



Cork Line Level Crossings

Volume 3, Chapter 12: Cultural Heritage

Iarnród Éireann

March 2021



Cork Line Level Crossings

Project No: 32111000
 Document Title: EIAR Chapter 12 Cultural Heritage
 Document No. 12
 Revision: A04
 Date: March 2021
 Client Name: Iarnród Éireann
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Document history and status

| Revision | Date | Description | Author | Checked | Reviewed | Approved |
|----------|---------------|---|--------|---------|----------|----------|
| A01 | December 2019 | Client Review | AMS | AMS | RM | AB |
| A02 | November 2020 | Interim Draft pending Archaeological Investigations | AMS | HC | HC | AB |
| A03 | March 2021 | Final draft | AMS | AMS | RM | AB |
| A04 | March 2021 | For Issue to An Bord Pleanála | AMS | AMS | HC/RM | AB |

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Table of Acronyms

| Abbreviation | Meaning |
|--------------|--|
| ACSU | Archaeological Consultancy Services Unit Ltd |
| AMS | Archaeological Management Solutions Ltd |
| BGE | Bord Gáis Éireann |
| CDP | County Development Plan |
| DAU | Development Applications Unit |
| DHLGH | Department of Housing, Local Government and Heritage |
| DIER | Database of Irish Excavation Reports |
| DRI | Digital Repository of Ireland |
| EIA | Environmental Impact Assessment |
| EIAR | Environmental Impact Assessment Report |
| EPA | Environmental Protection Agency |
| GS&WR | Great Southern and Western Railway |
| HEV | Historic Environment Viewer |
| HMV | Heritage Map Viewer |
| LC | Level Crossing |
| M | Metres |
| NIAH | National Inventory of Architectural Heritage |
| NMI | National Museum of Ireland |
| NMS | National Monuments Service (DHLGH) |
| NRA | National Roads Authority |
| OS | Ordnance Survey |
| RMP | Record of Monuments and Places |
| RPS | Record of Protected Structures |
| SMR | Sites and Monuments Record |
| TAG | Target Archaeological Geophysics |
| TII | Transport Infrastructure Ireland |

12. Cultural Heritage

12.1 Introduction

This chapter assesses the likely impact and significance of effect on cultural heritage as a result of the construction and operation of the proposed Project. It was prepared by Archaeological Management Solutions Ltd (AMS) on behalf of Jacobs.

Under the Draft Guidelines on the Information to be contained in Environmental Impact Assessment Reports (EPA 2017, 33) (see Volume 2, Chapter 4: EIA Process and Methodology), cultural heritage¹ is made up of three subcategories:

1. Archaeology
 - a. Known archaeological monuments;
 - b. Areas of archaeological potential (including unknown archaeology); and
 - c. Underwater archaeology.
2. Architectural heritage
 - a. Designated architectural heritage; and
 - b. Other significant architectural heritage.
3. Folklore and history

Archaeology is the study of past societies through surviving structures, artefacts and environmental data. Archaeological sites and monuments are protected under the National Monuments Act 1930 to 2014 (see 12.3.1 for further discussion). Architectural heritage comprises 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 (NRA 2005a:56). Architectural heritage and archaeology together form the 'built heritage'. 'Cultural assets' in the existing environment are those aspects of the environment "which are valued because of their age, history, beauty or tradition. Some of these topics are the subject of highly developed fields of academic study, some may be of interest only to the people of the local parish" (EPA 2003). The Environmental Protection Agency (EPA) Advice Notes on Current Practice (EPA 2003) divide cultural assets into physical and social types, with folklore and tradition classed as part of the latter.

12.2 Study Area

An overall study area encompassing a corridor 2km wide around the Dublin–Cork Railway Line between Knocklong West to the east of XC187 Fantstown and Ballybeg to the south of XC219 Buttevant was used to set the proposed Project into its archaeological and historical context (Volume 4). For each site, a more focused study area encompassing c.500m surrounding the proposed Project footprint was used to identify the existing baseline and assess the likely effects during construction and operation. These study areas were established on the basis of professional judgement as being sufficient to identify the likely significant effects of the proposed Project on cultural heritage, and exceed current guidelines for national roads schemes for EIA (NRA 2005a, 2005b).

¹ EIA Directive 2014/52/EU, Cultural Heritage

12.3 Assessment Methodology

12.3.1 Legislation, Policy & Guidance

The National Monuments Acts 1930 to 2014 is the primary piece of legislation aimed at protecting and preserving archaeological heritage in the Republic of Ireland. Archaeological sites and monuments are protected under the Act through inclusion in the statutory Record of Monuments and Places (RMP), the Register of Historic Monuments (RHM) and/or by being declared a National Monument. The National Monuments Acts 1930 to 2014 can also protect elements of architectural heritage or offer dual/parallel protection. The National Monuments Service (NMS) of the Department of Housing, Local Government and Heritage (DHLGH) maintains a publicly-accessible database known as the Sites and Monuments Record (SMR), accessible online through the Historic Environment Viewer (HEV), which contains current information on known sites and monuments, including whether or not they are scheduled for inclusion in the next issue of the statutory RMP.

Under the Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous Provisions) Act 1999, the term 'architectural heritage' means:

- a) *"all structures and buildings together with their settings and attendant grounds, fixtures and fittings;*
- b) *groups of such structures and buildings; and*
- c) *sites which are of architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest".*

Architectural heritage comprises both designated architectural heritage assets (e.g., buildings and other structures listed in a local authority's Record of Protected Structures (RPS)) as well as other significant architectural heritage which may not have current legal protection. No work can be carried out affecting those features of a Protected Structure which contribute to its special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest without approval from the planning authority. As stated, the National Monuments Acts 1930 to 2014 can also protect elements of the architectural heritage or offer dual/parallel protection.

The National Inventory of Architectural Heritage (NIAH) is a nationwide survey of architectural heritage including buildings, structures and historic landscapes and gardens, carried out under the Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous Provisions) Act 1999. These surveys are used to advise local authorities in relation to structures of interest within their functional areas. The architectural heritage assets identified and assessed here fall into three broad categories:

- i. Protected Structures listed on the RPS for Cork and Limerick;
- ii. Buildings and other structures listed on the NIAH; and
- iii. Other buildings and structures of potential architectural heritage interest identified through desktop research and field survey, which although not listed on either the RPS or NIAH may have local or wider heritage significance.

Other cultural heritage receptors that may be of archaeological, architectural, historical or other interest have been considered under the broad term of 'other cultural heritage'.

The Framework and Principles for the Protection of the Archaeological Heritage (DAHGI 1999:33) require a presumption in favour of avoidance of impacts on archaeological remains. Preservation of cultural assets (including archaeological monuments, architectural heritage and so on) and their settings are primary objectives of EIA.

The following guidance underpinned the assessment:

- Environmental Protection Authority's (EPA's) Draft Guidelines on the Information to be contained in Environmental Impact Assessment Reports (EPA 2017);
- EPA's Guidelines on the information to be contained in Environmental Impact Statements (EPA 2002);

- EPA's Advice Notes on Current Practice (in the preparation of Environmental Impact Statements) (EPA 2003);
- National Roads Authority (NRA, now Transport Infrastructure Ireland) Guidelines for the Assessment of Architectural Heritage Impacts of National Road Schemes (NRA 2005a);
- NRA Guidelines for the Assessment of Archaeological Heritage Impacts of National Road Schemes (NRA 2005b).

Overall planning policy for heritage in County Cork is set out in Volume 1, Chapter 12 of the Cork County Development Plan (CDP) 2014 (see 12.5.2) and planning policy for heritage in County Limerick is set out in Volume 1, Chapter 7 of the Limerick CDP 2010 (see 12.5.3).

12.4 Baseline data gathering

As outlined above, for the purpose of this assessment a broad study area was defined which extended 2km around the Dublin–Cork Railway Line between Knocklong West and Ballybeg to the south of Buttevant in order to gain an understanding of the archaeological and historical context of the proposed Project. For the impact assessments, individual study areas were defined for each crossing extending c.500m beyond the footprint of the proposed Project in which previously recorded cultural heritage assets were identified using the sources outlined below. The footprint of the proposed Project was defined as the earthworks, carriageway, bridges, structures, compounds and lands made available as shown in Volume 4). The assessment then considered the likely effects of the proposed Project on each of the identified cultural heritage receptors. The key sources of information consulted during the baseline desktop research are listed below:

- i. RMP – statutory list of protected places and monuments, with accompanying constraints maps for County Cork (published in 1998) and County Limerick (published in 1997);
- ii. SMR – online database with information on sites and monuments accessed via the HEV;²
- iii. Lists of National Monuments in State Care: Ownership and Guardianship for County Cork and County Limerick (published in 2009);
- iv. List of Preservation Orders held by the NMS, published in 2019;
- v. Previous studies including archaeological assessments of six of the seven crossings (XC187–XC209 and XC212–XC219), as well as a built heritage survey for XC219, carried out by Valerie J. Keeley (VJK) (Flynn 2010; Flynn 2011; Goodbody 2012);
- vi. Other previous archaeological investigations as recorded by the Database of Irish Excavation Reports (DIER)³ and TII Digital Heritage Collection available online in the Digital Repository of Ireland (DRI);⁴
- vii. Stray finds: National Museum of Ireland (NMI) online finds database made available by the Heritage Council;⁵
- viii. Records of Protected Structures for Cork and Limerick as outlined in the Cork County Development Plan 2014–2020⁶ and Limerick County Development Plan 2010–2016;^{7, 8}
- ix. NIAH;⁹

² Available at: <http://webgis.archaeology.ie/historicenvironment/>

³ Available at: <https://excavations.ie>

⁴ Available at: <https://repository.dri.ie/catalog/v6936m966>

⁵ Available at: <https://heritagemaps.ie/WebApps/HeritageMaps/> [partial]

⁶ Available at: <http://corkcocodevplan.com/>

⁷ Available at: <https://www.limerick.ie/council/services/planning-and-property/development-plans/county-development-plan>

⁸ Note: The Limerick County Development Plan 2010-2016 will continue to have effect until a new Development Plan for the county is prepared

⁹ Available at: <https://www.buildingsofireland.ie>

- x. Cartography: Historical Ordnance Survey maps via OSI's public viewer (first-edition six-inch map for Cork published 1845; first-edition six-inch map for Limerick published 1844; first-edition 25-inch map for Cork surveyed 1896–1904; first-edition 25-inch map for Limerick surveyed 1897–1900);¹⁰
- xi. Aerial photography: Google Earth and Digital Globe via the HEV and orthophotographs via OSI's public viewer;
- xii. National Folklore Collection UCD Schools Collection;¹¹
- xiii. Placenames Database of Ireland;¹²
- xiv. Various historical and archaeological literature as listed in the References.

The data collected through the initial desktop research was presented to the environmental assessment and design teams (Smith 2019; Volume 5, Appendix 12D) and then verified and supplemented through field surveys and other archaeological investigations as set out in the EIA Screening and Scoping Report.

The initial fieldwork, which took place between 9th and 11th October 2019, comprised a windshield survey and site-specific walkover inspections. The windshield survey gave the assessors an initial familiarity with the areas involved and the surrounding landscapes, as well as locating previously recorded monuments and built heritage assets. The walkover inspections involved the assessors walking the lengths and breadths of each site to verify the extent and condition of previously recorded monuments; supplement the information gathered during the desktop research; locate any previously unrecorded sites, features or areas of potential cultural heritage significance requiring further investigation; and inform the impact assessments.

Geophysical surveys to investigate for potential unrecorded subsurface archaeology were carried out over three phases during 2020:

- In February 2020, AMS conducted geophysical surveys at XC211 Newtown (in the immediate vicinity of ringfort AY023; Volume 5, Appendix 12E) and at XC215 Shinanagh in the field surrounding Imphrick Church and graveyard (AY029 and AY030; Volume 5, Appendix 12F);
- In June 2020, Target Archaeological Geophysics (TAG) conducted further geophysical surveys on behalf of AMS at XC211 Newtown (to the south of ringfort AY023) and along the proposed route at XC215 Shinanagh in the fields to the north of Imphrick Church and graveyard (AY029 and AY030) (Volume 5, Appendix 12G);
- In November/December 2020, Archaeological Consultancy Services Unit (ACSU) carried out geophysical surveys at XC201 Thomastown, XC212 Ballycoskery, XC219 Buttevant and along an alternative route for XC215 Shinanagh in the townland of Ballynageragh to the west of Imphrick Church (Volume 5, Appendix 12H).

Targeted archaeological test excavations were carried out by ACSU in November 2020 at XC211 Newtown (Volume 5, Appendix 12I) and XC215 Shinanagh (Volume 5, Appendix 12J). The purpose of these investigations was to determine the nature of the geophysical anomalies as either archaeological or non-archaeological. A Topographical Survey was also carried out by ACSU at XC215 Shinanagh surrounding Imphrick Church and graveyard (AY029 and AY030) as part of this work (Volume 5, Appendix 12K).

In addition, archaeological monitoring of geotechnical investigations at XC201 Thomastown, XC211 Newtown, XC212 Ballycoskery, XC215 Imphrick and XC219 Buttevant was carried out by TVAS Ireland Ltd from February to July 2020 (Volume 5, Appendix 12L).

The geophysical surveys, archaeological test excavations and monitoring outlined above were carried out in consultation with and under licence from the National Monuments Service (NMS).

¹⁰ Available at: <http://map.geohive.ie/>

¹¹ Available at: <https://www.duchas.ie/en>

¹² Available at: <https://www.logainm.ie/en/>

12.4.1 Consultation

During the preparation of this assessment, consultation was undertaken with the NMS (DHLGH) and Officers of Cork and Limerick County Councils as set out in Table 12. 1 below. Volume 2, Chapter 1: Introduction includes a summary of the consultation that was undertaken for the proposed Project.

Table 12. 1: Consultation

| Consultee | Comment | Response |
|---|--|--|
| Department of Culture, Heritage and the Gaeltacht | <p>(30th September 2019) This commented that <i>"The information provided was not sufficiently detailed to allow for a full assessment of the archaeological implications of this proposal, however the Department wishes to advise that as part of the compilation of an Environmental Impact Statement (EIS) it is recommended that you retain the services of a suitably qualified Consultant Archaeologist to carry out a Cultural Heritage and Archaeological Impact Assessment (CHAIA) of the proposed development. In this regard the Department awaits the results of the CHAIA before commenting further."</i></p> <p>18th June 2020 a teleconference was held with NMS. NMS issued an advice note/Archaeological Mitigation Strategy on 6th July 2020 (Volume 5, Appendix 12B) 31st July 2020 a teleconference was held with NMS. 6th January 2021 a teleconference meeting held with NMS. 2nd February 2021 NMS issued an updated Archaeological Mitigation Strategy after review of all geophysical surveys and test trenching information (Volume 5, Appendix 12C)</p> | <p>This chapter assesses the likely impact and significance of effect on cultural heritage as a result of the construction and operation of the proposed Project.</p> <p>Geophysical Survey Reports were prepared by AMS for XC211 Newtown and XC215 Shinanagh. Further test trenching and geophysical surveys were undertaken by ACSU Ltd.</p> <p>The consultation with NMS through the course of the proposed Project has shaped the scope of the geophysical surveys and test trenching undertaken. The mitigation proposed by NMS has been included within this chapter.</p> |
| Cork County Council Heritage Unit | <p>Mary Sleeman (Heritage Unit), 30th September 2019 Sets out that of the five sites in Cork three are modern level crossings and there is no issue with replacement but recommends photographic record. Requires clarity on proposed solution for XC212 Ballycoskery and XC211 Newtown. States that XC211 Newtown is a fine stone arched bridge and clarification sought regarding proposed works.</p> <p>Mary Sleeman (Heritage Unit), 2nd October 2019 States that if the level crossings XC211 and XC212 Newtown and Ballycoskery are like the other level crossings (modern) <i>"there is no heritage issue with replacement"</i>.</p> | <p>The mitigation as part of this chapter includes a requirement for photographic records to be taken where relevant.</p> |
| Limerick City & County Council | <p>Thomas O'Neill (Heritage Officer) dated 10th January 2020. Under cultural heritage the fact that line itself dating from the 19th Century may have architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest echoes the protected structure legislation- this should mean that these aspects should be adequately covered in the EIAR.</p> | <p>This chapter has assessed the likely impact and significance of effects on cultural heritage as a result of the construction and operation of the proposed Project</p> |

12.4.2 Assessment of Importance

National monuments legislation does not differentiate between archaeological sites on the basis of importance apart from the special recognition of National Monuments, Recorded Monuments and Registered Monuments as defined in the National Monuments Acts 1930 to 2014. For the purpose of the assessment, an evaluation of the importance of each archaeological site within the study area was made where possible on a four-point scale of Negligible, Low, Medium or High. These assessments were based on professional judgment and experience, guided by the criteria set out in Appendix 2 of the NRA Guidelines (NRA 2005b, 51). Where the nature and significance of potential archaeological features have yet to be determined, the importance of the site has been rated as 'Unknown'. For architectural heritage, the rating system of Local, Regional, National, International or Record Only was used in accordance with the NRA architectural heritage guidelines (NRA 2005a, 31).

12.4.3 Impact Assessment

The impact assessment followed the generic EIA method described in Chapter 4 EIA Process and Method, using the impact assessment matrix provided on p.53 of the EPA's draft Guidelines on the Information to be contained in Environmental Impact Assessment Reports (EPA 2017) for archaeology and p.32 of the NRA's Guidelines for the Assessment of Architectural Heritage Impacts of National Road Schemes for architectural heritage (NRA 2005a).

12.5 Baseline Environment

12.5.1 Archaeological and Historical Context of the Overall proposed Project

The baseline scenario for each of the crossings is summarised in Sections 12.5.4 to 12.5.9 below. Here we outline the archaeological and historical context of the proposed Project.

Over 120 summary reports on test excavations or archaeological monitoring conducted in and around the development are reported in the DIER.¹³ Of the investigations where archaeological features, finds and deposits were recorded, a total of 1 (no.) Neolithic, 9 (no.) probable Bronze Age, 1 (no.) possible Iron Age, 3 (no.) Early Medieval, 32 (no.) Medieval and probable medieval, 1 (no.) Late Medieval/ Early Modern, 13 (no.) Post Medieval, 5 (no.) modern and 6 (no.) undated entries are listed. The Bord Gais Éireann 'Pipeline to the West' DIER listings account for 16 (no.) of the total number of investigations listed, of which just 4 (no.) were of no archaeological significance. Medieval archaeology is represented chiefly by investigations in the medieval towns of Buttevant and Kilmallock, although it is worth noting that more than 20 of the almost 30 (no.) investigations in Buttevant and 17 of the 47 (no.) recorded investigations at Kilmallock were of no archaeological significance. Investigations that did record archaeological or potential archaeological features or deposits are included in the overview presented below where pertinent. Other significant archaeological work in this area includes the Discovery Programme's Ballyhoura Hills Project which collated archaeological surveys and aerial photographs to identify sites of potential prehistoric date in the Ballyhoura Hills.

The National Museum of Ireland (NMI) database (incomplete) of finds hosted on the Heritage Council's Heritage Map Viewer (HMV)¹⁴ records just three finds locations within the Study Area, including undated cremated bone from Sorrel townland (HMV/NMI online database A/110/78); a small bronze axehead from Garrynderk South townland (HMV/NMI online database 1935:507) and two sherds of ceramics (one green glazed potsherd, one stoneware potsherd) from Kilmallock Town (NMI/HMV reg. No 1986: 13, 14).

Prehistoric Period (c. 7000BC–AD400)

Mesolithic (7000–4000 BC)

Evidence for Mesolithic activity (7000–4000 BC) in Ireland tends to be concentrated around or in close proximity to water and has now been identified throughout the island of Ireland. Traditionally accepted as being hunter-gatherers, the material culture of the earliest Mesolithic inhabitants of the country is generally represented by composite microlith tools including needle points, flake axes and polished stone axes. A single radiocarbon dated sample from an excavation at Mitchelstowndown East immediately adjacent to the Study Area has yielded a Mesolithic date, but no diagnostic finds were recovered in association with this site. A re-examination of the lithic assemblage from an excavated ring-barrow at Rathjordan (c.12.5km from Knocklong at the northern limit of the Study Area) has identified microliths of the early Mesolithic period (Woodman 1986). In the wider vicinity of Co. Limerick, evidence for Mesolithic activity has been found from two phases of excavations c.20km to the northeast of the Study Area at Killuragh Cave in 1993 and 1996. These excavations produced diagnostic early Mesolithic

¹³ <https://excavations.ie/>

¹⁴ <https://www.heritagemaps.ie/>

flint blades and microliths, as well as human remains. The final stage of the Mesolithic at Killuragh is represented by a possible flake fragment from a large butt-trimmed lithic and by radiocarbon dated samples. At Hermitage, Co. Limerick (c. 30km to the northwest of the Study Area), a Mesolithic cremation burial (SMR LI001-010001) – the earliest known burial in Ireland – was recorded. The burial was accompanied by a stone adze and a large butt-trimmed flake. Discoveries such as these suggest that the relative paucity of sites and material culture recorded for this part of the country may be readdressed with time.

Neolithic (4000–2500BC)

The Neolithic period (4000–2500BC) is typically associated with Ireland's first farmers; the century between c.3800 – 3700BC saw a period of rapid expansion across the country, with the archaeological imprint of rectangular houses representing a common settlement feature of this period. The Study Area is situated c.12 km on the southeastern periphery of Lough Gur where the Discovery Programme's North Munster Project, led by Eoin Grogan, has examined the prehistory of this part of Limerick and has identified a Neolithic core of activity around Rockbarton-Caherguillamore and Knockainy and in the valley of the Camoge River. A total of 280 (no.) stone axes are recorded as having been discovered from this limited area, and an expansion of Neolithic settlement radiating from this core area along the river and stream valleys is postulated. Within the Study Area, the DIER records the summary excavation of a Neolithic house in Pepperhill townland, and the Neolithic house at Tankardstown South excavated as part of the Bord Gáis Éireann (BGE) works was found less than 5km to the north of Fantstown. At Lough Gur, c.12km from the Study Area, a total of 4 (no.) excavated Neolithic houses are listed on the HEV. From Killuragh Cave, the Neolithic period is represented by two radiocarbon dates and two hollow scrapers.

The Neolithic period saw the construction of a variety of imposing megalithic tombs (court, passage, portal and wedge) which imply the presence of complex and ordered farming communities in existence at that time. While a chronology in terms of tomb types has been suggested (with court tombs being the earliest and wedge tombs being the latest), it would appear that a chronological overlap in their construction and use-history is evident. Local topography and associated settlements were potentially a factor in the location choice for the construction of these monuments. Grogan suggests that the widespread nature of these tombs throughout North Munster represents strong regional cohesion as well as evidence for the expansion of settlement in the region. Within the Study Area, an unclassified cairn (CO024-056001) surrounding a wedge tomb (CO024-05602) in Kilmaclenine townland is recorded as having been 'ransacked' and heavily quarried in the early 19th century. A second megalithic structure (LI047-022021) is located immediately west of Kilmallock in Ash Hill townland. Previous archaeological investigations in the vicinity of this monument identified features for which no diagnostic dating evidence was recovered; these could be of prehistoric or later date.

Three 'mounds' of possible prehistoric origin are recorded within the Study Area, including one in Lackaroe (CO017-033) near Buttevant. Local oral tradition records its name as *Knockane-na-m-buachailidhe*; that is, 'the mound or hillock of the boys'. As with court tomb CO024-05602, this mound had been plundered in antiquity. Limited descriptions of a low oval mound (CO016-138) in Rathclare townland are recorded on the HEV, and it remains undated at present. No information on mound LI047-046 (AY011) is recorded on the HEV; however, the proposed development at crossing XC201 Thomastown will not impact on the setting of this feature.

Field systems comprising an arrangement of fields which appear to form a coherent whole may have their origins in the Neolithic period and provide important information on prehistoric spatial arrangement and land use patterns. The Céide Fields on the northwest Atlantic coast are arguably the best preserved of this feature type in Ireland, although traces of similar relict prehistoric landscapes lie fossilised throughout the modern landscape. However, in a monument rich landscape such as that of east Limerick, where early ringforts may also sit within often fragmented but related field systems, it is difficult to chronologically tease apart this multi-layered site-type, or to accurately assign them to an appropriate period. This may be the case in such examples as the field system (CO017-122) in Rathclare townland, elements of which may be associated with a circular enclosure (CO017-131).

No HEV detail was available on the nature or extent of the field systems within the Study Area (LI040-106001, LI040-113-, LI040-129-, LI040-137001- and LI040-100001), but it is possible that traces of relict prehistoric field systems are represented here.

Bronze Age (2500–500BC)

The Bronze Age (2500–500BC) is typically associated with the introduction and development of metal technology and the use of metal tools, with a distinct warrior elite class defined by high status weaponry appearing towards the end of the period. Hoards of deliberately deposited high-status metal objects, as well as deliberate deposition of human remains in wetland environments, is a recognised feature of the later Bronze Age. Copper mining in Munster was conducted as an industry, and routeways for the distribution of people and materials as well as fording points on significant rivers also acted as a focus for settlement. Hillforts may have been constructed on strategic points to command and protect these routeways. A significant number of Bronze Age settlement sites and houses have been identified through archaeological investigations on large infrastructural and research projects in North Munster, such as on the BGE Pipeline to the West, on the M8/N8 motorway and on the M7 motorway. The funerary traditions of the Bronze Age are varied, for which within this Study Area a distinct concentration of barrows, particularly ring-barrows, is the typical representative site type. In addition, individual cremation burials, cremation cemeteries and isolated burials are known. Gold working and master craftsmanship are also a significant feature of Bronze Age Ireland, with sheet gold work being significant in the east Limerick area. A single small bronze axe-head from Garrynderk South townland (HNV/NMI online database 1935:507) is recorded for the Study Area, but in the wider area similar finds were deposited as votive offerings in lakes such as at Lough Gur. A bronze sword and spearhead were recovered from Ballyroe townland, as well as a significant find of amber from Kilmallock (ibid).

Regarding settlement sites, two possible Early Bronze Age structures as well as clusters of other possible Late Neolithic and Bronze Age stakeholes, hearths and linear features were identified as part of archaeological investigations in Creggane, Buttevant. A wide range of lithics including a stone axe, flint debitage, chert, flint tools as well as pottery (possibly Bronze Age) was recovered from the excavations at this site. Two late Bronze Age houses (LI039-072 and LI039-073) were excavated in Ballinacurra (Coshma By.) as part of the BGE pipeline; these structures were small (measuring 3m and 2.34m in diameter) with limited artefactual evidence (a broken thumbnail scraper and worked chert fragment) recovered from within the beam/slot trenches which defined the perimeter of each structure. No evidence for internal or roof structural supports was identified in the excavations, and although often providing the diagnostic dating evidence for domestic structures of this period, there was no pottery recovered here. Enclosing elements surrounding the houses at Ballinacurra were also identified; these habitation enclosures are often found in association with middle to late Bronze Age settlement sites.

At Doonmoon, excavations as part of the BGE Pipeline to the West identified a ring-barrow and associated pits which yielded a Beaker ceramic assemblage of Early Bronze Age date. A possible kiln (LI040-108002) for the production of these Beaker vessels was also identified as part of this investigation. Other excavations and investigations within the Study Area identified cremation pits and cemeteries of Bronze Age date, including in Ballinacurra townland, while cremation burials (LI040-138) with a distinct clay capping which sealed the deposited remains of human bone mixed with pyre debris were excavated by Margaret Gowen in Mitchelstowndown North. At Rathgoggan South, a pit burial (CO003-016) was excavated in 1986 during construction of the Bruff to Mallow gas pipeline. These are likely to represent middle to late Bronze Age burials, where burial rites often include the deposition of burnt and unburnt bone, and burial of selected token elements of the cremated individual. Further cremation burials within the Study Area include a burial represented by a broken mandible of an adult male at Adamstown and the discovery of three Bronze Age cist burials (CO008-012001; CO008-01203 and CO008-01204) in Ballynaboola townland in 1978; traces of the limestone stone cist lining as well as cremated bone were identified in association with these.

Visible and extant funerary monuments of the Bronze Age/Iron Age in the Study Area are represented by a total of 141 (no.) ring barrows and 3 (no.) unclassified barrows recorded on the Sites and Monuments Record (SMR). Ring barrows comprise a low mounded area with enclosing ditch and/or bank(s), and are generally dated to between c. 2400BC to AD400. These sites may or may not contain human remains. While over 900 (no.) barrows are recorded in the county of Limerick alone, the townland of Elton within the Study Area is of particular significance having a total of 68 (no.) ring barrows recorded. Excavations in the vicinity of these barrows identified pits, stakeholes, possible and prehistoric ditches as well as flint artefacts and fragments of ceramic vessels.

Other monuments often associated with Bronze Age funerary traditions include standing stones which were originally set upright in the ground, standing up to 6m high. These megaliths may also have served as route-markers in the landscape or defined the boundaries of territories and land ownership. Although it is generally accepted that the use-history of these features overlaps with the chronological timeframe for barrows, some standing stones may date to the early medieval period. Within the Study Area, a total of 14 (no.) standing stones are recorded on the HEV, with 2 being in Rathclare and Grange East (Orrery and Kilmore By.) townlands, and one each in Ardkillmartin, Ballybeg East, Ballynaboola, Boherascrub East, Bregoge, Grange West (Orrery and Kilmore By.), Lisballyhay, Rathgoggan South, Spital (Orrery and Kilmore By.) and Velvetstown townlands. Archaeological investigations around the base of a standing stone as part of the BGE pipeline development in Ballygrennan townland just beyond the limits of the Study Area yielded a small yellow glass bead, but no evidence for a burial. An earthwork is recorded adjacent to a standing stone (CO017-006001) in Velvetstown which may be prehistoric in date (see earthworks below).

There are no recorded large enclosure sites (with an average diameter of more than 70m) within the Study Area; however, c.12km to the northwest of Kilmallock three examples are known (LI031-092, LI031-097 and LI032-188). These large enclosures may represent strategic enclosures designed to defend prehistoric routeways through this part of Limerick and may be of Bronze Age date. The enclosures may be contemporary with the funerary monuments, but without archaeological excavation this cannot be definitively proven. The DIER listings for the Study Area also record archaeological works taking place in the vicinity of a large enclosure site.

There is a large number of enclosure sites (123 (no.) enclosures with an average diameter of less than 70m) recorded in the SMR/HEV within the overall Study Area. These sites may relate to habitation or funerary ritual sites of the Bronze Age, although it is also possible that some are monuments of different archaeological periods. The enclosure sites within the Study Area include a notable concentration in Knocklong West townland.

Fulachta Fia are amongst the most common site types in Ireland and are characterised by a mound or mounds of heat-shattered stone discarded from the process of heating water in a subsoil-cut trough. Generally found in low-lying ground where the water table is close to the surface, the often wood-lined troughs filled naturally with water. Closely resembling *fulachtaí* are burnt mounds/spreads and hearths, which may or may not include a pit in place of a water-filled trough; these are often interpreted as roasting sites. The use/function of *fulachtaí fia* and similar site-types were many and varied, from cooking to bathing places to brewing sites and sweat houses; some are undoubtedly associated with metal working, dyeing and textile production, feasting, etc. A clearer indication of the use-history of the *fulachtaí fia*/burnt mounds in this Study Area (27 recorded in 17 of the 121 (no.) townlands) can only be derived from archaeological excavation. However, it is likely that additional *fulachtaí* are present and are as yet undetected, especially in the more low-lying portions of the landscape.

Isolated features of possible Bronze Age date, but not forming part of any recognisable site-type, were excavated at Ballinacurra, and a second site in the same townland produced evidence for pits containing burnt and unburnt stone and animal bone in a *fulacht*-type stone and charcoal matrix. The excavator suggested a possible Bronze Age or Iron Age date for these features.

Iron Age (500BC–AD400)

Regarding Iron Age (500BC–AD400) activity in Ireland, much archaeological attention for this period was previously focused on the 'royal sites' of the Iron Age, and this has skewed the archaeological record for the period. No houses of Iron Age date are recorded on the SMR for either Limerick or Cork counties, and diagnostic artefacts dating to the Iron Age are not commonly found on excavations. However, archaeological investigations in the wider Munster area on recent large infrastructural projects have identified a number of Iron Age houses and settlement sites. These sites often comprise sparse and isolated features, and a comprehensive picture of the wider settlement context for them is consequently difficult to discern. There is a possibility that some of the funerary monuments ascribed to the Bronze Age (see above) may more accurately belong to this period. Similarly, some of the generic large 'enclosures' previously mentioned may represent hillforts or sites of Iron Age date. However, through the archaeological investigations of the past two decades, it is possible to discern an emerging and more holistic picture of the Iron Age in Munster.

Early Medieval Period

A total of 62 ringforts are recorded in 35 townlands within the Study Area; all are of ringfort-rath type. These ringforts represent the defended but dispersed homesteads of relatively wealthy farmers and are generally dated to the early medieval period (AD400–1100), though some remained in use until much later. Stout (2015, 73) suggests that of the c.60,000 ringforts in Ireland, most of these were occupied between the early seventh and ninth centuries AD. Ringforts are also representative of a predominantly rural-based cattle economy within a pastoral landscape. There is no significant evidence to suggest that clusters of houses or settlements occur outside these ringforts, although alongside many of the ringforts outlying subsurface archaeological remains (e.g., trackways, field systems and souterrains) also have the potential to occur, as do ringfort sites with no surface expression. It is not unusual to find kilns or industrial working areas located beyond the limits of the ringfort enclosure, and although no such examples are recorded within the 2km Study Area, it is likely that some survive below the present ground levels. Archaeological investigative works in the vicinity of ringforts where no evidence for archaeological features or deposits were identified include test excavations adjacent at the univallate Monaboy Fort (LI023-089) in Ballysallagh townland; at ringfort (CO008-039 [AY022]) in Ballycoskery townland and 2 investigations at ringfort (CO025-007) in Ballymague. Other Early Medieval features investigated in previous archaeological works within the Study Area include excavation of an Early Medieval ditch in Kilmallock.

Souterrains are subsurface stone features built for storage and/or defence, dating primarily to the Early Medieval period. They are commonly, although not always, associated with ringforts, and within this Study Area a total of 10 souterrains are listed. Of these, 3 are not associated with a ringfort, including souterrain CO025-163 and an infilled souterrain (CO025-169) in Ballybeg West townland. Another unenclosed 2-chambered souterrain (CO024-063) in Grange East townland was excavated by Prof. M. J. O'Kelly in 1963. Of the 7 (no.) examples associated with ringforts, souterrain CO024-054002 is located in the centre of ringfort (CO007-05401) in Ballynadrideen townland. Although no visible trace of souterrain CO024-136002 exists, it is recorded as being in the centre of ringfort CO024-136001 in Ballyvorisheen townland. Similarly, no surface trace survives of a partially collapsed souterrain CO017-030002 in Rathclare townland within ringfort CO017-03001. Nineteenth-century antiquarian accounts of the discovery of a souterrain (CO024-201) within ringfort (CO024-103) in Copsetown survive. Within a levelled ringfort, an oval hollow interpreted as the remains of a souterrain (CO024-199) are recorded in Kilmaclenine townland, and in Tinnascart townland within ringfort CO016-194, a curvilinear depression is interpreted as being the remains of a collapsed chamber and passage of souterrain CO016-255.

None of the field systems recorded within the Study Area appear to relate or to be associated with ringforts. However, the townland boundary system in the modern landscape frequently reflects boundaries established before and after the Anglo-Norman period, and many reflect ancient territorial or landownership boundaries; indeed, many townlands maintain names which reflect their Gaelic Irish origin. Within the Study Area, a total of 10

townland boundaries (TB-1–TB-10) are represented adjacent to the public road level crossings subject to this assessment; these comprise streams, roads, earthen banks and walls. In many cases, the absence of archaeological investigation precludes a definitive date for the construction of the man-made boundaries, and they therefore represent a significant opportunity to provide information regarding the nature of settlement and land distribution in Ireland.

While ringforts may represent the secular settlement sites of Gaelic Irish farmers and some nobles of the Early Medieval period, the presence of ecclesiastical sites within the Study Area is represented by two ecclesiastical enclosures (CO025-152) in Ballybeg West, Cork, and enclosure CO024-251 in Copsetown townlands. Although no physical evidence for an outer enclosure in Ballybeg West is recorded on the SMR, an enclosing element around the site of the church of 'Cill Cluaisi', chief church of the Tuath O Fiannadhuigh, is traceable. While no detail for the ecclesiastical enclosure site at Copsetown is provided in the SMR/HEV, mapping evidence clearly indicates earthworks around the ruins of the medieval church of Dromdowney; this church was abandoned by AD1615. Interestingly, the site is named on historical mapping as 'Kileen' church, suggesting the possible presence of a children's burial ground (*cillín*). Ecclesiastical enclosures sometimes acted as the focus for the development of nucleated settlements towards the end of the 9th and early 10th centuries; there is no evidence for settlement of this type in either of the ecclesiastic enclosures listed here.

Medieval Period

Urban Settlements

The focus of urban medieval settlement and monuments within and in the vicinity of the Study Area is evidenced in three historic towns – Buttevant (CO017-053001), Kilmallock (LI047-022001) and Charleville. The town of Buttevant was established by AD1234 when a licence was granted to David de Barry to hold an annual fair there; de Barry's masonry castle (CO017-054001) had been completed by AD1229. The de Barrys provided funding for the construction of the Augustinian Canons house (CO017-059001) and associated features (including clapper bridge (CO017-057002), dovecote (CO017-059003) and fish pond (CO017-057003)) which was completed in the same year as their castle. Around the same time, a substantial stone bridge (CO017-106) spanning the Awbeg River was constructed. The de Barrys were later in the same century patrons of the Franciscan Friary (*Chill na Mullach*) (CO017-053004) outside the limits of the town.

The Anglo-Norman frontier town of Buttevant was built in the style of a French bastide with a regular square grid plot pattern, and typical Anglo-Norman street-pattern comprising a long axial spine and lanes perpendicular to the main street. The town was enclosed by a defensive town wall (CO017-053012) by the 14th century; murage grants for 1317 are recorded. A medieval parish church (CO01-053010) lay outside the walled town and may be associated with the Franciscan Friary. A possible nunnery (CO017-053007) dedicated to St Owen or to St John the Baptist was similarly constructed beyond the limits of the town wall. The site of a leper hospital (CO017-105) and associated burial ground (CO017-125) is recorded in Spital townland to the north of Buttevant; this hospital may have been established in the medieval period and continued in use as a *cillín* or unbaptised children's burial ground into the 19th century. The town enjoyed a relatively short-lived prosperity and suffered under continued attacks by the O'Briens of Thomond and the McCarthys and O'Callaghans of Duhallow. An urban tower-house – Lombard's Castle (CO017-53002) – was probably constructed in the town in the 16th or early 17th century, and three unclassified mills (CO017-119001 and CO017-119002 in Waterhouse townland and CO017-059006 in Ballybeg East) are depicted on the Down Survey Barony map of 1655–56 for this period also. The de Barry estate was eventually sold in the 18th century when significant alterations to the castle were made, and the market hall (CO017-053008), a corn mill (CO017-053006), military barracks (CO017-138 [AY040/AH016]) and the Mallow–Charleville road were constructed.

Previous archaeological investigations (almost 30) in and around the town of Buttevant corroborate the historical records for the town, with additional significant prehistoric Bronze Age discoveries reported also (see above). Medieval features, finds or deposits were recorded at an excavation as part of conservation works at the Franciscan Friary in Ballybeg West, and at the Augustinian foundation in the same townland, similar architectural features were identified. Investigations along the known and purported line of the medieval town wall (CO017-053012) have produced mixed results: at Kerry Lane adjacent to the line of the town wall and to the remains of Lombard's Castle, successive archaeological investigations identified medieval pits and linear ditches, while further work in the same street in 2004 revealed features of modern date. An investigation at the eastern stretch of the town wall revealed ceramic sherds of 17th–19th century date, but no archaeological features. As part of the Buttevant Wastewater Collection Development in 2007, the masonry remains of a wall in Richmond Street were identified and interpreted as the remains of an early street line. Two investigations around the site of the medieval bridge (CO017-106) over the Awbeg River are recorded; in one of these, at Waterhouse, a 3m long section of post-medieval wall which projected eastwards from the southern side of the bridge was removed but the masonry was retained and reused in subsequent building works on the site. Nothing of archaeological significance was noted on the Lackaroe side of the bridge in subsequent investigations. Post-medieval features possibly associated with the military barracks (CO017-138 [AY040/AH016]) including culverts were identified at investigations in Castlelands and Knockbarry. Other than modern features of no archaeological significance, nothing of consequence was identified in 20 (no.) additional investigations in the town and its hinterland.

The medieval town of Kilmallock is also an Anglo-Norman town, most likely founded by the Bishop of Limerick on the River Loobagh within lands held by the Bishop of Limerick, but probably having its origins in the earlier 7th-century monastic site dedicated to St Mocheallóg (LI047-019001). This monastic site was apparently relocated to the location of the present town by the 11th century – the base of a round tower (LI047-022022) incorporated into the fabric of the later medieval parish church (LI047-022009) of SS Peter & Paul within the town provides the basis for this. The town was established in a strategically significant location between Cork and Limerick and remained an important centre of English control through the Munster Plantation and until the 17th century. The significance of Kilmallock in the medieval period is evidenced in King Edward IV's commissioning of a royal mint here in 1483. Kilmallock was the stronghold of the earls of Desmond during the later middle ages.

The town of Charleville was initially founded as 'Rathcogan' or 'Rathgoggan' by Miles de Cogan following a grant of "The Kingdom of Cork" from Henry II in 1177, although the prehistoric and early medieval sites in the vicinity point towards an earlier settlement focus. There is evidence for the town being a significant location during the Elizabethan Munster Plantation, but the name 'Charleville' was assigned to the town by a Royal Charter of 1671 to Roger, first Earl of Orrery and Lord-President of Munster, who maintained a mansion there until 1690. The name *Rath Luirc* is also associated with the town, but this association is derived from a petition from locals to have the name changed at the end of the 19th century.

Non-urban medieval monuments which indicate the Anglo-Norman frontier of the 12th and 13th centuries include a motte and bailey (LI040-105) also known as Athneasy Fort or *Dún Bhéal Atha na nDeisig (nDeiseach)* in Ballinavana townland. A number of associated medieval monuments including Athneasy church (LI040-0104001) was in existence by 1260, and enclosing square-shaped graveyard (LI040-0104002) are in its immediate vicinity. Moated sites are another site-type generally accepted as being the defended farmsteads of the newly settled Anglo-Norman minor nobles and wealthy farmers, constructed between the end of the 13th and early 14th centuries. However, some moated sites in Roscommon have been shown to be the homesteads of Gaelic Irish nobles. A total of 12 (no.) moated sites are recorded in this Study Area, 8 (no.) of which are in Cork. These include the now levelled square site CO008-004 in Ballynadrideen townland; 2 (no.) moated sites (CO016-206 and partly levelled CO016-206) located less than 100m apart in Bregoge townland; CO008-035 [AY020] close to XC212 in Ballycoskery townland which was partly truncated by the building of the railway line; CO007-155 in Caherconnor townland; CO003-010 in Rathmorgan townland; CO016-078- in Walshestown (Orrery and Kilmore By.), and the

now inaccessible sites of CO016-139 in Rathclare and CO008-007 in Pruntus townland. Within the Study Area in County Limerick, 3 (no.) moated sites are recorded, including LI047-064-in Garrynderk North townland; LI047-037 in Mountblakeney townland; and LI047-051 in Portanus townland.

Tower Houses

Tower houses are typically dated to the 15th century and are most frequently found as isolated monuments in the rural landscape. They are often regarded as the defended homesteads of wealthy Gaelic Irish lords and minor nobles. A number of these monuments are found within the Study Area, including the Stapelton castle (CO017-002) in Ballinguile, Cork; the Magner castle (CO016-072001) in Templeconnell with traces of an associated bawn (CO016-072002) at its southwest side; an unclassified castle which survives as the stump of an irregular rectangular tower (CO017-059002) in Ballybeg West; the remains of an unclassified Roche castle (CO007-119001) [AY027] in Ballynageragh, the stone of which may have been re-used in the building of Castle Harrison house (CO008-002 [AY015]) in the 17th century, and may also be the site of Ballyhea castle as marked on contemporary mapping. The site of Castlewrixon castle (CO008-027) in Castlewrixon South townland is likely to be that shown on a 16th-century map which names a castle 'Dode' in this vicinity, and later mapping for 'Balleline' suggests it belonged to 'Wm FitzGerrott of Castledod'. An unclassified castle (CO016-077002) in Walshestown (Orrery and Kilmore By.) was built by the MacJames Barry family and the stone from the original castle was incorporated into a later 18th-century Walshestown House.

Castles within the Study Area in Limerick include tower houses LI040-093 in Bulgaden Eady to the east of Kilmallock town; LI041-004005 in Knocklong East; and unclassified castles LI047-021002 in Ash Hill; LI047-026002 in Gotoon (Coshlea By.); LI047-073002 in Leagane townland and LI047-039 in Mountblakeney townland. At a tower (LI048-004) in Fantstown a sheela-na-gig (LI048-095) in the wall fabric is suggested to be contemporary with the main building. The 16th-century Desmond Survey records Garrett MacThomas as the tenant of a castle (LI041-004005) in Knocklong East, but by the Civil Survey of 1654 indicates that this building (known as the O'Hurley castle) was in ruins. At this time, a mill (LI041-061) was associated with it, as was a possible medieval road or trackway (LI041-004001).

Churches

Medieval parish churches, churches associated with religious foundations and often associated graveyards and holy wells are well represented in the Study Area, and are frequently part of a wider medieval landscape which might include a castle, road or trackways, etc. Of the churches in the Study Area, at least two may be of 12th-century date: the medieval church of Ballyhay CO008-001002 [AY013] displays late Romanesque architectural features and is mentioned in historical documents from 1224. It is located within graveyard CO008-001001 [AY012] where an early 14th-century effigy tomb (CO008-001003 [AY014]; not in its original location) is also found. A medieval parish church (LI047-068002) within a graveyard (LI047-068003) dedicated to the Blessed Virgin Mary is recorded in Effin townland from the 1240s but was known locally as 'Temple' or 'Kill Eifinn'. The prefix 'temple' may suggest an earlier foundation date for this church. Another such example may be the aforementioned church (LI040-104001) and graveyard (LI040-104002) of Athneasy which were recorded in historical documents of 1260; this church was extant until the 19th century.

A number of the medieval churches within the Study Area are recorded in Papal Taxation records of 1291, and some were dedicated to the Blessed Virgin Mary by the 15th century. The Papal Taxation Records include reference to a medieval parish church in Imphrick (CO007-120002 [AY030]) from 1291 and in ruins by 1615, associated with which is a graveyard CO007-120001 [AY029]. The earliest dated grave marker in this graveyard is from 1757. A holy well (CO007-121 [AY031]) named 'Tobernadeecla' on the 1845 OS 6-inch map and dedicated to St Declan is located 0.1km to the northeast. The medieval parish church (LI048-002001) of Kilbreedy Major in Fantstown with gothic style east window and west doorway is not associated with a burial ground but is associated with a holy

well (LI048-002002) dedicated to Our Lady. Some of the medieval churches for which documentary evidence survives are no longer extant or have little visible traces above ground, such as church LI040-115002 within Cloheen graveyard in Ballynahinch townland.

Holy Wells

As shown above, holy wells are often associated with medieval churches, although some may have been used since prehistoric times. Numerous isolated examples in the rural landscape are recorded within the Study Area. Some wells are associated with saints and particular devotions from the early medieval period (from the 5th century) onwards. The water from some wells reputedly possesses miraculous healing properties; for example, the well adjacent to the railway line at Imphrick [AY031] is believed to cure ailments of the eyes. This well is said to have been at the other side of the road but moved to its current location following a desecration. Many of the wells are dedicated to the Blessed Virgin Mary or to St Brigid. At Castleharrison, although not named on the 1845 OS map, a well (CO008-003) dedicated to the Blessed Virgin Mary continues to be used by people in Charleville as a pilgrimage site, with devotions taking place there around 15th August. Undedicated but named wells marked on the 1845 OS map include Deborah's well (LI040-110-) in Ballynahinch townland and Toberedmond well (LI040-130-) in Hammondstown. The townland name Tobernea Middle (the Irish word *tobar* meaning well) contains a named spring (LI047-089) on the 1845 OS map. Like St Declan's Well in Imphrick, local oral tradition holds that the well moved when a woman washed clothes in it.

Earthworks

Earthworks represent an anomalous site-type in the archaeological record and may date from any period from prehistory to modern. Undiagnostic earthworks which are not evidently related to other monuments in this Study Area and for which the HEV does not record any further detail are found in Ballinvana (LI040-100013), Darranstwon (LI048-014), Doonmoon (LI040-111), Elton (LI040-166004), Fantstown (LI048-005), Gibbonstown (LI048-091), Hammondstown (LI040-289), Kilmihil (Coshlea By.) (LI047-078-), Knocklong East (LI041-004004), Knocklong West (LI040-143), Mitchelstowndown North (LI041-002001), Mountcoote (LI048-069) and Stephenstown (LI040-098) townlands.

In Cork county within the Study Area, a number of earthworks with limited detail regarding their form and function are recorded on the HEV but do indicate the variety of potential origins. They include earthworks (CO017-009) which may represent a landscape feature associated with Velvetstown House (NIAH Reg. No. 20901704). In Rathclare, earthworks CO017-032 described in the HEV as comprising two low oval mounds in low-lying wet ground may be *fulachtai fia*. Earthworks in Newtown (Fermoy By., Ballyhay Par.) may be related to construction works along the line of the railway rather than *bona fide* archaeological features. An earthwork (CO016-217) comprising two banks and internal fosse in Knockbarry (Orrery and Kilmore By.) were reputedly levelled in the 1980s, and in Ballybeg East earthwork CO017-059004 may be related to the medieval Augustinian complex.

Houses

A number of significant 18th- and 19th-century houses, as well as vernacular structures, are located within the Study Area and include Springfield House (CO017-060; NIAH Reg. No. 20901725), the early 18th-century seat of the Norcott family, and attendant farm building in Ballybeg East townland, which was held from the Viscount Doneraile. The nearby Elm Vale house (CO025-050; NIAH Reg. No. 20902513) in Baltydaniel East was built c.1770. Other country houses of significance within the Study Area include the 18th-century Velvetstown House (CO017-010) and associated buildings, home of the Crofts family, whose plans to relocate to a new house they built on their land were thwarted by a fire in 1895 which necessitated their return to the original house. A private (now unmarked) burial ground (CO017-007) adjacent to the house may also be associated with the Croft family. A now vacant mid-18th-century house (CO016-077001) in Walshestown may have been built on the site of an earlier castle as indicated by the presence of dressed quoins in its fabric. A possible late 17th- or early 18th-

century country house (CO017-057001) in Waterhouse, Buttevant, marked on the first-edition OS (1845) was in ruins by 1902. In the early 19th century, the earl of Barrymore's 13th-century medieval castle (CO017-054002; NIAH Reg. No. 20803015) in Buttevant was converted into a country mansion befitting the status of John Anderson, the founder of Fermoy town. Anderson was also responsible for the construction of the flour mill in Buttevant, which had a capacity of twenty thousand barrels of flour per year but was lying idle by the early 1840s. The ruins of the 19th-century Loughlea House (CO017-136), named as 'Fort Henry' on the first-edition OS map, survive extant, as does a tree-ring landscape feature (CO017-013) within the grounds. A similar landscape feature (CO003-002) originally associated with a house annotated as 'Belfort' in Rathgoggan Middle townland on the first-edition OS now survives in isolation as the house has been demolished.

Vernacular houses of heritage significance which represent the more modest dwellings of farming families are represented within the Study Area by five recorded examples. Some of these dwellings were undoubtedly originally thatched, probably including (CO008-036) [AY021] in Ballycoskery which is c.200m east-southeast of a moated site (CO008-035) [AY020] of the 13th/14th century. A thatched but now abandoned hipped-roof house (CO016-225) and associated range of farm buildings surviving in Boherascrub West townland is recorded on the SMR/HEV, but it is unclear as to what condition it survives in now. A similar hipped-roof and thatched dwelling (CO024-162) is found in Grange West and appears on the first-edition and subsequent OS mapping. Two buildings (CO003-003-) in an L-shaped arrangement included on the first-edition OS are shown with later additions on subsequent mapping in Rathglassane townland. In Effin townland, a six-bay single-storey thatched house (RPS 38/NIAH 21904709 [AH006]) was in use as a licensed premise until recent times. A survey of the thatched houses in Cork was conducted by Cork County Council and the Heritage Council and indicates that the hipped-roofed wheaten-straw thatched style predominated in Cork, with 145 examples having been surveyed. Many of these vernacular houses are clay-walled structures, with 17 of the 18 (no.) recorded examples being in the Charleville area. Stone was often used as the footings on which clay walls were built; once the houses were vacated these houses deteriorate rapidly. Significant houses of the early 20th century in the Study Area are represented by a detached two-storey example (NIAH 20900801) with entrance piers and ornate ironwork located adjacent to the railway line in Pruntus townland.

Other Monuments

Other cultural heritage and archaeological features whose use-history spans the medieval and post-medieval period include limekilns which often comprise elaborate stone structures designed for calcining limestone which was subsequently used in construction works, whitewashing and as a fertiliser. Because of the nature of the function of these monuments, they are generally constructed where limestone was quarried or is naturally outcropping in the landscape. Of the 8 (no.) recorded examples within the Study Area, 7 (no.) are in Co. Cork. The undated kilns include a kiln (CO017-058) in Ballybeg West townland built against a rock outcrop; a kiln (CO016-192) in Boherascrub West built against a quarry face; a kiln (CO008-050) built against a natural slope in Lisballyhay; a kiln (CO017-029) built in a quarry in Rathclare; and a kiln (CO017-056) built against a limestone outcrop in Waterhouse townland, Buttevant. The dated examples include a 19th-century kiln (CO016-073) built in a quarry in Templeconnell, and an early 20th-century kiln (CO024-104) built in a quarry in Copsetown. No information was available on the HEV regarding kiln (LI047-091) in Coolroe townland.

A military barracks (RPS 52 / NIAH 20803030) [AH016/AY040] was built in Creggane on the outskirts of Buttevant c.1815, and a terrace of former soldiers' houses (NIAH 20803039) [AH018] is situated nearby. The barracks was abandoned in 1921 and burned in 1922, leaving little other than the boundary walls.

Evidence for the development of social policy measures and provisions of the 19th century and during the years of the Great Famine (1845–50) in particular are represented by a burial ground (LI047-023) in Millmount townland, Kilmallock, which was probably the burial ground of the Union Workhouse (NIAH Reg No 21813040)

built in 1841. The 19th-century fever hospital in Buttevant (CO017-053011; NIAH Reg No 20803008) shown on the OS 6-inch map of 1845 survives extant and is presently in use as part of a school.

In the late 18th and early 19th century, a prolific period of church building ensued nationwide following the easing of the Penal Laws, with many medieval churches being replaced by more modern buildings. A number of these are listed as Protected Structures under the relevant County Development Plans and are featured on the NIAH. These include the church of Ballyhea (CO008-001002; see medieval churches above); a group of ecclesiastical features in Ballycoskery including St Mary's Church (CO008-069/NIAH 20900804) [AH010] built in 1831 and an associated parochial house (NIAH 20900805) [AH011] built in 1905.

More mundane but none-the-less important social infrastructure is represented by a road-side cast-iron water pump of c.1870 (NIAH 21904708) [AH005] which survives *in situ* in Thomastown. Fieldwork carried out for this assessment by AMS located another unrecorded cast-iron water pump in Shinanagh [AH014] and a rare example of a timber pump in Gibbonstown [AH003].

The construction of the railway necessitated the building of supplementary buildings and features. Previously recorded architectural heritage features of significance within the Study Area include a railway goods shed (NIAH 20803040) [AH019] in Creggane townland that retains many original features. This structure forms part of Buttevant Station [AH020] which was the site of a fatal accident in 1980 which is commemorated by a memorial at the site.

Historical Background

The 16th and 17th-century history of the province of Munster is marked by rebellions and wars, followed by famine and plague. Henry VIII's Tudor Conquest of Ireland (as a consequence of the Geraldine rebellions) eventually saw over 22,000 new settlers to Munster by the mid-17th century. Many of the Irish clans retained their autonomy in spite of the Crown's 'Surrender and Regrant' policies, but the Desmond rebellion (the earls of Desmond had ruled over much of Munster since the Anglo-Norman period) saw the combined uprising of many of the former powerful dynastic Irish clans (such as the MacCarthy Mór, the O'Keeffes and the O'Sullivan Beares) who were opposed to English rule. The 1601 Battle of Kinsale saw failed hopes for Spanish intervention for the Irish who were defeated in their fight against the ruling English. The 'long march of O'Sullivan Beare' followed, where the defeated Irish chieftain Donal Cam O'Sullivan Beare marched his army from Cork to Leitrim over seven days. The 200-strong army and its entourage reputedly crossed the Awbeg River where the "bridge on the road from the railway level-crossing to Churchtown now stands" (Burden 1986, pp.116–24). The Elizabethan plantations settled with loyal aristocratic subjects were reinforced at towns such as Kilmallock, which withstood Irish uprisings and rebellions.

Cromwell's campaigns with his New Model Army ensured that much of Munster was in English hands by 1650. While strict Penal Laws curbed the Catholic Irish, Cromwell's Protestant soldiers were rewarded with lands throughout the province and the Protestant landlord system of landholding was cemented. Many of the estates, demesnes and country houses throughout Munster owe their origins to the Cromwellian settlers, and their owners became pivotal in the political, social and economic development (or stagnation) of towns, villages and the rural countryside of the province. This system of landlordism survived relatively intact until the end of the 18th century when the emergence of new social classes arose, and economic prosperity driven by changing agricultural practices and mercantile trade via centres such as Cork.

The desire of the British Government to maintain control in Ireland and defend it from external threats saw the development of garrisons, military barracks and encampments throughout Ireland in the late 17th and 18th centuries, and one such example at Buttevant constructed c.1815 housed up to five hundred soldiers and officers [AH016/AY040]. This barracks was associated with a hutted encampment at Ballyvonaire where up to 3,000 troops were housed. Buttevant was ensured relative prosperity during this time due to the economic spending

power of the troops garrisoned there; trades and producers delivering goods to provision the troops also flourished.

However, towns such as Kilmallock suffered economic stagnation as new road routes diverted traffic and trade elsewhere in the area. Road building programmes of the 17th and 18th centuries delivered critical infrastructure and provided much-needed employment for locals, especially in the period before harvest time. Parliamentary Acts paved the way for the development of local gentry-led 'Turnpike Trusts' and tolled turnpike roads in the 1730s; taxes were levied by the Barony Grand Juries in the 1760s, and in the late 1780s the Irish Post Office pushed for the development of road networks between towns. Landlords sitting on Grand Juries could influence the location and nature of new roads, and in some cases their country estates became convergence points for new roads (such as at Castlewrixon); new roads ran through some estates which were not extensively cultivated or populated. By the end of the 18th century, Mallow had become a focal point for ten radial roads. The new mail coach roads of the late 18th century were in many cases more suited to local topography, with the emphasis being on the most convenient link between urban post offices. These roads lost out with the coming of the railway in the 19th century.

Great Southern and Western Railway

The development of the railway in southern Ireland saw the potential for mass movement of people, many of whom used the railway to access port towns from which they emigrated for a life in the New World. Employment opportunities outside farming developed, and the railways opened up previously isolated parts of the country to new trade and industry and served as a means by which new goods and services could be readily transported. Horse-drawn coach services, which had previously relied on transporting mail and passengers, enjoyed a new lease of life in their ferrying of passengers from stations to their onward destinations. Visiting historic sites and beauty spots like Killarney became popular, and a burgeoning tourism industry developed. The railways were critical for the British Army who garrisoned and provisioned troops throughout the country, including at the military barracks and camp at Buttevant [AH016/AY040]. The relative speed and affordability of rail fares ensured that increased mobility and travel became accessible to all. The expanded Great Southern and Western Railway (GS&WR) rail network ensured lower costs for transportation of produce and faster access to markets, with a return journey for a dairy farmer delivering produce from Macroom to Cork markets being reduced from three days to one. Ironically, however, although the expanded railway network allowed for improved access to markets from an agricultural perspective, the British Government failed to utilise this network for the transport of food relief to the starving population in a province ravaged by famine in the 1840s.

The GS&WR, the third main line in the country to open in the 1840s, was financed to the tune of almost half a million pounds by the Board of the London and Birmingham Railway (L&BR) which saw the potential for expansion of their own trade in Ireland. An Act of Parliament in 1845 authorised the building of the line through Mallow, which at that time was a transport and trading hub. It had taken the GS&WR contracted engineer William Dargan three years to build 107 miles of railway between Dublin and Limerick; and in 1849 Dargan achieved a Government subsidy and set himself an ambitious timeframe to undertake the extension of the line from Thurles to Cork. Up to one thousand local men worked night and day on the railway and were paid higher wages than those offered for famine relief works at the time. Dargan was sympathetic to the plight of the starving people of the area, and reputedly donated £50 to help finance a soup kitchen in Mallow in 1847. Difficult topographical conditions were overcome, including works necessitated for the creation of viaducts and embankments, with infill material taken from the tops of adjacent hills. Where possible, locally available building materials were used; Canon Power suggests that workers utilised stone from the ancient Copstown church at 'Cricad an Chaoille' in building the original Mallow railway bridge.

Dargan achieved the construction of the Mallow–Cork section of the line within six months; it opened on 18th October 1849, with the 145-mile Dublin to Cork journey on that day taking five and a half hours. The regular

service on the GS&WR line initially comprised two daily return trains; the early mail train taking seven hours, and the passenger service which took twelve hours stopped at each station *en route*. The postal service was revolutionised, with mail trains delivering a regular service to stations and towns along the line. The express mail train did not stop at Charleville station; rather, it collected the post c.1.5 miles to the north at a small Post Office hut station equipped with a 'snatcher' device which allowed the transfer of the mail bag in a net to the train and vice versa. The passenger train service compared favourably with the contemporary coach service which took up to seventeen hours to complete the same journey. The passenger return fare from Charleville to Dublin at this time was less than £1.

In spite of the welcome employment provided in the construction of the railways, the projects were undertaken during a period of intense political and social unrest. Agrarian societies such as the Whiteboys were active in targeting landlords and rent-collectors, and in Ballyhea townland up to 200 Whiteboys reputedly assembled at Castleharrison and advanced onwards to Castle Wrixon. The ground floor windows of Castleharrison House were reinforced with iron bars by the owner to minimise the potential impact of raids by the marauders. Ribbonmen, active between 1835 and 1855, were responsible for repeated attacks on building supply stores on the railways and for threatening workers on the line; these attacks necessitated armed guards to protect the works.

The Buttevant train crash on 1 August 1980 was one of the worst rail disasters in Irish history. The accident occurred when the 10 o'clock train from Dublin to Cork, which was carrying 230 passengers and travelling at a speed of over 110kmph, derailed at Buttevant Station at approximately 1 o'clock in the afternoon. In total, 18 people lost their lives and many more were injured. Many of the passengers were overseas visitors travelling to Cork. The then Minister for Transport, Albert Reynolds, who visited the scene described the disaster as "*one of the worst, if not the worst, in the history of the railways in Ireland*" and immediately announced a public inquiry.¹⁵ A memorial adjacent to the crossing XC219 Buttevant commemorates those who were killed (Plate 12. 27). In 2005, a major commemoration took place for the 25th anniversary of the accident; plans for a similar major event in 2020 to mark the 40th anniversary were curtailed due to the Covid-19 pandemic.¹⁶

War of Independence and Civil War

In the early twentieth century, the Revolutionary and Civil War period in Ireland saw continued political and social unrest throughout the country, and Munster (particularly Tipperary) was seen as a hotbed of activity. During the War of Independence (1919–21), the rail line between counties Tipperary and Limerick was the scene of a number of significant events, including the rescue of the IRA man Seán Hogan. Members of the IRA 3rd Tipperary Brigade including Dan Breen, Sean Tracey and Seán Hogan, led by Seamus Robinson, were responsible for the deaths of two RIC officers at Soloheadbeg, Co. Tipperary in early 1919. The 3rd Tipperary Brigade members fled the scene at Soloheadbeg, and were on the run for four months when Hogan was captured by the RIC in May 1919. They brought Hogan to Thurles and from there, he was to be sent to Cork by train under armed escort. In Cork, Hogan would be interrogated about his IRA activities and the Soloheadbeg attack, and he would most likely have been sentenced to hang for his part in the event. The 3rd Tipperary Brigade staged a successful rescue attempt for Hogan in an ambush of the train at Knocklong. Hogan, still in handcuffs, escaped a gun battle between his comrades and the RIC escort on the train, and he was freed from his handcuffs by a local butcher. Two of the RIC guards who were shot in the melee on the train died from their wounds, and a third RIC guard (who had escaped through a carriage window) was found wandering further along the line on the following day. In the gun battle both Dan Breen and Sean Tracey were seriously wounded, as were two other IRA comrades from the area.

¹⁵ <https://www.rte.ie/archives/2015/0731/718530-aftermath-of-buttevant-train-crash/> [Accessed 2 March 2021]

¹⁶ <https://www.irishtimes.com/news/ireland/irish-news/it-can-still-feel-so-raw-cork-marks-40th-anniversary-of-buttevant-rail-crash-1.4318855> [Accessed 2 March 2021]

The National Folklore Collection records a story from this period associated with Imphrick. Collected in 1937–38 during the Irish Folklore Commission's schools project, the story relates that close to Imphrick graveyard [AY029] are the ruins of a house blown up during the "*Black and Tan terror*".

During the Civil War (1922–23), the railway between Dublin and Cork was seen as a legitimate target by 'Irregulars' of the Irish Republican Army, who opposed the National Army forces in their guerrilla campaigns. The ten-arch viaduct at Mallow was a repeated point of attack, with the blowing up of the bridge on 9th August 1922 being the most significant action. In addition, the railway bridges at Rathclare and Quartertown Upper were damaged, as were permanent ways at Ballyhea and Rathclare. The telegraph office, equipment and signal cabin were damaged at Mallow and a signal cabin at Mourneabbey were attacked during the campaigns, and other legitimate targets included the telephone wires which were cut to the north of Mallow; a wooden bridge was burned, and later in the campaign two overhead bridges and one rail bridge between Buttevant and Charleville were blown up, all causing widespread disruption. The train station of Mallow was substantially destroyed in a fire in October 1922. But the significance of maintaining the transport links between Dublin and Cork were not underestimated by the Government, and the new bridge at Mallow was opened in October 1923.

12.5.2 Cultural Heritage Policy Context: Cork County Development Plan 2014

The overall planning policy for heritage in County Cork is set out in Volume 1, Chapter 12 Heritage of the Cork County Development Plan (CDP) 2014.¹⁷ The Cork CDP includes a number of heritage objectives that are relevant to the proposed Project and these are:

HE 3-1: Protection of Archaeological Sites

"a) Safeguard sites and settings, features and objects of archaeological interest generally.

b) Secure the preservation (i.e. preservation in situ or in exceptional cases preservation by record) of all archaeological monuments including the Sites and Monuments Record (SMR) (see www.archeology.ie) and the Record or Monuments and Places as established under Section 12 of the National Monuments (Amendment) Act, 1994, as amended and of sites, features and objects of archaeological and historical interest generally.

In securing such preservation, the planning authority will have regard to the advice and recommendations of the Department of Arts, Heritage and Gaeltacht as outlined in the Frameworks and Principles for the Protection of the Archaeological Heritage."

HE 3-2: Underwater Archaeology

"Protect and preserve the archaeological value of underwater archaeological sites and associated features. In assessing proposals for development, the Council will take account of the potential underwater archaeology of rivers, lakes, intertidal and sub-tidal environments."

HE 3-3: Zones of Archaeological Potential

"Protect the Zones of Archaeological Potential (ZAPs) located within historic towns and other urban areas and around archaeological monuments generally. Any development within the ZAPs will need to take cognisance of the potential for subsurface archaeology and if archaeology is demonstrated to be present appropriate mitigation (such as preservation in situ/buffer zones) will be required."

¹⁷ Cork County Council has commenced the preparation of a new County Development Plan for the period 2022-2028 in accordance with the steps set out in the Planning and Development Acts.

HE 3-4: Industrial and Post Medieval Archaeology

"Protect and preserve the archaeological value of industrial and post medieval archaeology such as mills, limekilns, bridges, piers, harbours, penal chapels and dwellings. Proposals for refurbishment, works to or redevelopment/ conversion of these sites should be subject to careful assessment."

HE 3-5: Burial Grounds

"Protect all historical burial grounds in County Cork and encourage their maintenance and care in accordance with appropriate conservation principles."

HE 3-6: Archaeology and Infrastructure Schemes

"Have regard to archaeological concerns when considering proposed service schemes (including electricity, sewerage, telecommunications, water supply) and proposed roadwork's (both realignments and new roads) located in close proximity to Recorded Monuments and Places and their known archaeological monuments."

HE 4-1: Record of Protected Structures

"a) The identification of structures for inclusion in the Record will be based on criteria set out in the Architectural Heritage Protection - Guidelines for Planning Authorities (2005).

b) Extend the Record of Protected Structures in order to provide a comprehensive schedule for the protection of structures of special importance in the County during the lifetime of the plan.

c) Seek the protection of all structures within the County, which are of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest. In accordance with this objective, a Record of Protected Structures has been established and is set out in Volume 2, Chapter 1 of the Plan.

d) Ensure the protection of all structures (or parts of structures) contained in the Record of Protected Structures.

e) Protect the curtilage and attendant grounds of all structures included in the Record of Protected Structures.

f) Ensure that development proposals are appropriate in terms of architectural treatment, character, scale and form to the existing protected structure and not detrimental to the special character and integrity of the protected structure and its setting.

g) Ensure high quality architectural design of all new developments relating to or which may impact on structures (and their settings) included in the Record of Protected Structures.

h) Promote and ensure best conservation practice through the use of specialist conservation professionals and craft persons."

HE 4-2: Protection of Structures on the NIAH

"Give regard to and consideration of all structures which are included in the NIAH for County Cork, which are not currently included in the Record of Protected Structures, in development management functions."

HE 4-3: Protection of Non- Structural Elements of Built Heritage

“Protect important non-structural elements of the built heritage. These can include designed gardens/garden features, masonry walls, railings, follies, gates, bridges, and street furniture. The Council will promote awareness and best practice in relation to these elements.”

HE 5-1: Cultural Heritage

“Protect and promote the cultural heritage of County Cork as an important economic asset.”

12.5.3 Cultural Heritage Policy Context: Limerick County Development Plan 2010

The overall planning policy for heritage in County Limerick is set out in Volume 1, Chapter 7 Environment and Heritage of the Limerick County Development Plan (CDP) 2010.¹⁸ The Limerick CDP includes a number of heritage objectives that are relevant to the proposed Project and these are:

EH 025: Preservation of the Archaeological Heritage

“It is the objective of the Council to seek the preservation (in situ, or at a minimum, preservation by record) of all known sites and features of historical and archaeological interest. This is to include all the sites listed in the Record of Monuments and Places as established under Section 12 of the National Monuments (Amendment) Act 1994.”

EH 026: Preservation of the unrecorded/newly discovered archaeological heritage

“It is the objective of the council to protect and preserve (in situ, or at a minimum, preservation by record) all sites and features of historical interest discovered subsequent to the publication of the Record of Monuments and Places.”

EH 027: Protection of the setting of archaeological monuments

“It is the objective of the council to ensure that any proposed development shall not have a negative impact on the character or setting of an archaeological monument.”

EH027A: Preservation of the Underwater Archaeological Heritage

“It is the objective of the Council to seek the preservation (in situ, or at a minimum, preservation by record) of all known and all previously unrecorded sites and features of historical and archaeological record in riverine, lacustrine, estuarine and or marine environments.”

EH 030: Raise public awareness and encourage active participation

“It is an objective of the Council to generally raise public awareness of the archaeological and historic heritage and to assist and encourage active participation by the public following consultation with National Monuments Service, in the conservation, consolidation and presentation of landmark sites, where this is appropriate and subject to available resources.”

EH 031: General Protection of Structures

“It is the objective of the Council to:

¹⁸ The Limerick County Development Plan 2010-2016 will continue to have effect until a new Development Plan for the county is prepared.

a) seek the protection of all structures (or, where appropriate, parts of structures) within the County, which are of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest and listed in the Record of Protected Structures. The record will continue to be developed on an ongoing basis, as resources permit, in accordance with the criteria laid down in the Architectural Heritage Protection Guidelines for Planning Authorities.

b) As resources permit, determine the extent of the curtilage of protected structures."

12.5.4 XC187 Fantstown

Desk Top Study

There are nine (9) previously recorded archaeological sites within c.500m of the proposed Project at this site, comprising two (2) enclosures listed on the Record of Monuments and Places (RMP) (AY001 & AY002) and a cluster of six (6) ring-barrows (AY003–AY008) and an earthwork (AY009) listed on the Sites and Monuments Record (SMR). Previously recorded architectural heritage assets comprise a railway bridge built c.1849 (AH001 [Plate 12. 1]) and Bawntard House, built c.1840 (AH002). Ahnagluggin Bridge (AH004) is labelled on historical Ordnance Survey (OS) maps to the north of the crossing. The existing rail line follows the nineteenth-century Great Southern and Western Railway (GS&WR) (IH-1) and the level crossing (IH-2) is labelled on the 25-inch Ordnance Survey map (surveyed 1897–1903). The crossing is close to the townland boundary between Fantstown and Gibbonstown (TB-1) (see Table 12. 2 below and Volume 4).

Information on the origin of townland names within the study area is presented in Table 12. 3. The Irish Folklore Commission's Schools Collection includes 41 stories from the area and photographs of thatched vernacular buildings in Martinstown which lies to the east of XC187 Fantstown and outside the study area. No stories were located concerning the railway or cultural heritage sites in the study area for XC187 Fantstown.

Survey Work

A cultural heritage field survey was carried out in October 2019 and comprised a combination of windshield survey and walkover site inspections. This follows a desk-based archaeological assessment carried out in 2011 (Flynn 2011). The 2019 survey aimed to confirm the location of cultural heritage features identified during the desktop research in proximity to the diversion route, and it resulted in a rare and previously unrecorded timber water pump (AH003 [Plate 12. 2]) being identified along the roadside c.80m north of XC187 Fantstown.

Table 12. 2: XC187 (Fantstown) Cultural Heritage baseline conditions

| Site Number | Subcategory | Site Type | Designation | Importance |
|-------------|------------------------|---------------------------|-------------------|------------|
| AY001 | Archaeology | Enclosure | Recorded Monument | High |
| AY002 | Archaeology | Enclosure | Recorded Monument | High |
| AY003 | Archaeology | Barrow - ring-barrow | Listed on SMR | High |
| AY004 | Archaeology | Barrow - ring-barrow | Listed on SMR | High |
| AY005 | Archaeology | Barrow - ring-barrow | Listed on SMR | High |
| AY006 | Archaeology | Barrow - ring-barrow | Listed on SMR | High |
| AY007 | Archaeology | Barrow - ring-barrow | Listed on SMR | High |
| AY008 | Archaeology | Barrow - ring-barrow | Listed on SMR | High |
| AY009 | Archaeology | Earthwork | Listed on SMR | Unknown |
| AH001 | Architectural Heritage | Railway Bridge | Listed on NIAH | Local |
| AH002 | Architectural Heritage | House - 18th/19th century | Listed on NIAH | Local |

| Site Number | Subcategory | Site Type | Designation | Importance |
|-------------|-------------------------|----------------------------------|-------------|------------|
| AH003 | Architectural Heritage | Water pump | None | Regional |
| AH004 | Architectural Heritage | Bridge (Ahnagluggin Bridge) | None | Local |
| IH-1 | Other Cultural Heritage | Railway Line/Cutting/ Embankment | None | Regional |
| IH-2 | Other Cultural Heritage | Level Crossing | None | Local |
| TB-1 | Other Cultural Heritage | Townland Boundary | None | Low |

Table 12. 3: Townlands within the XC187 (Fantstown) study area

| Townland Name (English) | Civil Parish | Barony | Townland Name (Irish) | Suggested Meaning |
|-------------------------|------------------------|------------|------------------------------|---|
| Ballinscaula | Athneasy | Coshlea | <i>Baile an Scálaigh</i> | The town of An Scálach (from a surname) |
| Bawntard North | St Peter's & St Paul's | Kilmallock | <i>Na Bánta Arda Thuaidh</i> | The high tracts of lea-ground |
| Fantstown | Kilbreedy Major | Coshlea | <i>Baile an Fhóntaigh</i> | The town of An Fóntach (from a surname) |
| Gibbonstown | Kilbreedy Major | Coshlea | <i>Bhaile Ghiobúin</i> | The town of Giobún (personal name) |
| Kilbreedy East | Kilbreedy Major | Coshlea | <i>Chill Bhríde Thoir</i> | The church of Bríd |
| Kilbreedy West | Kilbreedy Major | Coshlea | <i>Chill Bhríde Thiar</i> | The church of Bríd |
| Martinstown | Athneasy | Coshlea | <i>Bhaile Mháirtín</i> | The town of Máirtín (personal name) |

12.5.5 XC201 Thomastown

Desk Top Study

There are two (2) previously recorded archaeological sites within c.500m of the proposed road-over-rail bridge and link road comprising an enclosure (AY010) and a mound (AY011); both monuments are listed on the RMP. Previously recorded architectural heritage assets comprise a water pump (AH005) and a thatched cottage/former licensed premises (AH006, a Protected Structure) which is shown in the wrong place on the NIAH and actually lies outside the 500m study area (see Survey Work below). The existing rail line follows the nineteenth-century GS&WR (IH-1) and the level crossing (IH-3) is labelled on the 25-inch Ordnance Survey map (surveyed 1897–1903). The existing crossing is on the townland boundary between Thomastown and Effin (TB-2; see Table 12.4 and Volume 4).

Information on the origin of townland names within the study area is presented in Table 12.5 below. The Irish Folklore Commission's Schools Collection includes nine (9) stories from Effin. No stories were located concerning the railway or cultural heritage sites in the study area.

Survey Work

A cultural heritage field survey was carried out in October 2019 and comprised a walkover of the footprint of the proposed Project at this site. The survey aimed to confirm the location of cultural heritage features identified in proximity to the development during the desktop research and to identify any other unrecorded features of potential cultural heritage significance. No previously unrecorded aboveground archaeological features were identified within the development design extents during the 2019 survey. However, there is a potential for subsurface archaeological remains to exist in this area.

The survey found that the thatched cottage/former licensed premise (AH006) is mapped in the wrong location by the NIAH/HEV and is actually situated on the north side of the R515, 540m southwest of the proposed tie-in point and outside the 500m study area. Informal consultation was carried out with the owner of the house adjacent to the crossing, eliciting some oral history information that demonstrates that the crossing is of local socio-historical interest.

A geophysical survey of the site was completed by ACSU under licence number 20R0239 in November/December 2020 (Murphy 2020a; Volume 5, Appendix 12H). The survey identified a number of anomalies that may be of archaeological significance (postholes, pits etc.) but conversely could also be natural in origin (stone sockets etc.). A programme of archaeological testing shall be carried out by a licensed archaeologist prior to construction to establish whether any of these anomalies are archaeological in nature.

Table 12.4: XC201 (Thomastown) Cultural Heritage baseline conditions

| Site Number | Subcategory | Site Type | Designation | Importance |
|-------------|-------------------------|----------------------------------|---------------------|------------|
| AY010 | Archaeology | Enclosure | Recorded Monument | High |
| AY011 | Archaeology | Mound | Recorded Monument | High |
| AH005 | Architectural Heritage | Water pump | Listed on NIAH | Regional |
| AH006 | Architectural Heritage | House - vernacular house | Protected Structure | Regional |
| IH-1 | Other Cultural Heritage | Railway Line/Cutting/ Embankment | None | Regional |
| IH-3 | Other Cultural Heritage | Level Crossing | None | Local |
| TB-2 | Other Cultural Heritage | Townland Boundary | None | Low |

Table 12.5: Townlands within the XC201 (Thomastown) study area

| Townland Name (English) | Civil Parish | Barony | Townland Name (Irish) | Suggested Meaning |
|-------------------------|-----------------|--------|-----------------------------|--|
| Effin | Effin | Coshma | <i>Eifinn</i> | Meaning unclear |
| Mountblakeney | Kilbreedy Minor | Coshma | <i>Cnoc an tSoipéalaigh</i> | The hill of An Soipéalach (from the surname Siopéil) |
| Thomastown | Kilbreedy Minor | Coshma | <i>Bhaile Thomás</i> | The town of Thomas (personal name) |
| Tobernea West | Effin | Coshma | <i>Tobar Naí Thiar</i> | Well of (the) infant? |

12.5.6 XC209 Ballyhay

Desk Top Study

There are five (5) previously recorded archaeological sites within c.500m of the proposed Project at this site, comprising a church and graveyard with effigial tomb (AY012–AY014), a castle (AY015) and a corn mill (AY016). These monuments are all listed on the RMP, and the church and castle are also Protected Structures. The study area also contains a house (AH007) listed on the NIAH. The existing rail line follows the nineteenth-century GS&WR (IH-1) and the level crossing (IH-4) is labelled on the 25-inch Ordnance Survey map (surveyed 1897–1903). There are also several townland boundaries (TB-3–TB-7) in the vicinity of the crossing (see Table 12.6 and Volume 4).

Information on the origin of townland names within the study area is presented in Table 12.7 below. The Irish Folklore Commission's Schools Collection includes stories relating to the parish of Ballyhay, Castleharrison and Cooleen including information about Ballyhay church and graveyard (AY012 & AY013) and St Declan's Holy Well (AY031) in Imphrick (see XC215 below). One story tells of a hedge school at Castleharrison¹⁹ and another refers to the mill (AY016) "at the eastern side of the railway crossing. That place now is still called the Mill Road".²⁰ No stories were located concerning the railway crossing itself.

¹⁹ National Folklore Collection UCD. The Schools' Collection, Volume 0368, Page 258 [Online] <https://www.duchas.ie/en/src?q=castleharrison&t=CbesTranscript> Accessed 12/12/19.

²⁰ National Folklore Collection UCD. The Schools' Collection, Volume 0374, Page 313 [Online] <https://www.duchas.ie/en/cbes/4921827/4909667> Accessed 12

Survey Work

A cultural heritage field survey was carried out in October 2019 and comprised a walkover site inspection of the area immediately adjacent to the crossing. The survey identified two previously unrecorded bridges (AH008 & AH009) located to the southeast and south of the crossing respectively.

Table 12.6: XC209 (Ballyhay) Cultural Heritage baseline conditions

| Site Number | Subcategory | Site Type | Designation | Importance |
|-------------|-------------------------|------------------------------------|---------------------------------------|------------|
| AY012 | Archaeology | Graveyard | Recorded Monument | High |
| AY013 | Archaeology | Church | Recorded Monument/Protected Structure | High |
| AY014 | Archaeology | Tomb - effigial (present location) | Recorded Monument | High |
| AY015 | Archaeology | Castle – unclassified | Recorded Monument/Protected Structure | High |
| AY016 | Archaeology | Mill – corn | Recorded Monument | High |
| AH007 | Architectural Heritage | House - 20th century | Listed on NIAH | Regional |
| AH008 | Architectural Heritage | Bridge | None | Local |
| AH009 | Architectural Heritage | Railway bridge | None | Local |
| IH-1 | Other Cultural Heritage | Railway Line/Cutting/ Embankment | None | Regional |
| IH-4 | Other Cultural Heritage | Level Crossing | None | Local |
| TB-3 | Other Cultural Heritage | Townland Boundary | None | Low |
| TB-4 | Other Cultural Heritage | Townland Boundary | None | Low |
| TB-5 | Other Cultural Heritage | Townland Boundary | None | Low |
| TB-6 | Other Cultural Heritage | Townland Boundary | None | Low |
| TB-7 | Other Cultural Heritage | Townland Boundary | None | Low |

Table 12.7: Townlands within the XC209 (Ballyhay) study area

| Townland (English) | Name | Civil Parish | Barony | Townland (Irish) | Name | Suggested Meaning |
|--------------------|------|--------------|--------------------|----------------------------|-----------|--|
| Ballyhay | | Ballyhay | Fermoy | <i>Bealach Átha</i> | | Áth = ford. Bealach = way, pass. |
| Castleharrison | | Ballyhay | Orrery and Kilmore | <i>Caisleán Mhic Anraí</i> | | Caisleán = castle. Mhic Anraí - the sons of Anraí (Henry?) |
| Cooleen | | Ballyhay | Fermoy | <i>Na Cúilíní</i> | | Cúilín = a small corner or angle |
| Pruntus | | Ballyhay | Fermoy | <i>Prontas</i> | | Meaning unclear |
| Rathmorgan | | Ballyhay | Orrery and Kilmore | <i>Ráth Mheargúnaigh</i> | <i>an</i> | Morgan's Fort (ráth = ringfort) |

12.5.7 XC211 & XC212 Newtown and Ballycoskery

Desk Top Study

There are nine (9) previously recorded archaeological sites within c.500m of the proposed Project at this site, comprising a moated site (AY020 [Plate 12. 4 and Plate 12. 5]), a church (AY025), a vernacular house (AY021), an earthwork (AY024) and five (5) ringforts (AY017, AY018, AY019 [Plate 12. 12], AY022, AY023). These monuments are all listed on the RMP, and the church is also recorded by the NIAH (AH010) along with the associated parochial house with its entrance gates and piers (AH011 [Plate 12. 9 and Plate 12. 10]). The existing rail line follows the 19th-century GS&WR (IH-1), and the level crossings (IH-5 & IH-6) are labelled on the 25-inch Ordnance Survey map (surveyed 1897–1903) as is the gatekeeper's house (IH-7/AH013 [Plate 12. 11]) and a railway bridge (AH023). There is one townland boundary (TB-8) in the vicinity of crossing XC211 (see Table 12.8, Volume 4).

Information on the origin of townland names within the study area is presented in Table 12.9. The Irish Folklore Commission's Schools Collection includes information on local place names from the area and a story concerning a man from Farran (to the northwest of XC211) pulling a heavily loaded cart over a road bridge close to Kilmallock station after his horse had been frightened by the smoke from a passing train.²¹ No stories were located concerning the railway crossings themselves.

Survey Work

A cultural heritage field survey was carried out in October 2019 and comprised a walkover inspection of the proposed Project at this site. This follows a previous survey carried out as part of an earlier archaeological assessment in 2012 (Flynn 2010). The 2019 survey aimed to confirm the location of cultural heritage features identified in proximity to the proposed Project at this site during the desktop research and to identify any other unrecorded features of potential cultural heritage significance.

The 2019 survey identified a possible leat (AY020a) and previously unrecorded earthworks (AY020b) that may be associated with the moated site (AY020); a possible previously unrecorded subrectangular enclosure (AY026 [Plate 12. 3]), the significance of which is currently unknown; and a farmhouse of local architectural heritage interest (AH012 [Plate 12. 6, Plate 12. 7 and Plate 12. 8]). The survey confirmed that the former gatekeeper's house (IH-7 [AH013]) is also of local architectural heritage interest.

In February 2020, AMS Ltd conducted a geophysical survey of the proposed link road for XC211 Newtown in the immediate vicinity of ringfort AY023. The investigation resulted in the identification of a number of geophysical anomalies of potential archaeological significance. The survey was extended to the south of the ringfort by Target Archaeological Geophysics in June 2020 which resulted in further anomalies being identified (Nicholls 2020; Volume 5, Appendix 12G). Archaeological test excavations were carried out by ACSU in November 2020 to investigate these geophysical anomalies. A total of 16 test trenches were excavated in the fields to the east and south of ringfort AY023. No archaeological features were identified during the testing; the only feature of note was a ditch which appears to be aligned with a field boundary shown on the first-edition OS map. This feature is assumed to be of 19th-century date and is not considered to be of archaeological significance (Russell 2020a; Volume 5, Appendix 12I).

In November/December 2020, ACSU carried out a geophysical survey within the proposed link road for XC212 Ballycoskery. The survey identified an L-shaped anomaly at the location of the potential rectangular enclosure (AY026) identified during the 2019 survey, and a possible former road/relict field boundaries (AY044) (Murphy 2020a; Volume 5, Appendix 12H). Both features are located within the footprint of the proposed Project at this site.

Table 12.8: XC211 & XC212 Newtown and Ballycoskery Cultural Heritage baseline conditions

| Site Number | Subcategory | Site Type | Designation | Importance |
|-------------|-------------|--------------------------|-------------------|------------|
| AY017 | Archaeology | Ringfort - rath | Recorded Monument | High |
| AY018 | Archaeology | Ringfort - rath | Recorded Monument | High |
| AY019 | Archaeology | Ringfort - rath | Recorded Monument | High |
| AY020 | Archaeology | Moated site | Recorded Monument | High |
| AY021 | Archaeology | House - vernacular house | Recorded Monument | High |
| AY022 | Archaeology | Ringfort - rath | Recorded Monument | High |
| AY023 | Archaeology | Ringfort - rath | Recorded Monument | High |

²¹ National Folklore Collection UCD. The Schools' Collection, Volume 0509, Page 434 [Online] <https://www.duchas.ie/en/cbes/4922041/4921418/4953477> Accessed 12/12/19.

| Site Number | Subcategory | Site Type | Designation | Importance |
|--------------|-------------------------|----------------------------------|-------------------|------------|
| AY024 | Archaeology | Earthwork | Recorded Monument | High |
| AY025 | Archaeology | Church | Recorded Monument | High |
| AY026 | Archaeology | Earthwork (Possible Enclosure) | None | Unknown |
| AY044 | Archaeology | Former Road & Field Boundaries | None | Unknown |
| AH010 | Architectural Heritage | Church | Listed on NIAH | Regional |
| AH011 | Architectural Heritage | Parochial House | Listed on NIAH | Regional |
| AH012 | Architectural Heritage | House - farmhouse | None | Local |
| AH023 | Architectural Heritage | Railway Bridge | None | Local |
| AH013 (IH-7) | Architectural Heritage | House – gatekeepers lodge | None | Local |
| IH-1 | Other Cultural Heritage | Railway Line/Cutting/ Embankment | None | Regional |
| IH-5 | Other Cultural Heritage | Level Crossing | None | Local |
| IH-6 | Other Cultural Heritage | Level Crossing | None | Local |
| TB-8 | Other Cultural Heritage | Townland Boundary | None | Low |

Table 12.9: Townlands within the XC211 & XC212 Newtown and Ballycoskery study area

| Townland Name (English) | Civil Parish | Barony | Townland Name (Irish) | Suggested Meaning |
|-------------------------|--------------|--------------------|---------------------------------|---|
| Ballycoskery | Aglisdrinagh | Orrery and Kilmore | <i>Baile Uí Choscraigh</i> | Baile - town, townland, homestead |
| Ballynadrideen | Aglisdrinagh | Orrery and Kilmore | <i>Baile na dTreighdineach</i> | The town of Na Treighdínigh (logainm.ie) "Ballinadrideen the meaning of this word is supposed to be Baile na Druidin(?) the town land of the starlings". ²² |
| Castlewrixon | Imphrick | Orrery and Kilmore | <i>Baile an Laighnigh</i> | The town of An Laighneach (from the surname Ó Laighin) or perhaps the noun Laighneach, 'Leinsterman'. Wrixon is a shortened form of the English surname Wrightson, well known in Co. Cork since the end of the seventeenth century. |
| Castlewrixon South | Imphrick | Orrery and Kilmore | <i>Baile an Laighnigh Theas</i> | Baile = town, townland, homestead. The town of An Laighneach (as above). |
| Farran | Aglisdrinagh | Orrery and Kilmore | <i>An Fearann</i> | Fearran = land |
| Newtown (ED) | Ballyhay | Fermoy | <i>An Baile Nua</i> | Baile = town, townland, homestead. Nua = new. |
| Sorrel | Ballyhay | Fermoy | <i>Seireal</i> | Meaning unclear |

12.5.8 XC215 Shinanagh

Desk Top Study

There are eight (8) previously recorded archaeological sites within c.500m of the proposed Project at this site, comprising a castle site (AY027), an occupation site (AY028), Imphrick church and graveyard (AY029 & AY030 [Plate 12. 13]), a holy well (AY031 [Plate 12. 15]), two *fulachtaí fia* (AY032 & AY033) and a standing stone (AY034). Apart from the standing stone, which is listed on the SMR only, these monuments are all listed on the statutory RMP. The existing rail line follows the 19th-century GS&WR (IH-1), and the level crossing (IH-8) with

²² National Folklore Collection UCD. The Schools' Collection, Volume 0374, Page 333 [Online] <https://www.duchas.ie/en/cbes/4921827/4909687/5186225> Accessed 12/12/19.

associated gatekeeper's cottage is depicted on the 25-inch Ordnance Survey map (surveyed 1896–1904) as is Shinanagh railway bridge (IH-11 [AH015]) (see Table 12.10, Volume 4).

Information on the origin of townland names within the study area is presented in Table 12.11 below. The Irish Folklore Commission's Schools Collection contains two articles referring to the holy well in Imphrick (AY031) both of which attribute it to St Declan. One story relates that the well is not in its original location but moved from "the other side of the road" following a desecration. This article goes on to state that an ambush and Black and Tan reprisals took place here during the War of Independence, which destroyed a house near the graveyard.²³ The other story concerns a witch who used to visit a field in Shinanagh until "*a priest jumped over her and she was left in a heap of ashes. One day a man was ploughing it up. The horses were turned up on their backs*".²⁴

Survey Work

A cultural heritage field survey was carried out in October 2019 and comprised a walkover site inspection of the areas to be impacted by the proposed Project. This follows a desk-based archaeological assessment carried out in 2011 (Flynn 2011). The 2019 survey aimed to confirm the location of cultural heritage features identified in proximity to the development during the desktop research and to identify any other unrecorded features of potential cultural heritage significance likely to be affected.

The 2019 survey identified earthworks (AY035) in the field adjacent to Imphrick church and graveyard (AY029 & AY030). The significance of these earthworks could not be established from field inspection alone, and it was considered possible that they may be associated with the medieval parish church or a surrounding settlement. In the field to the north of the church and graveyard, further potential earthworks (AY036) aligned with a scarp/depression defining the north edge of a raised platform area were also located [Plate 12. 14]. An unrecorded cast-iron water pump (AH014) was also identified along the roadside in Shinanagh [Plate 12. 16].

In February 2020, AMS conducted a geophysical survey of the proposed road in the field containing Imphrick church and graveyard (AY029 & AY030). The investigation resulted in the identification of a number of geophysical anomalies of potential archaeological significance (Dowling 2020b; Volume 5, Appendix 12F). The geophysical survey was extended to the north over the remainder of the route by Target Archaeological Geophysics in June 2020 which resulted in further anomalies of archaeological potential being identified (Nicholls 2020; Volume 5, Appendix 12G). Following consultation with the NMS, archaeological test excavations were carried out by ACSU in November 2020 to investigate these anomalies (Russell 2020; Volume 5, Appendix 12J). These test excavations identified archaeological and other features in the majority of the test trenches. Three separate areas of archaeology were identified:

1. Spread, along with ditches/linears – their linear nature and sterile fills are suggestive of field systems of unknown date. However, their location in the immediate environs of the church, graveyard and holy well indicates that these features may potentially be associated with the medieval landscape (AY035).
2. Linears, pits, ditches and charcoal spreads associated with metalworking. The archaeology here may represent settlement or industrial activity on the oval shaped raised plateau, possibly associated with Imphrick church to the south (AY036).
3. Pits/post-holes, linears and ditches with one linear containing charcoal and metallurgical waste. This archaeology is suggestive of settlement activity (AY045).

²³ National Folklore Collection, UCD The Schools' Collection, Volume 0374, Page 311. [Online] <https://www.duchas.ie/en/cbes/4921827/4909666> Accessed 12/12/19

²⁴ National Folklore Collection, UCD The Schools' Collection, Volume 0367, Page 249. [Online] <https://www.duchas.ie/en/cbes/4921796/4907893/5179701>. Accessed 12/12/19

The features investigated by the archaeological test trenching represent field systems, industrial activity in the form of metalworking and potentially prehistoric activity such as the burnt spread. It is possible that some of the field systems are contemporary with the church at Imphrick, while others are likely to be more recent in date. Due to the proximity and potential association with the church, AY035 and AY036 are provisionally assigned a Medium importance rating. Based on current information, the archaeological features further north (AY045) are rated as being of Low importance. A topographical survey was also carried out at Imphrick by ACSU which indicates a number of potential features (Murphy 2020b; Volume 5, Appendix 12K).

A geophysical survey was also carried out by ACSU in Ballynageragh along an alternative route for the proposed road alignment to the west of Imphrick church as part of the consideration of alternatives (Murphy 2020a; Volume 5, Appendix 12H). This survey revealed extensive anomalies that are likely to be archaeological in nature. In consultation with NMS, it was determined that this option is not considered suitable for development and therefore should be excluded from the proposed Project (Volume 5, Appendix 12C).

Table 12.10: XC215 Shinanagh Cultural Heritage baseline conditions

| Site Number | Subcategory | Site Type | Designation | Importance |
|---------------|-------------------------|---|-------------------|------------|
| AY027 | Archaeology | Castle – unclassified | Recorded Monument | High |
| AY028 | Archaeology | Excavation – miscellaneous | Recorded Monument | High |
| AY029 | Archaeology | Graveyard | Recorded Monument | High |
| AY030 | Archaeology | Church | Recorded Monument | High |
| AY031 | Archaeology | Ritual site - holy well | Recorded Monument | High |
| AY032 | Archaeology | Fulacht fia | Recorded Monument | High |
| AY033 | Archaeology | Fulacht fia | Recorded Monument | High |
| AY034 | Archaeology | Standing stone | Listed on SMR | High |
| AY035 | Archaeology | Earthworks (Possible Field System and Spread) | None | Medium |
| AY036 | Archaeology | Linears, pits, ditches and charcoal spreads | None | Medium |
| AY045 | Archaeology | Pits/post-holes, linears and ditches | None | Low |
| AH014 | Architectural Heritage | Water pump | None | Local |
| AH015 (IH-11) | Architectural Heritage | Railway bridge (Shinanagh Bridge) | None | Regional |
| IH-1 | Other Cultural Heritage | Railway Line/Cutting/ Embankment | None | Regional |
| IH-8 | Other Cultural Heritage | Level Crossing | None | Local |
| TB-9 | Other Cultural Heritage | Townland Boundary | None | Low |

Table 12.11: Townlands within the XC215 Shinanagh study area

| Townland Name (English) | Civil Parish | Barony | Townland Name (Irish) | Suggested Meaning |
|-------------------------|--------------|--------------------|---------------------------------|---|
| Ballynageragh | Imphrick | Fermoy | <i>Baile na gCarrach</i> | Baile - town, townland, homestead; Carrach = scabbed, mangy, rocky, bald, barren |
| Castlewrixon South | Imphrick | Orrery and Kilmore | <i>Baile an Laighnigh Theas</i> | The town of An Laighneach (from the surname Ó Laighin) or perhaps the noun Laighneach, 'Leinsterman'. Wrixon is a shortened form of the English surname Wrightson, well known in Co. Cork since the end of the seventeenth century. |

| Townland Name (English) | Civil Parish | Barony | Townland Name (Irish) | Suggested Meaning |
|-------------------------|--------------|--------------------|----------------------------|---|
| Imphrick | Imphrick | Fermoy | <i>Imfric</i> | Meaning unclear. It has been suggested that " <i>Hi mBric would appear to have been a tribe name</i> "; O'Donovan suggests " <i>bric of the trout?</i> " but states " <i>It is very doubtful</i> ". ²⁵ |
| Lisballyhay | Imphrick | Fermoy | <i>Lios Bealach Átha</i> | Lios = ringfort, enclosure. Bealach = way, pass. Átha = ford. |
| Shinanagh | Imphrick | Fermoy | <i>Seangánach</i> | Ant-hill, a place abounding in pismires [logainm.ie] " <i>Shinana - Sean Eanac the old marsh</i> " ²⁶ |
| Walshestown | Churchtown | Orrery and Kilmore | <i>Baile an Bhailisigh</i> | Baile - town, townland, homestead. Walsh = surname. |

12.5.9 XC219 Buttevant

Desk Top Study

There are four (4) previously recorded archaeological sites within c.500m of the proposed Project at this site, comprising a ringfort (AY037), enclosure (AY039), military barracks (AY040/AH016) and a former quarry which is no longer considered to be of archaeological interest (AY038). These are all listed on the statutory RMP. The existing rail line follows the 19th-century GS&WR (IH-1), and the level crossing (IH-9) is depicted on the 25-inch Ordnance Survey map (surveyed 1896–1904) along with Buttevant Station (IH-10/AH020). A bridge (AH022) is labelled 'Bregoge New Bridge' on the 1st edition 6-inch OS map (1845) and 1st edition 25-inch OS map (surveyed 1896–1904). There are two Protected Structures within 500m of the proposed works (barracks AH016 and farmhouse AH017) and a terrace of former soldiers' houses (AH018) is listed on the National Inventory of Architectural Heritage (NIAH). The NIAH also lists the railway goods shed (AH019) within Buttevant Station (AH020) (see Table 12.12 and Volume, 4).

Information on the origin of townland names within the study area is presented in Table 12.13 below. The Irish Folklore Commission's Schools Collection contains articles referring to the town of Buttevant and surrounding district including ringforts and steeplechases in Rathclare to the north of XC219. No stories were located concerning the railway or any of the monuments within the study area in the School's Collection; however, a number of stories associated with the railway and Buttevant Station specifically are recorded in local history publications. In more recent history, Buttevant Station was the site of one of Ireland's worst rail disasters in 1980.

Survey Work

A cultural heritage field survey was carried out in October 2019 and comprised a pedestrian site inspection of the areas to be impacted by the proposed Project. This follows a desk-based archaeological assessment carried out in 2011 (Flynn 2011) and a historic building survey of Buttevant Station (AH019 & AH020) carried out in 2012 (Goodbody 2012).

The 2019 survey aimed to confirm the location of cultural heritage features identified in proximity to the proposed Project during the desktop research and to identify any other unrecorded features of potential cultural heritage significance. The survey included a further examination of Buttevant Station (AH019 and AH020 [Plate 12. 17 to Plate 12. 27]) and Bregoge Bridge (AH022) to assess the likely impact of the proposed Project. The survey identified a linear bank (possibly a former field boundary, AY041) and a semi-circular depression (possibly a paleochannel from the adjacent river, AY042) in close proximity to the footprint of the development and identified

²⁵ Logainm.ie [Online] <https://www.logainm.ie/en/585?s=Imphrick> Accessed 12/12/19.

²⁶ National Folklore Collection UCD. The Schools' Collection, Volume 0374, Page 333 [Online] <https://www.duchas.ie/en/cbes/4921827/4909687/5186225> Accessed 12/12/19.

the stream and drain to the west of the crossing as features of archaeological potential (AY043). Kerbstones (AH021) relating to a former pathway were also located on the approach road to Buttevant Station from the west.

A potential ditch was identified during monitoring of a geotechnical test pit in the field to the west of Buttevant Station in February 2020. The potential ditch (designated AY046) was approximately 1m wide and orientated from southeast to northwest and was preserved *in situ* (Volume 5, Appendix 12L).

A geophysical survey of the proposed link road was completed by ACSU in November/December 2020. No definite archaeological features were identified within the areas surveyed. However, a number of anomalies were detected that may be of archaeological significance (AY047 & AY048) ((Volume 5, Appendix 12H). Further archaeological investigation is needed to evaluate the nature and significance of these features.

Table 12.12: XC219 Buttevant Cultural Heritage baseline conditions

| Site Number | Subcategory | Site Type | Designation | Importance |
|---------------|-------------------------|----------------------------------|---------------------|-------------|
| AY037 | Archaeology | Ringfort - rath | Recorded Monument | High |
| AY038 | Archaeology | Redundant record | Recorded Monument | Low |
| AY039 | Archaeology | Enclosure | Recorded Monument | High |
| AY040 | Archaeology | Barracks | Recorded Monument | High |
| AY041 | Archaeology | Earthwork | None | Low |
| AY042 | Archaeology | Earthwork | None | Low |
| AY043 | Archaeology | Watercourse (Area of Potential) | None | Unknown |
| AY046 | Archaeology | Ditch Possible | None | Low |
| AY047 | Archaeology | Area of Potential | None | Unknown |
| AY048 | Archaeology | Area of Potential | None | Unknown |
| AH016 | Architectural Heritage | Barracks | Protected Structure | Regional |
| AH017 | Architectural Heritage | House - farmhouse | Protected Structure | Regional |
| AH018 | Architectural Heritage | Terrace | Listed on NIAH | Regional |
| AH019 | Architectural Heritage | Store/Warehouse | Listed on NIAH | Regional |
| AH020 (IH-10) | Architectural Heritage | Railway station | None | Regional |
| AH021 | Architectural Heritage | Kerbstones | None | Record Only |
| AH022 (BH-1) | Architectural Heritage | Bridge ('Bregoge New Bridge') | None | Local |
| IH-1 | Other Cultural Heritage | Railway Line/Cutting/ Embankment | None | Regional |
| IH-9 | Other Cultural Heritage | Level Crossing | None | Local |
| TB-10 | Other Cultural Heritage | Townland Boundary | None | Low |

Table 12.13: Townlands within the XC219 Buttevant study area

| Townland Name (English) | Civil Parish | Barony | Townland Name (Irish) | Suggested Meaning |
|-------------------------|--------------|--------------------|------------------------|---|
| Bregoge | Bregoge | Orrery and Kilmore | <i>An Bhréagóg</i> | Brég is an Irish word meaning a falsehood and in various forms it is applied to rivers that are subject to sudden and dangerous floods. |
| Creggane | Buttevant | Orrery and Kilmore | <i>An Creagán</i> | Rocky place. |
| Jordanstown | Kilbroney | Orrery and Kilmore | <i>Baile Shiurdáin</i> | Town or homestead of the Jordans (surname) |
| Rathclare | Buttevant | Orrery and Kilmore | <i>Ráth an Chláir</i> | Rath, ringfort of the plank bridge; plain |

12.6 Potential Effects of the proposed Project

12.6.1 XC187 Fantstown

Do Nothing

The level crossing (IH-2), which is depicted on the 25-inch Ordnance Survey map (surveyed 1897–1903) and is considered to be of local socio-historical interest, would continue to operate much as it has done since the 19th century. The other heritage assets would also remain unchanged, though future developments, accidental damage and natural erosion of archaeological sites may affect these assets in the future.

Construction Phase

The proposed Project involves the elimination of the level crossing (IH-2) and extinguishment of the public right of way across the crossing, with a diversion of traffic along the existing road network via the road-over-rail bridge (AH001) to the east. Closure of the level crossing (IH-2) will involve the removal of the existing crossing infrastructure and construction of a 2.4m high block wall on both sides of the crossing. For the purpose of this assessment, the crossing is considered to be of Local cultural heritage importance due to its socio-historical interest as a part of the Cork–Dublin railway (IH-1) and local transport network. Elimination of the level crossing is a high impact, resulting in a **moderate negative** effect as assessed under the NRA guidelines (NRA 2005a, p.32). The impact on the railway itself (IH-1), which is rated as being of Regional cultural heritage importance, is considered to be low, resulting in a **slight negative** effect.

As there will be no new infrastructure, no construction impacts are predicted for the other identified cultural heritage assets as identified in Table 12.14.

Table 12.14: Predicted construction impacts on cultural heritage at XC187 Fantstown

| Site Number | Site Type | Importance | Type of Impact | Quality of Effect | Magnitude of Impact | Significance of Effect |
|-------------|-------------------------------------|------------|----------------|-------------------|---------------------|------------------------|
| AY001 | Enclosure | High | None | Neutral | N/A | N/A |
| AY002 | Enclosure | High | None | Neutral | N/A | N/A |
| AY003 | Barrow - ring-barrow | High | None | Neutral | N/A | N/A |
| AY004 | Barrow - ring-barrow | High | None | Neutral | N/A | N/A |
| AY005 | Barrow - ring-barrow | High | None | Neutral | N/A | N/A |
| AY006 | Barrow - ring-barrow | High | None | Neutral | N/A | N/A |
| AY007 | Barrow - ring-barrow | High | None | Neutral | N/A | N/A |
| AY008 | Barrow - ring-barrow | High | None | Neutral | N/A | N/A |
| AY009 | Earthwork | Unknown | None | Neutral | N/A | N/A |
| AH001 | Railway Bridge | Local | Indirect | Negative | Low | Imperceptible |
| AH002 | House - 18th/19th century | Local | None | Neutral | N/A | N/A |
| AH003 | Water pump | Regional | None | Neutral | N/A | N/A |
| AH004 | Bridge (Ahnagluggin Bridge) | Local | Indirect | Positive | Low | Imperceptible |
| IH-1 | Railway Line/Cutting/ Embankment | Regional | Direct | Negative | Low | Slight |
| IH-2 | Level Crossing | Local | Direct | Negative | High | Moderate |
| TB-1 | Townland Boundary | Local | None | Neutral | N/A | N/A |

Operational Phase

Additional traffic over railway bridge AH001 could increase risk of damage through vehicle strikes, resulting in potential negative impacts. However, this risk is considered low (worst case) and the overall significance of effect from increased traffic is predicted to be **imperceptible**. Conversely, less traffic over Ahnagluggin Bridge (AH004) is predicted to result in an **imperceptible positive** impact.

12.6.2 XC201 Thomastown

Do Nothing

The level crossing (IH-3), which is depicted on the 25-inch Ordnance Survey map (surveyed 1897–1903) and is considered to be of local socio-historical interest, would continue to operate much as it has done since the nineteenth century. The other heritage assets would remain unchanged, though future developments, accidental damage and natural erosion of archaeological sites may affect these assets in the future. If subsurface archaeological remains exist within the development design extents, these would remain unaffected by the railway and associated infrastructure.

Construction Phase

No previously recorded archaeological or architectural heritage sites would be impacted by the proposed road-over-rail bridge and road realignment. If currently unidentified subsurface archaeological remains exist within the development design extents, these would likely be impacted during construction.

The proposed Project involves the elimination of the level crossing (IH-3) and extinguishment of the public right of way across the crossing. Closure of the level crossing (IH-3) will involve the removal of the existing crossing infrastructure and construction of a 2.4m high palisade gate on the Up (north) side of railway line and a 2.4m high block wall on Down (south) side of the crossing. For the purpose of this assessment, the level crossing is considered to be of Local cultural heritage importance due to its socio-historical interest as a part of the Cork–Dublin railway (IH-1) and local transport network. Elimination of the level crossing (IH-3) is a high impact, resulting in a **moderate negative** effect as assessed under the NRA guidelines (NRA 2005a, p.32). The impact on the railway itself (IH-1), which is rated as being of Regional cultural heritage importance, is considered to be low, resulting in a **slight negative** effect.

The impact on the townland boundary TB-2 is not considered to be significant, as identified in Table 12.15.

Table 12.15: Predicted construction impacts on cultural heritage at XC201 Thomastown

| Site Number | Site Type | Importance | Type of Impact | Quality of Effect | Magnitude of Impact | Significance of Effect |
|-------------|-------------------------------------|------------|----------------|-------------------|---------------------|------------------------|
| AY010 | Enclosure | High | None | Neutral | N/A | N/A |
| AY011 | Mound | High | None | Neutral | N/A | N/A |
| AH005 | Water pump | Regional | None | Neutral | N/A | N/A |
| AH006 | House - vernacular house | Regional | None | Neutral | N/A | N/A |
| IH-1 | Railway Line/Cutting/ Embankment | Regional | Direct | Negative | Low | Slight |
| IH-3 | Level Crossing | Local | Direct | Negative | High | Moderate |
| TB-2 | Townland boundary | Low | Direct | Negative | Low | Not Significant |

Operational Phase

No operational impacts are predicted.

12.6.3 XC209 Ballyhay

Do Nothing

The level crossing (IH-4), which is depicted on the 25-inch Ordnance Survey map (surveyed 1897–1903) and is considered to be of local socio-historical interest, would continue to operate much as it has done since the nineteenth century. The other heritage assets would also remain unchanged, though future developments, accidental damage and natural erosion of archaeological sites may affect these assets in the future.

Construction Phase

The proposed solution for XC209 Ballyhay is to retain the existing level crossing function and convert it to a CCTV controlled level crossing. This will involve removal of the existing level crossing gates; construction of a single-storey Relocatable Electrical Building (REB) where the current gatekeeper's accommodation hut is; underground electrical cable ducting mostly within the footprint of the existing crossing; CCTV and lighting towers; and associated works.

For the purpose of this assessment, the level crossing (IH-4) is considered to be of Local cultural heritage importance due to its socio-historical interest as a part of the Cork–Dublin railway (IH-1) and local transport network. Conversion of the level crossing (IH-4) to a CCTV controlled level crossing is considered to be a medium impact, resulting in a **slight negative** effect as assessed under the NRA guidelines (NRA 2005a, p.32). No other construction impacts are predicted for cultural heritage as identified in Table 12.16.

No works are proposed to the existing bridge (AH008) to the east of the level crossing as part of the upgrade; no widening of the existing carriageways is proposed as part of the upgrade.

Table 12.16: Predicted construction impacts on cultural heritage at XC209 Ballyhay

| Site Number | Site Type | Importance | Type of Impact | Quality of Effect | Magnitude of Impact | Significance of Effect |
|-------------|------------------------------------|------------|----------------|-------------------|---------------------|------------------------|
| AY012 | Graveyard | High | None | Neutral | N/A | N/A |
| AY013 | Church | High | None | Neutral | N/A | N/A |
| AY014 | Tomb - effigial (present location) | High | None | Neutral | N/A | N/A |
| AY015 | Castle - unclassified | High | None | Neutral | N/A | N/A |
| AY016 | Mill - corn | High | None | Neutral | N/A | N/A |
| AH007 | House - 20th century | Regional | None | Neutral | N/A | N/A |
| AH008 | Bridge | Local | None | Neutral | N/A | N/A |
| AH009 | Railway bridge | Local | None | Neutral | N/A | N/A |
| IH-1 | Railway Line/Cutting/Embankment | Regional | None | Neutral | N/A | N/A |
| IH-4 | Level Crossing | Local | Direct | Negative | Medium | Slight |
| TB-3 | Townland Boundary | Low | None | Neutral | N/A | N/A |
| TB-4 | Townland Boundary | Low | None | Neutral | N/A | N/A |
| TB-5 | Townland Boundary | Low | None | Neutral | N/A | N/A |
| TB-6 | Townland Boundary | Low | None | Neutral | N/A | N/A |
| TB-7 | Townland Boundary | Low | None | Neutral | N/A | N/A |

Operational Phase

No operational impacts are predicted.

12.6.4 XC211 & XC212 Newtown and Ballycoskery

Do Nothing

The level crossings (IH-5 and IH-6), which are depicted on the 25-inch Ordnance Survey map (surveyed 1897–1903) and considered to be of local socio-historical interest, would continue to operate much as they have done since the 19th century. The former gatekeeper's house (IH-7 [AH013]) and other heritage assets would remain essentially unchanged, though future developments, accidental damage and natural erosion of archaeological sites may affect these assets in the future. The former gatekeeper's house (IH-7 [AH013]) is currently derelict (Plate 12. 11). If subsurface archaeological remains exist within the development design extents, including the potential archaeological features identified during the assessment (AY026 and AY044), these would remain unaffected by the railway and its associated infrastructure.

Construction Phase

No direct impact is predicted on ringfort AY023 or any previously unidentified archaeology at XC211 Newtown. There will be a minor indirect impact on the setting of the monument resulting in a **slight negative** effect.

At XC212 Ballycoskery, no direct impacts are predicted for the moated site (AY020); however, indirect negative impacts could occur where the potential leat (AY020a) extends into the proposed Project footprint, as well as impacts to the setting of the monument, resulting in a **slight negative** effect. The possible enclosure (AY026) and the possible former road and field boundaries (AY044) identified during the walkover and geophysical survey would be directly impacted; test-trenching is required to evaluate the nature and significance of impact on these features. Further, if currently unidentified subsurface archaeological remains exist within the remaining footprint of the proposed Project, these may also be impacted during construction.

Although no impact will occur to the church (AY025/AH010), groundworks have the potential to encounter skeletal remains from the burial ground. The significance of the effect is predicted to be **slight negative**. Slight negative impacts are also predicted for the parochial house (AH011) and farmhouse (AH012) where curtilage features are likely to be impacted.

A significant negative impact for architectural heritage is predicted due to the demolition of the former gatekeeper's lodge and the small shed within its curtilage (AH013/IH-7). The former gatekeeper's lodge, reported to be known locally as "*the Railway House*", is considered to be of Local cultural heritage importance as a part of the Cork–Dublin railway (IH-1) and local transport network. Demolition of this building is considered to be a very high impact, resulting in a **significant negative** effect as assessed under the NRA guidelines (NRA 2005a, p.32).

The proposed Project involves the elimination of the level crossings (IH-5 & IH-6) and extinguishment of the public right of way across the crossings. Closure of the level crossings will involve the removal of the existing crossing infrastructure and 'stopping up' of the existing level crossings via block walls and palisade gates. For the purpose of this assessment, the level crossings (IH-5 & IH-6) are considered to be of Local cultural heritage importance due to their socio-historical interest as a part of the Cork–Dublin railway (IH-1) and local transport network. Elimination of the level crossings is a high impact, resulting in a **moderate negative** effect as assessed under the NRA guidelines (NRA 2005a, p.32). The impact on the railway itself (IH-1), which is rated as being of Regional cultural heritage importance, is considered to be low, resulting in a **slight negative** effect.

The impact on the railway bridge (AH023) is predicted to be imperceptible; however care will need to be taken during construction to avoid inadvertent impacts from machinery movements.

Table 12.17: Predicted construction impacts on cultural heritage at XC211 & XC212 Newtown and Ballycoskery

| Site Number | Site Type | Importance | Type of Impact | Quality of Effect | Magnitude of Impact | Significance of Effect |
|---------------|--------------------------------|------------|----------------|-------------------|---------------------|------------------------|
| AY017 | Ringfort - rath | High | None | Neutral | N/A | N/A |
| AY018 | Ringfort - rath | High | None | Neutral | N/A | N/A |
| AY019 | Ringfort - rath | High | None | Neutral | N/A | N/A |
| AY020 | Moated site | High | Indirect | Negative | Low | Slight |
| AY021 | House - vernacular house | High | None | Neutral | N/A | N/A |
| AY022 | Ringfort - rath | High | None | Neutral | N/A | N/A |
| AY023 | Ringfort - rath | High | Indirect | Negative | Low | Slight |
| AY024 | Earthwork | High | None | Neutral | N/A | N/A |
| AY025 (AH010) | Church | High | Indirect | Negative | Low | Slight |
| AY026 | Earthwork (Possible Enclosure) | Unknown | Direct | Negative | Very High | Unknown |
| AY044 | Former Road & Field Boundaries | Unknown | Direct | Negative | Very High | Unknown |
| AH011 | Parochial House | Regional | Indirect | Negative | Low | Slight |
| AH012 | House - farmhouse | Local | Indirect | Negative | Medium | Slight |

| Site Number | Site Type | Importance | Type of Impact | Quality of Effect | Magnitude of Impact | Significance of Effect |
|--------------|-------------------------------------|------------|----------------|-------------------|---------------------|------------------------|
| AH013 (IH-7) | House – gatekeepers lodge | Local | Direct | Negative | Very High | Significant |
| AH023 | Railway Bridge | Local | Indirect | Negative | Low | Imperceptible |
| IH-1 | Railway Line/Cutting/ Embankment | Regional | Direct | Negative | Low | Slight |
| IH-5 | Level Crossing | Local | Direct | Negative | High | Moderate |
| IH-6 | Level Crossing | Local | Direct | Negative | High | Moderate |
| TB-8 | Townland Boundary | Low | Direct | Negative | Low | Not Significant |

Operational Phase

A **slight negative** impact is predicted during operation for the moated site (AY020) and ringfort (AY023) as a result of introducing additional roads infrastructure into the setting of the monuments. The impact on the railway bridge (AH023) is predicted to be imperceptible.

12.6.5 XC215 Shinanagh

Do Nothing

The level crossing (IH-8), which is depicted on the 25-inch Ordnance Survey map (surveyed 1896–1904) and is considered to be of local socio-historical interest, would continue to operate much as it has done since the 19th century. The other heritage assets would remain essentially unchanged, though future developments, accidental damage and natural erosion of archaeological sites may affect these assets in the future. Surface and subsurface archaeological remains identified within the design footprints (AY035, AY036, AY045) would remain unaffected by the railway and associated infrastructure. The setting of Imphrick church and graveyard (AY029 & AY030) and St Declan's Well (AY031) would remain as it is, though it should be noted that this setting already includes the railway and N20 road.

Construction Phase

As identified in Table 12.18, the proposed Project will have direct impacts on three areas of recently identified archaeology: the earthworks/possible field system and possible burnt spread (AY035) in the field containing Imphrick Church; subsurface features (AY036) in the field immediately north of Imphrick Church; and pits/post-holes, linears and ditches (AY045) further north in Ballynageragh. In the case of AY035 and AY036, the significance of effect is predicted to be **moderate–potentially significant negative**, due in part to the potential association with the medieval church; in the case of AY045 the significance of effect is predicted to be **slight–moderate negative**. If currently unidentified subsurface archaeological remains exist within the design footprint, these may also be impacted during construction.

Closure of the level crossing (IH-8) will involve the removal of the existing crossing infrastructure and construction of a 2.4m high block wall on both sides of the crossing. For the purpose of this assessment, the crossing is considered to be of Local cultural heritage importance due to its socio-historical interest as a part of the Cork–Dublin railway (IH-1) and local transport network. Elimination of the level crossing (IH-8) is a high impact, resulting in a **moderate negative** effect as assessed under the NRA guidelines (NRA 2005a, p.32). The impact on the railway itself (IH-1), which is rated as being of Regional cultural heritage importance, is considered to be low, resulting in a **slight negative** effect.

A **slight negative** impact is also predicted for the 19th-century railway bridge in Shinanagh (AH015) as a result of the tie-in works and removal of adjoining walling.

Table 12.18: Predicted construction impacts on cultural heritage at XC215 Shinanagh

| Site Number | Site Type | Importance | Type of Impact | Quality of Effect | Magnitude of Impact | Significance of Effect |
|-------------|----------------------------|------------|----------------|-------------------|---------------------|------------------------|
| AY027 | Castle - unclassified | High | None | Neutral | N/A | N/A |
| AY028 | Excavation - miscellaneous | High | None | Neutral | N/A | N/A |

| Site Number | Site Type | Importance | Type of Impact | Quality of Effect | Magnitude of Impact | Significance of Effect |
|---------------|---|------------|----------------|-------------------|---------------------|----------------------------------|
| AY029 | Graveyard | High | Indirect | Negative | Low | Slight |
| AY030 | Church | High | Indirect | Negative | Low | Slight |
| AY031 | Ritual site - holy well | High | None | Neutral | N/A | N/A |
| AY032 | Fulacht fia | High | None | Neutral | N/A | N/A |
| AY033 | Fulacht fia | High | None | Neutral | N/A | N/A |
| AY034 | Standing stone | High | None | Neutral | N/A | N/A |
| AY035 | Earthworks (Possible Field System) and Spread | Medium | Direct | Negative | Very High | Moderate–Potentially Significant |
| AY036 | Various Subsurface Features | Medium | Direct | Negative | Very High | Moderate–Potentially Significant |
| AY045 | Pits/post-holes, linears and ditches | Low | Direct | Negative | Very High | Slight–moderate |
| AH014 | Water pump | Local | None | Neutral | N/A | N/A |
| AH015 (IH-11) | Railway bridge (Shinanagh Bridge) | Regional | Direct | Negative | Low | Slight |
| IH-1 | Railway Line/Cutting/Embankment | Regional | Direct | Negative | Low | Slight |
| IH-8 | Level Crossing | Local | Direct | Negative | High | Moderate |
| TB-9 | Townland Boundary | Low | Direct | Negative | Low | Not Significant |

Operational Phase

A **slight negative** impact is predicted during operation for Imphrick church and graveyard (AY029 & AY030) and Shinanagh Bridge (AH015) as a result of additional infrastructure being introduced into their settings. It is noted that the proposed Project is located immediately adjacent to the busy Dublin–Cork Railway Line and just over 600m to the west of the busy N20 national primary route corridor and that the proposed Project represents the intensification of road infrastructure within the study area rather than the introduction of a new form of development (see Volume 3, Chapter 13: Landscape and Visual).

12.6.6 XC219 Buttevant

Do Nothing

The level crossing (IH-9), which is depicted on the 25-inch Ordnance Survey map (surveyed 1896–1904) and is considered to be of local socio-historical interest, would continue to operate much as it has done since the 19th century. The upstanding elements of Buttevant Station will continue to remain derelict and further deteriorate without intervention. The other heritage assets would remain essentially unchanged, though future developments and accidental damage may affect these assets in the future. If subsurface archaeological remains exist within the design footprint, including at the areas of potential identified during the assessment (AY043, AY047 & AY048), these would remain unaffected by the railway and associated infrastructure.

Construction Phase

As identified in Table 12.19, one (1) **significant negative** impact is predicted for architectural heritage with respect to the former Buttevant Station (AH020). Although many of the individual structures within the station are in poor condition, the overall integrity of the station complex is largely intact, contained as it is within its boundary walls, which are best preserved to the west. Many of the original station features survive, as outlined in the 2012 building survey (Goodbody 2012). The development will directly impact the remains of the western goods shed, boundary walls, platforms and sidings. As well of being of architectural heritage interested, the historical significance of the station relates to its status as an original station on the Great Southern and Western Railway (Dublin–Cork line) and due to it being the location of the worst rail disaster in Irish history, as commemorated by the memorial at the site which is situated on the eastern side of the existing railway crossing.

Although there would be no impact on any known archaeological sites or monuments, a possible ditch (AY046) was identified during monitoring of geotechnical investigations and anomalies of potential archaeological interest were identified during the geophysical survey (AY047 & AY048) within or adjacent to proposed Project. Further archaeological investigation pre-construction is needed to evaluate the nature and significance of these features. If other currently unidentified subsurface archaeological remains exist within the design footprint, these are likely to be impacted during construction. This includes potential archaeological features, deposits and artefacts within the stream crossings (AY043).

Closure of the level crossing (IH-9) will involve the removal of the existing crossing infrastructure and construction of a 2.4m high block wall on both sides of the crossing. For the purpose of this assessment, the crossing is considered to be of Local cultural heritage importance due to its socio-historical interest as a part of the Cork–Dublin railway (IH-1) and local transport network. Elimination of the level crossing (IH-9) is a high impact, resulting in a **moderate negative** effect as assessed under the NRA guidelines (NRA 2005a, p.32). The impact on the railway itself (IH-1), which is rated as being of Regional cultural heritage importance, is considered to be low, resulting in a **slight negative** effect. An imperceptible negative impact is also predicted for the 19th-century bridge (AH022).

Table 12.19: Predicted construction impacts on cultural heritage at XC219 Buttevant

| Site Number | Site Type | Importance | Type of Impact | Quality of Effect | Magnitude of Impact | Significance of Effect |
|-----------------|---------------------------------|-------------------|----------------|-------------------|---------------------|------------------------|
| AY037 | Ringfort - rath | High | None | Neutral | N/A | N/A |
| AY038 | Redundant record | Low | None | Neutral | N/A | N/A |
| AY039 | Enclosure | High | None | Neutral | N/A | N/A |
| AY040/ AH016 | Barracks | High/ Regional | None | Neutral | N/A | N/A |
| AY041 | Earthwork | Low | Indirect | Negative | Low | Not Significant |
| AY042 | Earthwork | Low | Indirect | Negative | Low | Not Significant |
| AY043 | Watercourse (Area of Potential) | Unknown | Direct | Negative | Low | Unknown |
| AY046 | Ditch Possible | Low | Direct | Negative | Very High | Slight |
| AY047 | Area of Potential | Unknown | Indirect | Negative | Low | Unknown |
| AY048 | Area of Potential | Unknown | Direct | Negative | Very High | Unknown |
| AH017 | House - farmhouse | Regional | None | Neutral | N/A | N/A |
| AH018 | Terrace | Regional | None | Neutral | N/A | N/A |
| AH019 | Store/Warehouse | Regional | Indirect | Negative | Medium | Moderate |
| AH020 | Railway station | Regional | Direct | Negative | High | Significant |
| AH021 | Kerbstones | Record Only | None | Neutral | N/A | N/A |
| AH022 (BH-1) | Bridge ('Bregoge New Bridge') | Local | Indirect | Negative | Low | Imperceptible |
| IH-1 | Railway Line/Cutting/Embankment | Regional | Direct | Negative | Low | Slight |
| IH-9 | Level Crossing | Local | Direct | Negative | High | Moderate |
| TB-10 | Townland Boundary | Low | Direct | Negative | Low | Not Significant |

Operational Phase

The proposed Project, which involves realignment of the R522 regional road through the former Buttevant Station via a new road-over-rail bridge, will significantly alter the setting of the former railway station (AH020), resulting in a **moderate negative** impact during operation. The operational impact on the goods shed (AH019) is rated as **slight negative**. The historical significance of the Buttevant rail disaster and the tragic loss of life here will continue to be commemorated by the memorial, and a short section of footpath is proposed to maintain the link between the town and the memorial site.

12.6.7 Combined Effects of all Sites

Table 12.20 below lists the combined effects predicted to occur during construction without mitigation where the significance of effect is assessed as 'slight' or higher. Significant adverse effects are predicted for two cultural heritage sites: the former gatekeeper's lodge at XC212 Ballycoskery (AH013 (IH-7)) and the former train station at XC219 Buttevant (AH020). Moderate to potentially significant impacts are predicted at earthworks (possible field system)/spread (AY035) and various subsurface features (AY036) at XC215 Shinanagh.

Moderate adverse effects are predicted for the level crossings (IH-2, IH-3, IH-5, IH-6, IH-8 and IH-9) and the goods shed at the former Buttevant train station (AH019). Slight negative effects are predicted for the railway line (IH-1), level crossing IH-4 (XC209), ringfort (AY023), moated site (AY020), possible ditch (AY046), Ballyhay Church (AY025/AH010), Ballyhay parochial house (AH011), farmhouse (AH012), Imphrick church and graveyard (AY029 & AY030) and Shinanagh Bridge (AH015/IH-11). Slight-moderate adverse effects are predicted for the pits/post-holes, linears and ditches (AY045).

The significance of impact on the possible enclosure (AY026) and the former road and relict field boundaries (AY044) at XC212 Ballycoskery, the watercourse (AY043) and areas of archaeological potential (AY047 & AY048) identified during the geophysical survey at Craggan/Bregoge (Buttevant) cannot be determined without further archaeological investigation in the form of test excavation and, in the case of AY043, underwater assessment.

Table 12.20: Combined effects – construction phase (slight or above)

| Site Number | Crossing | Site Type | Importance | Type of Impact | Quality of Effect | Magnitude of Impact | Significance of Effect |
|---------------------|--------------------------|--|-----------------|----------------|-------------------|---------------------|---|
| AH011 | XC211 & XC212 | Parochial House | Regional | Indirect | Negative | Low | Slight |
| AH012 | XC211 & XC212 | House - farmhouse | Local | Indirect | Negative | Medium | Slight |
| AH013 (IH-7) | XC211 & XC212 | House – gatekeepers lodge | Local | Direct | Negative | Very High | Significant |
| AH015 (IH-11) | XC215 | Railway bridge (Shinanagh Bridge) | Regional | Direct | Negative | Low | Slight |
| AH019 | XC219 | Store/Warehouse | Regional | Indirect | Negative | Medium | Moderate |
| AH020 | XC219 | Railway station | Regional | Direct | Negative | High | Significant |
| AY020 | XC211 & XC212 | Moated site | High | Indirect | Negative | Low | Slight |
| AY023 | XC211 & XC212 | Ringfort - rath | High | Indirect | Negative | Low | Slight |
| AY025/AH010 | XC211 & XC212 | Church | High | Indirect | Negative | Low | Slight |
| AY026 | XC211 & XC212 | Earthwork (Possible Enclosure) | Unknown | Direct | Negative | Very High | Unknown |
| AY029 | XC215 | Graveyard | High | Indirect | Negative | Low | Slight |
| AY030 | XC215 | Church | High | Indirect | Negative | Low | Slight |
| AY035 | XC215 | Earthworks (Possible Field System) and Spread | Medium | Direct | Negative | Very High | Moderate–Potentially Significant |
| AY036 | XC215 | Various Subsurface Features | Medium | Direct | Negative | Very High | Moderate–Potentially Significant |
| AY043 | XC219 | Watercourse (Area of Potential) | Unknown | Direct | Negative | Low | Unknown |
| AY044 | XC211 & XC212 | Former Road & Field Boundaries | Unknown | Direct | Negative | Very High | Unknown |

| Site Number | Crossing | Site Type | Importance | Type of Impact | Quality of Effect | Magnitude of Impact | Significance of Effect |
|-------------|---------------|--------------------------------------|------------|----------------|-------------------|---------------------|------------------------|
| AY045 | XC215 | Pits/post-holes, linears and ditches | Low | Direct | Negative | Very High | Slight–moderate |
| AY046 | XC219 | Ditch Possible | Low | Direct | Negative | Very High | Slight |
| AY047 | XC219 | Area of Potential | Unknown | Indirect | Negative | Low | Unknown |
| AY048 | XC219 | Area of Potential | Unknown | Direct | Negative | Very High | Unknown |
| IH-1 | All | Railway Line/Cutting/Embankment | Regional | Direct | Negative | Low | Slight |
| IH-2 | XC187 | Level Crossing | Local | Direct | Negative | High | Moderate |
| IH-3 | XC201 | Level Crossing | Local | Direct | Negative | High | Moderate |
| IH-4 | XC209 | Level Crossing | Local | Direct | Negative | Medium | Slight |
| IH-5 | XC211 & XC212 | Level Crossing | Local | Direct | Negative | High | Moderate |
| IH-6 | XC211 & XC212 | Level Crossing | Local | Direct | Negative | High | Moderate |
| IH-8 | XC215 | Level Crossing | Local | Direct | Negative | High | Moderate |
| IH-9 | XC219 | Level Crossing | Local | Direct | Negative | High | Moderate |

Table 12.21 below lists the combined effects predicted to occur during operation without mitigation where the significance of effect is assessed as 'slight' or higher. These effects predominantly relate to impacts on the setting of the cultural heritage assets.

Table 12.21: Combined effects – operational phase (slight or above)

| Site Number | Crossing | Site Type | Importance | Type of Impact | Quality of Effect | Magnitude of Impact | Significance of Effect |
|---------------|---------------|-----------------------------------|------------|----------------|-------------------|---------------------|------------------------|
| AY020 | XC211 & XC212 | Moated site | High | Indirect | Negative | Low | Slight |
| AY023 | XC211 & XC212 | Ringfort - rath | High | Indirect | Negative | Low | Slight |
| AY029 | XC215 | Graveyard | High | Indirect | Negative | Low | Slight |
| AY030 | XC215 | Church | High | Indirect | Negative | Low | Slight |
| AH015 (IH-11) | XC215 | Railway bridge (Shinanagh Bridge) | Regional | Indirect | Negative | Low | Slight |
| AH019 | XC219 | Store/Warehouse | Regional | Indirect | Negative | Low | Slight |
| AH020 | XC219 | Railway station | Regional | Indirect | Negative | Medium | Moderate |

12.7 Mitigation Measures

Measures to avoid, prevent, reduce or, if possible, offset identified significant adverse effects on cultural heritage have been considered throughout the design process and incorporated into the detailed design of the proposed Project. The following additional mitigation measures shall be undertaken for cultural heritage prior to the commencement of the development under the Schedule of Environmental Commitments and in accordance with the mitigation strategy agreed with the National Monuments Service (see Volume 5, Appendix 12C):

- i. At XC201 Thomastown, a programme of archaeological testing shall be carried out by a licensed archaeologist to establish whether any subsurface archaeological features survive based on the results of the geophysical survey. Should significant archaeological features be recorded during testing, further mitigation will be required. This may include redesign to allow for preservation *in situ*, archaeological excavation and/or a combination of both strategies. The developer and archaeologist

shall be advised in these matters by the National Monuments Service (NMS) of the Department of Housing, Local Government and Heritage.

- ii. Archaeological monitoring of groundworks by a suitably qualified, licensed archaeologist shall be carried out at XC211 Newtown. Should significant archaeological features be identified during monitoring, all works which might affect elements of the archaeological heritage shall stop on the advice of the monitoring archaeologist. The exposed archaeological material shall be recorded, and further mitigation will be undertaken as required. This may include redesign to allow for preservation *in situ*, archaeological excavation and/or a combination of both strategies. The developer and archaeologist shall be advised by the NMS in these matters.
- iii. Archaeological test excavations shall be carried out by a licensed archaeologist at XC212 Ballycoskery to investigate the potential archaeological features identified through field walking and geophysical survey including the potential enclosure (AY026), possible leat adjacent to the moated site (AY020a) and former road and field boundaries (AY044). The test-trench layout shall be informed by the results of the geophysical surveys. Should significant archaeological features be recorded during testing, further mitigation will be required. This may include redesign to allow for preservation *in situ*, archaeological excavation and/or a combination of both strategies. The developer and archaeologist shall be advised in these matters by the NMS.
- iv. The two areas of archaeology identified during field walking, geophysical survey and testing at XC215 Imphrick/Shinanagh to the north of Imphrick Church (AY036 and AY045) shall be subject to full open-area excavation. The excavation shall be carried out according to best archaeological practice by a suitably qualified, licensed archaeologist in consultation with the NMS. Adequate funds shall be made available for all required archaeological works including but not limited to finds retrieval, conservation, storage and analysis of all artefacts and ecofacts, post-excavation analyses, specialist reports, reporting and dissemination of findings. A programme of more intensive archaeological testing shall also be carried out along the rest of the route between the two areas designated for excavation.
- v. Additional archaeological test excavations shall also be carried out at XC215 Imphrick/Shinanagh to the east, southeast and south of Imphrick Church and graveyard to investigate the archaeology in this area (AY035). Where significant archaeological features are recorded during testing, further mitigation will be undertaken as required. This may include redesign to allow for preservation *in situ*, archaeological excavation and/or a combination of both strategies. The developer and archaeologist shall be advised by the NMS in these matters.
- vi. At XC219 Buttevant, archaeological test excavations shall be carried out by a licensed archaeologist to investigate the potential archaeological features identified through geophysical survey (AY047 and AY048) and monitoring of geotechnical investigations (AY046). Test excavations shall also be carried out at Buttevant station (AH020) to identify and record any remnants of former railway infrastructure surviving below the ground surface. Should significant archaeological features be recorded during testing, further mitigation will be required. This may include redesign to allow for preservation *in situ*, archaeological excavation and/or a combination of both strategies. The developer and archaeologist shall be advised by the NMS in these matters.

In addition, the following shall also be undertaken pre-construction:

- vii. Standard test excavations over approximately 12% of testable greenfield areas shall also be undertaken in the remaining portions of the development where there is a potential for currently unrecorded subsurface archaeology to be present.
- viii. An underwater archaeological assessment shall be undertaken at the stream crossings at XC219 Buttevant (AY043) prior to construction. The aim of this assessment shall be to ascertain the existence, location, extent and condition of any water-related archaeological features/deposits or objects within the stream crossings and to appropriately mitigate the impact on such remains in consultation with the NMS and NMI.
- ix. Archaeological monitoring shall be carried out where there is still a potential for construction to impact archaeology and/or upstanding built heritage (e.g. in the vicinity of the burial ground at

Ballyhay Church (AY025) where there is a potential for skeletal material to be encountered). Such monitoring shall be carried out in consultation with the NMS and NMI under an excavation licence. Vibration monitoring shall be undertaken during construction for any vulnerable built heritage assets (e.g. the goods shed at Buttevant, AH019). Periodic monitoring shall also be carried out post-construction to verify that the residual impacts have been accurately assessed and reported and that mitigation measures have been adequately employed.

- x. Potential accidental impacts during construction on known cultural heritage sites, in particular the moated site at Ballycoskery (AY020), Imphrick church and graveyard (AY029 & AY030) and the potential earthworks at Buttevant (AY041 & AY042) shall be avoided through the erection of construction barriers.
- xi. Detailed building recording shall be carried out on all architectural heritage features that are to be removed or otherwise impacted by the development. This includes the former gatekeeper's house at Ballycoskery (AH013/IH-7); all built heritage features impacted at Buttevant including the former train station (AH020), 'Bregoge New Bridge' (AH022) and kerbstones (AH021); Shinanagh railway bridge (AH015) and associated walling; and any curtilage features impacted at Ballyhay Church (AH010/AY025), Ballyhay parochial house (AH011) and farmhouse (AH012). This building recording shall include, but not be limited to, written descriptions, measured drawings and the compilation of photographic and documentary archives as necessary and oral history where possible. In the case of the gatekeeper's house (AH013), building recording shall include the interior of the building. The aim of the building recording will be to compile a comprehensive written and illustrated record of architectural heritage features which are within the lands acquired for construction of the project and which are being directly impacted.
- xii. Detailed recording shall also be carried out on the level crossings to be closed and removed (IH-2, IH-3, IH-4, IH-5, IH-6, IH-8 and IH-9) and adjoining sections of the Cork–Dublin rail line (IH-1). The aim of the recording will be to compile a comprehensive written, drawn and photographic record of these crossings before their closure, and it shall include the collection and recording of oral history specific to these crossings. The information gathered shall be compiled into an archive or suitable publication that shall be accessible to the community and others with an interest in the history of the railway.
- xiii. Townland boundary surveys shall be carried out in relation to those sections of townland boundaries impacted by the development, namely the townland boundaries between Thomastown and Effin (TB-2), between Imphrick and Ballynageragh (TB-9) and between Creggane and Bregoge (TB-10). The aim of the townland boundary surveys will be to compile a comprehensive written and illustrated record of those historic boundaries which are within the lands acquired for construction of the project and which are being directly impacted.
- xiv. Operational impacts on the setting of identified cultural heritage assets shall be mitigated through screening and landscaping as appropriate.

12.8 Residual Effects

Residual impacts predicted during construction of the proposed Project are summarised in Table 12.22 for archaeology; Table 12.23 for architectural heritage; and Table 12.24 for other cultural heritage.

Residual impacts on twelve (12) archaeological sites are predicted during construction including total or partial removal of archaeological features at AY035 (Possible Field System and Possible Burnt Mound); AY036 (Possible Enclosure and Various Subsurface Features); AY044 (Former Road & Field Boundaries); AY045 (Pits/post-holes, Linears and Ditches) and AY046 (Ditch Possible). The significance of construction impact post-mitigation is predicted to be imperceptible to slight. In five (5) cases (AY026, AY043, AY044, AY047, AY048), the residual significance of construction impact cannot be determined until further archaeological excavations are conducted because the full extent, nature and significance of these newly identified archaeological sites can only be fully understood following exposure and excavation of the archaeological remains. No impact is predicted on the remaining 34 archaeological sites identified in the baseline.

Residual impacts on nine (9) architectural heritage sites are predicted during construction, including removal of gatekeeper's house (AH013) and some upstanding elements of Buttevant Station (AH020). The significance of

construction impact post-mitigation is predicted to be imperceptible to moderate in the case of demolitions. No impact is predicted on the remaining 13 architectural heritage sites identified in the baseline.

Residual impacts on eleven (11) other cultural heritage assets are predicted during construction, mostly due to the closure of the level crossings themselves (slight residual impacts) and imperceptible impacts on townland boundaries. No impact is predicted on the remaining seven (7) other cultural heritage assets identified in the baseline.

Table 12.22: Predicted residual construction impacts on archaeological heritage sites

| Site No. | Crossing No. | Site Type | Importance | Unmitigated significance of construction impact | Mitigation Measure | Residual magnitude of construction impact | Residual significance of construction impact |
|----------|---------------|------------------------------------|------------|---|---------------------------------------|---|--|
| AY001 | XC187 | Enclosure | High | N/A | None | N/A | N/A |
| AY002 | XC187 | Enclosure | High | N/A | None | N/A | N/A |
| AY003 | XC187 | Barrow - ring-barrow | High | N/A | None | N/A | N/A |
| AY004 | XC187 | Barrow - ring-barrow | High | N/A | None | N/A | N/A |
| AY005 | XC187 | Barrow - ring-barrow | High | N/A | None | N/A | N/A |
| AY006 | XC187 | Barrow - ring-barrow | High | N/A | None | N/A | N/A |
| AY007 | XC187 | Barrow - ring-barrow | High | N/A | None | N/A | N/A |
| AY008 | XC187 | Barrow - ring-barrow | High | N/A | None | N/A | N/A |
| AY009 | XC187 | Earthwork | Unknown | N/A | None | N/A | N/A |
| AY010 | XC201 | Enclosure | High | N/A | None | N/A | N/A |
| AY011 | XC201 | Mound | High | N/A | None | N/A | N/A |
| AY012 | XC209 | Graveyard | High | N/A | None | N/A | N/A |
| AY013 | XC209 | Church | High | N/A | None | N/A | N/A |
| AY014 | XC209 | Tomb - effigial (present location) | High | N/A | None | N/A | N/A |
| AY015 | XC209 | Castle - unclassified | High | N/A | None | N/A | N/A |
| AY016 | XC209 | Mill - corn | High | N/A | None | N/A | N/A |
| AY017 | XC211 & XC212 | Ringfort - rath | High | N/A | None | N/A | N/A |
| AY018 | XC211 & XC212 | Ringfort - rath | High | N/A | None | N/A | N/A |
| AY019 | XC211 & XC212 | Ringfort - rath | High | N/A | None | N/A | N/A |
| AY020 | XC211 & XC212 | Moated site | High | Slight | Barriers during construction; testing | Low | Imperceptible |

| Site No. | Crossing No. | Site Type | Importance | Unmitigated significance of construction impact | Mitigation Measure | Residual magnitude of construction impact | Residual significance of construction impact |
|----------|---------------|-----------------------------|------------|---|---|---|--|
| AY021 | XC211 & XC212 | House - vernacular house | High | N/A | None | N/A | N/A |
| AY022 | XC211 & XC212 | Ringfort - rath | High | N/A | None | N/A | N/A |
| AY023 | XC211 & XC212 | Ringfort - rath | High | Slight | None | Medium | Imperceptible |
| AY024 | XC211 & XC212 | Earthwork | High | N/A | None | N/A | N/A |
| AY025 | XC211 & XC212 | Church | High | Slight | Written & Photographic Archive; monitoring during excavations | Low | Imperceptible |
| AY026 | XC211 & XC212 | Earthwork | Unknown | Potentially Significant | Testing; excavation if required | High | Unknown |
| AY027 | XC215 | Castle - unclassified | High | N/A | None | N/A | N/A |
| AY028 | XC215 | Excavation - miscellaneous | High | N/A | None | N/A | N/A |
| AY029 | XC215 | Graveyard | High | Slight | Barriers during construction | Low | Imperceptible |
| AY030 | XC215 | Church | High | Slight | Barriers during construction | Low | Imperceptible |
| AY031 | XC215 | Ritual site - holy well | High | N/A | None | N/A | N/A |
| AY032 | XC215 | Fulacht fia | High | N/A | None | N/A | N/A |
| AY033 | XC215 | Fulacht fia | High | N/A | None | N/A | N/A |
| AY034 | XC215 | Standing stone | High | N/A | None | N/A | N/A |
| AY035 | XC215 | Field System and Spread | Medium | Moderate–Potentially Significant | Excavation | Very High | Slight |
| AY036 | XC215 | Various Subsurface Features | Medium | Moderate–Potentially Significant | Excavation | Very High | Slight |
| AY037 | XC219 | Ringfort - rath | High | N/A | None | N/A | N/A |
| AY038 | XC219 | Redundant record | Low | N/A | None | N/A | N/A |
| AY039 | XC219 | Enclosure | High | N/A | None | N/A | N/A |
| AY040 | XC219 | Barracks | High | N/A | None | N/A | N/A |
| AY041 | XC219 | Earthwork | Low | Not Significant | Avoidance | Low | N/A |

| Site No. | Crossing No. | Site Type | Importance | Unmitigated significance of construction impact | Mitigation Measure | Residual magnitude of construction impact | Residual significance of construction impact |
|----------|---------------|--------------------------------------|------------|---|--|---|--|
| AY042 | XC219 | Earthwork | Low | Not Significant | Avoidance | Low | N/A |
| AY043 | XC219 | Watercourse | Unknown | Unknown | Underwater archaeological assessment (Wade Survey) | Low | Unknown |
| AY044 | XC211 & XC212 | Former Road & Field Boundaries | Unknown | Unknown | Testing | High | Unknown |
| AY045 | XC215 | Pits/post-holes, linears and ditches | Low | Slight-Moderate | Excavation | Very High | Imperceptible |
| AY046 | XC219 | Ditch Possible | Low | Slight | Testing/excavation | High | Imperceptible |
| AY047 | XC219 | Area of Potential | Unknown | Unknown | Testing; excavation if required | Low | Unknown |
| AY048 | XC219 | Area of Potential | Unknown | Unknown | Testing; excavation if required | Very High | Unknown |

Table 12.23: Predicted residual construction impacts on architectural heritage sites

| Site No. | Crossing No. | Site Type | Importance | Unmitigated significance of construction impact | Mitigation Measure | Residual magnitude of construction impact | Residual significance of construction impact |
|----------|---------------|---------------------------|------------|---|--|---|--|
| AH001 | XC187 | Bridge | Local | Imperceptible | None | Low | Imperceptible |
| AH002 | XC187 | House - 18th/19th century | Local | N/A | None | N/A | N/A |
| AH003 | XC187 | Water pump | Regional | N/A | None | N/A | N/A |
| AH004 | XC187 | Bridge | Local | Imperceptible Positive | None | Low | Imperceptible Positive |
| AH005 | XC201 | Water pump | Regional | N/A | None | N/A | N/A |
| AH006 | XC201 | House - vernacular house | Regional | N/A | None | N/A | N/A |
| AH007 | XC209 | House - 20th century | Regional | N/A | None | N/A | N/A |
| AH008 | XC209 | Bridge | Local | N/A | None | N/A | N/A |
| AH009 | XC209 | Railway bridge | Local | N/A | None | N/A | N/A |
| AH010 | XC211 & XC212 | Church | Regional | Slight | Written & Photographic Archive; monitoring during excavations; screening | Low | Imperceptible |
| AH011 | XC211 & XC212 | Parochial House | Regional | Slight | Written & Photographic Archive of any impacted | Low | Imperceptible |

| Site No. | Crossing No. | Site Type | Importance | Unmitigated significance of construction impact | Mitigation Measure | Residual magnitude of construction impact | Residual significance of construction impact |
|-------------|---------------|---------------------------|-------------|---|---|---|--|
| | | | | | curtilage features; screening | | |
| AH012 | XC211 & XC212 | House - farmhouse | Local | Slight | Written & Photographic Archive of any impacted curtilage features; screening | Low | Slight |
| AH013/IH-7 | XC211 & XC212 | House – gatekeepers lodge | Local | Significant | Full building survey prior to demolition | Very High | Moderate |
| AH014 | XC215 | Water pump | Local | N/A | None | N/A | N/A |
| AH015/IH-11 | XC215 | Railway bridge | Regional | Slight | Written & Photographic Archive of any impacted features | Low | Imperceptible |
| AH016 | XC219 | Barracks | Regional | N/A | None | N/A | N/A |
| AH017 | XC219 | House - farmhouse | Regional | N/A | None | N/A | N/A |
| AH018 | XC219 | Terrace | Regional | N/A | None | N/A | N/A |
| AH019 | XC219 | Store/Warehouse | Regional | Moderate | Full building survey; vibration monitoring | Low | Slight |
| AH020/IH-10 | XC219 | Railway station | Regional | Significant | Full building survey; vibration monitoring; excavation of subsurface features as required | High | Moderate |
| AH021 | XC219 | Kerbstones | Record Only | N/A | Avoidance | N/A | N/A |
| AH022/BH-1 | XC219 | Bridge | Local | Imperceptible | Avoidance | N/A | N/A |

Table 12.24: Predicted residual construction impacts on other cultural heritage assets

| Reference | Crossing No. | Site Type | Importance | Unmitigated significance of construction impact | Mitigation Measure | Residual magnitude of construction impact | Residual significance of construction impact |
|-----------|--------------|---------------------------------|------------|---|--|---|--|
| IH-1 | All | Railway embankment/cutting/line | Regional | Slight | Written & Photographic Archive; oral history recording | Low | Imperceptible |

| Reference | Crossing No. | Site Type | Importance | Unmitigated significance of construction impact | Mitigation Measure | Residual magnitude of construction impact | Residual significance of construction impact |
|-----------|--------------|-------------------|------------|---|--|---|--|
| IH-2 | XC187 | Level crossing | Local | Moderate | Written & Photographic Archive; oral history recording | High | Slight |
| IH-3 | XC201 | Level crossing | Local | Moderate | Written & Photographic Archive; oral history recording | High | Slight |
| IH-4 | XC209 | Level crossing | Local | Moderate | Written & Photographic Archive; oral history recording | High | Slight |
| IH-5 | XC211 | Level crossing | Local | Moderate | Written & Photographic Archive; oral history recording | High | Slight |
| IH-6 | XC212 | Level crossing | Local | Moderate | Written & Photographic Archive; oral history recording | High | Slight |
| IH-8 | XC215 | Level crossing | Local | Moderate | Written & Photographic Archive; oral history recording | High | Slight |
| IH-9 | XC219 | Level crossing | Local | Moderate | Written & Photographic Archive; oral history recording | High | Slight |
| TB-1 | XC187 | Townland boundary | Low | N/A | None | N/A | N/A |
| TB-2 | XC201 | Townland boundary | Low | Not Significant | Townland Boundary Survey | Low | Imperceptible |
| TB-3 | XC209 | Townland boundary | Low | N/A | None | N/A | N/A |
| TB-4 | XC209 | Townland boundary | Low | N/A | None | N/A | N/A |
| TB-5 | XC209 | Townland boundary | Low | N/A | None | N/A | N/A |
| TB-6 | XC209 | Townland boundary | Low | N/A | None | N/A | N/A |
| TB-7 | XC209 | Townland boundary | Low | N/A | None | N/A | N/A |

| Reference | Crossing No. | Site Type | Importance | Unmitigated significance of construction impact | Mitigation Measure | Residual magnitude of construction impact | Residual significance of construction impact |
|-----------|--------------|-------------------|------------|---|--------------------------|---|--|
| TB-8 | XC211 | Townland boundary | Low | Not Significant | Townland Boundary Survey | Low | Imperceptible |
| TB-9 | XC215 | Townland boundary | Low | Not Significant | Townland Boundary Survey | Low | Imperceptible |
| TB-10 | XC219 | Townland boundary | Low | Not Significant | Townland Boundary Survey | Low | Imperceptible |

12.9 Interactions

The main interaction with the Cultural Heritage factor relates to Landscape and Visuals in relation to Imphrick Church and Graveyard situated within the study area of XC215 Shinanagh. Mitigation measures for archaeology (e.g. trial trenching) also have potential to impact upon biodiversity, water quality and groundwater. Appropriate measures will be taken to manage such potential impacts.

12.10 Cumulative Effects

The main aspect of the cumulative assessment of cultural heritage effects relates to the potential for impacts with the proposed upgrade of the N20 national primary route to a motorway (M20) which occurs in the near vicinity of almost all of the proposed Project sites. The overall cultural heritage study area for the proposed Project encompasses the N20 national primary route between Buttevant and Charleville (Volume 4). Any further upgrades to the existing N20 corridor will contribute to a further intensification of road infrastructure which may generate impacts on cultural heritage. However, based on available information, it is not considered that significant adverse cumulative effects will be generated by the proposed Project in conjunction with the N/M20 project for cultural heritage.

12.11 Difficulties Encountered in Compiling Information

Three fields in Buttevant were unfit for geophysical survey as a result of flooding (Murphy 2020a; Volume 5, Appendix 12H) and no test excavations have been carried out to date at Ballycoskery. Further assessment of these areas will be carried out pre-construction in accordance with the mitigation strategy agreed with the NMS, as set out above in 12.7. There were no other specific difficulties encountered in carrying out this assessment.

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Plate 12. 1: Humpbacked railway bridge at Ballinscaula, XC187, looking north (AH001)



Plate 12. 2: Masonry surround for timber water pump (overgrown), XC187, in Gibbonstown (AH003)



Plate 12. 3: Area of potential rectangular earthwork enclosure (AY026), XC212, looking W



Plate 12. 4: Remains of the W bank of moated site CO008-035 (AY020), XC212, looking N



Plate 12. 5: Moated site CO008-035 possible leat (AY020a), XC212, looking N, with higher ground to E



Plate 12. 6: Farmhouse AH012 and gate piers, XC212, looking N



Plate 12. 7: Garden and outbuildings associated with farmhouse AH012, XC212, looking W



Plate 12. 8: Wrought iron gate to farmhouse AH012 garden from L1533 road, XC212, looking S



Plate 12. 9: Entrance to the Parochial House (AH011), XC212



Plate 12. 10: Detail of gate piers and gate to Parochial House (AH011), XC212



Plate 12. 11: Former gatekeeper's house (AH013) at Ballycoskery, XC212



Plate 12. 12: Field looking NW towards archaeological monument CO008-034 (AY019), XC211



Plate 12. 13: Imphrick church and graveyard, looking W (AY029 & AY030), XC215



Plate 12. 14: Raised earthen platform and possible paleochannel (AY036) north of Imphrick church, XC215



Plate 12. 15: Holy well at Imphrick (AY031), XC215



Plate 12. 16: Roadside water pump at Shinanagh (AH014), XC215



Plate 12. 17: Remains of the western goods shed and wrought-iron steps at Buttevant Station (AH020), XC219



Plate 12. 18: Kerbstones on the approach to Buttevant Station (AH021), XC219



Plate 12. 19: Buttevant Station (AH020) including former post office (centre) and goods shed (AH019, right), XC219



Plate 12. 20: Platform and railway sidings to goods shed east of the railway line at Buttevant Station (AH020), XC219



Plate 12. 21: Blocked pedestrian entrance to Buttevant Station (AH020), XC219



Plate 12. 22: Former footbridge, reused as steps to gatekeeper's hut, XC219 Buttevant (AH020), XC219



Plate 12. 23: Former platform to be impacted at Buttevant Station (AH020), XC219



Plate 12. 24: Former waiting room at Buttevant Station (AH020), XC219



Plate 12. 25: Interior of boundary wall which surrounds the former railway station at Buttevant (AH020), XC219



Plate 12. 26: Former railway siding to be impacted at Buttevant Station (AH020), XC219



Plate 12. 27: Memorial to the Buttevant Rail Disaster in 1980, XC219