

Archaeological Impact Assessment Grid Connection, Ballyglass, County Clare



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Contents

1. Introduction.....	1
2. Methodology.....	3
3. Context.....	5
4. Geophysical Survey and Site Description	14
5. Proposed Development.....	18
6. Assessment of impact.....	19
7. Conclusions	21
8. References/sources.....	22
Appendix: Photographic record.....	23

1. Introduction

John Cronin & Associates were commissioned by Reeve Wave Ltd. to undertake an archaeological impact assessment of the known and potential archaeological heritage resource within, and immediately adjacent to, a proposed substation and grid connection at Ballyglass, County Clare. The proposed substation is located within a greenfield location in the townlands of Oakfield and Ruanard, while the grid connection is within or runs along the boundaries of the townlands of Ballyglass, Blackwater, Castlebank, Lakyle, Mountcatherine, Oakfield, Parkroe, Reanabrone, Rosmadda West and Ruanard (townlands), all in County Clare (see **Figures 1 & 2**).



Figure 1: General location of site in County Clare, to the north of the Headrace Canal and Limerick City. River Shannon runs to east and south.

This report will be provided as supporting material for a Strategic Infrastructure Development (SID) application to An Coimisiún Pleanála.

The general description for the proposed development is as follows;

The proposed development comprises of a 110kV AIS single bay tail-fed electricity substation (with 33kV customer compound) (including two no. single storey control buildings, associated structures and apparatus, lightning protection, telecom pole, perimeter security fencing, security lighting, water and drainage infrastructure, temporary construction compound) to connect to and serve a solar farm; associated grid connection between the proposed substation and the existing Ardnacrusha 110kV

substation comprising 110kV underground electricity cables of c. 5.6 km in length to be provided in an excavated trench including associated fibre cable and ducting on public and private lands, and all associated site development and reinstatement works; temporary construction and operational access from a new entrance from the L70382, vehicular entrance and access track from this public road; all ancillary site development, landscaping and earthworks.

The study area for this assessment comprises (a) for the substation, the area within the red-line boundary of the site, as well as lands within 500m of the site boundary, and (b) a 100m wide corridor, centered on the route connection. The assessment firstly outlines the methodology used in its compilation (**Section 2**) and then provides an archaeological and historical context for the study area, including a summary of the relevant legal and planning framework for the recorded and potential elements of the archaeological resource within its environs (**Section 3**). The results of a programme of geophysical survey and site inspection are described in **Section 4**. An assessment of the impact of the proposed development is provided in **Section 5**, while conclusions and recommendations are outlined in **Section 6**.

2. Methodology

This report is based on a programme of desktop research and desk-based assessment as well as a site inspection and a review of a geophysical survey.

Desktop study

The assessment commenced with a desktop study carried out in order to identify all known archaeological sites and designated architectural heritage structures within the study area. The principal sources reviewed for the known archaeological resource were the Sites and Monuments Record (SMR) and the Record of Monuments and Places (RMP). Between 1984 and 1992, the Archaeological Survey of Ireland (ASI) issued a series of county SMRs which lists known archaeological sites and places, and this record formed the basis for the statutory RMP established under Section 12 of the National Monuments (Amendment) Act 1994. Similar in format to the SMRs (comprising a list and set of maps), the RMPs were issued for each county in the State between 1995 and 1998. Archaeological monuments included in the statutory RMP are legally protected and are generally referred to as 'Recorded Monuments'.

The *Archaeological Survey of Ireland* (ASI) has continued to record and add entries to the SMR and has developed an online database and web viewer known as 'Historic Environment Viewer'. This resource facilitates access to the current SMR database of the National Monuments Service as well as the National Inventory of Architectural Heritage (NIAH) (Source: www.archaeology.ie).

In addition, the following sources were also consulted as part of the desktop study:

- *Cartographic Sources* - The detail on cartographic sources can indicate past settlement and land use patterns in recent centuries and can also highlight the impact of modern developments and agricultural practices. This information can aid in the identification of the location and extent of unrecorded, or partially levelled, features of archaeological or architectural heritage interest. The cartographic sources examined for the study area include the First Edition of the 6-inch Ordnance Survey (OS) maps (surveyed in 1840) and the 25-inch OS map (surveyed in 1893).
- *Literary Sources* - Various published literary sources were consulted in order to assess the archaeological and historical record of the study area.
- *Aerial photography* - In parallel with the cartographic study, a review of publicly-accessible aerial photographic sources from the Ordnance Survey (OSI), Google and Bing Maps was undertaken.
- *Development Plans* - The local authority development plan relevant to the study area was consulted as part of this assessment. These plans outline the local authorities' policies for the conservation of the archaeological and architectural heritage resource. The relevant development plan for the study area is the *Clare County Development Plan 2023-2029*.

- *Database of Irish Excavation Reports* - The Database of Irish Excavation Reports contains summary accounts of all archaeological excavations carried out in Ireland from 1969 to present.
- *UNESCO World Heritage Sites and Tentative List* - There are two world heritage sites in the Republic of Ireland and a number of other significant sites have been included in a Tentative List that has been put forward by Ireland for inclusion. None of these sites are located within the environs of the study area.
- *Placenames Database of Ireland* - The Placenames Branch (Department of Culture, Heritage and the Gaeltacht) provides a comprehensive management system for data, archival records and place name research conducted by the State. Its primary function is to undertake research in order to establish the correct Irish language forms of the place names of Ireland and to publish them on a public website (www.logainm.ie).

Fieldwork; Geophysical Survey and Site Inspection

A geophysical survey of a proposed solar array was undertaken by Target Archaeological Geophysics Ltd. in June 2024. This was carried out under detection device licence number 24R0297, as issued by the National Monuments Service. This covered a wider area, but four of the five fields in which the substation is proposed were included in the survey.

A site inspection of the lands of the proposed solar array was undertaken on Wednesday 24th July 2024 by a suitably qualified archaeologist, Mr Peter Looney. The weather at the time of the survey was sunny with clear skies and good visibility. The study area was assessed in terms of historic landscape, land use, vegetation cover, presence and potential for undetected archaeological and architectural heritage sites/features.

The report on the geophysical survey of the site was reviewed in advance of the site inspection, and the inspection also sought to ascertain whether there were surface expressions related to any of the anomalies identified from that survey.

No potential archaeological sites or features were noted within the boundaries of the proposed substation during the inspection, though it was noted that some of the land, having poor drainage and surface undulations, was of a type where *fulachtaí fia* can be found.

3. Context

Location

This project is all in the southern part of County Clare; the south-western terminus of the grid connection at Ardnacrusha is c.4km north of the centre of Limerick City. The proposed substation is located within the townlands of Oakfield and Ruanard, while the grid connection, at a length of 5.6 km, is within or runs along the boundaries of the townlands of Ballyglass, Blackwater, Castlebank, Lakyle, Mountcatherine, Oakfield, Parkroe, Reanabrone, Rosmadda West and Ruanard (townlands), Ardnacrusha, County Clare. The Headrace Canal, which was constructed as part of the Ardnacrusha Power Station project in the 1920s, lies to the south of the development (**Figure 2**). The physical environment of this area is characterised by pasture farmland enclosed by hedgerows with dispersed detached houses and farmsteads along local roads. The soil profile in the area is coarse loamy drift with siliceous stones.



Figure 2: General location of site in County Clare, to the north of the Headrace Canal. Substation area is in northeast, while Ardnacrusha Power Station is in the southwest

Legal & Policy Framework

The management and protection of cultural heritage in Ireland is achieved through a framework of national laws and policies which are in accordance with the provisions of the Valletta Treaty (1992) (formally the *European Convention on the Protection of the Archaeological Heritage*, 1992) ratified by Ireland in 1997; the *European Convention on the Protection of Architectural Heritage* (Granada Convention, 1985), ratified by Ireland in 1997; and the *UNESCO Convention for the Safeguarding of the Intangible Cultural Heritage*, 2003, ratified by Ireland in 2015.

The locations of World Heritage Sites (Ireland) and the Tentative List of World Heritage Sites submitted by the Irish State to UNESCO were reviewed and none are located within the wider area surrounding the study area.

On the 13th of October 2023, the Historic and Archaeological Heritage and Miscellaneous Provisions Bill 2023 was signed into law by President Michael D. Higgins. The new Act repeals existing legislation and institutes new provisions equipped to cater for the protection of historic heritage in a modern era. The Act repeals the National Monuments Acts 1930 to 2014 and replaces those Acts with provisions for the protection of historic heritage, provisions for the protection of archaeological heritage, provisions for the regulation of certain activities in the interests of such protection and provisions enabling the State to ratify or accede to certain international conventions which relate to such protection or regulation; to give effect to the EIA Directive and the Habitats Directive in relation to the carrying out of works at, on, in, under, to, or within the immediate surroundings of monuments; to give further effect to the Valletta Convention; to consequentially repeal or amend certain other enactments; to make miscellaneous amendments to the Foreshore Act 1933, the Lough Corrib Navigation Act 1945, the Planning and Development Act 2000, the Valuation Act 2001, the Local Government Act 2001, the Local Government Rates and other Matters Act 2019 and the Maritime Area Planning Act 2021; and to provide for related matters.

The Act introduces the following innovative measures:

- newly discovered archaeological sites are afforded immediate legal protection, mirroring the existing system for archaeological objects and historic wrecks that are automatically protected without a need for formal designation or registration;
- a statutory reporting scheme for finds of monuments;
- a new ‘Register of Monuments’ will be established, replacing several overlapping designation and registration systems hitherto in operation;
- “World Heritage Property” is defined for the first time in Irish legislation;
- subject to certain exceptions, archaeological objects with no known owner will automatically become the property of the State;
- the Act provides the necessary provisions to allow for the ratification of two important international treaties, the 1970 UNESCO Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property, and the 1995 UNIDROIT Convention on Stolen or Illegally Exported Cultural Objects;
- the Act enables the State to ratify the 2001 UNESCO Convention on the Protection of the Underwater Cultural Heritage;
- an integrated licensing system whereby one licence can authorise a range of activities will be introduced, and, for the first time, a statutory appeals process will be established to review licensing decisions, and
- a new civil enforcement procedure can be used as an alternative to, or to supplement, criminal proceedings.

The Act defines archaeology as “the study of past human societies of all periods, either as a whole or of various aspects of them, through the material remains of all forms, moveable and immovable, left by those societies and the evidence of their environment, and includes the study of climatological, ecological, geological, geomorphological or pedological factors relevant to understanding the nature or context of those societies or the distribution or nature of their material remains, and “archaeological interest” shall be construed accordingly”.

Section 14 of the Act provides for the establishment of a register to be known as the Register of Monuments. The Act sets out transitional provisions applicable to the Register of Historic Monuments, Record of Monuments and Places and National Monuments.

The relevant development plan for this project is the *Clare County Development Plan 2023-2029*. This development plan includes the following objectives in relation to the protection of the archaeological and architectural heritage resources:

Development Plan Objective: Architectural Heritage

CDP16.1 It is an objective of Clare County Council:

- a) To ensure the protection of the architectural heritage of County Clare through the identification of Protected Structures, the designation of Architectural Conservation Areas, the safeguarding of historic gardens, and the recognition of structures and elements that contribute positively to the vernacular and industrial heritage of the county; and*
- b) To ensure that the archaeological and architectural heritage of the county is not damaged either through direct destruction or by unsympathetic developments.*
- c) To support and promote architectural vernacular skills training and facilities in the county*

Development Plan Objective: Protected Structures

CDP16.2 It is an objective of Clare County Council:

- a) To protect, as set out in the Record of Protected Structures, all structures, which are of special architectural, historical, archaeological, artistic, cultural, scientific, social, or technical interest; and*
- b) To review the Record of Protected Structures periodically and add structures of special interest as appropriate, including significant elements of industrial, maritime or vernacular heritage and any twentieth century structures of merit.*

Development Plan Objective: Industrial Heritage

CDP16.3 It is an objective of Clare County Council: To protect and preserve buildings and features of industrial heritage such as mills, bridges, lighthouses and harbours, amongst others. Proposals for refurbishment works to, or redevelopment/conversion of, these sites will be subject to a full architectural and archaeological assessment together with an ecological assessment with respect to the presence of protected species.

Development Plan Objective: Sites, Features and Objects of Archaeological Interest CDP16.8

It is an objective of Clare County Council:

- a) To safeguard sites, features and objects of archaeological interest generally;*
- b) To secure the preservation (i.e. preservation in situ or in exceptional cases preservation by record) of all archaeological monuments included in the Record of Monuments and Places as established under Section 12 of the National Monuments (Amendment) Act, 1994, and of sites, features and objects of archaeological and historical interest generally;*
- c) In securing such preservation, to have regard to the advice and recommendations of the Department of the Culture, Heritage and the Gaeltacht;*
- d) To have regard to the government publication Framework and Principles for the Protection of the Archaeological Heritage 1999 in relation to protecting sites, features and objects of archaeological interest; and*
- e) To advocate for greater financial assistance for the maintenance and improvement of features of archaeological interests in County Clare.*

Development Plan Objective: Newly Discovered Archaeological Sites

CDP16.9 It is an objective of Clare County Council: To protect and preserve archaeological sites discovered since the publication of the Record of Monuments and Places.

Development Plan Objective: Zones of Archaeological Potential

CDP16.10 It is an objective of Clare County Council: To protect the Zones of Archaeological Potential located within both urban and rural areas as identified in the Record of Monuments and Places.

Development Plan Objective: Archaeology and Infrastructure Schemes

CDP16.11 It is an objective of Clare County Council: To ensure that decisions relating to development (including infrastructure associated with broadband, telecommunications, renewable energy, major road/ rail infrastructure, flood relief schemes and other services) which may have implications for Recorded Archaeological Monuments/Sites, Zones of Archaeological Potential or undiscovered archaeology, are informed by an appropriate level of archaeological investigation undertaken by qualified persons and the case of flood relief schemes have regard to archaeological Guidelines for Flood Relief Schemes (DHLGH and OPW2022).

Development Plan Objective: Climate Change Sectoral Adaptation Plan for Built and Archaeological Heritage

CDP16.12 It is an objective of Clare County Council: To support the Climate Change Sectoral Adaptation Plan for Built and Archaeological Heritage 2019, as published by the Department of Culture, Heritage and the Gaeltacht and any subsequent guidance or plans for dealing with climate change and archaeological heritage. The Council shall seek to:

- a) Promote awareness and the appropriate adaptation of Ireland's built and archaeological heritage to deal with the effects of climate change;
- b) Identify the built and archaeological heritage in Local Authority ownership and areas at risk from climate change including, but not necessarily restricted to, the Record of Monuments and Places, Protected Structures and architectural conservation areas designated in the Development Plan;
- c) Undertake climate change vulnerability assessments for the historic structures and sites in its area, subject to resources and funding;
- d) Develop disaster risk reduction policies addressing direct and indirect risks to the built and archaeological heritage in its area;
- e) Develop resilience and adaptation strategies for the built and archaeological heritage in its area;
- f) Develop the skills capacity within the Local Authority to address adaptation/mitigation/emergency management issues affecting historic structures and sites in order to avoid inadvertent loss or damage in the course of climate change adaptation or mitigation works.

Development Plan Objective: Underwater Archaeology

CDP16.13 It is an objective of Clare County Council

- a) To protect, preserve and promote the archaeological value of underwater archaeological sites in rivers, lakes, coastal, marine, intertidal and sub tidal environments; and
- b) To support the further exploration of the underwater archaeology of County Clare, including the San Marcos project, and any subsequent projects that may arise during the lifetime of this Plan.

Archaeological background

Substation

There are no recorded archaeological sites within the red line boundary of the proposed substation area. Additionally, there are no recorded archaeological sites in the study area of 500m from the site boundary. There are two such sites within 1km of the site boundary. These are an Enclosure (CL053-037----) in Knockbrack Lower and a *Fulacht Fia* (CL053-036----) in Coolderry, **Figure 3.**



Figure 3: Substation area, with surrounding 500m study area shaded, two recorded archaeological sites within 1km displayed

Grid Connection

The proposed grid connection route does not pass through or within 100m of any recorded archaeological sites.

The Excavations Database

The Excavation Database (www.excavations.ie) contains summary accounts of all licenced archaeological investigations carried out in Ireland (North and South) from 1969 onwards. The database was searched and does not contain any entries for excavations within the study area of 500m from the substation site or the corridor of 100m, centered on the grid connection.

Cartographic Review

The detail on historic cartographic sources demonstrates the nature of past settlements and land use patterns in recent centuries and can also highlight the impacts of modern developments and agricultural practices. This information can aid in the identification of the location and extent of unrecorded or partially levelled features of archaeological or architectural heritage interest. The cartographic sources examined for the study area include the First Edition of the 1:10,560 (or 6-inch) Ordnance Survey (OS) maps (surveyed in 1840) and the 1:2500 (or 25-inch) OS map (surveyed in 1893).

Substation

The substation area was depicted as enclosed farmland on the historic Ordnance Survey maps. On the first edition 6-inch map (**Figure 4**), all external boundaries of the land parcel were shown in their current form apart from in the south, where the fields extended to the south. The field to the west was depicted as marshy. The north-eastern field was subdivided and a building was depicted in the southeast of that field. Nothing was depicted on that edition of the map that would indicate the presence of archaeological features at the site.



Figure 4: Approximate red line of substation area overlay onto first edition 1:10,560 OS map (1844)

On the 1:2500 Ordnance Survey map of 1893 (**Figure 5**), the site was only marginally different to the earlier map. Minor changes were made to the internal field boundaries in the north-eastern field and the building that had been depicted on the earlier map was not shown. That field, as well as parts of the south-eastern field, was depicted as marshy, while the western field was not. As was the case with the earlier map, nothing was depicted that would indicate the presence of archaeological features at the site.

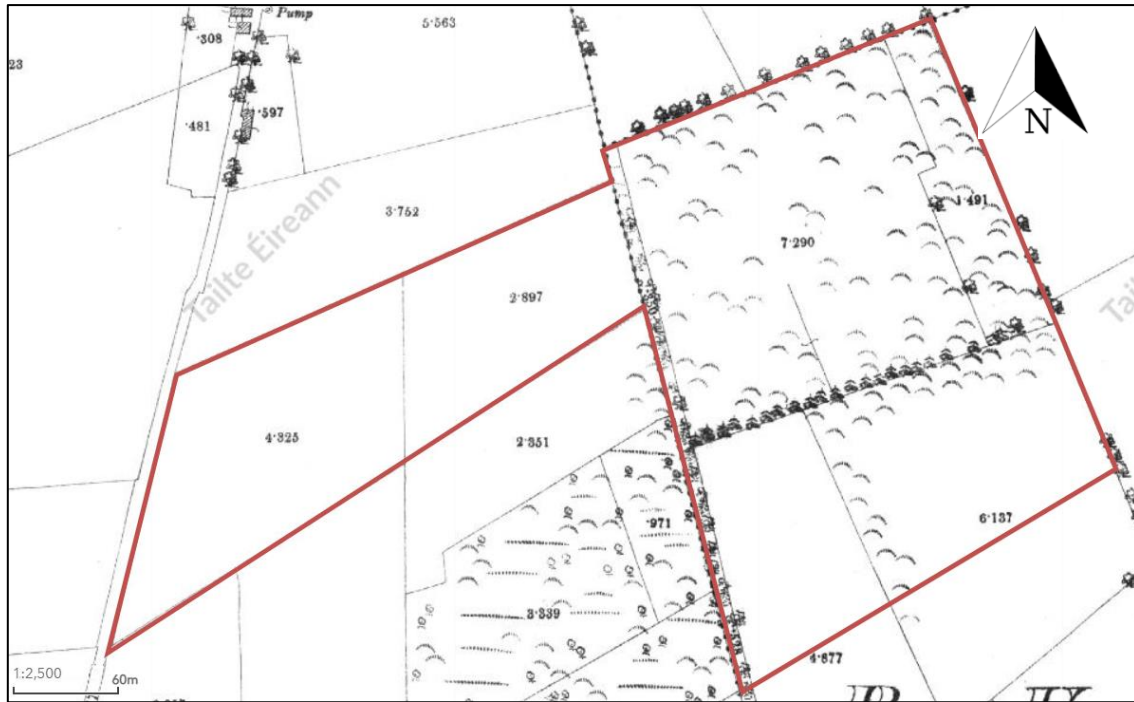


Figure 5: Approximate red line of substation area overlay onto 1:2500 OS map (1893)

A review of available aerial photographs of the site was also undertaken, while LiDAR imagery for the area was not available. A pattern of lines crossing the northern fields of the land parcel can be seen on many of the aerial images from the past ten years (**Figure 6**). Due to the fact that the fields in the northeast and northwest were depicted as being marshy in the past, these lines may represent modern drainage for land improvement. The lines on the north-eastern field were not seen on the geophysical survey, indicating that the cause of the lines is close to the surface. Nothing was identified on any of the aerial images that would given indication of the presence of previously unrecorded archaeology at the site.

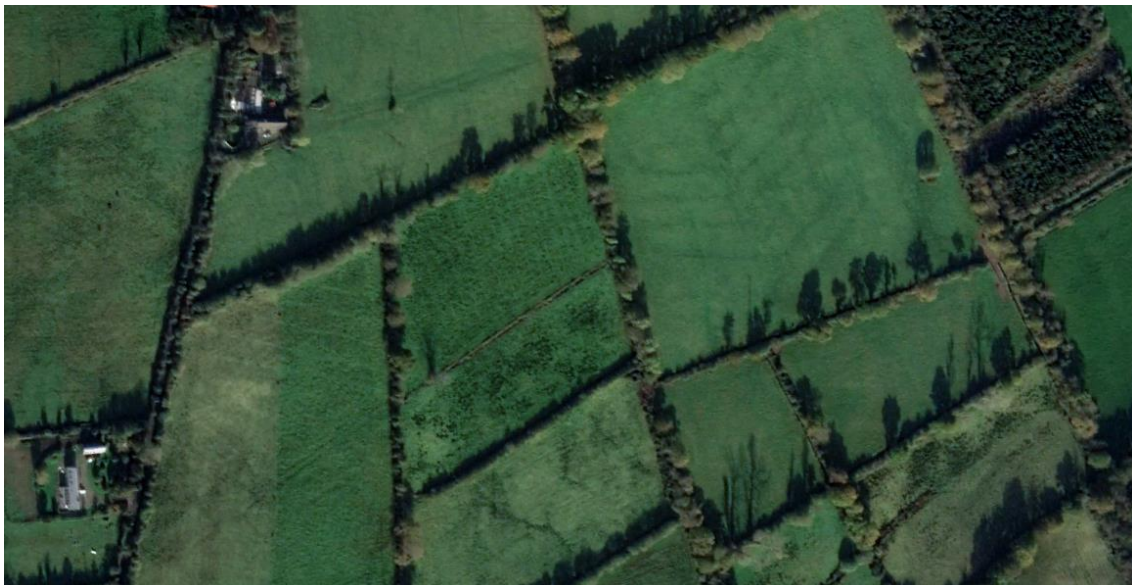


Figure 6: Aerial image showing patterns of parallel lines across northern part of site (Google Earth Pro, November 2022)

Grid Connection

The grid connection runs for c.5.6km along the existing road network and trackways within the Ardnacrusha Power Station compound. Of the 5.6km, the majority of the route, c.4.4km, was depicted as roadways on the first edition 1:10,560 map of 1844; 560m of the length that was not depicted as roads was within the area that later became the compound of the Ardnacrusha Power Station (**Figure 7**).

The relevant portions of the road network were depicted in a similar form on the later 1:2500 edition map. Nothing was depicted along the route of the grid connection that would indicate the presence of archaeological features.



Figure 7: Approximate red line of grid connection at western terminus, overlay onto first edition 1:10,560 OS map (1844) prior to the construction of Ardnacrusha Power Station.

Architectural Heritage

There are no buildings listed by the National Inventory of Architectural Heritage (NIAH) within the substation red line or the study area of 500m from its boundary. There are no extant buildings within the site area, though as per the cartographic review, a building was present in 1844 but had been removed by 1893.

The grid connection terminates in the compound of Ardnacrusha Power Station; this is listed by the NIAH and is also a Protected Structure as per the Clare County Development Plan 2023-2029 (NIAH Reg. no. 20405308, RPS no. 311).

Ardnacrusha is described by the NIAH as follows:

Hydroelectric power station complex, built 1925-1929, engineered by German company Siemens Schuckertwerke. Detached twelve-bay six-storey power station with double attic built over river, having nine-bay two-storey flat-roofed projecting wing to front, two-bay advanced bay to left and four-bay side elevation. Pitched and hipped slate roofs with concrete ridge tiles, two courses of gabled dormers, pyramidal steel-framed glazed lantern left apex, cast-iron downpipes and flat-roof to projecting wing. Rendered and roughcast rendered walls with moulded eaves course. Square-headed openings with slate sills, concrete mullions and multiple paned steel casement windows. Timber panelled doors. Interior completed c. 1940-1950. Three turbines replaced, 1993-1997. Attached T-plan twenty-bay three-storey flat-roofed dam/sluice house to rear with four penstock tubes. Single-arch cast-concrete road bridge over river with pair of cast-concrete pylons, (one of four bridges over 'canal'). Pair of detached four- and six-bay three-storey flat-roofed weirs over river. Group of detached three-bay single-storey flat-roofed outbuildings.

While the Ardnacrusha Power Station has a significant place in Irish Architectural, Historical, Scientific, Social and Technical history (categories of special interest as per the NIAH) and has been given a national rating by the NIAH, it remains an operational power station and a grid connection from Ballyglass to Ardnacrusha represents a continuation of the original purpose for which Ardnacrusha Power Station was constructed.

The grid connection passes in close proximity to Blackwater Bridge, which is a Protected Structure (RPS no. 650) though not listed on the NIAH. The crossing of the Blackwater River will be undertaken by means of Horizontal Directional Drilling (HDD) beneath the watercourse, rather than being carried by the bridge, so this should have no impact on the protected structure.

Townland names

Townlands are the smallest unit of land division in the Irish landscape and many may preserve early Gaelic territorial boundaries that pre-date the Anglo-Norman conquest. The boundaries and nomenclature of the Irish townlands were recorded and standardised by the Ordnance Survey during the 19th century. The Irish origins of many townland names often refer to natural topographical features, but some name elements may also give an indication of the presence of past human activity within the townland, e.g. *lios* or *rath* indicate the presence of a ringfort while names containing elements such as *kill* or *temple* are often indicative of ecclesiastical activity.

The proposed substation, the only greenfield part of the project, is located within the townlands of Oakfield and Ruanard. Neither of these townland names give any indication of unrecorded archaeological features; see **Table 1**.

Table 1: Translations of names of townland within the site (source logainm.ie)

Name	Irish origin	Translation	Indicative of archaeology?
Oakfield	Páirc na nDarach	dair, darú - oak páirc - field	No
Ruanard	An Ruán Ard	ard - height; high	No

4. Geophysical Survey and Site Description

Geophysical Survey

A geophysical survey of all available portions of the proposed Ballyglass Phase 2 solar array was undertaken by Target Archaeological Geophysics Ltd. in June 2024, under detection device licence number 24R0297, as issued by the National Monuments Service. This covered a wider area but included four fields that are part of the current SID application. These are all but the westernmost field in the substation area and were referred to as M13, M14, M15 and M16 in that report.



Figure 8: Greyscale imagery from the geophysical survey (24R0297) of the fields within the substation area (after Nicholls, 2024)

The overview of the survey, taken from the report by Target Archaeological Geophysics Ltd. (Nicholls, 2024), is as follows;

No responses of definite archaeological character or significant archaeological potential are indicated by the results from geophysical survey in M1-M21. No clear indications of settlement activity, enclosure remains, concentrations of significant linear response, or clusters of discrete features archaeological in character have been recorded.

The geophysical survey from M1-M21 has, however, highlighted a number of anomalies which may require further invasive examination to confirm their exact origin. Details relating to the location, description and likely provenance of these anomalies are provided below in Section 3.2 (of the report on the geophysical survey). In the majority of

cases, where no immediate archaeological context is present in the data, poorly defined anomalies and trends such as those recorded in M1-M21 are expected to relate to affects from recent landuse, natural soil/geological variation and/or modern ferrous.

Nothing of archaeological significance was noted within the four fields of relevance to this application (**Figures 8 & 9**).



Figure 9: Interpretative image from the geophysical survey (24R0297) of the fields within the substation area (after Nicholls, 2024)

Site Description - Substation

A walkover survey of the lands of the proposed solar array was undertaken on Wednesday 24th July 2024 by a suitably qualified archaeologist, Mr Peter Looney. The weather at the time of the survey was sunny with clear skies and good visibility. The study area was assessed in terms of historic landscape, land use, vegetation cover, presence and potential for undetected archaeological and architectural heritage sites/features.

The report on the geophysical survey of the site was reviewed in advance of the site inspection, and the inspection also sought to ascertain whether there were surface expressions related to any of the anomalies identified from that survey.

No potential archaeological sites or features were noted within the boundaries of the proposed substation during the inspection, though it was noted that the landscape, having poor drainage (at least prior to more recent drainage works) and surface undulations, was of a type where *fulachtai fia* can be found.

Below is a brief description of each of the fields, based on the site inspection, with the field naming system shown in **Figure 10**.



Figure 10: Field naming system used for field descriptions

Table 2: Descriptions of fields in substation area

Field ID	Description
Field A	This is within the townland of Oakfield. This field is accessible from the road to the west. The area under consideration in this study consists of only the northern portion of a larger field. The field was under grass cover and being grazed by cattle at the time of the site inspection. The field boundaries consist of low earthen banks under mature trees and hedges. There was nothing of archaeological significance observed in this field.
Field B *13M in geophysical survey	This is within the townland of Oakfield. This field is accessible from the road to the west, via Field A. Cattle were located at the entrance to Field A, so it was not accessed, but it was inspected from its southern field boundary. This area consists of relatively poorly drained ground and was under a mixture of grass and reeds at the time of the inspection. The field boundaries consist of low earthen banks under mature trees and hedges, and the eastern field boundary is also a townland boundary. There was nothing of archaeological significance observed in this field.
Field C	This is within the townland of Ruanard. It is a sub-rectangular shaped field, orientated east-northeast to west-southwest. The western and northern boundaries of the field are also a townland boundaries. This field is accessible via a lane way which leads to a gateway at the southeast of the field. The

Field ID	Description
*14M in geophysical survey	field consists of relatively poorly drained ground and was under grass, which was interspersed with reeds, particularly towards the south. The field is mostly flat but slopes marginally downwards toward the south. It is bounded by low earthen banks under mature trees and hedges, often accompanied by drainage ditches. A low mound with differential growth was observed in the south of the field, c.5m north of the centre of the ENE to WSW field boundary. This was not clearly of archaeological interest, but it is not dissimilar to the surface expression of a <i>fulacht fia</i> and may be investigated during a later programme of test trenching, though nothing was identifiable in that area from the geophysical survey. There was nothing else of archaeological significance observed in this field.
Field D *15M in geophysical survey	This is within the townland of Ruanard. It is a sub-rectangular shaped field, orientated south-southeast to north-northwest. The western boundary of the field is also a townland boundary. This field is accessible via Field E to the east, which itself is accessed by a laneway. The field consists of relatively poorly drained ground and was under grass but interspersed with reeds, particularly towards the south. There was evidence for recent cattle grazing within the field. The field has moderate undulations throughout. It is bounded by low earthen banks under mature trees and hedges, often including drainage ditches. There was nothing else of archaeological significance observed in this field.
Field E *16M in geophysical survey	This is within the townland of Ruanard. It is a sub-rectangular shaped field, orientated east-northeast to west-southwest. This field is accessible from a laneway in the northeast. The field consists of relatively poorly drained ground and was under grass but with reeds interspersed towards the south. It is bounded by low earthen banks under mature trees and hedges, often including drainage ditches. There was nothing else of archaeological significance observed in this field.

Grid Connection

The cable will run west from the proposed substation through private lands for 0.33km to where it will join the local road network via the L70382. The cable will run south along the L70382 for approximately 1.3km to where it meets the R463. The cable will then run westward for circa 1.95km to where it will join the L3056. It will then travel west and south for approximately 1.45km along the L3056 until it leaves the public road corridor and enters private track. The cable continues along this track for 0.57 km before connecting with the existing Ardnacrusha substation.

The private lands that the cable will run through for 0.33km are Fields A and B, which have been considered as part of the substation area. This is the only greenfield portion of the proposed grid connection. The remainder of the grid connection will be carried by the existing network of public roads and private tracks (within the Ardnacrusha Power Station compound). As noted in the Cartographic Review, the majority of the public roads that will carry the cable were depicted on the 1844 edition of the Ordnance Survey map. The construction and maintenance of these roads and tracks will have caused significant disturbance to the area and it is unlikely that the trenches to be excavated for the cable will encounter previously unrecorded archaeological material.

Images from along the grid connection route have been included in the **Appendix** to this document (**Plates 6 to 11**).

5. Proposed Development

The general description for the proposed development is as follows;

A 110 kilovolt (kV) Air-Insulated Switchgear (AIS) electrical substation, including 2 no. single-storey control buildings with staff welfare facilities, underground wastewater storage tank, all associated electrical plant, cabling, equipment and apparatus, and security fencing, within a substation compound with a total footprint of approximately 0.8 ha; 5.6 kilometre (km) 110kV underground cabling route, with 4.75km following the public road corridor and 0.85km along new proposed access track across agricultural grassland and private access tracks (including joint bays, communication and earth sheath link chambers and all ancillary works along the route); 1 no. temporary construction compound (including offices and staff welfare facilities); temporary construction and operational access from a new entrance from the L70382; Spoil management, landscaping and earthworks; Site drainage; All ancillary works and apparatus.

The development subject to this application forms part of grid connection and access arrangements which will facilitate the connection of the permitted Ballyglass Solar Array Phase 1 (Clare County Council Reference P22-591 and An Coimisiún Pleanála Reference ABP-316043-23) and Phase 2 (Clare County Council Reference P24-60485 and An Coimisiún Pleanála Reference PL-500253-CE-25) to the national grid.

The grid connection is described as follows:

In order to connect to the transmission network, it is proposed to connect the proposed 110kV substation to the existing 110kV Ardnacrusha substation by means of a 110kV underground grid connection which is approximately 5.6 km in length. The cable ducts will be installed in an excavated trench, typically to a depth of 1.30m. The cable will run west from the proposed substation through private lands for 0.33km to where it will join the local road network via the L70382. The cable will run south along the L70382 for approximately 1.3km to where it meets the R463. The cable will then run westward for circa 1.95km to where it will join the L3056. It will then travel west and south for approximately 1.45km along the L3056 until it leaves the public road corridor and enters private track. The cable continues along this track for 0.57 km before connecting with the existing Ardnacrusha substation. The exact connection point within the existing Ardnacrusha 110kV substation compound will be determined by ESB and EirGrid requirements.

Joint bays are required at approximately 750 metre intervals along the underground cable route to facilitate the jointing of cable lengths and comprise pre-cast concrete chambers (typically c. 2.5m x 6m x 2.05m) installed below finished ground level. Communication chambers and earth sheath link chambers will also be provided at each joint bay and approximately every second joint bay respectively, in accordance with ESB Networks and EirGrid requirements. All joint bays, communication chambers and earth sheath link chambers will be backfilled to finished ground level upon completion of cable installation, with no above-ground manifestation in the completed development.

All works will be carried out in accordance with international best practice and full compliance with health and safety requirements.

The underground cable route will involve five watercourse crossings. The crossing of the Blackwater River will be undertaken by means of Horizontal Directional Drilling (HDD) beneath the watercourse. The crossings of the Oakfield and West Roo watercourses will be undertaken by means of flatbed crossing methodology. All watercourse crossings will be carried out in accordance with Inland Fisheries Ireland guidelines. There is no requirement for instream works at any proposed crossing.

Grid Connection

There are no recorded archaeological sites along the grid connection route or within 100m of it. There will therefore be **no direct or indirect impact on known archaeology**.

The proposed grid connection will follow the existing road network, as well as internal trackways in the Ardnacrusha Power Station. In these cases, trenches for the cable will be excavated into previously disturbed ground. There is **negligible to low potential for the trenches to encounter and impact previously undiscovered archaeological features**.

The route will pass in close proximity to two Protected Structures, but as it will be buried, there will be no residual visual impact once the cable is in place. Rather than be carried by the Blackwater Bridge, which is a protected structure, the crossing of the Blackwater River will be undertaken by means of Horizontal Directional Drilling (HDD) beneath the watercourse.

7. Conclusions

This archaeological impact assessment was undertaken in order to assess the potential impacts to both the known and potential archaeological heritage resource within, and adjacent to, the boundary of a proposed substation and grid connection at Ballyglass, County Clare.

A desktop study was carried out, and this was supplemented by fieldwork which consisted of a site inspection and a programme of geophysical survey (carried out by Target Archaeological Geophysics Ltd.).

The desktop review of the site established that there are no recorded archaeological sites within the proposed development area, meaning that there would be **no direct impact on the known archaeological resource** should the development proceed, additionally there are no recorded archaeological sites in close proximity so there will be no **indirect impact on the known archaeological resource**.

Recommendations

There was no indication from the consulted historic maps, aerial photographs or geophysical survey of the presence of previously unrecorded archaeological sites. Nevertheless, there remains the potential for previously unrecorded archaeological features to be present under the topsoil in the proposed substation area and in order to identify and protect any such features, the following mitigation measures are recommended.

A programme of archaeological test trenching should be carried out at the proposed substation location in advance of construction. This can be done with regard to the site plans and limited to areas where that will be disturbed during construction.

Should archaeological material be identified, this may require preservation by record (excavation).

At any areas along the grid connection in which previously undisturbed ground will be disturbed, the work should be monitored by an archaeologist. This may include small areas within the compound of Ardnacrusha Power Station, joint bays and pits for directional drilling at the Blackwater River.

It should be noted that the above recommendations are subject to the approval of the National Monuments Service and An Coimisiún Pleanála.

8. References/sources

- Clare County Council, Clare County Development Plan 2023-2029 <https://clarecdp2023-2029.clarecoco.ie/stage3-amendments/adoption/volume-1-written-statement-clare-county-development-plan-2023-2029-51406.pdf>
- Database of Irish Archaeological Excavation Reports: <http://www.excavations.ie/> [Accessed on 14/07/2026]
- Government of Ireland's Historic Environment Viewer:
<http://webgis.archaeology.ie/historicenvironment/> [Accessed on 13/07/2026]
- Lewis, S. 1837. *A Topographical Dictionary of Ireland*, 2 vols. Samuel Lewis & Son, London.
- Nicholls, J. 2024. *Geophysical Survey Report Proposed solar array in Coolderry, Dromintobin North, Dromintobin South, Knockbrack Upper, Knockbrack Lower, Monaskeha, Oakfield & Ruanard, Co. Clare*. Unpublished report, Target Archaeological Geophysics Ltd.
- Placename Database of Ireland, available at <https://www.logainm.ie/en/> [accessed on 15/07/2026]
- UNESCO World Heritage Centre - World Heritage List. Available at:
<https://whc.unesco.org/en/list>

Appendix: Photographic record

Substation



Plate 1: Field B, facing northwest from field boundary.



Plate 2: Field C, facing east.



***Plate 3:** Field D, facing southwest from field boundary.*



***Plate 4:** Field E, facing north*

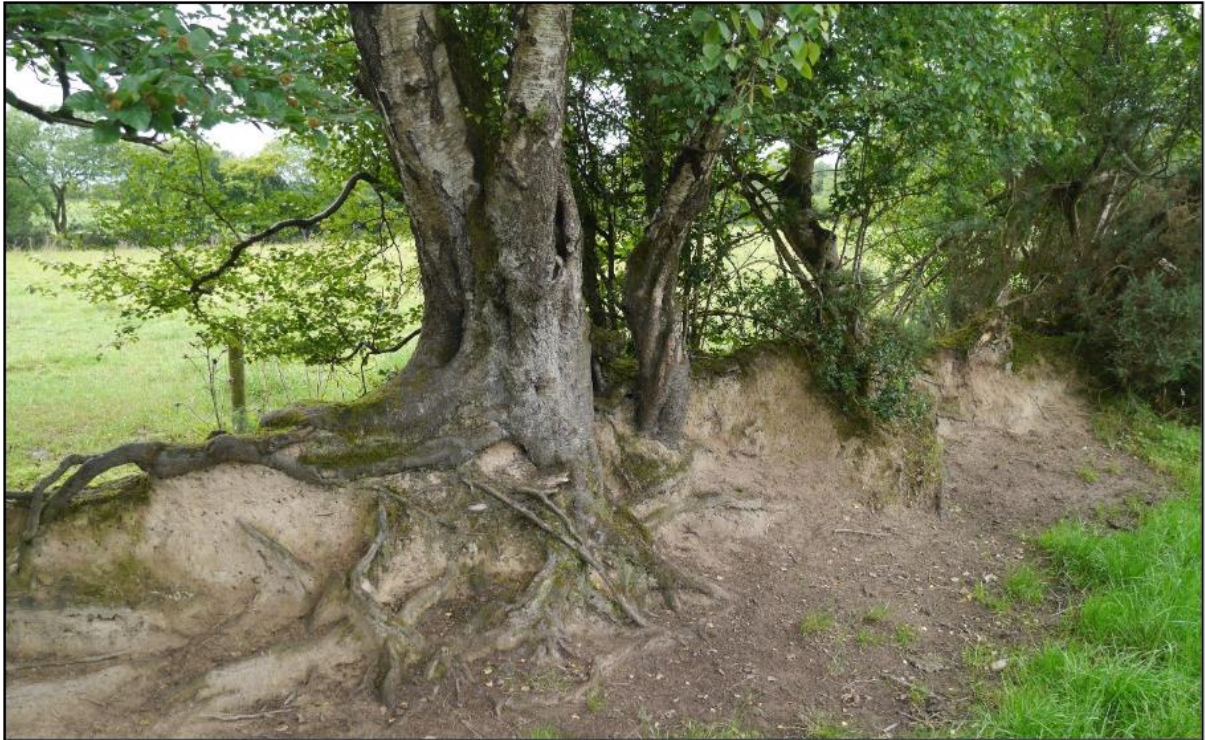


Plate 5: Field E, western field boundary with Field D, showing earthen bank under mature trees, facing northwest.

Grid Connection Route

The proposed grid route was subject to a windscreen/drive through by the author of this assessment. The following are a series of screenshots from Google Street View © that illustrate the sections of roadway inspected.



Plate 6: Facing south-southwest in Oakfield, where grid connection joins road network (Google streetview October 2010)



Plate 7: Facing west along R463 (Google streetview April 2022)



Plate 8: Facing west along R463 towards Blackwater Bridge (Google streetview April 2022)



Plate 9: Facing west along L3056, section of road not built since historic Ordnance Survey maps (Google streetview April 2022)



Plate 10: Facing southeast towards ESB houses, part of Ardnacrusha complex (Google streetview May 2009)



Plate 11: Facing southeast towards disused trackway within Ardnacrusha complex, proposed to carry grid connection (Google streetview March 2011)