

EIAR FOR POWERSTOWN BIOENERGY

Volume 2- Main Body of the EIAR

Chapter 15 – Archaeological, Architectural and Cultural Heritage

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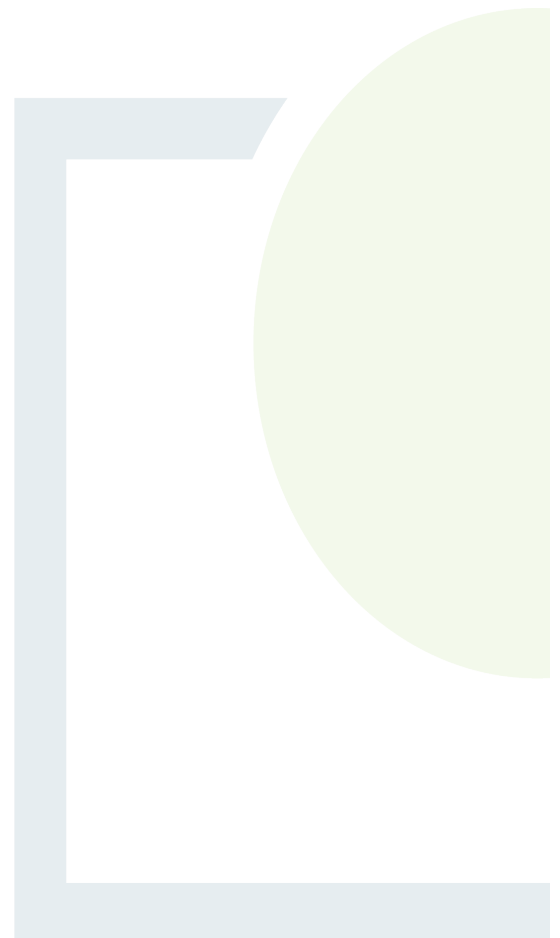


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15. CULTURAL HERITAGE

15.1 Introduction

This chapter assesses the potential effects of the proposed development and the proposed gas pipeline route, as described in Chapter 3 Description of the Development in Volume 2 of this EIAR, on the cultural heritage resource. The term 'cultural heritage' is used throughout this chapter in relation to archaeological objects, features, monuments and landscapes as well as all structures and buildings which are considered to have historical, archaeological, artistic, engineering, scientific, social or technical significance/merit. It is also used to encompass designated architectural heritage structures and other structures of architectural heritage significance; as well as non-tangible elements of the cultural heritage resource such as historical associations, folklore, tradition, language and placenames. The recorded and potential cultural heritage resource within a study area described in Section 15.3 of this chapter was assessed in order to compile a comprehensive cultural heritage baseline for the location of the proposed development and the proposed gas pipeline route as well as the surrounding lands.

The potential for direct and indirect effects during construction, operational and decommissioning phases of the proposed development and the proposed gas pipeline route, as well as cumulative effects, are assessed herein. Where likely adverse effects on cultural heritage constraints are identified, appropriate mitigation strategies to be adopted to ameliorate these effects are detailed and residual effects following the application of these mitigation measures are also assessed.

15.2 Statement of Authority

The chapter was prepared by Tony Cummins, Senior Archaeologist with John Cronin & Associates. Mr. Cummins holds B.A. and M.A. degrees in archaeology (University College Cork (UCC) 1992/1994) and has accumulated thirty years' continuous professional experience. He has extensive experience in the preparation of cultural heritage impact assessments for infrastructure developments which has entailed conducting programmes of desktop research, field surveys and site investigations as well liaising with project design teams and local and national authorities.

15.3 Assessment Methodology

15.3.1 Introduction

The assessment has also been carried out in accordance with the EIAR guidelines (EPA, 2022) detailed in Chapter 1 Introduction in Volume 2 of this EIAR as well as the following guidance documents which are relevant to the cultural heritage resource:

- Architectural Heritage Protection: Guidelines for Planning Authorities. (Department of Arts, Heritage and Gaeltacht, 2011)
- Framework and Principles for the Protection of Archaeological Heritage. (Department of Arts, Heritage, Gaeltacht and the Islands, 1999)
- A Guide to Architectural Heritage. (Office of the Public Regulator, 2022)
- Archaeology in the Planning Process (Office of the Public Regulator, 2021)
- Code of Practice between Bord Gáis Éireann and The Minister for Arts, Heritage, Gaeltacht and the Islands (Department of Arts, Heritage and the Islands, 2002)



- Guidance on Heritage Impact Assessments for Cultural World Heritage Properties (International Council on Monuments and Sites, 2011)
- Archaeological inventory of County Carlow (Brindley A, 1993)
- The Prehistoric Archaeology of Ireland (Wadde, J, 1998)

The assessment was based on a programme of desktop research combined with site inspections of the proposed development and the proposed gas pipeline route which were conducted to identify any known or potential sites or features of archaeological, architectural or cultural heritage significance that may be impacted by the proposed development and the proposed gas pipeline route.

There are no Irish professional guidelines which define the extent of study areas required to assess the effects of this development type on the cultural heritage resource and the extent of the study areas for this assessment have, therefore, been informed by the years of experience and professional judgement of the specialist.

The proposed development within the site will have an above ground expression during the operation phase, which has the potential to result in indirect setting effects on cultural heritage constraints within surrounding lands. As detailed in Chapter 1 Introduction in Volume 2 of this EIAR, the existing depressed quarried nature of the site location combined with the presence of vegetation and a proposed security perimeter fence along its boundary will provide screening which will largely conceal the proposed development from surrounding lands. A study area comprising the area within the site boundary as well as surrounding lands extending for 1km in all directions was reviewed as part of this assessment. The extent of the 1km area extending in all directions from the site is considered suitable as it facilitated the compilation of a baseline context for the known cultural heritage resource within the wider environs of the site and also informed an assessment of the potential for any high magnitude, significant, indirect effects on the locations and settings of cultural heritage constraints within surrounding lands.

The proposed gas pipeline route (see Figure 1-1 in Chapter 1, Introduction, in Volume 2 of this EIAR) will require trench excavation works within public roads during the construction phase. It will comprise a buried pipeline within public roads during the operation phase which will not have the potential to result in indirect effects on the setting of cultural heritage constraints within the wider landscape during this phase. The study area reviewed for this element of the project, therefore, comprised the location of the pipeline and lands extending for 100m from both sides of its route. The extent of this study area was chosen in order to appraise if there are any known cultural heritage constraints within the localised footprint or environs of the proposed gas pipeline route. The extent of this study area is considered suitable as it facilitated the compilation of a baseline context for known and potential cultural heritage constraints within the vicinity of the excavations in public roads required to install the pipeline during the construction phase and facilitated an appraisal of the potential presence of any associated sub-surface elements which may be susceptible to direct or indirect construction phase effects.

15.3.2 Assessment of Effects

The methodology used for this assessment was in accordance with Guidelines for Information to be Contained in EIAR (EPA, 2022) and the Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report (European Commission, 2017). Details on these guidelines are presented in Chapter 1 Introduction in Volume 2 of this EIAR.



The significance of effects on cultural heritage constraints is assessed based on a consideration of the duration, probability, magnitude and consequences of effect in combination with the value/sensitivity of the relevant constraint. Discipline specific guidance in relation to the magnitude of effects and value/sensitivity relevant to cultural heritage constraints is provided in guidance (International Council on Monuments and Sites, 2011) and details on these are provided in Tables 15-1 and 15-2.

The magnitude of effect is based on the degree of change, incorporating any mitigation measures, on a cultural heritage constraint, which can be negative or positive, and is ranked without regard to the value of the constraint according to the following scale: High; Medium; Low and Negligible (Table 15- 1).

Table 15-1: Magnitudes of Effect on Cultural Heritage Constraints (International Council on Monuments and Sites, 2011)

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



While various legal designations exist for elements of the Irish cultural heritage resource (see Section 15.4.1), there is no formal national criteria for ranking the value/sensitivity of individual constraints. The Record of Protected Structures published in the Carlow County Development Plan 2022-2028 (Carlow County Council, 2022) does assign ratings to structures listed in that record and these are detailed in Section 15.4 of this chapter (Table 15- 5). The evaluations of the value/sensitivity of cultural heritage constraints used in this assessment have been informed by guidelines (International Council on Monuments and Sites, 2011). This guidance is not intended as definitive but rather as an indicator which contributes to a wider judgment based on the individual circumstances of each constraint. This included a consideration of their legal designations (e.g., National Monuments in State Care), condition/preservation; documentary/historical significance, group value, rarity, visibility in the landscape, fragility/vulnerability and amenity value on a case-by-case basis. Archaeological sites with low surface expressions may retain low-medium sensitivity to indirect effects on their wider setting while levelled archaeological sites that retain no visible surface traces are typically not sensitive to indirect 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 value/sensitivity that cannot be discerned without recourse to archaeological excavation but are unlikely to be affected in the absence of direct negative effects. The value/sensitivity of cultural heritage constraints are ranked according to the following scale as defined by guidelines (International Council on Monuments and Sites, 2011): Very High; High; Medium; Low, Negligible and Unknown (Table 15-2). The value/sensitivity assigned to identified cultural heritage constraints within the reviewed study areas were appraised following the desktop research and site inspections conducted as part of this assessment.

Table 15-2: Value/Sensitivity of Cultural Heritage Constraints (International Council on Monuments and Sites, 2011)

Value/Sensitivity	Example of Constraint Types
Very High	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	Nationally designated sites, buildings and landscapes of significant quality, rarity, preservation and importance. Constraints 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	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	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.



Value/Sensitivity	Example of Constraint Types
	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.

15.3.3 Desktop Study

The principal sources reviewed for the assessment of the known archaeological resource were the Sites and Monuments Record (SMR) and the Record of Monuments and Places (RMP) for County Carlow. The Record of Protected Structures (RPS) published in the current Carlow County Development Plan 2022-2028 (Carlow County Council, 2022) and the National Inventory of Architectural Heritage (NIAH) were consulted in relation to the designated architectural heritage resource.

Other sources consulted as part of the assessment included the following:

National Monuments in State Care and Preservation Orders: Reviews of a current datasets published online by the National Monuments Service (NMS) identifying the National Monuments in State Care in County Carlow¹ and a nationwide list of archaeological sites subject to Preservation Orders² was carried out as part of the assessment.

Archaeological Survey of Ireland: The Archaeological Survey of Ireland (ASI) published an archaeological inventory for County Carlow in 1993, and the archaeological sites identified within the county since that time have been added to the Sites and Monuments Record (SMR) published on the National Monuments Service's online Historic Environment Viewer (HEV)³. The SMR database published on the HEV was reviewed in May 2026 and relevant inventory entries are included within the chapter (Section 15.4.2).

Heritage Council of Ireland Map Viewer: This online mapping resource⁴ collates various cultural heritage datasets compiled by, among others, the National Monuments Service, the National Museum of Ireland, Local Authorities and the Office of Public Works. Current data was accessed in May 2026.

Database of Irish Excavation Reports: The online Database of Irish Excavation Reports⁵ collates summary descriptions of the results of archaeological site investigations carried out in Ireland (North and South) from 1969 to present. Current data was accessed in May 2026.

Literary Sources: Various published sources were consulted in order to assess the archaeological, historical, architectural heritage and folklore resource and references for these are provided in Section 15.16.

¹ <https://www.archaeology.ie/app/uploads/2025/03/monuments-in-state-care-carlow.pdf>

² https://www.archaeology.ie/app/uploads/2025/03/Preservation-Order-listing_March-2025-FINAL.pdf

³ <https://heritagedata.maps.arcgis.com/apps/webappviewer/index.html?id=0c9eb9575b544081b0d296436d8f60f8>

⁴ www.heritagemaps.ie

⁵ <https://excavations.ie/>



Historic Maps: A review of available historic maps of the proposed development and the proposed gas pipeline route locations was conducted and extracts from the reviewed maps are presented in Section 15.4.

Aerial and Satellite Imagery: A review of online imagery of the study area (Google Earth, Bing Maps and Tailte Eireann), was carried in order to ascertain if any traces of undesignated cultural heritage features, including sub-surface archaeological sites, were visible within the environs of the proposed development and the proposed gas pipeline route.

Irish National Folklore Collection: Transcribed material from the National Folklore Collection archive which has been digitised and published online⁶ was reviewed in May 2026.

UNESCO World Heritage Sites and Tentative List: There are currently two designated World Heritage sites in Ireland (Brú na Bóinne, Co. Meath and Sceilg Mhichíl, Co. Kerry) and neither of these are located within the environs of the Proposed Development nor the proposed gas pipeline route. A number of other sites have been included in a Tentative List (2023) nominated by Ireland consideration as World Heritage sites, and these comprise the Passage Tomb Landscape of County Sligo, the Transatlantic Cable Ensemble, County Kerry and the Royal Sites of Ireland (Dún Ailinne, County Kildare; Hill of Uisneach, County Westmeath; Rock of Cashel, County Tipperary; Rathcroghan, County Roscommon and Tara, County Meath). There are no examples located within the environs of the proposed development or the proposed gas pipeline route.

15.3.4 Site Inspection

The location of the proposed development, including the proposed gas pipeline route, was inspected by the specialist in January 2026. The recorded archaeological sites and designated architectural heritage structures within the study areas detailed in Section 15.3.1 are located within third party lands and were, therefore, visually appraised from the nearest section of public roads in order to assess potential effects on their settings. This appraisal was augmented by information collated during the desktop study, including reviews of historic maps and aerial/satellite imagery of constraints not visible from the public realm as well as reviews of published inventory descriptions. The inspected areas were assessed in terms of historic landscape, existing land use, condition appraisals of known constraints and an appraisal of the potential for the presence of currently unrecorded cultural heritage constraints, e.g. sub-surface archaeological features. The results of the site inspection are described in Section 15.4 of this chapter which contains extracts from the photographic record (Table 15-6).

⁶ www.duchas.ie



15.4 Baseline Environment

15.4.1 Legal and Planning Frameworks

The National Monuments Service (NMS) and the National Built Heritage Service (NBHS), which are both 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 resources. The management and protection of the Irish cultural heritage resource is achieved through a framework of international conventions, national laws, guidelines and planning policies. This framework includes legislation 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 both 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 legal and planning framework 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 (as amended)
- Planning and Development Act 2000 (as amended)
- Carlow County Development Plan 2022-2028 (Carlow County Council, 2022)

The Historic and Archaeological Heritage and Miscellaneous Provisions Act 2023 was signed into law in October 2023. While the Act is now law, its provisions will not enter into force until the Minister has made one or more "Commencement Orders" and Section 7 of the Act (which provides for the repeal of the National Monuments Acts 1930 (as amended) and related legislation) has currently not entered into force. Accordingly, the National Monuments Acts 1930 (as amended) remain fully in force. The Act contains transitional provisions which will, if necessary, enable certain aspects of the existing National Monuments Acts 1930 (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 as established under the National Monuments Acts 1930 (as amended), to continue to have effect pending the establishment of a new Register of Monuments.

The National Monuments Acts 1930 (as amended), therefore, currently remains the primary means of ensuring the satisfactory protection of the archaeological resource. There are a number of mechanisms under this legislation that are applied to secure the protection of archaeological monuments. These include the designation of National Monument status to examples considered to be of national significance as well as listing monuments in the Register of Historic Monuments (RHM), the Record of Monuments and Places (RMP) and the Sites and Monuments Record (SMR). In addition, Preservation Orders and Temporary Preservation Orders may also be assigned to archaeological sites that are deemed to be in danger of damage or destruction.

Section 2 of the National Monument Act 1930 describes a National Monument 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'. The prior written consent of the Minister of Housing, Local Government and Heritage is required for works at or in proximity to a National Monument in the ownership or guardianship of the Minister or a Local Authority as well as archaeological sites which are subject to a Preservation Order under the National Monuments Act 1930 (as amended).



The Record of Monuments and Places (RMP) comprises county-based lists and maps of archaeological monuments and places for each county in the State. It was established under Section 12(1) of the National Monuments (Amendment) Act 1994 and was based on the earlier Register of Historic Monuments (RHM) and Sites and Monuments Record (SMR). All archaeological sites listed in the RMP receive statutory protection under the National Monuments (Amendment) Act, 1994. Any person (including a landowner) proposing to carry out, or to cause or to permit the carrying out of, any work at or in relation to a recorded monument must give notice in writing to the Minister of Housing, Local Government and Heritage two months before commencing that work. The SMR comprises a record of all known archaeological sites within the State and is subject to ongoing updates to include archaeological sites identified since the publication of the RMP. The current SMR dataset is published on the Historic Environment Viewer (HEV) which is an online mapping service maintain the NMS. The online HEV and RMP maps include 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 the environs of recorded sites.

Section 2(1) of the Heritage Act 1995 (as amended), defines architectural heritage as including:

“All structures, buildings, traditional and designed, and groups of buildings including streetscapes and urban vistas, which are of historical, archaeological, artistic, engineering, scientific, social or technical interest, together with their setting, attendant grounds, fixtures, fittings and contents, and, without prejudice to the generality of the foregoing, includes railways and related buildings and structures and any place comprising the remains or traces of any such railway, building or structure”.

The Planning and Development Act 2000 (as amended) requires Planning Authorities to keep a ‘Record of Protected Structures’ (RPS) which list buildings and other structures considered to be of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest. The RPS is listed in Local Authority development plans and planning permission is required for any works to such structures that would affect their character. This Act also provides for the inclusion of objectives for preserving the character of places, areas, groups of structures or townscapes of special interest which are designated as Architectural Conservation Areas (ACAs). In addition, the National Inventory of Architectural Heritage (NIAH), including the NIAH Historic Gardens and Designed Landscapes, comprises a non-statutory record of built heritage structures and associated lands within the State. While inclusion in the NIAH does not provide statutory protection, the inventory is intended to advise Local Authorities on the compilation of their Records of Protected Structures.

The Carlow County Development Plan 2022-2028 (Carlow County Council, 2022) includes the following relevant policies in relation to the protection of the cultural heritage resource within the county:

- AH. P1: Secure the preservation (either in situ or by record) of all archaeological monuments included in the Record of Monuments and Places (RMP) and their settings, and of all sites and features of significant archaeological or historical interest, including potential and previously unknown sites or features, in consultation with the National Monuments Service in the Department of Housing, Local Government and Heritage.
- AH. P2: Protect and conserve underwater archaeological heritage in the inland waters of the County, including potential and previously unknown sites or features, in consultation with the National Monuments Service in the Department of Housing, Local Government and Heritage.
- AH. P3: Protect, conserve and enhance the archaeological heritage of the County, and to manage development in a manner that avoids adverse impacts on sites, monuments, features or objects of significant archaeological or historical interest, including areas and sites of archaeological potential. There will be a presumption in favour of the ‘preservation in situ’ of archaeological heritage in accordance with the ‘Framework and Principles for the Protection of Archaeological Heritage (DAGHI 1999) or any superseding national policy document.



- AH. P4: Ensure that any development proposal that may, by reason of location, scale, nature, layout or design, have potential implications for archaeological heritage (including areas and sites of archaeological potential), shall be subject to an archaeological assessment. The archaeological assessment will seek to ensure that the development proposal can be sited and designed to avoid impacting on archaeological heritage. Any archaeological excavation shall be carried out in accordance with best practice outlined by the NMS, the National Museum of Ireland and the Institute of Archaeologists of Ireland. In all such cases the Planning Authority shall consult with the National Monuments Service in the Department of Housing, Local Government and Heritage.
- AH. P5: Have regard to the Record of Monuments (RMP) and Places, the Urban Archaeology Survey and archaeological sites identified subsequent to the publication of the RMP when assessing planning applications for development. No development shall be permitted in the vicinity of a recorded feature, where it detracts from the setting of the feature or which is injurious to its cultural or educational value.
- AH. P6: Protect the Zones of Archaeological Potential (Zones of Archaeological Notification) located within both urban and rural areas as identified in the Record of Monuments and Places (RMP).
- PS. P1: Ensure the protection of the architectural heritage of County Carlow, through the identification of Protected Structures, the designation of Architectural Conservation Areas, and the recognition of structures and features in the County that make a positive contribution to vernacular and industrial heritage.
- PS. P2: Ensure the protection and conservation of the character, setting and special interest of all buildings, structures (or parts of structures) and sites, listed in the Record of Protected Structures, including their curtilage, attendant grounds, and fixtures and fittings.
- PS. P3: Ensure that all development proposals that affect a protected structure or a proposed protected structure, including proposals for modifications, alterations, refurbishment or extensions, are sympathetic to and protect, conserve and retain the character, setting and special interest of the protected structure or proposed protected structure, in accordance with the 'Architectural Heritage Protection: Guidelines for Planning Authorities' (Department of Arts, Heritage and the Gaeltacht, 2011).
- PS. P4: Require development proposals involving protected structures or proposed protected structures, to be subject to an Architectural Heritage Impact Assessment as described in Appendix B of Department of Arts, Heritage and the Gaeltacht 'Architectural Heritage Protection: Guidelines for Planning Authorities' (2011).
- PS. P5: Support and promote the use of expert conservation advice, best conservation practice, and the use of appropriately skilled and experienced contractors and specialists, for any works to protected structures, in accordance with the Department of Arts, Heritage and the Gaeltacht 'Architectural Heritage Protection: Guidelines for Planning Authorities' (2011) and their 'Advice Series' on how best to repair and maintain historic buildings.
- PS. P6: Require that development proposals do not obscure views of the principal elevations of protected structures.
- PS. P7: Prevent inappropriate alterations to protected structures, and to prohibit the demolition of any protected structure unless the Council is satisfied that exceptional circumstances exist. The demolition of a protected structure with the retention of its façade will likewise not generally be permitted.
- PS.P 8: Promote the sympathetic maintenance, adaptation and appropriate use and reuse of protected structures, and to actively encourage uses that are compatible with the character of protected structures.



- PS. P12: Ensure that in the event of a planning permission being granted for development within the curtilage of a protected structure, the proposed works to the protected structure should occur, where appropriate, in the first phase of the development to prevent endangerment, abandonment and dereliction of the structure.
- CH. P1: Encourage the protection, conservation, promotion and enhancement of Country Houses, Demesnes and Gardens in the County and support public awareness, enjoyment of and access to these sites where appropriate and in cooperation with owners and other interested parties, including Government Departments and state agencies.
- CH. P2: Preserve and protect, where appropriate, historic gardens and designed landscapes identified in the National Inventory of Architectural Heritage.
- CH. P3: Discourage development that would lead to a loss of, or cause damage to, the character, the principal components of, or the setting of Country Houses, Demesnes and Gardens.
- TH. P1: Protect and conserve buildings, structures and features of industrial and transport heritage, such as historic mills, mill races, weirs, warehouses, bridges, canals and lock gates, railway structures, etc., and to promote their retention, sensitive maintenance, repair, and restoration.
- ITH. P2: Encourage appropriate change of use and reuse of industrial heritage buildings, provided such a change does not seriously impact on the intrinsic heritage character of the buildings and that all works are carried out in accordance with best conservation practice.
- ITH. P3: Seek the retention and appropriate maintenance and repair of the historic bridges of the County, whether protected or not.
- VA. P2: Protect and conserve vernacular architecture through the use of the RPS, ACAs, and in the normal course of development management, which contributes to the character of areas and/or where it consists of rare or special interest examples of a building or structure type.

15.4.2 Desktop Study

The following section present summary details of the main periods within the Irish archaeological record with references to known archaeological sites, designated architectural heritage structures (RPS and NIAH) and identified undesignated cultural heritage assets located within the study areas around the site (Section 15.4.2.1) and gas pipeline route (Section 15.4.2.2). The dating framework used for each of the archaeological periods is based on the Guidelines for Authors of Reports on Archaeological Excavations (National Monuments Service, 2006). Datasets have been interrogated and retrieved from current State and Local Authority sources and are considered accurate at the time of writing in February 2026.

15.4.2.1 *The Site*

Recorded Archaeological Sites

The RMP/SMR do not list any recorded archaeological sites within the boundary of the site or its immediate environs. There are 13 no. recorded sites located within the surrounding 1km study area and these are detailed in Table 15-3, which includes their Archaeological Survey of Ireland (ASI) inventory descriptions, and are mapped on Figure 15-1. Of these sites, five are located within undeveloped greenfield lands, three have been classified as 'redundant records' by the ASI and five were excavated during archaeological investigations carried out in advance of the construction of the N9/N10 Kilcullen-Waterford Road scheme in the north end of the study area. None of these sites are located within 200m of the site and the ASI inventory entries indicate that only once example (ring barrow CW012-043----) retains a visible surface expression. The ASI inventory entries for a number of the archaeological sites excavated as part of the road scheme do not provide information on their dates and the potential exists that they may date from prehistory onward.



None of the recorded archaeological sites within the 1km study area are designated as National Monuments in State Care or are subject to Preservation Orders.



Table 15-3: Archaeological Sites within 1km of the Site

Monument no.	Monument Type	Townland	ASI Description	Distance from site
CW012-023----	Moated site	POWERSTOWN	Shown on 1938-39 'OS 6-inch' map as rectangular area enclosed by bank (max. dims. c. 60m NNW-SSE, 50m ENE-WSW). Situated in small ill-drained hollow. Field drain may follow line of W fosse. No other indications. Probably a moated site.	700m
CW012-043----	Barrow - ring-barrow	RATHORNAN	Large well preserved monument, consisting of circular area (diam. 19m) enclosed by wide fosse (Wth 10m; D 1.5m). Interior is domed but does not rise above surrounding ground level. Field boundary skirts monument from SE-SW-NW, but no definite evidence of external bank.	870m
CW012-089----	Fulacht fia	CLOGHRISTICK	Two areas of burnt stone beside stream noted after ploughing	275m
CW012-094----	Ring-ditch	CLOGHRISTICK	Aerial photograph (GB89.S.02) shows cropmark of a single ring-ditch.	370m
CW012-119----	Burial	CLOGHRISTICK	Excavated in advance of construction of the N9/N10 Kilcullen-Waterford Road (Excavation Licence number E2603). At the base of a steep SW facing slope, a supine inhumation of an adult male aged 25-35 was uncovered.	400m
CW012-120----	Excavation – misc.	CLOGHRISTICK	Excavated in advance of construction of the N9/N10 Kilcullen-Waterford Road (Excavation Licence number A021/045 (testing phase)). To the N of a single burial (CW012-119----), 'a possible post-hole and sub-rectangular pit were recorded. The pit contained evidence for burning in situ. Two narrow gullies or ditches were also identified, one of which contained burnt-mound-type material and small particles of burnt bone in its fill'	415m
CW012-121----	Redundant record	CLOGHRISTICK	No description	500m
CW012-122----	Metalworking site	CLOGHRISTICK	Excavated in advance of construction of the N9/N10 Kilcullen-Waterford Road (Excavation Licence number E2605). Six shallow circular burnt pits, two of which contained iron slag, were uncovered.	650m



Monument no.	Monument Type	Townland	ASI Description	Distance from site
			'The shallow nature of the pits suggests that the area was not the primary site of manufacture but a further stage in the manufacturing of iron artefacts'.	
CW012-128----	Excavation – misc.	POWERSTOWN	Excavated in advance of construction of the N9/N10 Kilcullen-Waterford Road (Excavation Licence number E2601). A number of post-medieval features were recorded.	200m
CW012-129----	Redundant record	CLOGHRISTICK	No description	290m
CW012-132----	Water mill - unclassified	CLOGHRISTICK	Partially excavated in advance of construction of the N9/N10 Kilcullen-Waterford Road (Excavation Licence number E2606). 'A mill-race consisting of a 5.2m-wide channel, running east-west with a maximum depth of 1.5m, was excavated. The channel had been in filled in modern times with felled trees, agricultural and domestic waste and other debris. The channel was heavily waterlogged and was considered unsafe to excavate by hand. Information was recorded on the dimensions and shape of the channel, and the feature was backfilled for health and safety reasons'.	825m
CW012-134----	Redundant record	CLOGHRISTICK	No description	560m
CW012-204----	Ring-ditch	RATHORNAN	OSI orthophoto (1995) shows cropmark of a ring-ditch.	810m

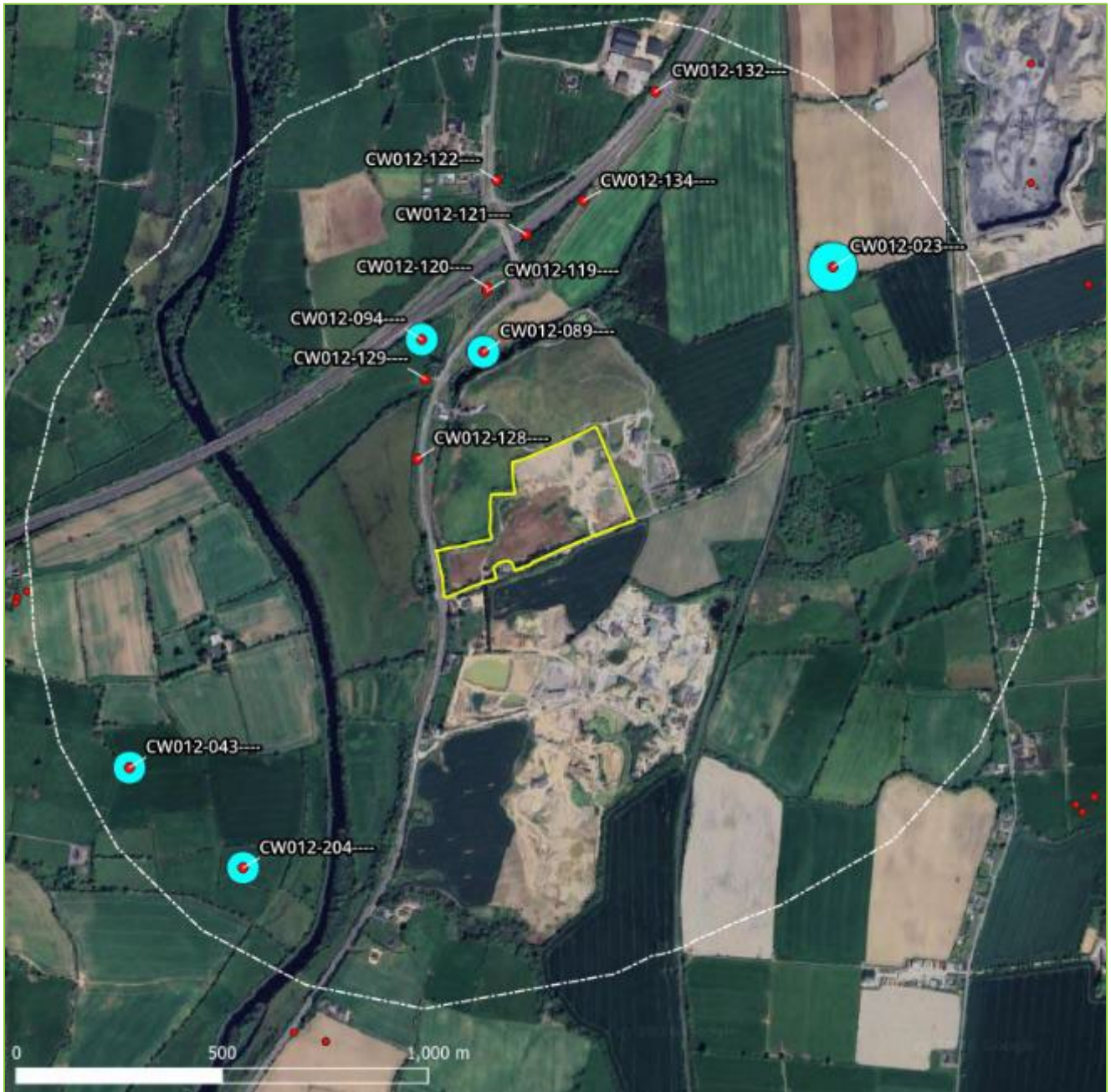


Figure 15-1: Recorded Archaeological Sites within 1km study area around site (yellow) with Zones of Notification surrounding unexcavated sites indicated in cyan



Prehistoric Periods

Until the recent identification of potential Palaeolithic human butchery marks on faunal remains recovered from cave locations, 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 shores locations which provided a transport resource and also provided elements of their varied diet. They 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, which resulted in more permanent settlement patterns. As a consequence of the more settled nature of agrarian life, new site-types, such as megalithic tombs, substantial rectangular timber houses and field systems, begin to appear in the archaeological record during this period. Metalworking arrived in Ireland with the advent of the Bronze Age period (c. 2400–500 BC). This new technology introduced a new artefactual assemblage into the Irish archaeological record, and the period was also associated with the construction of new monument types such as standing stones, stone rows, stone circles, and fulachta fia. The development of new burial practices meant that the construction of funerary monuments such as wedge tombs, cairns, barrows, boulder burials and cists was a common practice during this period. The arrival of iron-working technology in Ireland saw the advent of the Iron Age (600 BC – 400 AD). Relatively little was known about Iron Age settlement and ritual activity until recent decades when the corpus of evidence has been greatly increased by the discovery of sites dating to this period during archaeological investigations carried out as part of development projects. It is noted that while the vast majority of all prehistoric settlement sites leave no above ground remains their foundations and occupation deposits, which may contain artefactual and environmental remains, can often survive below modern ground surfaces.

The study area contains four recorded prehistoric sites of Bronze/Iron Age date, and these comprise a ring barrow (CW012-043----), a fulacht fia (CW012-089---) and two ring ditches (CW012-094---- and CW012-204----). Ring barrows are associated with burial and ritual traditions and comprise low circular mounds enclosed by one or more ditches with outer banks. While some excavated examples have produced evidence for burials other examples have not and the encircling ditches and banks may simply have served to demarcate an area of now unknown special importance perhaps as empty tombs built as memorial cenotaphs (Waddell 1998 and Daly & Grogan 1993). Ring-ditches comprise a circular or near circular ditch, usually less than 20m in diameter, which are often identified as cropmarks or soil marks on aerial photographs. While the date and function of ring ditches cannot be confirmed without recourse to archaeological excavation, they form the remains of ploughed out barrows which form part of the Bronze/Iron Age burial tradition (c. 2400 BC - AD 400). Fulacht fia comprise spreads of burnt stones within charcoal-rich deposits and are generally interpreted as the remains of cooking sites. They functioned by placing fire-heated stones into a water-filled trough to raise the water to boiling point and the mounds gradually built up from material cleaned out from the trough after each use. They are one of the most numerous sites in the Irish archaeological record and are typically located near or adjacent to natural water sources. As detailed in the below review of the Database of Irish Excavation Reports, archaeological monitoring of topsoil stripping during the extension of the east end of the quarry in 2016 also revealed the presence of pits and a ditch containing Bronze Age pottery which were preserved by record.



Medieval and Post-Medieval Periods

The Irish early medieval period (c.400–1169 AD) 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 site type 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. Archaeological excavations have demonstrated that the majority comprised enclosed farmsteads containing the foundations of domestic and agricultural buildings. The early medieval church sites were often morphologically similar to ringforts but are often differentiated by the presence of features such as church buildings, holy wells, graves, stone crosses and shrines. Based on reviews of ASI inventory entries, there are no sites within the study area that have been definitively dated to the early medieval period.

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 centuries following 1550 AD 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. 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 with associated outbuildings while two-storey farmhouses became more common during the 19th century. The late 18th and early 19th centuries saw extensive land improvement works throughout much of the Irish landscape including widespread land drainage works and the enclosure of open lands into field systems that survive to the present-day. The cultivation of potatoes became widespread during this period and its failure in the 19th century resulted in the Famine period which saw the depopulation of many rural areas. The period after the Famine saw an increasing move away from small-scale subsistence farming towards more market-led pasture, assisted by the development of the Co-Op system, which also increased the extent of land reclamation of previously marginal lands. There are no recorded high, late or post-medieval archaeological sites located within the 1km study area. Further details on the layout of the lands within the Site during the 19th century are provided in the below review of historic cartographic sources.

There is one recorded late medieval site located within the 1km study area, and this comprises a levelled moated site (CW012-023---). These sites typically comprise square or rectangular enclosures delimited by a ditch and may also contain an outer bank and a causewayed entrance. Moated sites were the residences of Anglo-Norman settlers and date to the late 13th/early 14th centuries. The study area also contains the recorded location of a number of post-medieval features (CW012-128---) and a millrace (CW012-132----) which were excavated in advance of the construction of the N9/N10 Kilcullen-Waterford Road scheme. The SMR also records the potential presence of a castle site (CW012-104---) within Powerstown townland, which contains the location of the site, but notes that the location of this archaeological site is unknown.



The Topographical Dictionary of Ireland (Lewis, 1837) provides descriptions of Irish parishes prior to the Famine period and often provides information on contemporary land use patterns, historical events and the locations of archaeological sites and other built structures of note. The site is located in Powerstown townland within the civil parish of Clonmelsh and the dictionary contains one reference to this townland which relates to the presence of a schoolhouse. A review of 19th century Ordnance Survey (OS) mapping revealed that no structures, including a potential schoolhouse, are depicted within the site. Further details on the layout of the site during the post-medieval and modern periods are provided in the cartographic review detailed below.

Database of Irish Excavation Reports

The Database contains three entries providing brief descriptions of three phases of archaeological monitoring of ground works associated with the creation of the existing sand and gravel quarry within the site. This includes an entry dated to 2016⁷ which refers to the identification of pits and a ditch that contained Bronze Age pottery. These recorded features have not been included in the SMR and ground levels within the locations monitored in 2016 were quarried down into natural subsoil following archaeological recording.

Designated Architectural Heritage Structures

There are no protected structures of NIAH listed structures/gardens located within the site or the surrounding 1km study area.

Undesignated Features and Intangible Associations

While encompassing the archaeological and architectural heritage resources, cultural heritage also includes various undesignated assets such as settlements, demesne features, vernacular structures, townland boundaries, folklore, placenames and historical events. As detailed in the below cartographic review, there are no structures, demesne lands or other settlement activity shown within the site on historic maps of the area. In addition, there are no townland boundaries or other notable land divisions located within its boundary.

Townlands are the smallest unit of land division in the Irish landscape and many preserve early Gaelic territorial boundaries that pre-date the Anglo-Norman conquest. The layout and nomenclature of Irish townlands was recorded and standardised by the work of the Ordnance Survey in the 19th century. The Irish translations of the townlands names often refer to natural topographical features, but name elements may also give an indication of the presence of past human activity within the townland, e.g., dun, lios or rath indicate the presence of a ringfort while temple, saggart, termon or kill record an association with a church site. The Irish name of Powerstown townland, which contains the site, is *Baile an Phaoraigh* and its name is a direct translation. In addition, the site is not located within a Gaeltacht area.

A review of the online database of the Irish National Folklore Collection revealed that it does not contain any entries describing local traditions or folklore associated with this townland. There are also no notable heritage centres, museums, galleries or other cultural heritage centres located within the environs of the proposed development and the proposed gas pipeline route.

⁷ <https://excavations.ie/report/2016/Carlow/0026486/>



Cartographic and Aerial/Satellite Imagery Review

The site is depicted as enclosed agricultural fields on the 1st edition 6-inch OS map (published 1840) and the 25-inch OS map (published 1907) and these maps do not show any potential unrecorded archaeological sites, or demesne lands within its boundary (Figures 15-2 and 15-3). The first edition 6-inch map does show two small roadside structures adjacent to the southern boundary of the site and a small circular feature, potentially a well, within a field in the western half of the site. The locations of these features have been quarried, and they no longer remain within the site. The detail on modern aerial/satellite imagery shows the location of the site prior to the commencement of quarrying works as an area of vacant green fields in c.2000 and then traces the eastward expansion of the quarry in the following decades (Figure 15-4). This imagery clearly demonstrates that the ground within the entire site was reduced down into natural subsoil material during the quarrying operation, with area of restored ground established in the western end following quarrying in that area. As detailed in the below review of the Database of Irish Excavation Reports, archaeological monitoring of the quarrying works within the site was carried out on a phased basis and this revealed the presence of a number of archaeological features which were archaeologically recorded. Given the prior programme of archaeological monitoring and recording combined with the subsequent quarrying works, it is concluded that there is no potential for the presence of unrecorded archaeological sites within the site.



Figure 15-2: Extract from 1st edition 6-inch OS map (1840) showing site location (cyan line)



Figure 15-4: Aerial/Satellite Imagery of Site

15.4.2.2 Proposed Gas Pipeline Route

Recorded Archaeological Sites

There are eight recorded archaeological sites located within 100m of the proposed gas pipeline route (Figure 15-5). These include three ring ditches (CW012-177---, CW012-178--- and CW012-179---) in Tomard Upper townland of likely Bronze/Iron Age date, which were identified by the ASI as cropmarks on an aerial photograph, and these are located within a field to the east of a road that the route follows. An extant early medieval ringfort (CW012-001---) in Ballinabranagh townland is also located within a field to the east of the route. The present location of a high cross fragment (CW012-044002-) in Orchard (Irone) townland has been reset within a section of a field close to the roadside that the route follows and this is likely associated with the recorded site of a church (CW012-044004-) located within an area of the same field at a distance of c.80m to the east of the road. The SMR also lists an unlocated well (CW012-044003-) within the environs of these sites which is recorded to have been covered by road widening. The section of the road that the route follows in Ballinabranagh townland also extends within the potential extent of a large enclosure (CW012-213---) identified by the ASI on satellite imagery. None of these sites have been designated as National Monuments in State Care or are subject to Preservation Orders. Further details on their current settings are provided in Table 15-4 and in Section 15.4.3 (Site Inspections).



Table 15-4: Archaeological Sites Within 100m of the Proposed Gas Pipeline Route

Monument no.	Monument Type	Townland	ASI Description	Distance from route
CW012-001----	Ringfort - rath	BALLINABRANAGH	Circular area (diam. c. 40m) with earthen bank, best preserved at NW, and traces of external fosse. Entrance not identified. Bank levelled from N-E.	60m
CW012-044001- CW012-044002- (present location)	Cross - High cross	ORCHARD (Idrone East By.)	Portion of shaft, head and base of granite cross. Slightly protruding arms and small wheel, both outlined with low moulding. Boss on one side of the pyramidal base. Formerly in field known as 'The Church Field' (JRSAI 1907, 218, 236), now standing by roadside (see CW012-044002- for present location). Well (CW012-044003-), reputed to be holy, existed in same field but has been covered by road widening.	Original Location c.80m Present Location c.3m
CW012-044003-	Holy Well	ORCHARD (Idrone East By.)	Well, reputed to be holy, existed in same field as high cross (CW012-044001-) but has been covered by road widening.	Unknown, potentially adjacent
CW012-044004-	Church	ORCHARD (Idrone East By.)	High Cross (CW012-044001-) formerly stood in field known as 'The Church Field' (JRSAI 1907, 218, 236)	80m
CW012-177----	Ring-ditch	TOMARD UPPER	Aerial photograph (GB91.DZ.38) shows cropmark of a ring-ditch; one of three ring-ditches located in close proximity (see also CW012-178---- and CW012-179----).	85m
CW012-178----	Ring-ditch	TOMARD UPPER	Aerial photograph (GB91.DZ.38) shows cropmark of a ring-ditch; one of three ring-ditches located in close proximity (see also CW012-177---- and CW012-179----).	60m
CW012-179----	Ring-ditch	TOMARD UPPER	Aerial photograph (GB91.DZ.38) shows cropmark of a ring-ditch; one of three ring-ditches located in close proximity (see also CW012-178---- and CW012-179----).	60m



Monument no.	Monument Type	Townland	ASI Description	Distance from route
CW012-213----	Enclosure - large enclosure	BALLINABRANAGH	In tillage. A large semi-circular enclosure (dims. c. 200m NE-SW; c. 117m NW-SE) identified as a cropmark on Google Earth Pro imagery (imagery date 14 July 2018) by Jean-Charles Caillère. The enclosure appears to run up to the River Barrow, though the cropmark is not visible to the N and S where there is a road running N-S through the E portion of the monument and there are trees growing between the road and the river. The monument is defined by a curving cropmark of a fosse (Wth c. 4-5) with a slighter concentric inner fosse (gap of c. 20m) and a well-defined roughly concentric outer fosse (gap of c. 20m), though the latter is not as wide as the middle fosse.	Within

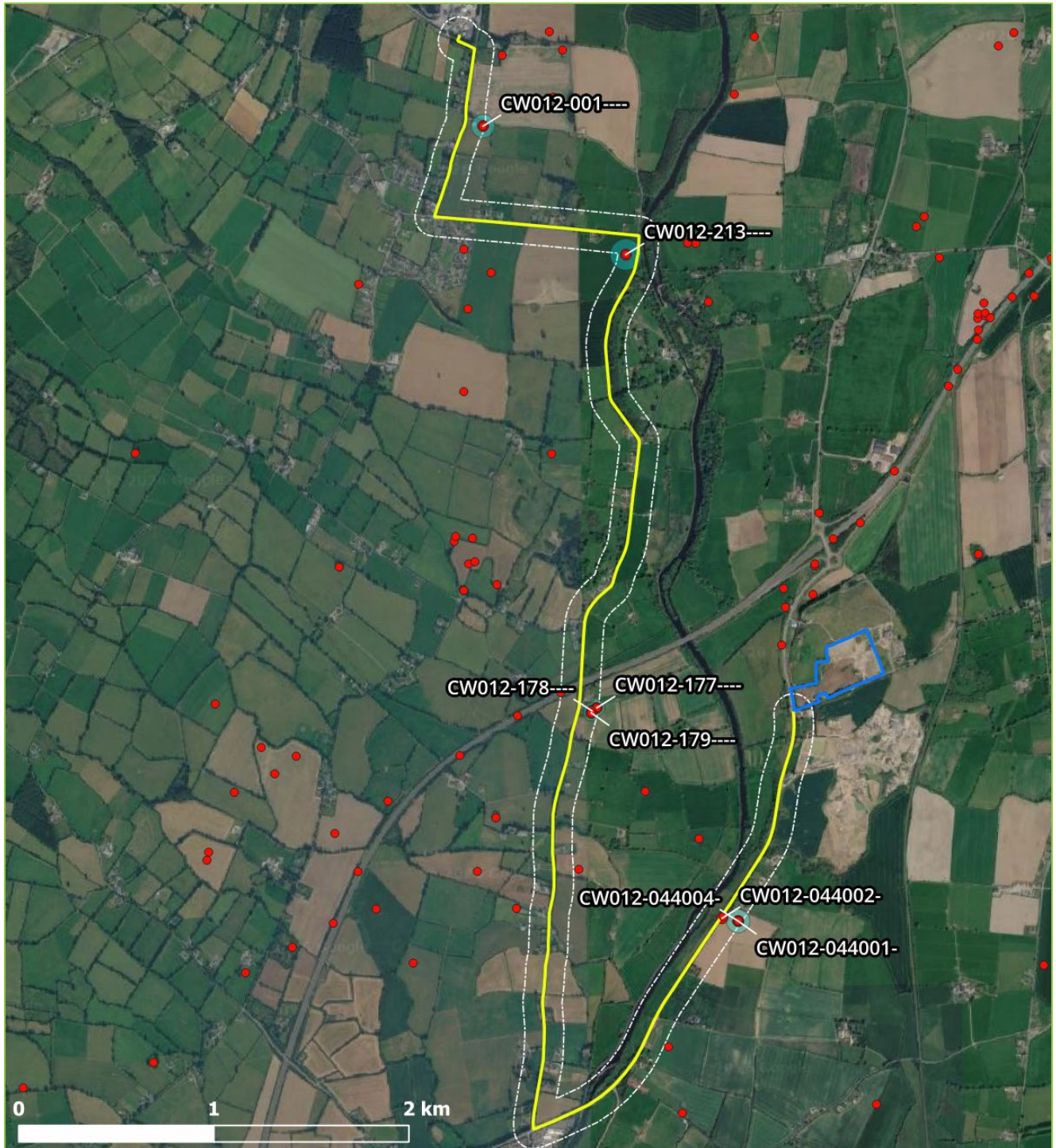


Figure 15-5: Recorded Archaeological Sites Within 100m of Proposed Gas Pipeline Route



Database of Irish Excavation Reports

A review of the database revealed that it includes an entry for the excavation of test trenches in 2016 within a section of the study area in the townland of Rathoran⁸. The co-ordinates in the database entry place this site investigation at the location of a detached modern house located adjacent to the east side of the road that the proposed gas pipeline route follows. Nothing of archaeological significance was identified in any of the excavated test trenches. The database also contains an entry describing the results of an archaeological assessment of a residential development in Ballinabranagh townland which notes that nothing of archaeological significance was identified⁹.

Designated Architectural Structures

The current Record of Protected Structures published in the Carlow County Development Plan 2022-2028 lists six structures within 100m of the proposed gas pipeline route and three of these comprise buildings located within properties adjacent to the section of the route in Ballinabranagh townland. Details on these structures are provided in Table 15-5, and they are mapped on Figure 15-6. One of the protected structures within the study area comprises a gateway to the Milford House property (CW134). The house is also listed as a protected structure (CW131) but is located c.160m to the east of the route and is, therefore, outside the 100m study area. The section of the roadway that the route follows in this area is located outside the historic demesne of the house and is flanked by tall hedgerows which screen views from within the property. In addition, it is noted that the roadside remains of Clogrennane Lime Works (CW446) are within the environs of the northern end of the route but are also located outside the 100m study area.

There are no listed bridges within the roadways that the route follows and there are no Architectural Conservation Areas within the study area.

⁸ <https://excavations.ie/report/2016/Carlow/0025680/>

⁹ <https://excavations.ie/report/2022/Carlow/0032941/>



Table 15-5: Designated Architectural Heritage Structures Within 100km of the Proposed Gas Pipeline Route

Protected Structure ref.	NIAH ref.	Name/Type	Description (source: Carlow County Development Plan 2022-28).	Distance from route
CW467	10301244	Lock No 8 (Rathvinden Lock), Barrow Navigation, Leighlinbridge	A functioning lock of large blocks of limestone and timber lock gates. The lock dates from circa 1790 rebuilt circa 1990. Beside the lock is a lock keeper's cottage which is now derelict (Rating: Regional)	40m
CW102	n/a	Ballinabranagh School	A fragment of the front wall of the old school. This fragment is now part of the boundary wall of the churchyard and includes the square-headed doorcase of the school. The wall is preserved because the school was attended by Tyndall, the scientist top (Rating: Regional)	Adjacent
CW002	10301202	St. Fintan's Church, Ballinabranagh	A very fine example of a single-cell, barn church of three bays. The church dates from circa 1825 and was renovated circa 1980. It has rough-cast walls with a granite, round-headed door case with a pulvinated moulding at the West end and a square-headed door case on the North side. Over the West door is a round-headed window and a granite roundel. The round-headed windows have unsuitable uPVC glazing. The roof is covered with natural slates, the corners have pillar-like pinnacles supporting balls and there are crosses at either end. The entrance gates are contemporary with the church and have cylindrical, granite piers with balls on top (Rating: Regional)	Adjacent
CW101	10301201	Ballinabranagh House (farmhouse)	Detached five-bay two-storey farmhouse, built 1910, with gabled central breakfront having door opening with bracketed timber door case and single storey wing incorporating fabric of earlier house, c.1850. Stable complex to side top (Rating: Regional)	Adjacent
CW134	n/a	Milford House gateway	The entrance gates consist of cylindrical, granite piers, cast-iron gates, low walls with iron railings terminating in rectangular-plan piers (Rating: Regional)	Adjacent



Protected Structure ref.	NIAH ref.	Name/Type	Description (source: Carlow County Development Plan 2022-28).	Distance from route
CW103	n/a	Dwelling house	An early-19 th century, three-bay, two-storey, gable-ended house built of coursed-rubble stone rendered, with granite coigns, a round-headed doorcase with architraved dressings, sash windows with six panes in each sash. The roof has end stacks and natural slates. The house was formally a constabulary barracks (Rating: Regional)	Adjacent

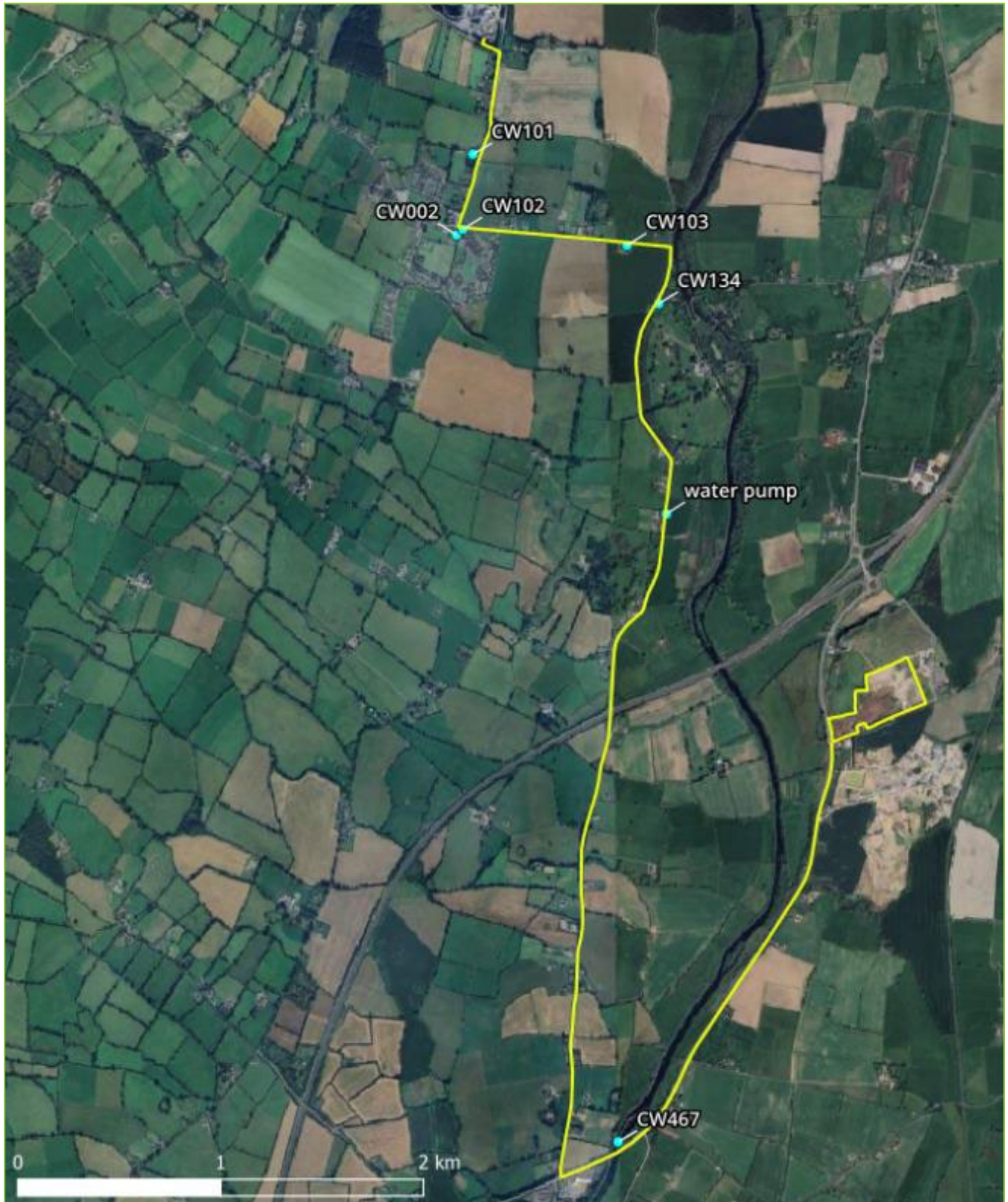


Figure 15-6: Protected Structures Within 100m of the Proposed Gas Pipeline Route (Location of undesignated water pump feature also indicated)



Undesignated Features and Intangible Associations

The gas pipeline route extends through the townlands listed below, and translations of the townland names with Irish origins have been sourced from the Placenames Database of Ireland:

- Powerstown (*Baile an Phaoraigh*, Powerstown).
- Orchard (no Irish origin).
- Ballynaboley (*Baile na Buaille*, townland of the cattle-fold)
- Rathvinden (*Rath Bhindon*, Bindon's ringfort)
- Glebe (*An Ghléib* – refers to land belonging or yielding revenue to a parish church)
- Rathornan (*Ráth Thornáin* or *Chárnain*, ringfort of the cairn or heap)
- Tomard Upper/Lower (*An Tom*, the high bush)
- Ballygowan (*Baile an Ghabhann*, Smith's town)
- Ballinabranagh (*Baile na mBreatnach*, Breathnach's townland)
- Fonthill (*Chnoc an Fhuaráin*, Fonthill)
- Raheendoran (*Ráithín Uí Dheoráin*, Doran's little ringfort)

A number of these townland names may indicate potential associations with ringfort sites (Rathvinden, Rathornan and Raheendoran) located within these areas. A review of the online database of the Irish National Folklore Collection revealed that it contains one entry for these townlands which describes a story about a person unsuccessfully digging for treasure in a field the Tomard area¹⁰. There are no notable heritage centres, museums, galleries or other cultural heritage centres located within the close environs of the route. As noted in Table 15-7 below, Ballinabranagh townland has a historical association with John Tyndall, a renowned 19th century scientist, who was a student at a school in this townland. A surviving wall fragment of this school has been listed as a protected structure (CW102) and contains a plaque commemorating the school's association with Tyndall (see Tables 15-5 and 15-6).

Cartographic Review

A review of the 1st edition 6-inch OS map (1840) (Figures 15-7 and 15-8) and the 25-inch edition OS map (1907) (Figures 15-9 and 15-10) revealed that the majority of the road network that the route follows was in place by the 1840s. A localised section of road was constructed in the 1980s and this comprised a new section of road and a bridge crossing over the River Barrow in the Leighlinbridge area. The historic OS maps show the settlement pattern along the road network within the study area as typically comprising dispersed small houses with no major settlement centres present. A section of the roadway within Ballygowan townland in the northern section of the route (Figure 15-8 and Figure 15-10) extends outside the west end of demesne lands associated with Milford House (Protected Structure CW131) and does not extend within this historic property.

¹⁰ <https://www.duchas.ie/en/cbes/5044675/5031043?HighlightText=Rathvinden&Route=stories&SearchLanguage=ga>



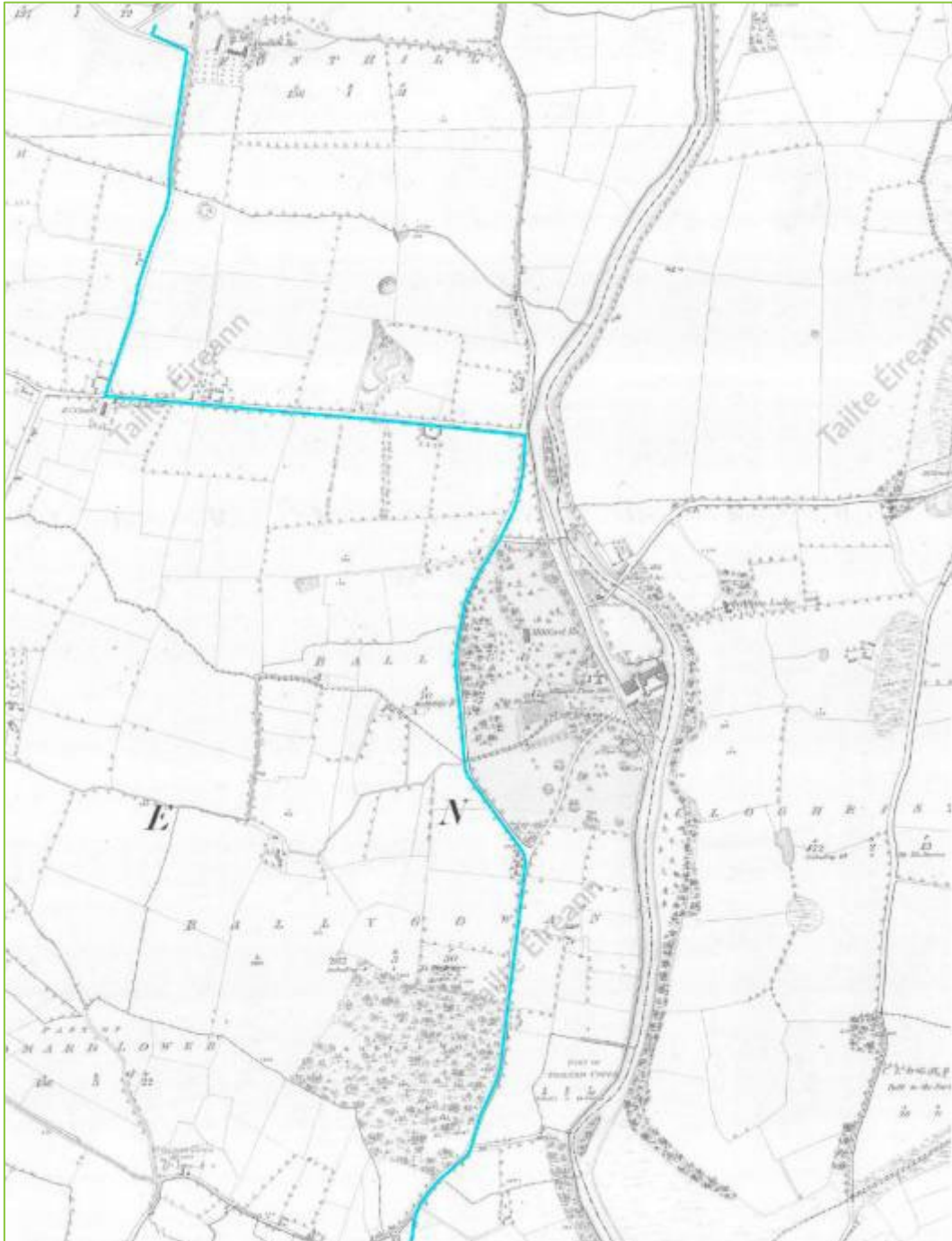


Figure 15-8: Location of north end of route overlain on 1st edition 6-inch OS map (1840)

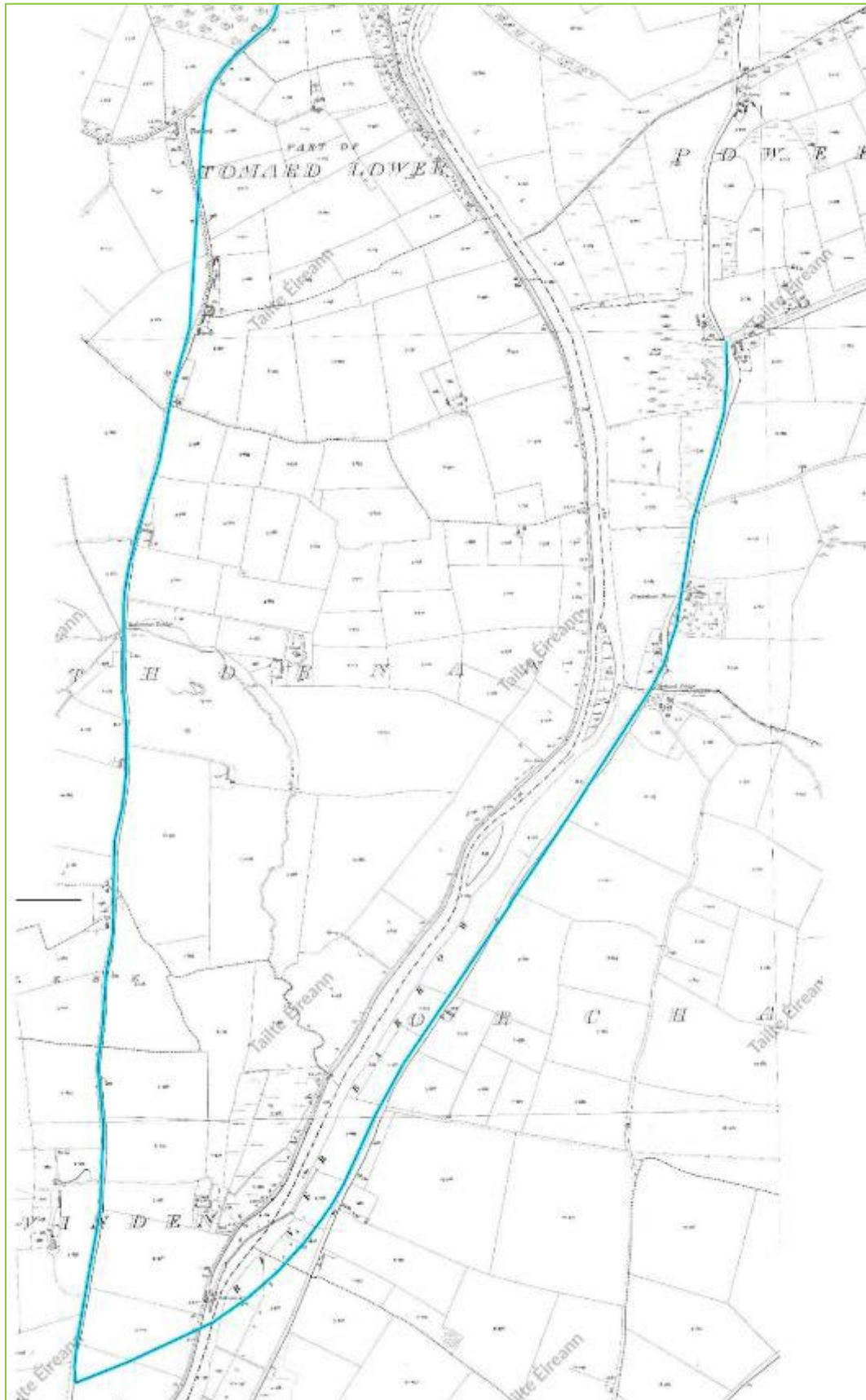


Figure 15-9: Location of south end of route overlain on 25-inch OS map (1907)

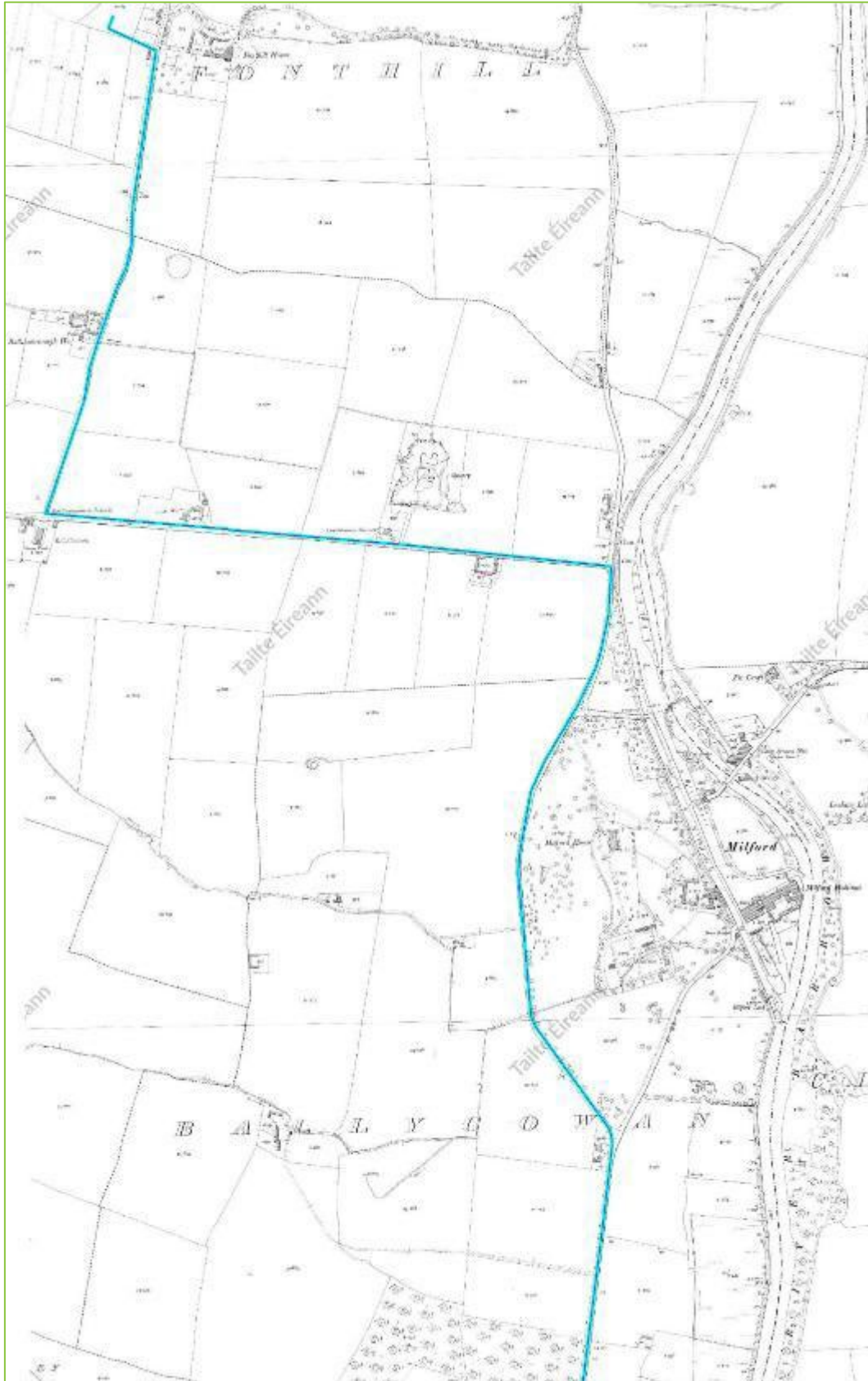


Figure 15-10: Location of north end of route overlain on 25-inch OS map (1907)



15.4.3 Site Inspection

The proposed development was inspected in January 2026, and this entailed a visual inspection of the quarry area within the site and the sections of roadways that the proposed gas pipeline route follows. The archaeological sites and designated architectural structures within the reviewed study areas that are detailed in Section 15.4.2 are located within private third-party lands and were visually appraised from the nearest sections of public roadways.

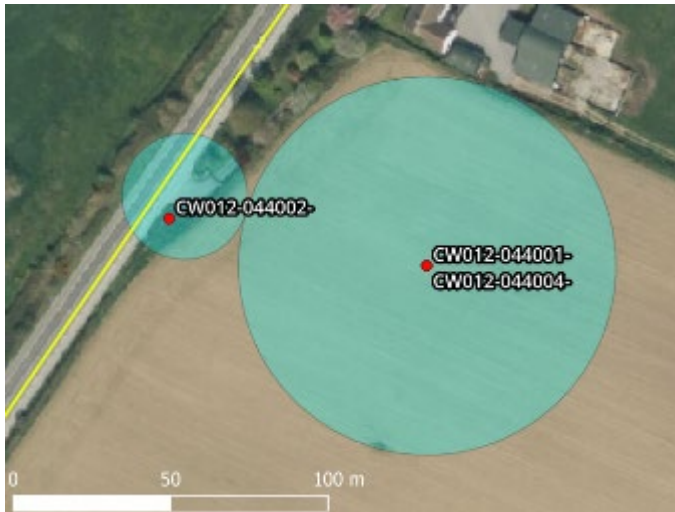
The inspection of the site confirmed that ground levels within its boundary have been significantly reduced down into natural subsoil by the modern quarrying operation, with areas of restored grassland in the west end and is now in use as a soil recovery facility. No areas of undisturbed ground that have the potential to retain unrecorded, sub-surface archaeological remains were noted within the site during the inspection. There is one extant archaeological site with a recorded surface expression located within 1km of the site and this comprises a ring barrow (CW012-043----) within private lands located c.870m to the south west (Figure 15-1). As detailed in Table 15-3, this archaeological site retains a low surface expression, and its location is not visible from the environs of the site.

The results of the inspection of the archaeological sites and designated architectural structures within the environs of the roadways that the gas pipeline route follows are detailed in Table 15-6, and this includes extracts from the photographic record of visible examples as well as figures showing archaeological zones of notification and historic mapping, where relevant. A number of images sourced from Google Map street views have been included for illustrative purposes for roadside locations where no safe on-street parking was available and these are identified in Table 15-6. The table also provides approximate chainage references for constraints that are located adjacent to the public roads along the route and ITM references for constraints within lands set back from the road.

In addition to recorded archaeological and architectural heritage constraints within the study area, an undesignated water pump feature was noted within a concrete surround adjacent to a section of the roadside in Ballygowan townland (@ ITM 669661,669545). This feature is not depicted on historic OS maps, which may indicate that it dates to the 20th century, and its location is shown on Figure 15-6. This water pump forms a feature of local cultural heritage interest and an assessment of effects on its location is provided in Section 15.5.



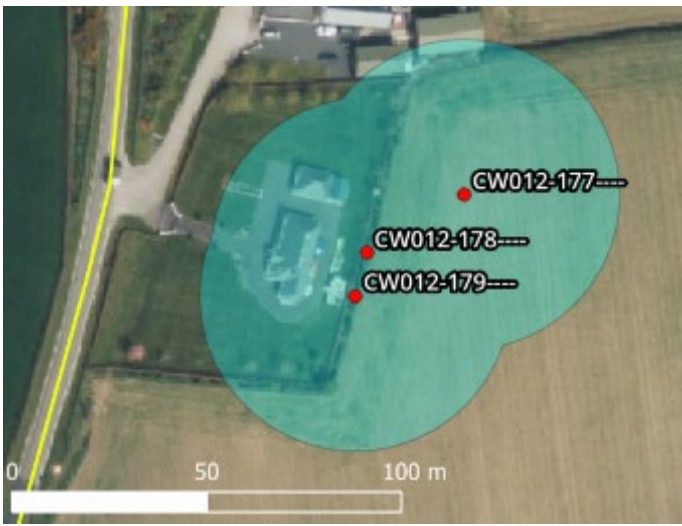
Table 15-6: Site Inspection of Proposed Gas Pipeline Route

Constraint ref.	Type	Notes	Images
RMP/SMR CW012-044001- CW012-044002- (present location)	Cross - High cross	The present location of this high cross fragment remains as described by ASI (see Table 15-3) within an overgrown area in the margins of a tillage field and is bound from the roadside located c.3m to the west by a field fence (see adjacent photographs). The fragment is barely perceptible from the public road due to overgrowth, and there is no signage indicating its location. The section of road that the route follows (yellow line in adjacent figure) extends through the zone of notification around this site (cyan area in adjacent figure). Approximate chainage: 1230.0m Approximate ITM 670111,667360	  High cross fragment (arrow) adjacent to roadside from north



Constraint ref.	Type	Notes	Images
			 View of high cross fragment from north
SMR CW012-044003-	Holy Well	The ASI record that this unlocated site was reputed to be within same field as high cross (CW012-044001-) and was covered by road widening works. No surface traces were noted during site inspection of roadside in the area c.80m to west of the recorded original location of the high cross (CW012-044001-)	



Constraint ref.	Type	Notes	Images
RMP/SMR CW012-044004-	Church	There is no surface trace of this site and its recorded location is within a raised area in a recently ploughed field at a distance of c.80m from the road that the route follows. The route does not extend within the zone of notification around this site (see CW012-044002- above for map). The adjacent photograph shows a general view towards its recorded location from the roadside to west. Approximate chainage: n/a Approximate ITM 670190, 667348	
SMR CW012-177---- CW012-178---- CW012-179----	Ring-ditches	These three closely-set sites were identified as cropmarks on an aerial photograph by the ASI and are on the opposite (east) side of a modern roadside dwelling house. Their recorded locations are not visible from the roadside, and the route does not extend within the zone of notification around these sites (shaded cyan area in adjacent image). Approximate chainage: n/a Approximate ITM: 669442, 668424	



Constraint ref.	Type	Notes	Images
RMP/SMR CW012-001----	Ringfort - rath	This extant site is located within a field to the east of the route, and a modern barn structure has been constructed within the area between the roadside and its location. The location of this site is, therefore, not visible from the roadside, and the route does not extend within its zone of notification (shaded cyan area in adjacent image). Approximate chainage: n/a ITM 668884, 671419	



Constraint ref.	Type	Notes	Images
SMR CW012-213----	Enclosure - large enclosure	This site was identified by the ASI as a cropmark on a Google Earth image within a tillage field to the east of the roadway that the route follows. The ASI inventory description notes that only a partial extent of the enclosure is visible on imagery and that the road extends north-south though the projected east end of the site (see adjacent images and Table 15-4). This section of road is depicted on the historic OS maps, which do not show an enclosure feature within the adjoining field. The location of the identified section of the enclosure cropmark comprises a level field and no surface traces of the enclosure were evident at ground level. The construction of the section of road that the route follows in this area is not within a deep cut and does not appear to have significantly reduced ground levels within its footprint below adjacent lands. While the construction of this section of road has likely impacted any potential underlying sub-surface archaeological features, the potential exists for the presence of surviving features beneath road fill material, including sections of the north and south ends of an enclosure ditch. The extent of the visible section of the cropmark is indicated by arrows in the adjacent lower image sourced from Google Earth (2018).	 (route indicated in yellow)



Constraint ref.	Type	Notes	Images
		It is noted that the zone of notification published on the NMS Historic Environment Viewer (cyan area in above adjacent image) does not appear to capture the full extent of the enclosure visible on Google Earth imagery Potential location of southern section of enclosure ditch adjacent to road is at approx. chainage 7200.0m (ITM 669596,670584) Potential location of northern section of enclosure ditch adjacent to road is at approx. chainage 7400.0m (ITM 669673,670765) The section of the route within the roadway adjacent to the visible extent of the cropmark measures c.200m in length	 (Potential extent of enclosure cropmark indicated with arrows and route with yellow line)



Constraint ref.	Type	Notes	Images
RPS CW467	Lock No 8 (Rathvinden Lock), Barrow Navigation	This lock structure remains as described in Table 15-5 and is visible from a modern bridge feature located c.40m to the south (see adjacent image) Approximate chainage: n/a (nearest to chainage 2500m) ITM 669422, 666453	
RPS CW102	Ballinabranagh School	The remains of a fragment of the front wall of a levelled schoolhouse remains as described in Table 15-5 (see adjacent photographs). This feature is set adjacent to a modern footpath that flanks the roadside that the route follows. It contains a plaque commemorating John Tyndall, a renowned 19th century scientist, who was a student at the school. Approximate chainage: c 8525m) ITM 668657, 670946	



Constraint ref.	Type	Notes	Images
RPS CW002	St. Fintan's Church, Ballinabranagh	This church, which dates from c.1825 and was renovated in c.1980, remains as described in Table 15-5. The boundary of the church yard is adjacent to a modern footpath flanking the road which the route follows while the church building is set c.20m back from the edge of the road. A review of historic OS maps revealed that the layout of the church property and the adjacent roadway to the north has not been significantly altered since the mid-19th century - see adjacent extract from 6-inch OS map (1840) Approximate chainage: c. 8550 m) ITM 668632, 670928	 



Constraint ref.	Type	Notes	Images
RPS CW101	Ballinabranagh House (farmhouse)	The east end of the front garden of this house is adjacent to the roadway that the route follows, and the house itself is located c.20m to the west of the road. The presence of tall trees within the garden completely screens views of the house from the roadside. Approximate chainage: c,5925m ITM 668657, 670946	
RPS CW134	Milford House gateway	This gateway remains as described in Table 15-5 and it continues in use as an access gate to the Milford House property. The house is not visible from the roadway outside its property are screened by tall hedgerows and trees. (adjacent image of gateway has been sourced from Google Maps) Approximate chainage: 7220.0m ITM 669620, 670580	



Constraint ref.	Type	Notes	Images
RPS CW103	Dwelling house	This house remains as use as a residence within a private property. A visual inspection of the location revealed that the house front faces to a yard on its west side and is partially screened from the roadway to north by outbuildings (adjacent image source from Google Maps) Approximate chainage: 7715.0m ITM 669467, 670857	



15.5 Assessment of Likely Significant Impacts

15.5.1 'Do Nothing' Impacts

In a 'Do Nothing Scenario' the Proposed Scheme would not be implemented and there would, therefore, be no negative effects to any of the known cultural heritage constraints within the reviewed study areas detailed in Section 15.4, including any potential unrecorded, sub-surface archaeological materials within these study areas. No significant effects on the known cultural heritage resource are predicted to arise as a result of a 'Do-Nothing Scenario'.

15.5.2 Construction Phase Impacts

15.5.2.1 *The Site*

The ground levels within the site have been reduced down into natural subsoil material during quarrying works carried out during recent decades. As detailed in the review of the Database of Irish Excavation Reports presented in Section 15.4.2.1, archaeological monitoring of topsoil stripping was carried out as part of the quarrying operation, and this revealed the presence of a number of archaeological features which were archaeologically recorded prior to quarrying works at their locations. Given the prior programme of archaeological monitoring/recording combined with the subsequent quarrying works that has reduced ground levels down into natural subsoil levels, it is concluded that there is no potential for the presence of any further unrecorded archaeological remains within the site. As detailed in Table 15-3, there are no recorded archaeological sites, that have not previously been excavated, located within 275m of the site boundary. There are also no protected structures of NIAH listed structures/gardens located within the site or the surrounding 1km study area. The construction phase within the site will, therefore, result in a neutral effect on the cultural heritage resource and no mitigation measures are required.

In conclusion, no significant effects on the known cultural heritage resource are predicted to arise during the construction phase of the proposed development.

15.5.2.2 *Proposed Gas Pipeline Route*

As detailed in Section 15.4, there are a range of recorded archaeological sites and designated architectural heritage structures located within 100m of the proposed gas pipeline route and potential construction phase effects on their locations are provided in Table 15-7. These include two recorded archaeological sites that have the potential to contain unrecorded features that may extend beneath road fill material within sections of the public road that the route follows. These comprise an unlocated holy well CW012-044003- and a levelled enclosure (CW012-213----) which is partially visible as a cropmark within a field adjacent to the roadway (see Figure 15-5 and Tables 15-3 and 15-6). While the location, nature, condition and extent of any potential surviving features associated with these archaeological sites within sections of roads that the route follows are indeterminable, an assessment of potential moderate-significant negative effects, which will require mitigation, is provided in Table 15-7. No other significant effects on known elements of the cultural heritage resource are predicted to arise during the construction phase of the proposed gas pipeline. The proposed crossing methodology at the River Barrow at the location of the R448 crossing point will be horizontal directional drilling under the watercourse and this will result in no predicted effects on any potential unrecorded underwater sites that may exist within this section of the river.



Table 15-7: Proposed Gas Pipeline Route Construction Phase Effects

Designation	Type	Condition	Distance	Sensitivity	Type of Effect	Quality of Effect	Magnitude of Effect	Duration of Effect	Significance of Effect
SMR/RMP CW012-001----	Ringfort	Extant	60m	High	None	Neutral	n/a	n/a	None predicted
SMR/RMP CW012-044002- (present location)	High cross	Extant	c.3m	High	Indirect	Negative	Low	Temporary	Slight
SMR/RMP CW012-044003-	Holy Well	Levelled	Unknown	Medium to Low	Indeterminable	Potential Negative	Potential Low to Medium	Potential Permanent	Potential Moderate
SMR CW012-044004-	Church	Levelled	80m	Medium to High	None	Neutral	n/a	n/a	None predicted
SMR CW012-177----	Ring-ditch	Levelled	85m	Medium to High	None	Neutral	n/a	n/a	None predicted
SMR CW012-178----	Ring-ditch	Levelled	60m	Medium to High	None	Neutral	n/a	n/a	None predicted
SMR CW012-179----	Ring-ditch	Levelled	60m	Medium to High	None	Neutral	n/a	n/a	None predicted
SMR CW012-213----	Enclosure	Levelled	Within	Medium to High	Potential Direct	Potential Negative	Potential Medium	Potential Permanent	Potential Moderate to Significant
RPS CW467 NIAH 10301244	Rathvinden Lock	Extant	40m	Medium	None	Neutral	n/a	n/a	None predicted
RPS CW102	School	Partly levelled	Adjacent	Medium	Indirect	Negative	Negligible	Temporary	Not Significant



Designation	Type	Condition	Distance	Sensitivity	Type of Effect	Quality of Effect	Magnitude of Effect	Duration of Effect	Significance of Effect
RPS CW002 NIAH 10301202	Church	Extant	Adjacent	Medium	Indirect	Negative	Negligible	Temporary	Not Significant
RPS CW101 NIAH 10301201	Farmhouse	Extant	Adjacent	Medium	Indirect	Negative	Negligible	Temporary	Not Significant
RPS CW134	Gateway	Extant	Adjacent	Medium	Indirect	Negative	Negligible	Temporary	Not Significant
RPS CW103	House	Extant	Adjacent	Medium	Indirect	Negative	Negligible	Temporary	Not Significant
None	Water pump	Extant	Adjacent	Low	Indirect	Negative	Negligible	Temporary	Not Significant



15.5.3 Operational Phase Impacts

15.5.3.1 *The Site*

There is one extant archaeological site which retains a recorded surface expression located within 1km of the site, and this comprises a ring barrow (CW012-043----) which is within private farmland located c.870m to the south west (Figure 15-1). As detailed in Table 15-3, this archaeological site retains a low surface expression, and its location is not visible from the environs of the site. There are no protected structures or NIAH-listed structures/gardens located within the site or the surrounding 1km study area. Given the absence of any known archaeological or architectural heritage constraints located within, on in the close environs, of the site it is concluded that the operation phase will result in a negligible magnitude, imperceptible, negative effect on the known cultural heritage resource and this does not require mitigation.

In conclusion, no significant effects on the known cultural heritage resource are predicted to arise during the operation phase of the proposed development.

15.5.3.2 *Proposed Gas Pipeline Route*

The proposed pipeline route will comprise a buried pipeline within existing roads during the operation phase and will result in a neutral effect on the cultural heritage resource.

In conclusion, no significant effects on the known cultural heritage resources are predicted to arise during the operation phase of the proposed gas pipeline.

15.5.4 Major Accidents and Natural Disasters

As detailed in Section 15.4, there are no recorded cultural heritage constraints located within the boundary of the site or within 250m of its boundary. There are also no extant cultural heritage constraints located with the footprint of the road network that the proposed gas pipeline route follows. No likely negative effects on the cultural heritage resource arising from major accidents or natural disasters during the construction and operation phases are, therefore, predicted.

15.5.5 Decommissioning Phase Impacts

The decommissioning phase of the proposed development is detailed in Chapter 3 Description of the Development in Volume 2 of this EIAR and will entail closure and decommissioning tasks within the proposed development site. These tasks will occur within a quarried area containing no cultural heritage constraints or the potential to retain unrecorded sub-surface archaeological remains. The decommissioning phase will, therefore, will result in no predicted direct or indirect effects on the cultural heritage resource. It is assumed the gas pipeline will remain in situ.

In conclusion, no significant effects on the known cultural heritage resource are predicted to arise during the decommissioning phase of the proposed development.

15.5.6 Cumulative Impacts

Cumulative impacts of the development on cultural heritage were assessed by considering other projects detailed in Chapter 1 Introduction (Section 1.6) in Volume 2 of this EIAR.



As detailed in Section 15.5, the proposed development site is located within a quarry that does not retain the potential to contain any features of archaeological or architectural heritage significance, and the construction and decommissioning phases will not result in any predicted effects on the cultural heritage resource. In addition, there is only one recorded archaeological site with a surviving surface expression within 1km of the site and this comprises a ring barrow (CW012-043---) located in private farmland c.870m to the south west (Figure 15-1). There are no protected structures of NIAH-listed structures/gardens located within the surrounding 1km study area. Given the absence of any known archaeological or architectural heritage constraints located within, on in the close environs, of the proposed development it is concluded that the operation phase will result in a negligible magnitude, imperceptible, negative effect on the cultural heritage resource. Based on these predicted construction, operation and decommissioning phase effects, it is concluded that the proposed development will not result in any significant direct or indirect cumulative effects on the cultural heritage resource in combination with the projects detailed in Chapter 1 Introduction (Section 1.6) in Volume 2 of this EIAR.

As detailed in Table 15-7, the construction phase of the proposed gas pipeline route will have the potential to result in moderate to significant effects on potential sub-surface remains of two levelled archaeological sites within the environs of its route. These comprise an unlocated holy well (CW012-044003-) and a levelled enclosure (CW012-213---) which is partially visible as a cropmark within a field adjacent to the roadway (see Figure 15-5 and Tables 15-3 and 15-6). A review of the projects detailed in Chapter 1 Introduction (Section 1.6) in Volume 2 of this EIAR revealed that none are located within the environs of these levelled archaeological sites and, therefore, no potential direct or indirect cumulative effects on their locations or settings are predicted.

The construction phase of the proposed gas pipeline will result in not significant to slight indirect effects on the setting of other cultural heritage constraints within its environs (Table 15-7). The operation phase of the proposed gas pipeline will comprise a buried pipeline within public roads, and this will result in a neutral effect on the cultural heritage resource. Based on these predicted construction and operation phase effects, it is concluded that the proposed gas pipeline route will not result in any significant direct or indirect cumulative effects on the cultural heritage resource in combination with the projects detailed in Chapter 1 Introduction (Section 1.6) in Volume 2 of this EIAR.

15.5.7 Summary of Potential Impacts

Table 15-8 presents a summary of potential effects of the proposed development, including the proposed gas pipeline, on the cultural heritage resource.

Table 15-8: Summary of Potential Impacts

Activity/Source of Impact	Potential Impact	Description of Effects
Construction phase ground works to facilitate the proposed development within the site	None	Neutral
Presence of development within the landscape during operation phase	Indirect effect on setting of cultural heritage constraints	Imperceptible
Proposed Gas Pipeline excavation works	Direct effects on potential sub-surface archaeological features	Potential moderate to significant
Proposed Gas Pipeline excavation works	Indirect effects on setting of cultural heritage constraints within the environs of works	Not significant to slight



15.6 Mitigation Measures

15.6.1 Mitigation by Avoidance and Design

A process of 'mitigation by avoidance', as informed by constraints assessment and consultation, was undertaken by the EIA team during the design of the proposed development and the proposed gas pipeline route with the objective of avoiding / minimising likely significant effects on known cultural heritage constraints.

15.6.2 Construction Phase Mitigation

The ground levels within the proposed development site have been reduced down into natural subsoil levels as a result of quarrying works, which included a number of phases of archaeological monitoring of advance topsoil stripping. It is concluded that the quarried area within the boundary of the proposed development site does not retain the potential to contain any unrecorded archaeological remains and no mitigation measures are, therefore, required within the site.

A suitably qualified archaeologist will be employed to supervise ground works along the proposed gas pipeline route during the construction phase under a licence issued by the National Monuments Service.

This will include constant monitoring of all ground works within the environs of the present location of a high cross fragment (CW012-044002-) as well as within the potential location of a nearby unlocated holy well (CW012-044003-) reputed to have been covered by road widening works. The constant monitoring of ground works within this area will be carried out between Chainages 1100.0m to 1550.0m. This 450m long area extends well beyond the 40m wide zone of notification around the present location of high cross fragment (CW012-044002-) (see Figure 15-2 and Table 15-6) and is intended as a conservative mitigation measure in order to ensure that ground works within the wider environs of these sites are subject to constant archaeological supervision.

A programme of constant archaeological monitoring will also be carried out within the section of road adjacent a large enclosure site (CW012-213----). As noted in Table 15-6, the zone of notification around this archaeological site likely does not capture its full extent and the potential exists that sub-surface elements of this enclosure may survive beneath road fill material. The constant archaeological monitoring at this location will be carried out between Chainages 7100.0m to 7500.0m. This 400m long area extends for 100m in both directions beyond the potential extent of the enclosure based on a review of a cropmark visible on Google Earth imagery (see Table 15-6). This is intended as a conservative mitigation measure to ensure that ground works adjacent to the enclosure, and its wider environs are subject to constant archaeological supervision.

The monitoring strategy within the environs of the above archaeological sites will entail the removal of road fill material, or topsoil layer within road verges, in order to expose the underlying soil which will then be subject to careful inspection by the appointed archaeologist to determine if any archaeological features are present. The excavation of the trench within underlying soils will proceed only when the archaeologist has confirmed that no archaeological features are present. The mitigation process to be enacted in the event that any archaeological features are identified is detailed below.



An archaeological watching brief of other construction phase ground works within the footprint of existing modern road infrastructure will be carried out by the appointed archaeologist, and this will include the compilation of a written and photographic record of construction phase works. This watching brief will entail periodic site inspections at intervals based on professional judgement of the appointed archaeologist and the frequency of these inspections will be agreed with the National Monuments Service as part of the licence application process. In the event that the appointed archaeologist identifies any areas with the potential to contain archaeological remains beneath modern fill material within the corridors of existing road infrastructure then constant archaeological monitoring of ground works will be carried out in the relevant area.

In the event that any sub-surface archaeological features are identified by the appointed archaeologist during monitoring of trenching works, the ground works will halt at the relevant location while the identified archaeological remains are manually cleaned, recorded and left *in situ*. The identified remains will then be securely cordoned off and resealed while the appointed archaeologist notifies the National Monuments Service who will be consulted to determine any further appropriate mitigation measures, which may include preservation in situ (by avoidance) or preservation by record (archaeological excavation).

As detailed in Tables 15-5 and 15-6, the study area extending for 100m from both sides of the proposed gas pipeline route contains a number of protected structures, as well as an undesignated water pump feature (Figure 15-6). The protected structures within the study area are located within third-party lands and none extend into the road corridor along the route. No works are proposed at the locations of the protected structures within the study area, including their associated boundary features. The water pump feature is also set back from the road corridor within a modern concrete structure that extends into an adjacent field, and no ground works are proposed at its location. These constraints will be identified during construction phase site inductions to ensure that onsite staff are informed of their locations, which will be clearly defined as no entry areas. No other mitigation measures for these architectural heritage constraints will be required during the construction phase.

15.6.3 Operational Phase Mitigation

No effects on known elements of the cultural heritage resource are predicted to arise during the operational phase of the proposed development and the proposed pipeline. It is, therefore, concluded that no mitigation measures are required for the operation phase.

15.6.4 Decommissioning Phase Mitigation

The decommissioning phase of the proposed development is detailed in Chapter 3 Description of the Development in Volume 2 of this EIAR and will entail closure and decommissioning tasks within the proposed development site. These tasks will occur within a quarried area containing no cultural heritage constraints or the potential to retain unrecorded sub-surface archaeological remains. No mitigation measures are, therefore, required during the decommissioning phase.



15.7 Residual Impacts

15.7.1 Summary of Residual Impacts

No residual effects on the known cultural heritage resource are predicted to occur as a result of the proposed development. The mitigation measures presented in Section 15.6 will provide for either the preservation in-situ of any currently unknown, sub-surface archaeological features that may exist within the proposed gas pipeline route by avoidance or the proper and adequate recording of any such features by full archaeological excavation. Preservation *in situ* shall allow for a negligible magnitude of impact resulting in a potential imperceptible significance of effect in the context of residual impact on the unrecorded archaeological resource. Preservation by record shall allow for a high magnitude of impact, albeit ameliorated by the creation of a full and detailed archaeological record, the results of which shall be publicly disseminated. This shall result in a potential slight/moderate range of significance of effect in the context of residual impacts on the unrecorded archaeological resource.

In conclusion, no significant residual effects on the known cultural heritage resource are predicted to arise.

Table 15-9: Summary of Residual Impacts

Activity/Source of Impact	Potential Impact	Description of Effects (Pre Mitigation)	Description of Effects (Post Mitigation)
Proposed Gas Pipeline excavation works	Direct effects on sub-surface archaeological features	Potential moderate to significant	Potential imperceptible, slight, moderate range of effects dependent on location/context of any identified features and implementation of appropriate mitigation measure agreed with National Monuments Service



15.8 References

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