

13. ARCHAEOLOGY AND CULTURAL HERITAGE

13.1 Introduction

This archaeological and cultural heritage chapter was prepared by Tobar Archaeological Services. It presents the results of an archaeological and cultural heritage impact assessment for a proposed windfarm at Glenard and adjacent townlands, Co. Donegal. The development area predominantly comprises upland blanket peat planted with coniferous forestry. The majority of the site is under forest cover with a network of existing forest roads some of which will be used as part of the proposed development.

The purpose of this chapter is to assess the potential effects of the proposed development on the surrounding archaeological, architectural and cultural heritage landscape. The assessment is based on both a desktop review of the available cultural heritage and archaeological data and a comprehensive programme of field walking of the study area. The report amalgamates desk-based research and the results of field walking to identify areas of archaeological/architectural/cultural significance or potential, likely to be impacted by the proposed development. An assessment of potential effects, including cumulative effects, is presented, and a number of mitigation measures are recommended where appropriate. The visual effect of the proposed development on sites of significance as well as known recorded monuments is also assessed.

13.1.1 Planning Background

The application is for a renewable energy development which comprises the construction of 15 no. wind turbines, electricity substation and all associated works. This chapter is part of the Environmental Impact Assessment Report (EIAR) for the project which accompanies the planning application.

13.1.2 Proposed Development

The proposed development consists of the construction of 15 no. wind turbines and associated site infrastructure. All elements of the proposed project including the grid connection cable route and the proposed turbine delivery route are assessed in the EIAR.

A full description of all elements of the proposed development and the overall project is presented in Chapter 4 of this EIAR.

13.1.3 Statement of Authority

This section of the EIAR has been prepared by Miriam Carroll and Annette Quinn of Tobar Archaeological Services. Miriam and Annette both graduated from University College Cork in 1998 with a Masters degree in Methods and Techniques in Irish Archaeology. Both directors are licensed by the Department of Culture, Heritage and the Gaeltacht to carry out excavations and are members of the Institute of Archaeologists of Ireland. Annette Quinn and Miriam Carroll have been working in the field of archaeology since 1994 and have undertaken numerous projects for both the private and public sectors including excavations, site assessments (EIAR) and surveys. Miriam Carroll and Annette Quinn are directors of Tobar Archaeological Services which has been in operation for 17 years. Tobar Archaeological Services have undertaken numerous EIARs for similar wind farm projects such as Cleanrath, Kealkill and Esk Wind Farms in County Cork, Meenbog Wind Farm, Co. Donegal, Lyrenacarriga Wind Farm, County Waterford and Croagh Wind Farm in Counties Leitrim and Sligo (all of which are located in commercial forestry).

13.1.4 Legislation and Guidelines

This chapter has been prepared in compliance with all relevant EIA legislation and guidance (see Chapter 1: Introduction for relevant guidance and legislation).

13.1.4.1 Current Legislation

Archaeological monuments are safeguarded through national and international policy, which is designed to secure the protection of the cultural heritage resource. This is undertaken in accordance with the provisions of the European Convention on the Protection of the Archaeological Heritage (Valletta Convention). This was ratified by Ireland in 1997.

Both the National Monuments Acts 1930 to 2004 and relevant provisions of the Cultural Institutions Act 1997 are the primary means of ensuring protection of archaeological monuments, the latter of which includes all man-made structures of whatever form or date. There are a number of provisions under the National Monuments Acts which ensure protection of the archaeological resource. These include the Register of Historic Monuments (1997 Act) which means that any interference to a monument is illegal under that Act. All registered monuments are included on the Record of Monuments and Places (RMP).

The Record of Monuments and Places (RMP) was established under Section 12 (1) of the National Monuments (Amendment) Act 1994 and consists of a list of known archaeological monuments and accompanying maps. The Record of Monuments and Places affords some protection to the monuments entered therein. Section 12 (3) of the 1994 Amendment Act states that any person proposing to carry out work at or in relation to a recorded monument must give notice in writing to the Minister (Culture, Heritage and the Gaeltacht) and shall not commence the work for a period of two months after having given the notice. All proposed works, therefore, within or around any archaeological monument are subject to statutory protection and legislation (National Monuments Acts 1930-2004).

Under the Heritage Act (1995) architectural heritage is defined to include,

“all structures, buildings, traditional and designed, and groups of buildings including street-scapes and urban vistas, which are of historical, archaeological, artistic, engineering, scientific, social or technical interest, together with their setting, attendant grounds, fixtures, fittings and contents...”

A heritage building is also defined to include,

“any building, or part thereof, which is of significance because of its intrinsic architectural or artistic quality or its setting or because of its association with the commercial, cultural, economic, industrial, military, political, social or religious history of the place where it is situated or of the country or generally.”

13.1.4.1.1 Granada Convention

The Council of Europe, in Article 2 of the 1985 Convention for the Protection of the Architectural Heritage of Europe (Granada Convention), states that 'for the purpose of precise identification of the monuments, groups of structures and sites to be protected, each member State will undertake to maintain inventories of that architectural heritage'. The Granada Convention emphasises the importance of inventories in underpinning conservation policies.

The National Inventory of Architectural Heritage (NIAH) was established in 1990 to fulfil Ireland's obligations under the Granada Convention, through the establishment and maintenance of a central record, documenting and evaluating the architectural heritage of Ireland. Article 1 of the Granada

Convention establishes the parameters of this work by defining 'architectural heritage' under three broad categories of Monument, Groups of Buildings, and Sites:

- Monument: all buildings and structures of conspicuous historical, archaeological, artistic, scientific, social or technical interest, including their fixtures and fittings;
- Group of buildings: homogeneous groups of urban or rural buildings conspicuous for their historical, archaeological, artistic, scientific, social or technical interest, which are sufficiently coherent to form topographically definable units;
- Sites: the combined works of man and nature, being areas which are partially built upon and sufficiently distinctive and homogenous to be topographically definable, and are of conspicuous historical, archaeological, artistic, scientific, social or technical interest.

The Council of Europe's definition of architectural heritage allows for the inclusion of structures, groups of structures and sites which are considered to be of significance in their own right, or which are of significance in their local context and environment. The NIAH believes it is important to consider the architectural heritage as encompassing a wide variety of structures and sites as diverse as post boxes, grand country houses, mill complexes and vernacular farmhouses.

13.1.4.2 Donegal County Development Plan 2018-2024

The Donegal County Development Plan 2018-2024 outlines a number of policies and objectives relating to archaeology and heritage (see below). The principal aim of Chapter 6 of the plan is to 'To preserve, protect and enhance the built heritage of the County....'.

13.1.4.2.1 Built Heritage

The Council recognises that there are many vernacular buildings that add to the beautiful and rugged landscape synonymous with Donegal but that are not included in the current Record of Protected Structures (RPS). As well as commencing a programme to add such structures to the RPS, where they are on the NIAH, the Council will also work within rural housing policy to encourage the re-use of many of the derelict cottages and buildings (pg. 135).

Objectives relating to built heritage include:

BH-O-1: To preserve, protect, enhance and record the architectural heritage of the County.

BH-O-2: To further consolidate and protect the built heritage of the County through a systematic programme of additions to the Record of Protected Structures having regard to Ministerial recommendations arising from the NIAH survey of Donegal, the designation of Architectural Conservation Areas, the safeguarding of Historic Gardens, the preparation of Village Design Statements for the County's 5 Heritage Towns.

Policies relating to built heritage include:

BH-P-1: It is a Policy of the Council to conserve and protect all structures (or parts of structures) and sites contained in the Record of Protected Structures that are of special architectural, historic, archaeological, artistic, cultural, scientific, social or technical interest.

BH-P-2: It is a policy of the Council to review the RPS on an ongoing basis, and to add structures (or parts of structures) of special interest, including, those recommended by the Minister through the NIAH Survey of Donegal or other buildings which the Council consider to have special interest.

BH-P-3: It is a policy of the Council to ensure retention of vernacular and/or historic structures (and parts of structures), including their functional and decorative details, that are sensitive to traditional

construction methods and materials and do not have a detrimental impact on the character or appearance of a structure and are in accordance with current conservation guidelines and best practice.

BHP-4: It is a policy of the Council to ensure the repair, reuse and appropriate refurbishment of vernacular and/or historic buildings, which make a positive contribution to the built heritage of the area including those as referred to on the National Inventory of Architectural Heritage.

13.1.4.2.2 Archaeological Heritage

The aim of the development plan with regard to archaeological heritage is,

“To conserve and protect the County’s archaeological heritage for present and future generations while encouraging appreciation and enjoyment of these valuable, non-renewable, cultural resources through sustainable management, sensitive enhancement and appropriate development.” (pg. 138).

Policies relating to archaeological heritage include:

AHP-1: It is a policy of the Council to protect and enhance the integrity of Archaeological Monuments and their settings and to secure the preservation in-situ of all archaeological monuments included on the Record of Monuments and Places. Preservation by record shall only be considered in exceptional circumstances where the principles of the Department of Arts, Heritage, Gaeltacht and the Islands publication entitled, ‘Framework and Principles for the Protection of Archaeological Heritage’ can be satisfied.

AHP-2: It is the policy of the Council to conserve and protect Zones of Archaeological Potential located in the urban areas of Ballyshannon, Donegal Town, Killybegs, Lifford, Ramelton, Rathmullan and St. Johnston as identified in the Record of Monuments and Places.

AHP-3: It is the policy of the Council to protect the character, settings of and views from National Monuments and Recorded Monuments and to manage development which would be considered to (visually or physically) intrude upon or inhibit the enjoyment of the amenities of these sites.

AHP-4: It is the policy of the Council to protect where appropriate, the character and setting of any unrecorded archaeological object or site.

AHP-5: It is the policy of the Council to protect and preserve archaeological sites, their characters and settings which have been identified subsequent to the publication of the Record of Monument and Places.

AHP-6: It is the policy of the Council to protect and conserve historic graveyards identified in the Record of Monuments and Places (including those in the guardianship of Donegal County Council) in cooperation with the National Monuments Service of the Departments of Arts, Heritage, Regional, Rural and Gaeltacht Affairs and encourage their management in accordance with legislation, conservation principles and best practice.

AHP-7: It is the policy of the Council to protect and preserve underwater archaeological sites in rivers, lakes, intertidal and sub-tidal locations.

AHP-8: It is the policy of the Council to protect known battlefield sites and their settings.

13.1.5 Location and Topography

The proposed Glenard wind farm is situated on relatively high ground at elevations ranging between c. 130 and 320 m OD. The site is situated 5.9km to the west of Bunrana and 6.7km north of Muff, County Donegal and is almost entirely comprised of commercial forestry with a network of existing roads. The easternmost section consists of open, grass-covered blanket peat. The surrounding landscape



is also utilised for commercial forestry in particular to the south, south-east, south west and west. The EIAR site boundary contains 951ha of land.

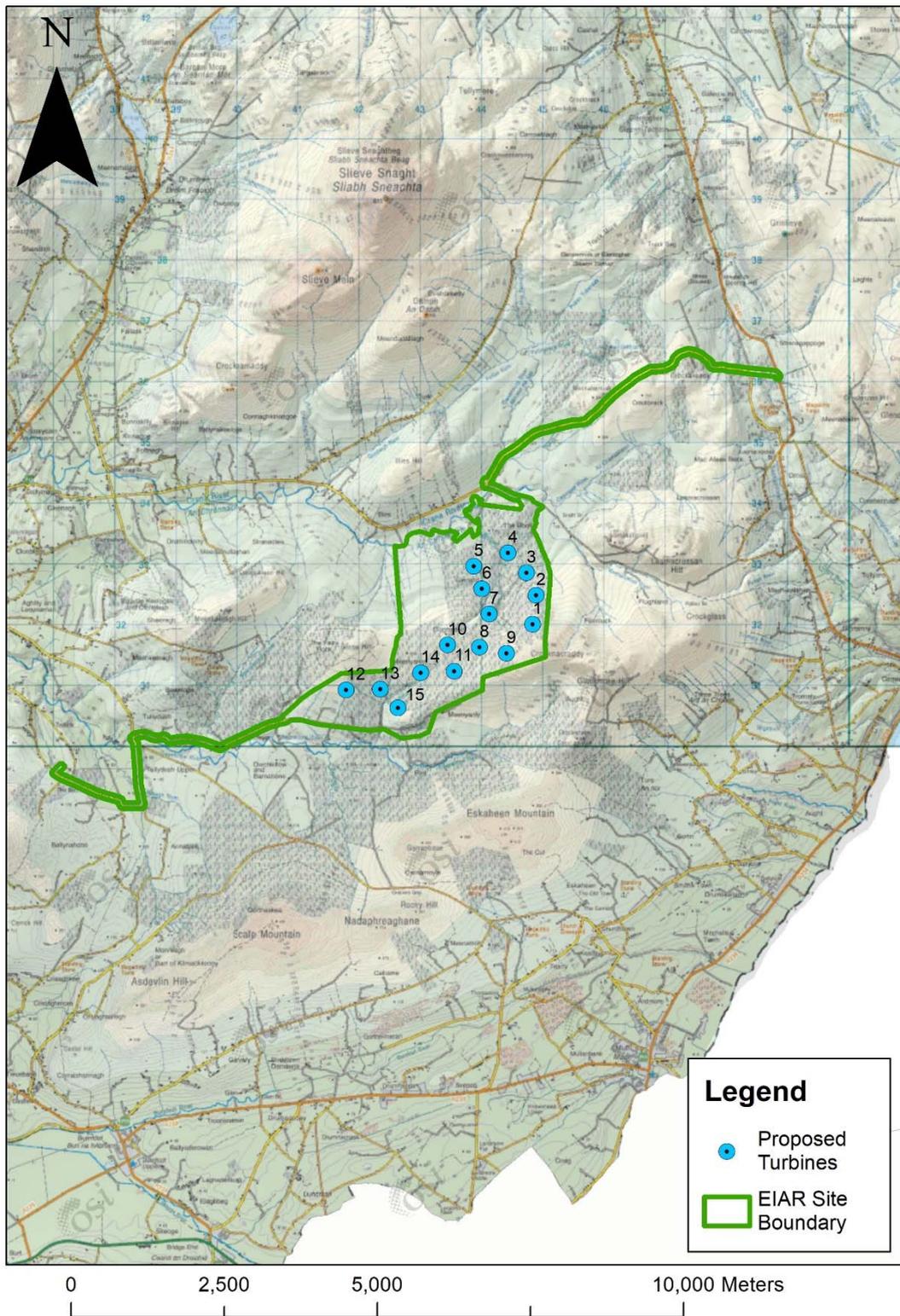


Figure 13-1: Site location map.

13.2 Methodology

The assessment of the archaeology, architecture and cultural heritage of the Proposed Development area included GIS mapping, desk-based research followed by field inspection. A desk-based study of the Proposed Development site was initially undertaken in order to assess the archaeological, architectural and cultural heritage potential of the area and to identify constraints or features of archaeological/cultural heritage significance within or near to the Proposed Development site.

13.2.1 Geographical Information Systems

GIS is a computer database which captures, stores, analyses, manages and presents data that is linked to location. GIS is geographic information systems which includes mapping software and its application with remote sensing, land surveying, aerial photography, mathematics, photogrammetry, geography and tools that can be implemented with GIS software. A geographic information system (GIS) was used to manage the datasets relevant to the archaeological and architectural heritage assessment and for the creation of all the maps in this section of the report. This involved the overlaying of the relevant archaeological and architectural datasets on georeferenced aerial photographs and road maps (ESRI), where available. The integration of this spatial information allows for the accurate measurement of distances of a Proposed Development from archaeological and cultural heritage sites and the extraction of information on ‘monument types’ from the datasets. Areas of archaeological or architectural sensitivity may then be highlighted in order to mitigate the potential negative effects of a development on archaeological, architectural and cultural heritage.

ArcGIS online viewshed analysis was also used to assess effects on setting of archaeological monuments. The Viewshed tool uses the ESRI Elevation Analysis service to determine which areas are visible from specified observer points (the observer points being the monuments). Visibility settings are used to set the height of the observer (1.75m standard), the height, for example of the observed features (e.g. turbines), and the maximum viewing distance of the observer. This tool was utilised to ascertain the potential/theoretical visual effects on Cultural Heritage Assets (in other words, what could potentially be seen from specific monuments). The results show the worst-case scenario since the model does not take trees or vegetation into consideration. The results are outlined in Section 13.3.

13.2.2 Desktop Assessment

A primary cartographic source and base-line data for the assessment was the consultation of the Sites and Monuments Record (SMR) and Record of Monuments and Places (RMP) for County Donegal and Northern Ireland monuments. All known recorded archaeological monuments are indicated on 6 inch Ordnance Survey (OS) maps and are listed in aforementioned records. The 1st (1840s) and 2nd (1900s) edition OS maps for the area were also consulted.

The following sources were consulted for this assessment report:

- > The Record of Monuments and Places (RMP)
- > The Sites and Monuments Record (SMR)
- > National Monuments in State Care in County Donegal
- > Northern Ireland SMRs
- > State Care Monuments in Northern Ireland
- > Scheduled Monuments in Northern Ireland
- > The Topographical Files of the National Museum of Ireland
- > First edition Ordnance Survey maps (OSI)
- > Second edition Ordnance Survey maps (OSI)
- > Third edition Ordnance Survey Map (Record of Monuments and Places)
- > Down Survey maps (www.downsurvey.tcd.ie)

- Aerial photographs (copyright of Ordnance Survey Ireland (OSI))
- Excavations Database
- Donegal County Development Plan 2018-24, Donegal County Council
- National Inventory of Architectural Heritage (NIAH)
- Record of Protected Structures (Donegal)

13.2.2.1 Record of Monuments and Places and Sites and Monuments Record (NI)

A primary cartographic source and base-line data for the assessment was the consultation of the Sites and Monuments Record (SMR) and Record of Monuments and Places (RMP) for County Donegal and Northern Ireland. All known recorded archaeological monuments are indicated on 6 inch Ordnance Survey (OS) maps and are listed in these records. The SMR/RMP is not a complete record of all monuments as newly discovered sites may not appear in the list or accompanying maps. In conjunction with the consultation of the SMR and RMP the electronic database of recorded monuments and SMRs which may be accessed at [Historic Environment Viewer \(archaeology.ie\)](https://www.archaeology.ie) was also consulted.

13.2.2.2 Cartographic Sources and Aerial Photography

The 1st (1840s) and 2nd (1900s) edition OS maps for the area were consulted, where published as was OSI aerial photography.

13.2.2.3 Topographical Files - National Museum of Ireland

Details relating to finds of archaeological material and monuments in numerous townlands in the country are contained in the topographical files held in the National Museum of Ireland. In order to establish if any new or previously unrecorded finds had been recovered from the study area these files were consulted for every townland within and adjacent to the same. The database of topographical files was consulted on www.heritagemaps.ie.

13.2.2.4 Archaeological Inventory Series

Further information on archaeological sites may be obtained in the published County Archaeological Inventory series prepared by the Department of Housing Local Government and Heritage. The archaeological inventories present summarised information on sites listed in the SMR/RMP and include detail such as the size and location of particular monuments as well as any associated folklore or local information pertaining to each site. The inventories, however, do not account for all sites or items of cultural heritage interest which are as yet undiscovered.

13.2.2.5 Donegal County Development Plan

The current County Development Plan was consulted for the schedule of buildings (Record of Protected Structures) and items of cultural, historical or archaeological interest which may be affected by the Proposed Development. The development plan also outlines policies and objectives relating to the protection of the archaeological, historical and architectural heritage landscape of County Donegal. The dataset for County Donegal Record of Protected Structures was obtained from ArcGIS.

13.2.2.6 Excavations Database

The Excavations Database is an annual account of all excavations carried out under license. The database is available online at www.excavations.ie and includes excavations from 1985 to 2020. This database was consulted as part of the desktop research for this assessment to establish if any archaeological excavations had been carried out within or near to the Proposed Development area. These are described in Section 13.3.1.6 below.

13.2.2.7 National Inventory of Architectural Heritage (NIAH)

This source lists some of the architecturally significant buildings and items of cultural heritage and is compiled on a county by county basis by the Department of Culture, Heritage and the Gaeltacht. The NIAH database was consulted for all townlands within and adjacent to the study area. The NIAH survey for Donegal has been published and was downloaded on to the base mapping for the Proposed Development (www.buildingsofireland.ie). The NIAH is a state initiative under the administration of the Department of Culture, Heritage and the Gaeltacht and established on a statutory basis under the provisions of the Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous Provisions) Act 1999.

The purpose of the NIAH is to identify, record, and evaluate the post-1700 architectural heritage of Ireland, uniformly and consistently as an aid in the protection and conservation of the built heritage. NIAH surveys provide the basis for the recommendations of the Minister for the Environment, Heritage and Local Government to the planning authorities for the inclusion of particular structures in their Record of Protected Structures (RPS). The published surveys are a source of information on the selected structures for relevant planning authorities. They are also a research and educational resource. It is hoped that the work of the NIAH will increase public awareness and appreciation of Ireland's architectural heritage.

13.2.3 Field Inspection

An intensive programme of field inspection was undertaken over three days on October 14th, 15th and 16th 2019 and two days on June 15th and 16th 2020. The Proposed Development and its surrounds were inspected by Annette Quinn and Miriam Carroll of Tobar Archaeological Services. The inspection consisted of a walk-over examination of the site (within the EIAR study area boundary), an assessment of any recorded monuments, architectural, built or cultural heritage items within the site and the potential direct and indirect impacts on those monuments. Field Inspection allows for the recording of any previously unknown archaeological monuments, items of built heritage or cultural heritage value within the study area. A full photographic record of the site was made. While no new archaeological monuments were detected, a number of bridges and items of local cultural heritage value were noted. These are described in Section 13.3 below.

13.2.3.1 Limitations Associated with Fieldwork

As the site was located in coniferous forestry, access to a small number of locations was not possible due to the density of the trees in some areas of the site. GPS signal in these areas was also poor and did not provide good photographic conditions. Mitigation measures during construction will allow for an inspection of these areas during archaeological monitoring however.

13.2.4 Assessment of Likely Significant Effects

The likely effects on the existing archaeological and cultural heritage environment are assessed using the criteria as set out in the EPA guidelines (2017). The following terminology is used when describing the likely effects of the Proposed Development from a Cultural Heritage Perspective.

13.2.4.1 Types of Impact

Direct impacts arise where an archaeological heritage feature or site is physically located within the footprint of the development whereby the removal of part, or all of the feature or site is thus required.

Indirect impacts may arise as a result of subsurface works undertaken outside the footprint of the development, secondary environmental change such as a reduction in water levels and visual impacts.

Cumulative Impacts arise when the addition of many impacts create a larger, more significant impact.

Residual Impacts are the degree of environmental changes that will occur after the proposed mitigation measures have been implemented.

13.2.4.1.1 Magnitude of Effects (Significance)

- Profound: An effect which obliterates sensitive characteristics. These effects arise where an archaeological site is completely and irreversibly destroyed.
- Very Significant: An effect which, by its character, magnitude, duration or intensity significantly alters most of a sensitive aspect of the environment. Significant: An effect which by its character, magnitude, duration or intensity alters a sensitive aspect of the environment. An effect like this would be where part of a site would be permanently impacted upon, leading to a loss of character, integrity and data about an archaeological site.
- Moderate: An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends.
- Slight: An effect which causes changes in the character of the environment which are not high or very high and do not directly impact or affect an archaeological site.
- Not Significant: An effect which causes noticeable changes in the character of the environment but without significant consequences.
- Imperceptible: An effect on an archaeological site capable of measurement but without noticeable consequences.

13.2.5 Study Area for the assessment of direct effects

Direct impacts on archaeological, architectural and cultural heritage assets are addressed using the following criteria. The distance of 100m either side of the grid connection cable route and delivery route is considered to be more than adequate to cover any heritage sites that may be affected during construction. In reality, construction works associated with the grid route and TDR will not extend as far as 100m either side and in this regard the inclusion of heritage sites within this 200m wide corridor is considered to be adequate and based on experience and professional judgement.

Table 13-1: Archaeological, architectural and cultural Heritage Assets considered according to sensitivity (where relevant only)

| Cultural Heritage Asset | Area / Distance Considered |
|---|---|
| UNESCO World Heritage Sites (including tentative sites, if relevant), National Monuments, Recorded Monuments, RPS, NIAH and previously unrecorded sites | Within the ELAR Site boundary (if present) |
| UNESCO World Heritage Sites (including tentative sites, if relevant), National Monuments, Recorded Monuments, RPS, NIAH and previously unrecorded sites | Within 100m of the Grid Connection cable route |
| UNESCO World Heritage Sites (including tentative sites, if relevant), National Monuments, Recorded Monuments, RPS, NIAH and previously unrecorded sites | Within 100m of the proposed turbine delivery route or any required works areas. |

13.2.6 Methodology for the assessment of impacts on visual setting (indirect effects)

A standardised approach was utilised for the assessment of impacts of visual setting (indirect effects) according to types of monuments and cultural heritage assets which may have varying degrees of sensitivity. This assessment does not include visits to each and every site outside the EIAR site boundary as the monuments are located in private lands and have no public access. The assessment of impacts on visual setting was undertaken using both the Zone of Theoretical Visibility (ZTV) map in the Landscape and Visual Impact Assessment (LVIA), as presented in Chapter 12 of this EIAR, and also viewshed analysis from specific cultural heritage assets (viewshed analysis is described in 13.2.1 above). The viewshed analysis used in the assessment of potential impacts on the visual setting of cultural heritage assets in the wider landscape of 5km and 10km considers the effects of the proposed turbines only. Other lower visibility infrastructure such as roads, , substation etc. are not included in the viewshed analysis.

While direct physical impacts to a site or monument can easily be assessed in quantitative terms, the assessment of impacts on setting can be subjective and as such is a matter of qualitative, professional judgement and experience. The distances below used in the assessment of impacts on setting are regarded as appropriate and are based on professional judgement.

Table 13-2: Cultural Heritage Assets considered according to sensitivity (where relevant only)

| Cultural Heritage Asset | Distance Considered |
|--|--|
| UNESCO World Heritage Sites (including tentative sites, if relevant) | 20km from the nearest proposed turbine |
| National Monuments (State Ownership and Preservation Order Sites) | 10km from the nearest proposed turbine |
| Recorded Monuments, RPS | 5km from the nearest proposed turbine |
| NIAH structures | 5km from the nearest proposed turbine |
| Undesignated sites, if relevant | 500m from Turbines |

13.3 Existing Environment

13.3.1 Archaeological Heritage

Archaeological heritage includes all recorded archaeological monuments listed in the RMP/SMR maps and also includes newly discovered archaeological sites. These monuments are addressed separately for clarity. National Monuments are those recorded monuments which are in the ownership / guardianship of the Minister for Housing, Local Government and Heritage. They are frequently referred to as being in 'State Care'. Archaeological heritage also includes sites which are subject to a preservation order.

13.3.1.1 UNESCO World Heritage Sites and those on the tentative list

No UNESCO sites are located within 20 km of the proposed turbines.

13.3.1.2 National Monuments

A review of all National Monuments in State Care was undertaken as part of the assessment in order to ascertain any potential impacts on their setting as a result of the proposed development. No National Monuments are located within or in close proximity to the EIAR site boundary, the nearest National Monument being located at 7.7km from turbine 12. This is detailed in Table 13-3.

Table 13-3: National Monuments within 10km of nearest proposed turbine

| NM No. | RMP NO. | NAME | DESCRIPTION | Td. | ITM E | ITM N | WTG ID |
|--------|---------------|------------------|-------------|------------|--------|--------|--------------|
| 435 | DG029-025001- | O'Doherty's Keep | Castle | Tullyarvan | 634147 | 932617 | 7.7km to T12 |

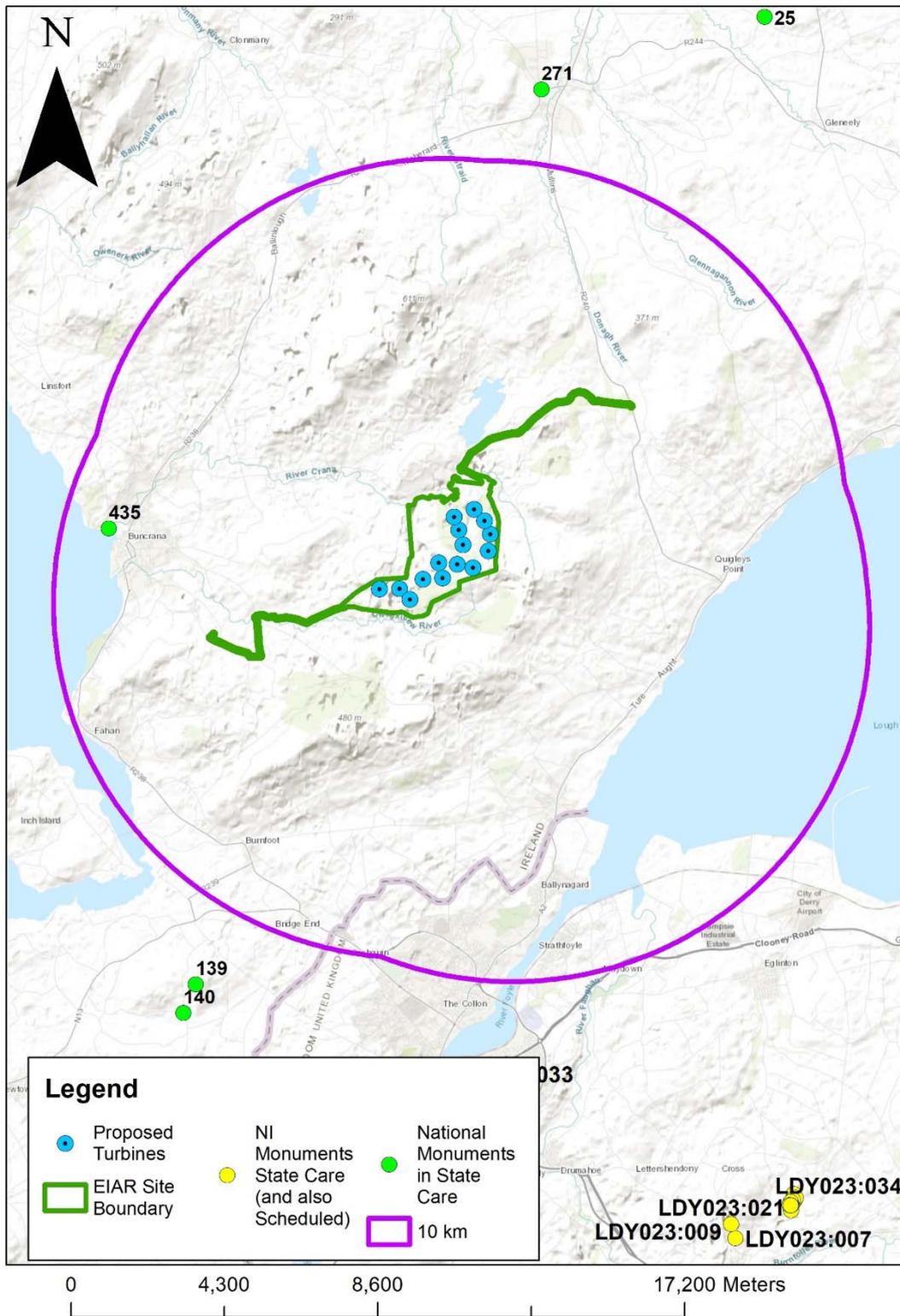


Figure 13-2: National Monuments within 10km of the nearest proposed turbine.

13.3.1.2.1 Visibility from National Monuments

NM 435 (DG029-025001) O'Doherty's Keep

'Buncrana Castle, described in 1601 as a small castle inhabited by Connor McGarrett O'Doherty, it was repaired early in 1602 by Hugh Boy O'Doherty. After Sir Cahir O'Doherty's revolt in 1608 it was burnt by English forces and may have been repaired soon after. It was granted to Chichester at the time of the Plantation and he leased it to Henry Vaughan who is described in 1611 as having 'buylte at Buncrannagh viz. The castle stronglie rebuylded w'th a parapitt on the topp of it, after the English fashion; . . . lyme burnt and other pr'parations made ready for a bawne (DG029-025003-) aboute the castle' (Hunter 1975, 81). The Vaughan family resided there until the present house (DG029-025002-) was built in 1718 (Davies and Swan 1939, 183-5). The building is now a National Monument in state guardianship (No. 435).

The ruined and much altered tower-house is situated beside the Crana River. Most of the original features are obscured by later alterations. Sub-rectangular in plan 9.9m × 8.6m externally, the walls rise from battered lower courses and are built of large blocks and rubble laid in mortar. The building is three storeys in height. The floors were of timber joists set in the E and W walls of the first floor and carried on scarcements at second-floor level. The original entrance was probably in the centre of the N wall at ground-floor level. The opening was subsequently built up and fitted with a small central window (now blocked) flanked by two gun-loops. Within is a mural-lobby with a murder hole over it and to the W is a small mural-passage with a wall-press on the S and beside it a blocked-up loop. To the E of the entrance a mural-stairs leads to the upper apartments. The doorway to the main ground-floor chamber is opposite the entrance; it has been altered. The chamber was lighted on three sides by narrow loops set in rectangular embrasures; only that in the E wall is intact. The embrasure on the S was subsequently reduced in width to accommodate a door, now blocked-up, and the outer wall in that on the W was rebuilt. The present entrance to the tower-house is at first-floor level by a door centrally set in the E wall. Opposite it is the entrance to the first-floor chamber. It probably was originally lighted on three sides by Windows set in embrasures with splayed ingoings. That in the N wall has been converted to a fireplace, that in the W wall has been reduced in width and fitted with a small loop, and that in the S wall has been almost completely blocked up save for a passage to the mural-garderobe at the W end of the S wall; the outer corner wall of the garderobe is secondary and contains three gun-loops. The mural-stairs continues through the E wall and around the SE corner to a door in the S wall at second-floor level. This storey may be a complete rebuilding of the earlier walls or might be a later addition. The chamber was lighted by a large rectangular window in the N, E and W walls, and there is a fireplace in the W wall. Within the N and S gables was an attic; it is featureless and was probably approached through a trapdoor. Access to the wall-walk was by a continuation of the mural-stairs in the S wall. The plan of Buncrana Castle, particularly the two lower storeys, is that of a typical medieval tower-house and the date of the building certainly must not be earlier than the 15th century (for plan see Davies and Swan 1939, 186-7).

The above description was derived from the 'Archaeological Survey of County Donegal. A description of the field antiquities of the County from the Mesolithic Period to the 17th century.' Compiled by: Brian Lacey with Eamon Cody, Claire Cotter, Judy Cuppage, Noel Dunne, Vincent Hurley, Celie O'Rahilly, Paul Walsh and Seán Ó Nualláin (Lifford: Donegal County Council, 1983). In certain instances the entries have been revised and updated.

The viewshed analysis (Figure 13-3) shows that only the upper portion (Hub and blades) of 2 of the 15 turbines (T12 and T15) may be visible from the National Monument. Since the analysis is based on a bare landscape model, this is a worst-case scenario and in reality turbines may not be visible due to intervening vegetation, trees and the intervening town of Buncrana. The Zone of Theoretical Visibility (ZTV) utilised in the LVIA Chapter 12 also confirms some potential theoretical visibility (1-4 turbines) from the area of the monument. Impacts are discussed in Section 13.4.4.1 below.

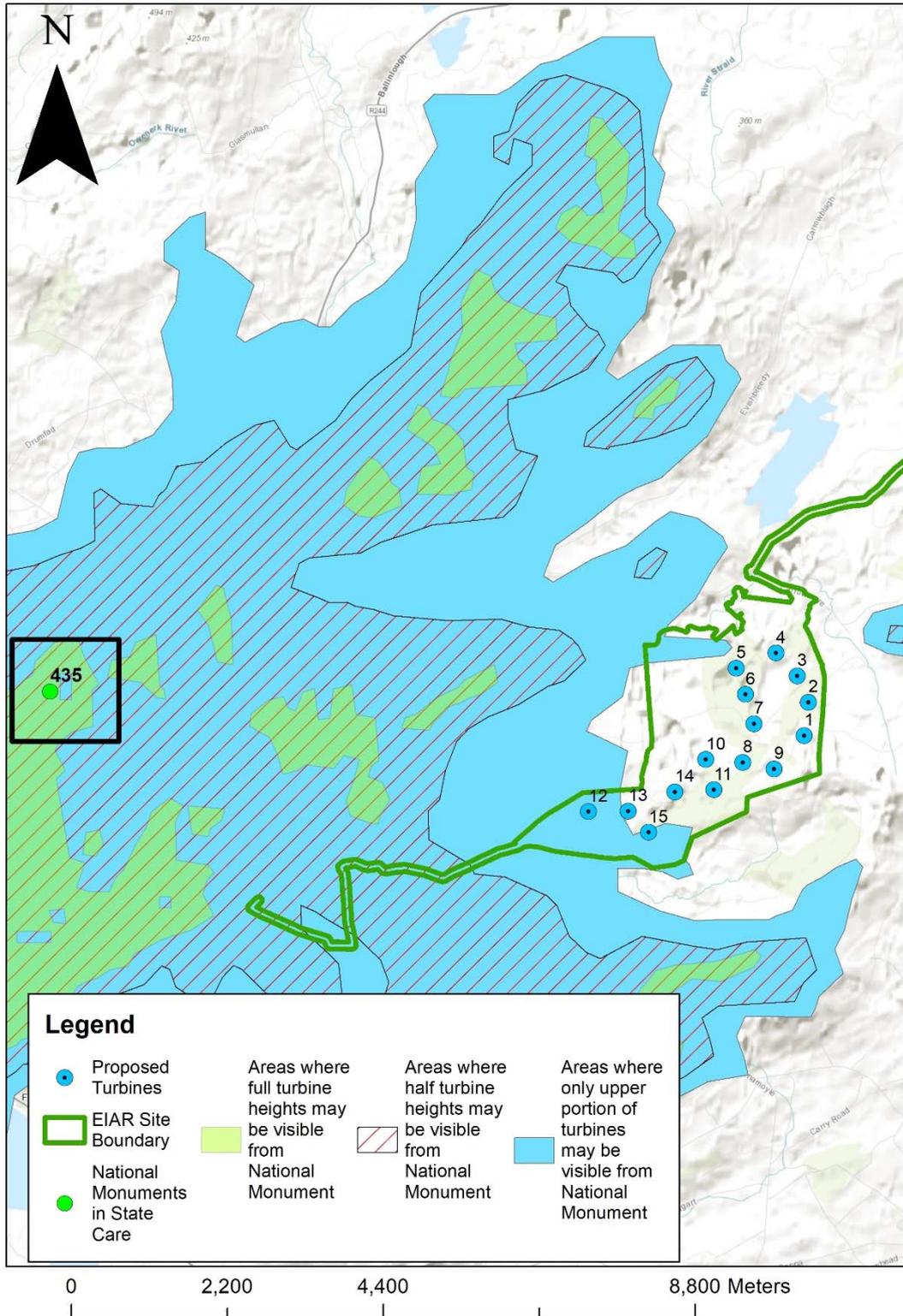


Figure 13-3: Viewshed Analysis showing theoretical visibility of the proposed wind turbines from National Monument No. 435 Doherty's Keep.

13.3.1.3 Recorded Monuments within the site boundary

No monuments subject to statutory protection as defined in the Record of Monuments and Places or Sites and Monument Record are located within the EIAR site boundary for the proposed wind farm. Furthermore, none are located adjacent to same (Figure 13-4).

13.3.1.4 Recorded Monuments within 5km of the proposed Turbines

Forty-six monuments are located within 5km of the nearest proposed turbine and these are detailed below in Table 13-4. The monuments are labelled from 1-46 for ease of reference on Figure 13-5. Monuments within 5 kilometres of the proposed turbines are included here for purposes of assessing potential visual indirect impacts in the wider landscape setting only. Only one monument is located between 1 and 2km of the nearest proposed turbine. Seven monuments are located between 2 and 3km, 16 between 3 and 4km with 22 monuments between 4 and 5km of the nearest proposed turbine. Figure 13-5 demonstrates that the majority of the recorded monuments are located at a remove from the proposed turbines with a notable dearth of monuments within close proximity to the site.

The nearest monument is located just under 1Km to the east of the EIAR site boundary and consists of a field system (some pre-bog) detected during a walk over survey in advance of the construction of a wind farm (see extract from excavation summary description below) (Site No 1, Figure 13-4) .

'DG030-016 Field System - Excavation licence number 98E0003. The proposed site of Crockahenny Wind Farm lies around the summit of Crockahenny Hill (OD 326m) and stretches across the col between it and the lower slopes of Leamacrossan (OD 392m) to the east.

There are no known archaeological sites recorded in the immediate vicinity of the hill. Field-walking took place on 10 September 1997. No sites of archaeological interest were identified in the area of the wind generators, four of which are positioned close to the 1000ft contour. The proposed access road traverses the southern flank of the hill, running approximately west to east. About a third of the way along, its line crosses that of a series of relict field boundaries. Four examples were noted, two of which ran downslope at right angles to the contours. The northern, upslope end of the westernmost example revealed evidence of a joining cross-wall. These features do not appear on the OS 6-inch map of the area and were in extremely poor repair, with the surviving stones deeply embedded in the subsoil. Taken together they may indicate a prehistoric field system, and, if so, it is possible that the upper slopes of Crockahenny Hill also have traces of this system surviving under the peat.

Nothing of archaeological significance was noted in the area of the switch-gear and control building.

Owing to the complex nature of the field system discovered during the field-walk phase, an EDM survey was undertaken to record its extent. Two distinct systems were recorded, the first on the western flank of the hill and the second centred on the area where the initial field walls were noted. The remains on the western flank consisted of a roughly circular enclosure some 170m in diameter and defined from north-west through north to east by the remains of a substantial stone wall. From east to the intersection with the trackway the enclosure appears to be preserved in the line of a broad, shallow, water-logged ditch. Its south-west arc seems to survive on the southern side of the trackway as a stone bank. However, the construction of the track has disturbed this area considerably, and therefore what is visible on the ground may be a by-product of the track construction rather than the original line of the enclosure. No trace was noted for a distance of some 70m to the north of the track on the west side.

The enclosure appears to be divided in half by a cross-wall that runs from north-north-west to south-south-east. However, it was not traced beyond half distance. A subrectangular enclosure, measuring some 6m by 5m, was noted on the west side of this cross-wall.

The north side of the enclosure revealed evidence of radial walls, the first running due north for some 85m. The second, to the north-east, ran for a distance of 30m before turning south-east and running up to a steep-sided rock outcrop, with a third wall running 20m from the enclosure to the rock outcrop.

At a distance of some 100m to the south-east of the enclosure a possible hut circle was recorded. It was situated on the 270m contour and consisted of a level platform, backed on the upslope side by an outcrop of rock and to the front and sides by the curving arc of a bank. These features defined an oval area measuring 25m east-west by 20m transversely. A possible break in the line of the bank to the south-east appeared to be the remains of an entrance.

Further to the east the line of a field wall was recorded running south-west to north-east perpendicular to the slope of the hill. It consisted of large boulders protruding from the grass- and peat-covered ground and was easily traceable for a distance of some 130m. Its northern end abutted an outcrop of bedrock. To the north of this the wall reappeared, arcing around roughly at a right angle and running for a further 40m to abut against another rock outcrop. The possible remains of a further wall were noted running across the corner created by Walls 1 and 2; however, this was not clear on the ground. A fourth wall was recorded to the south of the east end of Wall 2 and, as with Wall 1, ran perpendicular to the slope of the hill.

The line of the fourth wall marked a change in the vegetation cover on the hillside. To the west, where the hill was exposed to the prevailing south-westerlies, the cover was grass, reeds and exposed bedrock. To the east, the leeward side was covered in a blanket of peat, heather and sphagnum, which has the effect of masking any further evidence of archaeology along this flank.

Some bog probing took place, concentrating on two areas: at the apparent southern termini of the Walls 1 and 4 and along the proposed line of the access route up the hillside. The northern termini of Walls 1, 2 and 4 were examined, but each of these was found to run into outcrops of bedrock and was not seen to run beyond.

The probing of the access route was carried out at 1m intervals starting at the upslope eastern end. The depth of bog cover was recorded, and, where rock was encountered, detailed probing took place to ascertain whether it was part of a larger, possibly archaeological feature. The termini of Walls 1 and 4 were likewise examined with detailed probing both across and along their projected lines.

The probing of the field walls showed that their downslope ends more or less terminated where they were visible on the ground, with their upslope ends disappearing into natural rock outcrops.

A proposed area of rock extraction was also examined and revealed nothing of archaeological significance. Finally monitoring of the open-area stripping of the switch-gear building and of the access roadway and generator pads took place. Nothing of archaeological significance was found. (Excavations Bulletin 1998).

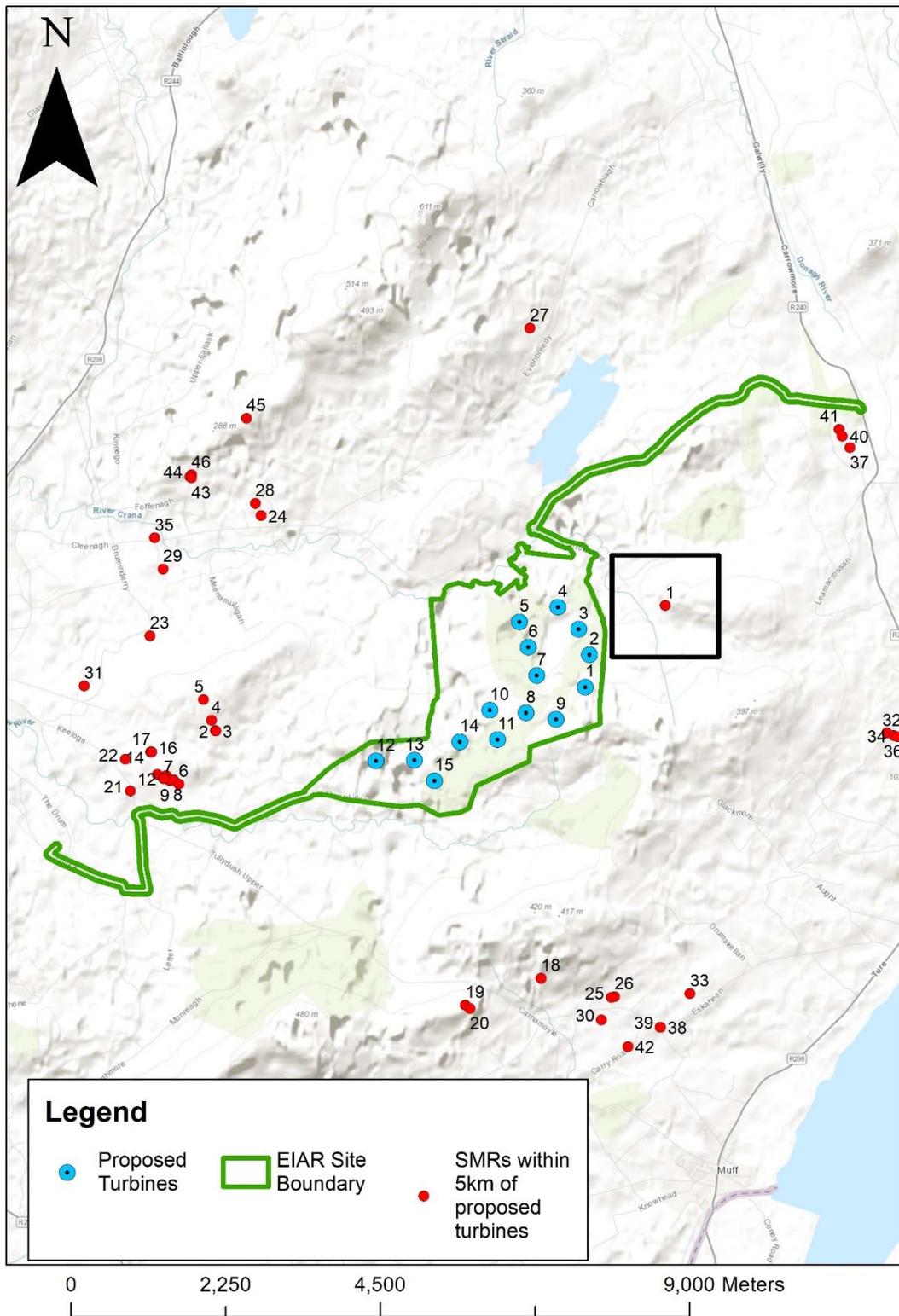


Figure 13-4: Note no SMRs within the site boundary or immediately adjacent to same.

The overall significance of effects is described in Section 13.4.4.2.

Table 13-4: RMPs within 5km of the nearest proposed turbines.

| Map Id | SMR | ITM E | ITM N | Type | Td. | WTG ID | Distance (M) |
|--------|-----------------|--------|--------|------------------------------|---|--------|--------------|
| 1 | DG030-016– - | 645942 | 933184 | Field system | Crockahenny | 3 | 1304 |
| 2 | DG029-037002- | 639405 | 931344 | Standing stone | Meenkeeragh | 12 | 2371 |
| 3 | DG029-037001- | 639399 | 931349 | Standing stone | Meenkeeragh | 12 | 2378 |
| 4 | DG029-036– - | 639344 | 931504 | Megalithic tomb - wedge tomb | Meenkeeragh | 12 | 2465 |
| 5 | DG029-035– - | 639228 | 931804 | Standing stone | Meenkeeragh, Baulville Keeloges And Clonglash | 12 | 2663 |
| 6 | DG029-055– - | 638866 | 930569 | Redundant record | Tullydush Lower | 12 | 2891 |
| 7 | DG029-053– - | 638787 | 930629 | House - indeterminate date | Tullydush Lower | 12 | 2963 |
| 8 | DG029-054– - | 638786 | 930626 | House - indeterminate date | Tullydush Lower | 12 | 2964 |
| 9 | DG029-052– - | 638735 | 930620 | Field system | Tullydush Lower | 12 | 3016 |
| 10 | DG029-051– - | 638685 | 930694 | Rock art | Tullydush Lower | 12 | 3059 |
| 11 | DG029-057002- | 638651 | 930645 | Hut site | Tullydush Lower | 12 | 3097 |
| 12 | DG029-057001- | 638646 | 930651 | Hut site | Tullydush Lower | 12 | 3101 |
| 13 | DG029-056– - | 638553 | 930711 | Hut site | Tullydush Lower | 12 | 3190 |

| Map Id | SMR | ITM E | ITM N | Type | Td. | WTG ID | Distance (M) |
|--------|---------------|--------|--------|--------------------------------|---------------------------------|--------|--------------|
| 14 | DG029-050002- | 638469 | 931037 | Redundant record | Tullydush Lower | 12 | 3270 |
| 15 | DG029-050003- | 638468 | 931039 | Redundant record | Tullydush Lower | 12 | 3271 |
| 16 | DG029-050-- | 638458 | 931037 | Redundant record | Tullydush Lower | 12 | 3281 |
| 17 | DG029-050001- | 638458 | 931037 | Redundant record | Tullydush Lower | 12 | 3281 |
| 18 | DG039-001-- | 644138 | 927723 | Standing stone | Carnamoyle | 15 | 3283 |
| 19 | DG039-015-- | 643033 | 927330 | Redundant record | Carnamoyle | 15 | 3317 |
| 20 | DG039-015001- | 643100 | 927278 | Redundant record | Carnamoyle | 15 | 3378 |
| 21 | DG029-042-- | 638163 | 930467 | Enclosure | Tullydush Lower | 12 | 3601 |
| 22 | DG029-040-- | 638087 | 930931 | Ringfort - unclassified | Tullydush Lower | 12 | 3650 |
| 23 | DG029-029-- | 638448 | 932738 | Field boundary | Bauville Keeloges And Clonglash | 12 | 3762 |
| 24 | DG029-016-- | 640063 | 934501 | Cairn - unclassified | Ballynakeeloge | 12 | 3961 |
| 25 | DG039-003-- | 645159 | 927440 | Megalithic tomb - unclassified | Eskaheen | 15 | 4086 |
| 26 | DG039-002-- | 645207 | 927455 | Standing stone | Eskaheen | 15 | 4105 |

| Map Id | SMR | ITM E | ITM N | Type | Td. | WTG ID | Distance (M) |
|--------|------------|--------|--------|--------------------------------|---------------------------------|--------|--------------|
| 27 | DG020-009- | 643973 | 937250 | Ringfort - cashel | Evishbreedy | 4 | 4106 |
| 28 | DG029-015- | 639981 | 934680 | Clochan | Ballynakeeloge | 12 | 4158 |
| 29 | DG029-022- | 638640 | 933719 | Standing stone | Druminderry Upper And Lower | 12 | 4180 |
| 30 | DG039-005- | 645016 | 927113 | Megalithic tomb - portal tomb | Eskaheen | 15 | 4263 |
| 31 | DG029-034- | 637493 | 932008 | Cairn - unclassified | Bauville Keeloges And Clonglash | 12 | 4383 |
| 32 | DG030-008- | 649167 | 931317 | Megalithic tomb - unclassified | Tromaty | 1 | 4436 |
| 33 | DG039-004- | 646301 | 927498 | Standing stone | Eskaheen | 9 | 4464 |
| 34 | DG030-009- | 649265 | 931277 | Megalithic tomb - unclassified | Tromaty | 1 | 4539 |
| 35 | DG029-014- | 638516 | 934174 | Cairn - unclassified | Druminderry Upper And Lower | 12 | 4585 |
| 36 | DG030-010- | 649324 | 931263 | Burial ground | Tromaty | 1 | 4599 |
| 37 | DG030-001- | 648631 | 935494 | Megalithic tomb - wedge tomb | Carrowmore Or Glentogher | 3 | 4756 |
| 38 | DG039-006- | 645872 | 927007 | Church | Eskaheen | 9 | 4758 |

| Map Id | SMR | ITM E | ITM N | Type | Td. | WTG ID | Distance (M) |
|--------|---------------|--------|--------|------------------------------|--------------------------|--------|--------------|
| 39 | DG039-006001- | 645872 | 927007 | Graveyard | Eskaheen | 9 | 4758 |
| 40 | DG020-011- | 648519 | 935665 | Megalithic tomb - wedge tomb | Carrowmore Or Glentogher | 3 | 4763 |
| 41 | DG020-010- | 648472 | 935766 | Hilltop enclosure | Carrowmore Or Glentogher | 3 | 4786 |
| 42 | DG039-007- | 645402 | 926722 | Ringfort - unclassified | Eskaheen | 15 | 4805 |
| 43 | DG029-062- | 639054 | 935057 | Hut site | Foffanagh | 12 | 4938 |
| 44 | DG029-061- | 639027 | 935073 | Enclosure | Foffanagh | 12 | 4966 |
| 45 | DG019-025- | 639849 | 935928 | Cairn - unclassified | Ballynakeeloge | 5 | 4968 |
| 46 | DG029-060- | 639052 | 935098 | Enclosure | Foffanagh | 12 | 4974 |

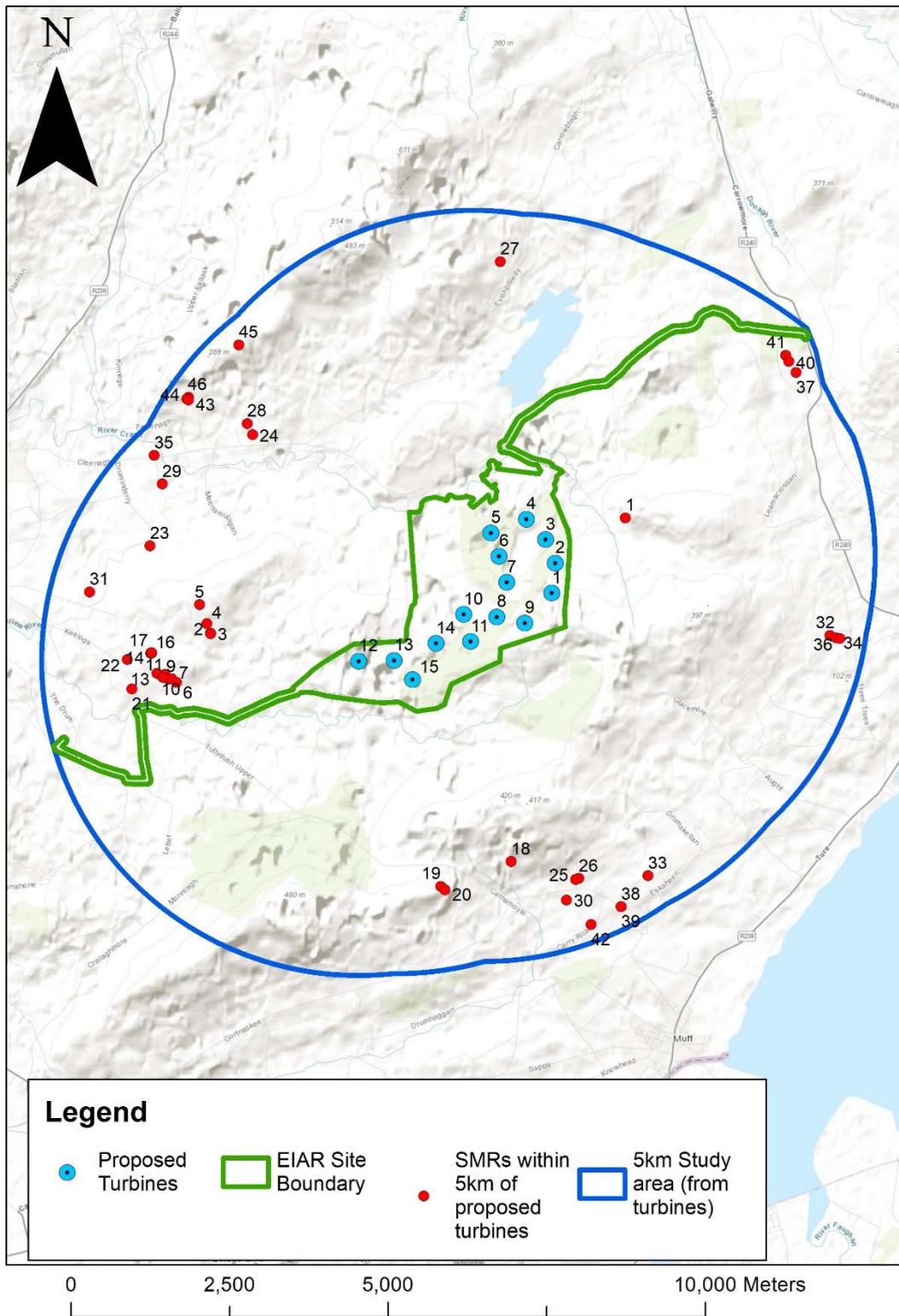


Figure 13-5: SMRs within 5km of the nearest proposed turbine.

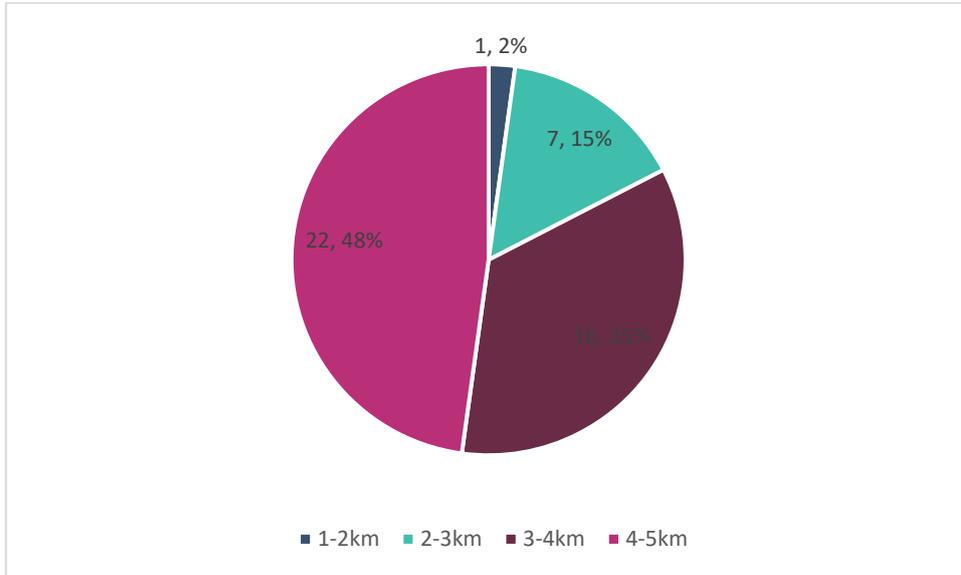


Figure 13-6: Percentages of monuments within 5km of the nearest proposed turbines.

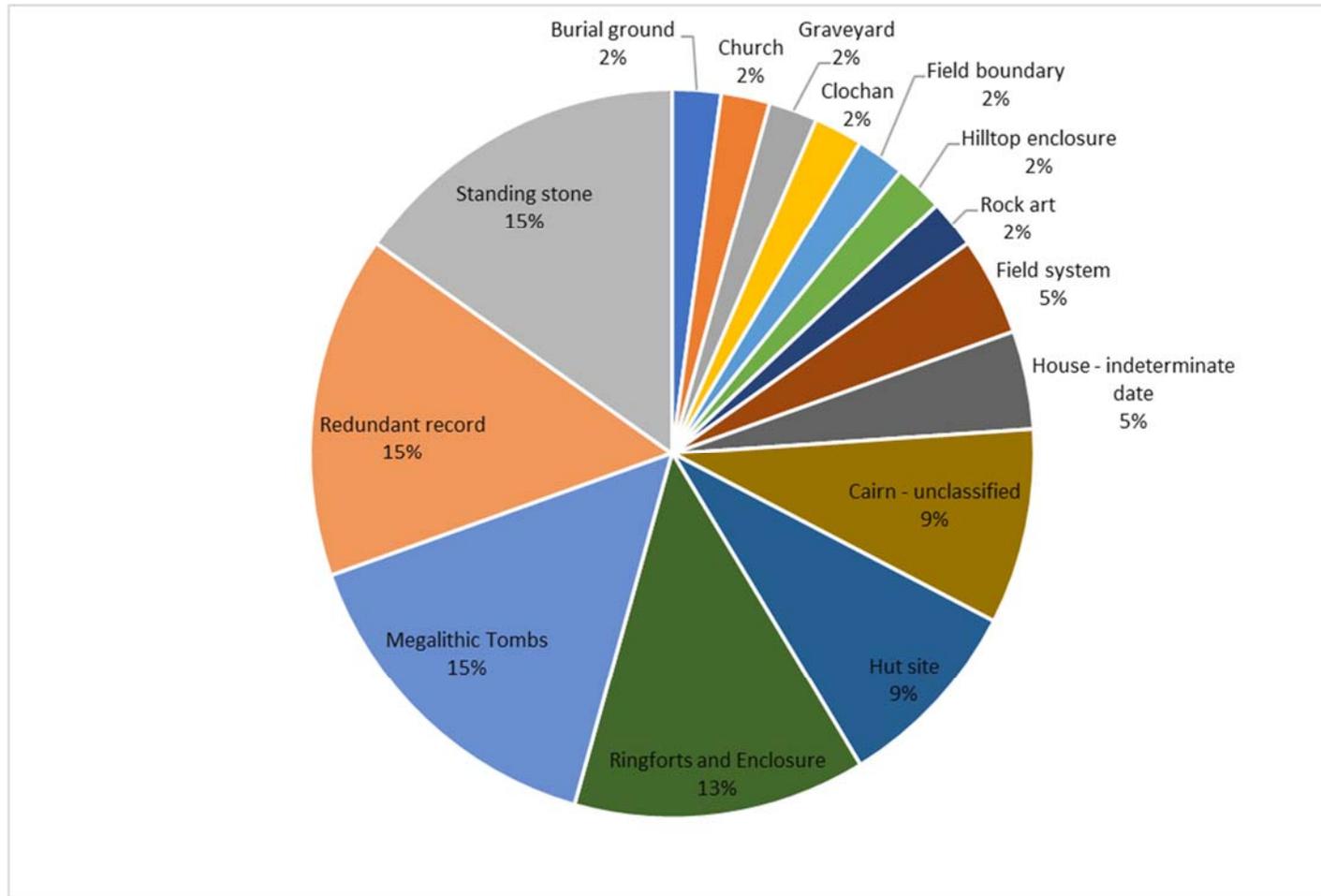


Figure 13-7: Percentages of monuments types within 5km of the nearest proposed turbines.

13.3.1.4.1 The Prehistoric Period

The prehistoric period is represented by megalithic tombs which are burial chambers, sometimes with an antechamber or small closed end-chamber. They are roofed by slabs laid directly on the side-walls which often have one or more rows of outer-walling. Unclassified examples of megalithic tombs cannot be classified as a court tomb, portal tomb, passage tomb or wedge tomb. These may date from the Neolithic to the Bronze Age (c. 4000 - c. 500 BC).

The monument SMR **DG020-011** (Map ID 40, Figure 13-5) is not shown on any edition of the OS 6-inch map, is one of two wedge tombs at the southern end of Carrowmore or Glentogher townland. The second (SMR DG030-001, Map ID 37, Figure 13-5) is just under 200m to the S. **DG020-011** *'is on a slight platform immediately E of the base of a prominent rocky knoll on which there is a large stone enclosure (Lacy 1983, 116, 118, no. 709). This is an area of heather-grown bog broken by numerous rock outcrops. To the N the land falls to the valley of the Glentogher River. There is an outlook to Quigley's Point, on the shore at Lough Foyle, almost 5km to the SE. The ruins of this tomb are deeply embedded in the bog. It is aligned NNE-SSW and is described here as if it lay N-S. The gallery is represented by two opposed sidestones that support a roofstone in a sloping position with its higher end to the S. The gap between the orthostats narrows from 1.3m at the S to 1m at the N. Three stones of close-set outer-walling are visible. The first overlaps the N end of the eastern sidestone, and the second overlaps its S end. The third is opposite the second and on the W side of the monument. Between the two opposed outer-wall stones are two stones protruding from the ground, neither of which appears to be structural. The northern one is 0.2m high, and the southern one is 0.4m high. Approximately 1m S of the last is a stone with a marked southward lean. It would stand 1m high if upright. Its function is uncertain, but it may represent a facade. The eastern sidestone is 0.4m high at its southern end. The western sidestone leans inward. If upright it would be 0.5m high at its southern end. Both sidestones decrease in height toward the N. The overlying roofstone is 2.3m long and 1.8m in maximum width and narrows abruptly near its northern end. The western edge of this stone is partly obscured by heather-grown peat. The northern outer-wall stone on the E side of the monument, now partly concealed, is 0.35m high. The second outer-wall stone here, 1.8m to the S, leans outward. This stone, if upright, would be 0.9m high. The outer-wall stone at the W side of the monument leans inward. It would stand 0.6m high if upright'*.

Monument **DG030-001 (Map ID 37)**, is described in the Archaeological Inventory as follows: *c. 200m S of the last, is on generally level boggy ground just S of the valley of the Glentogher River. It is overlooked by higher ground closeby to the E and W. From the site there is a view of Lough Foyle at Quigley's Point, 5km to the SE. Outcropping rock occurs in the vicinity.*

The monument, somewhat embedded in the bog, consists of a partly roofed gallery, c. 6m long, orientated almost SW-NE. A narrow opening at the NE end now allows access beneath the roofstones to the eastern two-thirds of the gallery. The western end lacks a roof and is blocked by tomb collapse. The gallery narrows from 1.75m wide at the W to c. 0.5m at the E, where the back is missing or remains concealed. The tallest sidestones at the W rise 0.9m above those at the E end. Two overlapping roofstones cover the mid-section of the gallery, and a partly concealed slab lying in front of the entrance may also have formed part of the roof. This measures 1m by at least 2.3m and is 0.2m thick. There appear to have been at least three lines of walling beyond each side of the gallery. A stone immediately outside the westernmost stone on the N side of the gallery and another immediately outside the fourth orthostat on this side seem to represent a doubling of the gallery side, as does a gapped line of four stones just outside the S side of the gallery. Between the westernmost of the latter four and the gallery side is another set stone. There are the remains of two additional lines of walling beyond both sides of the gallery. A leaning stone at the SW corner of the monument and another at the NW represent a ruined facade, and a fallen stone to the N of the latter may be another facade-stone. The structure stands in an oval, heather-grown, stony mound that is 10.7m long (E-W) and 8m wide near the W end, from where it narrows toward the E end. The mound rises to the height of the gallery sides. A number of displaced stones at the site are not shown on the plan.

The design of the partly collapsed W end of the gallery is unclear. A transversely set stone stands between the western ends of the gallery sides. Its orthostatic character leaves some doubt about whether it served to divide the entrance or is the remnant of a closing feature. It leans inward and would stand 0.8m high if upright. Beside this at the N is a partly concealed small stone, 0.2m high. It is of uncertain status and is not hatched on the plan. Approximately 0.8m to the E and midway between the gallery sides is an orthostat measuring 0.8m in exposed height. The top of this stone is level with the tops of the sidestones at either side. Approximately 0.6m further to the E and set transversely to the line of the N side of the gallery is a jamb-like stone. This, measured at its inner face, is 1m high. It may indicate a division of the gallery into a portico, c. 1.7m long, and a main chamber. To the W of this stone and at right angles to its northern end is a small set stone that serves to strengthen the gallery wall. It is 0.3m long, 0.15m thick and 0.5m in exposed height. A displaced slab (not on plan), 1.5m by, 0.75m by 0.15m thick, leans against the jamb-like stone.

The N side of the gallery is composed of seven orthostats and two smaller stones between the second and third orthostat from the W. The westernmost orthostat rises 0.5m, and that next to it 0.6m, above the collapsed material at this end of the gallery. The remaining five orthostats at this side are accessible beneath the roofstones. Their heights from W to E are 1m, 0.85m, 0.7m, 0.55m and 0.15m. The two orthostats at the E end are set inside the line of the others, thereby abruptly narrowing the gallery. The western one of the two small stones between the second and third orthostats is 0.15m long, at least 0.05m thick and 0.4m in exposed height. The eastern is 0.15m long, at least 0.05m thick and 0.15m high. The single stone outside the westernmost orthostat on this side, which, as mentioned, seems to represent a doubling of the gallery wall, is 0.4m in exposed height. The similarly positioned stone outside the fourth orthostat on this side is 0.3m high.

There are eight stones in position on the S side of the gallery. The easternmost, like the two opposite on the N side, is set inside the line of the other seven, and the second orthostat from the front is set transversely to the long axis of the monument. The outer faces of all but the western three, which rise above the collapsed material at this end of the gallery, are concealed. The exposed heights of the three referred to, from W to E, are 0.9m, 0.3m and 0.4m. The remaining five, accessible beneath the roofstones, are, from W to E, 0.7m, 0.7m, 0.6m, 0.5m and 0.3m in exposed heights. The westernmost stone of the gapped line of four small stones doubling this side of the gallery is immediately outside the fourth gallery orthostat and is 0.15m in exposed height. The set stone between this and the gallery wall is 0.4m in exposed height. The second of the line of four stones is just outside the opposed ends of the fourth and fifth gallery orthostats, which diverge as they rise, and it blocks the gap thus caused. It rises just above the gallery side. The third of these stones serves the same function outside the opposed ends of the fifth and sixth orthostats and rises to around the height of the gallery side. The fourth, just over 1m to the E, is 0.15m in exposed height.

The upper surface and parts of the perimeter of the two overlapping roofstones covering the middle portion of the gallery are obscured by peat. The western one overlies the outer end of the eastern. Both rest directly on the N side of the gallery, and at the S is a pad-stone (not on plan) between each and the gallery wall. The western one also rests on the jamb-like stone dividing the gallery and measures 1.4m long E-W by at least 1.8m. The eastern one measures 1.5m E-W by 2.2m. Both are over 0.1m thick.

Outer-walling at the N side of the monument is represented by four partly concealed orthostats. That at the W, 0.8m beyond the front of the gallery, is 0.6m in exposed height. Just W of this the tops of two firmly set stones protrude above the surface. The eastern one measures 0.15m by 0.08m and is 0.15m in exposed height, and the western measures 0.2m by 0.05m by 0.08m high. Neither is definitely structural, and they are not hatched on the plan. The other three outer-wall orthostats here are set inside the line of the western one. These may represent an inner line of outer-walling. Partly concealed by peat, the biggest is 0.9m or more in length, and all are at least 0.1m thick. Their exposed heights from W to E are 0.05m, 0.15m and 0.4m.

There also seem to have been two lines of outer-walling at the S, the inner represented by three stones and the outer by two stones at the W end of the structure. The two lines are up to 0.3m apart, and the inner one is 0.4m beyond the gallery side. The westernmost stone of the inner line is 0.35m in exposed

height. The second, 0.2m to the E, is 0.2m high, and the third, 0.4m further E, is largely concealed and rises just above ground level. The western of the two stones outside these is 0.1m in exposed height. The eastern, 0.5m to the E and partly concealed, is 0.2m high. Two stones, 0.7m apart and c. 0.4m beyond the E end of the gallery, seem to be part of the outer-walling. The northern one is 0.2m high, and the southern is 0.15m high. Approximately 0.2m W of and parallel to this is a stone that may indicate a doubling of the outer-walling at this end of the gallery. It is 0.25m high.

The facade-stone at the SW corner of the monument leans westward. It is 1.1m long and 0.2m thick and would stand at least 1.1m high if upright. The second facade-stone, 2.2m to the N, leans more markedly westward. It is 0.8m long and 0.2m thick and would stand at least 0.9m high if upright. A stone to the N of this lies more or less flat and protrudes from the slope of the cairn. It is not clear whether this also formed part of the facade. It measures 0.4m by at least 0.3m and is 0.15m thick. The facade-stones are now almost prostrate, and their bases lie closer to the front of the gallery than shown on the plan. Because of the extent of collapse at this end of the monument the relationship of the facade to the front of the gallery is unclear.

This monument, described as well preserved in 1848, was then, as now, open at its NE end (OS Revision Name Book, 1848). OS Revision Name Book, sheet 30 (1848), 61; A.I. Young 1929, 8 may refer; Colhoun 1949, 112 (plan d); Killanin and Duignan 1962, 127 and 380; Killanin and Duignan 1967, 140; Ó Nualláin 1983a, 39, 41, no. 96; SMR 1987, 30:1; Ó Nualláin 1989, 136; Colhoun 1995, 76-7 (plan); RMP 1995, 30:1.

DG030-008 (Map ID 32) is located c. 2km due W of Quigley's Point, which lies on the western shore of Lough Foyle. It is described in the Archaeological Inventory as follows: *'The immediate vicinity of the site provides level pasture. Toward the E is a gentle fall to the lough, and to the W is a steady rise to the summit of Crockglass, 2km away. This greatly ruined monument is incorporated in an earthen field fence. Two opposed orthostats, 1.4m apart and aligned NNE-SSW, protrude from the northern face of the fence. Immediately S of each a partly concealed stone rises above the top of the earthen bank. The orthostat to the E is 1.1m high. That to the W is 0.6m high. The eastern one of the two partly concealed stones rises 0.4m above the slope of the earthen bank and 0.3m above the adjoining orthostat. The western stone is almost wholly concealed. It rises only 0.15m above the top of the fence. Approximately 1m S of this is an upright stone at the S side of the fence. This is 0.7m long, 0.45m thick and 1.2m high. It may not be in situ. Two metres to the E a displaced slab, 1.8m by 0.6m, lies against the fence. According to an account in an OS Revision Name Book (1848), the structure then measured 12 feet (c. 3.65m) long and 4 feet (c. 1.2m) wide internally and was composed of stones set on edge, three at the W and four at the E. The stones are noted as varying from 1 foot to 3 1/2 feet (c. 0.3m to c. 1.05m) high. It is also recorded that a 'flag' that had covered the structure had been removed a short time before the site was visited. In 1943 Colhoun (1995) noted the 'recent' occurrence of destruction at the monument, including the removal of a roofstone. In 1982, when surveying the monument, we were informed that a stone had been removed from each side of its northern end within local memory. The remains are clearly those of a megalithic tomb but must remain unclassified. OS Revision Name Book, sheet 30 (1848), 59; Colhoun 1949, 117; Killanin and Duignan 1962, 380; Killanin and Duignan 1967, 381; Ó Nualláin 1983a, 46, no. 139; SMR 1987, 30:8; Ó Nualláin 1989, 142; Colhoun 1995, 78, no. 30/11; RMP 1995, 30:8.*

DG030-009 (Map ID 34) *'Colhoun (1995) suggested that a mound at this location may contain a chambered grave. The mound, roughly rectangular, measures c. 7m by 3m by 1m high. It is grass grown, although some large stones are partly exposed at the surface. The mound is clearly an artificial feature, but it is not known whether it covers any structure.'*

DG039-003 (Map ID 25) *'was first shown on the 1848 edition of the OS 6-inch map, where it is named 'Giant's Grave'. There is no trace of it now. The only information about it is a brief description in an OS 1:2,500 Name Book (1902), which states that the name on the map 'applies to an indenture in the ground, the sides are composed of large rocks, and covered by a large flat rock'. This feature, the nature of which is unclear, had been removed by 1941 (Colhoun 1995).'*

DG039-005 (Map ID 30) is located 3km NW of Muff village and 3km from the W side of the inner end of Lough Foyle. It is described in the Archaeological Inventory as follows ‘*It stands on boggy ground on a slight S-facing slope just below the lower levels of Eskaheen Mountain. There are extensive views to the S along the inner reaches of Lough Foyle. Closeby, to the E and N, reclaimed land provides fair pasture.*

The monument, described here as if it lay W-E, consists of a chamber, open to the WNW, standing almost 6m inside the western end of a long cairn in which some sizeable stones are evident. A thin layer of peat partly covers the cairn, which is 25m long (E-W), reaches a maximum width of 14m near the broad, rounded, western end and from there narrows to less than 5m at the eastern end. It attains a maximum height of 0.7m at the S. A channel, 0.5m wide, has been cleared in the cairn immediately S and E of the chamber, and a farm trackway (not on plan) crosses the eastern end.

The chamber was c. 2m long and is up to 1.4m wide. It is overlain by an enormous roofstone that has slipped to the ground at the N, thus raising its S side clear of the structure. Two portal-stones, 0.3-0.5m apart, stand at the front of the chamber. The collapse of the great roofstone has broken the northern one and caused both to lean southward. The long axis of each is skewed somewhat from that of the chamber. Whether this is an original feature or was caused by the displacement of the great roofstone is unclear. A low stone, possibly broken from the top of the northern portal-stone, lies just W of the same. Beyond this detached piece, and 0.8m in front of the northern portal-stone, is a large upright stone.

The sides and back of the chamber survive intact. A single stone forms each side, and closure is effected by a gabled backstone at the E. There are two superimposed pad-stones or corbels overlying the junction of the northern sidestone and the backstone. A large slab, one end on the ground, leans against the outer face of the southern sidestone and the adjoining end of the backstone. This appears to be a slipped pad-stone or corbel. The roofstone now rests on the northern portal-stone, on the piece thought to be detached from it and on top of the upper of the two corbels or pad-stones at the NE corner of the chamber. It also bears against the inner faces of both the southern portal-stone and the stone set in front of the northern portal-stone.

The northern portal-stone, overlapped by the adjacent sidestone, would stand 0.9m high if upright. The stone beside it to the W, which, as noted, may have been detached from its top, measures 0.9m by 0.6m by 0.5m high. The southern portal-stone would stand 1.9m high if upright. There is a vertical split in this stone close to its southern face (indicated by a pecked line on the plan). The stone in front of the northern portal-stone now leans northward and is 1.2m high. The opposed sidestones of the chamber have flat inner and sloping outer faces, and both lean inward. That to the N, its outer face largely concealed, is 0.9m high. The southern one is also 0.9m high. The backstone is set inside the end of the northern sidestone and beyond the end of the southern one. It is 1.1m high and leans inward slightly. It rises c. 0.3m above the two sidestones. It has a straight inner face, and externally its top half slopes outward. The lower corbel at the NE corner of the chamber measures 1.25m by 0.6m by at least 0.2m thick, and the upper measures 1.8m by 0.8m by 0.25m thick. The leaning slab outside the SE corner of the chamber measures 1.7m by 1.6m by 0.25m thick. The great roofstone is 5m long, narrows from 3.7m wide at the back to 2m close to the front and is 1.5m in greatest thickness, which it attains at around mid-length. A section of its underside, 0.5m thick, has split from the rest of the stone at the W’.

According to the Archaeological Inventory description **DG029-036** (Map ID 4) is not shown on any edition of the OS 6-inch map. ‘*It is on the wet, boggy, S-facing slope of Meenkeeragh Hill overlooking the valley of the Owenkillew River. There is a view along this valley to Lough Swilly, 5km to the W. South of the tomb and beyond the valley is a range of high ground with mountain peaks. A northward extension of this range limits the outlook to the E.*

The monument may have been opened in the second half of the 19th century (Colhoun 1995). Now deeply embedded in peat, it stands in a bog-grown subrectangular mound, c. 0.5m high, measuring 13.8m WSW-ENE by 8.5m. It consists of the inner end of a gallery flanked at both sides by outer-walling, with the remains of an elaborate facade at the WSW. Two opposed sidestones and a backstone at the ENE form the inner end of the gallery. There are two outer-wall stones around midway along the

S side of the monument, and a possible third one to the E of these. A largely intact line of close-set outer-walling rises above the N side of the gallery. From around mid-length, both sides of the outer-walling diverge quite sharply toward the W. The intact N side of the outer-walling articulates with the facade, the northern half of which is represented by five stones. The southern half of the facade is missing except for a lone stone at the SW corner of the monument.

The surviving stones of the gallery are all the same height, and the inner face of each is exposed to a depth of 1m. The opposed sidestones are 1m apart. The backstone is set inside the end of the sidestone to the N and in turn overlaps the end of the southern sidestone.

The line of outer-walling at the N consists of five stones. The inner faces of these stones rise 0.25-0.45m clear of the bog. There is a stone between the easternmost of these and the inner end of the sidestone. This stone is exposed to a depth of 0.6m. The western one of the two outer-wall stones to the S of the gallery is 1.2m in exposed height and rises 0.1m above its neighbour. The largely concealed stone outside the S end of the backstone, as mentioned above, may be another outer-wall stone. Its inner face is exposed to a depth of 0.75m.

The facade seems to have been c. 5m wide. At the northern extremity two stones, 0.1m apart, are set face to face, and this arrangement is repeated c. 0.75m to the S, around midway along the facade. The gap between the two pairs of stones is spanned by a fifth slab, which stands immediately outside them. The inner one of the pair of stones at the N articulates with the W end of the outer-walling and is 0.5m in exposed height. The outer stone here rises 0.3m above the inner. It is set beyond the end of the outer-walling and is 0.8m in exposed height. The inner and outer stones of the pair midway along the facade are 0.7m and 0.9m in exposed height. The outer stone rises 0.3m above the inner. The stone spanning the gap between the two pairs of stones is 0.8m in exposed height. The lone stone at the southern end of the facade leans outward. It would stand 0.85m high if upright. Although it is uncertain how the missing forward part of the gallery articulated with this facade, an original gallery length of 3.5-4m seems indicated'.

A number of other monuments may date to the prehistoric period but their dates can span from prehistory through to the Medieval period (Table 13-4, Figure 13-5 and Figure 13-7). One such site type is hut sites. The primary function and date of hut sites is slightly ambiguous. Examples of hut sites are known throughout the country, particularly in upland regions, and are frequently associated with the practice of transhumance or booleying. Transhumance refers to the practice of the seasonal movement of people and their livestock typically to higher pastures in the summer and lower valleys in the winter. In Ireland this practice is known as booleying and is believed to date to the early medieval period, although it continued well into the nineteenth and early twentieth century.

Other uses for hillside huts has been noted at Mount Brandon, County Kerry, where it is suggested that they functioned as temporary habitations for seaborne pilgrims. It is also thought that they were used as habitation sites such as booleying huts during the year when pilgrimage was not taking place. An extensive series of pre-bog walls was also noted on the southern slopes of Mount Brandon. It is noted in that instance that although pre-dating the bog, the peat may still have been growing well into the medieval period. In this regard such walls could be early medieval in date rather than prehistoric (Archaeology Ireland Heritage Guide No. 29). Furthermore, the potentially lengthy chronology of hut sites means that while some may be prehistoric others may date to the early or later medieval period or indeed to more modern times (ibid.).

Seven standing stones are located within 5km of the nearest proposed turbines and are located to the south and west of the proposed windfarm. Three of the 7 monuments have no visible surface trace. They are a common feature of the prehistoric Irish landscape consisting of single, upright stones. They are known by various names such as gallán, dallán and long stone. All standing stones are not necessarily of the same date or have the same function. Excavations of standing stones have shown that some mark prehistoric burials and some may have had a ritual or commemorative function. They have similar axis to standing stone pairs and may therefore date to the Bronze Age (2400-500BC).

One examples of rock art are also located within the 5km study area. Geometric and other motifs mostly pecked out, though some are incised, on earthfast boulders and rock outcrops, and occasionally on cist roofstones and standing stones. These associations suggest a Bronze Age date (c. 2400-500 BC), though perhaps with origins in the Neolithic (c. 4000-2400 BC). Rock art may be associated with metal deposits, boundaries and routeways.

Four unclassified cairns are located within 5km which may also date to the prehistoric period. Cairns consist of a mound constructed primarily of stone which cannot be classified as a specific cairn type. These can date to any period from prehistory onwards. The term cairn is derived from the Irish word 'carn' meaning a heap or pile of stones.

13.3.1.4.2 **The Early Medieval Period**

The early Medieval period is represented by three enclosures and three ringforts. Ringforts comprise earthen monuments while cashels take a similar form to the latter but are constructed using stone. Enclosures may represent the remains of ringforts or cashels but may not retain enough features to classify them as such or fall outside the acceptable size range for these monuments. Ringforts consist of a circular or roughly circular area enclosed by an earthen bank formed by material thrown up from the digging of a concentric ditch on its outside. Ringforts are usually enclosed by a single bank (univallate) while bivallate or trivallate ringforts i.e. those enclosed by double or triple rings of banks are less common. The number of banks and ditches enclosing these monuments are considered to reflect the status of the site, rather than the strengthening of its defences. Archaeological excavation has shown that the majority of ringforts functioned as enclosed farmsteads, built during the Early Christian period (5th – 9th century A.D.). Excavation within the interior of the monuments has traced the remains of circular and rectangular dwelling houses as well as smaller huts probably used to stall animals. The enclosing earthworks would also have protected domestic livestock from natural predators such as wolves and foxes. Souterrains are frequently associated with ringforts, cashels and enclosures. Souterrains derive their name from the French sous terrain meaning ‘under ground’ and comprise an underground structure consisting of one or more chambers connected by narrow passages or creepways, usually constructed of drystone-walling with a lintelled roof over the passages and a corbelled roof over the chambers. Most souterrains appear to have been built in the early medieval period by ringfort inhabitants (c. 500 - 1000 AD) as a defensive feature and/or for storage.

13.3.1.4.3 **Sites with religious or ritual association**

A church and graveyard are located at Esakheen townland (DG039-006 and 006/001). According to the published Archaeological Inventory, it is '*traditionally claimed as the site of an early ecclesiastical foundation (Gwynn and Hadcock 1970, 384), the site now consists of a graveyard (DG039-006001-) still in use and slight remains of a church (DG039-007-). This was in use until the end of the seventeenth century (Leslie 1937, 269). Part of a W gable, 4.4m internal length, and a small section of the S wall, with a segment-headed opening of a possible door or window, survive. The site is located on high good ground with good views over Lough Foyle.*

13.3.1.4.4 **Miscellaneous Monuments**

A number of other site types within various periods are also represented and seem to occur in isolation with only one of each monument type represented (Figure 13-7). Seven of these are now redundant records.

13.3.1.5 **Potential sub-surface archaeology within the EIAR site boundary**

Sub-surface archaeology, by its very nature, is not detectable above ground and can occur within or below peat deposits or below the topsoil. Such archaeological features may not be apparent during a visual examination of a site. Construction activities (excavation) associated with the proposed turbines

and associated infrastructure including compounds, borrow pit, substation, proposed roads, excavation associated with the grid connection cable route, road widening associated with the proposed turbine delivery route may directly impact on such features if present within the EIAR site boundary. Direct effects are addressed in Section 13.4.3.3 below.

13.3.1.6 Archaeological Investigations undertaken within the proposed wind farm site and adjacent to same

Each townland within the proposed development site and adjacent to same was checked in the database of Irish excavations to ascertain if any archaeological investigations produced positive results.

One archaeological monitoring project was undertaken in the townlands of Carrowmore and Cashel for a water pipe trench. Nothing of archaeological significance was uncovered.

2018:604 - Carrowmore (Gleneely ED) Ccshel (Gleneely), Donegal

County: Donegal Site name: Carrowmore (Gleneely ED) Ccshel (Gleneely)

Sites and Monuments Record No.: NR DG 11:25, 11:29, 11:30 & 12:20 Licence number: 18E0189

Author: David Sweetman

Site type: No archaeology found

ITM: E 651654m, N 946004m

Latitude, Longitude (decimal degrees): 55.178056, -7.258056

Monitoring of water pipe line trenching in Carrowmore and Cashel townlands produced nothing of archaeological interest.

In the townland of Crochahenny to the east of the proposed Glenard Windfarm, a relic field system was recorded during archaeological monitoring associated with the Crockahenny Wind farm. This has since been added to the SMR list (DG030-016) and is the nearest archaeological monument to the proposed Glenard Wind Farm. It is described in Section 13.3.1.3 above. The circumstances of its discovery is described in the excavation summary below.

1998:104 - CROCKAHENNY (INISHOWEN), Donegal

County: Donegal Site name: CROCKAHENNY (INISHOWEN)

Sites and Monuments Record No.: N/A Licence number: 98E0003

Author: Eoin Halpin, Archaeological Development Services Ltd, Unit 48, Westlink Enterprise Centre, 30-50 Distillery Street, Belfast BT12 5BJ.

Site type: No archaeological significance

ITM: E 645942m, N 933184m

Latitude, Longitude (decimal degrees): 55.143860, -7.279373

The proposed site of Crockahenny Wind Farm lies around the summit of Crockahenny Hill (OD 326m) and stretches across the col between it and the lower slopes of Leamacrossan (OD 392m) to the east.

There are no known archaeological sites recorded in the immediate vicinity of the hill. Field-walking took place on 10 September 1997. No sites of archaeological interest were identified in the area of the wind generators, four of which are positioned close to the 1000ft contour.

The proposed access road traverses the southern flank of the hill, running approximately west to east. About a third of the way along, its line crosses that of a series of relict field boundaries. Four examples were noted, two of which ran downslope at right angles to the contours. The northern, upslope end of the westernmost example revealed evidence of a joining cross-wall. These features do not appear on the OS 6-inch map of the area and were in extremely poor repair, with the surviving stones deeply embedded in the subsoil. Taken together they may indicate a prehistoric field system, and, if so, it is

possible that the upper slopes of Crockahenny Hill also have traces of this system surviving under the peat.

Nothing of archaeological significance was noted in the area of the switch-gear and control building.

Owing to the complex nature of the field system discovered during the field-walk phase, an EDM survey was undertaken to record its extent. Two distinct systems were recorded, the first on the western flank of the hill and the second centred on the area where the initial field walls were noted. The remains on the western flank consisted of a roughly circular enclosure some 170m in diameter and defined from north-west through north to east by the remains of a substantial stone wall. From east to the intersection with the trackway the enclosure appears to be preserved in the line of a broad, shallow, water-logged ditch. Its south-west arc seems to survive on the southern side of the trackway as a stone bank. However, the construction of the track has disturbed this area considerably, and therefore what is visible on the ground may be a by-product of the track construction rather than the original line of the enclosure. No trace was noted for a distance of some 70m to the north of the track on the west side.

The enclosure appears to be divided in half by a cross-wall that runs from north-north-west to south-south-east. However, it was not traced beyond half distance. A subrectangular enclosure, measuring some 6m by 5m, was noted on the west side of this cross-wall.

The north side of the enclosure revealed evidence of radial walls, the first running due north for some 85m. The second, to the north-east, ran for a distance of 30m before turning south-east and running up to a steep-sided rock outcrop, with a third wall running 20m from the enclosure to the rock outcrop.

At a distance of some 100m to the south-east of the enclosure a possible hut circle was recorded. It was situated on the 270m contour and consisted of a level platform, backed on the upslope side by an outcrop of rock and to the front and sides by the curving arc of a bank. These features defined an oval area measuring 25m east-west by 20m transversely. A possible break in the line of the bank to the south-east appeared to be the remains of an entrance.

Further to the east the line of a field wall was recorded running south-west to north-east perpendicular to the slope of the hill. It consisted of large boulders protruding from the grass- and peat-covered ground and was easily traceable for a distance of some 130m. Its northern end abutted an outcrop of bedrock. To the north of this the wall reappeared, arcing around roughly at a right angle and running for a further 40m to abut against another rock outcrop. The possible remains of a further wall were noted running across the corner created by Walls 1 and 2; however, this was not clear on the ground. A fourth wall was recorded to the south of the east end of Wall 2 and, as with Wall 1, ran perpendicular to the slope of the hill.

The line of the fourth wall marked a change in the vegetation cover on the hillside. To the west, where the hill was exposed to the prevailing south-westerlies, the cover was grass, reeds and exposed bedrock. To the east, the leeward side was covered in a blanket of peat, heather and sphagnum, which has the effect of masking any further evidence of archaeology along this flank.

Some bog probing took place, concentrating on two areas: at the apparent southern termini of the Walls 1 and 4 and along the proposed line of the access route up the hillside. The northern termini of Walls 1, 2 and 4 were examined, but each of these was found to run into outcrops of bedrock and was not seen to run beyond.

The probing of the access route was carried out at 1m intervals starting at the upslope eastern end. The depth of bog cover was recorded, and, where rock was encountered, detailed probing took place to ascertain whether it was part of a larger, possibly archaeological feature. The termini of Walls 1 and 4 were likewise examined with detailed probing both across and along their projected lines.

The probing of the field walls showed that their downslope ends more or less terminated where they were visible on the ground, with their upslope ends disappearing into natural rock outcrops.

A proposed area of rock extraction was also examined and revealed nothing of archaeological significance.

Finally monitoring of the open-area stripping of the switch-gear building and of the access roadway and generator pads took place. Nothing of archaeological significance was found'.

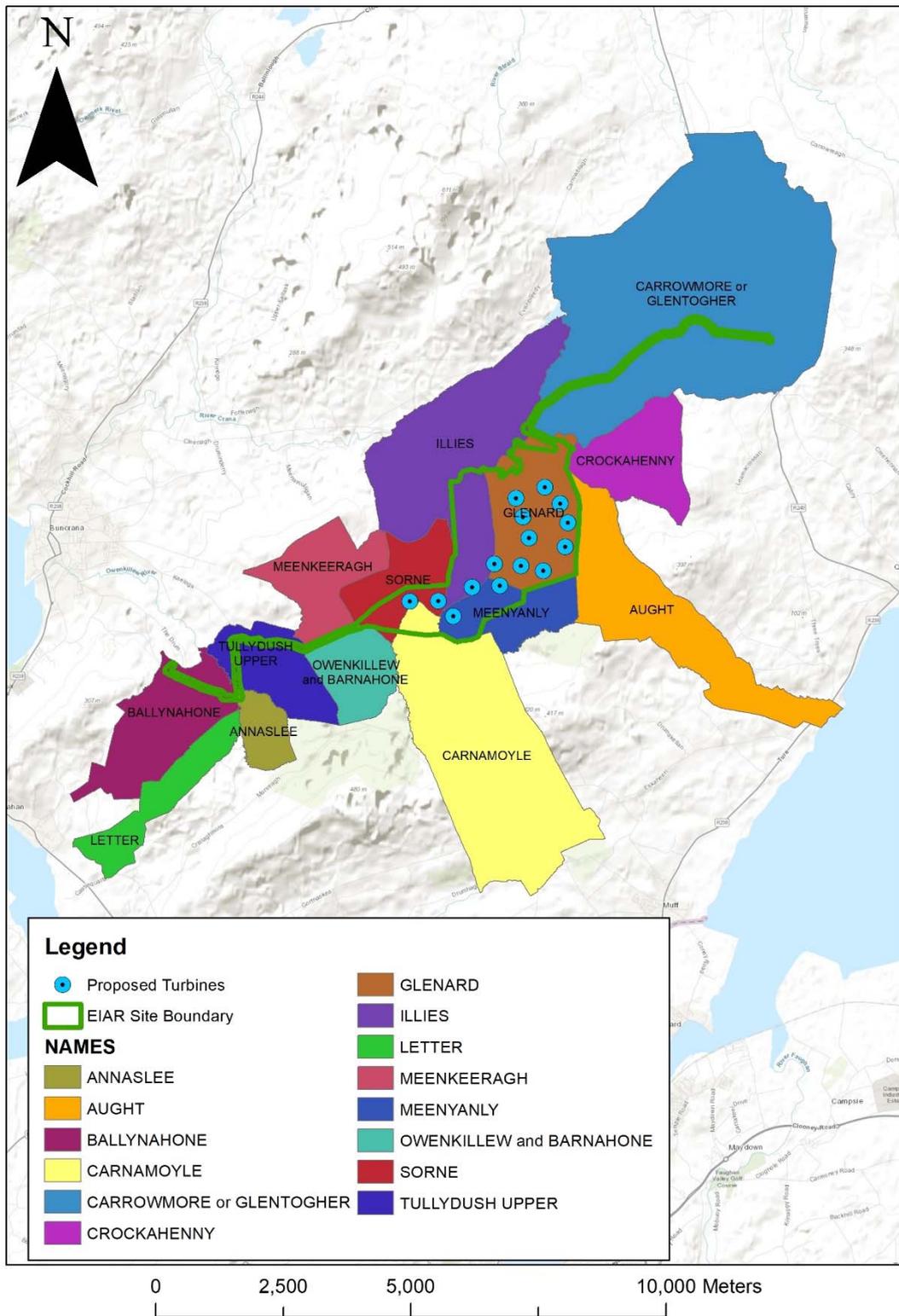


Figure 13-8: Townlands within and adjacent to the EIAR Site Boundary.

13.3.1.7 Townlands, administrative boundaries and folklore

Townlands and administrative boundaries may indicate the presence of archaeological features within a development site. Administrative counties are subdivisions of pre-established counties which were formed for administrative purposes in the nineteenth and twentieth centuries. Baronies are administrative units larger than civil parishes and originally established as the primary subdivision of counties by the British administration in Ireland. Irish baronies which were formed at the time of the Norman conquest were usually named either after Irish territories, or from places which had been of importance in pre-Norman times. Irish baronies came into existence at different periods. The division of Ireland into counties and baronies was a process which continued down to the reign of James I. The original baronies in Ireland were the domains of the Norman barons; in the final stage of development they were divisions of counties created merely for greater convenience of administration. The word barony is of feudal origin, and was applied to a tenure of a baron, that is, of one who held his land by military service, either directly from the king, or from a superior feudal lord who exercised royal privileges. The origin of the Irish barony (a division of land corresponding to the English hundred) is to be found in the grants of lands which were made to the barons of Leinster and the barons of Meath (Liam Price, 'Ráith Oinn', Éigse VII, lch. 186-7). Civil parishes are administrative units larger than townlands and based on medieval ecclesiastical parishes. Civil parishes, modern Catholic parishes and Church of Ireland parishes may differ in extent and in nomenclature. Counties are administrative units larger than baronies and originally established by the British administration in Ireland between the twelfth and the seventeenth centuries. Some of these were subsequently subdivided into smaller administrative county units.

Townlands are the smallest land units which were determined and established in the Irish administrative system in the first half of the nineteenth century. Many of the townlands were in existence prior to that. Townland names are a valuable source of information, not only on the topography, land ownership and land use within the landscape, but also on its history, archaeological monuments and folklore.

The following townlands are those which are within the proposed development site.

| | |
|--------------------|-----------------------------------|
| Townland | Glenard |
| County | Dún na nGall/Donegal |
| Electoral district | Ard an Chrainn/Three Trees |
| Barony | Inis Eoghain Thiar/Inishowen West |
| Civil parish | Magh/Muff |

| | |
|---------------------|--------------------------------------|
| Townland: | Cnoc an Cheannai/Crockahenny |
| County: | Dún na nGall/Donegal |
| Electoral District: | An Caisleán Geal/Whitecastle |
| Barony: | Inis Eoghain Thoir/Inishowen East |
| Civil Parish: | Maigh Bhile Uachtarach/Moville Upper |

| | |
|--------------------|-----------------------------------|
| Townland | Aught |
| County | Dún na nGall/Donegal |
| Electoral district | Ard an Chrainn/Three Trees |
| Barony | Inis Eoghain Thiar/Inishowen West |
| Civil parish | Magh/Muff |

The Folklore Schools Collection for this townland notes the presence of ‘holes within the Aught River and were named as ‘Soldier’s Hole, the Holly Hole and Montgomerys Hole. Montgomerys Hole and Montgomerys Rock were named after a man who died in shelter of the rock in the time potato famine. The Holly Hole is named after a big holly tree which hangs over it’.

| |
|--|
| Townland: Na Huilli/Illies |
| County: Dún Na Ngall/Donegal |
| Electoral District: Na Huilli/Illies |
| Barony: Inis Eoghain Thiar/Inishowen West |
| Civil Parish: Fathain Íochtarach/Fahan Lower |

Known under various names; 1621 as Ellaes, 1669 as Ellaes, 1801 as Illys, 1835 as Uillidhe and in 1835 as Ellies.

The Schools Collection on Duchas.ie records the following folklore under the townland name Illies; ‘There is supposed to be a hidden treasure in Meenaharnish hill. Some say it is a cheese store and that the cows from Tyrone were driven to Meenaharnish and milked and cheese was made from the milk and stored in a room and the old building is to be seen yet. Gold is supposed to have been burned in a hill in Glenard by the Dunes and it is supposed to have been burned under the spot where the sun just shines in the morning on the 1st day of Summer. It is said that on stormy nights men were seen walking around the place with lights’ (The Schools’ Collection, Volume 1112, Page 459).

An interesting account of burning lime in Lime Kilns is also noted;

‘A man builds a round kiln six feet in diameter and five feet high, he then builds two little walls in the centre of the kiln at the bottom (about 2ft high). After that he gets flat stones and he covers the two walls with the stones and he leaves a space of two inches between every stone. He leaves a hole in the front of the kiln two feet high and one and a half feet broad. After that he goes to a quarry and he digs out some of the lime stone and takes it up to the kiln and he breaks it into small pieces. When he has the stones broken he gets turf and he puts a layer of the turf on the top of the stones in the bottom of the kilns the then puts a layer of the broken lime-stone on the top of the turf, he puts a layer of turf on the top of the layer of stones and he does the same until the kiln is full. When it is full he puts a fire in the hold he left in the front, and then the turf burns and burns the lime-stone into lime’ (The Schools’ Collection, Volume 1112, Page 481).

There is also folklore relating to a Mass Rock in the townland if Illies. No SRMs are located within the townland and the location of the mass rock is not known. The account is as follows:

‘There is a mass rock in Cornelius Mc Daid’s farm in Lower Illies about six miles east from Buncrana. A cave runs underground from the mass to the next farm which is east of it and if the soldiers came while

the priest was saying mass he would go into the cave and place a stone in the mouth of it so they would not find him. In the mass rock there is a round hole which the holy water used to be kept. Two or three yards to the side of the mass rock is another rock which was supposed to shelter the mass rock' (The Schools' Collection, Volume 1112, Page 510).

Townland: Sorne

County: Dún Na Ngall/Donegal

Electoral District: Bun Cranncha (Tuath)/Buncrana Rural

Barony: Inis Eoghain Thiar/Inishowen West

Civil Parish: Fathain Íochtarach/Fahan Lower

Townland: Meenyanly

County: Dún Na Ngall/Donegal

Electoral District: Ard An Chrainn/Three Trees

Barony: Inis Eoghain Thiar/Inishowen West

Civil Parish: Magh/Muff

Townland: Meenkeeragh - Mín Caorach

County: Dún Na Ngall/Donegal

Electoral District: Bun Cranncha (Tuath)/Buncrana Rural

Barony: Inis Eoghain Thiar/Inishowen West

Civil Parish: Fathain Íochtarach/Fahan Lower

Townland: Tulaigh Dois Uachtarach/Tullydush Upper – hillock of the bush

County: Dún Na Ngall/Donegal

Electoral District: Bun Cranncha (Tuath)/Buncrana Rural

Barony: Inis Eoghain Thiar/Inishowen West

Civil Parish: Fathain Íochtarach/Fahan Lower

Folklore in the Schools collection in Tullydush upper refers to Grannia's Grave;

‘Grannia’s Grave:- This is a grave marked by a rock in a wood in Tullydish. The story connected with this grave is as follows: In olden times there was no bridge across the Tullydish river and no burying ground at Cockhill Chapel hence all the dead from the district at the other end of the parish such as, from Cockhill, the Illies, and Tullydosh had to be buried in Fahan Graveyard. One day a man from the Illies named Grannia died and had to be taken to Fahan but, as the funeral procession reached the Tullydish river, there was a flood in it and they could not get across with the corpse so they took the body back a short distance to the wood which still exists and buried it there. The grave is still marked by the large rock already mentioned lying on top of it. The above story was told to me by Robert Quigley on 17 Jan 1938 (The Schools’ Collection, Volume 1113, Page 7) .

No trace of this feature on the historic mapping is evident.

Townland: Annaslee

County: Dún Na Ngall/Donegal

Electoral District: Fathain/Fahan

Barony: Inis Eoghain Thiar/Inishowen West

Civil Parish: Fathain Uachtarach/Fahan Upper

Townland: Ballynahone

County: Dún Na Ngall/Donegal

Electoral District: Fathain/Fahan

Barony: Inis Eoghain Thiar/Inishowen West

Civil Parish: Fathain Uachtarach/Fahan Upper

Townland: Letter

County: Dún Na Ngall/Donegal

Electoral District: Fathain/Fahan

Barony: Inis Eoghain Thiar/Inishowen West

Civil Parish: Fathain Uachtarach/Fahan Upper

13.3.1.8 Topographical Files of the National Museum of Ireland

Circa 600m to the north of the EIAR planning application boundary a number of artefacts were recovered from the eastern shores of the then Owennasop River (now Fullerton Dam) (Figure 13-9). The finds consisted of 3 silver bracelets (388-390), stone hone (391), 13 fragments of iron (392-404) and stone with inscription (405) Name 1934: 388-405.

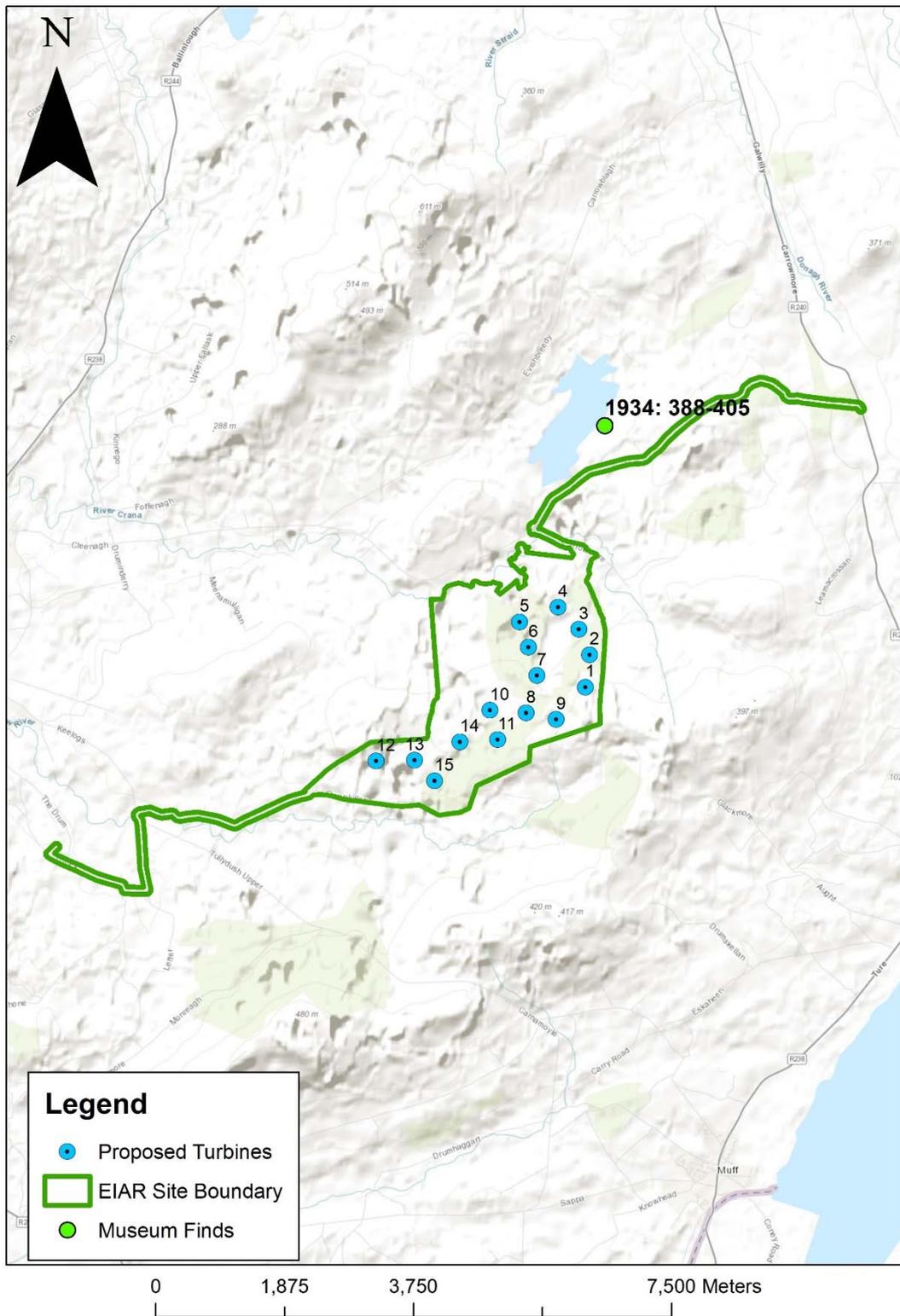


Figure 13-9: Topographical finds of the National museum (find database 2010, Heritage Maps).

13.3.1.9 Cartographic Evidence

13.3.1.9.1 Down Survey maps

The down Survey maps were consulted but no features were noted therein with little detail provided for Muff and Fahan parishes.

13.3.1.9.2 1st and 2nd Edition OS maps

The Ordnance Survey came to Ireland in 1824 in order to carry-out a precise admeasurement of the country's 60,000 or so townlands as a preliminary to the larger task of reforming Ireland's local taxation system. The townland boundaries were demarcated by a Boundary Commission, and the Ordnance Survey had the task of measuring them. In addition to boundaries the maps are truly topographical in content. Drawn at the large scale of six inches-to-one-mile (1:10,560) it was important to mark all buildings, roads, streams, placenames, etc, that were required for valuation purposes. Ultimately the maps were used as a basis for the rateable valuation of land and buildings in what became known as Griffith's Valuation. Working from north to south, the survey began in Antrim and Derry in 1829 and was completed in Kerry in 1842. It was published as thirty-two county maps between 1832 and 1846, the number of sheets per county varied from 153 for County Cork to 28 for Dublin, each of the 1,994 sheets in the series depicting an area 21,000 by 32,000 feet on the ground. Each county was projected on a different central meridian and so the maps of adjacent counties do not fit neatly together at the edges. Map content stops at the county lines.

The First Edition

The early Ordnance Survey maps are an unrivalled source for the period immediately before the Great Irish Famine (1847-50) when the population was at the highest level ever recorded. The maps depict a vast open mountainous area with numerous streams. No features were noted on the historic mapping. Some bridges are named on the 6inch mapping along the grid connection cable route and these are discussed in Section 13.3.3 below.

The Second Edition

When the original survey began it did not include field boundaries and they did not appear on the maps. This policy was reversed in 1838 after a number of northern counties had been published. Therefore when the country was completed in 1846 the counties of Antrim, Armagh, Derry, Donegal, Down, Fermanagh, Monaghan, and Tyrone were resurveyed to add field boundaries. Subsequently this general revision was extended to other counties because of change in the post- Famine landscape. Survey work was curtailed in 1887 when the government agreed to survey the country at the larger scale of 1:2,500.

The 25 inch Historic map is only available for a portion of the grid connection cable route on which a number of bridges are depicted. These are discussed in Section 13.3.3 below.

13.3.1.10 Lewis Topographical Dictionary of Ireland

Muff, one of the parishes within which the proposed development is located is described in Lewis topographical Dictionary as follows:

'MUFF, an ecclesiastical district, in the barony of ENNISHOWEN, county of DONEGAL, and province of ULSTER, 5 miles (N. N. W.) from Londonderry, on the road to Merville; containing 5915 inhabitants. Aileach castle, now only a noble ruin, stands on the summit of a lofty hill, and appears to have been the residence of the princes of the country for many centuries; in the reign of Elizabeth it was occupied by the O'Dohertys, who, in 1601, were conquered by Sir H. Docwra, who afterwards

held their lands from the queen. Sir Cahir O'Doherty, the chieftain of Ennishowen, on May 1st, 1608, invited Capt. Hart, the English Governor of Culmore fort, and his lady, to the castle, under the guise of friendship; when he seized and made them prisoners, exacting such orders from the governor as secured the chieftain's own admittance into Culmore fort; having succeeded in obtaining which he massacred the garrison, took possession of the fort, and, on the same night, captured Derry, putting Sir G. Paulett, the governor, to death. Aileach castle was, shortly afterwards, re-taken by the English, under Lord-Deputy Wingfield, by whose orders it was dismantled, and it has ever since remained in ruins. This district is bounded on the east by Lough Foyle, and comprises, according to the Ordnance survey, 15,030 statute acres, of which 14,988 are allotted under the tithe act, and valued at £8658 perann.; about four-fifths are good arable land under an excellent system of cultivation; the remainder is mountainous and unproductive. The village has a neat appearance, the houses being clean and well built. Fairs are held on May 4th, Aug. 5th, Oct. 25th, and Dec. 11th. It has a penny post to Londonderry and Moville, a dispensary, and a constabulary police station; petty sessions are held once every fortnight; and a court for the manor of Muff is held on the second Tuesday in every month, for the recovery of debts under 40s. Ballynagarde is the residence of Capt. Hart, and Birdstown, of the Rev. P. B. Maxwell. The living is a perpetual cure, in the diocese of Derry, and in the patronage of the Dean; it was erected in 1809, when thirteen townlands were separated from the parish of Templemore. The tithes belong to the Dean: the income of the curate is £100, late currency, arising from £26 paid out of the Augmentation funds of the Ecclesiastical Commissioners, and a stipend from the Dean. The church is a small neat edifice, in the Gothic style of architecture, built about a century since by the ancestor of the late Gen. Hart, of Kilderry; and the Ecclesiastical Commissioners have lately granted £379 for its repair. In the R. C. divisions Muff forms part of the union or district of Templemore. About 100 children are educated in a school principally supported by the dean, and a school at Culmore is supported by the Hart family; there are also two private schools, in which are about 90 children; and two Sunday schools. The fort of Culmore is nominally within this district, though usually considered to be extra-parochial.

Fahan Lower, the second parish within which the proposed development is located is also described in Lewis as follows:

'FAHAN (LOWER), a parish, in the barony of ENNISHOWEN, county of Donegal, and province of

Ulster; containing, with the post-town of Bunrana (which is described under its own heading). This parish originally formed the Lower, or Northern portion of the extensive parish of Fahan, from which it was separated in 1795; it is bounded on the west by Lough Swilly, and comprises, according to the Ordnance survey, 24,782 $\frac{3}{4}$ statute acres. A great portion is mountain, affording good pasturage, of which Slieve Snaght, on the north-eastern boundary, rises, according to the above survey, 2019 feet above the level of the sea. The valleys are well watered and productive, and agriculture is improving. There is a coast-guard station at Ballinary; and at Neids' point is a battery, erected in 1812, now under the care of a master-gunner and five artillerymen. Lough Swilly is very spacious and deep, affording anchorage for large ships; vast numbers of oysters, cod, and haddock are taken in it. Here are many gentlemen's seats, the principal of which are Bunrana Castle, the residence of Mrs. Todd, which was once the seat of the powerful sept of The O'Doherty, who governed the entire country for several centuries; the Lodge, unoccupied; Rockfort, of the Rev. W. H. Stuart; Townsend Lodge, of Col. Downing; River-View, of W. Camac, Esq.; and the Cottage, belonging to Dr. Evans. The living is a perpetual curacy, in the diocese of Derry, and in the patronage of the Rector of Upper Fahan: the tithes amount to £420. The church, in the town of Bunrana, was built in 1804, by aid of a gift of £500, and considerably enlarged by a loan of £390 in 1816, from the late Board of First Fruits; the Ecclesiastical Commissioners have recently granted £370 for its further enlargement and repair. In the R. C. divisions the parish forms part of the union or district of Upper and Lower Fahan and Desertegney; there is a large chapel at Cock Hill. At Bunrana is a meetinghouse for Presbyterians in connection with the Synod of Ulster; and the Primitive and Wesleyan Methodists have each a place of worship. The parochial school, at Bunrana, is aided by the trustees of Erasmus Smith's charity: there are also male and female schools at Luddon, and a national school at Cock Hill. In these schools about 280 children are instructed; and there are eight private schools, in which are about 320 children, and a Sunday

school. Not far from Ballinary is a very curious fort, or cairn, called Dooninary, chiefly composed of loose stones, having smaller ones as outposts’.

13.3.2 Architectural and Cultural Heritage

13.3.2.1 Protected Structures within the EIAR site boundary

No built heritage structures which are subject to statutory protection are located within the EIAR site boundary

13.3.2.2 Protected Structures within 5km of the nearest proposed turbines

The Record of Protected Structures (RPS) for County Donegal was added to the project mapping in order to ascertain what structures, if any, were located in or within close proximity to the proposed Glenard wind farm. All RPS structures within 5km of the nearest proposed turbines are considered for purposes of assessing potential indirect impacts on their setting. None, however, are located within 5km of any turbine. The nearest structure (Swan Mill in Bunrana) is located 7km to the west of Turbine 12.

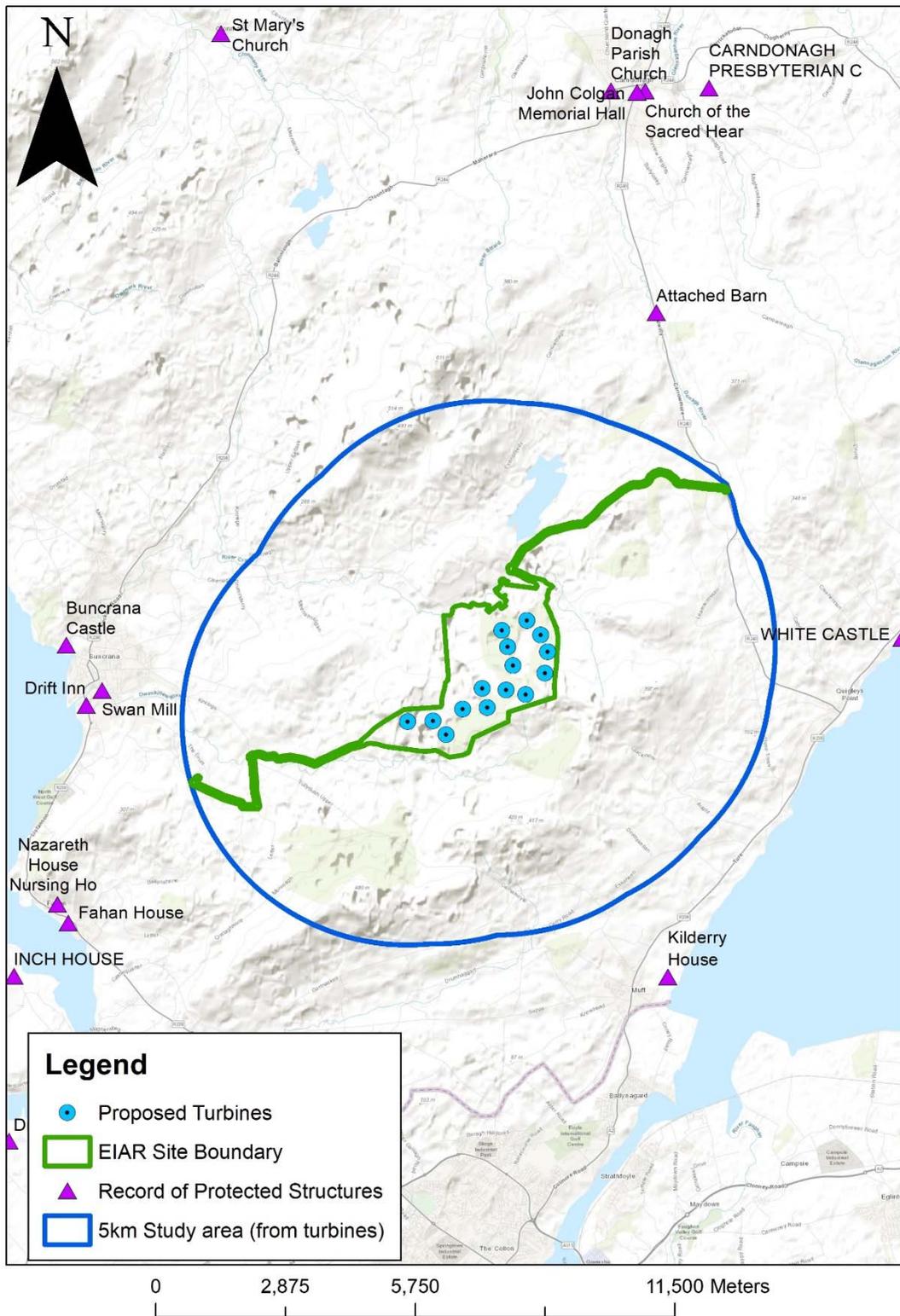


Figure 13-10: Record of Protected Structures (Donegal County Council) in relation to proposed development.

13.3.2.3 NIAH within 5km of the nearest proposed turbines

Fourteen National Inventory of Architectural Heritage (NIAH) structures are located within 5km of the nearest proposed turbines and these are detailed in Table 13-5 below. None are located within the EIAR site boundary. Structures near to or along the proposed delivery route are discussed below in Section 13.3.4. The NIAH within 5km of the nearest proposed turbines are considered here for purposes of assessing potential indirect impacts on setting in the wider landscape area. None of the bridges listed below will be traversed by the proposed development.

Table 13-5: NIAH within 5km of the nearest proposed turbines.

| MAP ID | NIAH | ITM E | ITM N | Structure | Td. | Type | WTG | DISTANCE (M) |
|--------|----------|--------|--------|-------------------------------|--|----------------------|-----|--------------|
| 1 | 40903002 | 645158 | 933761 | Strath Bridge | Crockahenny | bridge | 4 | 977 |
| 2 | 40903012 | 644299 | 934822 | Fullerton Pollan Dam | Illies | dam/reservoir/basin | 4 | 1660 |
| 3 | 40902936 | 641383 | 934284 | Glashagh Bridge | Connaghkinnagoe, Illies | bridge | 5 | 2783 |
| 4 | 40902934 | 638793 | 930626 | N/A | Tullydush Lower | booley hut | 12 | 2958 |
| 5 | 40902944 | 640095 | 934809 | N/A | Connaghkinnagoe | house | 5 | 4168 |
| 6 | 40902933 | 637490 | 931841 | N/A | Bauville Keeloges And Clonglash | kiln | 12 | 4347 |
| 7 | 40903005 | 649159 | 933237 | Beggars Bridge | Meenavaghan | bridge | 2 | 4387 |
| 8 | 40902943 | 638668 | 934145 | Druminderry Bridge | Druminderry Upper And Lower, Foffanagh | bridge | 12 | 4458 |
| 9 | 40903908 | 646569 | 927530 | N/A | Eskaheen | gates/railings/walls | 9 | 4559 |
| 10 | 40903909 | 646839 | 927625 | N/A | Eskaheen | farm house | 9 | 4616 |
| 11 | 40903910 | 647309 | 927930 | Drumskellan Bridge | Drumskellan | bridge | 9 | 4645 |
| 12 | 40903006 | 649435 | 931682 | N/A | Tromaty | school | 2 | 4662 |
| 13 | 40903904 | 645812 | 927008 | St. Patrick's Catholic Church | Eskaheen | church/chapel | 9 | 4738 |
| 14 | 40903907 | 646192 | 927128 | N/A | Eskaheen | farm house | 9 | 4757 |

The ZTV was overlaid on the project GIS mapping with the NIAH. The results show that 3 of the 14 structures within 5km of the nearest proposed turbine may have some potential visibility of between 13 and 15 turbines. Two of the 14 structures may have visibility of 9 to 12 turbines with no visibility from the remainder of the NIAH structures. This is a worst case scenario as the ZTV model does not take vegetation or natural screening into consideration. An assessment of the potential impact is undertaken in Section 13.4.4.4 below.

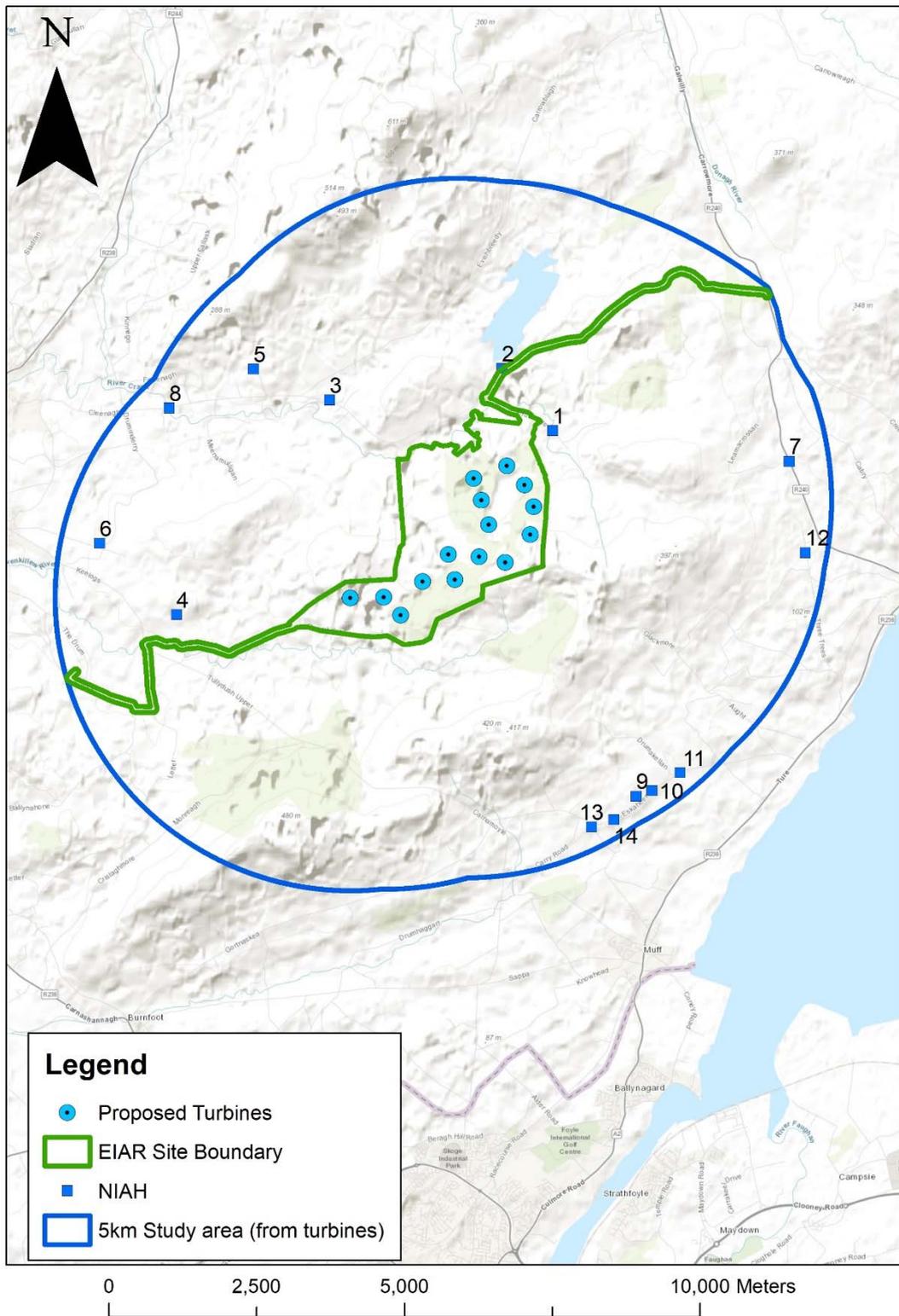


Figure 13-11: NIAH structures within 5km of the nearest proposed turbine.

13.3.2.3.1 Description of the NIAHs

40903005 'Beggars Bridge' (Map ID 7 X)

Single-arch bridge carrying road over the Pollen River, built c. 1800. Round-headed arch with cut stone voussoirs with smooth rendered soffit. Rubble stone piers mounted on rubble stone buttresses. Rubble stone parapet with large roughly squared stone coping. Double carriageway paved with tarmacadam, pipes located to both parapets. A finely built small road bridge with good quality stone masonry on the road lining Carrowkeel to Carndonagh. It is marked on the Ordnance Survey first edition six-inch map of c. 1837 as 'Beggars Bridge' and has been an important crossing point over the Pollan River for at least two centuries.



Plate 13-1: Beggars bridge (courtesy of BuildingofIreland).

40903002 Strath Bridge, CROCKAHENNY (Map ID 1)

Single-arch road bridge, built c. 1850, spanning Meenatomish River. Round-headed arch with roughly squared rubble stone voussoirs, rubble stone piers. Limestone rubble stone parapet with occasional red brick inclusions and rubble stone coping. Deck paved with tarmacadam. A simple mid-nineteenth century bridge, possibly built as a Famine relief scheme, as not shown on Ordnance Survey first edition six-inch map of c. 1837. Its rustic quality enhances its setting in a spectacular landscape.



Plate 13-2: 40903002 Strath Bridge, CROCKAHENNY (courtesy of BuildingsofIreland).

40903012 Fullerton Pollan Dam, ILLIES (Map ID 2)

Mass concrete dam and reservoir over the Owennasop River, built 1992. Shuttered concrete dam walls with concrete coping surmounted by mild steel tubular railing, concrete pillars supporting a sloping stepped dam overflow wall, large reservoir to rear and canalised river with concrete walls to front. Two single-storey structures to the south of dam. Located in the upland rural landscape to the east of Buncrana. A large and imposing late twentieth-century dam constructed to provide drinking water to Carndonagh, Buncrana and other surrounding towns and villages. A fine structure, elegant in its form and practical in its design. It is named after the Buncrana Sinn Fein councillor Eddie Fullerton who was murdered in 1991. Although modern, this impressive structure constitutes the engineering heritage of the future, and is an interesting feature in the desolate but scenic upland landscape to the east of Buncrana.



Plate 13-3: 40903012 Fullerton Pollan Dam.

40902936 Glashagh Bridge, ILLIES (Map ID 3)

Three-arch humpback road bridge over Glashagh River, built c. 1860. Elliptical-headed arches with dressed squared stone voussoirs, cement rendered soffit, V-shaped squared rubble stone cutwaters with rubble stone cap, semi-circular rubble stone pier with domed rubble stone cap to abutments. Concrete underpinning. Random rubble stone spandrels and parapets, stepped parapet walls to south and north ends to bridge; soldier coursed squared rubble stone coping to parapets with some concrete repairs. Tarmacadam double carriageway.

A simple but elegant rural bridge, demonstrating quality stone masonry skills. Its continued use is testimony to its design and construction. With its humpback shape and elliptical arches, it is also a picturesque landmark in this rural landscape.



Plate 13-4: 40902936 Glashagh Bridge.

40902943 Druminderry Bridge (Map ID 8)

Three-arch bridge road over Crana River, built c. 1800. Elliptical-headed arches, dressed squared stone voussoirs, V-shaped rubble stone cutwaters to both sides with domed cap. Modern square-headed overflow passageway with cement rendered surrounds to east abutment. Modern concrete underpinning. Random rubble stone spandrel and parapets, metal bracing plates to spandrels, cement rendered coping to parapets. Tarmac double carriageway.

A simple rural bridge which has preserved its original fabric and is still fulfilling its vital function in spanning the River Crana. The fine craftsmanship illustrated by its elegant arches adds to the quality of its stonework making it a robust and handsome landmark in the rural landscape. Its continued use after two hundred years further attests to its design and engineering qualities. It is marked on the Ordnance Survey first edition six-inch map of c. 1837.



Plate 13-5: 40902943 Druminderry Bridge.

40902944 Connaghkinnagoe House (Map ID 5)

Detached four-bay single-storey direct-entry vernacular house built c. 1860, with bed outshot to rear and outbuildings to both gables. Pitched thatched roof with chicken-wire and rope net attached to iron bar to eaves, rectangular brick chimneystacks with stepped cap to both gables; pitched corrugated-metal roof to outbuildings. Whitewashed rubble stone walls. Square-headed window openings, timber casement windows with whitewashed reveals and sills. Square-headed door opening with whitewashed stone lintel and timber battened door. House set in farmyard with modern rendered boundary walls.

A well-preserved thatched house with all the characteristic details of the type including its linear direct-entry plan, small window openings and bed outshot, making it an important example of disappearing vernacular architecture. Thatched buildings, although still relatively common in Inishowen, nationally are becoming increasingly rare making their survival a matter of importance. A much smaller house is shown on this site on the Ordnance Survey first edition six-inch map of c. 1837. This and the brick chimneystacks suggest a mid-nineteenth century date.



Plate 13-6: 40902944 Connaghkinnagoe House.

40902934 Booley Huts x 3 (Map ID 4)

Remains of **three former huts** or booley huts, built c. 1700. Sub-rectangular in plan with random rubble stone footings, now covered in vegetation. Sited in upland locations on marginal land. Located to the south-east of Buncrana, and on the southern slopes of Bawnloge Hill.

Sited in upland locations, these fragmentary structures are probably the footings of a group of former booley huts. Booley huts were associated with the temporary seasonal (Summer) pasturing of livestock in upland and other marginal locations and, as such, they are a significant reminder of seventeenth to nineteenth transhumance practices. They may be associated with a relic field system (see DG029-052—). These unassuming structures are an interesting addition to the built heritage and archaeology in the scenic upland landscape to the south-east of Buncrana, and are additions to the built heritage of the local area.



Plate 13-7: 40902934 Booley Hut.

40903006 Clunelly National School (now a house) (Map ID 12)

Detached three-bay two-storey former national school, dated 1908, on cruciform-plan with gable-fronted central breakfront and single-storey central return to rear. Now in use as house. Pitched slate roof with terracotta ridge tiles, gable ended red brick chimneystacks with rendered coping, rendered gable coping and replacement rainwater goods. Roughcast rendered walls with smooth rendered plinth course. Square-headed window openings with replacement timber windows and painted sills. Square-headed door opening with glazed timber door to breakfront. Set within own grounds, bounded by rubble stone wall with smooth rendered curving coping and cast-iron gate hung on rendered piers with chamfered stone capping.

An early twentieth century national school replacing a small school shown on the same site on the Ordnance Survey first edition six-inch map of c. 1837. It retains much of its original character and form despite being converted for use as a house. This school conforms to the typical Office of Public two classroom national schools that were built in great numbers throughout Ireland during the early-to-mid twentieth century, and represents a relatively intact example of its type. This simple school building is of social importance to the local community, and represents an interesting addition to the built heritage of the local area.



Plate 13-8: 40903006 Clunelly National School.

40903910 Drumskillan Bridge (Map ID 11)

Single-arch road bridge over stream, built c. 1800. Round-headed arch with cut stone voussoirs, rubble stone piers and stone stringcourse. Rubble stone parapet with squared stone coping, rendered in places and with stringcourse to deck level. Stream partly canalised with rendered retaining wall to west bank. Double carriageway with tarmac deck.

A handsome bridge with good architectural detailing including cut stone voussoirs and stringcourses. Although crossing a fairly minor stream, a bridge of this scale was required to maintain the level of the road. Its continued use is testimony to its engineering and construction. A number of tuck and flax mills are marked just downstream of the bridge on the Ordnance Survey first edition six-inch map of c. 1837.



Plate 13-9: 40903910 Drumskellan Bridge.

40903904 St. Patrick's Catholic Church (Map ID 13)

Freestanding six-bay hall-type Catholic church, built 1782, with small sacristy to south and entrance porch to west. Pitched artificial slate roof with gable coping, skew ends, cruciform finials and replacement rainwater goods. Smooth rendered ruled-and-lined walls with smooth rendered plinth course. Pointed-arch window openings with timber Y-tracery and stained glass. Pointed-arch window openings to sacristy with timber multiple pane decorative glazing with margin lights. Square-headed door opening to porch with battened timber doors. Interior with timber sheeted ceiling and gallery to west. Set within own grounds with modern graveyard to north and bounded by smooth rendered walls with rendered coping surmounted by cast-iron railings, substantial gate piers with shouldered rendered coping and double leaf cast-iron gates. A medieval abbey in ruins containing a graveyard with many eighteenth and nineteenth century graves is located across the road to the south. According to a plaque on the external wall Eoghan son of Niall of the Nine Hostages was buried there in 465 A.D. A grave slab to the south of the abbey ruins near the entrance contains an inscription '...28 of February 1661..'. The graveyard is bounded by a rubble stone wall with render on the external side and rendered coping, substantial rubble stone gate piers and double leaf cast-iron gates.

A simple but handsome pre-Emancipation church which has been recently renovated. It is depicted on the Ordnance Survey first edition six-inch map, surveyed 1834, but on a significantly different plan, suggesting that it was radically refurbished in the mid-nineteenth century. It is greatly enhanced by the existence of the adjoining medieval abbey in ruins and burial markers ranging from medieval to early modern period, marking it as a site of religious worship and burial for many centuries.



Plate 13-10: 40903904 St. Patrick's Catholic Church.

40903907 Farmhouse (Map ID 14)

Detached three-bay two-storey house, built c. 1820, with single-storey extension to rear and attached three-bay two-storey outbuilding to east gable. Pitched slate roof with clayware ridge tiles, red brick gable ended chimneystacks and cast-iron rainwater goods. Roughcast rendered and whitewashed walls. Square-headed window openings with two-over-two timber sash windows to first floor and timber casement windows to ground floor with smooth rendered surrounds and painted sills. Square-headed door opening with smooth rendered surrounds, timber panelled door and glazed overlight. Set within own grounds with gardens to front and rear, single-storey detached outbuilding to south-east and attached barn-over-stables comprising pitched slate roof with clayware ridge tiles, cast-iron rainwater goods, whitewashed roughcast rendered walls and square-headed openings with matchboard timber doors.

A good example of a small early nineteenth century farm house with contemporaneous outbuildings, well maintained preserving much of its original architectural detailing and thus its character and appeal.



Plate 13-11: 40903907 Farmhouse

40903909 Farm House (Map ID 10)

Detached three-bay two-storey farm house, built c. 1880, with outbuildings attached to north-east gable and single-storey porch extension to the south-west gable. Pitched slate roof with clayware ridge tiles, gable ended yellow brick chimneystacks with cornices and terracotta pots, rendered gable coping and cast-iron rainwater goods. Roughcast rendered walls. Square-headed window openings with bipartite one-over-one timber sash windows to first floor and timber casement windows to ground floor, smooth rendered window surrounds and painted sills. Square-headed door opening with half-glazed timber panelled door and glazed overlight to front of porch extension to front facade. Set within farm yard with rear facing onto the road, contemporaneous and modern farm buildings to front and north-east and modern house to south.

Although now disused this remains a solid farm house with a good roof and structurally sound walls. Its character is enhanced by the existence of contemporaneous outbuildings in the farm yard. This is a good example of a once common farm house type in Donegal.



Plate 13-12: 40903909 Farmhouse.

40903908 Gates/railings/walls (Map ID 9)

Wrought strap-iron field gate mounted on substantial cylindrical whitewashed uncoursed rubble stone piers with rendered domed coping. On the southern side of the road, opening into a field of open pasture.

A fine vernacular field gate with its original piers and gate, demonstrating skilled masonry and iron working techniques. It is very rare to find historic field gates in such good condition, as most have been at least partially removed to enable access for modern farm machinery.



Plate 13-13: 40903908 Gates/railings/walls.

Bauville Keeloges And Clonglash Kiln (Map ID 6)

This is a freestanding four-bay lime kiln, built c. 1860, no longer in use. Random coursed rubble stone walls. Four elliptical arches to east side with roughly dressed rubble stone voussoirs. Sited back from road, in field and set into natural slope from north to south. Rubble stone boundary wall with remains of single-storey lean-to corrugated-metal roofed concrete block structure to the north-east corner. Earthen embankment to rear, formerly giving access to loading chambers. Set back from road in rural location to west of Bunrana.

This interesting and substantial former lime kiln, erected by the local landlord during the second half of the nineteenth-century, survives in good condition and retains its early character. It is well-built using local rubble stone masonry and is an appealing and unassuming element of the agricultural\industrial and social heritage of County Donegal The embankment to the rear was built/modified to allow for the easy loading of stone through openings in the roof structure, while the apertures to the front was used to fire the oven to burn the stone and produce lime. Lime kilns appear to have come into popular use in Ireland during the eighteenth century and were a very common feature in the rural landscape up until the first decades of the twentieth century. They were used to burn limestone to produce lime, which was used as an agricultural fertilizer and spread on agricultural land, or in construction as a mortar and a render. Lime was also used for lime-washing buildings, particularly farm buildings, as it was regarded as a cleansing agent at the time. The scale of this lime kiln indicates that it was an industrial process rather than a kiln producing lime for a single local farmer etc. Rural lime kilns started to go out of common usage during the late nineteenth-century with the advent of industrial-scale lime production facilities and improvements in the transport network, particularly the development of the railways. This simple feature is an interesting feature in the landscape to the west of Bunrana, and is one of the most impressive examples of its type still extant in Donegal.



Plate 13-14: Limekiln 40902933

13.3.2.4 Local Cultural Heritage within the EIAR boundary

A derelict farm complex was noted in the northern portion of the proposed windfarm site along an existing forest track which is due to be upgraded. The structures consist of a two-storey farmhouse and associated outbuilding, the former located on the west side of the road with the latter located at the east side. The structures are located at ITM E643912, N933660 (centre point) and are marked on the 6 inch OS Historic map (1842 -1937). They are also marked on the later 6 inch Cassini. The stone buildings are plastered externally and are largely modernised internally with tiles, modern plaster work and light fixtures and wiring apparent with no original features noted. The buildings are in a poor state of preservation and are of local heritage value. According to Griffiths valuation (printed in 1858), the land was leased by George V. Hart to John Granny who had a house, offices and land. John Granny then leased a small portion of land in the north-western corner of Glenard townland to William Granny. The aforementioned house and office was occupied by John Granny. Potential impacts are addressed in Section 13.4.3.7.



Plate 13-15: Farm buildings along existing road due to be upgraded, looking S.

13.3.3 The Underground Grid Connection Cable Route

The grid connection cable route extends from the proposed substation within the Coillte property boundary as far as Trillick existing substation site for 8.3km along forestry and public roads. The grid route, was subject to a visual examination and survey and was assessed as part of this EIAR. A photographic description of the cable route is presented in Appendix 13.1. Constraints within 100m of either side of the proposed cable route were considered in the assessment.

13.3.3.1 Archaeology

No UNESCO, National Monuments in State Care or Recorded Monuments are located along the grid connection cable route or within 100m of either side of the route. No new sites or features of archaeological potential were recorded along the route.

13.3.3.2 Architectural and Cultural Heritage

13.3.3.2.1 Record of Protected Structures and NIAH Buildings

No known structures listed in the statutory list of Protected Structures are located along or within 100m of the grid connection cable route. Furthermore, no structures listed in the NIAH are located along or within 100m of the route.

13.3.3.2.2 Other Cultural Heritage

Six bridges were recorded during the field survey along the grid connection cable route. The detail of the bridges is presented in

Table 13-6 below. A photographic record of the bridges is presented in Appendix 13.1.

Table 13-6: Bridges recorded along grid connection cable route

| MAP ID | ITM E | ITM N | BRIDGE NAME |
|--------|--------|--------|------------------|
| 1 | 637658 | 929217 | Unnamed |
| 2 | 638389 | 929005 | Unnamed |
| 3 | 638380 | 929191 | Maragh Bridge |
| 4 | 638250 | 930109 | Tullydush Bridge |
| 5 | 639716 | 929982 | Unnamed |
| 6 | 642298 | 930303 | Unnamed |

Bridge 1 is the westernmost bridge and again has recently inserted concrete parapets over a flat-arched stone structure.

Bridge 2 is unnamed and consists of metal parapets inserted into concrete decking.

Bridge 3 is named Maragh bridge (over the Maragh River) and consists of recently inserted concrete parapets over a simple single arch stone abutments and voussoirs.

Bridge 4 is named Tullydush Bridge on both 1st and 2nd Edition OS maps. It consists of a stone abutments and cutwaters at both sides with metal parapets and what appears to be a concrete deck. The metal and concrete may be later replacements as the original structure is early to mid-19th century in date. The bridge is constructed over the Owenkillev River.

Bridge 5 is also an unnamed bridge located over a tributary north of the Owenkillev river. The bridge consists of a single arched stone bridge with concrete additions and repairs evident in the form of buttresses against the abutments.

Bridge 6 – this is located at the eastern end of the grid connection cable route on a minor narrow public road and consists of concrete cast panels used as parapets and a concrete road deck over the Pollandoo Burn stream, a tributary of the Owenkillev River to the south.

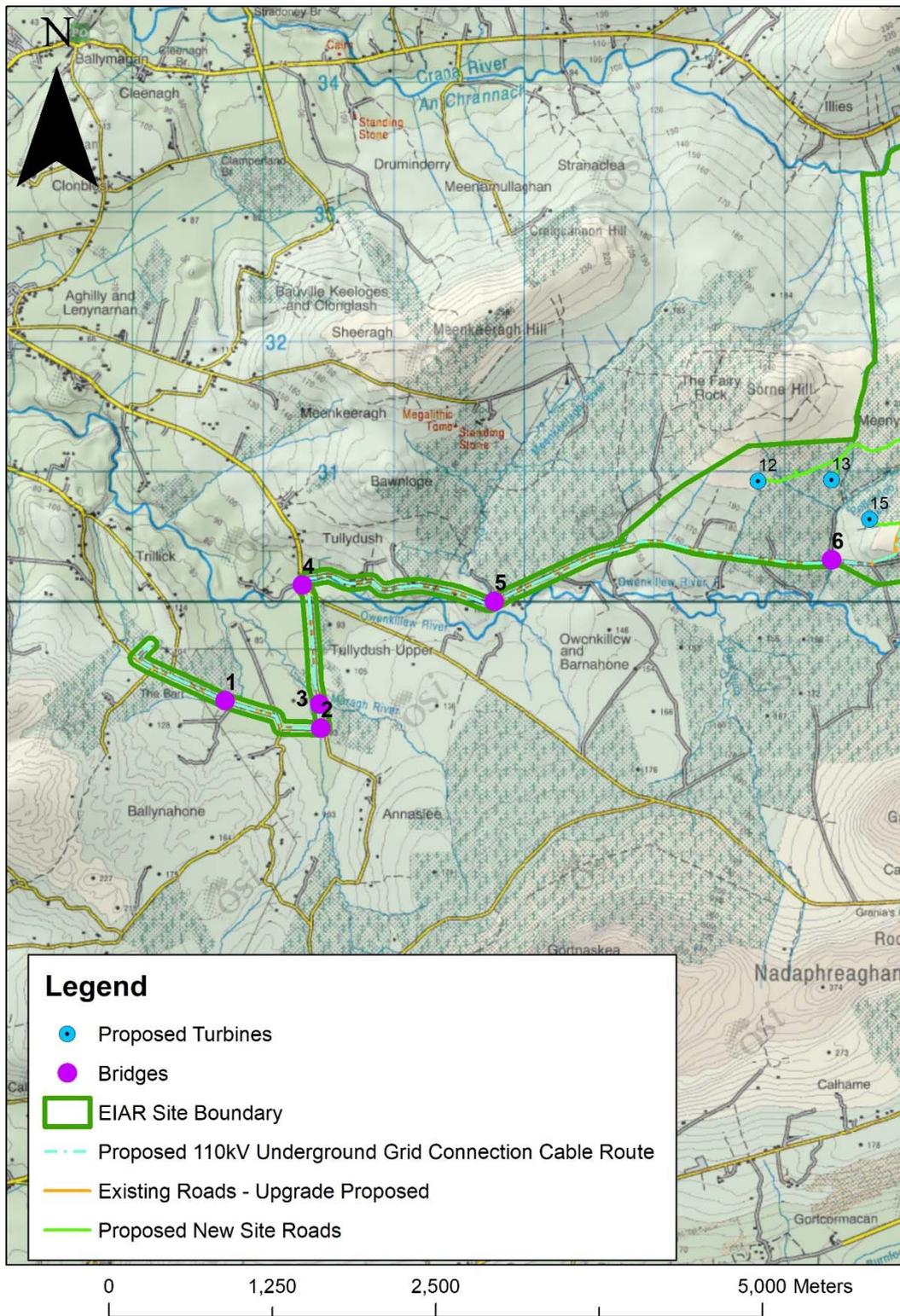


Figure 13.1: Bridges recorded along the grid connection route.

13.3.4 Turbine Delivery Route

Only areas where groundworks (topsoil removal and excavation) are proposed along the turbine delivery route are assessed. Only those sections are capable of impacting on archaeological, architectural or cultural heritage. There are no groundworks proposed within Northern Ireland which could potentially impact on cultural heritage features. In this regard there will be no trans-boundary effects. The Turbine Delivery Route requires a proposed link road between the R240 and the L1731, as well as a second link road along the L1731 and some other road widening works. The first proposed link road extends through Coillte forestry after which time it re-joins the public road on the west side of the forestry plantation. A second, small section of new road will be constructed further to the west, again through Coillte forestry at Crockaveeny. Some road widening and junction works will take place at the entrance to the proposed wind farm near the Illies and Glenard townland boundary (Appendix 13.1 for photographic record). The works are fully described in Chapter 4. General ground works and topsoil removal will be required in these areas in order to lay down a hardstanding surface for turning vehicles and large turbine components.

13.3.4.1 Monuments within 100m of the proposed delivery route

No UNESCO sites, national monuments or recorded monuments are located along the proposed delivery route or within 100m of same.

The nearest recorded monuments are located 396m to the south of the proposed link road from the R240 and consist of a Megalithic tomb - wedge tomb (SMR DG030-001 (Map ID 37, Figure 13-13), Megalithic tomb - wedge tomb SMR DG020-011 (Map ID 40, Figure 13-13) and a Hilltop enclosure DG020-010 (Map ID 41, Figure 13-13). The latter monument is the nearest at 396m to the south of the proposed road.

The monuments lie in an overgrown rough pasture area to the west of the R140 in open mountainous terrain. The monuments are barely discernible in the wider landscape setting.

The hilltop enclosure (DG020-010 (Map ID 41, Figure 13-13) has an internal diam. c. 66.5m, c. 43m. It is an irregularly shaped enclosure defined by a collapsed stone wall which follows the contour of the hill on which it is situated. There is no definite entrance but there are three gaps in the walls. One into the S and another to the N could be modern. The third occurs between two outcrops of natural rock on the SW side. There is a stone foundation outside the enclosure on this side and also two small rectangular ones which are probably sheep folds. It is situated on a small well-defined hill overlooking boggy open mountain terrain, with a commanding view, particularly to the N and S. There is a wedge tomb (DG020-011—) c. 20m to ESE at the base of the slope.



Plate 13-16: DG020-010- Gap mid-way along N wall of enclosure (courtesy of the National Monuments Service)

The megalithic tomb DG020-011 to the south consists of one of three wedge tombs at the southern end of this townland ((Map ID 40, Figure 13-13). One of the others (Dg. 25) is just under 200m to the S, and the other (Dg. 26) is c. 550m to the SE. The one described here is on a slight platform immediately E of the base of a prominent rocky knoll on which there is a large stone enclosure (Lacy 1983, 116, 118, no. 709). This is an area of heather-grown bog broken by numerous rock outcrops. To the N the land falls to the valley of the Glentogher River. There is an outlook to Quigley's Point, on the shore at Lough Foyle, almost 5km to the SE. The ruins of this tomb are deeply embedded in the bog. It is aligned NNE-SSW and is described here as if it lay N-S. The gallery is represented by two opposed sidestones that support a roofstone in a sloping position with its higher end to the S. The gap between the orthostats narrows from 1.3m at the S to 1m at the N. Three stones of close-set outer-walling are visible. The first overlaps the N end of the eastern sidestone, and the second overlaps its S end. The third is opposite the second and on the W side of the monument. Between the two opposed outer-wall stones are two stones protruding from the ground, neither of which appears to be structural. The northern one is 0.2m high, and the southern one is 0.4m high. Approximately 1m S of the last is a stone with a marked southward lean. It would stand 1m high if upright. Its function is uncertain, but it may represent a facade. The eastern sidestone is 0.4m high at its southern end. The western sidestone leans inward. If upright it would be 0.5m high at its southern end. Both sidestones decrease in height toward the N. The overlying roofstone is 2.3m long and 1.8m in maximum width and narrows abruptly near its northern end. The western edge of this stone is partly obscured by heather-grown peat. The northern outer-wall stone on the E side of the monument, now partly concealed, is 0.35m high. The second outer-wall stone here, 1.8m to the S, leans outward. This stone, if upright, would be 0.9m high. The outer-wall stone at the W side of the monument leans inward. It would stand 0.6m high if upright.



Plate 13-17: DG020-011 viewed from SSW (courtesy of the National Monuments Service)

The southernmost monument DG030-001 (Map ID 37, Figure 13-13) is located c. 200m S of the last, is on generally level boggy ground just S of the valley of the Glentogher River. It is overlooked by higher ground closeby to the E and W. From the site there is a view of Lough Foyle at Quigley's Point, 5km to the SE. Outcropping rock occurs in the vicinity.

The monument, somewhat embedded in the bog, consists of a partly roofed gallery, c. 6m long, orientated almost SW-NE. A narrow opening at the NE end now allows access beneath the roofstones to the eastern two-thirds of the gallery. The western end lacks a roof and is blocked by tomb collapse. The gallery narrows from 1.75m wide at the W to c. 0.5m at the E, where the back is missing or remains concealed. The tallest sidestones at the W rise 0.9m above those at the E end. Two overlapping roofstones cover the mid-section of the gallery, and a partly concealed slab lying in front of the entrance may also have formed part of the roof. This measures 1m by at least 2.3m and is 0.2m thick. There appear to have been at least three lines of walling beyond each side of the gallery. A stone immediately outside the westernmost stone on the N side of the gallery and another immediately outside the fourth orthostat on this side seem to represent a doubling of the gallery side, as does a gapped line of four stones just outside the S side of the gallery. Between the westernmost of the latter four and the gallery side is another set stone. There are the remains of two additional lines of walling beyond both sides of the gallery. A leaning stone at the SW corner of the monument and another at the NW represent a ruined facade, and a fallen stone to the N of the latter may be another facade-stone. The structure stands in an oval, heather-grown, stony mound that is 10.7m long (E-W) and 8m wide near the W end, from where it narrows toward the E end. The mound rises to the height of the gallery sides. A number of displaced stones at the site are not shown on the plan.

The design of the partly collapsed W end of the gallery is unclear. A transversely set stone stands between the western ends of the gallery sides. Its orthostatic character leaves some doubt about whether it served to divide the entrance or is the remnant of a closing feature. It leans inward and would stand 0.8m high if upright. Beside this at the N is a partly concealed small stone, 0.2m high. It is of uncertain status and is not hatched on the plan. Approximately 0.8m to the E and midway between the gallery sides is an orthostat measuring 0.8m in exposed height. The top of this stone is level with the tops of the

sidestones at either side. Approximately 0.6m further to the E and set transversely to the line of the N side of the gallery is a jamb-like stone. This, measured at its inner face, is 1m high. It may indicate a division of the gallery into a portico, c. 1.7m long, and a main chamber. To the W of this stone and at right angles to its northern end is a small set stone that serves to strengthen the gallery wall. It is 0.3m long, 0.15m thick and 0.5m in exposed height. A displaced slab (not on plan), 1.5m by, 0.75m by 0.15m thick, leans against the jamb-like stone.

The N side of the gallery is composed of seven orthostats and two smaller stones between the second and third orthostat from the W. The westernmost orthostat rises 0.5m, and that next to it 0.6m, above the collapsed material at this end of the gallery. The remaining five orthostats at this side are accessible beneath the roofstones. Their heights from W to E are 1m, 0.85m, 0.7m, 0.55m and 0.15m. The two orthostats at the E end are set inside the line of the others, thereby abruptly narrowing the gallery. The western one of the two small stones between the second and third orthostats is 0.15m long, at least 0.05m thick and 0.4m in exposed height. The eastern is 0.15m long, at least 0.05m thick and 0.15m high. The single stone outside the westernmost orthostat on this side, which, as mentioned, seems to represent a doubling of the gallery wall, is 0.4m in exposed height. The similarly positioned stone outside the fourth orthostat on this side is 0.3m high.

There are eight stones in position on the S side of the gallery. The easternmost, like the two opposite on the N side, is set inside the line of the other seven, and the second orthostat from the front is set transversely to the long axis of the monument. The outer faces of all but the western three, which rise above the collapsed material at this end of the gallery, are concealed. The exposed heights of the three referred to, from W to E, are 0.9m, 0.3m and 0.4m. The remaining five, accessible beneath the roofstones, are, from W to E, 0.7m, 0.7m, 0.6m, 0.5m and 0.3m in exposed heights. The westernmost stone of the gapped line of four small stones doubling this side of the gallery is immediately outside the fourth gallery orthostat and is 0.15m in exposed height. The set stone between this and the gallery wall is 0.4m in exposed height. The second of the line of four stones is just outside the opposed ends of the fourth and fifth gallery orthostats, which diverge as they rise, and it blocks the gap thus caused. It rises just above the gallery side. The third of these stones serves the same function outside the opposed ends of the fifth and sixth orthostats and rises to around the height of the gallery side. The fourth, just over 1m to the E, is 0.15m in exposed height.

The upper surface and parts of the perimeter of the two overlapping roofstones covering the middle portion of the gallery are obscured by peat. The western one overlies the outer end of the eastern. Both rest directly on the N side of the gallery, and at the S is a pad-stone (not on plan) between each and the gallery wall. The western one also rests on the jamb-like stone dividing the gallery and measures 1.4m long E-W by at least 1.8m. The eastern one measures 1.5m E-W by 2.2m. Both are over 0.1m thick.

Outer-walling at the N side of the monument is represented by four partly concealed orthostats. That at the W, 0.8m beyond the front of the gallery, is 0.6m in exposed height. Just W of this the tops of two firmly set stones protrude above the surface. The eastern one measures 0.15m by 0.08m and is 0.15m in exposed height, and the western measures 0.2m by 0.05m by 0.08m high. Neither is definitely structural, and they are not hatched on the plan. The other three outer-wall orthostats here are set inside the line of the western one. These may represent an inner line of outer-walling. Partly concealed by peat, the biggest is 0.9m or more in length, and all are at least 0.1m thick. Their exposed heights from W to E are 0.05m, 0.15m and 0.4m.

There also seem to have been two lines of outer-walling at the S, the inner represented by three stones and the outer by two stones at the W end of the structure. The two lines are up to 0.3m apart, and the inner one is 0.4m beyond the gallery side. The westernmost stone of the inner line is 0.35m in exposed height. The second, 0.2m to the E, is 0.2m high, and the third, 0.4m further E, is largely concealed and rises just above ground level. The western of the two stones outside these is 0.1m in exposed height. The eastern, 0.5m to the E and partly concealed, is 0.2m high. Two stones, 0.7m apart and c. 0.4m beyond the E end of the gallery, seem to be part of the outer-walling. The northern one is 0.2m high, and the southern is 0.15m high. Approximately 0.2m W of and parallel to this is a stone that may indicate a doubling of the outer-walling at this end of the gallery. It is 0.25m high.

The facade-stone at the SW corner of the monument leans westward. It is 1.1m long and 0.2m thick and would stand at least 1.1m high if upright. The second facade-stone, 2.2m to the N, leans more markedly westward. It is 0.8m long and 0.2m thick and would stand at least 0.9m high if upright. A stone to the N of this lies more or less flat and protrudes from the slope of the cairn. It is not clear whether this also formed part of the facade. It measures 0.4m by at least 0.3m and is 0.15m thick. The facade-stones are now almost prostrate, and their bases lie closer to the front of the gallery than shown on the plan. Because of the extent of collapse at this end of the monument the relationship of the facade to the front of the gallery is unclear. This monument, described as well preserved in 1848, was then, as now, open at its NE end (OS Revision Name Book, 1848).



Plate 13-18: DG030-001 SW end of tomb (courtesy of the National Monument Service).

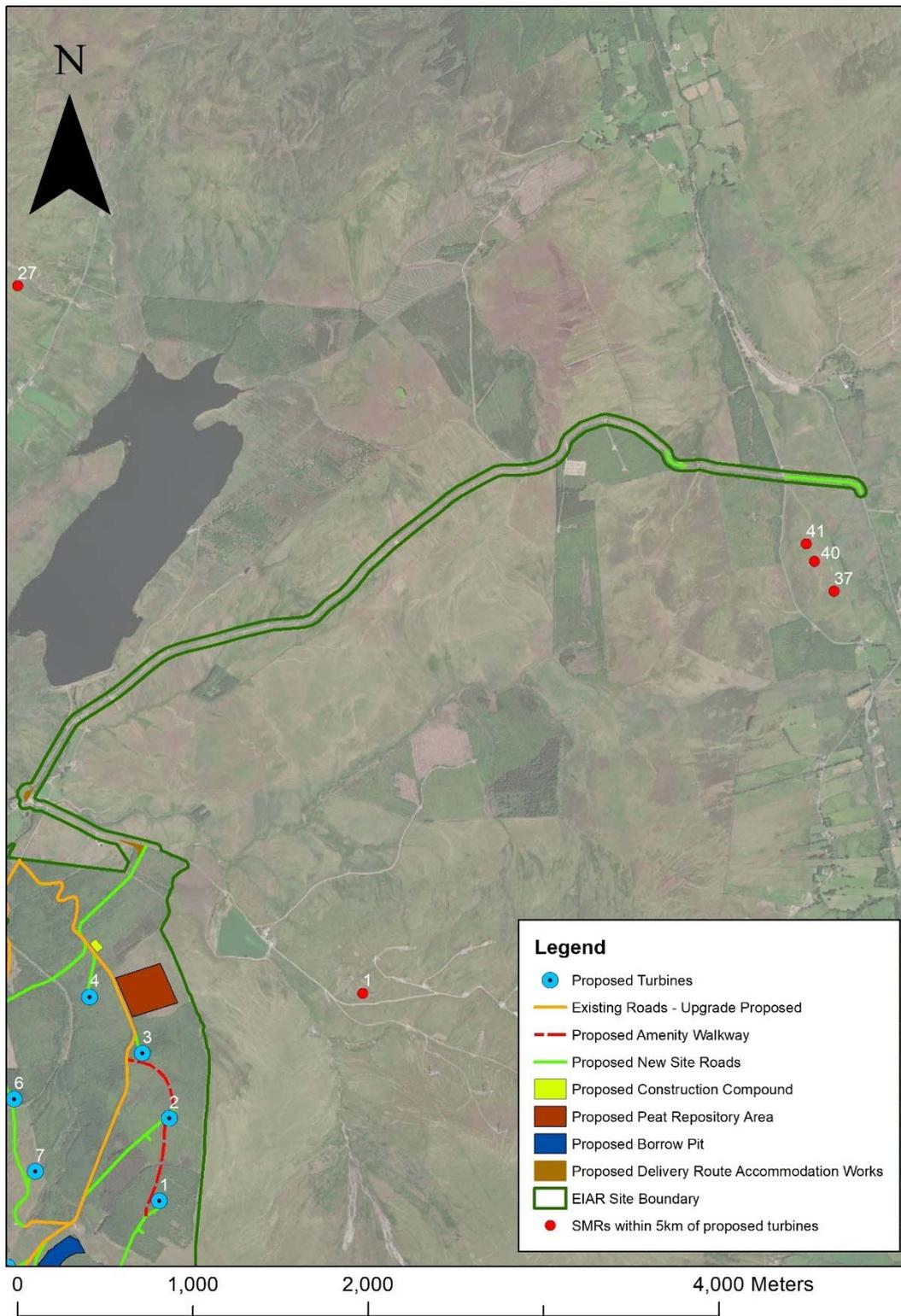


Figure 13-13: Proposed delivery route showing SMRs to south of link road.

13.3.4.2 Potential sub-surface archaeology

Sub-surface archaeology, by its very nature, is not detectable above ground and can occur within or below peat deposits or below the topsoil. Such archaeological features may not be apparent during a visual examination of a site. Construction activities (excavation) associated with the proposed delivery route including the new links roads and associated road widening may directly impact on such features if present within the EIAR site boundary. Direct effects are addressed in Section 13.4.3.3 below.

13.3.4.3 Protected Structures within 100m of the proposed delivery route

No RPS structures are located within 100m of the proposed delivery route.

13.3.4.4 NIAH within 100m of the proposed delivery route

One NIAH is located within 100m from the proposed delivery route. . The structure consists of the Eddie Fullerton dam (Map ID 2, NIAH Reg 40903012) which was built in the late 1990s. It is described in Section 13.3.2.3.1 above. Direct effects are addressed in Section 13.4.3.5.

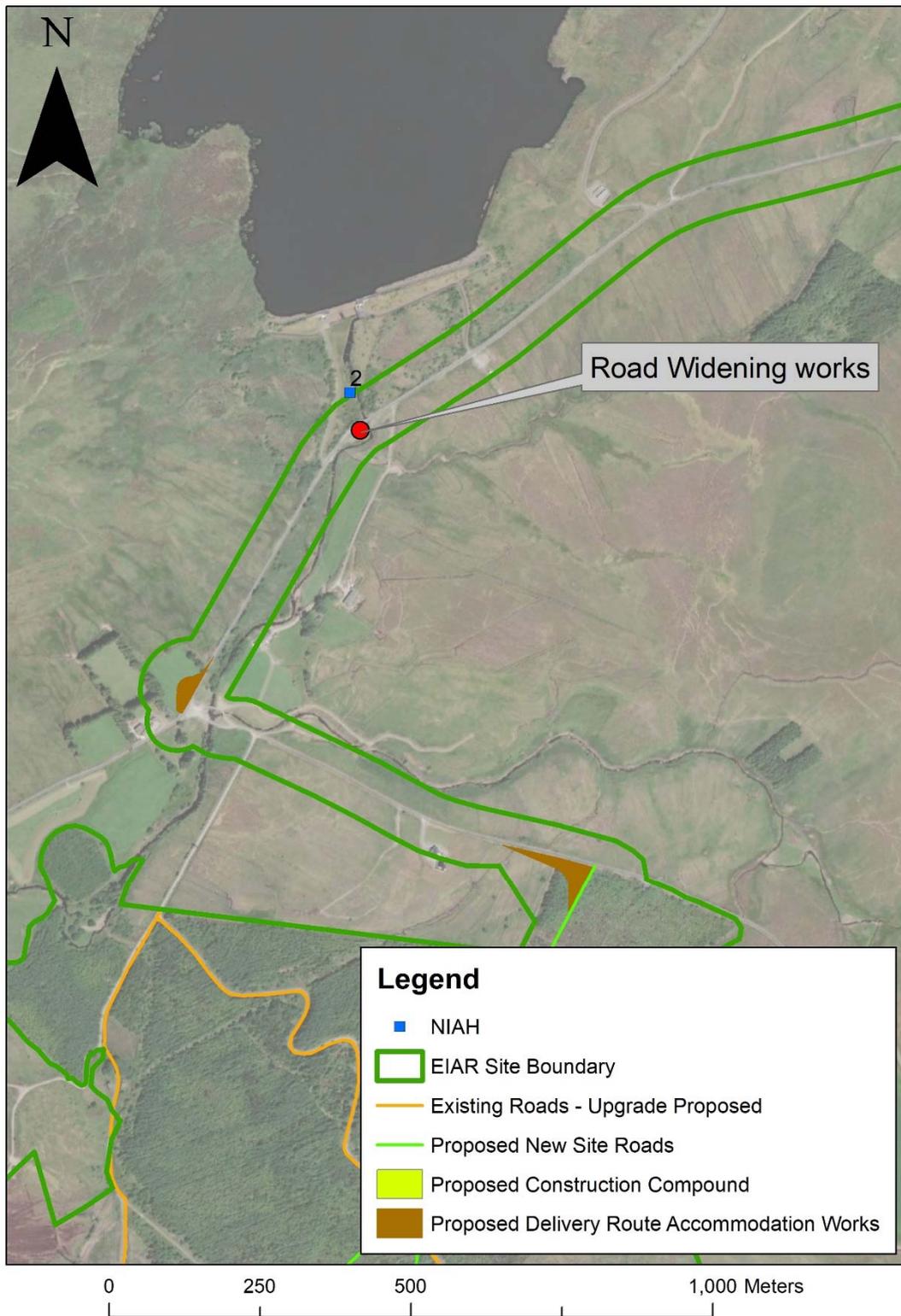


Figure 13-14: Proposed delivery route showing junction accommodation works and nearest NIAH 40903012 Fullerton Dam.

13.3.4.5 Local Cultural Heritage

Road widening is proposed at Illies (along the L1731) in the vicinity of the three bridges where Glenard and Illies townlands meet to the north-west of the proposed wind farm access road. The bridges span the Cranna and Camowen rivers. The metal bridge to the south was constructed to facilitate the Crockahenny and Flughland Wind Farms in order to by-pass the smaller stone/concrete bridge to the north. No works are proposed to the bridges although road widening works will take place to the northwest and c. 500m to the southeast at the entrance to the proposed windfarm. This is mitigated in Section 13.4.3.3 below in terms of potential impacts on sub-surface archaeology and described in Appendix 13.1.

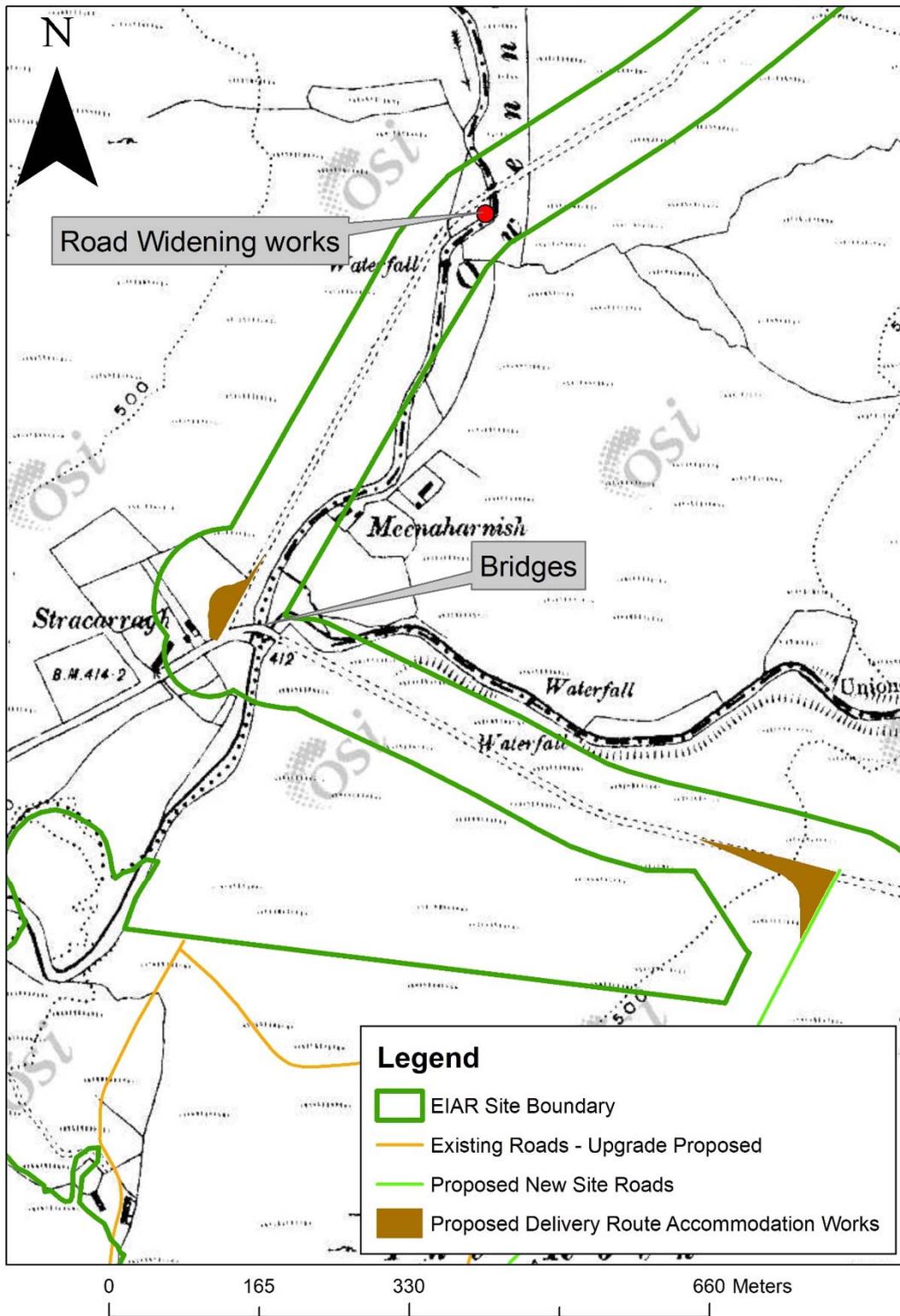


Figure 13-15: Bridge at Illies in relation to proposed road widening works along the L1731.

13.4 Likely Significant Effects and Associated Mitigation Measures

13.4.1 Do Nothing Scenario

The do-nothing scenario seeks to describe the consequences that are reasonably likely to occur without the proposed project. If the Proposed Development were not to proceed, the site would continue to be managed as an existing commercial forest with clear-felling and drainage activity continuing. Potential impacts to sub-surface archaeology (if present) could continue to occur if any groundworks took place as part of the management of the forest. Indirect effects on Archaeological, Architectural and Cultural Heritage, in particular, in the wider landscape setting would not occur.

13.4.2 Construction Phase Potential Impacts – Indirect

Indirect effects, in terms of archaeology, architectural and cultural heritage are considered to be those effects which happen away from ‘the site’. This includes impacts on visual setting of any cultural heritage asset in the wider landscape. Since these effects are only possible impacts once the proposed turbines are constructed, they are considered operational effects and are therefore discussed in Section 13.4.4 below. No indirect effects were identified which will occur at the construction stage.

13.4.3 Construction Phase Potential Impacts (Direct)

Direct Impact refers to a ‘physical impact’ on a monument or site. The construction phase of the development consists largely of earthmoving activities such as peat and topsoil removal. The potential impacts on the known and potential archaeological, architectural and cultural heritage of the area are outlined below with the suggested mitigation measures. The impacts are described according to each constraint, National Monuments, Recorded Monuments etc. that were identified in the existing environment. Where any potential direct impacts have been identified they are negated through the use of suitable mitigation measures such as avoidance by establishing exclusions zones (buffer zones), on-site testing and monitoring.

13.4.3.1 Direct Impact on National Monuments

Pre Mitigation Impact

National Monuments within 10km of the nearest proposed turbine are discussed in Section 13.3.1.1. Such monuments were considered in the assessment in order to ascertain any potential impacts to the setting of the monuments. Impacts on the setting of National Monuments are addressed in Section 13.4.4.1 below. In terms of direct effects to National Monuments in State Ownership/Guardianship, none are located within or close to the application site boundary or the footprint of any proposed turbines or infrastructure including the grid connection cable route or delivery route. No direct impacts on these aspects of the archaeological resource were identified therefore.

Proposed Mitigation Measures

Since no direct effects to National Monuments in State Care were identified mitigation measures are not required.

Residual Impact

There will be no residual impacts since no impacts were identified.

Significance of Effects

Direct impacts to National Monuments were not identified.

13.4.3.2 Direct Impact on Recorded Monuments

Pre Mitigation Impact

Recorded Archaeological monuments are described in Sections 13.3.1.3 and 13.3.1.4 above. No Recorded Archaeological Monuments (SMRs) are located within the EIAR site boundary or the footprint of any proposed turbines or associated infrastructure. Furthermore, none are located within 100m of either side of the grid connection cable route or the proposed turbine delivery route therefore no direct impacts on these aspects of the archaeological resource were identified in the assessment. Indirect effects are addressed in Section 13.4.4.2 below.

Proposed Mitigation Measures

Since no direct effects to recorded monuments were identified, mitigation measures are not required.

Residual Impact

There will be no residual impacts since no impacts were identified.

Significance of Effects

No direct impacts to recorded monuments were identified in the assessment.

13.4.3.3 Impact on sub-surface archaeology

Pre Mitigation Impact

The potential exists for the development area to contain as yet unrecorded sub-surface sites and artefacts. It is possible that such sites may be uncovered either within the peat/topsoil and/or at the level of the underlying natural subsoil. The excavation of topsoil/peat for the turbine bases, hardstands, compounds, borrow pits, proposed roads, substation site, met mast site, grid connection cable route and road widening associated with turbine delivery route may impact on any new sites, if present. Furthermore, potential sub-surface archaeological features near to proposed water crossings may be impacted by groundworks. No instream works are proposed at any water crossings and bottomless culverts will be utilised. Ground works at these locations will also be monitored during construction however.

Should new archaeological sites or features be present within the areas where machine excavation will take place (as listed above) the impact will be significant, negative and permanent (i.e. the excavation by machinery would permanently remove the sites resulting in a permanent loss of information pertaining to the site).

Proposed Mitigation Measures

- Licensed archaeological monitoring of any geotechnical / engineering trial pits or investigations and a report detailing the results of same.
- Licensed archaeological monitoring of all ground works during construction. A report on the results of the monitoring will be compiled and submitted to the relevant authorities on completion of the project.

Residual Impact

The sites/features, if detected, during monitoring will be preserved by record (archaeologically excavated) or preserved in-situ (avoidance) and therefore a full record made of same. In this regard, the potential impact after the mitigation measures is likely to be slight.

Significance of Effects

The overall significance of effects will be Slight.

13.4.3.4 Direct Impact on Protected Structures

Pre Mitigation Impact

Documented built heritage structures (RPS) are addressed in Sections 13.3.2.1, 13.3.2.2, 13.3.3.2.1 and 13.3.4 above. No structures listed in the Record of Protected Structures (RPS) are located within the EIAR site boundary in the footprint of any proposed turbines or associated infrastructure. Furthermore none are located within 100m of the grid connection cable route or the proposed turbine delivery route. No direct impacts on these aspects of the architectural resource were identified in the assessment therefore. Indirect effects on setting of RPS structures within 5km are described below in Section 13.4.4.3.

Proposed Mitigation Measures

Since no direct effects to RPS structures were identified, mitigation measures are not required.

Residual Impact

There will be no residual impacts since no impacts were identified.

Significance of Effects

No direct impacts to RPS structures were identified in the assessment.

13.4.3.5 Direct Impact on NIAH structures

Pre Mitigation Impact

Documented built heritage structures (NIAH) are addressed in Sections 13.3.2.3, 13.3.3.2.1 and 13.3.4 above. No structures listed in the NIAH are located within the EIAR site boundary in the footprint of any proposed turbines or associated infrastructure. Furthermore none are located within 100m of the grid connection cable route. One structure is located within 100m of the proposed turbine delivery route and consists of the Eddie Fullerton Dam. The dam complex is located to the north of where road widening works will take place. Although no direct impacts on the structure itself will occur, monitoring by an archaeologist of all road widening works during construction will take place as mitigation to ensure that no impacts to the cultural heritage resource takes place. Indirect effects on setting of NIAH within 5km of proposed turbines are described below in Section 13.4.4.4.

Proposed Mitigation Measures

No direct effects to the NIAH structures will occur.. Archaeological monitoring of all ground works associated with topsoil and peat removal will take place however to ensure that no impacts to the cultural heritage resource takes place.

Residual Impacts

There will be no residual impacts since no impacts were identified.

Significance of Effects

No direct impacts to NIAH structures were identified in the assessment.

13.4.3.6 Direct Impact on Bridges along the Grid Connection route

Pre Mitigation Impact

Six bridges of varying types were recorded along the grid connection cable route. These are described in Section 13.3.3.2.2 above. None of the bridges are subject to statutory protection by way of inclusion on the NIAH, RPS or RMP/SMR. Some of the bridges have had their parapets recently replaced with concrete. The construction of the grid connection cable route will involve the replacement of two existing bridge decks at Bridges 4 and 6. The cable ducting will be placed within the road deck within the remainder of the bridges.

The bridges are considered to be of local heritage value and in this regard any potential impacts to the structures during cabling will be imperceptible/ slight. The impacts to the Bridges 3 and 1 are also considered to be slight since both structures are now largely modern in appearance having their parapets recently replaced with concrete.

Proposed Mitigation Measures

An archaeologist will monitor excavation works associated with the grid connection cable route and a full photographic record of the bridges will be made by the archaeologist prior to the removal of any components. A report will be compiled on completion of the monitoring and sent to the Local Authority and National Monuments Service.

Residual Impact

The residual impacts after the proposed mitigation measures have been implemented will be imperceptible.

Significance of Effects

The overall significance of impacts will be slight.

13.4.3.7 Direct Impact on 19th century structures at Glenard

Pre Mitigation Impact

Two structures of 19th century date were recorded in Glenard townland along the existing road which is due to be upgraded. The structures are not listed in the NIAH or RPS and are not subject to statutory

protection. They appeared to be occupied in the mid to late 19th century by John Granny (lessor George V. Hart) and are of local cultural heritage value. The proposed upgrade works in the vicinity will not impact on the structures and they will be preserved in situ.

Proposed Mitigation Measures

The structure will be fenced off prior to road upgrade works in the vicinity and an archaeologist will monitor excavation works associated with the road upgrade.

Residual Impact

There will be no residual impacts after the proposed mitigation measures have been implemented.

Significance of Effects

The overall significance of impacts will be imperceptible.

13.4.4 Operational Phase Potential Impacts (Indirect)

Indirect impacts can occur where a feature or site of archaeological, architectural heritage merit or their setting is located in close proximity to a proposed development. Indirect impacts for the proposed development are mainly concerned with impacts on setting of cultural heritage assets. Impacts on settings of sites may arise when a development is proposed immediately adjacent to a recorded monument or cluster of monuments or any cultural heritage asset. While the Proposed Development may not physically impact on a site, it may alter the setting of a monument or group of monuments. There is no standardised industry-wide approach for assessing the degree of impact to the setting of a monument. This is based on professional judgement, experience and a number of software analysis tools as detailed in Section 13.2.6.

Potential impact to the visual amenity of a site or area and the significance of same is dependent on a number of factors regarding the sensitivity of the location or ‘receptor’ and the scale or magnitude of the proposed development. Similarly, the extent of the development and its duration and reversibility should all be considered (Guidelines for Landscape and Visual Impact Assessment 3rd edition – Consultation Draft). Potential operational impacts are discussed below per cultural heritage assets, i.e. National monuments in State Care, Recorded Monuments, RPS, NIAH etc.

13.4.4.1 Impact on setting of National Monuments in State Care

Pre Mitigation Impact

A review of all National Monuments in State Care within 10km of the nearest proposed turbine was undertaken as part of the assessment in order to ascertain any potential impacts on their setting as a result of the proposed development. No National Monuments are located within or adjacent to the ELAR site boundary. Only one monument is located within the 10km study area. A viewshed analysis was undertaken in GIS in order to ascertain how many and what proportion of the 15 proposed turbines could be seen from O Doherty’s Keep. The results showed that potentially only the upper portion of two turbines may be visible from the monument. This is considered to be a permanent (during the operational Phase), negative indirect effect, the significance of which is considered to be slight (An effect which causes changes in the character of the environment which are not high or very high and do not directly impact or affect an archaeological site). This effect on setting may be further reduced by the presence of the intervening urban centre of Buncrana and the natural screening that occurs as well as the physical distance of 7.7km to the nearest turbine (T12).

Proposed Mitigation Measures

It is not possible to mitigate potential effects on setting of the National Monument therefore no mitigation is being proposed.

Residual Impact

The residual impact is considered to be Slight since no mitigation measures are being proposed.

Significance of Effects

The overall significance of impacts is slight.

13.4.4.2 Impact on setting of Recorded Monuments

No Recorded Monuments are located within the EIAR site boundary therefore impacts on the immediate setting of recorded monuments will not occur. Monuments within 5 kilometres of the proposed turbines are included in the assessment for purposes of ascertaining potential visual impacts in the wider landscape setting only. . No monuments are located within 1km of the nearest proposed turbines. Only one monument is located between 1 and 2km of the nearest proposed turbine. Seven monuments are located between 2 and 3km, 16 between 3 and 4km with 22 monuments between 4 and 5km of the nearest proposed turbine. The immediate setting of the recorded monuments will not be negatively impacted therefore. Figure 13-5 above demonstrates that the majority of the recorded monuments are located at a remove from the proposed turbines with a notable dearth of monuments within close proximity to the site.

Furthermore, the ZTV was overlaid on the proposed development mapping with the recorded monuments shown. This model has demonstrated that the majority of monuments are located in areas where there is no visibility in the direction of the proposed turbines. Eleven of the 46 monuments within 5km of the proposed turbines show potential visibility of between 13 to 15 turbines. Four of the 46 monuments show potential visibility of between 9 and 12 turbines, 1 of the 46 monuments show potential visibility of between 5 and 8 turbines. Two of the 46 monument show some potential visibility of between 1 and 4 turbines. The majority of monuments are located in areas where no visibility is possible. Overall only 18 of the 46 monuments within 5km of the nearest proposed turbines show some visibility of turbines with the majority showing no visibility.

Since the ZTV is based on a bare landscape model this potential visibility is likely to be less when taking into consideration existing boundaries and natural vegetative screening. The overall impact on RMPs within 5km is considered to be slight (An effect which causes changes in the character of the environment which are not high or very high and do not directly impact or affect an archaeological site).

Pre Mitigation Impact

It is not possible to mitigate potential effects on setting of Recorded Monuments and therefore no mitigation is being proposed.

Proposed Mitigation Measures

No mitigation being proposed.

Residual Impact

The residual impact is also considered to be Slight.

Significance of Effects

The overall significance of impacts is slight.

13.4.4.3 Impact on setting of RPS structures within 5km

Pre Mitigation Impact

No built heritage structures which are subject to legal protection are located within the wind farm site boundary or immediately adjacent to same. Furthermore, none, are located within 5km of any proposed turbine with the nearest structures being located in excess of 7km from any proposed turbine. No impacts on setting will occur therefore.

Proposed Mitigation Measures

Since no impacts were identified to the immediate setting of any built heritage structure listed in the RPS, no mitigation is necessary or being proposed.

Residual Impact

Since no negative effects were identified to the immediate setting of any structure listed in the RPS no residual impacts will occur.

Significance of Effects

The overall significance of impacts is imperceptible.

13.4.4.4 Impact on setting of NIAH structures within 5km

Pre Mitigation Impact

Fourteen structures on the NIAH are located within 5km of the nearest proposed turbine. The results show that 3 of the 14 structures within 5km of the nearest proposed turbine may have some potential visibility of between 13 and 15 turbines. Two of the 14 structures may have visibility of 9 to 12 turbines with no visibility from the remainder of the NIAH structures. This is a worst case scenario as the ZTV model does not take vegetation or natural screening into consideration.

These structures are located to the north of the proposed development and consist of Srath Bridge (Map ID 1 and the Fullerton Pollan Dam (Map ID 2) and a house (Map ID 5). The setting of bridges in their isolated rural location does not extend beyond their functional area and the setting of the house may only extend to the house, yard and associated boundaries. In this regard, impacts on setting are considered to be slight-imperceptible and may be significantly reduced by existing screening and vegetation.

Proposed Mitigation Measures

Since no significant impacts were identified to the immediate setting of any built heritage structures, no mitigation is necessary or being proposed.

Residual Impact

Since no negative effects were identified to the immediate setting of any structure listed in the NIAH no residual impacts will occur.

Significance of Effects

The overall significance of impacts is imperceptible.

13.5 Cumulative Impacts

Cumulative impact is defined as ‘The addition of many small impacts to create one larger, more significant, impact’ (EPA 2017, 52). . Cumulative impacts encompass the combined effects of multiple developments or activities on a range of receptors. In this case the receptors are the archaeological monuments and architectural/cultural heritage sites in the immediate vicinity of the Proposed Development. Cumulative Impacts at the Construction and Operational Stages are considered.

13.5.1 Cumulative Impacts (Direct Impacts)

The addition of other projects to the proposed Glenard windfarm project was considered in order to assess Cumulative Impacts. These included all other windfarms in the vicinity, mainly within 10km of the proposed development and all other projects described in Chapter 2 of this EIAR. There will be no direct impacts or direct cumulative impacts as a result of the proposed Glenard wind farm project since all potential direct effects are dealt with through mitigation to alleviate or remove the impact altogether. In this regard no direct cumulative impacts will occur.

13.5.2 Cumulative Impacts (Indirect Impact on Setting)

Cumulative impacts on setting are more likely to occur at the operational stage of the development (i.e. post-construction). In this regard in order to assess overall cumulative effects on archaeology and cultural heritage the proposed development is considered in the context of other developments, in particular other permitted and proposed wind farms as shown in Figure 13-16. This map shows the location of existing, permitted and proposed turbines within 20km of the proposed Glenard wind farm. Other developments consist mainly of one-off housing and agricultural buildings, the details of which are outlined in Section 2.3 of the EIAR. One off housing and buildings are not considered to be detrimental to the setting of archaeological monuments and will not arise in cumulative effects occurring.

13.5.2.1 National Monuments

The Viewshed model and ZTVs are based on bare landscape without vegetation, tree cover, boundaries which in reality provide screening in the landscape. Cumulative impacts are based only on theoretical models and are therefore a worst-case scenario.

A slight effect on setting was identified as a result of the proposed Glenard project when considered on its own, this effect arising due to the potential ability to see the upper portion of two turbines from the National Monument (O Doherty’s Keep).

When the other projects are added to the viewshed, the following projects also have theoretical visibility from the National Monument: Sorne Hill I and II, Crockahenny, Meenkeeragh I and II, Mackel, Colpey Rock, J. McCarron turbine, Lurganboy I and Meenaward. The ability to potentially see more turbines from the National Monument will result in cumulative effects on setting. The overall effects, however, are not likely to be significant This is because overall, in the wider landscape setting, the

ability to view other turbines (permitted, proposed and existing) as well as two of the proposed Glenard turbines is such that cumulative effects on setting of cultural heritage assets will occur.

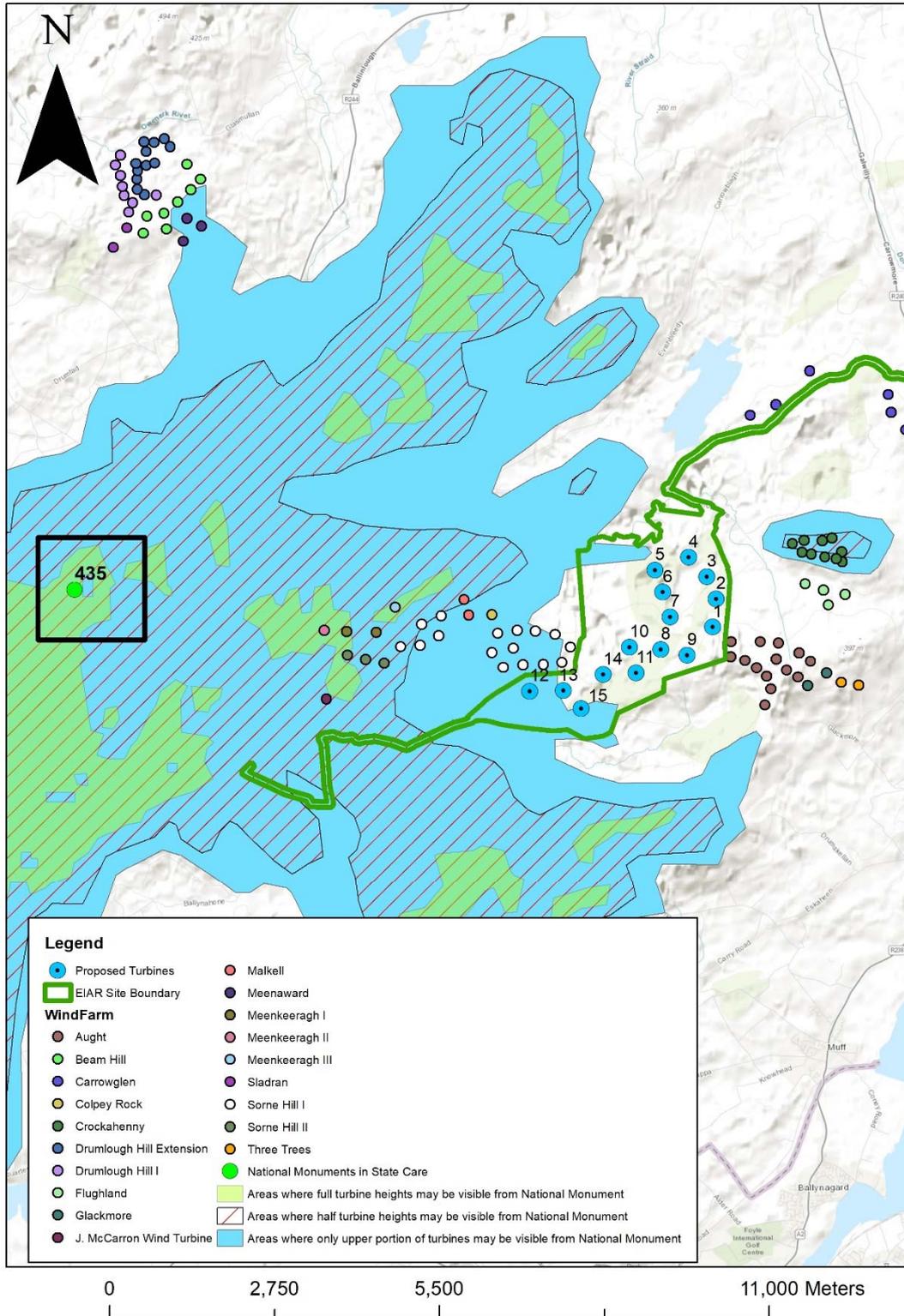


Figure 13-16: Additional projects considered when assessing cumulative impacts from Doherty's Keep.

13.5.2.2 Cultural Heritage Assets within 5km of the proposed turbines

The indirect effects on setting of RMPs and other cultural heritage sites within 5km of the proposed development has been addressed in this chapter of the EIAR. The ZTV shows that the area to the south-east of the proposed Glenard windfarm project which contains a cluster of recorded monuments will have no views towards any proposed Glenard turbines. This model has demonstrated that the majority of monuments are located in areas where there is no visibility in the direction of the proposed Glenard turbines in their own right and when considered alone. Overall only 18 of the 46 monuments within 5km of the nearest proposed turbines show some visibility of turbines with the majority showing no visibility.

The addition of other projects, in particular, those in the 5km study area (Sorne Hill I, Sorne Hill II, Flughland, Crockahenny, Glackmore, Meenkeeragh I and II, Three Trees, Aught, Malkell, Colpey Rock, J. McCarron turbine and Carrowglen), will result in more turbines potentially visible from SMR sites. Since SMR sites do not have public access (in a way that those in State Care do) the appreciation of views from such monuments will be limited to a small numbers of observers. Since the ZTV is based on a bare landscape model this potential visibility is likely to be less when taking into consideration existing boundaries and natural vegetative screening. Cumulative effects from some RMPs within 5km is likely to occur but no significant cumulative effects will occur.

13.6 Decommissioning Phase

There will be no significant potential impacts on the archaeological, architectural and cultural heritage environment during the decommissioning of the development. Any potential direct impacts will already have been resolved through mitigation measures and the established access tracks will be used for the removal of the built features of the wind farm.

13.7 Transboundary Effects

Although the proposed turbine delivery route to the proposed development site originates and travels along public roads in Northern Ireland, no groundworks are proposed within Northern Ireland and therefore there will be no direct or indirect impacts on any cultural heritage features located therein. Areas where groundworks are proposed (such as road widening) are confined to County Donegal and a full assessment of such areas was undertaken. No NISMR sites are located within 5km of the nearest proposed turbines and therefore no transboundary effects on NI SMRs sites will take place as a result of the proposed turbines. No monuments in State Care or Scheduled monuments (Northern Ireland) are located within the 10km study area for State Care monuments and therefore there will be no transboundary effects on setting as a result of the proposed turbines. Therefore, there is not potential for transboundary effects to the Cultural Heritage resource.