



DESIGNING AND DELIVERING
A SUSTAINABLE FUTURE

LONGFORDPASS, LITTLETON, LANESPARK, DERRYVELLA BOGS – APPLICATION FOR SUBSTITUTE CONSENT

Remedial Environmental Impact Assessment Report

Chapter 12 – Cultural Heritage

Prepared for:
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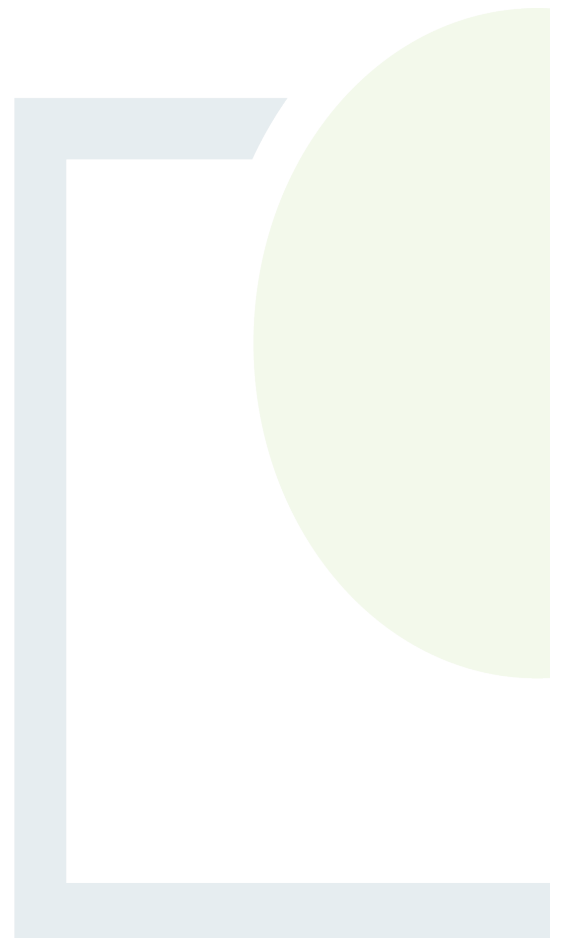


TABLE OF CONTENTS

12. CULTURAL HERITAGE	1
12.1 Introduction.....	1
12.1.1 Statement of Authority	1
12.1.2 Limitations.....	1
12.1.3 Location.....	2
12.1.4 Legislation, Planning and Guidance Context.....	2
12.1.5 Project Description.....	7
12.2 Methodology	7
12.2.1 Desk Based Assessment	7
12.2.2 Assessment of Significant Effects on Cultural Heritage	8
12.3 Establishing the 1988 Baseline	13
12.3.1 Introduction	13
12.3.2 Archaeological Heritage and Historical Background of the Application Site	14
12.3.3 Archaeological Assessments, Surveys and Excavations	24
12.3.4 National Monuments in State Care.....	31
12.3.5 National Museum of Ireland Topographical Files	33
12.3.6 Tipperary County Development Plan.....	33
12.3.7 Townlands.....	33
12.3.8 Cartographic Evidence	34
12.3.9 Protected Structures & National Inventory of Architectural Heritage	34
12.4 Likely Significant Effects and Associated Control Measures	34
12.4.1 Do-Nothing Scenario.....	34
12.4.2 Peat Extraction Phase: 1988 – 2017	35
12.4.3 Current Phase – 2017 to Present Day	37
12.4.4 Remedial Phase Effects	39
12.5 Residual Effects	40
12.5.1 Peat Extraction Phase 1988 – 2017.....	40
12.5.2 Current Phase 2017 to Present Day	40
12.5.3 Remedial Phase.....	40
12.6 Significance of Effects.....	40
12.6.1 Peat Extraction Phase 1988 – 2017.....	40
12.6.2 Current Phase 2017 to Present Day	40

12.6.3	Remedial Phase.....	41
12.7	Cumulative and In Combination Effects.....	41
12.8	Conclusion	43
12.9	References.....	45

LIST OF APPENDICES

Appendix 12.1 Archaeological Inventory Entries

Appendix 12.2 Nation Museum of Ireland Topographical Files

Appendix 12.3 Bord na Móna Archaeological Code of Practice

LIST OF PLATES

	<u>Page</u>
Plate 12-1: General location of recorded archaeological sites (yellow) within the Application Site	17
Plate 12-2: Location of recorded archaeological sites in Longfordpass Bog	18
Plate 12-3: Location of recorded archaeological sites in north end of Littleton Bog.....	19
Plate 12-4: Location of recorded archaeological sites in central area of Littleton Bog.....	20
Plate 12-5: Location of recorded archaeological sites in Derryvella Bog	21
Plate 12-6: Location of National Monuments in State Care within environs of the Application Site	32

LIST OF TABLES

	<u>Page</u>
Table 12.1: Magnitudes of Effect on Cultural Heritage Assets (after ICOMOS Guidelines 2011).....	10
Table 12.2: Indicative factors for assessing the Value of Cultural Heritage Assets (per ICOMOS 2011) ...	12
Table 12.3: Significance of Effects (per EPA EIAR Guidelines 2022)	13
Table 12.4: Significance of Effects Matrix (after EPA EIAR Guidelines 2022)	13
Table 12-5: Recorded archaeological sites within the boundary of the Application Site	15
Table 12-6: Summary of Database of Irish Excavation entries.....	25
Table 12-7: Translation of townland names	33



12. CULTURAL HERITAGE

12.1 Introduction

This chapter reports on the results of the assessment of effects on cultural heritage arising from peat extraction and ancillary activities at the Application Site (Longfordpass Bog, Littleton Bog, Lanespark Bog and Deryvella Bog) during the Peat Extraction Phase, the Current Phase, and the Remedial Phase. The assessments in this chapter also consider any impacts on the archaeological, architectural and cultural heritage environment that have occurred (or are likely to occur) across these three distinct timeframes, as described in Chapter 4 - Description of Development, Volume 2 (Section 4.2.1):

- **Peat Extraction Phase:** peat extraction and ancillary activities at the Application Site from July 1988 to the cessation of peat extraction in 2017 (July 1988 - 2017). The Peat Extraction Phase is described in detail in Chapter 4 - Description of Development, Volume 2 (Sections 4.4 to 4.7)
- **Current Phase:** the management of the Application Site since 2017 to present day including decommissioning works and Rehabilitation Phase 1 works. The Current Phase is described in detail in Chapter 4 - Description of Development, Volume 2 (Sections 4.7 and 4.8)
- **Remedial Phase:** the activities intended to be carried out at the Application Site into the future (Rehabilitation Phase 2 works). The Remedial Phase is described in detail in Chapter 4 - Description of Development, Volume 2 (Section 4.9).

As noted in Section 2.5 of Chapter 2 - Background, Volume 2, 1988 is the baseline year for this assessment, as this is when the EIA Directive (Directive 85/337/EEC) was required to be transposed into Irish law. There is no legal requirement to complete a rEIAR for activities occurring at the Application Site prior to this required transposition date (i.e., it does not have retrospective effect). Nevertheless, for completeness, a description of activities at the Application Site from the onset of site preparation in 1941 to 1988 is provided in Chapter 4 - Description of Development, Volume 2 (Section 4.3).

12.1.1 Statement of Authority

This chapter was prepared by Tony Cummins, a Senior Archaeologist with John Cronin and Associates. Mr Cummins holds BA and MA degrees in archaeology (University College Cork 1992/1994) and has been accredited as a licence-eligible archaeologist by the National Monuments Service since 1998. He has accumulated 30 years' continuous experience as a professional archaeologist and during this time he has prepared cultural heritage assessments for a wide range of wind farms, solar farms, road schemes, greenways and residential/commercial developments. His inputs to development projects have included advisory services during design phases, consultations with relevant national and local authorities, onsite field surveys and licensed archaeological site investigations, including test trenching, monitoring and excavations. He has also provided expert witness services at Oral Hearings and is a competent expert for the purposes of the preparation of this rEIAR chapter.

12.1.2 Limitations

Peat extraction began at the Application Site in Littleton and Longfordpass Bogs in 1952 and in Lanespark and Deryvella Bogs in 1973. The retrospective impact assessment has been carried out based on the reasonable availability of information relating to the peat extraction operations and the environment. In addition to references within this rEIAR, the assessment has been limited by the following:



- While every effort has been made to source historical baseline environmental data within the timeframe of the Substitute Consent process, this rEiAR has been limited by the availability, completeness, accuracy, age and accessibility of data.

12.1.3 Location

The Application Site refers to 4 no. bogs - Longfordpass, Littleton, Lanespark and Deryvella and form part of the Littleton Bog Group in Co Tipperary which is located south of the M8 motorway. The Application Site comprises an area of approximately 1,616ha. The existing environment within the Application Site comprises a large area of cutaway bog where industrial peat extraction has occurred since the middle of the 20th century and currently contains areas of revegetation and forestry. The surrounding lands are primarily in agricultural use and contain one-off rural housing and small rural settlements.

12.1.4 Legislation, Planning and Guidance Context

The management and protection of the Irish cultural heritage resource is achieved through a framework of international conventions, national laws, codes of practice, guidelines and local authority planning policies. This framework was established in accordance with the provisions of the ‘European Convention on the Protection of the Archaeological Heritage’ (the Valletta Convention) and the ‘European Convention on the Protection of Architectural Heritage’ (Grenada Convention) which were ratified by Ireland in 1997. In addition, the UNESCO ‘Convention for the Safeguarding of the Intangible Cultural Heritage’, 2003, was ratified by Ireland in 2015.

The National Monuments Service (NMS) and the National Built Heritage Service (NBHS), which are currently based in the Department of Housing, Local Government and Heritage (DHLGH), are responsible for the protection and promotion of Ireland’s archaeological and architectural heritage. The legislation and guidelines that are relevant to this assessment include the following:

- Historic and Archaeological Heritage and Miscellaneous Provisions Act 2023;
- National Monuments Act 1930 (as amended);
- Heritage Act 1995 (as amended);
- National Cultural Institutions Act (1997);
- Planning and Development Act 2000 (as amended);
- Turf Development Act 1998;
- Department of Arts, Heritage and Gaeltacht (2011) *Architectural Heritage Protection: Guidelines for Planning Authorities*;
- Department of Arts, Heritage, Gaeltacht and the Islands (1999): *Framework and Principles for the Protection of Archaeological Heritage*;
- National Monuments Service (2012) *Code of Practice between the Department of Arts, Heritage and the Gaeltacht, the National Museum of Ireland and Bord na Móna*;
- Office of the Public Regulator (2022) *A Guide to Architectural Heritage*; and
- Office of the Public Regulator (2022) *Archaeology in the Planning Process*.



12.1.4.1 Archaeological Legislation, Codes and Planning Policies

The Historic and Archaeological Heritage and Miscellaneous Provisions Act 2023 was signed into law on October 13th, 2023. While the Act is now law most of its provisions will not enter into force until the Minister of Housing, Local Government and Heritage has made one or more “Commencement Orders”. Section 7 of the Act (which provides for the repeal of the National Monuments Acts (as amended) and related legislation) has currently not entered into force. Accordingly, the National Monuments Acts (as amended) and other legislation which section 7 of the Act will, when it comes into force, repeal, currently remain in force as they stood on 13th October 2023. The Act contains transitional provisions which will, if necessary, enable certain aspects of the existing National Monuments Acts (as amended) to continue in operation notwithstanding their repeal post-commencement of the Act while successor provisions are being brought fully into operation. This includes provisions enabling the Record of Monuments and Places to continue to have effect pending the establishment of a new Register of Monuments.

The National Monuments Act 1930 (as amended), the Heritage Council Act 1995 (as amended) and relevant provisions of the National Cultural Institutions Act 1997 currently remain the primary means of ensuring the satisfactory protection of the archaeological resource. There are a number of mechanisms under the National Monuments Act 1930 (as amended) that are applied to secure the protection of archaeological monuments. These include the designation of National Monument status to sites of national importance, the Register of Historic Monuments, the Record of Monuments and Places and the Sites and Monuments Record as well as the placing of Preservation Orders and Temporary Preservation Orders on endangered archaeological sites.

A National Monument is described as ‘a monument or the remains of a monument, the preservation of which is a matter of national importance by reason of the historical, architectural, traditional, artistic or archaeological interest attaching thereto’ (National Monument Act 1930, Section 2). The Minister of the Department of Housing, Local Government and Heritage (DHLGH) may acquire National Monuments by agreement or by compulsory order. The State or the Local Authority may assume guardianship of any National Monument (other than dwellings). The owners of National Monuments may also appoint the Minister or the Local Authority as guardians of that monument, if the State or Local Authority agrees. Once a site is in ownership or guardianship of the State, or is subject to a Preservation Order, it may not be interfered with without the written consent of the Minister of Housing, Heritage and Local Government. Details on the National Monuments in State Care, as well as sites subject to Preservation Orders, located within the wider environs of the Development are provided in Section 12.3 of this chapter.



The Record of Monuments and Places (RMP) was established under Section 12(1) of the National Monuments (Amendment) Act, 1994 and was based on the earlier Sites and Monuments Record (SMR) and Register of Historic Monuments (RHM). It comprises lists and maps of known archaeological monuments and places for each county in the state. The NMS maintains an online Historic Environment Viewer (HEV) which comprises an interactive map/search facility that provide access to current records stored on its national SMR database which includes archaeological sites identified since the publication of the RMP. The HEV and RMP maps include designated areas around recorded monuments known as ‘zones of notification’ which do not comprise buffer zones but are intended to indicate areas of archaeological potential within their environs. All archaeological sites listed in the RMP receive statutory protection under the National Monuments Act 1930 (as amended) and no works can be undertaken at their locations without providing two months advance notice to the DHLGH. The archaeological baseline environment appraised as part of this assessment is based on current archaeological SMR datasets published on the HEV at the time of writing in January 2026 as well as current lists of National Monuments in State Care¹ and archaeological sites that have been assigned Preservation Orders². The known archaeological sites located within the Application Site are detailed in Section 12.3.

Bord na Móna (BnM) has a long history of co-operation with the NMS, the National Museum of Ireland (NMI) and the relevant governmental departments overseeing heritage at the time, in relation to the cultural and archaeological importance of wetlands as well as the potential for, and handling of, archaeology discovered in bogs. After the discovery and subsequent preservation of trackways at Corlea Bog, Co. Longford by BnM employees in the 1980s, a new programme for peatland archaeology was established. Since 1991 an annual programme of archaeological survey, initially funded by the NMS, has been conducted in BnM bogs. The Turf Development Act 1998 (Section 56) includes provisions to ensure that: “*The Company and each subsidiary shall ensure that its activities are so conducted as to afford appropriate protection for the environment and the archaeological heritage.*” This Act was in accordance with the development of *Agreed Principles for the Protection of Wetlands Archaeology in Bord na Móna Bogs* (1998) between the Minister for Arts, Heritage and the Gaeltacht, the NMI and BnM. These principles set out 10 standards relating to the management of archaeological sites within BnM peatlands. This included the appointment of Archaeological Liaison Officers who received training on the treatment and reporting of archaeological discoveries and the funding of archaeological surveys by BnM. The surveys have been accompanied by an annual programme of selective archaeological excavation and paleo-environmental analysis. By 2013, 64,000 of the c. 80,000-hectare land holdings of BnM had been subject to archaeological survey.³ Details on programmes of archaeological investigations, which were funded by BnM, within the Application Site are provided in Section 12.3 of this chapter.

The *Agreed Principles for the Protection of Wetlands Archaeology in Bord na Móna Bogs* (1998) were updated and codified by the 2012 *Code of Practice agreed between the Department of Arts, Heritage and the Gaeltacht, the National Museum of Ireland and Bord na Móna*⁴. This Code is guided by the following agreed principles:

- The Minister has a responsibility to protect the archaeological heritage and to exercise powers of preservation, including all known monuments uncovered in BnM bogs.

¹ <https://www.archaeology.ie/about-us/what-we-do/monuments-in-state-care/national-monuments-in-state-care/>

² <https://www.archaeology.ie/sites/default/files/media/publications/po19v1-all-counties.pdf>

³ Department of the Arts, Heritage and the Gaeltacht 2013 Review of Archaeological Survey and Mitigation Policy relating to Bord na Móna Peatlands since 1990. <https://www.archaeology.ie/sites/default/files/media/pdf/bnm-peatland-review-final-report-20-06-2013.pdf>

⁴ <https://www.archaeology.ie/app/uploads/2025/02/code-of-practice-bord-na-mona-EN.pdf>



- The Director of the National Museum of Ireland has a responsibility to enforce state ownership of all archaeological objects and to safeguard the treatment of all archaeological objects before their accession into the State's repository, under National Monuments Act 1930 (as amended) and the National Cultural Institutions Act 1997.
- The development of peatlands has considerable archaeological implications which must be addressed given that the archaeological heritage is a non-renewable resource.
- BnM has a statutory duty under the Turf Development Act 1998 (section 56) to afford appropriate protection for the environment and the archaeological heritage.
- BnM will finance a balanced and cost-effective approach to archaeological investigation, excavation, post-excavation and mitigation on the basis of the developer pays principle and in keeping with the Minister's stated policy in this regard.
- BnM will engage a Project Archaeologist to develop archaeological strategy and to oversee the smooth running of the archaeological response to peat extraction in BnM bogs.
- An Archaeology Management Liaison Committee has been set up consisting of representatives of the Department of Arts, Heritage and the Gaeltacht, the National Museum of Ireland and BnM, including the Project Archaeologist and Consultant Archaeologists working on BnM peatlands.
- Appropriate strategies will be developed by the Archaeology Management Liaison Committee to minimise direct impacts on archaeology taking account of BnM contractual obligations, annual production plans, design and safety implications, environmental and other impacts and costs.
- All parties agree that mitigatory planning at the earliest opportunity minimises the impact on the archaeological heritage. BnM will strive, as far as is reasonably possible, within its statutory remit, to avoid negative impacts on archaeological monuments. In cases where it is not possible to avoid impacting on monuments BnM, the Minister and the Director will cooperate to ensure, as far as possible, that appropriate archaeological mitigation is carried out in advance of peat extraction.
- Prospecting for archaeological monuments, archaeological objects and other such remains, other than in circumstances approved by the Minister, in consultation with the Director, is limited to the confines of the area under peat extraction.
- All parties are committed to dealing with the archaeological implications of peat extraction in a balanced and cost-effective manner consistent with (a) Observing BnM requirement to extract peat on an extensive scale, (b) annual production targets in relevant bogs and (c) A level of excavation, post-excavation and recording of archaeological monuments and archaeological objects, impacted upon by peat extraction, that is acceptable to the Minister, having consulted with the Director, and preservation in-situ of monuments in those particular circumstances where required by the Minister and which would be reasonable in practice.

The Application Site is located within County Tipperary, and the *Tipperary County Development Plan 2022-2028* contains the following relevant policies in relation to the protection of the archaeological resource within the county:



- Policy 13-4: Safeguard sites, features and objects of archaeological interest, including Recorded Monuments, National Monuments and Monuments on the Register of Historic Monuments, and archaeological remains found within Zones of Archaeological Potential located in historic towns and other urban and rural areas. In safeguarding such features of archaeological interest, the Council will seek to secure their preservation (i.e. in situ or in exceptional circumstances preservation by record) and will have regard to the advice and recommendation of the Department of Arts, Heritage and the Gaeltacht. Where developments, due to their location, size or nature, may have implications for archaeological heritage, the Council may require an archaeological assessment to be carried out. This may include for a requirement for a detailed Visual Impact Assessment of the proposal and how it will impact on the character or setting of adjoining archaeological features. Such developments include those that are located at, or close to an archaeological monument or site, those that are extensive in terms of area (1/2 ha or more) or length (1 km or more), those that may impact on the underwater environment and developments requiring EIA.
- Policy 13-5 Respect and preserve the remains (both sub-surface and upstanding) of the medieval towns in line with the Conservation, Management and Interoperation Plans in place for each town, in line with the guidance of the Heritage Council and the National Policy on Town Defences (DEHLG, 2008).
- Policy 13-6: Consider landscapes of archaeological significance and, if considered necessary, require an impact assessment for proposed development which could have a significant impact on the identified landscape.
- Policy 13-7 Consider underwater archaeology and ensure that development to riverbanks or coastal edges within the vicinity of a site of archaeological interest shall not be detrimental to the character of the archaeological site or its setting.

12.1.4.2 Architectural Heritage Legislation and Planning Policies

The protection of architectural heritage is provided for through the Heritage Act 1995 (as amended) and the Planning and Development Act 2000 (as amended). The Planning and Development Act 2000 (as amended) requires Planning Authorities to keep a 'Record of Protected Structures' (RPS) of buildings and other structures that are of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest. The RPS is published in development plans and planning permission is required for any works to such structures that would affect their character. The Planning and Development Act 2000 (as amended) also provides for the inclusion of objectives for preserving the character of places, areas, groups of structures or townscapes of special interest designated as Architectural Conservation Areas (ACAs). The National Inventory of Architectural Heritage (NIAH), including the NIAH Historic Gardens and Designed Landscapes Survey, was established to create a nationwide record of built heritage structures and associated lands. While inclusion in the NIAH inventory does not provide statutory protection to a structure or lands, the inventory is intended to advise local authorities on the compilation of their RPS. The term 'designated architectural heritage' is hereafter used to describe structures listed in the NIAH and the County Tipperary RPS.

The *Tipperary County Development Plan 2022-2028* contains the following relevant planning policies in relation to the protection of the architectural resource within the county:

- Policy 13-1: Encourage and support the sympathetic restoration, re-use and maintenance of protected structures thereby ensuring their conservation and protection. In considering proposals for development, the Council will have regard to the Architectural Heritage Protection Guidelines for Planning Authorities, (DAHG 2011) or any amendment thereof, and proposals that will have an unacceptable impact on the character and integrity of a protected structure or adjoining protected structure will not be permitted.



- Policy 13-2: Encourage and support new development that contributes to the enhancement of ACAs with regard to; a) Impact on the character, appearance and integrity of the ACA in terms of compatibility in design, colour, finishes and massing of form; b) Impact on the existing amenities, character and heritage of the ACA; c) The importance of retaining important architectural and townscape elements such as shop fronts, sash windows, gutters and down pipes, plasterwork etc as appropriate.
- Policy 13-3: Seek the sympathetic restoration, appropriate re-use and maintenance of buildings/features which are considered to be of local and vernacular architectural importance.

12.1.5 Project Description

The Project for which this rEIAR has been prepared consists of the following:

- Installation of surface water drainage infrastructure at the Application Site to facilitate peat extraction activities from 1988 to present day;
- Vegetation clearance to facilitate peat extraction activity from 1988 to 2017;
- Industrial scale peat extraction (milled peat) at the Application Site from 1988 to 2017;
- Use and maintenance of pre-existing ancillary supporting infrastructure and services to facilitate peat extraction (e.g. railway infrastructure, drainage (drains, silt ponds, pumps), etc.), from 1988 to present day;
- Control Measures associated with the above, inclusive of the IPC Licence measures (Ref. P0499-01) which commenced from August 2001 onwards to the present day; and
- All associated site development and ancillary works.

12.2 Methodology

12.2.1 Desk Based Assessment

The assessment presents the results of a desktop study of relevant published sources and datasets undertaken in order to identify all recorded and potential archaeological, architectural and other cultural heritage sites/features/areas within the study areas. The principal source reviewed for the assessment of the recorded archaeological resource was current SMR datasets published on the National Monuments HEV online resource at the time of writing in January 2026. The County Tipperary RPS and the NIAH building and gardens surveys were consulted for assessing the designated architectural heritage resource. Details on the legal and planning frameworks designed to protect these elements of the cultural heritage resource are provided in Section 12.1.4.1.

Other sources consulted as part of the desktop study included the following:

- Development Plans: The RPS, ACAs and relevant policies presented in the current *County Tipperary Development Plan 2022-2028* were reviewed as part of the assessment.
- Archaeological Inventory: The Archaeological Inventory of County Tipperary Vol. 1 (North Tipperary) was reviewed as part of the assessment. This inventory was published in 2002, and, therefore, current SMR datasets published on the HEV were also reviewed to ascertain if any additional archaeological sites were identified within the study area since that time.



- Heritage Council of Ireland's Heritage Map Viewer⁵: This online mapping source collates various cultural heritage datasets provided by, among others, the National Monuments Service, the National Museum of Ireland, local authorities, and the Office of Public Works. This online resource was reviewed in February 2026.
- Database of Irish Excavation Reports⁶: The Database of Irish Excavation Reports contains summary accounts of all archaeological excavations carried out in Ireland (North and South) from 1969 to present. The database was reviewed in February 2026.
- National Museum of Ireland (NMI) Topographical Files: An inspection of the NMI topographical file archive held in the Museum premises in Kildare Street, Dublin was carried out as part of the assessment. These files contain information on known Irish archaeological objects and can include information on the locations and circumstances of their discovery.
- Literary Sources: Various published sources were consulted in order to assess relevant archaeological, historical, architectural heritage and folklore records and these are listed in Section 12.9 of this chapter.
- Historic Maps: A review of available historic cartographic sources was carried out, and these included the 17th-century Down Survey and various map editions published by the Ordnance Survey (OS) from the mid-19th century onward.
- Aerial/Satellite imagery: A review of available imagery of the Application Site was carried out in order to appraise the extent of modern interventions and this included imagery published online by Tailte Éireann, Google Earth, and Bing Maps.
- UNESCO designated World Heritage Sites and Tentative List: There are two designated World Heritage sites in Ireland (Brú na Bóinne, Co. Meath and Sceilg Mhichíl, Co. Kerry) and a number of other significant examples have been included in a Tentative List (2023) that has been put forward by Ireland for inclusion. There is one tentative list site located within 20km of the Application Site, and this comprises the Rock of Cashel which is located c.16.3km to the southwest.

12.2.2 Assessment of Significant Effects on Cultural Heritage

The methodology used for this assessment is in accordance with Environmental Protection Agency (EPA 2022) *Guidelines on the Information to be Contained in EIAR* and the European Commission (2017) *Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report*. The chapter complies with all applicable legislative requirements, including but not limited to Directive 2011/92/EU as amended by Directive 2014/52/EU, the Planning and Development Act, 2000 (as amended) and the Planning and Development Regulations, 2001 (as amended). The assessment has also been carried out in accordance with guidelines for the assessment of impacts on the cultural heritage resource as published by the International Council on Monuments and Sites *Guidance on Heritage Impact Assessments for Cultural World Heritage Properties* (ICOMOS 2011).

Duration of Effects

- Momentary (seconds to minutes)
- Brief < 1 day
- Temporary <1 year
- Short-term 1-7 years

⁵ www.heritagemaps.ie

⁶ <https://excavations.ie/>



- 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 Effect – 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 Effect – no change or effects that are imperceptible, within the normal bounds of variation for the cultural heritage environment.
- Negative Effect – 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

- Direct Impact – where a cultural heritage site is physically located within the footprint of the proposed development, which will result in its complete or partial removal.
- Indirect Impact – effects on the cultural heritage environment, which are not a direct result of the project, often produced away from the project site or because of a complex pathway.
- No predicted impact – the addition of many minor or insignificant effects, including effects of other projects, to create larger, more significant effects.
- ‘Do-nothing Effects’ - The cultural heritage environment as it would be in the future should the Project not be carried out.
- Indeterminable Effects - When the full consequences of a change in the environment cannot be described.
- Irreversible Effects - When the character, distinctiveness, diversity or reproductive capacity of an environment is permanently lost.
- Residual Effects - The degree of environmental change that will occur after the proposed mitigation measures have taken effect.

Magnitude of Effect

This is based on the degree of change, incorporating any mitigation measures, on a cultural heritage asset and can be negative or positive. The magnitude is ranked without regard to the value of the asset according to the following scale: High; Medium; Low and Negligible and has been informed by criteria published in the ICOMOS *Guidance on Heritage Impact Assessments for Cultural World Heritage Properties* (ICOMOS 2011) (Table 12.1).



Table 12.1: Magnitudes of Effect on Cultural Heritage Assets (after ICOMOS Guidelines 2011)

Magnitude	Description
High	<p>Most or all key archaeological or architectural materials affected such that the resource is totally altered</p> <p>Comprehensive changes to setting</p> <p>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</p> <p>Major changes to area that affect Intangible Cultural Heritage activities or associations or visual links and cultural appreciation</p>
Medium	<p>Changes to many key archaeological or historic building materials/elements such that the resource is clearly/significantly modified.</p> <p>Considerable changes to setting that affect the character of the archaeological asset.</p> <p>Changes to the setting of a historic building, such that it is significantly modified.</p> <p>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.</p> <p>Considerable changes to area that affect the Intangible Cultural Heritage activities or associations or visual links and cultural appreciation.</p>
Low	<p>Changes to key archaeological materials/historic building elements, such that the resource is slightly altered/slightly different.</p> <p>Slight changes to setting of an archaeological monument.</p> <p>Change to setting of a historic building, such that it is noticeably changed.</p> <p>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.</p> <p>Changes to area that affect the Intangible Cultural Heritage activities or associations or visual links and cultural appreciation.</p>
Negligible	<p>Very minor changes to key archaeological materials or setting.</p> <p>Slight changes to historic building elements or setting that hardly affect it.</p> <p>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.</p> <p>Very minor changes to area that affect the Intangible Cultural Heritage activities or associations or visual links and cultural appreciation.</p>

Value/Sensitivity assessment criteria

While various national and local authority legal designations exist for elements of the Irish cultural heritage resource (see Section 12.1.4), there is no formal or statutory criteria for grading the value or sensitivity of individual heritage assets. The non-statutory NIAH does apply a ranking system (Regional, National and International) to structures included in that inventory and, while these rankings do not confer a graduated level of protection they have been utilised as a value indicator for NIAH-listed structures for the purpose of this assessment.



The criteria for assessing the value/sensitivity of archaeological and other cultural heritage constraints as part of this assessment has, therefore, been informed by the *Guidance on Heritage Impact Assessments for Cultural World Heritage Properties* (ICOMOS 2011, 14-16). This guidance on the evaluation of the values of cultural heritage assets is not intended as definitive but rather provides indicators which contribute to a wider judgment based the individual circumstances of each asset. The value/sensitivity of known or potential cultural heritage assets are ranked according to the following scale: Very High, High; Medium; Low, Negligible and Unknown (Table 13.2 below). Criteria considered include condition / preservation; documentary / historical significance; group value; rarity; visibility in the landscape; fragility / vulnerability and amenity value. Generally, the more criteria that are evident for a given constraint, the higher in scale its respective value is deemed to be. Cultural heritage constraints which possess low surviving surface expressions may retain low-medium sensitivity in relation to indirect visual effects on their wider setting while levelled constraints that retain no visible surface traces are typically not sensitive to setting effects. It is noted that archaeological sites, whether extant or levelled, have the potential to possess sub-surface attributes, including artefacts and other archaeological remains, which may possess values that cannot be discerned without recourse to archaeological excavation but are not likely to be affected in the absence of direct adverse effects. This assessment takes into consideration peat extraction and ancillary activities within the Application Site, which would not have had an effect on the visual setting of cultural heritage constraints. Only direct effects were likely and therefore considered in the assessment. Since peat extraction activities (clearance of vegetation, drainage, peat extraction and ancillary activities) were confined to the surface of the peat and sub-surface, this activity type is not considered to be capable of having negative effects on setting on cultural heritage constraints within the wider landscape (i.e. indirect effects).



Table 12.2: Indicative factors for assessing the Value of Cultural Heritage Assets (per ICOMOS 2011)

Value/Sensitivity	Example of Asset Types
Very High (International Significance)	World Heritage Sites (including Tentative List properties) Sites, buildings or landscapes of acknowledged international importance Intangible associations with individuals or innovations of global significance
High (National Significance)	Nationally designated sites, buildings and landscapes of significant quality, rarity, preservation and importance Undesignated assets of the quality and importance to be designated Assets that can contribute significantly to acknowledged national research objectives Archaeological Landscapes with significant group value Intangible associations with individuals or innovations of national significance
Medium (Regional Significance)	Designated or undesignated assets that can contribute significantly to regional research objectives, including buildings that can be shown to have exceptional qualities in their fabric or historical associations. Conservation Areas and historic townscapes containing buildings that contribute significantly to its historic character. Intangible associations with individuals or innovations of regional significance
Low (Local Significance)	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 and settings Intangible associations with individuals or innovations of local significance
Negligible	Assets with very little or no surviving archaeological interest Landscapes little or no significant historical interest Buildings or urban areas of no architectural or historical note; buildings of an intrusive character
Unknown Potential	Assets whose importance has not been ascertained Buildings with some hidden (i.e. inaccessible) potential for historic significance

Significance of Effects

The significance of effect can be described as Profound, Very Significant, Significant, Moderate, Slight, Not Significant or Imperceptible (Table 12.3) and is assigned based on the combined evaluation of the magnitude of effect and the value/sensitivity of the relevant cultural heritage constraint (Table 12.4).



Table 12.3: Significance of Effects (per EPA EIAR Guidelines 2022)

Significance	Description
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 12.4: Significance of Effects Matrix (after EPA EIAR Guidelines 2022)

Magnitude of Effect	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/Very High
Value/Sensitivity of the Asset					

12.3 Establishing the 1988 Baseline

12.3.1 Introduction

By July 1988, the land use at the Application Site was well established as industrial peat extraction. The Application Site was fully drained, milled peat extraction was underway throughout the Application Site and railway infrastructure was in place. As detailed in Chapter 4 - Description of Development, Volume 2 (Section 4.4), approximately 3,534,355 tonnes of sod and milled peat were extracted at the Application Site between 1952 and 1988. The estimated topography of the Application Site in July 1988 is based on an average depth of milled peat extraction of 0.1m per year over a 30-year period, which has been worked back from the 2017 topography. The main access point to the Application Site was via the local road (L4101) running from southeast to northwest adjacent to Lanespark Bog, into the Works area and Littleton Briquette Factory, which was built in 1981. Littleton Works, which comprised a canteen, storage sheds, maintenance buildings and the Briquette Factory was located in the south of the Application Site.



The following ancillary infrastructure was established at the Application Site by 3rd July 1988:

- Railway infrastructure;
- Silt ponds, pumps and drains.

12.3.2 Archaeological Heritage and Historical Background of the Application Site

The SMR lists a total of 51 recorded archaeological sites located within the boundary of the Application Site (Table 12.5 and Plates 12.1 to 12.4). The majority of these comprise togher and platform sites identified during archaeological surveys and excavations carried out within the Application Site by the Irish Wetland Archaeological Unit (University College Dublin) in the 1990s and by Archaeological Development Services (ADS) in 2006-10. The majority of these sites (24 no.) were identified within a narrow (c.250m wide) section of Littleton Bog in the northern half of the Application Site and appear to have been sited at this location in order to take advantage of a short crossing point across this area of the bog (Plate 12.3).

None of the recorded archaeological sites within the Application Site have been assigned Preservation Orders or have been designated as National Monuments in State Care.

In summary, the following archaeological site types were identified within the boundary of the Application Site during these investigations:

- Class 1 togher (7 no.): These trackways typically have a known orientation with substantial timber planks in good structural definition. They may have several phases of construction indicative of long-term use and reuse.
- Class 2 togher (10 no.) These types of trackways are typically over 15m in length with a clear orientation and good structural definition.
- Class 3 togher (10 no.) These short trackways typically measure up to 15m in length with a discernible orientation. It may not be possible to trace them beyond a single sighting, and they are interpreted as laid down to cross a small area of bog.
- Road/trackway (1 no.) A routeway which has been deliberately constructed between places.
- Unclassified togher (11 no.) A peatland trackway/causeway constructed of wood that cannot be classified as a class 1, class 2 or class 3 togher due to its form or lack of surviving evidence.
- Peatland Platforms (5 no.): These comprise non-linear artificially raised areas typically of wood construction.
- Peatland Structures (7 no.): Wood found in peat that has been deliberately deposited or processed and can be without a clear form or orientation, but which are indicative of an archaeological structure.



The archaeological inventory descriptions of the archaeological sites located within the boundary of the Application Site are provided in Appendix 12.1, Volume 3 and these have been sourced from current Archaeological Survey of Ireland descriptions published on the National Monument Service's Historic Environment Viewer (HEV) website⁷. These inventory entries are based on descriptions of their condition and extent as recorded during the archaeological surveys and excavations carried out as archaeological mitigation works within the active peat production bog during the 1990s and 2000s. It is noted that peat extraction continued within the area of the Application Site containing the concentration of archaeological sites in Littleton Bog for approximately a decade following the programmes of archaeological survey and excavations works in the period between 2006 to 2010 which likely resulted in further disturbance or removal of sub-surface archaeological features.

In 2013 the National Monuments Service published a report entitled *Review of Archaeological survey and mitigation policy relating to Bord na Móna peatlands since 1990*⁸ which identifies a number of bogs that contain areas designated as 'permanent set aside areas' to be removed from production due to the identification of significant archaeological remains. The only permanent set aside area within the Littleton Bog group, as listed in Table 5.2 of that report, is within Killeen 1 Bog which is located outside the south end of the Application Site. The report also notes that only one archaeological site within Bord na Móna peatlands had been considered for active preservation in situ and this is located is Ballybeg Bog in Co. Offaly.

Table 12-5: Recorded archaeological sites within the boundary of the Application Site

Monument No.	Monument Class	Townland
TN042-039006-	Platform - peatland	LONGFORDPASS SOUTH
TN042-039014-	Platform - peatland	LONGFORDPASS SOUTH
TN042-039016-	Platform - peatland	LONGFORDPASS SOUTH
TN042-039017-	Platform - peatland	LONGFORDPASS SOUTH
TN042-039022-	Platform - peatland	LONGFORDPASS SOUTH
TN042-039001-	Road - class 1 togher	LEIGH, LONGFORDPASS EAST
TN042-039004-	Road - class 1 togher	LONGFORDPASS SOUTH
TN042-039005-	Road - class 1 togher	LONGFORDPASS SOUTH
TN042-039019-	Road - class 1 togher	LONGFORDPASS SOUTH
TN042-056003-	Road - class 1 togher	LEIGH, LONGFORDPASS SOUTH
TN042-070----	Road - class 1 togher	LONGFORDPASS NORTH, KILMAKILL
TS048-059----	Road - class 1 togher	DERRYVELLA
TN042-039002-	Road - class 2 togher	LEIGH
TN042-039007-	Road - class 2 togher	LONGFORDPASS SOUTH
TN042-039008-	Road - class 2 togher	LONGFORDPASS SOUTH
TN042-039010-	Road - class 2 togher	LONGFORDPASS SOUTH
TN042-039011-	Road - class 2 togher	LONGFORDPASS SOUTH
TN042-039013-	Road - class 2 togher	LONGFORDPASS SOUTH

⁷ <https://heritagedata.maps.arcgis.com/apps/webappviewer/index.html?id=0c9eb9575b544081b0d296436d8f60f8>

⁸ <https://www.archaeology.ie/sites/default/files/media/pdf/bnm-peatland-review-final-report-20-06-2013.pdf>



Monument No.	Monument Class	Townland
TN042-039018-	Road - class 2 togher	LONGFORDPASS SOUTH
TN042-039021-	Road - class 2 togher	LONGFORDPASS SOUTH
TN042-073----	Road - class 2 togher	KILMAKILL
TS042-057----	Road - class 2 togher	BAWNREAGH
TN042-039009-	Road - class 3 togher	LONGFORDPASS SOUTH
TN042-039012-	Road - class 3 togher	LONGFORDPASS SOUTH
TN042-039023-	Road - class 3 togher	LONGFORDPASS SOUTH
TN042-039025-	Road - class 3 togher	LONGFORDPASS SOUTH
TN042-039026-	Road - class 3 togher	LONGFORDPASS SOUTH
TN042-071----	Road - class 3 togher	KILMAKILL
TS048-061----	Road - class 3 togher	DERRYVELLA
TS048-062----	Road - class 3 togher	DERRYVELLA
TS048-063----	Road - class 3 togher	DERRYVELLA
TS048-072----	Road - class 3 togher	DERRYVELLA
TN042-039003-	Road - road/trackway	LONGFORDPASS NORTH
TN042-039015-	Road - unclassified togher	LONGFORDPASS SOUTH
TN042-039020-	Road - unclassified togher	LONGFORDPASS SOUTH
TN042-039024-	Road - unclassified togher	LONGFORDPASS SOUTH
TN042-056001-	Road - unclassified togher	LEIGH, LONGFORDPASS SOUTH
TN042-056002-	Road - unclassified togher	LEIGH, LONGFORDPASS SOUTH
TN042-057----	Road - unclassified togher	LEIGH
TN042-068----	Road - unclassified togher	KILMAKILL
TS048-019----	Road - unclassified togher	CLONOURA
TS048-064----	Road - unclassified togher	DERRYVELLA
TS048-069----	Road - unclassified togher	DERRYVELLA
TS048-070----	Road - unclassified togher	DERRYVELLA
TN042-072----	Structure - peatland	KILMAKILL
TS048-056----	Structure - peatland	DERRYVELLA
TS048-066----	Structure - peatland	DERRYVELLA
TS048-071----	Structure - peatland	DERRYVELLA
TS048-073----	Structure - peatland	DERRYVELLA
TS048-074----	Structure - peatland	DERRYVELLA
TS048-075----	Structure - peatland	DERRYVELLA



Plate 12-1: General location of recorded archaeological sites (yellow) within the Application Site



Plate 12-2: Location of recorded archaeological sites in Longfordpass Bog



Plate 12-3: Location of recorded archaeological sites in north end of Littleton Bog



Plate 12-4: Location of recorded archaeological sites in central area of Littleton Bog



Plate 12-5: Location of recorded archaeological sites in Deryvella Bog



12.3.2.1 Prehistoric Periods

Until the recent identification of human butchery marks on animal bones recovered from cave sites in Counties Cork and Clare which have been dated to the Palaeolithic period, the earliest recorded evidence for human activity in Ireland dated to the Mesolithic period (7000–4000 BC) when groups of hunter-gatherers lived on the heavily wooded island. The archaeological record indicates that these mobile groups tended to favour coastal, lake and river shore locations which provided a transport resource and also provided elements of their varied diet. These groups did not construct any monuments that have left any above ground traces although their presence in an area can often be identified by scatters of worked flints in ploughed fields. The Neolithic period (4000-2400 BC) began with the arrival of agriculture and its establishment as the principal form of economic subsistence resulted in more permanent settlement patterns. As a consequence of the more settled nature of agrarian life, new site-types, such as substantial rectangular timber houses, field systems and various types of megalithic tombs, begin to appear in the archaeological record as well as artefact types, including pottery. 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 monument types such as standing stones, stone rows, stone circles and fulachta fia while the development of new burial practices also saw the construction of funerary monuments such as cairns, barrows, boulder burials, tumuli and cists. The arrival of iron-working technology in Ireland saw the advent of the Iron Age (c.500 BC – 400 AD). Relatively little has been known about settlement patterns during this period until recent decades when the corpus of evidence has been increased by the discovery of sub-surface remains of Iron Age sites during archaeological investigations undertaken as part of development projects.

The programmes of archaeological surveys and subsequent targeted excavations of a number of the togher and platform sites identified in the narrow section of bog within the north end of the Application Site were carried out by ADS in the period between 2006 and 2010. The excavations of these sites produced dating evidence indicating that one example dated to the Middle Bronze Age, another to the Late Bronze Age, five to the Iron Age and four of the sites were undated. Further details on the results of these excavations are provided in Section 12.3.3. Despite the notable concentration of prehistoric peatland sites identified within the Application Site there are no recorded dryland archaeological sites with classifications that can be definitively assigned a prehistoric date located within green field lands surrounding its boundary. It is noted that prehistoric settlement sites typically contained timber buildings that do not leave above ground remains and the likelihood exists that unrecorded, subsurface remains of such settlements exist within surrounding green field lands. In addition, a review of the Topographical Files of the NMI revealed that this archive contains records of the discovery of a large range of archaeological objects of likely prehistoric date within townlands extending into the Application Site (see Section 12.3.5 and Appendix 12.2, Volume 3).

12.3.2.2 Early Medieval Period

The Irish early medieval period (AD 400–1169) broadly commenced with the arrival of Christianity and continued until the arrival of the Anglo-Normans during the 12th century. While the later stages of this period saw the emergence of the first phases of urbanisation around the Hiberno-Norse ports, the dominant settlement pattern continued to be rural-based. The most common early medieval archaeological sites within the Irish landscape are ringforts which comprise circular enclosures delimited by earthen banks formed of material thrown up from a concentric external ditch while stone-built variants known as cashels are also common within western counties. The ubiquity of these enclosures within the Irish landscape is attested to by the fact that their original Gaelic names (rath, lios and dun) still form some of the most common place-name elements in the country. There are no recorded ringforts located within the Application Site while there are five recorded examples in greenfield lands located within 2km of its boundary which attests to the settlement of the wider area during this period. There are also two notable early medieval ecclesiastical sites, located in the townlands of Leigh and Deryvella, within surrounding lands which have been designated as National Monuments in State Care and details on these are provided in Section 12.3.4.



12.3.2.3 *Late and Post Medieval Periods*

The arrival of the Anglo-Normans in the late 12th century broadly marks the advent of the Irish high medieval period which continued to c.1400 and was followed by the late medieval period which extended to c.1550. These periods saw the continuing expansion of Irish urbanisation as many of the port cities developed into international trading centres and numerous villages and towns began to develop throughout the country, often within the environs of Anglo-Norman manorial centres which were defended by masonry castles. By the 15th century the native Irish chieftains and lords began to construct tower-house castles within their own landholdings as centres of territorial control. The Application Site is located within an area of north Tipperary which following the Anglo-Norman conquest was granted by the crown to Theobald Walter, the first Chief Butler of Ireland and progenitor of the later Earls of Ormond in 1185. While little is recorded of the development of the area during the 12th century, a deed of September 1199 granted Longfordpass, to Elyas FitzNorman, who is recorded to have built a castle to fortify the area. There are no recorded late medieval archaeological sites located within the Application Site. There are a number of late medieval sites within the wider landscape including a motte, masonry castles, moated sites, churches and deserted medieval settlements which attest to a widespread settlement pattern within the dryland areas surrounding the Application Site during this period. In addition, the NMI Topographical Files record the discovery of a human body with an associated cloak of 15th/16th date within an area of bogland in Leigh townland which also attests to human activity within the area during this period (Appendix 12.2, Volume 3).

The centuries following AD 1550 comprise the post-medieval period which continued into the middle of the 19th century with the following period extending into the 20th century often described as early modern. A review of the mid-17th-century Down Survey records relating to the named landowners of a number of townlands that extend within the Application Site indicate that the area formed part of the extensive landholdings of the Earl of Ormonde at that time. As the post-medieval period progressed high and low status stone houses began to replace simpler cabins throughout the Irish countryside and many farmsteads at this time typically consisted of single-storey cottages while two-storey farmhouses became more common in the 19th century. The settlement pattern throughout much of the rural landscape was greatly affected by the Famine period and its aftermath in the middle of the 19th century which saw the depopulation of many areas. The period after the Famine saw a move away from small-scale subsistence farming towards more market-led pasture which resulted in an increase of the extent of the reclamation of previously marginal lands. There are no recorded post medieval archaeological sites located within the Application Site while a number of examples are located within surrounding lands and these comprise two partially extant fortified houses, a partly levelled 17th century bastion fort (TN042-060----) and the recorded location of a now removed 17th century bridge (TN042-027----). The latter two sites are located within the townland of Longfordpass North, and it has been noted that the Longfordpass area formed one of the two main routes between Munster and Leinster, was of great strategic importance throughout the historical period (Whitaker 2011, 15). The bridge was named 'Bridge of Durragh' on the Civil Survey of 1654-6, which also described a bastion fort (TN042-060----) to the west as 'being lately erected...a strong fort by name Fort Ireton'.

Further details on the layout of the Application Site in recent centuries are provided in the cartographic review section presented below (Section 12.3.8).



12.3.3 Archaeological Assessments, Surveys and Excavations

A number of toghers identified within the Littleton bog area of the Application Site were first investigated in 1960 by Etienne Rynne and additional investigations were conducted by the NMI in the 1990s. The overall Littleton Group of bogs was subject to a pilot survey conducted by the Irish Archaeological Wetland Unit in 1995, and this included surveys conducted within the Application Site. Further programmes of archaeological surveys of areas within the Application Site were carried out by Archaeological Development Services (ADS) in the period between 2006 and 2010. These surveys identified a range of archaeological sites within Longfordpass, Littleton and Derryvella bogs while no archaeological sites were identified in Lanespark bog. A subsequent programme of targeted excavations of a number of the peatland sites identified within the Application Site was carried out by ADS in 2008 and 2010. The descriptions of these surveys and excavations, as published in the Database of Irish Excavation Reports, are presented in Table 12.6 and the summary of the excavation results that follows hereafter is sourced from ADS excavation reports for Littleton bog (Turrell 2009) and Longfordpass bog (Whitaker 2011).

The excavations in Littleton bog produced dating evidence indicating that of the sites chosen for investigation, one dated to the Middle Bronze Age, another to the Late Bronze Age, five to the Iron Age and four sites were undated while two were found to have been destroyed prior to excavation. The two sites dated to the Bronze Age comprised a substantial stone-timber trackway and a plank trackway. The former site was traced for a length of approximately 300m and was orientated east to west across the narrow section of bog to the northern end of Littleton Bog. At the time of excavation, the trackway was partly or wholly milled away along much of its length but survived intact at a few locations. The surviving remains were composed of transverse planks supported by longitudinal planks, which were overlaid or underlain by brushwood and roundwood longitudinal elements. Stones, pebbles and gravel were also recorded, both above and below the planks and pegs were also recorded at some sightings. A radiocarbon date of 1190 to 900 BC was obtained from this site and the surviving remains indicated that it formed an important route across the narrow section of bog which had been subject to periods of repair. The plank trackway site also extended in an east to west direction over a distance of approximately 210m and had also been subject to milling disturbance. It was composed of longitudinal single planks supported by transverse planks and roundwoods, visible on both the field surface and in the drain face and produced a date of 1500–1570BC. The five identified Iron Age sites comprised two trackways and three platforms. One of the trackways was visible for a distance of approximately 35m and was orientated northwest to southeast. It was composed of transverse and longitudinal roundwood, and brushwood element and sections were poorly preserved or had been disturbed by milling. A radiocarbon date obtained from this site indicated that it dated from 360BC to 50AD. The other trackway was identified over a distance of approximately 100m and was orientated northwest to southeast. It was composed of transversely laid roundwoods and produced a date of AD130 to AD420. The three platforms identified in the area were of roundwood and brushwood construction and while sections had been removed by peat milling, they appeared to measure between 5m to 6.3m in length. They produced a date range between 90 BC to AD 220 and a wooden vessel was found adjacent to one example.

Four of the sites identified during surveys in Longfordpass bogs in 2006 were subject to archaeological excavations in 2010 although one example, a possible animal trap, was found to have been removed by peat extraction during the intervening four year period. An excavated plank trackway was identified for a total length of 525m and comprised a substantial oak plank and gravel trackway with two main construction phases and periods of repair. A Late Bronze Age date (after 986BC) was obtained from a drain edge sighting of this site during the 2006 survey, but the excavation report notes that this date does not present a true reflection of the site's complex construction. Another excavated plank trackway dating to the Bronze Age (1559±9 BC) was composed of longitudinal planks laid end to end with occasional supporting short transverse planks and was identified for a length of 60m. The excavation of a poorly preserved togher revealed that it was composed of longitudinally laid planks and produced a Late Bronze Age date (1004BC). The excavation report notes that all of the excavated sites had been subject to disturbance by peat extraction works.



The Database of Irish Excavation Reports contains a range of entries for the archaeological surveys and excavations of archaeological sites located within the main concentration of peatland sites within the northern end of the Littleton Bog area within the Application Site (Table 12.6). The Database entries do not provide SMR references for the excavated sites, but these have been included in the below table where it is possible correlate the descriptions with inventory entries for the SMR database published on the HEV website.

Table 12-6: Summary of Database of Irish Excavation entries

Licence	Director	Bog	Summary Description
n/a	Stella Cherry, Siobhán Geraghty Michael Ryan (National Museum)	Littleton	Trackway (SMR TN042–039----) Following the discovery by a Bord na Móna worker of a Late Bronze Age leaf-shaped sword between the timbers of an exposed togher at Littleton Bog, Co. Tipperary, a team from the National Museum of Ireland investigated the site. Part of the same togher had previously been examined by Prof Etienne Rynne in the early 1960s (see North Munster Antiq. Jour. 1962-65, Vol IX, 138-144). At least three toghers run through this section of Littleton Bog and the investigated is the most northerly. It runs in a south-west-north-east direction and can be traced on the ground for a length of 400m. It is cut through in several places by Bord na Móna drainage ditches. The surface of the trackway has been damaged by the passage of machinery and by having been exposed to the elements for a long period of time. At the find spot of the sword an area 6m x 8m was investigated. Here the trackway was approx. 4.5m wide. It was delimited on the south by a large oak beam 4.9m long. The rest of the trackway consisted of birch logs and some smaller redeposited planks.
06E0698	Jane Whitaker	Littleton	This bog was surveyed as part of the 2006 Peatland Survey on Bord na Móna’s Littleton group of bogs. Thirty-three sites were recorded in this bog and they were located mainly in the northern extent. The sites were mainly roundwood and brushwood structures, with the exception of two plank trackways and a gravel, stone and plank trackway. The remaining sites were eight archaeological wood sites, four platforms and eighteen trackways of varying lengths and widths. Nine of the sites were dated and ranged from 1740–1420 BC to AD 130–420.
06E0697	Jane Whitaker	Lanespark and Deryvella	This bog was surveyed as part of the 2006 Peatland Survey, which concentrated in Bord na Móna’s Littleton group of bogs. Three bogs were surveyed under one licence, Lanespark, Ballybeg and Deryvella bog. All three bogs are located in close proximity to the Bord na Móna peat briquette factory at Ballybeg. Lanespark is immediately north of the briquette factory and is 324ha in size. No archaeological features were recorded in this bog. Ballybeg Bog is to the east of the factory and is 146ha in size. Seventeen sites were recorded in Ballybeg Bog which consisted of six trackways, five possible trackways and six archaeological wood sightings. Five of the sites have been dated and the dates range from 1880–1620 BC to AD 550–710.



Licence	Director	Bog	Summary Description
			Deryvella Bog is a small area of production bog, 81ha in size, to the north of Lanespark Bog. Five trackways, including a substantial gravel and plank trackway, 255m in length, were recorded in this bog. The remaining sites included two possible trackways, a platform and fifteen sightings of archaeological wood. Four sites were dated and these dates ranged from 1940–1630 BC to 770–390 BC.
08E0399	Sinclair Turrell	Littleton	<p>Stone and timber trackway (SMR TN042–039----)</p> <p>Following the peatland survey carried out by ADS in 2006, a total of thirteen sites were excavated in Littleton Bog, Co. Tipperary, during May and July 2008. This site was first investigated in 1960 by Etienne Rynne (Rynne 1962–5) and subsequently entered on the SMR. In 1990, a Bord na Móna worker found a Late Bronze Age leaf-shaped sword protruding from the exposed timbers of the site. This was entered in the NMI Topographical Files as IA/192/1990. A team from the NMI carried out an investigation of the site and found that the trackway appeared to have had two phases of construction (Excavations 1990, No. 105). During the 2006 Peatland Survey a radiocarbon date of 1190 BC– 900 BC was obtained for the site.</p> <p>Four cuttings measuring 5m by 4m were excavated and a metal detection survey was also carried out along the length of the trackway. It was variable along its 300m length with no cuttings displaying an identical stratigraphy. Only in Cuttings 2 and 4 did a full stratigraphic sequence still survive. The trackway seems to have been renewed or rebuilt at least once, with the later phase being generally wider than the earlier. In Cutting 2 the trackway had a base of peat, sand and stones above which was a mix of longitudinal and transverse planks, together with several pegs. Above this was a layer of longitudinal planks resting on transverse planks and these were overlain by another deposit of stones. Above the stones was a layer of transverse planks resting on longitudinal planks. There was also a line of pegs running along each edge of the trackway, fixing the upper transverse timbers in place. Many of the planks found throughout the sequence had mortise holes at their ends. In Cutting 4, the base of the trackway was composed of transverse plank fragments and stone.</p> <p>Above this was a layer of mortised transverse planks, with a line of pegs running along each edge of the trackway. This was overlain by a longitudinal roundwood above which was a dense layer of transverse roundwoods.</p>
08E0400	Sinclair Turrell	Littleton	<p>Single-plank trackway</p> <p>Four cuttings, each measuring 6m by 3m, were excavated along the length of this site, a single plank trackway which ran across the northern end of the bog for 168m in an east-north-east to west-south-west orientation.</p>



Licence	Director	Bog	Summary Description
			<p>It was constructed of longitudinal split oak timbers supported by transverse planks. Some of the longitudinal planks had mortise holes within situ pegs,</p> <p>while some of the transverse timbers had mortise holes that did not contain pegs. At two locations, supplementary layers of roundwood and brushwood were located below the transverse timbers, to provide extra support in localised wet patches within the bog.</p>
08E0401	Sinclair Turrell	Littleton	<p>Roundwood and brushwood trackway</p> <p>The site was investigated by means of three cuttings, each measuring 6m by 4m, with a further six small slot-trenches situated between the main cuttings. It was found to be a brushwood and roundwood trackway, running north-west to south-east for approx. 38m. The trackway was up to 4m wide and constructed from roughly trimmed wood, laid transversely and fixed into place with occasional pegs. A radiocarbon date of 360 BC to AD 50 was also returned.</p>
08E0402	Sinclair Turrell	Littleton	<p>Archaeological wood</p> <p>This site was investigated by a cutting measuring 2.3m by 1m and two small slot-trenches. It was composed of a loosely laid brushwood spread covering an area of around 5m by 2m. No particular function could be ascribed to it, but, since the site was located in an area where several platforms occurred, it may also represent the remnants of a platform.</p>
08E0404	Sinclair Turrell	Littleton	<p>Wooden Trackway</p> <p>Excavation of two cuttings, each measuring 5m by 4m, revealed the remains of a substantial corduroy-type wooden trackway running across the northern end of Littleton Bog for 91m in a north-west to south-east direction. It ranged from 3.6m to 4m in width and was constructed from transversely laid roundwoods, split timbers, planks and brushwood, pegged into place along each side of the site and underlain by two parallel longitudinal runners.</p>
08E0406	Sinclair Turrell	Littleton	<p>Archaeological wood</p> <p>A single cutting, measuring 3m by 1.5m, was excavated in order to investigate this site. It was composed of four poorly preserved roundwood and brushwood elements, one of which had a wedge-point worked end. Little remained of this site but there were a number of roundwood and brushwood platforms close by and it may be that this was originally also a platform. Wood samples were identified as alder) and birch.</p>
08E0407	Sinclair Turrell	Littleton	<p>Platform (TN042-039013-)</p> <p>This site was investigated within a 4m by 3m cutting and a small slot-trench. These revealed the remains of a brushwood and roundwood platform, which was constructed from two layers of wood laid at right angles to each other, with some larger elements placed around the perimeter.</p>



Licence	Director	Bog	Summary Description
			<p>The platform measured around 5m from north-west to south-east but was truncated by a drain on the western side.</p> <p>A large and well-preserved wooden vessel was found at the north-eastern edge of the site. The vessel, probably a type of trough, had been finely crafted from a single piece of wood and displayed numerous small facets. It was exposed, recorded and then removed as a block, together with the surrounding peat and the peat fill.</p>
08E0408	Sinclair Turrell	Littleton	<p>Platform (TN042-039015-)</p> <p>Two cuttings, each measuring 4m by 2m, were excavated, together with eight small slot-trenches. The site consisted of two adjacent platforms. The wood in and around Cutting 1 represented the remains of a brushwood and roundwood platform measuring around 7m by 7m. The basal layer was composed of brushwood and was overlain by two layers of rough brushwood laid at right angles to each other. There were also occasional pegs fixing the elements in place. The second platform, in Cutting 2, had a brushwood base overlain by two roundwood layers, also laid at right angles to each other. It was rectangular in plan and measured 5m by 3.5m.</p>
08E0409	Sinclair Turrell	Littleton	<p>No archaeological significance (SMR TN042-039016-)</p> <p>This site was recorded during the 2006 survey as three well-preserved brushwoods, orientated north-west/south-east and exposed on the field surface. At the time of excavation these brushwoods could not be located.</p>
08E0410	Sinclair Turrell	Littleton	<p>Roundwood and brushwood trackway (SMR TN042-039019-)</p> <p>Three cuttings measuring 5m by 4m, were laid out along the length of this roundwood and brushwood trackway, together with eight small slot-trenches. This trackway measured approx. 100m in length and was orientated north-west to south-east. In Cutting 1, at the north-eastern end of the site, the site consisted of widely dispersed roundwood and brushwood and was up to 2.4m wide. In Cutting 2 the site was 4.6m wide and composed of roughly trimmed transverse roundwood and brushwood above a layer of longitudinal wood.</p> <p>Cutting 3 contained only a few broken and degraded scraps of wood. A radiocarbon date of AD 130 to AD 420 was obtained.</p>
08E0411	Sinclair Turrell	Littleton	<p>Platform (SMR TN042-039020-)</p> <p>One cutting measuring 4m by 2m, together with seven slot-trenches, were excavated here and revealed the remains of a brushwood and roundwood platform. The base of the platform was composed of two layers of brushwood and roundwood, overlain by a perpendicular layer of roundwoods. The structure was held together by a small number of pegs. The platform was probably sub-square in shape with sides up to 6.3m in length.</p>



Licence	Director	Bog	Summary Description
08E0412	Sinclair Turrell	Littleton	<p>Platform (TN042-039025-)</p> <p>A single cutting measuring 5m by 2.2m, together with two small slot-trenches, were excavated and revealed the remains of a platform. It was sub-rectangular in plan and measured around 5m north to south by 6m. The platform was constructed of three layers of brushwood with some roundwood and split timbers laid along the edges of the platform and secured in place with short pegs. The uppermost layer of brushwood was separated from the underlying brushwood by a thin deposit of peat and may therefore have been a later addition.</p>
10E0331	Jane Whitaker	Longfordpass	<p>This site was located on the field surface and in the opposing drain face during the course of the 2006 Peatland Survey. It had been truncated down the centre by drain-cutting machinery but it was clearly oval in plan. It was composed of regularly spaced brushwood pegs, with a smaller number of roundwood pegs inserted into the peat at angles of between 40° and 60°. The elements were moderately preserved, but the upper part of the structure had been removed by machinery. This site was not relocated during the 2010 excavation season and appears to have been removed during peat harvesting in the intervening four years.</p>
10E0330	Jane Whitaker	Longfordpass	<p>During the 2006 Peatland Survey this substantial oak-plank and gravel trackway was visible on the field surface and in the drain faces, at 30 sightings across the narrowest section of Longfordpass Bog. The site was located at the northern end of the bog, was orientated north-west/south-east and ran parallel to the modern road. From the drain face inspections at the time it was believed that the trackway was composed mainly of transversely laid planks secured, in places, by pegs with underlying longitudinal roundwood runners. Many sightings also had an underlying layer of sand and gravel, which could also be found between and occasionally over the elements. The composition appeared consistent along the length of the trackway and the level of preservation varied depending on the site's location on the field surface or within the peat. The site had been mostly milled-out in the eastern extent and all that remained were the lower levels of the trackway. The transverse elements were orientated north-north-east/south-south-west and the longitudinal runners, where present, were orientated west-north-west/east-south-east. Bog butter was recovered to the north-east of TI-LFP001z at a similar level in the bog. The proximity of the bog butter to the trackway and the fact that they were found at similar levels in the bog would suggest that they are broadly contemporary in date.</p> <p>The site was excavated in five cuttings which revealed it to be complex and multi-layered; it had two main construction phases with frequent repairs/additions throughout its use. It measured 1.2–5.3m in width, 0.1–0.6m in depth and was over 525m in length.</p>



Licence	Director	Bog	Summary Description
			It appears that the first phase consisted of a closely spaced transversely laid plank walking surface that overlay a simple substructure of longitudinal planks, roundwoods and haphazardly laid elements. Between these two layers was a packing layer of sand, gravel and fulacht material. The final construction phase also consisted of mainly transversely laid planks, which were supported by longitudinal runners above and below with occurrences of sand, fine gravel and stone packing in places with stabilising pegs along each side of the trackway. In most of the cuttings excavated, this layer was also repaired in places with longitudinally laid planks.
10E0332	Jane Whitaker	Longfordpass	<p>This plank trackway was located on the north-western side of the bog and at the time of the 2006 Peatland Survey it was visible, in the drain faces and on the bog surface, at six sightings. It was orientated north-west/south-east and was composed of longitudinally laid oak planks and roundwood elements. The composition of the trackway was consistent at all six sightings at the time of the 2006 Peatland Survey and was dated by dendrochronological dating to 1559±9 BC.</p> <p>The site measured 0.3–2.8m in width, 0.05–0.17m in depth and was traced for a length of 60m and was excavated in three cuttings, each measuring 3m x 4m. It was composed of longitudinal planks laid end to end and supported by occasional short transverse planks. No pegs were noted in any of the three cuttings excavated, but mortise holes were recorded on three of the timbers. The wood exposed in Cutting 1 was badly disturbed by the milling process but Cuttings 2 and 3 clearly showed the construction method. The peat was indicative of several pools along its surviving length of 60m. It is possible that this site initially crossed the entire width of this part of Longfordpass Bog, as it is the narrowest part of the bog, but no further sightings were located during the 2010 season.</p>
10E0333	Jane Whitaker	Longfordpass	<p>This togher was located at the western edge of Longfordpass Bog and was visible, in the drain faces, in two adjacent drains. This site was traced for a maximum length of 15m during the 2006 Peatland Survey and was subsequently dendrochronologically dated to 1004 BC. It was orientated east-north-east/west-south-west and was composed of longitudinally laid planks, with gravel at the westernmost sighting. A single cutting was excavated in 2010 at sighting TI-LFP002a.</p> <p>The cutting excavated measured 3m by 4m and was located on the field surface at the first drain along the western extent of Longfordpass Bog. The site was composed of an upper layer of gravel that was composed of decayed, mainly sandstone pieces ranging from 0.03m to 0.1m in size. There was also evidence for large quantities of Calluna roots and rushes contained in this layer. The stone layer measured 1.2m in width and an average of 0.04m in depth. Underneath the gravel layer were longitudinally laid planks which in turn were supported by short lengths of transverse planks.</p>



Licence	Director	Bog	Summary Description
			<p>The plank layer appeared to be composed of three or four poorly preserved parallel planks creating a walking surface 2.48m to 2.76m in width. The poor preservation, however, made it difficult to distinguish if this was the case or whether it was a degraded single wide plank. Underlying the planks were fine deposits of gravel similar to that recorded over the planks. This layer was not consistently laid along the length of the trackway and may have been placed in wetter areas to provide additional support to the timbers and gravel above.</p>

12.3.4 National Monuments in State Care

There are no National Monuments in State Care, or archaeological sites subject to Preservation Orders, located within the boundary of the Application Site. There are two National Monuments in State Care located within 1km of the Application Site and these comprise Deryvella Early Medieval Ecclesiastical Site (National Monument no. 533) and Liathmore Churches (National Monument no. 266) (Plate 12.6).



Plate 12-6: Location of National Monuments in State Care within environs of the Application Site



12.3.5 National Museum of Ireland Topographical Files

A review of the Topographical Files held in the museum premises in Kildare Street, Dublin revealed that this archive contains records of the discovery of a wide range of archaeological objects within townlands extending into the Application Site which include bronze swords, one of which was found in association with a stone and timber trackway, bronze axe heads, a bronze dagger, a leather and wooden shield, an ornate wooden weaver's sword and fragments of leather footwear (see Appendix 12.2, Volume 3). The majority of these objects were discovered and reported to the NMI by BnM workers during the course of 20th century peat extraction works.

12.3.6 Tipperary County Development Plan

The Record of Protected Structures published in the Tipperary County Development Plan 2022-2028 does not list any structures located in the Application Site or within 1km of its boundary. In addition, the Application Site does not extend into, or within the environs of, any of the Architectural Conservation Areas (ACA) detailed in the Development Plan.

12.3.7 Townlands

Townlands are the smallest land divisions in the Irish landscape, and many may preserve early Gaelic territorial boundaries that pre-date the Anglo-Norman conquest. The layout of Irish townlands was recorded and standardised by the work of the Ordnance Survey in the 19th century. The Irish translation of townland names may often refer to natural topographical features, but some name elements may also give an indication of the presence of past human activities or archaeological sites within townlands (e.g. 'rath' may indicate the presence of a ringfort). The Application Site extends into a number of townlands and the Irish origins of these placenames presented in Table 12.7 have been sourced from the Placenames Database of Ireland⁹.

Table 12-7: Translation of townland names

Townland	Irish Origin	Translation
Clonoura	Cluain Orrtha	'the greyish lawn or boggy pasturage'
Derryhogan	Doire Uí Ógáin	'oakwood of Ó hÓgáin'
Deryvella	Doire Mheille	'oakwood of Meille'
Kilmakill	Cill Mhaí Coille	'church of the plain of the wood' (there are no recorded church sites within this townland)
Killeen	Na Cillíní	'a little church' (this may be associated with a recorded church site (TS054-013----) located outside the east end of current townland boundary)
Lanespark	Buaile Ghréine	Lanespark was formerly called Buaile Ghréine (Groithne's pasture)
Leigh	Liath	'grey place'
Longfordpass North/South	Áth Fhada	'long ford'
Newhill	n/a	n/a
Noard	Núrd	'meaning uncertain'

⁹ www.logainm.ie



12.3.8 Cartographic Evidence

A review of the 1st edition 6-inch Ordnance Survey (OS) map (published 1843), the 25-inch OS map (published 1904) and the 2nd edition 6-inch OS map (published 1905) revealed that all of these depict the Application Site as an area of vacant bogland with no vernacular structures, demesne lands or potential archaeological features indicated on any edition. The latter two editions both include the label 'mound' along a number of linear townland boundaries extending through the Application Site and these typically refer to boundary features within bogland locations dating to recent centuries. The locations of all these labels are within sections of the bog that have been subject to extensive peat extraction works which likely removed any surface traces of these features. In addition, the OS maps do not depict any earthen banks or cut ditches extending along the townland boundaries which are indicated as linear cartographic features. The review of the OS maps also revealed that they do not depict historical peat-cutting or extensive drainage works within the Application Site and indicate that the location was likely undisturbed bogland until the commencement of the extensive peat extraction works in the middle of the 20th century.

12.3.9 Protected Structures & National Inventory of Architectural Heritage

As detailed in Section 12.3.6, there are no protected structures located within the boundary of the Application Site or within 1km of its boundary. A review of the National Inventory of Architectural Heritage (NIAH) building and historic gardens/landscapes surveys revealed that the inventory does not contain any entries for buildings or lands within the Application Site or within 1km of its boundary.

12.4 **Likely Significant Effects and Associated Control Measures**

12.4.1 Do-Nothing Scenario

As outlined in the EPA Guidelines (May 2022), the description of 'Do-Nothing Effects' relates to the environment as it would be in the future should the proposed project not be carried out. As discussed in Section 3.3, the assessment period of this rEIAR commenced in 1988, a time at which peat extraction was already well-established at the site. In the context of this rEIAR, the Project has been ongoing since the baseline assessment year of 1988. As outlined in Section 3.3, peat extraction activities commenced at the Application Site in 1941 with the installation of drainage.

The 'Do-Nothing' option is defined as the Project (as described in Section 4.3 of Chapter 4 - Description of the Development, Volume 2) having ceased at the Application Site in 1988.

In the event of the cessation of the Project at the Application Site in 1988, it is assumed that those lands which by that point had not been subject to the installation of drainage and peat extraction would have remained as a relatively intact raised bog with varying raised bog habitats (such as bog woodland, fen, sphagnum mosses).

Subsequently, other land-use practices may also have taken place on the Application Site such as agricultural or commercial forestry, or other commercial or non-commercial uses. Under this 'Do-Nothing' option, IPC Licence Ref. P0499-01 would not have been granted by the EPA in 2001, and associated decommissioning and planned rehabilitation would not have occurred.



For those lands which as of 1988 had been subject to the installation of drainage in preparation for peat extraction but not peat extraction itself, it is assumed in the ‘do-nothing’ scenario that drainage would have remained insitu. Maintenance works to keep established drainage channels clear would have ceased as of 1988 in the ‘do-nothing’ scenario. It is likely that these areas would have been subject to natural recolonisation of the bog surface. Minor third party turbary activities likely would have occurred along the intact bog edges as was common practice at sites such as the Application Site.

Peat extraction was underway at the Application Site prior to the required date for the transposition of the EIA Directive in 1988. If peat extraction and related activities ceased from 1988 onwards, then the various residual effects, described throughout this rEiAR, would not have occurred.

However, consideration must be given to the following:

- The legislative mandate given to Bord na Móna in the form of the Turf Development Act 1946, as amended to acquire and develop peatlands; and,
- The uncertainty with respect to the planning status of the activity did not arise until 2019 and was not evident in 1988.

Therefore, this ‘Do-Nothing’ option was not the chosen option. Peat extraction and ancillary activities have occurred at the Application Site from July 1988 onwards. A decision to cease peat extraction at the Application Site was taken in 2017 and the Application Site needs to be considered in the context of regularising (without prejudice) the planning status of the lands to facilitate future development (subject to planning consent as required). The Application Site has and will continue to revegetate, and there will be a change from areas of cutover peatland to revegetated peatland. These are described in the individual chapters of the rEiAR.

In the event that Substitute Consent is not granted, in effect, the “Do Nothing” option represents the current situation as at the date of the application for Substitute Consent. As part of Bord na Móna’s statutory obligations under IPC Licence requirements, Cutaway Bog Decommissioning and Rehabilitation Plans will continue to be implemented for the Application Site separate to, and independent of, the Substitute Consent application. The implementation of the plans is included in the impact assessment below.

The role of cutaway/cutover peatlands such as the Application Site as a significant potential resource for amenity, tourism, biodiversity enhancement and conservation, improvement in air quality, climate mitigation, renewable energy development and education are part of Bord na Móna’s vision for the Application Site. The regularisation of the planning status of the Application Site is a significant facilitator in ensuring the sustainable use and management of these peatlands. If this does not occur, the opportunity to continue employment and alternative use of the Application Site for the potential resources and activities mentioned above will be significantly restricted.

12.4.2 Peat Extraction Phase: 1988 – 2017

12.4.2.1 *Indirect Effects*

Indirect effects, in terms of cultural heritage are considered to be those effects which happen away from the Application Site. This includes effects on visual setting of cultural heritage assets in the wider landscape. No indirect visual effects were identified which would have occurred during past peat extraction and ancillary activities. Sub-surface works such as drainage of peat and excavation of peat is not considered to cause a negative effect on the setting of monuments which are located away from the Application Site.



12.4.2.2 Direct Effects

Direct effect refers to a ‘physical impact’ on a monument or site. In the past and up to the present day Bord na Móna has a statutory duty under the Turf Development Act 1998 (Section 56) to afford appropriate protection for the environment and archaeological heritage.

12.4.2.2.1 Unrecorded Potential Sub-surface Archaeology

Bog landscape features were often utilised throughout all periods of the archaeological record, and their anaerobic conditions preserve organic matter, such as wood and leather, which does not often survive in more usual dryland archaeological conditions due to the acidity of peat and the anaerobic environment which exists within peatland deposits.

The lands within the Application Site were first investigated in 1960 by Etienne Rynne and additional investigations were conducted by the NMI in the 1990s. The overall Littleton Group of bogs was subject to a pilot survey conducted by the Irish Archaeological Wetland Unit in 1995, and this included surveys within the Application Site. Further programmes of archaeological surveys and subsequent targeted excavations of a number of the peatland sites within the Application Site were carried out by Archaeological Development Services (ADS) in the period between 2006 and 2010 (Section 12.3.3).

These peatland surveys allowed for the identification of monuments, which were selected for archaeological mitigation, prioritising those that were threatened by extraction and closest to the surface and/or in the exposed drain faces (National Monuments Service 2013, 26). This allowed archaeological sites to be identified and excavated in advance of further peat extraction. The programmes of archaeological surveys within the Application Site, identified 51 no. archaeological sites which were subsequently included in the Sites and Monuments Record. Peat extraction and ancillary activities, including drains, milling, and extraction works could have had a significant, direct, permanent, negative effect on the archaeological resource within the Application Site. This negative effect was mitigated by the various peatland surveys conducted within the Application Site during the period from 1988 to 2017 which had a permanent positive effect on the cultural heritage resource through the increase of the level and understanding of the archaeological context of the lands within the Application Site.

Control Measures

The 1980s saw a dramatic expansion in peat extraction which led to National Monuments Service licensing programmes of surveys and excavations within bogs which were initially conducted by the Irish Archaeological Wetland Unit (IAWU) and subsequently by archaeological contractors funded by the Applicant. After initial peatland surveys, monuments were selected for archaeological mitigation, prioritising those that were threatened by extraction and closest to the surface and/or in the exposed drain faces (National Monuments Service 2013, 26). This allowed archaeology to be identified and excavated in advance of extraction. The primary role of the peatland surveys was initially to provide data to the NMS and the NMI based on rapid walkover surveys. This changed in 1991 as it was recognised that the ‘survey was outpaced by the rate and scale of peat extraction and, as a consequence the destruction of archaeological sites for which only a limited record had been made’ (NMS, 2013).

In 2001 a report entitled ‘*An Evaluation of Current Peatland Survey and Excavation Strategy*’ was compiled by Professor John Coles, under commission by the NMS and this informed the development of management strategies for the peatland archaeological resource. Subsequently, a report entitled *Collation and Evaluation of Archaeological Data from Bord na Móna Bogs* was carried out in 2002 to evaluate the archaeological survey data gathered since 1991. In 2011 and 2013 the NMS commissioned the *Review of Archaeological Survey and mitigation policy relating to Bord na Móna peatlands since 1990* (NMS, 2013).



Since 1998, the Applicant has had a statutory duty under the Turf Development Act 1998 ('1998 Act') (Section 56) to afford appropriate protection for the environment and the archaeological heritage (Section 56). The Company and each subsidiary shall ensure that its activities are so conducted as to afford appropriate protection for the environment and the archaeological heritage.

As detailed in Chapter 4 - Description of Development, Volume 2 (Section 4.6.1), the Applicant's peat extraction activities as well as all ancillary works, and the impact on the archaeological resource is also governed under the 2012 Code of Practice agreed between the then Department of Arts, Heritage and the Gaeltacht, the National Museum of Ireland and Bord na Móna (Appendix 1.3, Volume 3). The code includes a commitment by the Applicant to finance a balanced and cost-effective approach to archaeological investigation, excavation, post excavation and mitigation, and details the procedures to be followed if a suspected archaeological object is discovered. The Code of Practice has been implemented on all bogs operated by Bord na Móna, including the Application Site, and its contents are integrated into staff induction training. As part of peat extraction training, all employees hired to work on the bogs were required to read and adhere to the recommendations set out in the Department of Education publication entitled, Ancient Objects in Irish Bogs and Farmlands: A Guide for Finders (Leask 1942). Workers were required to stop all works and report to the Bog Manager if archaeological finds were encountered. If materials thought to be of archaeological interest were encountered, the Bog Manager was required to report the findings to the Garda Síochána within seven days who would then contact the Commissioner of Public Works in relation to the findings.

As detailed in Section 12.3.3, the peatlands within the Application Site were initially surveyed by IAWU in 1995 and additional surveys and programmes of excavations of a range of identified archaeological sites were carried out by Archaeological Development Services (ADS) on behalf of BnM between 2006 and 2010. The peatland surveys and archaeological excavations within the Application Site were undertaken on all bogs operated by the Applicant.

12.4.2.3 Record of Protected Structures and the NIAH

There are no protected structures or buildings/landscapes listed in the NIAH located within the boundary of the Application Site and, therefore, no architectural heritage assets listed in these datasets have been directly impacted by the peat extraction phase within the Application Site during the period from 1988 to 2017.

Control Measures

As peat extraction activities and all ancillary works in the period from 1988 to 2017 did not result in any direct effects on any protected structures or NIAH-listed structures/lands, no control measures were required for these elements of the cultural heritage resource.

12.4.3 Current Phase – 2017 to Present Day

12.4.3.1 Decommissioning Effects

In January 2021, Bord na Móna formally announced that peat extraction across all bogs within its landholding had ceased, although peat extraction had ceased at the Application Site prior to this in 2017. The Application Site still operates under the requirements of IPC Licence P0499-01, and any decommissioning works undertaken with respect to peat extraction are in accordance with Condition 10 of the IPC Licence, which states that:

- '10.1 following termination of use or involvement of all or part of the site in the licenced activity, the licensee shall:



- 10.1.1 Decommission, render safe or remove for disposal/recovery, any soil, subsoils, buildings, plant or equipment, or any waste, materials or substances or other matter contained therein or thereon, that may result in environmental pollution.

In compliance with Condition 10.1 of the IPC Licence, it is a requirement to decommission the Application Site by removing/disposing/recovering buildings, equipment, waste etc from the Application Site. Typically, these items/infrastructures would be any remaining, unconsolidated plant, equipment and attachments, waste materials, unused raw materials such as drainage pipes, remaining peat stockpiles, stockpile covering, pumps, septic tanks and fuel tanks. To date, the only decommissioning underway at the Application Site was the removal of remaining peat stockpiles from the bogs. This was completed by mid-2019. The removal of rail infrastructure in Lanespark and Derryvella was completed in 2024. No extant buildings will be demolished as part of the decommissioning programme. The decommissioning programme and activities are detailed in the Cutaway Bog and Decommissioning and Rehabilitation Plan for Littleton Bog (Appendix 4-2, Volume 3).

In terms of cultural heritage, any impacts as a result of ground works as part of the decommissioning programme fall under the current 2012 Code of Practice between the Applicant and the now Department of Housing, Local Government and Heritage.

Potential Pre-mitigation Effects

Decommissioning activities such as drain blocking or tracking over peat fields may have a negative effect on any sub-surface archaeological finds or features that may be present on or beneath the surface of the peat. This may result in a permanent, negative and significant effect. Potential indirect decommissioning effects (visual effects) are scoped out as the activities are not considered to have a wider landscape negative effect on the cultural heritage environment. Archaeological monuments and features of architectural heritage merit which are located away from the Application Site are not capable of having their settings affected by localised / transient works within the Application Site.

Control Measures

Since peat activities associated with the Applicant fall under the 2012 Archaeological Code of Practice, any potential effects may be dealt with in the same way as past peat extraction and ancillary activities, through the implementation of the mitigation measures detailed in the 2012 Code of Practice.

12.4.3.2 Rehabilitation Phase 1

Rehabilitation Phase 1 works in Littleton, Longfordpass, Lanespark and Derryvella were completed between 2018 and 2021 and included extensive drain-blocking and hydrological management with natural vegetation recolonisation also occurring. In terms of cultural heritage, any impacts as a result of ground works conducted as part of the Rehabilitation Phase 1 drain-blocking works fall under the current Code of Practice (2012) between the Applicant and the now Department of Housing, Local Government and Heritage.

Potential Pre-mitigation Effects

Rehabilitation activities such as ground works conducted to facilitate drain blocking may have a negative effect on any sub-surface archaeological finds or features that may be present on or beneath the surface of the peat. This may result in a permanent, negative and significant effect. Potential indirect Rehabilitation Phase 1 effects (visual effects) are scoped out as the activities are not considered to have a wider landscape negative effect on the cultural heritage environment. Archaeological monuments and features of architectural heritage merit which are located away from the Application Site are not capable of having their settings affected by localised / transient works within the Application Site.



Control Measures

Since peat activities associated with the Applicant fall under the 2012 Archaeological Code of Practice, any potential effects may be dealt with in the same way as past peat extraction and ancillary activities, through the implementation of the mitigation measures detailed in the 2012 Code of Practice.

12.4.4 Remedial Phase Effects

As detailed in Chapter 4 - Description of Development, Volume 2 (Section 4.9), Bord na Móna are proposing to carry out additional rehabilitation works in Deryvella Bog in 2026 while no additional rehabilitation works are proposed at Littleton, Longfordpass and Lanepark outside of the ongoing monitoring measures presented in Tables 4-9 and 4-10 of Chapter 4. As detailed in Chapter 4 - Description of Development, Volume 2 (Section 4.9) it is a requirement of 'Condition 10 Cutaway Bog Rehabilitation' of the IPC Licence that following decommissioning of use of all or part of their bogs, Bord na Móna, prepares (to the satisfaction of the EPA) and implements a Cutaway Bog Rehabilitation Plan. In 2018, Bord na Móna produced Cutaway Bog Decommissioning and Rehabilitation Plans for the Longfordpass, Littleton, Lanepark and Deryvella bogs located within the Application Site, while a Cutaway Bog Decommissioning and Rehabilitation Plan detailing Rehabilitation Phase 2 measures for Deryvella was prepared in 2025 and has been approved by the EPA. It is the intention of Bord na Móna to carry out rehabilitation works under the requirements of the IPC Licence and in strict accordance with the criteria outlined in Condition 10.3 as stated above. Please see Appendix 4-2, Volume 3 for copies of each of the Cutaway Bog Decommissioning and Rehabilitation Plans.

Potential Pre-mitigation Effects

Rehabilitation activities such as drain blocking or tracking over peat fields may have a negative effect on any sub-surface archaeological finds or features that may be present on or beneath the surface of the peat. This may result in a permanent, negative and significant effect. Potential indirect Remedial Phase effects (visual effects) are scoped out as the activities are not considered to have a wider landscape negative effect on the cultural heritage environment. Archaeological monuments and features of architectural heritage merit which are located away from the Application Site are not capable of having their settings affected by localised / transient works within the Application Site.

Control Measures

As per the recommendations in the Archaeological Impact Assessment of Proposed Bog Decommissioning and Rehabilitation at Deryvella and Ballybeg Co. Tipperary all surviving archaeological sightings within Deryvella bog will be protected by 20m buffer zones (Mount 2025). Additional mitigation measures detailed in the report, which have been agreed with National Monuments Service, will entail Irish Archaeological Consultancy (IAC) conducting twice weekly inspections of any re-profiling works while no monitoring of drain blocking will be required, unless it is located within 20m of an archaeological buffer zone. In the event that any previously unknown archaeological material is uncovered during rehabilitation works, it should be avoided and reported to the Bord na Móna Archaeological Liaison Officer and the National Museum of Ireland.

Since peat activities associated with the Applicant fall under the 2012 Archaeological Code of Practice, any potential Remedial Phase effects will be dealt with in the same way as past peat extraction and ancillary activities, through the implementation of mitigation measures detailed in the 2012 Code of Practice.



12.5 Residual Effects

12.5.1 Peat Extraction Phase 1988 – 2017

Overall, it is possible that significant negative effects could have taken place to sub-surface finds and features during the Peat Extraction Phase. This negative effect was mitigated by archaeological surveys and excavations conducted within the Application Site from 1995 onwards as well as the introduction of the 2012 Code of Practice (Appendix 12.3, Volume 3). The residual effects resulting from the implementation of these mitigation measures on sub-surface archaeological features in the period from 1988 to 2017 were permanent, positive, slight to moderate.

12.5.2 Current Phase 2017 to Present Day

In terms of cultural heritage, since peat extraction within the Application Site has ceased, it is considered that no direct effects arising from extraction works would occur during the Current Phase. Rehabilitation Phase 1 works in Littleton, Longfordpass, Lanespark and Deryvella were completed between 2018 and 2021 and included drain-blocking and hydrological management. In terms of cultural heritage, any impacts as a result of ground works conducted as part of the Rehabilitation Phase 1 works fall under the Code of Practice (2012) between the Applicant and the now Department of Housing, Local Government and Heritage. No direct effects on cultural heritage assets as a result of Rehabilitation Phase 1 works are identified. Since no effects were identified without the need for control measures, no residual effects will occur.

12.5.3 Remedial Phase

Rehabilitation activities such as drain blocking or tracking over peat fields may have a negative effect on any sub-surface archaeological finds or features that may be present on or beneath the surface of the peat. This may result in a permanent, negative and significant effect. Since peat activities associated with the Applicant fall under the 2012 Archaeological Code of Practice, any potential effects may be dealt with in the same way as past peat extraction and ancillary activities. In this regard the potential residual effect on sub-surface archaeological remains, if present, may be positive permanent, slight to moderate.

12.6 Significance of Effects

12.6.1 Peat Extraction Phase 1988 – 2017

Peat extraction and ancillary activities, including drainage and peat extraction could have resulted in a significant, direct negative effect on the cultural heritage resource. However, the archaeological surveys and subsequent excavations carried out as mitigation measures during the peat extraction phase have had a direct slight to moderate positive effect on the cultural heritage resource resulting from an increase in the level and understanding of the archaeological and historical landscape.

12.6.2 Current Phase 2017 to Present Day

The overall significance of effects on subsurface archaeology, if present, as a result of the Current Phase is considered to be positive permanent, slight to moderate.



12.6.3 Remedial Phase

The overall significance of effects on subsurface archaeology, if present, as a result of the Remedial Phase is considered to be positive permanent, slight to moderate.

12.7 Cumulative and In Combination Effects

Cumulative effect is defined as ‘the addition of many minor or insignificant effects, including effects of other projects, to create larger, more significant effects’ (EPA 2022). Cumulative effects encompass the combined effects of multiple developments or activities on a range of receptors. In this case, the receptors are the archaeological sites within the Application Site. Direct effects to sub-surface archaeological features/sites can occur as a result of peat removal and groundworks during the Peat Extraction Phase (1988-2017), as part of the Current Phase (2017 – present day) and Remedial Phase, as well as the potential future development of Littleton Wind Farm. When all of these activities are combined, they have the potential to have cumulative effects.

A review of other developments identified in Chapter 2 - Background, Volume 2 and Appendix 2-2, Volume 3 was carried out as part of the assessment of potential cumulative and in combination effects on the cultural heritage resource.

The archaeological impact assessment undertaken above in this chapter outlines those significant effects that have occurred within the Application Site as a result of the peat extraction and all ancillary activities.

Due to peat extraction and ancillary activities within the Application Site boundary in particular, when archaeological investigations and surveys had not been undertaken, the potential for significant cumulative effects with other local developments (located outside the Application Site, including forestry, agricultural development) on the cultural heritage environment may have occurred. Peat extraction and ancillary activities could have had cumulative (direct) effects with other off-site projects. Similarly, when considering the Peat Extraction Phase 1988- 2017 with peat extraction and ancillary activities on the Application Site from before 1988, cumulative effects are also possible. Given the nature of the peat extraction and ancillary activities during both the 1988-2017 period and the pre-1988 period, those effects are largely concerned with sub-surface archaeological objects, features and deposits.

As outlined in Chapter 4 - Description of Development, Volume 2, the primary land-use change associated with peat extraction and ancillary activities on the Application Site occurred during the initial drainage and vegetation removal of the bogs in advance of peat extraction. This impact would have predominantly occurred in advance of 1988 at the Application Site. When considered cumulatively with activities which took place between 1941 and 1987, there is potential for increased cumulative direct negative effects to sub-surface archaeology if present within the Application Site. It is intended to utilise the Application Site for both peatland remediation (rehabilitation) and wind energy infrastructure and to facilitate environmental stabilisation of the Application Site and the optimisation of climate action benefits.

As such, Cutaway Bog Decommissioning and Rehabilitation Plans are assessed as part of the planning application for this Project.



The EIAR prepared for the proposed Littleton Wind Farm application includes an assessment of the implementation of the rehabilitation plans in conjunction with the construction, operation and decommissioning of the wind farm. The overall footprint of the proposed Littleton wind farm will be less than 73% of the total area of the Application Site and therefore will not impact or change the overall goals and outcomes of the proposed rehabilitation plans. As such, it is the intention of the Applicant to integrate the peatland remedial measures with the proposed future wind farm. The key objectives of environmental stabilisation and re-wetting of the cutaway areas will occur between and surrounding the proposed wind farm infrastructure.

The proposed Littleton Wind Farm will be assessed in a separate EIAR in terms of direct and indirect effects on the cultural heritage resource with a specific suite of mitigation measures so as to avoid any negative effects to the sub-surface archaeology that may exist within the site. When the proposed Littleton Wind Farm is considered with the past peat extraction and ancillary activities, current works and future rehabilitation works, potential direct effects will not increase due to the implementation of archaeological mitigation prior to and during construction. In terms of direct cumulative effects, decommissioning and rehabilitation works within the Application Site which require ground works or drain blocking activities could potentially result in cumulative effects with the proposed wind farm construction phases. Any increase to groundworks / excavation works within the peat could arise in direct cumulative effects to any potential sub-surface archaeological finds or features. There are a number of mitigating factors however which include the implementation of the current 2012 Code of Practice which falls under the IPC licence. The Code of Practice is presented in Appendix 12.3, Volume 3 of the rEIAR and will mitigate against the potential for significant effects during the Re Remedial Phase and thus reducing potential cumulative and in combination effects. Mitigation measures for the proposed Littleton Wind Farm will also include avoidance of archaeological sites, targeted testing at the post-consent advance stage works and archaeological monitoring during the construction phase. The mitigation measures will allow for any potential archaeological features to be dealt with appropriately under licence from the National Monuments Service. Overall cumulative effects when considering past peat extraction and ancillary activities and the proposed Littleton Wind Farm will not occur.

The proposed Littleton Wind Farm will result in long-term (reversible), indirect, negative, imperceptible to significant effects on the setting of National Monuments in State Care and other cultural heritage assets within the wider landscape around the Application Site. In the context of peat extraction and ancillary activities, as well as rehabilitation works, these are not capable of acting in combination with the proposed wind farm to result in any significant cumulative effects on setting of cultural heritage assets in the wider landscape (such as monuments away from the Application Site) as these peat activities comprise localised and transient works.

A proposed recreational cycle and walkway development is located within the environs of the Application Site and will tie into the existing Loch Dhoire Bhile Loop (ACP ref. 323662-25). A review of An Coimisiún Pleanála Inspector's Report on this development revealed that the application included an archaeological impact assessment which concluded that this development will have no impact on any known items of archaeological heritage¹⁰. Given the localised and transient nature of the peat extraction and ancillary activities as well as rehabilitation works within the Application Site, these activities will not act in combination with this development to result in any significant cumulative effects on the cultural heritage resource.

Similarly, due to the localised and transient nature of the peat extraction and ancillary activities, as well as Remedial Phase works, they are also not capable of acting in combination with the other developments within the wider landscape, identified in Chapter 2 - Background, Volume 2 and Appendix 2-2, Volume 3 to result in any negative cumulative effects on cultural heritage assets located within the wider landscape around the Application Site.

¹⁰ <https://www.pleanala.ie/anbordpleanala/media/abp/cases/reports/323/r323662.pdf?r=006813115861>



In conclusion, when considered together cumulative effects on the setting of cultural heritage assets within the wider landscape will not occur since no effects on setting were identified as a result of the Peat Extraction Phase, all works in the Current Phase (i.e decommissioning works and Rehabilitation Phase 1 works as described in Chapter 4 - Description of Development, Volume 2) or the Remedial Phase (i.e Rehabilitation Phase 2 works , proposed rehabilitation works). Due to the localised nature of the peat extraction and ancillary activities which were limited to within the Application Site boundary, there is no potential for significant cumulative effects on the cultural heritage resource in-combination with the developments identified in Chapter 2 - Background, Volume 2 and Appendix 2-2, Volume 3.

12.8 Conclusion

Peat Extraction Phase

Irish bog landscapes have been utilised by humans since prehistory and their anaerobic conditions preserve organic matter, such as wood and leather, which does not often survive in more usual terrestrial archaeological conditions. Peat extraction and ancillary activities, including drainage and peat extraction could have resulted in a significant, direct negative effect on the archaeological resource. The various relevant acts (National Monuments Acts, Turf Development Acts 1946 - 1998 (section 56) and the 2012 Code of Practice (Appendix 12.3, Volume 3)) have afforded appropriate protection for the environment and archaeological heritage. As detailed in Section 12.3, over the course of the extraction/operational phase (1988-2017) a total of 51 no. SMRs and numerous archaeological artefacts were identified and recorded within the Application Site (Section 12.3). The programmes of archaeological surveys conducted within the Application Site allowed for the identification of any artefacts, features or deposits on either the peat fields, or along drain sections which led to mitigatory investigations and excavations in selected areas within the Application Site. These mitigation measures enacted within the Application Site during the peat extraction phase have had a direct positive effect on the cultural heritage resource through an increase in the level and understanding of the archaeological and historical landscape as a result of archaeological assessments and subsequent excavations.

As detailed in Section 12.3.9, there are no protected structures or any structures/lands listed in the NIAH located within the Application Site or within its close environs. The Peat Extraction Phase, therefore, did not result in any effects on this element of the cultural heritage resource.

Section 12

Current and Remedial Phases

Current activities include decommissioning and Rehabilitation Phase 1, both of which fall under the IPC licence in the same way as peat extraction and ancillary activities and in this regard any effects as a result of drain blocking or tracking over peat as part of the remedial programme fall under the current Code of Practice (2012) between the Applicant and the now Department of Housing, Local Government and Heritage (Appendix 12.3, Volume 3).



The Applicant has produced a Cutaway Bog Decommissioning and Rehabilitation Plan for all bogs of the Application Site. Mitigation measures to be implemented as part of the Cutaway Bog Decommissioning and Rehabilitation Plan programme are under the remit of the aforementioned bodies and, therefore, the 2012 Code of Practice (presented in Appendix 12.3, Volume 3) will mitigate against the potential for significant effects during this phase. Remedial activities such as drain blocking or tracking over peat fields may have a negative effects on any sub-surface archaeological finds or features that may be present on or beneath the surface of the peat. This may result in a permanent, negative and significant effect. Since peat activities associated with the Applicant fall under the 2012 Code of Practice, any potential effects may be dealt with in the same way as past peat extraction activities and all ancillary works. Section 12.4.4 of this chapter provides the Remedial Phase archaeological control measures which are detailed in the Archaeological Impact Assessment of Proposed Bog Decommissioning and Rehabilitation at Ballybeg Co. Tipperary (Mount 2025). In this regard the overall significance of effects will be positive, permanent, significant.



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