

The information relied upon includes the following:

- Natura Impact Statement prepared by Fehily Timoney,
- Planning and Environment Report prepared by Fehily Timoney,
- Ecological Impact Assessment prepared by Fehily Timoney,
- Flood Risk Assessment prepared by JBA Consulting, and,
- Construction Environmental Management Plan prepared by Fehily Timoney.

I am satisfied that the information provided is adequate to allow for an Appropriate Assessment. I am satisfied that all aspects of the project which could result in significant effects are considered and assessed in the NIS and mitigation measures designed to avoid or reduce any adverse effects on site integrity are included and assessed for effectiveness.

Submissions/observations

Prescribed Bodies

- None received of relevance.

Public Observations

- As noted in Appendix 1, issues raised in the course of the application and appeal by Third Parties include: potential impacts to the SAC through pollution, reliance on mitigation measures is not acceptable, failure to consider cumulative effects, failure to adequately recognise the protected status of the Lisnagonoge River and the potential impact of the proposed development on migratory birds moving between the SAC and Cabragh Wetlands NHA, as panel reflections can be mistaken for water bodies.

Lower River Suir SAC (002137):

Summary of Key issues that could give rise to adverse effects (from screening stage):

- (i) **Water quality deterioration and habitat degradation (construction)**

See Table 4-3 of the NIS

Qualifying Interest features likely to be affected	Conservation Objectives	Potential adverse effects	Mitigation measures (summary)
	Targets and attributes (summary)		See Table 4-4 of the NIS
[1092] White-clawed crayfish (Austropotamobius pallipes)	To maintain the favourable conservation condition of White-clawed crayfish in the Lower River Suir SAC. No reduction in distribution, Juveniles and/or females with eggs in all occupied tributaries, no alien crayfish species, no	There is hydrological connection between this SAC and the proposed solar farm site. Therefore, there is a potential pathway for indirect effects on this QI species via the deterioration of water quality resulting from pollution entering these watercourses. It is noted within the NIS that the Lisnagonoge stream includes suitable habitats to support crayfish. As per Map 7 of the SSCO, White-clawed crayfish	Measures included to address potential hydrological impacts include mitigation for the construction phase as follows: Works at the bridge crossing will be scheduled during dry weather conditions to reduce the elevated risk of runoff and will avoid any foreseen

	instances of disease, At least Q3-4 at all sites sampled by EPA and no reduction in habitat heterogeneity or habitat quality.	have been recorded along almost the entire length of non-tidal water within the River Suir from the most upstream point at Cabragh, near Thurles, to downstream of Kilsheelan. It is noted within the NIS that brief sedimentation of the stream during one day of open cut works would not result in a degradation of water quality such that adverse effects would occur. Despite this species being screened out of further assessment in the NIS, it is considered that pollution of surface water may result in adverse impacts on this species in the absence of mitigation.	rainfall event >3mm/hour and will not proceed during any yellow (or worse) rainfall warning issued by Met Éireann. Use of silt fencing. All works adjacent to watercourses will be carried out in accordance with Inland Fisheries Ireland Biosecurity Protocols and Guidelines on protection of Fisheries During Construction Works in and Adjacent to Waters - Inland Fisheries Ireland - (IFI 2016). Timing of the in-bridge cable construction works.
[1095] Sea lamprey (Petromyzon marinus)	To restore the favourable conservation condition of Sea lamprey in the in the Lower River Suir SAC. Greater than 75% of main stem length of rivers accessible from estuary, at least three age/size groups present, juvenile density at least 1/m ² , no decline in extent and distribution of spawning beds and more than 50% of sample sites positive for juvenile habitat.	The NBDC holds records for sea lamprey within the River Suir catchment. Lamprey species were identified at 3 of the 10 survey sites within the River Suir catchment according to the IFI Southeastern River Basin District River Survey Report 2018. The IFI report does not distinguish which lamprey species were identified during the survey It is noted within the NIS that the Lisnagonoge stream includes suitable habitats to support lamprey. It is stated that brief sedimentation of the stream during one day of open cut works would not result in a degradation of or change in the extent of spawning habitat such that it would be unsuitable for spawning. Such processes occur naturally in the catchment on a regular basis. Given the hydrological connection between this SAC and the proposed solar farm site, there is a potential pathway for indirect effects on these QI species via the deterioration of water quality resulting from pollution entering these watercourses. Despite this species being screened out of further assessment in the NIS, pollution of surface water may result in adverse impacts on these	As above for mitigation to protect water quality.
[1096] Brook lamprey (Lampetra planeri)	To restore the favourable conservation condition of River lamprey in the Lower River Suir SAC. Access to all watercourses for distribution, at least three age/size groups of brook/river lamprey present, mean catchment juvenile density of brook/river lamprey at least 2/m ² , no decline in extent and distribution of		

	<p>spawning beds and more than 50% of sample sites positive for juvenile habitat.</p>	<p>downstream QI aquatic species in the absence of mitigation.</p>	
[1099] River lamprey (<i>Lampetra fluviatilis</i>)	<p>To restore the favourable conservation condition of River lamprey in the Lower River Suir SAC.</p> <p>Access to all water courses down to first order streams, at least three age/size groups of river/brook lamprey present, mean catchment juvenile density of brook/river lamprey at least 2/m², no decline in extent and distribution of spawning beds and more than 50% of sample sites positive for juvenile habitat.</p>		
[1106] Salmon (<i>Salmo salar</i>) (only in fresh water)	<p>To restore the favourable conservation condition of Salmon in the Lower River Suir SAC.</p> <p>100% of river channels for distribution, conservation limit (CL) for each system consistently exceeded, maintain or exceed 0+ fry mean catchment-wide abundance threshold value, no significant decline in out-migrating smolt abundance, no decline in number and distribution of spawning redds due to anthropogenic causes and for water quality, at least Q4 at all sites.</p>	<p>As there are hydrological connections between this SAC and proposed solar farm site, there is a potential pathway for indirect effects on this QI species via the deterioration of water quality resulting from pollution entering watercourses. It is noted within the NIS that the Lisnagonoge stream includes suitable habitats to support salmonids. Notwithstanding this, it is contended that brief sedimentation of the stream during one day of open cut works would not result in a degradation of or change in the extent of spawning habitat such that it would be unsuitable for spawning. Such processes occur naturally in the catchment on a regular basis.</p> <p>However, given the hydrological connectivity and the potential for this species to migrate upstream and to disperse outside the SAC boundary, a precautionary approach should be adopted given the potential for indirect effects on Atlantic salmon through water quality impairment. Despite this species being screened out of further assessment in the NIS, pollution of surface water may result in adverse impacts on this</p>	<p>As above for mitigation to protect water quality.</p>

		downstream QI aquatic species in the absence of mitigation.	
[1103] Twaite shad (Alosa fallax)	To restore the favourable conservation condition of Twaite shad in the Lower River Suir SAC.	<p>Suitable habitats are not present for this species within the site. However, twaite shad are known to utilise the lower reaches of the SAC and this species was recorded in low numbers the Lower River Suir and River Barrow and Nore estuary in 2019 by Inland Fisheries Ireland.</p> <p>According to the Site Synopsis document for the Lower River Suir, this SAC is one of only three known spawning grounds in the country for Twaite Shad. Given the hydrological connection that exists between this SAC and the proposed solar farm site, there is a potential pathway for indirect effects on this QI species via the deterioration of water quality resulting from pollution entering these watercourse. Despite this species being screened out of further assessment in the NIS, pollution of surface water may result in adverse impacts on this downstream QI aquatic species in the absence of mitigation.</p>	As above for mitigation to protect water quality.
[1355] Otter (Lutra lutra)	<p>To maintain the favourable conservation condition of Otter in the Lower River Suir SAC.</p> <p>No significant decline in distribution, extent of terrestrial habitat, extent of marine habitat, extent of freshwater (river) habitat, extent of freshwater (lake) habitat, couching sites and holts and fish biomass available.</p>	<p>Large river catchments, including the River Suir catchment, are considered to be among the more important SACs for otter. Otters are known to occur within the Lower River Suir SAC.</p> <p>Within the NIS, it is stated that the proposed development will retain a riparian area along the stream and will not result in inhibition of access to the watercourse by otter. In addition, there are no otter breeding or resting places on the Lisnagonoge stream or within the Zol of the proposed project. Therefore, it is contended that there is no potential for an adverse effect. As the surveys did not identify any evidence of otters onsite nor did the survey identify any suitable habitat for holt construction, there is no potential for habitat destruction, loss of breeding or resting places and no direct mortality related impacts on otter are anticipated.</p>	As above for mitigation to protect water quality.

		<p>However, in Ireland, female otter territories can be up to c. 7.5km in length and male otter territories can be up to c. 13.2km in size. Otter are therefore considered to be within the Zol of the proposed development. Despite this species being screened out of further assessment in the NIS, there is potential for construction works to result in the run-off of silt and other pollutants such as hydrocarbons and cementitious material into watercourses downstream of the proposed solar farm site. This has the potential to impact on the conservation objectives for this species in particular in relation to fish biomass availability, for example a degradation in water quality could impact on prey resource for otter.</p>	
<p>[3260] Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation</p>	<p>To maintain the favourable conservation condition of Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation in the Lower River Suir SAC.</p> <p>Habitat area stable or increasing, no decline in habitat distribution, maintain appropriate hydrological regime for river flow, groundwater discharge and tidal influence, maintain substratum composition, maintain water quality, maintain typical species, maintain floodplain connectivity, and maintain fringing habitats.</p>	<p>The full distribution of this habitat and its sub-types within the SAC is currently unknown. It is noted within the NIS that one of the attributes needed to support this habitat type is 'appropriate substratum particle size range, quantity and quality, subject to natural processes'. Sediment as might be released into the Lisnagonoge stream during cable construction at the bridge crossing has potential to be moved downstream into the river Suir (c. 2.7 km in stream distance). It is stated that this might briefly cause a change in substratum particle size. However, given the scale of sediment likely to be generated from a small excavation which will remain open for c. 1 day relative to the catchment contributions to the River Suir, it is contended that an adverse effect is unlikely.</p> <p>Despite this habitat being screened out of further assessment in the NIS, it is considered that the potential for significant effect on this QI habitat cannot be excluded. A deterioration in water quality, in particular from silt laden runoff, could have the potential to undermine the conservation objectives for this QI habitat which requires the substratum to be free from fine sediment.</p>	<p>As above for potential hydrological impacts.</p>

Other QI's	Not at Risk	Rationale for Exclusion:
[1330] Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>)	To restore the favourable conservation condition of Atlantic salt meadows in the Lower River Suir SAC.	<p>The NPWS Conservation Objectives document shows that this habitat is not present in the immediate vicinity of the site. Salt meadows are known to occur below Waterford City in old meadows where the embankment is absent, or has been breached, and along the tidal stretches of some of the in-flowing rivers below Little Island.</p> <p>As per Map 3 of the NPWS Conservation Objectives document, the nearest known location of this QI habitat is located c. 70km from the site. Although a hydrological connection to the SAC exists, any changes in water quality as a result of the proposed development would not have the potential to undermine any of the conservation objectives for this QI habitat given nature, scale and location of the proposed development, the significant separation distances and the attenuating and diluting property of the intervening waterbody.</p>
[1410] Mediterranean salt meadows (<i>Juncetalia maritima</i>)	To restore the favourable conservation condition of Mediterranean salt meadows in the River Barrow and River Nore SAC.	<p>As per the NPWS Conservation Objectives document, this habitat has not been mapped in detail for the Lower River Suir SAC and the total area of this habitat is not currently known within the SAC. However, it is noted that this habitat is typically found high up in saltmarshes and requires occasional tidal inundation and therefore, this habitat will not be found in freshwater sections of the Lower River Suir SAC.</p> <p>Although a hydrological connection to the SAC exists, any changes in water quality as a result of the proposed development would not have the potential to undermine any of the conservation objectives for this QI habitat given nature, scale and location of the proposed development along with the attenuating and diluting property of the intervening waterbody.</p>
[6430] Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	To maintain the favourable conservation condition of Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels in the Lower River Suir SAC.	<p>This habitat has not been mapped in detail for the Lower River Suir SAC and the total area of this habitat is not currently known within the SAC. However, it is noted that this habitat type occurs in association with alluvial forests within the SAC, other woodland types in the fringe areas along the River Suir and areas of open marsh or wet grassland. The Conservation Objectives Report, note the potential presence of this habitat at Fiddown, below Carrick-on-Suir and at Tibberaghny Marshes. Fiddown. Both of these areas are located a significant distance downstream of the site.</p> <p>Although a hydrological connection to the SAC exists, any changes in water quality as a result of the proposed development would not have the potential to undermine any of the conservation objectives for this QI habitat given nature, scale and location of the proposed development, the significant separation distances and the attenuating and diluting property of the intervening waterbody.</p>
[91A0] Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles	To restore the favourable conservation condition of Old oak woodland with <i>Ilex</i> and <i>Blechnum</i> in the Lower River Suir SAC.	The Conservation Objectives show that this habitat is not present in the immediate vicinity of the site. This terrestrial habitat is not located onsite or within the immediate vicinity of the site. There are no impact pathways connecting the site to this habitat given its terrestrial nature. Therefore, there are no potential adverse effects anticipated that could affect this habitat.
[91E0] Alluvial forests with <i>Alnus glutinosa</i> and	To restore the favourable conservation condition	The NPWS Conservation Objectives document show that this habitat is not present in the immediate vicinity of the site. As per Map 5 of the NPWS Conservation Objectives document, the

Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	of Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) in the in the Lower River Suir SAC.	nearest recorded location of this habitat is a significant distance from the site at its nearest point. There are no impact pathways connecting the site to this habitat given its terrestrial nature. Therefore, there are no potential adverse effects anticipated that could affect this habitat.
[91J0] Taxus baccata woods of the British Isles	To restore the favourable conservation condition of Taxus baccata woods of the British Isles* in Lower River Suir SAC.	This habitat has not been mapped in detail for the Lower River Suir SAC. According to the NPWS Conservation Objectives document, there are two stands of Yew woods within the SAC, which are known to occur on limestone ridges at Shanbally and Cahir Park, at a significant removed distance from the solar farm site. There are also no impact pathways connecting the site to this habitat given its terrestrial nature. Therefore, there are no potential adverse effects anticipated that could affect this habitat.
[1029] Freshwater pearl mussel (Margaritifera margaritifera)	To restore the Favourable conservation condition of the Freshwater pearl mussel (Margaritifera margaritifera) in the Lower River Suir SAC.	<p>Freshwater pearl mussels are not considered to be abundant in any area of the SAC. The NBDC holds records for Freshwater pearl mussel within the River Suir catchment. As per Map 6 of the NPWS Conservation Objectives document, this species is confined to the Clodiagh River where it has been recorded in low numbers from Clonea to Portlaw, Co. Waterford. The nearest record of this species is located a significant distance from the solar farm site.</p> <p>Whilst it is accepted that this species is very sensitive to water quality impairment, no impact pathways are identified between the site and the Clodiagh River i.e. the catchment area for freshwater pearl mussel within the Lower River Suir SAC.</p> <p>Notwithstanding this, the water quality protection measures that will be implemented to protect other aquatic species will similarly protect any potentially unrecorded freshwater pearl mussel within the Zol of the site.</p>

No other QIs were excluded.

Assessment of issues that could give rise to adverse effects in view of conservation objectives:

(i) Deterioration in water quality and habitat degradation

A 1st order mapped EPA stream named 'Killough Hill' is located along the route of a proposed access track. However, it is noted that this has been filled in historically and is no longer present onsite. The remnants comprise a slight depression within the agricultural field and an extension of the perennial rye-grass dominated field in which it is located. It is noted in the Applicant's AA Screening Report that no evidence of water or aquatic plants was present during site visits in August or November and part of the area was largely overgrown with brambles. It is indicated that a crossing with a culvert is proposed at this location. Although it is acknowledged that the watercourse may have historically connected with the Lisnagonoge stream downstream, it is noted that that historic infilling has heavily impacted the watercourse here to such an extent that the channel has been removed and it no longer functions as a stream or a drainage ditch. I inspected the site following an extended period of heavy rainfall and concur that there was no watercourse evident at this location.

There is an existing bridge crossing of the EPA mapped Lisnagonoge Stream within the main solar site which connects the northern and southern land parcels via the main access road through the site. This existing bridge will be crossed by a 33kV cable trench to connect to the RMU building and a flat formation trench within the deck and road pavement reinstatement is proposed at this existing bridge. It is confirmed that no instream works are required or modification to the existing stream. In addition, it is noted within the AA Screening Report that:

- No wet concrete works are required to the bridge with the cabling to be fully contained in the deck enclosed by exiting parapet walls.
- Aquatic species are present within the watercourse approximately 50m downstream of the crossing while

at the time of the site visit only low volumes of stagnant water was present along the route of the 1st order stream approximately 150m downstream of the crossing point.

- Otter was not recorded using the site during surveys.
- No invasive species were recorded on site.

Whilst the need for AA was originally screened out by the Applicant, it is considered that a deterioration in water quality within the SAC during the construction phase as a result of silt laden run-off and other pollutants could affect the SCI habitats and species of this SAC as listed above and undermine the respective SSCO attribute targets.

Mitigation Measures and Conditions

Construction Phase

Mitigation measures are proposed to be implemented onsite in order to ensure the proposed works do not have an impact on the onsite watercourses and any species utilising the wider river network outside the SAC boundary.

I note that the focus of the proposed mitigation measures is to prevent silt/sediment and pollutants entering surface waters and receiving watercourses. This is to be achieved via a suite of mitigation measures which are based on conformity with best practice regulations and guidance. Mitigation includes:

Effect 1 - Pollution of the Lisnagonoge Stream

- Works at the bridge crossing will be scheduled during dry weather conditions to reduce the elevated risk of runoff and will avoid any foreseen rainfall event >3mm/hour and will not proceed during any yellow (or worse) rainfall warning issued by Met Éireann.
- Silt fencing will prevent the runoff of sediment into the local watercourses from the works areas.
- All works adjacent to watercourses will be carried out in accordance with Inland Fisheries Ireland Biosecurity Protocols and Guidelines on protection of Fisheries During Construction Works in and Adjacent to Waters - Inland Fisheries Ireland - (IFI 2016).
- Timing of the in-bridge cable construction works. The cable construction within the bridge crossing of the Lisnagonoge Stream will be carried out outside of the spawning season for salmonids and lamprey. This measure will ensure no sedimentation of spawning habitat during the key season.

As detailed in the Applicant's ECIA, a Project Ecologist/Ecological Clerk of Works (ECoW) with appropriate experience and expertise in supervising and managing the implementation of ecological mitigation measures for large renewable projects will be employed to supervise vegetation clearance and to perform pre-works surveys for mammals and birds. It is considered that the ECoW should also oversee the construction works and audit the implementation of the CEMP and all mitigation measures within the NIS which can be addressed by way of condition. Subject to compliance with this condition and proposed mitigation measures, I am satisfied that the preventative measures which are aimed at interrupting the source-pathway-receptor are targeted at the key threats to SCI habitats and species and that by arresting these pathways or reducing possible effects to a non-significant level, adverse effects can be prevented.

In-combination effects

I note that concerns have been raised by Third Parties regarding the potential for in-combination effect, particularly from forestry and agricultural nutrient inputs. In addition, concerns have been raised by appellants regarding the substation and associated grid connection. I note that cumulative effects are considered in Section 4.4 of the Applicant's ECIA and discussion is provided regarding forestry, agriculture and other developments within the surrounding area. In addition, the Applicant has confirmed that a separate application will be made to the Commission (ACP) for a pre-application consultation in respect of a substation and grid connection to serve the proposed development. Whilst I note that the Applicant has not clearly identified all permissions within the vicinity of the site, I have reviewed both the Commission's and Planning Authority's online planning application database and I do not consider that there are any projects which could have the potential to have significant in-combination effects on a European Site when considered alongside the proposed development. Similarly, I am unaware of any plans that could potentially have in-combination effects on a European Site when considered alongside the proposed development. It is therefore considered that the proposed development is unlikely to have any significant in-combination contribution to possible significant effects on Lower River Suir SAC or any other European sites, given:

- The localised nature of the proposed works;

- The distances separating the site from the European site;
- The dilution factor between the site and the European site;
- The mitigation measures that will be put in place; and,
- The best practice guidelines which will be implemented during the construction phase of the proposed development.

Overall, I am satisfied that there are no current or previously granted plans or projects in the immediate vicinity that are considered to have the potential to have any significant cumulative effects during the construction or operational phase of the proposed development.

Findings and conclusions

Having regard to the measures incorporated into the project design and mitigation measures to avoid effects on water quality, the applicant determined proposed development alone, or in combination with other plans and projects, will not adversely affect the integrity of this European site.

Based on the information provided, I am satisfied that adverse effects arising from the proposed development can be excluded for the Lower River Suir SAC. No direct impacts are predicted. Indirect impacts would be temporary in nature and mitigation measures are described to prevent ingress of silt laden surface water which would also prevent the ingress of other construction related pollutants. I am satisfied that the mitigation measures proposed to prevent such effects have been assessed as effective and can be implemented and conditioned if permission is granted.

Reasonable Scientific Doubt

I am satisfied that no reasonable scientific doubt remains as to the absence of adverse effects.

Site Integrity

The proposed development will not affect the attainment of the Conservation Objectives of the Lower River Suir SAC. Adverse effects on site integrity can be excluded, and no reasonable scientific doubt remains as to the absence of such effects.

Appropriate Assessment Conclusion: Integrity Test

In screening the need for Appropriate Assessment, it was determined that the proposed development could result in significant effects on the Lower River Suir SAC in view of the conservation objectives of this site and that Appropriate Assessment under the provisions of S177U was required.

Following an examination, analysis and evaluation of the NIS, all associated material submitted, and taking into account the observations on nature conservation, I consider that adverse effects on site integrity of the Lower River Suir SAC can be excluded in view of the conservation objectives of these sites and that no reasonable scientific doubt remains as to the absence of such effects. My conclusion is based on the following:

- Detailed assessment of all aspects of the proposed project including proposed mitigation measures in relation to the Conservation Objectives of the Lower River Suir SAC (site code: 002137).
- My assessment of in combination effects with other plans and projects including historical projects, current proposals and future plans.
- The development of a solar PV energy development will, through the design and application of mitigation measures, ensure the preservation of the favourable conservation status of habitats characterised as being in favourable status and ensure that habitat characterised as being in unfavourable status will not be further harmed or rendered difficult to restore to favourable status.
- The development of a solar PV energy development will, through the design and application of mitigation measures as detailed and conditioned ensure the lasting preservation of the essential components and characteristics of the European Sites.
- No reasonable scientific doubt as to the absence of adverse effects on the integrity of the Lower River Suir SAC.

Appendix 3 - Form 1
EIA Pre-Screening
[EIAR not submitted]

ACP Case Reference	ACP-323453-25		
Proposed Development Summary	A 10 year planning permission for the construction and operation of a solar PV farm and all ancillary works with a 40 year operational period.		
Development Address	Townlands of Killough, Clohoge and Graigue, Co. Tipperary.		
1. Does the proposed development come within the definition of a 'project' for the purposes of EIA? (that is involving construction works, demolition, or interventions in the natural surroundings)	Yes	✓	
	No		
2. Is the proposed development of a class specified in Part 1 or Part 2, Schedule 5, Planning and Development Regulations 2001 (as amended) and does it equal or exceed any relevant quantity, area or limit where specified for that class?			
Yes			EIA Mandatory EIAR required
No	✓		Proceed to Q.3
3. Is the proposed development of a class specified in Part 2, Schedule 5, Planning and Development Regulations 2001 (as amended) but does not equal or exceed a relevant quantity, area or other limit specified [sub-threshold development]?			
		Threshold	Comment (if relevant)
			Conclusion
No			
Yes	✓	Class 1 of Part 2 of Schedule 5, <i>(a) Projects for the restructuring of rural land holdings, where the length of field boundary to be removed is above 4 kilometres, or where re-contouring is above 5 hectares, or where the area of lands to be restructured by removal of field boundaries is above 50 hectares.</i>	Sub-threshold – c. 190m of hedgerow are proposed to be removed
			Proceed to Q.4

4. Has Schedule 7A information been submitted?

No		Preliminary Examination required
Yes	✓	Screening Determination required

Appendix 4 – Form 3 – Screening Determination

A. CASE DETAILS

ACP Case Reference	ACP-323453-25	
Development Summary	A 10 year planning permission for the construction and operation of a solar PV farm and all ancillary works. A Natura Impact Statement accompanies the planning application.	
	Yes / No / N/A	Comment (if relevant)
1. Was a Screening Determination carried out by the PA?	Yes	EIA not required.
2. Has Schedule 7A information been submitted?	Yes	Document entitled Planning and Environmental Report - Section 6.2 notes that notwithstanding the project indirectly resulting in the loss of a very limited amount of hedgerow, well below the mandatory threshold, Section 6.3 of the Applicant's report screens the proposed development in the context of the criteria set out in Schedule 7 and Annex III of the 2014 Directive. Therefore, the proposed development is considered in the context of Schedule 5, Part 2, Class 1 Agriculture, Silviculture and Aquaculture: <i>(a) Projects for the restructuring of rural land holdings, undertaken as part of a wider proposed development, and not as an agricultural activity that must comply with the European Communities (Environmental Impact Assessment) (Agriculture) Regulations 2011, where the length of field boundary to be removed is above 4 kilometres, or where re-contouring is above 5 hectares, or where the area of lands to be restructured by removal of field boundaries is above 50 hectares.</i>
3. Has an AA screening report or NIS been submitted?	Yes	An Appropriate Assessment Screening Report was submitted at application stage and a Natura Impact Statement was submitted as part of the FI response.
5. Have any other relevant assessments of the effects on the environment which have a significant bearing on the project been carried out pursuant to other relevant Directives – for example SEA	Yes	SEA and AA were undertaken in respect of the Tipperary County Development Plan, 2022-2028. The site is located within lands governed by this plan.

B. EXAMINATION	Where relevant, briefly describe the characteristics of impacts (ie the nature and extent) and any Mitigation Measures proposed to avoid or prevent a significant effect (having regard to the probability, magnitude (including population size affected), complexity, duration, frequency, intensity, and reversibility of impact)	Is this likely to result in significant effects on the environment? Yes/ No/ Uncertain
1. Characteristics of proposed development (including demolition, construction, operation, or decommissioning)		
1.1 Is the project significantly different in character or scale to the existing surrounding or environment?	The site of the proposed solar farm is predominantly comprised of arable fields and improved agricultural grassland which are typically bound by mixed hedgerows and trees of varying maturities. The existing network of trees and hedgerows provide varying degrees of screening from the adjoining public roads and vary in height across the site. The proposal will result in the removal of c. 190m of hedgerow where access is required to facilitate field access. It is considered that the volume of hedgerow to be removed is insignificant given the remaining linear features present in the surrounding environment.	No
1.2 Will construction, operation, decommissioning or demolition works causing physical changes to the locality (topography, land use, waterbodies)?	The removal of hedgerows has largely been confined to the access points within the site to facilitate access. Internal and perimeter field boundaries comprising hedgerows and tree lines associated with the solar farm will generally be retained for ecology and landscape protection and are treated as exclusions areas. Existing hedgerows and treelines are to be maintained and	No

	enhanced internally throughout the site, with existing hedgerows and treelines commonly known as linear habitats. New hedgerow planting throughout the site to enhance existing hedgerows and create new hedgerows throughout the site to provide additional volume and density to existing hedgerows. No physical changes to the topography of the lands are proposed and earthworks are minimal given the nature of the proposed development.	
1.3 Will construction or operation of the project use natural resources such as land, soil, water, materials/minerals or energy, especially resources which are non-renewable or in short supply?	Standard construction methods and materials. No significant use of natural resources in operational phase. The loss of natural resources (hedgerow) is not regarded as significant in nature. Significant hedgerow planting is also proposed throughout the site.	No
1.4 Will the project involve the use, storage, transport, handling or production of substance which would be harmful to human health or the environment?	Hedgerow removal activities will require the use of potentially harmful materials, such as fuels and other such substances to power necessary machinery. Use of such materials would be typical for construction sites. Any impacts would be local and temporary in nature and the implementation of the standard construction practice measures outlined in the submitted Construction and Environmental Management Plan would satisfactorily mitigate potential impacts. No operational impacts in this regard are anticipated.	No
1.5 Will the project produce solid waste, release pollutants or any hazardous / toxic / noxious substances?	The works associated with the hedgerow removal will require the use of potentially harmful materials, such as fuels and other similar substances for necessary machinery and may give rise to waste for disposal. However, it is noted that the use of these materials would be typical for construction sites. With the implementation of the standard measures outlined in the Construction and	No

	Environmental Management Plan, the project would satisfactorily mitigate any potential impacts.	
1.6 Will the project lead to risks of contamination of land or water from releases of pollutants onto the ground or into surface waters, groundwater, coastal waters or the sea?	It is noted that works are proposed within close proximity to field drains and watercourses which are ultimately connected to the Lower River Suir SAC. However having regard to the nature of the proposed works, the distance of the subject site from this designated site and the proposed mitigation measures, particularly those relating to water quality as outlined in the submitted NIS, significant effects on the environment are not likely. No discharge of pollutants to ground water is likely.	No
1.7 Will the project cause noise and vibration or release of light, heat, energy or electromagnetic radiation?	Some noise and vibration impacts are anticipated during the hedgerow removal works. However, there are temporary in nature and there will be a localised impact only. Mitigation measures are proposed in submitted CEMP. No operational impacts in this regard are anticipated.	No
1.8 Will there be any risks to human health, for example due to water contamination or air pollution?	The construction related impacts associated with the hedgerow removal would be temporary and localised in nature subject to the application of standard measures within the CEMP. No significant operational impacts are anticipated with a development of this nature.	No
1.9 Will there be any risk of major accidents that could affect human health or the environment?	No significant risk is predicted having regard to the nature and scale of the development.	No
1.10 Will the project affect the social environment (population, employment)	It is likely that there will be a minor positive effect on local employment during the construction phase of the proposed development.	No
1.11 Is the project part of a wider large scale change that could result in cumulative effects on the environment?	No.	No
2. Location of proposed development		
2.1 Is the proposed development located on, in, adjoining or have	There is only one Natura 2000 site within the	No

<p>the potential to impact on any of the following:</p> <ul style="list-style-type: none"> - European site (SAC/ SPA/ pSAC/ pSPA) - NHA/ pNHA - Designated Nature Reserve - Designated refuge for flora or fauna - Place, site or feature of ecological interest, the preservation/conservation/ protection of which is an objective of a development plan/ LAP/ draft plan or variation of a plan 	<p>proposed development's Zol. There is a potential pathway from the proposed development to the Lower River Suir SAC (Site code: 002137) via the existing watercourse that bisects the subject site. Following an Appropriate Assessment, it has been concluded that the proposed development, individually or in combination with other plans or projects, would not adversely affect the integrity of any of this European site, in view of its Conservation Objectives.</p> <p>There is no NHAs within 15km of the subject site. In terms of pNHAs, Killough Hill pNHA is partially located within the site. However, there are no works proposed within the pNHA and a buffer zone has been proposed which will mitigate any potential impacts. As discussed in the Inspector's Report, no potential impacts have been identified.</p> <p>The development will result in some loss of commuting / foraging habitats for bats by the removal of hedgerow / treelines, however, significant enhancement planting and enhancement measures that will be implemented as part of the proposed development, will strengthen the existing hedgerow / treelines onsite, where required, and provide new foraging and commuting habitat for bats. The Applicant's EclA concludes that no bats roosts will be impacted, and no derogation is therefore required from the NPWS.</p>	
<p>2.2 Could any protected, important or sensitive species of flora or fauna which use areas on or around the site, for example: for breeding, nesting, foraging, resting, over-wintering, or migration, be significantly affected by the project?</p>	<p>The surveys undertaken as part of the Applicant's Planning and Environmental Report and Ecological Impact Assessment found no evidence of sensitive species on the site or in the vicinity likely to be</p>	<p>No</p>

	affected by the proposed development. As noted, hedgerow removal is required to facilitate access through the site (c. 190m). It is acknowledged the hedgerow provides habitat for bird species and linear foraging features for bats. While it is noted that there will be some temporary impacts on these species, it is not expected that the removal of hedgerow would result in significant impacts to protected, important or sensitive species subject to compliance with the various mitigation measures outlined in the CEMP.	
2.3 Are there any other features of landscape, historic, archaeological, or cultural importance that could be affected?	The application was supported by an AAHA which provides a detailed description and evaluation of the potential, likely and significant impacts of the proposed development on archaeological, architectural and cultural heritage resource of the site. In terms of potential archaeological impacts, I have addressed this in detail in Section 9.4 of this report, and I am satisfied that it has been adequately demonstrated that significant effects on archaeology can be avoided through the implementation of the proposed mitigation measures and through adherence to the conditions of the permission. The modest removal of hedgerows will have no impact on the site's archaeological or cultural heritage.	No
2.4 Are there any areas on/around the location which contain important, high quality or scarce resources which could be affected by the project, for example: forestry, agriculture, water/coastal, fisheries, minerals?	Given the nature of the works proposed, there will be no foreseeable impact on any areas of high quality or scarce resources which could be affected by the project.	No
2.5 Are there any water resources including surface waters, for example: rivers, lakes/ponds, coastal or groundwaters which could be affected by the project, particularly in terms of their volume and flood risk?	The Applicant's FRA has demonstrated that the project design incorporates appropriate drainage controls and construction management to prevent increased runoff or downstream effects. Residual risks were tested under conservative scenarios. On	No

	that basis, the precautionary principle is satisfied, and it has been demonstrated that the proposal complies with the flood risk management requirements of the Development Plan. Therefore, the hedgerow removal works will not have an impact on flooding on site or elsewhere downstream.	
2.6 Is the location susceptible to subsidence, landslides or erosion?	No	No
2.7 Are there any key transport routes (e.g. National primary Roads) on or around the location which are susceptible to congestion or which cause environmental problems, which could be affected by the project?	While some traffic disruption is likely during the construction phase, this is expected to be temporary in nature and impacts can be successfully mitigated. The modest hedgerow removal works will not contribute to congestion along key transport routes.	No
2.8 Are there existing sensitive land uses or community facilities (such as hospitals, schools etc) which could be significantly affected by the project?	The surrounding area is comprised of agricultural land uses, farm buildings and dwellings. There are also a number of community related uses, such as schools and churches within the wider area. Having considered the minor nature of the hedgerow removal works, no significant impacts on these uses are anticipated as a result of the proposal.	No
3. Any other factors that should be considered which could lead to environmental impacts		
3.1 Cumulative Effects: Could this project together with existing and/or approved development result in cumulative effects during the construction/ operation phase?	I note that the hedgerow removal is proposed as part of a solar farm development which of itself is not a class for the purposes of the EIA Directive. However, it is considered in the context of any resulting potential cumulative effects, including visual/landscape, water, archaeology, transport and biodiversity which are addressed separately in the Planning Assessment within this report. Significant environmental effects from a cumulation of the proposed hedgerow removal with other existing development is unlikely based on a review	No

	<p>of the relevant technical reports, the project design decisions and the proposed mitigation measures which effectively reduces the potential for cumulative effects.</p> <p>The Applicant has confirmed that a separate application will made for the substation and grid connection to serve the proposed development, under the provisions of the Planning and Development (Strategic Infrastructure) Act 2006.</p> <p>I have undertaken a review of the Commission's GIS viewer and Local Authority's online planning application register and I note that no existing or permitted developments have been identified in the immediate vicinity that would give rise to significant cumulative environmental effects with the subject project. Overall, I am satisfied that there are no current or previously granted plans or projects in the immediate vicinity of the site that are considered to have the potential to have any significant cumulative effects during the construction or operational phase of the proposed development.</p>	
3.2 Transboundary Effects: Is the project likely to lead to transboundary effects?	No	No
3.3 Are there any other relevant considerations?	No	No
C. CONCLUSION		
No real likelihood of significant effects on the environment.	Agreed	EIAR Not Required

Real likelihood of significant effects on the environment.		EIA Required
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D. MAIN REASONS AND CONSIDERATIONS

Having regard to

- (a) the nature and scale of the proposed development, which is below the thresholds in respect of Class 1(a) of Part 2 to Schedule 5 of the Planning and Development Regulations 2001, as revised;
- (b) The nature and scale of the proposed development, which is significantly below the threshold of 4km for hedgerow removal reinserted by the 2023 amending regulations and is also below the screening threshold set out in the 2011 (Agricultural) Regulations;
- (c) The nature of the existing site and the pattern of development in the surrounding area;
- (d) The location of the development outside of any sensitive location specified in Article 109(4)(a)(v) of the Planning and Development Regulations 2001, as revised;
- (e) The guidance set out in the 'Environmental Impact Assessment (EIA) Guidance for Consent Authorities regarding Sub-threshold Development', issued by the Department of the Environment, Heritage and Local Government (2003);
- (f) The criteria set out in Schedule 7 of the Planning and Development Regulations 2001, as revised, and;
- (g) The features and measures proposed by the applicant that are envisaged to avoid or prevent what might otherwise be significant effects on the environment, including measures identified to be provided as part of the submitted Construction and Environmental Management Plan, the Planning and Environmental Report, the Ecological Impact Assessment, the Natura Impact Statement and the information submitted to the Planning Authority by way of further information.

It is considered that the proposed development would not be likely to have significant direct, indirect or cumulative effects on the environment and that the preparation and submission of an environmental impact assessment report would not, therefore, be required.

Inspector _____

Date 27th November 2025

Approved (DP/ADP) _____

Date 27th November 2025

Appendix 5 - WFD Impact Assessment Stage 1: Screening

Step 1: Nature of the Project, the Site and Locality

ACP ref. no.	ACP-323453-25	Townland, address	Townlands of Killough, Clohoge and Graigue, Co. Tipperary
Description of project		A 10 year planning permission for the construction of a solar PV development and all associated ancillary development works.	
Brief site description, relevant to WFD Screening,		<p>The application site has a stated area of 222ha. and is located across the rural townlands of Killough, Clohoge, Graigue, Co. Tipperary, c. 2.75km to south-east of the settlement of Holycross. The appeal site is located within the Suir WFD Catchment (Catchment_ID: 16) and the Suir_SC_050 subcatchment (Subcatchment_ID: 16_10). There are 2 no. existing EPA mapped watercourses located on the subject site. The Lisnagonoge Stream (LISNAGONOGE_010) bisects the centre of the site in an east to west direction. There is a tributary of the stream within the eastern portion of the site which the Applicant has referred to as the 'Killough Hill' watercourse. This tributary no longer functions as a watercourse due to historical infilling. The Lisnagonoge Stream flows into the other EPA mapped watercourse (SUIR_080) which adjoins the western site boundary. This watercourse is also mapped in the south-western portion of the site and enters the Lisnagonoge Stream within the centre of the site. From the eastern boundary, the SUIR_080 flows in a northerly direction for a distance of c. 2.7km from the site, where it enters the Cabragh Wetlands before then discharging into the River Suir. The site is underlain by a regionally Important Aquifer – karstified diffused (Rkd). Whilst the majority of the site is underlain by 'moderate' vulnerability, there are pockets of 'high', 'extreme', and 'Rock at or near Surface or Karst' vulnerability throughout the site.</p>	

Proposed surface water details		SUDs which include natural infiltration and permeable access tracks.				
Proposed water supply source & available capacity		N/A				
Proposed wastewater treatment system & available capacity, other issues		N/A				
Others?						
Step 2: Identification of relevant water bodies and Step 3: S-P-R connection						
Identified water body	Distance to (m)	Water body name(s) (code)	WFD Status	Risk of not achieving WFD Objective e.g.at risk, review, not at risk	Identified pressures on that water body	Pathway linkage to water feature (e.g. surface run-off, drainage, groundwater)
River Waterbody	0m	LISNAGONOGE_010	Moderate	Review	NA	Yes – The stream bisects the centre of the site in an east to west direction. There is a tributary of the stream within the eastern portion of the site ('Killough Hill'). However, this tributary no longer functions as

						a watercourse due to historical infilling. There is also drainage ditches hydrologically connected to this watercourse.
River Waterbody	0m	SUIR_080	Poor	At Risk	Agriculture	Yes – This adjoins the western site boundary and is also mapped in the south-western portion of the site and enters the Lisnagonoge Stream within the centre of the site. There are also drainage ditches hydrologically connected to this watercourse.
Groundwater Waterbody	Underlying site	Tipperary GWB IE_SE_G_145	Good	Not At risk	NA	Yes – The majority of the site is underlain by ‘moderate’ vulnerability. However, there are pockets of ‘high’, ‘extreme’, and ‘Rock at or near Surface or Karst’ vulnerability throughout the site.
Step 4: Detailed description of any component of the development or activity that may cause a risk of not achieving the WFD Objectives having regard to the S-P-R linkage.						
CONSTRUCTION PHASE						

No.	Component	Waterbody receptor (EPA Code)	Pathway (existing and new)	Potential for impact/ what is the possible impact	Screening Stage Mitigation Measure*	Residual Risk (yes/no) Detail	Determination** to proceed to Stage 2. Is there a risk to the water environment? (if 'screened' in or 'uncertain' proceed to Stage 2.
1.	Surface	LISNAGONO GE_010	Watercourse is located on site and existing drainage ditches.	Siltation, pH (Concrete), hydrocarbon spillages	Standard construction practice mitigation. Adherence to the finalised CEMP and conditions of permission which includes a requirement for the installation of silt fences.	No	Screened out
2.	Surface	SUIR_080	Watercourse is located on site and existing drainage ditches.	Siltation, pH (Concrete), hydrocarbon spillages	Standard construction practice mitigation. Adherence to the finalised CEMP and conditions of permission which	No	Screened out

					includes a requirement for the installation of silt fences.		
3.	Ground	Tipperary GWB IE_SE_G_14 5	Pathway exists. The site is partially located within a Regionally Important Aquifer and is underlain by pockets of Karst, Extreme and High vulnerability.	Spillages	Standard construction practice mitigation. Adherence to the finalised CEMP.	No	Screened out
OPERATIONAL PHASE							
4.	Surface	LISNAGONO GE_010	Watercourse is located on site and existing drainage ditches.	Siltation, Hydrocarbon spillage.	SUDs features including natural infiltration between arrays, seeding to ensure vegetation growth and permeable access tracks.	No	Screened out
5.	Surface	SUIR_080	Watercourse is located on site and existing drainage ditches.	Siltation, Hydrocarbon spillage.	SUDs features including natural infiltration between arrays, seeding to ensure vegetation	No	Screened out

					growth and permeable access tracks.		
6.	Ground	Tipperary GWB IE_SE_G_14 5	Pathway exists. The site is partially located within a Regionally Important Aquifer and is underlain by pockets of Karst, Extreme and High vulnerability.	Spillages	SUDs features including natural infiltration between arrays, seeding to ensure vegetation growth and permeable access tracks.	No	Screened out
DECOMMISSIONING PHASE							
7.	As above for the construction phase.						