13 Cultural Heritage

13.1 Introduction

13.1.1 Background and Objectives

This chapter of the EIAR assesses the impacts of the Development on the known and potential cultural heritage resource (including archaeological monuments and artefacts, architectural heritage, folklore and tradition) concerning the integrity, continuity and context of same for future generations. Furthermore, where negative effects are predicted, the chapter identifies appropriate mitigation strategies therein. The assessment will consider the potential effects during the following phases of the Development:

- Decommissioning of the Operational Barnesmore Windfarm (initial phase of the Development)
- Construction of the Development (likely to occur in tandem with the above phase)
- Operation of the Development
- Decommissioning of the Development (final phase)

The decommissioning of the Operational Barnesmore Windfarm and the construction of the Development are likely to occur partly in tandem and would have a greater effect than if the two processes were to arise at different times. This represents a worst-case scenario for assessment purposes. Any effects arising as a result of the future decommissioning of the Development, are considered to be no greater than the effects arising when these two phases are combined. As a result, the final decommissioning phase has not been considered further in this assessment.

The Development refers to all elements of the application for the repowering of the Operational Barnesmore Windfarm (**Chapter 2: Development Description**). The repower design layout has provision for the retention and re-use of existing footprint locations (in part) of the Operational Barnesmore Windfarm. Given this partial re-use, across the Site, this shall significantly decrease any likely significant impacts on the potential sub-surface Cultural Heritage resource therein, since the existing footprint is considered to have negligible archaeological potential.

Common acronyms used throughout this EIAR can be found in **Technical Appendix 1.5**.

This chapter of the EIAR is supported by Figures provided in Volume III and the following Technical Appendix document provided in Volume IV of this EIAR:

- **Technical Appendix 13.1**: Records of Cultural Heritage Assets

13.1.2 Assessment Structure

In line with the revised EIA Directive and current (draft) EPA guidelines the structure of this Cultural Heritage chapter is as follows:

- Details of methodologies utilised for both desk and field studies, in the context of legal and planning frameworks
- Baseline Descriptions (including a review of recorded cultural heritage assets, historical cartographic sources, aerial imagery and walkover field survey findings)
- Assessment of Potential Effects (construction, operational and decommissioning stages)
- Detailed Mitigation Measures
- Assessment of Cumulative Impacts
- Summary of Significant Effects and Statement of Significance.

13.2 Assessment Methodology and Significance Criteria

13.2.1 Definition of Study Area

The recorded and potential cultural heritage resource within the Study Area, encompassing the Site Boundary and lands extending for *c.* 2.5 km from the Site Boundary (hereafter termed the ‘Study Area’), was assessed in order to compile a comprehensive cultural heritage baseline and context. Within the Site Boundary is an operational windfarm, to be

decommissioned, and the infrastructure relating to same to be reused (in part) for the Development, also within the Site Boundary.

13.2.2 Assessment Methodology

The methodology used for this assessment is based on EPA (2003) *Advice Notes on Current Practice in the preparation of Environmental Impact Statements* and EPA (2002) *Guidelines on the Information to be contained in Environmental Impact Statements;* as well as more recent (draft) guidance methods have also been utilised per EPA (2015) *Draft Advice Notes for Preparing an EIS* and (2017) *Draft Guidelines for Information to be Contained in EIAR, and Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (DHPLG - August 2018).* The EIAR seeks to comply with the requirements of Directive 2011/92/EU as amended by Directive 2014/52/EU, and the *Planning and Development Act, 2000 (as amended)* and *Planning and Development Regulations, 2001 (as amended).*

The assessment methodology was also based on a programme of desk-based research combined with Site inspection and these studies were undertaken to identify any features of archaeological, architectural or cultural heritage significance likely to be affected by the Development.

13.2.3 Relevant Legislation and Guidance

The management and protection of cultural heritage in Ireland is achieved through a framework of national laws and policies which are in accordance with the provisions of the Valetta Treaty (1995) (formally the *European Convention on the Protection of the Archaeological Heritage, 1992*) ratified by Ireland in 1997*;* the *European Convention on the Protection of Architectural Heritage* (Granada Convention, 1985), ratified by Ireland in 1997, and the *UNESCO Convention for the Safeguarding of the Intangible Cultural Heritage, 2003*, ratified by Ireland in 2015.

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

The national legal statutes and guidelines relevant to this assessment include:

- National Monuments Act (1930) (as amended)
- Heritage Act (1995)
- National Cultural Institutions Act (1997)
- Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous Provisions) Act (1999)
- Planning and Development Act (2000) as amended
- Architectural Heritage and Protection: Guidelines for Planning Authorities, Department of Arts, Heritage, and the Gaeltacht (2011)
- Framework and Principles for the Protection of the Archaeological Heritage (Department of Arts, Heritage, Gaeltacht and the Islands, 1999)

13.2.3.1 Archaeological Heritage

The administration of national policy in relation to archaeological heritage management is the responsibility of the National Monuments Service (NMS) which is currently based in the Department of Culture, Heritage and the Gaeltacht. The National Monuments Act of 1930, and its Amendments, are the primary means of ensuring the satisfactory protection of the archaeological resource. They include a number of provisions that are applied to secure the protection of archaeological monuments. These include the designations of nationally significant sites as National Monuments, the Register of Historic Monuments, the Record of Monuments and Places, the Sites and Monuments Record, and the placing of Preservation Orders and Temporary Preservation Orders on endangered sites.

Section 2 of the National Monuments Act, 1930 defines a National Monument as *'a monument or the remains of a monument, the preservation of which is a matter of national importance'*. The State may acquire or assume guardianship of examples through agreement with landowners or under compulsory orders. There are no National Monuments located within the Study Area.

The National Monuments (Amendment) Act, 1994 made provision for the establishment of the Record of Monuments and Places (RMP) which comprises the known archaeological sites within the State. The RMP, which is based on the earlier Register of Historic Monuments (RHM) and Sites and Monuments Record (SMR), provides county-based lists of all recorded archaeological sites with accompanying maps. All RMP sites receive statutory protection under the National Monuments Act 1994 and the NMS must be given two months' notice in advance of any work proposed at their locations.

There is 1 no. recorded archaeological site located along the Site Boundary, whilst there are a further 7 no. examples within *c.* 2.5 kms of same. It is noted that 2 no. of these sites are SMR recorded sites pertaining to the Northern Ireland Sites and Monuments Record (NI SMR). The NI SMR information is used to identify sites and monuments for statutory protection in the form of Scheduling. There are no scheduled sites located within the Study Area. The 8 no. recorded archaeological sites are listed in **Table 13.5** and illustrated on Error! Reference source not found., and their published inventory descriptions are provided in **Technical Appendix 13.1**.

13.2.3.2 Architectural Heritage

Protection of architectural heritage is provided for through a range of legal instruments that include the *Heritage Act (1995)*, the *Architectural Heritage (National Inventory) & National Monuments (Misc. Provisions) Act (1999),* and the *Planning and Development Act (2000)*. The Heritage Act (1995) (as amended) defines architectural heritage as including: "*all structures, buildings, traditional and designed, and groups of buildings including streetscapes 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".*

The National Inventory of Architectural Heritage (NIAH) was established under the *Architectural Heritage Act (1999)*, to record architectural heritage structures within the State and to advise local authorities in relation to structures of architectural heritage significance within their administrative areas. The conservation principles of care and protection of architectural heritage and the facilitation of the listing of significant buildings of architectural merit are set out in *Part IV of the Planning and Development Act (2000)*. This requires Local Authorities to maintain a Record of Protected Structures (RPS) of structures with special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest, to be included in City/County Development Plans. In addition, Local Authorities must provide for the preservation of townscapes etc. through designation of Architectural Conservation Areas (ACA). Any changes that materially affect the character of a protected structure require planning permission. It is noted that under *Section 80 of the Planning Act (Northern Ireland) 2011*, the Department for Communities: Historic Environment Division (DfC:HED) is required to compile and maintain a list of buildings of special architectural or historic interest, known as the Historic Buildings register.

There are no recorded protected structures (*Donegal County Development Plan 2018-2024*) or Historic Buildings (NI) located within the Study Area. There are 3 no. NIAH structures (two bridges and a milepost) and 1 no. Industrial Heritage Record (IHR) (Northern Ireland) (Old Still House) within *c*. 2.5 km of the Site Boundary. These recorded architectural heritage sites are listed in **Table 13.6,** illustrated on Error! Reference source not found. and their published inventory descriptions provided in **Technical Appendix 13.1**.

13.2.3.3 Donegal County Development Plan 2018-2024

The Donegal County Development Plan 2018-2024 includes the following policies and objectives in relation to the protection of the archaeological resource:

- *AH-P-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 in the Record of Monuments and Places.*
- *AH-P-3 It is the policy of the Council to protect the character, settings of and views from National Monuments/ 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.*
- *AH-P-4 It is a policy of the Council to protect where appropriate, the character and setting of any unrecorded archaeological object or site.*
- *AH-P-5 It is the policy of the Council to protect and preserve archaeological sites, their characters and the settings which have been identified subsequent to the publication of the Record of Monuments and Places.*
- *AH-P-7 It is the policy of the Council to protect and preserve underwater archaeological sites in rivers, lakes, intertidal and sub-tidal locations.*
- *AH-P-8 It is the policy of the Council to protect known battlefield sites and their settings.*

The Donegal County Council Development Plan 2018-2024 presents a number of objectives to ensure the protection of the architectural heritage resource within the County and these 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 as appropriate.*
- *BH-P-3 It is a policy of the Council to ensure retention of historic structures (and parts of structures), including their functional and decorative details [in accordance with current conservation guidelines and best practice].*
- *BH-P-4 It is a policy of the Council to ensure the repair, reuse and appropriate refurbishment of vernacular/historic buildings, which make a positive contribution to the built heritage of the area including those as referred to on any National Inventory of Architectural Heritage listing.*
- *BH-P-5 It is a policy of the Council to protect and preserve vernacular and/or historic industrial and maritime buildings.*
- *BH-P-17 It is a policy of the Council to require that any historic structures that have to be demolished or significantly altered are photographed and recorded (using scaled drawings) to agreed professional standards.*
- *BH-P-18 It is a policy of the Council to preserve the integrity of Historic Gardens and Designed Landscape sites in County Donegal identified in the National Inventory of Architectural Heritage.*

13.2.3.4 Planning Policy Statement 6 (Northern Ireland)

Protection of the archaeological and built heritage resources are also provided for in the Planning context through defined policies and objectives set out in Planning Policy Statement 6 (PPS6) (1999), (including PPS6 Addendum: Areas of Townscape Character (2005), and PPS6 Amendment to Annex C (2011)) and the Strategic Planning Policy Statement for Northern Ireland (SPPS) (2015). Due cognisance of all relevant policies and objectives therein pertaining to the Cultural Heritage resource of Northern Ireland has been applied in the preparation of this assessment[1].

13.3 Desk Study

A desktop study was carried out which identified all recorded archaeological, architectural and other cultural heritage sites within the Study Area (Error! Reference source not found.). This desktop study also endeavoured to identify any previously unrecorded features or areas of cultural heritage significance. This information has provided an insight into the historical development of the Study Area over time and assisted in an evaluation of the potential presence of unrecorded cultural heritage sites.

The SMR and the RMP for County Donegal, both published by the Archaeological Survey of Ireland, were the principal sources consulted for identifying known archaeological sites. The RPS and the NIAH were consulted to assess the listed architectural heritage resource.

The following presents an overview of the sources consulted as part of the desktop study:

- Donegal County Development Plan 2018-2024: this publication was extensively reviewed for the Development assessment. It lists the buildings and structures included in the RPS and it also presents the Council's policies and objectives designed for the protection of the archaeological and architectural heritage resources within the County.

- Archaeological Survey of County Donegal: This publication presents summary descriptions of the recorded archaeological sites within this area of the County and the relevant entries are presented in **Technical Appendix 13.1**. In addition, the current national online database resources pertaining to same were accessed: Historic Environment Map Viewer[2] and Heritage Maps (The Heritage Council)[3].

- The NI SMR: The SMR is a map-based record with data on approximately 15,000 archaeological sites and historic monuments in Northern Ireland. It is the principal source for identifying archaeological and built heritage constraints (including Scheduled Sites and those in State Care). In addition, a number of additional NI databases were consulted, including the Industrial Heritage Record (IHR), Historic Buildings Register, Battle sites Register and Defence Heritage Register via the Historic Environment Map Viewer[4].

[1] Department for Communities: Historic Environment Division (2018) *Guidance on Setting and the Historic Environment.* Available online at: https://www.communities-ni.gov.uk/sites/default/files/publications/communities/guidance-on-setting-and-the-historic-environment.pdf [Accessed on 27/09/2019]
[2] Department of Culture, Heritage and the Gaeltacht (National Monuments Service). Historic Environment Viewer. Available online at: www.archaeology.ie [Accessed on 05/11/2019]
[3] The Heritage Council. Heritage Maps. Available online at: www.heritagemaps.ie [Accessed on 05/11/2019]
[4] Department for Communities: Historic Environment Division. Historic Environment Map Viewer. Available online at:https://dfcgis.maps.arcgis.com/apps/webappviewer/index.html?id=6887ca0873b446e39d2f82c80c8a9337 [Accessed on 05/11/2019]

- UNESCO designated World Heritage Sites and Tentative List: UNESCO seeks to encourage the identification, protection and preservation of cultural and natural heritage around the world considered to be of outstanding value to humanity. There are two World Heritage Sites in Ireland and a number of other significant sites included in a Tentative List (2010) that has been put forward by Ireland for inclusion.

- National Inventory of Architectural Heritage (NIAH): The NIAH provides a comprehensive catalogue of significant architectural heritage structures within Ireland. While inclusion in the inventory does not provide statutory protection to a structure it is used to advise local authorities on compilation of their Record of Protected Structures. Relevant current national datasets were accessed[5].

- Database of Irish Excavation Reports[6]: This database contains summary accounts of all licensed archaeological excavations carried out in Ireland (North and South) from 1970 to 2018. The database entries for investigations carried out within townlands in the Study Area are provided in **Technical Appendix 13.1**.

- National Museum of Ireland (NMI) Findspots[7]: This map-based dataset contains locational and summary reference details to recorded artefact findspots throughout the country. There are no records of any recorded finds or artefacts from the Study Area (within Co. Donegal).

- Ulster Museum Topographical Files: A request was made directly to the Ulster Museum for a search of find records relating to townlands located within the Study Area (27/09/2019). There are no records of any recorded finds or artefacts from the Study Area (within Co. Tyrone, Northern Ireland).

- Historical publications and cartographic sources: Various published and unpublished sources and historical maps were consulted. The historical maps and other figures are presented within the chapter and a list of consulted publications is provided in the References section of this chapter.

- Aerial and LiDAR Imagery[8]: Available current local and national online aerial and LiDAR images (including that of the Open Topographic Data Viewer) of the Site were consulted in order to determine if any traces of unrecorded, sub-surface archaeological sites were evident.

- Placenames Database of Ireland[9]: This current online database provides a comprehensive management system for data, archival records and place names research conducted by the State.

- Irish National Folklore Collection[10]: Transcribed material and relevant images from the National Folklore Collection and photographic Collection archive has been digitised and published. The foundational collection - *The Irish Folklore Commission Collection 1935-1970* was inscribed into the UNESCO *Memory of the World Register* (2017)[11] in recognition of its 'world significance' and 'outstanding universal value to culture'.

13.3.1 Field Survey

Two suitably qualified archaeologists Kate Robb BA MA MIAI and András Hindli BA MSc MIAI carried out inspections of the Site, on 23 August 2019. The Study Area was assessed in terms of historic landscape, land use, vegetation cover, presence and potential for undetected archaeological and architectural heritage sites/features. No difficulties were encountered during the walkover survey, and all areas were accessible. The results of the Site inspections are detailed in **Section 13.4.13** and extracts from the photographic record are presented in **Technical Appendix 13.1**.

[5] National Inventory of Architectural Heritage. Available online at: https://www.buildingsofireland.ie/ [Accessed on 05/11/2019]
[6] Department of Culture, Heritage and the Gaeltacht. Database of Irish Excavations Reports. Available online at: https://excavations.ie/ [Accessed on 05/11/2019]
[7] The Heritage Council. Heritage Maps. Available online at: www.heritagemaps.ie [Accessed on 05/11/2019]
[8] Department of Communications, Climate Action and Environment. Open Topographic Data Viewer. Available online at: https://dcenr.maps.arcgis.com [Accessed on 26/04/2019]
[9] Department of Culture, Heritage and the Gaeltacht (The Placenames Branch). Placenames Database of Ireland. Available online at: www.logainm.ie [Accessed on 29/04/2019]
[10] University College Dublin. National Folklore Collection. Available online at: www.duchas.ie [Accessed on 26/04/2019]
[11] UNESCO. Memory of the World Register. Available online at: http://www.unesco.org/new/en/communication-and-information/memory-of-the-world/register/ [Accessed on 26/04/2019]

13.3.2 Consultation

Statutory consultation was carried out with the Development Applications Unit (DAU) Department of Culture, Heritage and the Gaeltacht, and Department for Communities: Historic Environment Division (NI) (DfC:HED) during the compilation of the assessment. No specific recommendations in relation to Cultural Heritage were issued by DAU (DCHG). Correspondence from DfC:HED (dated 11 Sept 2019) refers to the need to undertake an archaeological impact assessment, to include detailed background research and a consideration of the visual setting of recorded monuments in the context of the Development. All such elements have been addressed in this assessment.

13.3.3 Predicted Impacts on Archaeological, Architectural and Cultural Heritage

The following summation of the criteria applied to determine the nature of effects is provided in order to clearly and concisely outline the methodology specifically applied to the cultural heritage resource.

13.3.3.1 Level of Impact

Assessment was achieved by a consideration of the duration, quality, type, magnitude and value of effect(s) on the cultural heritage resource.

Duration of Effect

The duration of effects is assessed based on the following criteria:

- Momentary (seconds to minutes)
- Brief < 1 day
- Temporary <1 year
- Short-term 1-7 years
- Medium Term 7-15 years
- Long Term 15-60 years
- Permanent > 60 years
- Reversible: Effects that can be undone, for example through remediation or restoration

Quality of Effect

The quality of an effect on the cultural heritage resource can be positive, neutral or negative.

- *Positive* – a change which improves the quality of the cultural heritage environment (e.g. increasing amenity value of a site in terms of managed access, signage, presentation etc. or high-quality conservation/restoration and re-use of an otherwise vulnerable derelict structure).
- *Neutral* – no change or effects that are imperceptible, within the normal bounds of variation for the cultural heritage environment.
- *Negative* – a change which reduces the quality of the cultural heritage resource (e.g. visual intrusion on the setting of an asset, physical intrusion on features/setting of a site etc.)

Type of Effect

The type of effect on the cultural heritage resource can be direct, indirect or no predicted effect.

- *Direct* – where a cultural heritage site is physically located within the footprint of the Development, which will result in its complete or partial removal.
- *Indirect* – where a cultural heritage site, or its setting, is located in close proximity to the footprint of the Development.
- *No predicted effect* – where the Development will not adversely or positively affect a cultural heritage site.

Magnitude

The **Significance of the Effect** is based on an assessment largely of the **Magnitude of the Impact** (graded from High to Negligible, based on a consideration of character, duration, probability and consequences) and the **Value** (graded from High to Negligible, based on a consideration of significance/sensitivity) of the heritage asset.

Magnitude of Impact (degree of change, incorporating any mitigation measures) can be negative or positive, and should be ranked without regard to the value of the asset according to the following scale: **High, Medium, Low and Negligible**.

Table 13.1 Magnitude of Impact Assessment Indicators of the Cultural Heritage Asset

Indicative factors for assessing the Magnitude of Impact on the Cultural Heritage Asset *(after ICOMOS Guidelines 2011)*	
High	- Most or all key archaeological or architectural materials affected such that the resource is totally altered - Comprehensive changes to setting - Changes to most or all key historic landscape elements, parcels or components; extreme visual effects; fundamental changes to use or access; resulting in total change to historic landscape character unit - Major changes to area that affect Intangible Cultural Heritage activities or associations or visual links and cultural appreciation
Medium	- Changes to many key archaeological or historic building materials/elements such that the resource is clearly/significantly modified. - Considerable changes to setting that affect the character of the archaeological asset. - Changes to the setting of a historic building, such that it is significantly modified. - Change to many key historic landscape elements, parcels or components, visual change to many key aspects of the historic landscape, considerable changes to use or access, resulting in moderate changes to historic landscape character. - Considerable changes to area that affect the Intangible Cultural Heritage activities or associations or visual links and cultural appreciation.
Low	- Changes to key archaeological materials/historic building elements, such that the resource is slightly altered/slightly different. - Slight changes to setting of an archaeological monument. - Change to setting of a historic building, such that it is noticeably changed. - Change to few key historic landscape elements, parcels or components; slight visual changes to few key aspects of historic landscape; slight changes to use or access; resulting in limited change to historic landscape character. - Changes to area that affect the Intangible Cultural Heritage activities or associations or visual links and cultural appreciation.
Negligible	- Very minor changes to key archaeological materials or setting. - Slight changes to historic building elements or setting that hardly affect it. - Very minor changes to key historic landscape elements, parcels or components; virtually unchanged visual effects; very slight changes to use or access; resulting in very small change to historic landscape character. - Very minor changes to area that affect the Intangible Cultural Heritage activities or associations or visual links and cultural appreciation.

Note: This Table is indicative only and to be used together with a consideration of the location, type, siting, design and layout of the Development.

Value

The evaluation of the **Value** of a heritage asset is largely based on its significance criteria, and should not be considered definitive, but rather an indicator which contributes to a wider judgment based on the individual circumstances of each feature. Generally, the more criteria that are evident for a given asset, the higher in scale it's respective value shall be. Criteria to be considered in addition to any legal designations include a consideration of the condition/preservation, documentary/historical significance, group value, rarity, visibility in the landscape, fragility/vulnerability and amenity value.

The **Value** of all known or potential assets that may be affected by the Development should be ranked according to the following scale: **High, Medium, Low and Negligible**. **Table 13.2** below has been informed by the International Council on Monuments and Sites *Guidance on Heritage Impact Assessments for Cultural World Heritage Properties*.[12]

[12] ICOMOS (2011). *Guidance on Heritage Impact Assessments for Cultural World Heritage Properties,* pp.14-17. Available online at: https://www.icomos.org/world_heritage/HIA_20110201.pdf [Accessed on 05/11/2019]

Table 13.2: Value Assessment Indicators of the Cultural Heritage Asset

Indicative factors for assessing the Value of the Cultural Heritage Asset *(after ICOMOS Guidelines 2011)*	
Very High	- World Heritage Sites (including Tentative List properties) - Assets of acknowledged international importance, including buildings - Assets that can contribute significantly to acknowledged international research objectives
High	- Designated *National Monuments* (archaeological) - Assets of significant quality and importance, including designated RMP sites - Assets that can contribute significantly to acknowledged national research objectives - Protected Structures/National NIAH Grade Buildings - Conservation Areas containing significant buildings of importance, including group value - Archaeological Landscapes with significant inter-group value
Medium	- Assets of good quality and importance, including designated RMP sites - Assets that can contribute significantly to acknowledged regional research objectives - Regional Grade NIAH Buildings - Other undesignated buildings that can be shown to have exceptional qualities in their fabric or historical associations - Undesignated structures of potential national importance (archaeological, potential 'new sites') - Conservation Areas containing buildings that contribute significantly to its historic character - Historic townscape or built-up areas with important historic integrity in their buildings, or built settings (e.g. including street furniture and other structures)
Low	- Designated and undesignated assets of local importance, including buildings - Assets compromised by poor preservation and/or poor survival of contextual associations - Assets of limited value, but with potential to contribute to local research objectives - Historic Townscape or built-up areas of limited historic integrity in their buildings, or built settings (e.g. including street furniture and other structures)
Negligible	- Assets with very little or no surviving archaeological interest - Buildings of no architectural or historical note; buildings of an intrusive character

Note: This Table is indicative only and to be used together with a consideration of the condition/preservation; documentary/historical significance, group value, rarity, visibility in the landscape, fragility/vulnerability and amenity value of the Cultural Heritage Asset itself on a case-by-case basis.

Significance of Effect

The **Significance of Effect** can be described as **Profound, Very Significant, Significant, Moderate, Slight, Not Significant or Imperceptible** (**Table 13.3** and **Table 13.4**).

Table 13.3: Assessing Significance of Effect for the Cultural Heritage Resource

Significance of Effects *(per EPA Draft Guidelines 2017)*	
Imperceptible	An effect capable of measurement but without significant consequences
Not Significant	An effect which causes noticeable changes in the character of the environment but without significant consequences
Slight	An effect which causes noticeable changes in the character of the environment but without affecting its sensitivities
Moderate	An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends
Significant	An effect which, by its character, magnitude, duration or intensity alters a sensitive aspect of the environment
Very Significant	An effect which, by its character, magnitude, duration or intensity significantly alters most of a sensitive aspect of the environment
Profound	An effect which obliterates sensitive characteristics

Table 13.4: Significance of Effects Assessment Matrix

Significance of Effects Matrix *(per EPA Draft Guidelines 2017)*					
Magnitude of Impact	**High**	Not Significant/ Slight	Moderate/ Significant	Significant/ Very Significant	**Very Significant/ Profound**
	Medium	Not Significant	Slight	Moderate/ Significant	Significant/ Very significant
	Low	Not Significant/ Imperceptible	Slight/ Not Significant	Slight	Moderate
	Negligible	Imperceptible	Not Significant/ Imperceptible	Not Significant/ Slight	Slight
		Negligible	**Low**	**Medium**	**High**
		Value/Sensitivity of the Asset			

13.4 Baseline Description

13.4.1 Introduction

The Site is located within Croaghnameal Border and Uplands LCA 41**,** as defined by the *Landscape Character Assessment, Co. Donegal (2016)*[13]. The LCA is described as *"a remote area of primarily upland mountainous blanket bog and mountain lakes with significant areas of commercial forestry, particularly along the eastern boundary with Northern Ireland. The northern part of the LCA forms half of the iconic 'Barnesmore Gap', a steep-sided and wide river valley through which the N15 and the old Donegal Railway line runs, and one of the main vehicular routes into Donegal from the south".*

13.4.2 Archaeological and Historical Background

The following section presents summary details of the main periods within the Irish archaeological record with references to the recorded archaeological sites located within the Study Area. Further contextual and technical detail relating to the development of the Study Area since prehistoric times to the modern period is also presented in **Technical Appendix 13.1**. Datasets have been interrogated and retrieved largely from State Body organisations and are considered accurate and current per publicly available information (Archaeological datasets Historic Map Viewer: Dept Culture, Heritage & Gaeltacht www.archaeology.ie; Excavation Reports www.excavations.ie, NIAH datasets www.buildingsofireland.ie and RPS *Donegal County Development Plan 2018-2024*). Note that since the Site shares its boundary, in part, with the Northern Ireland border at its north-easternmost portion, recorded datasets and assets within the Northern Ireland jurisdiction have also been assessed and are considered accurate and current per publicly available information (The Heritage Council www.heritagemaps.ie and the Historic Environment Map Viewer (NI) https://dfcgis.maps.arcgis.com/). The dating framework used for each period of the archaeological record is based on the *Guidelines for Authors of Reports on Archaeological Excavations* published by the National Monuments Service[14].

13.4.3 Record of Monuments and Places (RMP)

While there is 1 no. recorded archaeological site located along the north-eastern Site Boundary, there are an additional 7 no. examples located within *c.* 2.5 km of same including those recorded in the DCHG records and the DfC:HED (NI) records (**Table 13.5** and Error! Reference source not found.**)**. The published inventory descriptions of these sites are presented in **Technical Appendix 13.1**.

Table 13.5: Recorded archaeological sites within *c.* 2.5 km of Site Boundary

RMP/NISMR Ref.	Class	Townland	Irish Grid		Distance from Site Boundary
DG094-017----	Enclosure	CLOGHER	199560	380410	130 m
DG094-018----	Standing stone	CLOGHER	199530	380380	144 m

[13] Donegal County Council (May 2016) *Landscape Character Assessment of County Donegal.* Planning & Policy Unit, Community, Enterprise & Planning Services. Donegal County Council. Available online at: http://www.donegalcoco.ie/media/donegalcountyc/planning/pdfs/viewdevelopmentplans/landscapecharacterassessmentofcountydonegal/landscapecharacterassessmentofcountydonegal/LCA%2041%20Croaghnameal%20Border%20%20Uplands.pdf [Accessed on 26/04/2019]

[14] National Monuments Service. *Guidelines for Authors of Reports on Archaeological Excavations.* Available online at: https://www.archaeology.ie/sites/default/files/media/publications/excavation-reports-guidelines-for-authors.pdf [Accessed on 26/04/2019]

RMP/NISMR Ref.	Class	Townland	Irish Grid		Distance from Site Boundary
DG094-019----	Structure	CLOGHER	199591	380351	210 m
DG095-001----	Standing stone - pair	BARNESYNEILLY	203339	379530	1,830 m
DG085-005----	Redundant record	TAWNAWULLY MOUNTAINS	202605	385338	1,680 m
DG094-026----	Kiln	KEADEW UPPER	200958	383713	1,820 m
*TYR014:002	A.P. Site – Crannog?	SLIEVEDOO	205306	383873	17 m
TYR014:001	Island, poss Crannog	SLIEVEDOO	205209	383033	50 m

Note: *The locational position of TYR014:002 per DfC:HED Historic Environment Mapviewer and GIS datasets, is at an incorrect position and should be sited within Lough Innaghcola at these environs.

It should also be noted that there are a number of recorded sites, including those of an architectural heritage merit, focused in and around Lough Eske, *c.* 4.5 km west of the Site Boundary The lough itself measures *c.* four km north-south and *c.* two km east-west at its widest point, and is home to a former O'Donnell medieval castle as well as acting as an important focal point for past human settlement within the immediate environs, including that of Barnesmore Gap.

13.4.3.1 Prehistoric period

There are no recorded Neolithic sites located within the Study Area, however the presence of the natural geological formation of 'Barnesmore Gap' and the river valley of the Lowerymore River therein, would have been uniquely important as a means of traversing the county from the coastline at the south and south-west (including the confluence of the River Eske and the Atlantic ocean at Donegal Town); to the north and eastern areas, along the south-eastern extent of the Bluestack mountain range that occupies a large portion of the central and southern areas of County Donegal. Barnesmore Gap represents a 'natural highway' and an important transport corridor, up to the present day.

13.4.3.2 Late prehistoric periods

Metalworking arrived in Ireland with the advent of the Bronze Age period (*c.* 2400–500 BC). This period was also associated with the construction of new monument types such as standing stones, stone rows, stone circles, cist burials and *fulachta fiadh*. There are two recorded standing stone sites located within the Study Area: DG094-018--- at Clogher to the south-west of the Site Boundary and a standing stone pair at Barnesyneilly (DG095-001---) to the south of the Site Boundary (see **Table 13.5** for distances).

13.4.3.3 Early Medieval period

This period began with the introduction of Christianity in Ireland and continued up to the arrival of the Anglo-Normans during the 12th-century (*c.* 400–1169 AD). There is a recorded site DG085-005--- (now classed as a redundant record) located to the north of the Site Boundary, on the banks of the Lowerymore River (and adjacent the N15) marked as 'Cloghaturras' on the 1907 OS 6-inch map. The boulders at recorded site DG085-005--- have been considered as natural glacial erratics per recorded datasets, although it is noted that their location along the natural highway of Barnesmore Gap as well as the placename *Cloch an Turras* 'Stone of the Turras ['rounds' or 'pilgrimage']' may be indicative of past pilgrimage associations. It is also notable that Lough Derg, a place of pilgrimage since early medieval times is located *c.* ten km to the south/south-east (DG101-004001- to DG101-001004-).

Barnesmore Gap is mentioned on several occasions as *Belach Gola*, later renamed *Bernas Mór*, within the stories of *Cenél Conaill* and the Donegal Kingdoms, usually in reference to a method of passage which connects the west of Ireland to the north. The gap also lends its name to the *Battle of Bernas Mór*, which appears in the *Echtra*, when the *Ulaid*, led by Muircertach Mór was defeated by Éogan son of Niall. It is likely that this story may reflect genuine historical events from the eighth century onward, when the area north of the gap became ruled by the *Cenél nÉogain* who had taken it from the *Cenél Conaill* with the latter subsequently confined to the land south of the gap.[15]

This period saw the emergence of the first phases of urbanisation around the large monasteries and the Hiberno-Norse ports. However, the dominant settlement pattern of the period continued to be rural-based in sites such as ringforts. Archaeological excavations indicate that the majority of ringforts were early medieval farmsteads with internal timber

[15] Lacy, B. (2006). *Cenél Conaill and the Donegal Kingdoms AD 500-800*. Dublin: Four Courts Press Ltd. pp. 41-43.

buildings and were surrounded by associated field systems, stockades, barns, mills and drying- kilns. During advance archaeological works conducted for the upgrade and realignment of the N15 along Barnesmore Gap, a drying kiln (DG094-026---) was discovered and excavated (99E0379) at Keadew Upper, *c.* 1.8 km from the westerly Site Boundary.

There is a recorded enclosure at Clogher (DG094-017---) marked as 'the ring' on the OS 6-inch map, which includes a mound feature and sub-circular arrangement of loose stones, as well as a standing stone (DG094-018---) *c.*130 m – 144 m south-west of the Site Boundary. Furthermore, there is a feature known as 'the Chair' (DG094-019---) just north-west of the enclosure. Its function is not clear however it is noted that this area was within the territory of the O'Donnell's by the late medieval period.

Crannogs are also a site type that date to the early medieval period. They consist of an island, partly or wholly artificially constructed by built up material of timber, earth and stones onto a lake (or river) bed, often revetted with timber piles or a palisade. These would have been (defended) homesteads, dating from the 6th to the 17th century. There are two possible recorded crannog sites located within the Study Area, within Co. Tyrone (NI). One site TYR014:002 is located in Lough Innaghchola, outside (17 m) the Site Boundary, whilst the other site TYR014:001 is located in Loughnaweelagh, *c.* 50 m east of the Site Boundary.

13.4.3.4 High & Late medieval periods

The arrival and conquest of large parts of Ireland by the Anglo-Normans in the late 12th-century broadly marks the advent of the Irish late medieval period, which continued up until the beginning of the post-medieval period *c.* 1550. The O'Donnell clan retained control and power of these territorial lands within the Study Area from *c.* 1200 – 1607 AD. The construction of both Donegal Castle and Donegal Abbey in 1474 saw the area emerge as the ruling seat for the powerful and wealthy clan. At this time, control and defence of the natural highway of Barnesmore Gap would have been paramount.

13.4.3.5 Post medieval & early modern periods

The post-medieval period is generally considered to commence at *c.* 1550 and to continue into the 18th century with the period thereafter often referred to as the early modern period. With the Plantation of Ulster (1607), the O'Donnell castle at Donegal Town was granted to Sir Basil Brooke who carried out major reconstruction work and added the 'manor house' however, he eventually moved to the fortified house at Lough Eske. Barnesmore Gap has been recorded as the site of an ambush in the middle of the 17th century as well as into the late 18th century and subsequent years.

13.4.4 Topographical Files of the National Museum of Ireland

The NMI records the discovery of two findspots in the general area, although both are outside the Study Area. A wooden vessel with butter (no ref.) was found at the north shores of Lough Eske on the Greenan/Cornareagh townland boundary, whilst a flint arrowhead was found in 1937 at the summit of Banagher Hill adjacent Lough Cam in the townland of Eglish (NMI Ref 1937:3614). It is also noted that there are no records of findspots within the Study Area per records from the Ulster Museum.

13.4.5 Aerial Photography & LiDAR

Various online aerial images of the Site, including those published by OS Ireland, Google and Bing, were consulted as part of the assessment[16]. These provide overviews of the Site from the 1990s onwards and indicate that since the construction of the existing windfarm (1996-1997) and associated infrastructure, the mountainous upland boggy terrain with lake and riverine systems has remained unchanged. Upon inspection of recent digital globe aerial imagery, any potential observed surface anomalies were inspected during field survey and deemed to be areas of elevated bog and/or cut drainage channels.

The Irish LiDAR imagery[17] was inspected as part of the desktop study and its area of coverage encompasses the Site. There was available data, in part, via TII survey(s) for the realignment of the N15. There are no traces of differential soil-marks or earthworks that may indicate the presence of sub-surface archaeological sites such as burnt spreads or levelled enclosures identified during a review of the partial LiDAR images available of the Study Area.

[16] Google. Google Maps. Available at: www.google.com/maps [Accessed 26/04/2019]
Bing. Bing Maps. Available at: www.bing.com/maps [accessed 26/04/2019]
The Heritage Council. Heritage Maps. Available at: www.heritagemaps.ie [Accessed on 26/04/2019]
[17] Geological Survey Ireland. Open Topographic Data Viewer. Available online at: https://dcenr.maps.arcgis.com [Accessed on 26/04/2019]

13.4.6 Donegal County Development Plan

There are no recorded protected structures (*Donegal County Development Plan 2018-2024*) or Historic Buildings (NI) located within the Study Area. It is noted that the built heritage features in and around Lough Eske, *c.* five km from the Site Boundary, including Christ Church, Lough Eske Castle and a mill, all located within Lough Eske Demesne, are listed as protected structures on the County Donegal RPS.

13.4.7 National Monuments in State Ownership/Care Donegal

There are no National Monuments listed in State Ownership/Care within the Study Area, nor are there any monuments with Preservation Orders. It is also noted that there are no Scheduled monuments or sites in State Care within the Northern Ireland jurisdiction to the east of the Site Boundary.

13.4.8 National Inventory of Architectural Heritage

There are 4 no. architectural heritage structures (recorded on the NIAH and Industrial Heritage Record NI) located within the Study Area (**Table 13.6** and **Technical Appendix 13.1**). One of the sites consists of a former railway bridge at Keadew Upper (NIAH 40908501) and embankment/cuttings associated with the West Donegal Railway *c.* 1889 (out of use since 1960). The railway line itself can be traced in part along the river valley reaches of Barnesmore Gap. There is also another double-arched road bridge (NIAH 40909424) over a tributary of the Lowerymore River *c.* 1860, at Keadew Upper, at the south-west entrance to Barnesmore Gap. Also located at this 'entrance' area at Cullionboy, is a granite milestone *c.* 1775 along the (former) main road. Milestones appear to be marked along this road on the *Taylor and Skinner* road maps of 1777 - 1783, although there were no turnpike roads in Donegal before 1805. This may have been 'milestone marker 34' along the main road from Donegal Town to Derry, although it was probably moved to its present location from a site close by due to road widening over the years[18].

There is an 'Old Still House' (in ruins) in Slievedoo, recorded on the IHR records for Northern Ireland. This structure is marked on the 1st ed OS map (*c.* 1830) as 'in ruins' and may have been associated with *poitín* making within the upland regions of the Study Area.

Table 13.6: Recorded Architectural Heritage Structures within *c.* 2.5 km of Site Boundary

NI IHR Ref	NIAH	Description	Irish Grid		Distance from Site Boundary
-	40908501	Bridge	201968	384316	1,260m
-	40909423	Milestone/milepost	200163	382694	2,350m
-	40909424	Bridge	200350	382771	2,500m
04485:000:00	-	Ruins of Old Still House	206617	381974	1,735m

13.4.9 Previous Archaeological Work in the Wider Area: Excavations Database

The Database entries for archaeological investigations carried out within the townlands that form part of the Study Area are provided in **Technical Appendix 13.1**. There have been no licenced archaeological excavations carried out within the Site Boundary or Study Area. It is noted that a total of 6 no. excavations are recorded within the wider environs of the townlands, one of which had archaeological significance at Croaghonagh townland. The latter was carried out as part of advance works for Lough Mourne and dam operations, 5.5 km north of the Site Boundary. A large cairn, wedge tomb, hearths and a *fulacht fiadh* were excavated with a number of Neolithic flints and flint cores with debitage encountered (10E0309, 10R0103).

13.4.10 Cartographic Analysis

The detail on historic cartographic sources demonstrates the nature of past settlements and land use patterns in recent centuries and highlights the extent of modern developments and agricultural practices. This information can also aid in the identification of the location and extent of unrecorded or partially levelled features of archaeological or architectural heritage interest.

The cartographic sources examined for the Study Area comprised the 17th-century Down Survey map (Error! Reference source not found.**)**, the first edition 6-inch OS map (1842) (Error! Reference source not found.), the 25-inch second

[18]National Inventory of Architectural Heritage. Available online at: www.buildingsofireland.ie [Accessed on 05/11/2019]

edition OS map (surveyed and published 1888-1913) and the 6-inch Cassini OS map *c.* 1940 (Error! Reference source not found.).

The Down Survey map of the parish of Drumhome in the barony of Tyrehugh clearly illustrates '*Dunagall Towne'* as well as '*Logh Eask'* along with *'Two Balliboes of Crowne Land called Cornviegh and Ardemore'* which is rocky with woods in part, whilst the mountainous terrain of the Study Area is also indicated.

13.4.11 Ordnance Survey Maps

The first edition OS 6-inch map (*c.* 1830) indicates that the Study Area consists of unenclosed upland bog terrain with the upland lake and riverine systems clearly indicated. Similarly, the 25-inch OS map (*c*. 1900) as well as the Cassini 6-inch OS map (*c*. 1940) indicate no change to the topography and its boggy upland nature. The 'Ruins of Still House' (IHR 04485:000:00) (**Section 13.4.8**) are marked on the 1st ed OS map but is not indicated in later OS editions.

13.4.12 Townland Names

Whilst encompassing the archaeological and designated architectural heritage resources, cultural heritage also includes various undesignated assets such as settlements, demesne landscapes, vernacular structures, folklore, placenames, townland boundaries and historical events. There are no undesignated cultural heritage assets located within, on in close proximity to, the Study Area. Townland names pertaining to the Site (Keadew Upper, Meenabrock and Cullionboy) refer to natural topographical features (An overview of *Placename Evidence and Folklore* in **Technical Appendix 13.1**).

13.4.13 Field Work

A walkover of the Site was undertaken on 23 August 2019 and extracts from the photographic record are presented in **Technical Appendix 13.1**. In summary, the Site comprises extensive unenclosed upland bog with interspersed lake systems, that also retains the Operational Barnesmore Windfarm and its associated existing infrastructure including ite Access Tracks, 25 no. turbines and hardstanding areas, site office, substation, and ancillary infrastructure. These areas of existing infrastructure (and immediate environs) have been subject to extensive previous ground reduction and/or infilling and drainage. Field walkover inspection of these areas revealed no surface trace of potential archaeological or architectural heritage features. Given previous works at these footprint areas, it is unlikely that archaeological finds or features exist at a sub-surface state.

The Development has provision for the retention and re-use of existing footprint locations of the Operational Barnesmore Windfarm. These areas shall involve augmentation of existing footprints (Turbine Foundation locations/Turbine Hardstands), whilst in some cases it shall include partial extension of existing footprint areas, or siting of proposed Turbines Foundations and Turbine Hardstands in close proximity to existing infrastructure (**Figure 13.1**). This is relevant for T1 – T3 and T5 – T9 (**Plates 1 – 8**, **Technical Appendix 13.1**). It is noted that all Site Access Tracks shall utilise existing tracks (including ten km upgrade works involving re-surfacing and marginal widening in parts) within the Operational Barnesmore Windfarm Site, save for one new section required for access to T13 (188 m in length). All Windfarm Internal Cabling shall be routed along the verge of Site Access tracks. Off-site Grid Connection works shall be undertaken at existing footprint locations (110kV structures, Site Access Tracks) to tie in directly with the existing Clogher 110kV GIS Substation.

The Development has provision for infrastructural elements pertaining to the repowering of the Operational Barnesmore Windfarm that include locations that have not been subject to previous ground reduction/excavation. This includes Turbine Hardstand areas and Turbine Foundation locations for T4, T10, T11, T12 and T13 (including new Site Access Track 188 m in length), an Energy Storage Unit and EirGrid Control Building adjacent to the existing Substation and widening of the L2015, including its T-junction with the L2595 for purposes of the Haul Route (Points F, G and H) (**Chapter 14 Traffic and Transport**)..

Field walkover inspection for the areas of T4, T10, T11, T12 and T13, Energy Storage Unit and Eirgrid Control Building consist generally of areas of elevated rocky outcrops, covered with thin blanket bog, with deeper peat around the elevated perimeters (**Plates 9 - 13, Technical Appendix 13.1**). Cut drainage channels were also noted throughout. Proposed areas for T12 and T13 have significantly deeper peat formation and the area surrounding the proposed T12 is presently subject to third party turf cutting (**Plates 14-15**, **Technical Appendix 13.1**). There was no observed surface trace of potential archaeological or architectural heritage features at the areas for the proposed T4, T10, T11, T12 and T13, Energy Storage Unit and Eirgrid Control Building. Given that these locations have been hitherto undisturbed and without previous ground reduction/excavation, there is deeper bog formation in part which has the potential to conceal archaeological features and/or finds.

There are 2 no. recorded (possible) crannog sites located adjacent the Site Boundary (within the jurisdiction of Northern Ireland). The possible crannog sites are listed in the NI SMR as TYR014:002 and TYR014:001 and the latter is visible from T2 (**Plates 16-17**, **Technical Appendix 13.1**). These possible early medieval man-made artificial islands are located within Lough Innaghachola (c. 360 m northeast of T1) and Loughnaweelagh (c. 185 m east of T2). The presence of these possible sites infers that there was past human habitation within the environs of the Development. The possible crannog sites may be surviving indicators of the presence of other associated sub-surface finds or features presently masked beneath unenclosed areas of blanket bog within the environs of T1 and T2.

The area of road widening pertaining to the Haul Route at the junction of the L2595/L2015 (Point F) consists of improved flat pasture, with a mid-nineteenth century derelict two-storey fam dwelling further to the north, on the opposite side of a stream which forms the field boundary at this point. The L2015 (to be widened) was originally constructed by the time of survey for the 2nd edition OS map (*c.* 1900). The zone of notification for recorded archaeological sites so named 'The Ring' (DG094-017---, DG094-018--- and DG094-019---) is located *c.* 110 m to the east (opposite) of the proposed road widening area,

At the north-westerly portion of the Operational Barnesmore Windfarm, there are good views to the northwest encompassing the river valley floor and Barnesmore Gap (in part) and Lough Eske beyond (**Plate 18**, **Technical Appendix 13.1**). There are also good views towards Lough Eske at the eastern approach road to the Operational Barnesmore Windfarm (**Plate 19**, **Technical Appendix 13.1**). Views from the south-western perimeter of Lough Eske towards the Site are largely masked by local topographical features including land formation, contours and extensive mature woodland (see **Chapter 11, Landscape & Visual Amenity**).

13.4.14 Summary

The Study Area is dominated by the presence of the Lowerymore river-valley floor between the high mountain ranges of Barnesmore to the east and Croaghconnellagh to the west. This natural corridor would have held significance from earliest times, as a means of navigating inland along the south-eastern extent of the Bluestack Mountains. In turn, it would have held territorial significance particularly within the kingdom of the O'Donnell lands and access to Donegal Harbour. Retaining control of the 'Gap' would have been of strategic defensive importance.

The Site is located on the upland terrain of the eastern mountain reaches of Barnesmore Gap. There are no recorded archaeological or architectural heritage sites located directly within the Site Boundary. However, there are 2 no. possible crannog sites located outside the north-eastern Site Boundary within the upland lake systems of the surrounding terrain. These lakes, as well as the riverine systems, provide a fresh water source but also defensive functionality and would have been attractive to early settlers, particularly on the south-facing mountain slopes.

At the location of L2595/L2015 road widening for the Haul Route (Point F), the presence of a water-source (stream) and nearby recorded archaeological sites 'The Ring', indicates that this small pocket of farmland may have potential to reveal sub-surface archaeological remains/features.

It is noted that on the opposite side of the Gap to that of the Study Area, at Edergole townland (the lower slopes of the mountainous terrain, north of Lough Eske) a settlement cluster as well as possible booley huts were discovered during clear-felling operations for Coillte lands (DG085-006001-, DG085-006002- and DG085-006003-). Booleying or herding stock and its associated upland transient practices may have been a feature of the Study Area. *Poitín*-making within the locale is evidenced by the location of an 'Old Still House' to the south-east of the Study Area (IHR 04485:000:00). Upland (remote) locations were favoured as a place to conceal such distilling activities and recent evidence suggests that drying kilns can be concealed within field boundaries in upland locations such as that pertaining to the Study Area (Mc Carthy, 2016[19]).

Of the townland names pertaining to the Study Area and those with potential indicative inferences, although none are located within the Site, they, along with the tangible recorded cultural heritage resource serve to provide insight to the use of the landscape over time by past human settlers to the wider area.

Given the focal point of Barnesmore Gap and river valley to the west of the Site Boundary, and the upland lake and river systems, that would have been favourable to past settlers, the Site is considered to be of fair archaeological potential.

[19] McCarthy, D. (2016). *A Clandestine Use of Kilns in the Connemara Landscape*. Archaeology Ireland, Volume. 30 (2), pp. 13-16. Available at: https://www.jstor.org/stable/43816772 [Accessed 18/04/2019].

Field walkover inspection of the Site did not observe any surface traces of potential archaeological or architectural heritage features. The area consists largely of enclosed upland bog with pockets of elevated rocky outcrops, as well as the existing infrastructure pertaining to the Operational Barnesmore Windfarm. The proposed locations for T3 and T5-T9 are largely on or adjacent to existing infrastructural footprints, the original ground surface areas of which have been significantly previously disturbed and are not considered to be of any archaeological potential. The proposed locations for T1 and T2 are in closest proximity to the recorded crannog sites located along (outside) the Site Boundary. Although both proposed locations for T1 and T2 are in part within or adjacent to existing infrastructure, there remains low potential for sub-surface archaeological finds or features within the hardstand footprint areas that require ground reduction works. The proposed locations for T4, T10, T11, T12 and T13 (and new Site Access Track), the Energy Storage Unit and EirGrid Control Building consist of variations of rocky elevated bog-covered outcropping and pockets of deep peat, with a small area of improved pasture adjacent to a stream at proposed road widening at junction L2595/L2015 for the Haul Route.. These ground areas have been largely undisturbed, save for third party turf cutting at T12 and T13, and are considered to be of fair archaeological potential.

13.5 Assessment of Potential Effects

In determining the proposed design layout, construction methods and infrastructural requirements of the Development, due regard has been made to avoid, prevent and reduce any potential significant effects on the recorded Cultural Heritage resource. The Site does not retain any recorded archaeological or architectural sites or features. Crannog site TYR014:002 is located just outside the north-eastern Site Boundary.

13.5.1 Initial Decommissioning and Construction Phase – Direct Impacts

The initial decommissioning and construction phase pertaining to the Development will involve significant ground reduction and topsoil removal throughout the design layout footprint, including Turbine Hardstand areas/Turbine Foundation locations, Energy Storage Unit and EirGrid Control Building.

There are no identified likely significant direct effects on the cultural heritage resource pertaining to the Study Area or the Site. There are no recorded archaeological or architectural heritage sites within the Development, and, due to the prior construction of the Operational Barnesmore Windfarm, the overall archaeological potential to reveal sub-surface archaeological features within the footprint of same is negligible. However, proposed areas for T1, T2 are located within the environs of recorded crannog sites; and T4, T10, T11, T12 and T13 (including new Site Access Track) are located within largely undisturbed, bog-covered ground surface areas. In addition, the area of proposed junction widening at L2595/L2015 for the Haul Route is of improved pasture adjacent a small stream and recorded archaeological monuments. There is a possibility of encountering archaeological finds/features throughout these areas, during the initial decommissioning and construction phase. Such potential features shall be subject to potential direct negative impact, of high magnitude, and although the value/sensitivity potential of the sub-surface archaeological resource is unknown, it is considered to be of potential **slight/moderate** significance of effect.

It is noted that the Haul Route traverses along the existing local road network which includes the location of bridge structure NIAH 40909423 and milepost NIAH 40909424. No road widening is proposed at these locations and as such, there is no identified direct or indirect impacts on same.

13.5.2 Initial Decommissioning and Construction Phase – Indirect Impacts

There are **no identified likely significant indirect impacts**, on the cultural heritage resource.

13.5.3 Operational Phase – Direct Impacts

Following the initial decommissioning and construction phase for the Development; the operational phase is considered to have **no likely or significant direct effects** on the cultural heritage resource.

13.5.4 Operational Phase – Indirect Impacts

There are 2 no. recorded possible crannog sites, TYR014:002 and TYR014:001, located along (outside) the Site Boundary. These sites are of possible early medieval origin and are artificial man-made islands, located within the upland lake systems. The site TYR014:002 is in closest proximity to T1 although is not visible from same. Site TYR014:001 is in closest proximity to T2 and is visible from same. The locations of both Turbine Hardstands and Turbine Foundations for T1 and T2 broadly occupy the same overall footprint as existing turbines pertaining to the Operational Barnesmore Windfarm at these locations. The predominant views to the crannog sites are from the respective lakeshores, and, given their water-based location and setting, obtaining accessible views (and experience of those views and/or site setting) from the crannog sites is restrictive. Views from the respective lakeshores towards the Development shall include views of T1 and T2, in part, respectively. However, it is considered that the lake systems in themselves are the key contributor to both understanding the setting of the crannog sites, and appreciating the primary views out and across the lakes, from

the shoreline (and without view of the Development), towards the sites, is of importance. As such, it is considered that the potential recorded crannog sites shall be subject to indirect negative visual impact, of low magnitude, on a medium value asset, resulting in a **slight** significance of effect.

Lough Derg, a place of pilgrimage since early medieval times is located approximately ten km to the south/south-east of the Development. Views from Lough Derg towards the Development have been assessed in **Chapter 11: Landscape & Visual Amenity** (VP26 Station Island and VP26a visitor centre pier). It is considered that the existing Baseline environment (including other operational windfarms in the surrounding ridgeline and horizon to the north and east) does not unduly detract from the sense of tranquillity of the site, the primary focus, function and use of which, is centred on the introspective built environment of an array of pilgrimage stations, churches, areas for reflection and an accommodation block. Given the distance of ten km between Lough Derg and the Development, and the very restricted views of the Development therein, as well as the non-prominence of same in the context of the function of the monastic site, magnitude of impact is considered low on a heritage asset of high value/sensitivity resulting in a **slight** significance of effect.

13.6 Mitigation Measures and Residual Effects

Detailed below are mitigation measures applicable to the identified impacts pertaining to the Development. These measures shall be undertaken at Initial decommissioning and construction phase of the Development and form part of the Schedule of (Environmental) Commitments relating to same (see **Technical Appendix 15.1 Outline Mitigation Measures** and **Technical Appendix 2.1 Outline CEMP**).

13.6.1 Initial Decommissioning and Construction Phase

There are no identified likely significant effects on the designated archaeological, architectural or cultural heritage resource pertaining to the Study Area or the Site. The overall archaeological potential of the Site is considered fair, with areas occupied by the Operational Barnesmore Windfarm having no archaeological potential. Given the scale of the Development, there is a possibility of encountering archaeological finds/remains throughout the areas not currently occupied by the Operational Barnesmore Windfarm, during the initial decommissioning and construction phase. As such, a programme of archaeological monitoring shall be undertaken by a suitably qualified archaeologist, during all ground reduction works/topsoil stripping associated with the proposed Turbine Foundations and Turbine Hardstands for T4, T10, T11, T12 and T13 (including new Site Access Track), Energy Storage Unit, EirGrid Control Building and L2595/L2015 road junction widening for the Haul Route.

In addition, the areas of proposed T1 and T2 are adjacent to the environs of 2 no. recorded possible crannog sites. These areas are considered locations that have higher potential for associated sub-surface archaeological finds or features. As such, the areas pertaining to T1 and T2 shall be subject to archaeological monitoring during the initial decommissioning and construction phase.

In the event of an archaeological find or feature being discovered during the initial decommissioning and construction phase works, the archaeologist shall evaluate, characterise and determine the extent of the remains. Thereafter, an agreed mitigation framework including a Method Statement and Programme of Works shall be required in order to adequately preserve and/or record the archaeological resource, with consultation from the National Monuments Service (NMS). Whilst determination is being sought to mitigate the find/feature, the area shall be appropriately buffered with temporary fencing and an adequate works exclusion zone created in order to minimize any potential indirect damage during the site works.

13.6.2 Initial Decommissioning and Construction Phase Residual Impacts – Direct

Initial decommissioning and construction phase direct impacts identified on the archaeological resource shall be mitigated by the measures outlined in Section **13.6.1**. The presence and/or extent of the potential sub-surface archaeological resource within the Site is currently unknown, and as such any measurable impact is largely indeterminable at this stage and can only be postulated as *potential* impacts and *potential* significance of effects. Should archaeological remains be encountered during the initial decommissioning and construction phase, these direct impacts shall be mitigated by either preservation *in situ* (avoided) or preservation by record (fully archaeologically excavated), per consultations and agreements with National Monuments Service (NMS).

Preservation *in situ* shall allow for a negligible/low magnitude of impact albeit on a hitherto unknown value/sensitivity asset, resulting in a potential **not significant/imperceptible** significance of effect in the context of residual impact on the archaeological resource.

Preservation by record shall allow for a high magnitude of impact, albeit ameliorated by the creation of a full and detailed archaeological record, the results of which shall be publicly disseminated. This shall result in a potential **slight/moderate** significance of effect in the context of residual impact on the archaeological resource.

13.6.3 Initial Decommissioning and Construction Phase Residual Impacts – Indirect

There are no identified likely significant initial decommissioning and construction phase impacts of an indirect nature, on the cultural heritage resource, and as such, there are similarly **no identified likely significant indirect residual impacts** on the cultural heritage resource.

13.6.4 Operational Phase

Should there be a presence of sub-surface archaeological finds/features exposed during construction phase, such items shall be fully mitigated by means of preservation *in situ* and/or preservation by record. Such potential locations will be fully recorded, mapped and appropriately demarcated at construction stage, which shall also facilitate appropriate site measures and protocols for any future site maintenance/operational works that may be required.

13.6.5 Operation Phase Residual Impacts - Direct

Following construction phase for the Development; the operational phase is considered to have no likely or significant direct effects on the cultural heritage resource. Any identified construction phase direct impacts shall be fully mitigated in advance and/or during on-site works. Similarly, there are no identified **likely or significant direct impacts** of an operational phase residual context on the cultural heritage resource.

13.6.6 Operation Phase Residual Impacts - Indirect

There is an identified indirect operational phase impact of a visual nature, and of slight significance of effect, on 2 no. recorded possible crannog sites located along (outside) the Site Boundary. Similarly, residual indirect impact pertaining to the recorded crannog sites and the operational phase of the Development is considered to be an indirect negative visual impact, of low magnitude, on a medium value asset, resulting in a **slight** significance of effect. In addition, given the location of the possible crannog sites within the Northern Ireland jurisdiction, and the identified operational and residual slight significance of effect, it is also considered that a transboundary effect consists of an indirect negative visual impact, of low magnitude, on a medium value asset, resulting in a **slight** significance of effect.

13.7 Cumulative Impacts

Upon review of the permitted development applications in the wider environs, and in the context of the existing Baseline (Operational Barnesmore Windfarm) it is considered that there are **no identified likely or significant cumulative impacts** on the archaeological, architectural or cultural heritage resource pertaining to the Development.

13.8 Conclusions

Following an intensive desktop study and field walkover survey of the Site it is considered that proposed infrastructure sited at previously undisturbed ground surface areas are of fair archaeological potential. Given the scale of the proposed works these areas (T4, T10, T11, T12, T13 (including Site Access Track), Energy Storage Unit, EirGrid Control Building and the Haul Route road widening at junction L2595/L2015) shall be subject to archaeological monitoring during the initial decommissioning and construction phase. In the event of an archaeological find, the archaeologist shall be afforded suitable time to evaluate the features and progress the appropriate mitigatory action thereafter (preservation in situ and/or preservation by record). Areas pertaining to proposed locations of T1 and T2 are in closest proximity to the recorded crannog sites located along (outside) the Site Boundary. These areas are considered to be of low archaeological potential and shall also be subject to archaeological monitoring during initial decommissioning and construction phase.

Given the identified initial decommissioning and construction phase impacts and the mitigation measures detailed therein; there shall not be a requirement for monitoring of the Development operations in the context of measurement for the cultural heritage resource.

13.9 Summary of Significant Effects

Tabulated below are summary details of the likely significant effects pertaining to the Development together with outline Mitigation Measures.

Table 13.7: Summary of Significant Effects

Heritage Asset	Magnitude of Impact	Value/Sensitivity	Significance of Effect	Mitigation Measures
Potential sub-surface archaeological features	Potential High	Unknown	Initial Decommissioning and Construction phase: Direct - Potential Slight/Moderate	On-site archaeological monitoring for infrastructural works that require ground reduction/topsoil stripping at proposed T1, T2, T4, T10, T11, T12, T13 (incl. Site Access Track), Haul Route road junction widening L2595/L2015, Energy Storage Unit and Substation
2 no. recorded SMR possible crannog sites	Low	Medium	Operational phase: Indirect - Slight (visual), including Transboundary effect	No mitigation measures deemed necessary
Lough Derg Pilgrimage Site – Station Island	Negligible	High	Operational phase: Indirect – Slight (visual)	No mitigation measures deemed necessary

13.10 Statement of Significance

In determining the design layout, construction methods and infrastructural requirements of the Development, due regard has been made to avoid, prevent and reduce any potential significant effects on the recorded Cultural Heritage resource. There are no designated heritage assets situated within the Site. Given the historical background pertaining to the Study Area, the presence of adjacent possible upland early medieval settlement sites and the overall archaeological potential of the area the cultural heritage significance of the Site is considered fair. Any identified likely impacts on the Cultural Heritage resource is considered reasonable in terms of predicted impact in the context of the overall project objectives.